Characterizing Student Motivations in Outdoor Adventure Activities

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Chapter One: Introduction

Background

Over the last several decades Outdoor Recreation Programs (ORPs) have seen a boom in popularity on university campuses across the country, partially due to the trend of indoor climbing wall development (Mittelstaedt,1997). In addition, Outdoor Orientation Programs (OOPs) spark a student's interest in ORPs that the university offers from the very beginning of the student's college experience, which may have effects on student retention, grades, and happiness (Bell and Holmes, 2011). These recent movements provide furthered insights into motivation and outcomes of ORPs, however, the implied outcomes of outdoor experiences have long been understood. Hattie et al. (1997) note that Plato praised "outdoor experiences for developing healthy bodies, which would lead to healthy souls" (p.43). Kurt Hahn developed the first Outward Bound program in the 1940's to assist with the developing resilience, coping, and survival techniques among young sailors who were the victims of shipwrecks (Hattie et.al, 1997, p. 44). The Outward Bound model uses experiential education methods to bring about desired intrapersonal and interpersonal outcomes. William James (1967) explained the Outward Bound model as designed to "enthrall and hold the young through active and willing Samaritan service, demanding care and skill, courage and endurance, discipline and initiative" (p. 10). Developmental, coping, and resiliency outcomes were quickly acknowledged by the psychological and therapeutic professional communities and outdoor experiences were quickly presumed beneficial for adjudicated individuals, most prominently youth, and the concept of wilderness therapy developed.

Hattie et al. (1997) denoted several applications of outdoor adventure programs since their emergence of popularity in the mid-20th century, "Since the 1950s many wilderness and

adventure-based programs have been developed to provide, among other things, rehabilitation and/or enriching experiences for many groups, including psychiatric patients, delinquents, and those involved in management training" (p.44). University outdoor recreation programming is one such application. ORPs on university campuses manage and implement a wide variety of programs, such as, indoor rock climbing walls, challenge courses, adventure trips, environmental stewardship, and leadership initiatives.

University ORPs strive for student outcomes in the areas of student leadership development, environmental stewardship, or physical activity and health. ORPs often employ students to assist full time staff members by working as student leaders for activity specific (rock climbing, kayaking, canoeing, etc.) or leadership based for credit courses, adventure trips, and workshops or day trips to local outdoor or wilderness areas. In terms of leadership development there are few other programs that allow the breadth of leadership experience that ORPs offer student staff at the college level. One of the best practices of ORPs is to us a highly experiential model for learning. The basic concept of experiential education proposes "people learn best by direct and purposeful contact with their learning experiences" (Priest & Gass, 1997. p.17). Experiential education is used for both student leaders, as well as, student participants, as both groups learn through hands on lessons, practice, and instruction. Leadership is developed through teaching, guiding, and being held responsible for the learning goals and risk management of participant students. Environmental stewardship is addressed by encouraging sustainability and minimal impact on the spaces and places where trips or courses are held. Finally, physical activity is unavoidable in outdoor experiences and is required for locomotion, activity success, and in order to meet personal and group goals.

ORPs also assisted in paving the way on college campuses for the development of OOPs,

a popular current topic in adventure and experiential education and research. According to Bell et.al (2010), the current design for OOPs originated in the 1970's and resemble the Outward Bound experiential model. "These programs tended to include shorter wilderness trips (four to seven days) with trained student leaders, and they utilized backcountry travel experience to help students learn problem-solving, teamwork, and self-confidence to promote an effective transition to college" (Bell et. al, 2010, p.4).

One goal of ORP's is to enlighten students of additional recreation options outside the monotony of running on a treadmill or riding a stationary bike at the student recreation center on campus, and motivate increased physical activity through different endeavors. Outdoor recreation activities have historically been equated to intrinsic motivation through factors such as the four approaches from Deci and Ryan (1985,1991; Ryan & Deci, 2000): Free choice situations, interest or enjoyment, optimally challenging, or satisfying psychological needs. In a more recent study by (Alexandris, et.al, 2011) motivations were found to be influenced by individual attachment to the activity itself and influence the participant toward future intentions to participate in the activity. Extrinsic factors have also proved to influence individual motives to participate in outdoor recreation programs. Deci and Ryan (1991; Ryan & Deci, 2000) suggest that external motivation comes in several potential forms: External motivation, introjected motivation, identified motivation, integrated motivation, and amotivation. These forms and factors will be discussed later in this thesis.

Statement of Problem

Through this study the researcher may assist college outdoor recreation programs in streamlining course offerings, while still satisfying student motivations to participate. This study provides insights into several topics revolving around university ORPs from this research. First,

it further developed what motivates individuals to participate and continue to participate in university ORPs. The research tested the independent variables of outdoor adventure activity for several groups: participant students of varying experience in the activity, as well as, for student trip leaders. These variables were analyzed in terms the four dependent variable categories of the Leisure Motivation Scale (LMS) by Beard & Ragheb (1983) (Appendix B): Intellectual, social, competency/mastery, and stimulus avoidance. Second, the study provided further reasoning for continued administration of these programs due to satisfied student learning, activity, and adventure needs. Finally, this study generated increased understanding as to what types of motivational factors result in participation of specific outdoor recreation activities. For example, do student motivational factors differ between outdoor recreation activities, such as, flat water canoeing, rock climbing, white water kayaking, and backpacking?

Universities are often compared by the scope of programs offered, novelty equated to the program, or destination of the program. Some ORPs offer only a few courses, such as rock climbing, backpacking, and flat water canoeing, however, others offer a multitude of additional activities, such as, kayaking, white water rafting, or mountain biking. While offering a wide variety of outdoor experiences is beneficial in providing a diverse student experience and introduction to different skills; this researcher has noticed through experience in smaller programs that streamline offerings and a large university program with a very diverse scope of offerings, broad activity offerings often comes at the price of students' fundamental technique and skill development of specific activities. As previously stated, many university outdoor recreation programs employ undergraduate students to lead and teach many of the programs' trips and courses. As ORPs provide more diverse activities and programs student trip leaders are often responsible for leading activities which the student has very little experience or skill. This

results in a host of concerns mostly centered on effectiveness in terms of participant experience due to the lack of transferable knowledge that the student leader has for the activity, as well as, safety concerns due to student leaders' unfamiliarity with techniques or best practices.

Purpose of the Study

The purpose of the study was to assist research of motivational factors associated with different outdoor recreation activities. The hope was to find possible connections to motivational themes that are consistent or different between particular outdoor activities; for example, are the motivational factors that are associated with rock climbing similar to that of white water rafting or mountain biking (Kleiber, 2011)?

Significance of the Study

The significance of this study was multifaceted in terms of the responses from the groups surveyed and holds significance for both campus outdoor recreation department administrators, as well as current and potential student leaders and program participants. First, the study assists campus outdoor recreation department administrators as they work to offer desired or popular courses, trips, and experiences. Competition for funding is universally felt by ORPs. While popularity of ORPs is still high and outcomes seem to be influential for social development, trust, and control (Sibthorp & Jostad, 2014; Davidson, et.al, 2009), these programs are often the first to be cut. As institutions scrutinize budgets and expenditures, ORP's may be eliminated for several reasons including relatively low impact due to size and number of students reached, perceived importance, cost, legal liability, etc. ORP's are only seen as a program that increases college costs. Recently with the cost of college increasing, ORPs are of the first program to be blamed. Therefore, research in motivation is helpful in order to determine what these programs are providing student participants that they are not receiving from other programs on campuses.

The results may prove to be helpful for administrators as well as work to provide courses that fit student interests. Having a wide variety of activities may result in increased student participation, however many administrators are working to simplify program offerings for financial, personal, and safety reasons. Results of this study provided some insight into student motivations that overlap on specific outdoor recreation activities. These results may allow administrators to pick specific motivational factors and choose outdoor activities that best suit the geographic or regional area where the program is located and functions; minimizing travel costs and risk and maximizing instructive or interactive time. This would also require the programs to only purchase necessary equipment that is required for the courses that are chosen, and not have to buy supplies for classes with similar motivation factors that are not as suited for the area.

Second, the results are beneficial for marketing purposes. Providing a clear knowledge as to why students sign up for these courses allows administrators to provide and develop marketing materials that emphasis the noted motivational factors. Data showed better ways to discover what draws repeat students back for additional outdoor education experiences.

Finally, results provided the possibility for understanding for students taking the survey who may have held an interest in what it is about outdoor recreation that they find appealing. What is that makes them devote much of their college years to participation at an ORP?

Hypotheses

This study contained several avenues in terms of testable null hypotheses.

H1: LMS factors will not be significantly different between outdoor activities.

H2: Scores will not show a significance difference for LMS subscale factors between student participants and student trip leaders.

Delimitations

The study was delimited as follows:

1. The study took place with participation from students at Indiana University Outdoor Adventures.
2. All participants were required to be enrolled as students at Indiana University.
3. The study was open to both student participants and student trip leaders employed by Indiana University Outdoor Adventures. Data analysis placed students into categories: Student Participant or Student Trip Leader
4. Data were taken from for-credit, academic classes.
5. A demographic information sheet was gathered from the subjects that included pertinent information such as gender, age, year in school, and academic major.
6. Students were not required to participate in the study. Choosing to not participate in the study did not affect how the student is graded in the for-credit courses.
7. Data were collected during the late summer and fall semesters of 2016.

Limitations

The study was limited by the following:

1. The study only used students at Indiana University and may not accurately reflect other populations.
2. Human error is always a limiting factor:
    a. Misinterpretation of a question on the instrument.
    b. Misrepresentation of a personal motivational factor.

c. Responded in terms of what the individual deems socially desirable (Crowne & Marlowe, 1960)

3. Students may answer in such a way to satisfy what the student expected the researcher wanted as a resultant data.

Assumptions

The study was based on the following assumptions:

1. Receiving credit for participation is a generalizable motivation for all for-credit participants, meaning that each student will cite that credit received is one of the reasons that they are participating in the course.
2. All students will have some intrinsic or extrinsic motivational factors in addition to the credit received.
3. Most students enjoy the concept of having an adventure.
4. Students enjoy experiential courses that differ from the classic classroom structure. (Kolb & Kolb, 2005; Bransford, et.al, 2000)

Definitions of Terms

Amotivation: When someone is neither influenced intrinsically nor extrinsically but still participate in an activity. (Deci and Ryan, 1985)

Extrinsic Motivation: "Extrinsic motivation refers to our tendency to perform activities for known external rewards, whether they be tangible (e.g., money) or psychological (e.g., praise) in nature." (Brown, 2007)

“The performance of an activity in order to attain some separable outcome.” (Ryan & Deci, 2000)

Experiential Education: “A process through which a learner constructs knowledge, skill and value from direct experience.” (AEE, 1994)

Intrinsic Motivation: "Intrinsic motivation refers to the reason why we perform certain activities for inherent satisfaction or pleasure; you might say performing one of these activities is reinforcing in-and-of itself" (Brown, 2007).

“Inclination toward assimilation, mastery, spontaneous interest, and exploration that is so essential to cognitive and social development and that represents a principal source of enjoyment and vitality throughout life” (Ryan & Deci, 2000).

Leisure Motivation Scale (LMS) - The scale developed by Beard and Ragheb (1983) to assist in determining leisure motivations. The scale is broken down into subscales: intellectual, social, competence-mastery, and stimulus avoidance.

ORP - Outdoor recreation program

OOP – Outdoor orientation program

Outdoor Adventure Education - “Direct and purposeful exposure to adventurous activities in an effort to facilitate both intra- and interpersonal growth” (Sheard and Golby, 2006, p.189).

Self Determination Theory – “an approach to human motivation and personality that uses traditional empirical methods while employing an organismic metatheory that highlights the importance of humans’ evolved inner resources for personality development and behavioral self-regulation” (Ryan & Deci, 2000, pg.68).

IUOA – Indiana University Outdoor Adventures

Intellectual Motivation (LMS) – “The motivation to pursue mental activity such as learning, exploring, discovering, creating or imagining” (Murray & Nakajima, 1999, p.59).

Social Motivation (LMS) – “The motivation of individuals to engage in social activities such as seeking friendship or interpersonal relationships” (Murray & Nakajima, 1999, p.59).

Competence-Mastery Motivation (LMS) – “How individuals are motivated to engage in leisure activities to gain a sense of achievement, mastery or to overcome a challenge” (Murray & Nakajima, 1999, p.59).

Stimulus-Avoidance Motivation (LMS) – “How individuals engage in leisure activities in order to escape from the demands of daily life” (Murray & Nakajima, 1999, p.59).

Chapter Two: Literature Review

This chapter reviews current available literature in the area of leisure motivation and motivation to participate in outdoor recreation activities. This chapter will also investigate how current motivational theories (Intrinsic vs. Extrinsic Motivation and the Self-Determination Theory) interact with this literature to provide further insights into individual motivation to participate in specific outdoor recreation activities in ORP's.

Outcomes Associated with Outdoor Recreation Programs

For many years outdoor recreation experiences have been understood to have positive impacts on participants. In 1924, the National Conference on Outdoor Recreation concluded that "outdoor recreation… above all, has a direct beneficial influence on the formation of sturdy character by developing those qualities of self-control, endurance under hardship, reliance on self, and co-operation with others in team work, which are so necessary to good citizenship" (Revelle, 1967, p.1173-1174). The concept of personal ability and the self is a foundational part component and outcome of ORP participation. A literature review from Garst, et. al (2001) suggests that research indicates behavioral change from ORPs on several fronts.

First, ORPs lead to resultant feelings of positive self-perception. In a study by Hazelworth and Wilson (1990) significant positive change was found in regards to "self-concept with relationship to attitudes toward family…significant positive change in moral-ethical views of self-concept" (p.35). One great strength of the outdoor adventure education experience is the impact it has on the student's holistic health, including mental, physical and social health. Due to significant outcomes in self-concept, McDonald and Howe (1989) urge outdoor recreation programs and professionals to "explore every method possible to provide organized programs that enhance the self-concept" (p.251). This study found significant increases in terms of

adolescents' behavior, anxiety, popularity and happiness when compared with students who did not take part in outdoor adventure and challenge/initiative games, again suggesting an overall increase of positive self-concept.

Second, Garst et. al (2001) suggest that outdoor adventure programming provide ways for students to increase *knowledge, skills, and abilities.* Through encouraging self-reliance, social and group interactions, and skill development outdoor orientation programs leave students with increases in self-worth, individual understanding of their worth, and self-esteem. Bell et.al (2010) connect problem-solving, teamwork, and self-confidence to participation in outdoor adventure programming. These outcomes are seen specifically in relationship to OOPs by how these programs develop and prepare students for their upcoming college experience. The shared adventured experienced during an OOP encourages sense of community and interpersonal responsibility and relationship development, reminding students they are part of a larger university, community, or global picture. ORPs and OOPs are capable of producing well rounded, well prepared students and mentally strong students; the experience at these programs serves as a launch pad for the rest of their university career and professional lives. Schoel et.al (1988) list such outcomes as developing teamwork through trust building, developmental skills such as goal setting, experience dealing with challenge and stress, understanding how to attain peak performance, incorporating fun and humor into daily life, and reasoning through experience with problem solving. Schoel proposes one of the ways that students attain these outcomes is through participating in experiences that have higher amounts of perceived risk, but have low actual risk and as a result more often than not result in a successful and influential experience for the participant. Schoel says, "a series of well-designed adventurous activities which focus on success experiences will help a person to break the cycles of failure and bring about an increase

in that person's ability to feel good about himself. An enhanced ability to take the risks necessary for further growth will follow form this base" (p.14).

Third, Garst et. al (2001) cite, "Increasing understanding of a positive peer culture and their ability to develop positive peer relationships and social skills" (p.41) as an outcome of outdoor adventure experiences. A study by Hazelworth and Wilson (1990) consider how outdoor adventure camp experiences effect participant self-concept. They found that there were strong increases in participants' attitudes towards other participants and group participation with participant groups. The unknown and unplanned experiences that often occur during outdoor recreation activities often have highly impactful outcomes for program participants. For example, in the study above the researches described a particularly noteworthy experience: "This group experienced a minor crisis on the ropes course: during "the wall" even, one camper fell because of lack of support from fellow campers. It is possible that this accident drew the campers into a more cooperative frame of mind for the rest of the camp session" (p.35). Experiences such as this provide students with direct examples of the importance of team work, positivity, and group support that are directly relatable to everyday situations.

Leisure Needs and Influence Motivation to Participate in ORPs

While the aforementioned outcomes are important, it is important to know why individuals decide to participate in the first place. Motivation as a concept requires some preliminary explanation. Leisure motivations at their base are effected by a few psychological processes. Neulinger (1981) suggests that at the core of leisure tendencies is the concept of perceived freedom, which according to Neulinger is, "a state in which a person feels that what she or he is doing is done by choice because one wants to do it" (p.15). This theory suggests that people participate in leisure experiences voluntarily and because the participant enjoys the

activity or experience. The theory of perceived freedom has implications for the Self-Determination Theory that will be discussed later.

In addition to freedom, the literature suggests a need for control. Kleiber (2011) provides a clear paraphrasing of a concept that was originally suggested by deCharms (1968), when he says “people are all motivated by the desire to be masters of their own fate, and that people strive to be causal agents or the origins of their behavior” (p.144). Feelings of personal control or self-reliance are often cited as influential aspects of participation in university ORPs. This control may stem from several areas including the desire to try something new, past experience in the activity, or because friends are also participating. Additionally, while college allows freedom in terms of development of individual independence and autonomy, the monotony of the classical construct of education and daily schedule may result in a feeling of loss of freedom. Brehm (1966) introduced the concept of psychological reactance, which Kleiber (2011) says results from an individual possibly or completely losing individual freedom in leisure options and results in attempts from threatened individual obtain freedom of choice once again. (p.146) Dowd et.al (1991) conclude, “this motivational state will be directed toward the restoration of the eliminated or threatened behavior and will result in behavior known as reactance effects” (p.541). When a previous freedom is no longer allowed or available to the affected individual, the theory of psychological reactance suggests that this disallowed freedom will become more attractive and encourage continuation. (Brehm, 1966, Brehm & Brehm, 1981) As much of a student’s education occurs in standard lecture based classes and their ability to learn experientially is often not fulfilled, the psychological reactance theory suggests that students may turn to ORPs to re-establish and restore their threatened desire for individual freedom and exploration expected during college.

Students often respond to question, “Why are you taking this course, or going on this trip”, by saying to learn something or experience something new. This suggests that individuals are looking for diversity in recreation experiences. Iso-Ahola (1980) concluded that individuals with diverse “leisure skills are much better equipped to handle threats to recreational freedom” (Kleiber, 2011, p.148). For example, an athlete who played high school sports may decide to not participate in college athletics for any one of a number of reasons; such as, time commitment, academic work load, performance pressure, etc. While intramurals on campus provide some outlet for this particular student’s recreational interests, the intramural league only runs four weeks per semester, thus representing a threat to the student’s recreational freedom. The student will look for alternative recreational experiences, possibly satisfying this need at the University’s ORP where the student can find both the physical activity that athletics offered, as well as the social aspect that the student used to receive from a team sport.

These theories, while important are more in terms of individual leisure needs and are generally fairly standard for the vast majority, motivation on the other hand has proven to be more subjective and situational (Kleiber, 2011). Individual leisure needs are fairly accurately attributed to one of the following theoretical factors: autonomy, competence, and relatedness (Deci & Ryan, 1985, 2000) or escaping and seeking model (Iso-Ahola, 1982, 1989) Kleiber goes on to provide this example to assist in showing the vast motivational differences,

> People are motivated to rock climb for a variety of reasons, including to win a competition, because their partner pressures them to do it, because they feel guilty if they don’t because they feel it is important to their health, or because they simply finding climbing interesting and enjoyable in and of itself. (2011, p.156)

To summarize, Kleiber (2011) defines motivation as "what actually moves people toward action." (p.156) Ryan and Deci (2000) generally suggest that motivation is an expression of energy, movement towards a trend or direction, and persistence in activity. Clearly, motivation is a very broad term, but there are ways to narrow the parameters of motivation to provide a better of understanding of specific impetus.

Intrinsic vs. Extrinsic Motivation

Neulinger (1974) provides a theoretical framework for intrinsic and extrinsic motivation. This leisure paradigm assisted in the development of early intrinsic and extrinsic leisure motivation research. The paradigm separates motivation into intrinsic, intrinsic and extrinsic, and extrinsic. It also differentiates between leisure and non-leisure activities and provides a better understanding of how leisure for one person may be non-leisure or work for another. In addition, it allows for a conceptualization of intrinsic and extrinsic motivation. There are several definitions of intrinsic and extrinsic motivation. Intrinsic motivation is, "where an activity is interesting, enjoyable, and rewarding in and of itself" (Kleiber, 2011, p.157). Extrinsic motivation is, "where an activity is rewarding for external reasons, such as getting paid, receiving awards, or gaining recognition" (Kleiber, 2011, p.157).

There have always been questions regarding the relationship of intrinsic and extrinsic motivation. For example, can one be both extrinsically and intrinsically motivated? Is one motivation stronger than the other? Are they mutually exclusive? Graef et.al (1983) found that people can be both intrinsically and extrinsically motivated to participate in a single activity; however, further research by Deci and Ryan (2008) introduced the idea of over justification, a behavioral theory, in which intrinsic motivation is originally high, but due to extrinsic rewards intrinsic motivation to participate experiences a decline.

Intrinsic Motivation. Intrinsic motivation is often considered the purest forms of motivation, where individuals participate for the sheer enjoyment with no rewards. According to Deci and Ryan (1985, 1991, Ryan & Deci, 2000) intrinsic motivation is applicable in one of four categorizations: 1) when *free-choice* is available or encouraged, 2) when participation is out of *interest or enjoyment*, 3) when activities result in a state of flow or are *optimally challenging* (Csikszentmihalyi, 1990) and 4) when they are encouraged by the three psychological needs that were introduced earlier: *autonomy, competence, and relatedness* (Deci & Ryan, 1985, 2000). Deci and Ryan's later work further explored the connections between basic psychological needs and how these interact with intrinsic and extrinsic motivations. According to De Charms (1968) autonomy can be considered an individual interpretation of one's locus of control or locus of causality. According to Deci and Ryan (2000) competence may be used synonymously with self-efficacy, one's understanding of personal abilities that allow for perceived success. (Bandura, 1977); Deci and Ryan (2000) provide some these examples of competence, "optimal challenges, effectance promoting feedback, and freedom from demeaning evaluations" (p.58). Finally, relatedness is, "a sense of belongingness and connectedness to the persons, group or culture disseminating a goal" (Deci and Ryan, 2000, p.64). Vallerand and Losier (1999) provide an abridged version for characterizing intrinsic motivation: desires to attain knowledge and learn something new, encounter stimulus or participate because it feels good, or reach accomplishments - goal and challenge oriented. These three characteristics are highly influential on intrinsic motivation, as well as, likelihood to persist in or continue participating in the activity. Sarrazin et.al (2002) found that not achieving goals or meeting expectations are several of the strongest reasons that participants have for discontinuing an activity.

Neulinger (1974) also introduces two types of self-actualizers that may provide further insight into intrinsic motivation, as well as, generate ideas for student participation in ORP's. The first type of self-actualizer is the *Intellectual self-actualizer*, with "a preference towards the acquisition of knowledge and/or skills" (p.62). According to Neulinger, "this person enjoys talking difficult tasks and achieving high standards in his leisure activities" (p. 62). Second, is the *Social Self-actualizer,* with a "preference for making or being with friends and/or coming closer to the community" (p.62). "This person enjoys being with people and cooperating in common activities with them during his leisure" (p.62).

Extrinsic Motivation. Brown (2007) states that extrinsic motivation at the core, " refers to our tendency to perform activities for known external rewards, whether they be tangible (e.g., money) or psychological (e.g., praise) in nature." Extrinsic motivation requires encouragement or a push by an external influencer. This is a very broad concept as there are many people, events, thoughts, or beliefs that may have influence in individual decision making. Deci and Ryan (1999, Ryan & Deci, 2000) delineate several of the constructs of extrinsic motivation: *External motivation, introjected motivation, identified motivation, and integrated motivation.*

External motivation is the classical definition extrinsic motivation. This form of motivates individuals to strive to attain rewards and avoid punishments. For example, rock climbers climb because they are paid to climb by sponsors. According to this definition the climber gains no intrinsic reward and is only climbing for payment. *Introjected motivation* is an internalization of what an individual considers to be an external pressure. Kleiber (2011) states, "actions are controlled by what one feels one ought to do rather than in response to the need for autonomy, competence, or relatedness." For example, children climb because their parents take them along, as a result, children feel as if they should climb because everyone else around is

doing it. (Walker & Wang, 2008) *Identified motivation* occurs when someone considers that participation in an activity is beneficial, significant, or worthwhile. This form is set apart from intrinsic motivation because the participant expects to get something from participation in the activity. Climbers may climb because they think that it will help in terms of health or may be a form of cross training to increase performance in other sports and activities. Finally, *integrated motivation* results in participation in an activity because it has become a very real part of "who you are." (Kleiber, 2011) This definition seems to straddle the line between extrinsic and intrinsic motivation. While it does fulfill the requirement of relatedness included by Vallerand and Losier, integrated motivation may not result in activities that are optimally challenging or even be that enjoyable anymore, yet the individual continues to participate because that is what he or she does, for example, I'm a swimmer," "I'm a rock climber," or "I'm a runner."

Amotivation. Deci and Ryan (1985) also quickly touch on the concept of *amotivation.* Amotivation is when someone is neither influenced intrinsically nor extrinsically but still participate in an activity. Deci and Ryan explain amotivation as, "a state in which people lack the intention to behave… they lake either a sense of efficacy or a sense of control with respect to a desired outcome." (p.237) While amotivation will mostly likely have minimal influence on this study, the literature continually includes amotivation while discussing the different forms of motivation and this researcher would be remiss to not include at least an explanation in this review.

Self-Determination Theory

The Self-Determination Theory (SDT) is "an approach to human motivation and personality that uses traditional empirical methods while employing an organismic metatheory

that highlights the importance of humans' evolved inner resources for personality development and behavioral self-regulation." (Ryan & Deci, 2000, pg.68) See figure 1.

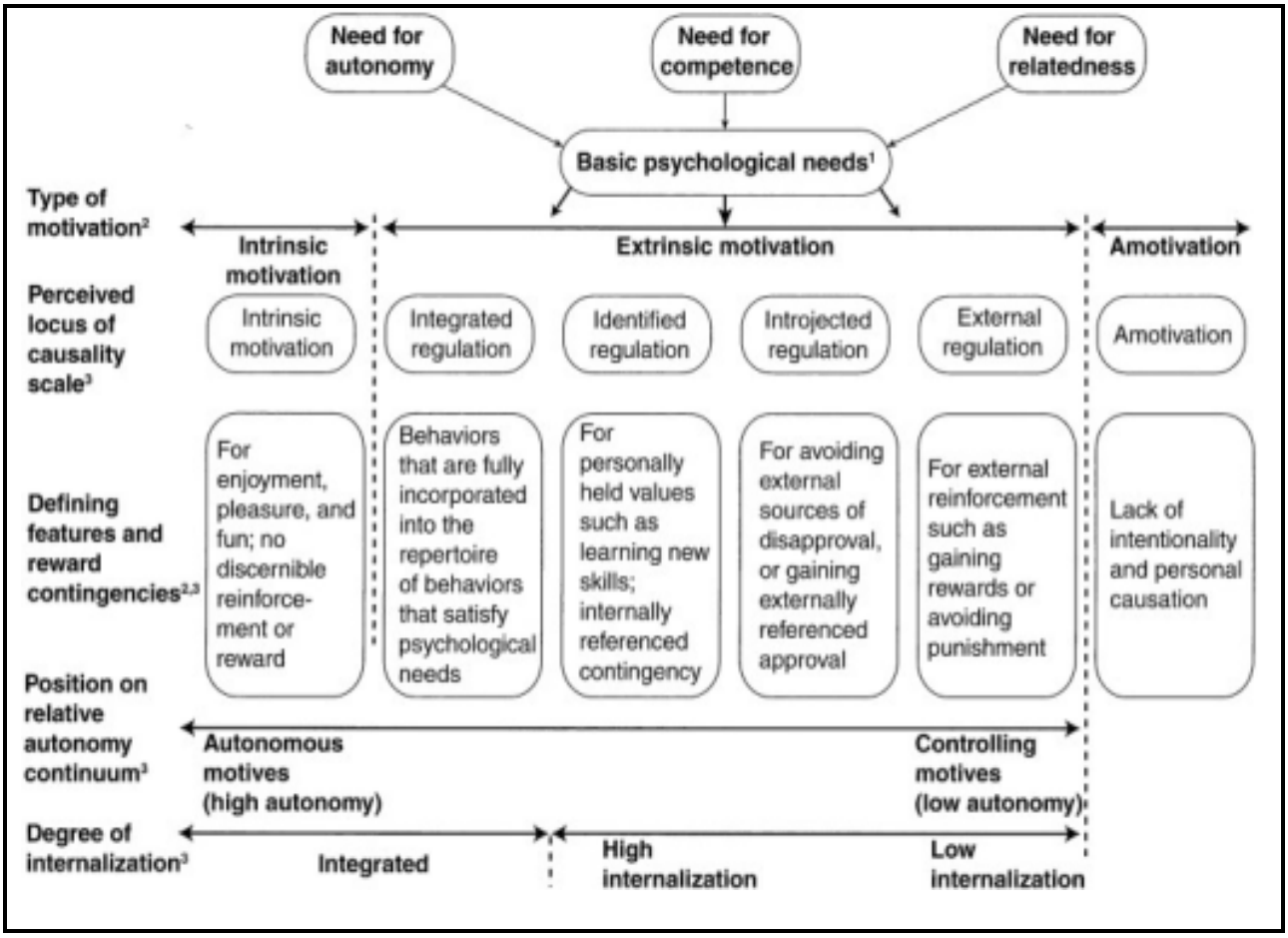

Figure 1. Self-determination theory including three subcategories: basic needs theory, organismic integration theory, and cognitive evaluation theory. (Ryan, R.M. and. Deci, E. edited by Hagger and Chatzisarantis, 2007, p. 8.)

This definition was developed by an early study (Ryan, Kuhl, and Deci, 1997) which looked at development and autonomy in terms of an individual's neurobiological predisposition and psychological development. The SDT is a construct of several other theories: the basic (psychological) needs theory, organismic integration theory (OIT) and the cognitive evaluation theory (CET).

Basic-Needs Theory. Ryan and Deci (2000) define a basic need as, "an energizing state that, if satisfied, conduces toward health and well-being but if not satisfied, contributes to pathology and ill-being." There are several Basic-Needs Theories and theorists, including Fiske (2003,2004) who suggests that there are five basic psychological needs: belonging, understanding, controlling, enhancing self, and trusting others. Deci and Ryan (1985, 2000) summarize Fiske's needs to the three basic needs, autonomy, competence and relatedness that were discussed earlier. These needs result in a feeling of enjoyment and fulfillment for the individual and can be summarized in what classical philosophy considers eudaimonia. (Waterman, 1993) Waterman (1993) suggests that eudaimonic happiness occurs when,

> there is an unusually intense involvement in an undertaking, a feeling of a special fit or meshing with an activity that is not characteristic of most daily tasks, a feeling of intensely being alive, a feeling of being complete or fulfilled while engaging in an activity, an impression that is what the person was meant to do, and a feeling that this is who one really is (p.679).

It is important to note that even though the three basic-needs are valid universally, this does not mean that needs to not change overtime, nor that an individual has a permanent hierarchical categorization to these needs. (Ryan and Deci, 2000) This realization assists in understanding individual leisure tendencies and accounts for changes in leisure motivation throughout one's life.

Organismic Integration Theory. The organismic integration theory (OIT) is one of the sub-theories of SDT developed by Deci and Ryan (1985). According to Ryan and Deci (2000) the purpose of the OIT is "to detail the different forms of extrinsic motivation and the contextual factors that either promote or hinder internalization and integration of the regulation of these

behaviors (p.72).” OIT suggests that there is a behavior spectrum that helps differentiate and define whether one is not self-determined or if one is self-determined. The OIT is comprised of specific forms of extrinsic motivation mentioned earlier: external motivation, introjected motivation, identified motivation, and integrated motivation. Of these forms, external motivation is the least self-determined, apart from amotivation, and integrated motivation is the most self-determined in terms of extrinsic motivation (See Fig. 1).

The OIT considers the effects that types of extrinsic motivation have on a variety of outcomes including; likelihood to continue, development of intrinsic motivation, autonomy, competence and skill development, etc. Ryan and Deci (2000) found an interesting point in that autonomic self-concept and experience is possible, and even thrives, within extrinsically motivated activity. “As people internalize regulations and assimilate them to the self, they experience greater autonomy in action.” (Ryan and Deci, 2000, pg.73) Additionally, the OIT points out a strong correlation with social and group motivation. When an individual internalizes and connects with social expectations and norms (Ryan and Deci, 2000) the individual is more likely to become part of the group or “assimilate” (p.73) within one’s social group.

Cognitive Evaluation Theory. The cognitive evaluation theory (CET) was developed by Deci and Ryan (1985) in an attempt to better understand differences in individual intrinsic motivation. According to Ryan and Deci (2000) “CET is framed in terms of social and environmental factors that facilitate versus undermine intrinsic motivation, using language that reflects the assumption that intrinsic motivation, being inherent, will be catalyzed when individuals are in conditions that conduce towards its expression.” (p. 70) To simplify, CET is built around the idea that perceived confidence, (Vallerand and Reid, 1984) positive external evaluation of their actions (Deci, 1975), or what Deci and Ryan (2000) call “positive

performance feedback" (p.70), and a feeling of competence and personal skill (Fisher, 1978; Ryan, 1982) influence intrinsic motivation and how individuals view their approach to choice in leisure.

It is important to note that there is some disagreement with regard to CET and the effects of what some suggest are extrinsic rewards. Some researchers suggest that external rewards or punishment avoidance will always have a negative impact on intrinsic motivation in terms of participation in an activity or task. (Deci, Koestner, & Ryan, 1999) However, some hold to classical views of rewards (Condry, 1977) where extrinsically rewarded individuals "seem to work harder and produce more activity" (p.471) Eisenberger and Cameron (1996) propose, "Any lessening of intrinsic interest resulting from tangible reward, received for successful task performance or task completion, is too small in magnitude to be detected."

CET is considered through correlation with the three basic needs, primarily autonomy and competence. Deci and Ryan (2000) suggest that intrinsic motivation is increased when an individual experiences positive feedback from others in terms of personal performance. Studies by Buckley, 2012; Manning, 2011; Ewert and Hollenhorst, 1989 suggest that motivations are fluid and change over time dependent on individual skill or ability. Ewert, et.al. (2013) take this one step further and suggest that as individuals develop improved skill and competency in regard to an activity, their intrinsic motivation to continue this activity also increases. Conversely, intrinsic motivation is negatively affected when an individual experiences negative performance feedback. Fisher (1978) suggests that competence and autonomy are interdependent in terms of CET and Intrinsic motivation. Competence in an activity will not increase intrinsic motivation in it of itself, however, when coupled with a feeling of autonomy has a positive impact on intrinsic motivation.

Summary

This literature review provides examples of the outcomes associated with University ORPs that may explain a student's initial motivation to participate in an activity. A preliminary description of how leisure needs are realized through student participation in these programs is introduced including connections to perceived freedom, basic needs, and intrinsic and extrinsic motivations.

This review also provides an introduction to the Self-determination Theory (Deci and Ryan, 1985) and how intrinsic and extrinsic motivation are integrated within the theory (Deci and Ryan, 2000). The combination of these theories provides an understanding of the scope of individual motivation. This literature review makes it clear that data collected from participants in this study will be very broad. The goal of this study is to provide increased understanding into individual motivations to participate in different types of outdoor activities that are administered by ORPs and determine if there are any notable differences between activity types and whether these motivations are socially or individually defined by students.

Chapter Three: Methodology

The study researched the motivational factors associated with different outdoor recreation activities commonly administered by university ORPs. This chapter assesses the following outline topics:

1. Instrumentation
2. Subject selection
3. Data collection/Administration of the survey
4. Analysis of the data.
5. Summary

Instrumentation

This study employed the use of the Leisure Motivation Scale (LMS), a reliable and reviewed quantitative survey instrument developed by Beard & Ragheb (1983). The instrument was intended to develop measureable scales that provide a detailed understanding as to individual leisure motivations and will work well to determine differences in motivation between outdoor recreation activities. The LMS consists of 48 items that are formatted for response using a five-point Likert scale. The scale ranges from (1) never true, (2) seldom true, (3) somewhat true, (4) often true, or (5) always true.

Beggs, Stitt, and Elkins (2004) used the LMS in a similar implementation to better understand campus recreation sports programs through similar questions, such as, “Why do students choose to participate in recreational sports programs? What factors contribute to a student choosing not to participate in recreational sports programs such as intramurals, club sports, fitness, and informational sports programs? Are individuals not motivated to participate in recreation sports activities because these “traditional” programs and services are no longer

adequately fulfilling their needs" (p.65)? Previous studies have found the data to be accurately and reliably analyzed upon loading into the LMS instrument (Beggs, Stitt, and Elkins, 2004; Murray and Nakajima, 1999). Murray and Nakajima (1999) found the instrument to be reliable and reported the Cronbach's alpha scores for each of the LMS factors as follows: "Intellectual (alpha = 0.87), Social (alpha = 0.82), Competence/Mastery (alpha = 0.88) and Stimulus Avoidance (alpha = 0.79)" (p.60). These results are reliable above the .7 level offered by Pallant (2007). The instrument proved to be reliable for this thesis as well at the .7 level with a total Cronbach's alpha = 0.74. The researcher circulated the LMS among a cohort of researchers confirming that the instrument was valid for the purposes and context of this study.

According to the developers, (Beard & Ragheb, 1983) the LMS incorporates several previous theories into the development of the research instrument, including; stimulus seeking and avoidance (Ellis, 1973) relaxation (Patrick, 1916) and competence-effectance (White, 1957). From an extensive review of available literature and an exhaustive development and review period the developers were able to summarize responses into four factor groups. These motivational factor groups are denoted as intellectual, social, competency/mastery, and stimulus avoidance. These groups provide a good overview that incorporates both intrinsic and extrinsic motivational factors and may be considered through a SDT lens for increased response understanding.

Subject Selection

Subjects were recruited due to their participation in a one-credit course with Indiana University Outdoor Adventures (IUOA). IUOA is an outdoor recreation program, with a focus on outdoor leadership and adventure education that offers courses in a wide variety of outdoor recreation activities. This specific program, primarily due to the breadth of activities offered was

an optimal program to collaborate with on this study. The researcher's involvement with the program and connections to administration ensure that this collaboration provided the raw data required for the successful analysis.

Subject selection was delimited to the fact that all subjects had to be students at Indiana University. Subjects had to be either taking a for-credit class or course, participating in a not-for-credit adventure trip, or be an undergraduate IUOA trip leader. Roughly 600 students participate in IUOA programs annually. Data collection for this study ran over the course of the late summer and fall of 2016 semester at Indiana University. Roughly one third of students participate in the summer, fall and spring semesters at IUOA and the researcher originally estimated a participant sample size of N=200. This sample represents data obtained from roughly one-third of the students expected to participate in the 2016-2017 school year. In addition, since there are twenty courses in the fall semester at IUOA and each course has three student trip leaders, a student trip leader sample size was estimated at N=60,. Total estimated sample size was N=260 once recruitment of all students in all courses was completed. See Appendix D. for recruitment letter. Total sample size at the conclusion of the study was N=253 after outliers were removed.

Data Collection/Administration of the Survey

Beard and Ragheb (1983) suggest that the LMS may be used to provide insight into the motivational factors that affect individual leisure choice. For this study the researcher desired to obtain pre-experience student motivation to participate in the specific activity of choice. Pre-existing motivations are based on preconceived concepts or understandings of the activity or any previous experience that a subject may have had with the activity. Therefore, the survey was administered at the beginning of the first class session or trip meeting, before any activity-related

instruction had taken place. The administration occurred in a classroom setting with courses taking place in the late afternoon and early evening hours. In addition, subjects were asked to complete demographic information that denoted supplementary data such as, year of school, gender, age, and previous experience with the activity. Subjects were asked to answer survey questions truthfully and completely in order to maintain validity of the survey and resultant data. Subjects were not required to participate in the study and were ensured that not participating in the study would have no affect the student's grade in a for-credit course.

IUOA student trip leaders who taught the course or guided the adventure trip were also asked to complete the survey. These data provided further insight into motivations for continued participation not only in specific outdoor recreation activities but also provides interesting data on why students continue to participate in university ORPs, or why students continue to participate in outdoor leadership programs.

Data Analysis

Data were analyzed to elicit connections between specific recreation activities and factors of the LMS. As these factors represented both intrinsic and extrinsic motivation, resultant data provided understanding into whether one activity attracted more intrinsically motivated individuals or more extrinsically motivated individuals. It was a goal of the study to differentiate between individual activities, such as mountain biking or kayaking, and team activities, such as canoeing or rock climbing.

The data were cleaned, coded, and analyzed according to the two hypotheses. H1 required the use of a One-Way ANOVA to analyze the differences between the mean scores of students in regard to each activity and each of the four individual factors of the LMS (intellectual, social, competency/mastery, and stimulus avoidance). The alpha level for this

study was .05. This was the primary question of this study, however, additional analysis of other variables provided additional insight into student motivations. Analysis of H2 consisted of an independent samples t-test to determine differences between LMS factors of participant students and student trip leaders. Once again, this was tested using a significance level of .05.

Summary

There were several main goals of this data: first, to better understand what motivates individuals to participate and continue to participate in university ORPs; second, to provide further reasoning for continued administration of these programs due to satisfying student learning, activity, and adventure needs; and third, to assist in determining what types of motivational factors result in participation of specific outdoor recreation activities.

Chapter Four: Results

Introduction

This chapter explains the findings from the methodology outlined in the previous chapter. These results explain the two research questions on which this study was founded. The first research question noted any motivational differences, expressed in terms of the LMS factors, between outdoor activities. The researcher hypothesized that the LMS factors would not be significantly different between outdoor activities for this research question. This question considered the independent variable: course, and one dependent variable: one of the four motivational factors of the LMS. This study used a One-Way ANOVA to analyze the differences between the ten course and activity groups when considering each of the motivational factors separately.

The second research question noted any motivational differences between student roles, by considering two groups: Student trip leaders and student participants (for the rest of this paper these groups well be defined as *trip leaders* and *participants*). The researcher hypothesized that scores will not show a significance difference for LMS subscale factors between participants and trip leaders for this research question. This question considered the independent variable: student role, and the dependent variable: motivational factor of the LMS. Independent samples t-tests were used to analyze these two groups with each of the LMS factors. This analysis considers all courses together as an aggregate whole of all the courses surveyed.

These data were collected during the fall semester of 2016 at Indiana University Bloomington. The data came from volunteer participants who were taking one-credit outdoor adventure courses administered by Indiana University Outdoor Adventures and the trip leaders that were instructing these courses. Participants and trip leaders ranged from freshman to

graduate students at Indiana University. This study was reviewed and accepted by the Indiana University Internal Review Board (IRB).

Results

This study contained several avenues in terms of testable null hypotheses.

H1: LMS factors would not be significantly different between outdoor activities.

H2: Scores would not show a significance difference for LMS subscale factors between student participants and student trip leaders.

Normality was considered according to the Kolmogorov-Smirnov test for normality (Appendix E. Table 1.). Pallant (2007), suggests that according to the Kolmogorov-Smirnov test non-significant results of greater than .05 determine normality. Distribution was found to be normal among all the courses for the intellectual and competence/mastery factors, however, distribution did not follow norms for all courses among the social and stimulus avoidance constructs. The following figures show normal distribution graphs for the factors of the LMS.

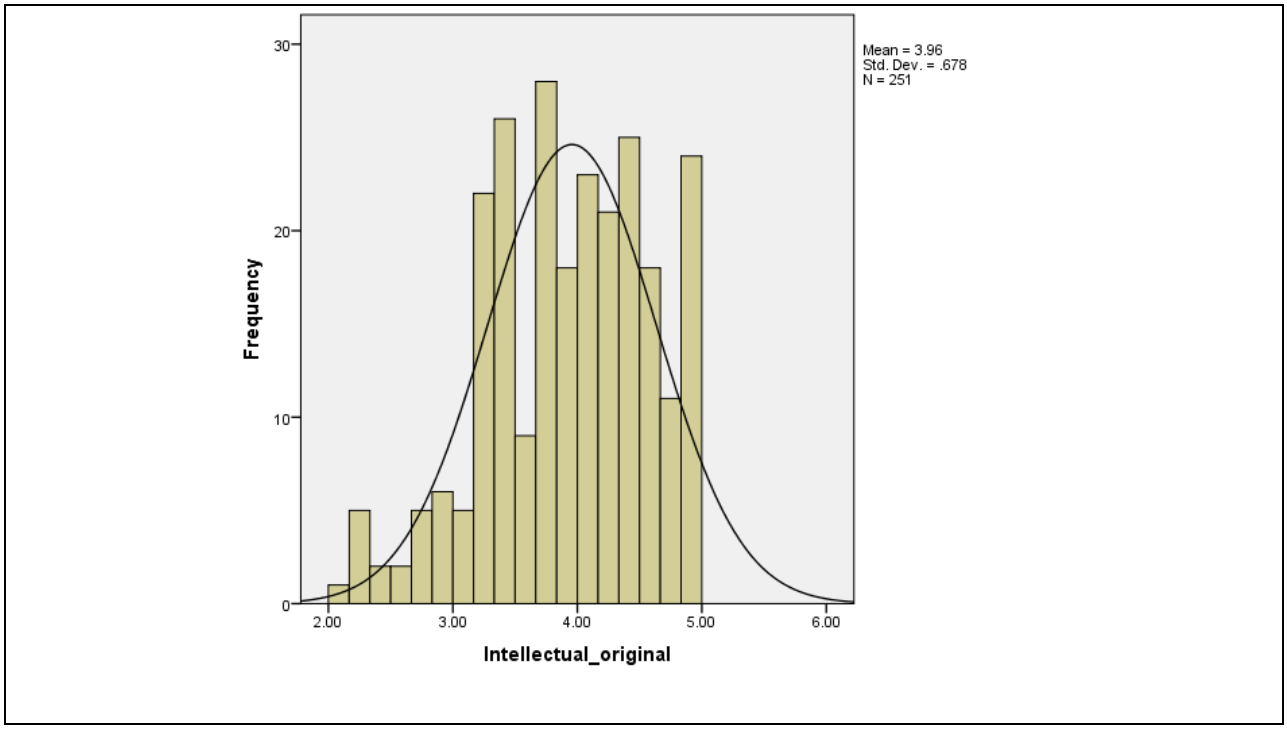

Figure 2. Intellectual Factor Normal Distribution

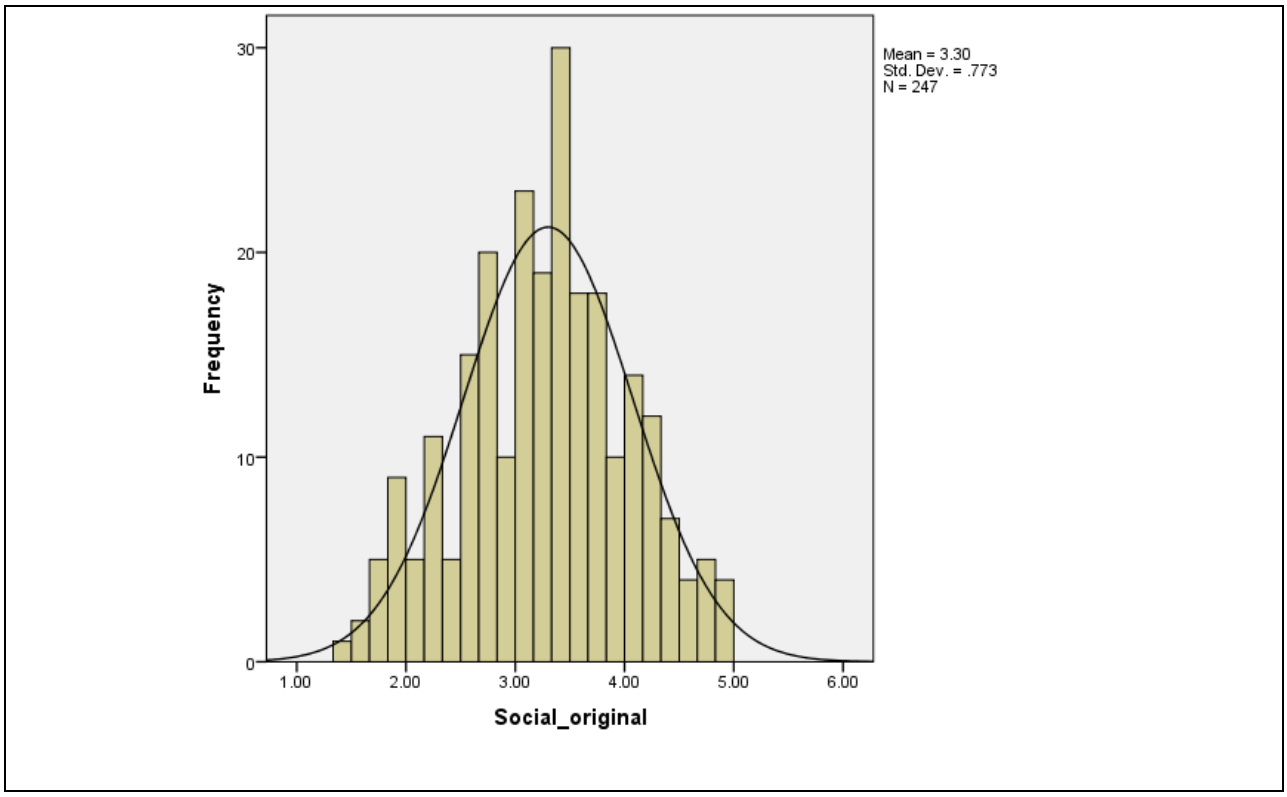

Figure 3. Social Factor Normal Distribution

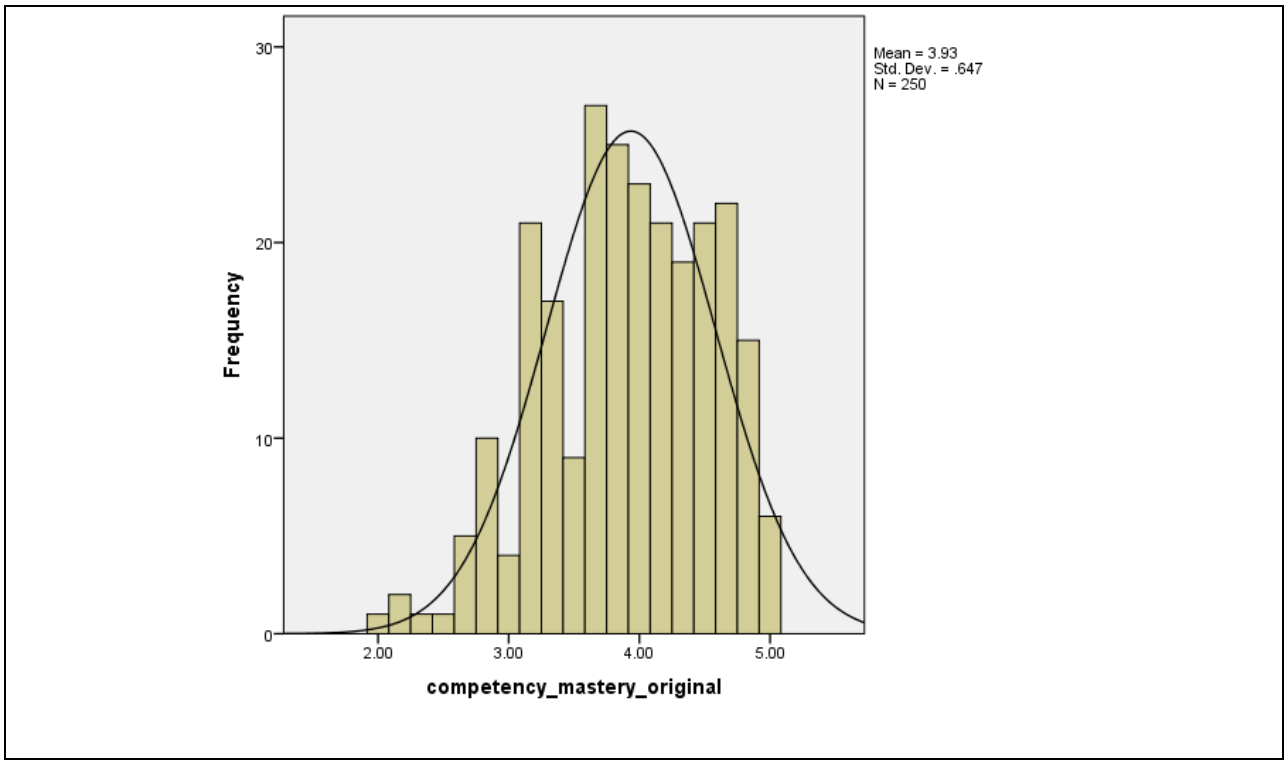

Figure 4. Competence/Mastery Normal Distribution

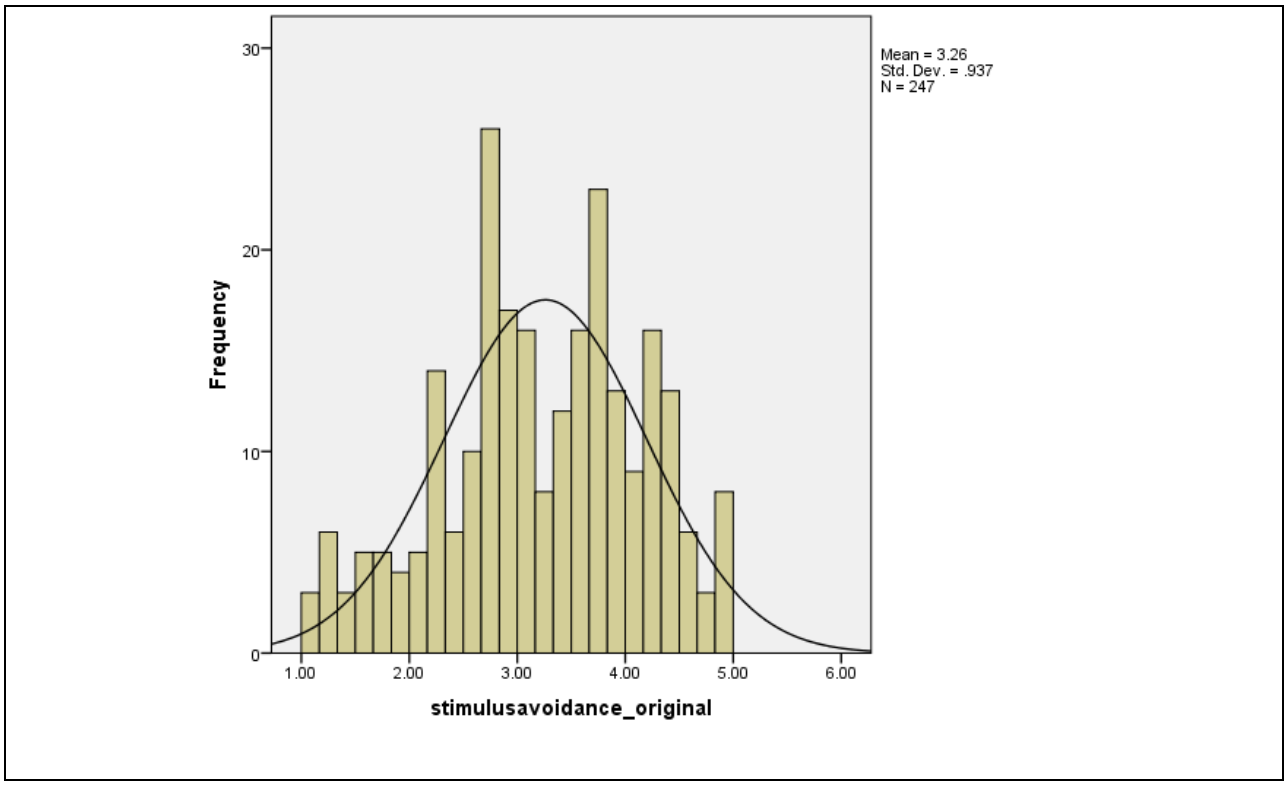

Figure 5. Stimulus Avoidance Normal Distribution

A total of 256 subjects were interviewed during the data collection portion of this study. A thorough screening for outliers found no obvious cases. Any subject response beyond three standard deviations from the mean was also removed in an attempt to reduce skew (#48, #119, and #254). However, if a subject response was missing for any line item that corresponded to the specific LMS factor that was being tested, that subject was removed from the analysis.

The questions of the instrument were broken down as follows: Questions 1-12 load into the intellectual factor, questions 13-24 load into the social factor, questions 25-36 load into the competence/mastery factor, and questions 37-48 load into the stimulus avoidance factor. To answer the first research question regarding activity choice motivation a one way analysis of variance was conducted for each of the four factors of the LMS. In order to determine the differences between the courses effect size was found for each ANOVA. Effect size was measured using eta squared (*Sum of squares between-groups*/*Total sum of squares = Eta*

squared). Effect size according to Pallant (2007), "is a set of statistics which indicates the relative magnitude of the differences between means" (p.201), in other words, it determines the relative measure of the relationship between variables. Pallant suggests that effect size for eta squared is determined in three groups: small effect .01, medium effect. .06, and large effect .138. When using the Cohen's d test for effect size (Cohen, 1988) there are also three groups: small effect .2, medium effect .5, and large effect .8.

Respondent Frequencies

Frequency and demographic data was also helpful in better understanding the subjects. The intellectual factor yielded 251 valid responses, of those 115 (45.8%) were male and 136 (54.2%) were female. There were 32 trip leaders and 219 participants represented in this factor. The ethnicities that made up this factor are as follows:

Table 2.

Ethnicity Frequencies for Intellectual Factor

Ethnicity	Frequency
Black/African American	1
Hispanic or Latino	5
Asian	19
White	211
Two or more races	15
Total	251

The respondents were also asked to report what year they were in school; these responses can be seen in the following table.

Table 3.

Year in School for Intellectual Factor

Year in School	Frequency	Percent
Freshman	78	31.08%
Sophomore	52	20.72%
Junior	38	15.14%
Senior	70	27.89%
Fifth-year senior	9	3.59%
Graduate Student	4	1.59%
Total	251	

The social factor yielded 247 valid responses, of those 114 (46.2%) were male and 133 (53.8%) were female. There were 31 trip leaders and 216 participants represented in this factor. The ethnicities that made up this factor are as follows:

Table 4.

Ethnicity Frequencies for Social Factor

Ethnicity	Frequency
Black/African American	1
Hispanic or Latino	5
Asian	19
White	207
Two or more races	15
Total	247

The respondents were also asked to report what year they were in school; these responses are seen in the following table.

Table 5.

Year in School for Social Factor

Year in School	Frequency	Percent
Freshman	78	29.96%
Sophomore	52	20.65%
Junior	38	15.38%
Senior	72	27.94%
Fifth-year senior	9	3.64%
Graduate Student	4	1.62%
Total	247	

The competence/mastery factor yielded 250 valid responses, of those 115(46%) were male and 137 (54%) were female. There were 32 trip leaders and 218 participants represented in this factor. The ethnicities that made up this factor are as follows:

Table 6.

Ethnicity Frequencies for Competence/Mastery Factor

Ethnicity	Frequency
Black/African American	1
Hispanic or Latino	5
Asian	19
White	210
Two or more races	15
Total	250

The respondents were also asked to report what year they were in school; these responses are seen in the following table.

Table 7.

Year in School for Competence/Mastery Factor

Year in School	Frequency	Percent
Freshman	77	31.17%
Sophomore	51	20.65%
Junior	37	14.98%
Senior	72	29.15%
Fifth-year senior	9	3.64%
Graduate Student	4	1.62%
Total	250	

The stimulus avoidance factor yielded 247 valid responses, of those 111 (44.9%) were male and 134 (55.1%) were female. There were 32 trip leaders and 213 participants represented in this factor. The ethnicities that made up this factor are as follows:

Table 8.

Ethnicity Frequencies for Stimulus Avoidance Factor

Ethnicity	Frequency
Black/African American	1
Hispanic or Latino	5
Asian	18
White	208
Two or more races	15
Total	247

The respondents were also asked to report what year they were in school; these responses can be seen in the following table.

Table 9.

Year in School for Stimulus Avoidance Factor

Year in School	Frequency	Percent
Freshman	77	31.17%
Sophomore	52	21.05%
Junior	35	14.17%
Senior	68	27.53%
Fifth-year senior	9	3.64%
Graduate Student	4	1.62%
Total	247	

Mean responses for each of the components of the LMS also provide further insight into the parameters and tendencies of the respondents. The mean score for the intellectual factor of the LMS was 3.96. The social factor produced a mean score of 3.3. Competence/mastery resulted in in a mean score of 3.93. Finally, stimulus avoidance resulted in a mean score of 3.26. These data show that on average respondent students reported higher individual motivation towards the intellectual and competence/mastery factors of the LMS. It is important to remember that these data are prior to significance testing, however, they do assist with understanding initial parameters and ordering of the LMS factor responses.

Quantitative Analysis: One-Way ANOVA

Intellectual Motivation. A one-way between-groups analysis of variance was performed to examine differences between courses and level of intellectual motivation, measured by the LMS (Table 10.). There was a statistically significant difference at the $p<.05$ level in intellectual motivation factors of the LMS for the ten courses [$F(9,241) = 2.658$, p.=.006] The effect size, calculated using eta squared (using the formula *Sum of squares between-groups*/*Total*

sum of squares = eta squared) resulted in a medium effect size of .09. Post-hoc comparisons using the Tukey HSD test (Table 11.) indicated that the mean score for mountain biking (M=3.60, SD=.81, p=.034), was significantly different from foundations of adventure (M=4.23, SD=.60, p=.034). These results suggest that the foundations of adventure course participants are more motivated by the academic, intellectual or learning components of the activity or experience, than individuals taking the mountain biking course.

Table 10.

ANOVA Between Intellectual Motivation and Course Type

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	10.372	9	1.152	2.658	.006
Within Groups	104.479	241	.434		
Total	114.851	250			

Table 11.

Multiple Comparisons Between Course Types for Intellectual Motivation

Course	Course	Mean Difference	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Foundations of Adventure	White water canoe	.47733	.20958	.407	-.1920	1.1466
	White water kayak	.53930	.18617	.112	-.0553	1.1338
	Mountain biking	.63080*	.18993	**.034**	.0242	1.2374
	Backpacking	.27888	.14002	.606	-.1683	.7261
	Coastal kayak	.33691	.17669	.664	-.2274	.9012
	Rock climbing	.42480	.14542	.105	-.0396	.8892
	Map and compass	.30192	.22357	.941	-.4121	1.0159

	Intro to wilderness leadership	.01062	.15671	1.000	-.4899	.5111
	Flat water canoe	.15041	.23222	1.000	-.5912	.8920
	Foundations of adventure	.117	41	.175		

*. The mean difference is significant at the 0.05 level.

Social Motivation. A one-way between-groups analysis of variance was performed to examine differences between courses and level of social motivation, measured by the LMS. There was a statistically significant difference at the $p < .05$ level in social motivation factors of the LMS for the ten courses ($F[9, 237] = 3.936$, $p = .00$] (Table 12.). The effect size, calculated using eta squared resulted in a medium to large effect size of .13. Post-hoc comparisons using the Tukey HSD test (Appendix F. Table 13.) indicated that the mean scores for whitewater kayaking (M = 3.06, SD = .73, p=.024), mountain biking (M=2.96, SD=.96, p=.004), backpacking (M=3.22, SD=.70, p=.013), and rock climbing (M=2.98, SD=.65, p=.000) were significantly different from foundations of adventure (M=3.79, SD=.67). This shows that there is a higher social motivation in the foundations of adventure course than in the white water kayaking, mountain biking, backpacking, and rock climbing courses.

Table 12.

ANOVA Between Social Motivation and Course Type

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	19.127	9	2.125	3.936	.000
Within Groups	127.977	237	.540		
Total	147.104	246			

There did seem to be a discrepancy when considering the Kruskal-Wallis test (Table 14. and Table 15.) for non-parametric data, which was used because of the non-normality of the data

for this specific factor. The results showed that foundations of adventure (Mean Rank =168.29) participants report high amounts of social motivation, while mountain bikers (Mean Rank = 98.29), rock climbers (Mean Rank = 94.76), and whitewater kayakers (Mean Rank = 100.47) reported the lowest social motivations as explained by the previous ANOVA, however, backpackers (mean rank = 119.82) reported somewhere in the middle for motivational factors suggesting that this group may not be significantly different as suggested in the ANOVA. This test suggests that backpackers have higher social motivation than presented in the ANOVA analysis and may not be significantly different as found by the ANOVA. When backpacking participants often combat the monotony of hiking with conversation and interpersonal connections. Backpacking allows room for long conversations to take place between participants due to relatively low risk. Mountain biking, rock climbing, and whitewater kayaking however, are inherently individual activities and require increased concentration and focus to perform well. This type of environment is not as conducive to social interaction and interpersonal relationship development.

Table 14.

Stochastically Ordered Course Type for Social Motivation Factor

	Course	N	Mean Rank
Social	133 (ww Canoe)	13	130.85
	135 (WW Kayak)	17	100.47
	125 (Mountain Biking)	17	98.29
	113 (Backpacking)	48	119.82
	136 (Coastal Kayak)	21	111.33
	144 (Rock Climbing)	40	94.76
	129 (Map and Compass)	12	127.04

	305 (ITWL)	28	145.29
	132 (Flatwater Canoe)	10	117.55
	Foundations of Adventure	41	168.29
	Total	247	

Table 15.

Kruskal Wallis Test Statistics for Social Motivation Factor

	Social
Chi-Square	30.073
df	9
Asymp. Sig.	**.000**

Competence/Mastery Motivation. A one-way between-groups analysis of variance was performed to explore how course interacts with levels of motivation for competency/mastery, measured according to the LMS (Table 16.). There was no statistically significant difference at the $p<.05$ level in competency/mastery motivation factors of the LMS for the ten courses [$F(9, 240) = 1.302$, p.=.237]. This analysis suggests that there is no difference in motivations to participate in different activities due to individual desires to attain competence or achieve mastery of the activity.

Table 16.

ANOVA Between Competence/Mastery Motivation and Course Type

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4.849	9	.539	1.302	.237
Within Groups	99.330	240	.414		
Total	104.179	249			

Stimulus Avoidance Motivation. A one-way between-groups analysis of variance was performed to explore how course interacts with levels of motivation for stimulus avoidance (sensation avoidance or seeking), measured according to the LMS (Table 17.). There was no statistically significant difference at the p<.05 level in stimulus motivation factors of the LMS for the ten courses [F(9, 237) = 1.151, p.=.328]. This suggests that avoiding certain stimulus or seeking different stimulus is not different between types of activity. It is important to note that this does not mean that these students are not motivated by stimulus avoidance, which is entirely possible, this tests merely considers the factor compared to the independent variable of activities tested.

Table 17.

ANOVA Between Stimulus Avoidance Motivation and Course Type

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	9.051	9	1.006	1.151	.328
Within Groups	207.132	237	.874		
Total	216.183	246			

Due to lack of normality between all the courses a nonparametric analysis was also performed for the stimulus avoidance construct (Table 18.). The Kruskal-Wallis Test also found that there was not significant difference (p=.295) at a .05 alpha level, between any of the courses and this particular factor.

Table 18.

Kruskal Wallis Test Statistics for Stimulus Avoidance Motivation Factor

	Social
Chi-Square	10.730
df	9
Asymp. Sig.	.295

One-Way ANOVA Summary. The One-Way ANOVA analysis found that there were significant differences between courses in regards to some of the factors of the LMS resulting in a rejecting of the null hypothesis for the first hypothesis previously listed. There were significant differences between foundations of adventure and mountain biking in the intellectual factor. There were also significant differences between foundations of adventure and mountain biking, rock climbing, backpacking and whitewater kayaking in the social factor.

Independent Sample T-Tests

The second research question for this particular project is to help better understand if there are any motivational differences, expressed in terms of the LMS factors, between trip leaders and participants while participating in outdoor recreation programs. To better understand these relationships, independent-samples t-test were conducted for the two groups (trip leaders and participants) and each of the four factors of the LMS.

Intellectual Motivation. An independent-samples t-test was conducted to compare intellectual motivation for trip leaders and participants (Table 19.). There was no significant difference in scores for trip leaders (M=4.07, SD=.60) and participants (M=3.94, SD=.69) [t(249)=1.02,p=.31]. This analysis suggests that student trip leaders and student participants do not participate differently across activity due to intellectual motivations.

Table 19.

Intellectual Motivation Comparison Between Trip Leader and Participant Groups

	N	M	SD	t-score	*p*
Trip Leader	32	4.07	.601	1.020	.309
Participant	219	3.94	.688		

Social Motivation. An independent-samples t-test was conducted to compare intellectual motivation for trip leaders and participants (Table 20.). There was a significant difference in scores for trip leaders (M=3.90, SD=.69) and participants (M=3.21, SD=.75) [t(245)=4.90,p=.00]. The magnitude of the differences in the means, effect size, was large (Cohen's d = .96). This was determined using the formula $Cohen's\ d = (M2 - M1) \ / \ SDpooled.$

Table 20.

Social Motivation Comparison Between Trip Leader and Participant Groups

	N	M	SD	t-score	*p*	Cohen's d
Trip Leader	32	3.90	.687	4.902	.000	.96
Participant	215	3.21	.747			

Due to lack of normality between all the courses a nonparametric analysis was also performed for the social construct (Table 21.). The Mann-Whitney U Test also found that there was a significant difference (p=.000) at a .05 alpha level, between student trip leaders and participants in terms of social motivations. These data suggest that trip leaders are more motivated by social influences to participate in outdoor recreation adventure activities than their participant counterparts.

Table 21.

Non-parametric Test for Social Motivation between Trip Leader and Participant Groups

Leader or Participant	N	Mean Rank	Sum of Ranks	Mann-Whitney U	Z	Aymmp. Sig (2-tailed)
Student Trip Leader	32	177.83	5690.50	1717.500	-4.571	**.000**
Participant	215	115.99	24937.50			
Total	247					

Competence/Mastery Motivation. An independent-samples t-test was conducted to compare competence/mastery motivation for trip leaders and participants (Table 22.). There was no significant difference in scores for trip leaders (M=3.82, SD=.54) and participants (M=3.95, SD=.70) [t(248)=-1.03,p=.31]. These results suggest that student trip leaders and participants are not motivated differently due to desire to become competent or master the activity.

Table 22.

Competence/Mastery Comparison Between Trip Leader and Participant Groups

	N	M	SD	t-score	*p*
Trip Leader	31	3.82	.542	-1.028	.305
Participant	219	3.95	.660		

Stimulus Avoidance Motivation. An independent-samples t-test was conducted to compare stimulus avoidance motivation for trip leaders and participants (Table 23.). There was no significant difference in scores for trip leaders (M=3.57, SD=.83) and participants (M=3.22, SD=.95) [t(245)=1.88,p=.06].

Table 23.

Stimulus Avoidance Comparison Between Trip Leader and Participant Groups

	N	M	SD	t-score	*p*
Trip Leader	29	3.57	.834	1.881	.061
Participant	218	3.22	.944		

Again, due to lack of normality between all the courses a nonparametric analysis was also performed for the stimulus avoidance construct (Table 24.). The Mann-Whitney U Test also found that while close (p=.058), there was not a significant difference at a .05 alpha level, between student trip leaders and participants in terms of stimulus avoidance motivations. These data suggest that trip leaders and participants are not motivated differently in terms of stimulus avoidance or seeking by participating in outdoor activities.

Table 24.

Non-Parametric Stimulus Avoidance Motivation between Trip Leader and Participant Groups

Leader or Participant	N	Mean Rank	Sum of Ranks	Mann-Whitney U	Z	Aymmp. Sig (2-tailed)
Student Trip Leader	29	147.60	4280.50	2476.500	-1.895	.058
Participant	218	120.86	26347.50			
Total	247					

Independent Sample T-Test Summary. The independent samples t-test analysis found that there were significant differences between courses in regards to the social factor of the LMS resulting in a rejection of the null hypothesis for the second hypothesis. While there was a significant difference between trip leaders and participants in regards to this social factor, the other three factors (intellectual, competence/mastery, and stimulus avoidance) proved not significant.

Results Summary

The previous data from a sample size of N=254 outlines some characteristics associated with college student motivation to participate in outdoor adventure activities. The study surveyed student participants and student trip leaders in ten different outdoor adventure based activity courses. These data suggest that there are some significant differences between both activity type, as well as the respondent's role as either a trip leader or participant. This analysis resulted in a rejection of both the null hypotheses: LMS factors will not be significantly different between outdoor activities and scores will not show a significance difference for LMS subscale factors between student participants and student trip leaders.

Chapter Five: Discussion

Summary

The purpose of this study was to research motivational factors associated with different outdoor recreation adventure activities available through a university ORP in the Midwest. Outdoor recreation and adventure education activities have grown in popularity over the last several decades, and this outdoor movement has found its way to the college campus as students seem to be seeking alternatives to standard campus recreation and extracurricular activities. The Outdoor Industry Foundation (2011) found that overall participation in adventure activities, such as rock climbing, whitewater kayaking, sea kayaking and mountain biking have increased by over 25% since 2009. The topic of recreational motivation has historically been a popular avenue for research; furthermore, the uptick in participation in the last few years encourages continued study.

Klieber (2011) wondered whether motivational factors are constant or vary according to individual outdoor recreation activities; for example, are motivations to participate in rock climbing similar to that of white water rafting or mountain biking? Galloway (2012) found that activity type does have an effect on motivation towards participation through a study that elicited responses from river users in New Zeeland. Galloway (2012) found differences in motivations between fishermen, kayakers, rafters, and other river users. The present study considered the participant motivations prompt from Klieber (2011) and the findings from Galloway (2012) and set out to find identifiable motivational themes connected between particular outdoor activities. In addition, the study also considered the differences in motivations between student roles within the context of the ORPs. This study split students into two main groups. The first group consisted of the trip leaders, students who are employed by the ORP and teach courses or lead trips. The

second group is the student participants, or the students that are taking the course for academic credit.

Findings

The dependent variable of motivation with its four motivational factors--intellectual, social, competence/master, and stimulus avoidance--looked to develop a better understanding of the differences in motivation between the independent variables of course/activity type and student role. The first research question employed the use of a one-way ANOVA, as well as the Kruskal-Wallis test for the non-parametric factors, and found significant differences among the intellectual and social motivational factors of the LMS when considering each of the different outdoor activities surveyed; Rejecting the null hypothesis: LMS factors will not be significantly different between outdoor activities. In the intellectual factor a significant difference (p=.006) was found between two courses: foundations of adventure (M=4.23, SD=.60, p=.034) and mountain biking (M=3.60, SD=.81, p=.034). For the social factor, significance (p=.000) was found between several courses. The significant differences were between foundations of adventure (M=3.79, SD=.67) and various other courses: whitewater kayaking (M = 3.06, SD = .73, p=.024), mountain biking (M=2.96, SD=.96, p=.004), backpacking (M=3.22, SD=.70, p=.013), and rock climbing (M=2.98, SD=.65, p=.000). These data suggest that the students who take the foundations of adventure course are more likely to be motivated by the intellectual development and social aspect that the course provides than some of the other courses. No significance was found among the competence/master and stimulus avoidance factors.

The second research question used independent samples t-tests, and Mann-Whitney Test for non-parametric factors, found a significant difference (t=4.90, p=.00) in terms of social motivation between trip leaders, with a mean score M=3.90, and participants, with a mean score

of M=3.21; Rejecting the null hypothesis: LMS subscale factors will not be significantly between student participants and student trip leaders. These findings suggest that trip leaders are more motivated than their for-credit counterparts to participate in outdoor adventure activities due to the social aspect or interpersonal relationships that are gathered from participation.

Discussion

The findings reinforce that the social aspect is one of the main motivators for participation in university ORPs. Gilbertson and Ewert (2015) suggest, "that people appear to be participating more in adventure activities to escape normal life and to socialize with people who have similar interests and skills." (p.293) While this data does not suggest that the students participated in their specific outdoor activity to avoid normal life or everyday life it was clear that the social aspect is a major draw.

Though one of the purposes of the study was to determine if there were similarities or differences between specific outdoor activities, the analysis found very few significant differences between activities. While this question is important it appears to be hard to answer with relatively inexperienced individuals, because participation motivations evolve as the individual gains experience (Buckley, 2012; Manning, 2011; Ewert and Hollenhorst, 1989). According to Lyng and Snow (1986) one must experience the activity in order to develop a motivation towards continued participation. While changing motivations were outside of the scope of this study, significant differences were found between the trip leaders and participants' motivations suggesting that there is a change in motivation over time or as an individual gains experience.

Several studies back this proposition (Bryan, 1979; Ewert, 1985; and Ewert, et.al. 2013) suggesting that as an individual gains experience in an activity motivations change from extrinsic

to more intrinsic. This connects to the Self-Determination Theory which suggests a spectrum or continuum of motivation from amotivation, or no motivational, all the way to intrinsic motivation, or doing something simply because it is enjoyable or fun. As individuals begin to move across this continuum they begin to become integrated or identify with the activity. Individuals participate because it becomes a part of who they are as a human being. The CET sub-Theory, introduced early, suggests that as the Basic Needs (autonomy, competence and relatedness) are met there is an increase in intrinsic motivation within the participating individual.

This evolutionary nature of motivation is important to remember when considering the previous findings especially when considering the effectiveness of the instrument. Due to differences in subject experience it is very difficult with this specific model to determine initial motivations as opposed to continued motivation. In other words, it may be difficult to determine where each subject is on the Self-Determination continuum. As a result, one may consider that this inference is further reasoning to continue to offer a wide variety of activities, so that students are able to find an activity that is enjoyable for each particular individual. Gilbertson and Ewert (2015) summarize, saying, “It is incumbent upon adventure recreation providers to offer a range of adventure activities but to also allow for different motivations or expectations by the activity.” (p.293)

Observations. Discussion as to the significant differences of the courses may be important when considering the overall study as whole. The two courses that had the highest mean rank (foundations of adventure and introduction to wilderness leadership) were both eight week long courses and are worth two-credits. This could represent a confounding variable of academic credit or time spent participating in the activity and should not expect the same

motivation self-report from students who are participating in an eight-week class compared to a three-week course. The students participating in the longer class were generally more invested than those in the shorter courses. Foundations of outdoor adventure was also a living and learning community meaning that these students chose to live in a residence hall that has an outdoor recreation focus. These students were also usually first year students. These factors may explain why these students were more socially motivated, as well as, intellectually motivated to participate. The social motivation response becomes apparent when considering the fact that these students were taking the course with their friends and floor mates, providing another opportunity for these individuals to spend time with their social circles.

The introduction to wilderness leadership students were generally second semester freshmen, sophomore, or upperclassmen who had some type of previous experience with outdoor adventure recreation. Often these students wanted to develop their outdoor skills and become student trip leaders. These students identified with outdoor adventure education and often have been effected by it in some way. These individuals recognized the importance that outdoor adventure education may have on other students and wanted to learn as much as possible to share their experiences with other students. This may shed some light on the intellectual motivations for these two courses as well.

There also seems to be a difference when considering higher perceived risk activities such as mountain biking, white water kayaking, and rock climbing. These groups hold less importance on the social and intellectual motivators than the other groups. This may be understood due to the assumed physicality that comes with these activities. Individuals who sign up for these courses may be more interested in the physical challenge of the activity than with the social aspect of the activity. Mountain biking, white water kayaking, and climbing (to an

extent) in and of themselves are individual activities. For example, in the case of mountain biking, the participant must rely on their endurance and the machine in order to overcome the trail, terrain, or distance to achieve success. For the case of climbing, individuals must determine a route, which hand and foot holds to use, overcome any fear of heights, and release some amount of personal control to their belayer. Initial attraction for these participants may be based around inferred or expected outcomes, meaning that these individuals have a preconceived understanding of what they will get out of the activity before attempting it. Gilbertson & Ewert (2015) say, "Often times participants with higher levels of motivation for social interaction are more likely to choose canoeing over rock climbing, and rock climbing over whitewater kayaking" (p.288). In other words, someone may choose a canoeing course to spend time or have shared experience with others and a connection to the activity, or *relatedness*, if considering the Basic Needs Theory. Conversely, an individual may also choose to take part in a white water kayaking course because of the perceived thrill (Gilbertson & Ewert, 2015), feeling of self-sufficiency, or attaining success. These concepts connect with the human desire of *autonomy* and *competence* explained in the Basic Needs Sub-Theory of the Self Determination Theory

Implications. This study contains several implications for practice and further research in regards to university ORPs and adventure education programs in general. From an administrative perspective it further confirms understood motivations from previous studies; students take part in outdoor programs to learn something new, but also to spend time with and meet new people. Ewert and colleagues (2013) explain the importance of understanding motivation,

> "knowing what motivates an individual to engage in an adventure recreational activity and how these motives interact with specific variables, such as gender and experience

> level, would be important information for resource planners and organizations designing the recreational experience" (p.95).

For example, studies continue to place the utmost importance on the social or interpersonal relatedness of ORPs. Therefore, in order to develop a thriving campus ORP administrators should place emphasis on encouraging and fostering positive social experiences and connection. For ORPs, fostering positive social experiences and interpersonal connections can take a variety of different forms and levels. First, ORPs must require an administrative staff who are champions and examples of passion, excitement, and teamwork that inspire the students they serve. Second, ORPs must strive to create a community that is built around a culture of care and accessibility. As is the case with any campus program, if students do not feel welcome and accepted, their interest will slowly fade. ORP administrators must focus on encouraging diversity within several contexts (ie. cultural, ethnic, and experiential). Finally, and most importantly, ORPs must radiate fun.

One of the main goals of this study was to shed light on the question whether programs should continue to provide the variety of activities in an effort to properly steward program funds for travel and gear required to do the activity. This study found that motivation was similar for the majority of courses, which would support the idea to only provide convenient activities, in terms of proximity and cost. However, previous research (Gilbertson & Ewert, 2015) suggests the importance of many difference activities from which to choose. Further research is required to better understand the effects that reducing type of course offering may have on student motivation. The LMS, while valid may not be the best choice when comparing outdoor recreation activities. The LMS was designed to determine a broader scope of leisure activities. Focusing on outdoor recreation programs may be too narrow for the instrument to accurately

compare. Further research may consider the development of a new instrument with a specific focus on outdoor recreation activities.

Finally, this study found the importance of connecting with students early on in their college experience by running freshmen or underclassmen focused programs. In this study these students generally reported higher levels of motivation. To be specific, the all freshmen, foundations of adventure class, reported higher motivational factors than the other courses. This motivation may be due to several additional variables; however, it stands to reason that freshmen are motivated to try new things on campus, while upperclassmen have found their interests and are less interested in expanding their current extracurricular activities.

Future Research

This study contains several avenues for continued and future research that would help develop understanding of the motivational factors associated with student participation in university ORPs and outdoor adventure recreation as a whole.

First, further longitudinal research of individuals who participated in courses may contribute to an understanding of whether their motivations change over time. This could be done by comparing the original course or activity that the individual participated in and track changes in activity, frequency, and intensity or level of difficulty in regard to the specific activity. These data may provide greater understanding of the evolution of motivation for outdoor recreation participants as they develop experience and increase skill over time. Furthermore, this study develops another area of research that approaches the influence that risk holds on motivation to participate in outdoor recreation; Specifically, is there a difference in motivation between higher perceived risk activities, lower perceived risk activities, and core/developmental/instructional courses? This thesis considered motivations to participate from

two different groups (trip leaders and participants) as well as overall subject motivations to participate in specific outdoor recreation activities. Future research may want to consider the activities in groups: high perceived risk (rock/ice climbing, mountain biking, and whitewater canoeing and kayaking), low perceived risk (backpacking, coastal kayaking, flat water canoe, and map and compass), and instructional, core, and leadership courses (foundations of adventure and intro to wilderness leadership). Analysis of these data may provide further understanding as to how individual skill and experience influence a participants' approach to risk.

Further demographic data analysis may prove helpful for ORP administrators through understanding of motivational factors for specific groups. For example, does year in school impact motivation to participate in the ORPs? One preliminary hypothesis for this research may be that underclassmen are more motivated by the social aspects of ORPs and outdoor recreation activities, while upperclassmen are more motivated by becoming competent or mastering a specific activity. Additionally, inspecting the role of gender may prove relevant for ORPs for several reasons. This researcher has noticed a trend over the past several years of increased female participation in outdoor courses, as well as, ORP membership as trip leaders or within additional employment opportunities. The outdoor recreation and adventure education field has historically been male-dominated, and research in regard to female motivations in particular may prove to be a helpful resource for ORPs that want to continue to attract a diverse gender membership.

This study considered motivation to participate in specific activity type by using all subjects, combining both trip leaders and participants. It also considered differences in motivations between trip leaders and participants in terms of motivation among all the activities. The next logical step in this research would be to consider differences between participants and

trip leaders in regards to each individual course/activity, not just in terms of overall motivation for all the courses. Research in this area would work with the experience and skill development research opportunity mentioned earlier, possibly explaining how motivations change between courses, develop over time, and interact between different or changing student roles. This future study may want to consider if there are differences in motivations between individuals who cite a high level of previous experience to those that have no experience in the activity, in order to better understand the nature of the initial attraction towards the course or activity. Resultant data may be influential for ORP administrators in terms of marketing courses and adventure trips by providing motivations on which to focus these marketing efforts.

The present study originally sought to distinguish variation between for-credit courses or non-credit adventure trips. No non-credit adventure trip data was able to be collected during the collection time allotted, however, in future or ongoing studies data in both types of courses should be gathered. Analysis of these data may provide a better understanding of varying motivations between these two types of course offerings. Specifically, this future study would offer increased awareness on whether participants are motivated by the experience in and of itself or by the resulting academic credit.

Finally, with the development and production of compact, high definition cameras outdoor adventure professionals and athletes are able to demonstrate both their skills and abilities and the natural environment in which these expeditions and experiences take place through breathtaking film and photography productions to the masses via the Internet. Studying how film and photography influenced participants' initial attraction to participate in outdoor adventure recreation activities could hold implications for motivations. Additional studies on outcomes of viewing these films, such as, brain function during them, and individual reaction or

state of mind afterward may have ramifications for psychological and physiological effects of these films.

Conclusion

The purpose of this study was to develop a better sense of student motivations to participate in university outdoor recreation programs (ORPs) with the hope that this furthered understanding would grant new considerations for administration of these programs on college campuses. While the study did not find significant differences between the majority of courses, this researcher suggests that further research is necessary to determine effects that reduction of activity types would have on participant students, as well as, student trip leaders or long term members of ORPs.

A thorough literature review of intrinsic and extrinsic motivations and insights from the Self-Determination Theory (SDT) provided a solid foundation for the development of this study. The SDT provides understanding in terms of the social development, trust, and control (Sibthorp & Jostad, 2014; Davidson, et.al, 2009) and how these outcomes and motivations encourage students to continue to take part in ORPs. The study clearly showed that these programs offer the social development and interpersonal relationships that students are looking for during their college years.

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Appendix A

Script for Survey Implementation

Before the Instrument is distributed:

Hello, my name is Ryan Zwart. I am an Indiana University graduate student. For my Master's thesis I am conducting a research study about student motivations to participate in outdoor recreation programs and outdoor recreation activities.

I have a brief survey that should take about 10-15 minutes. Participation is entirely voluntary and non-participation will in no way affect your standing in the [Course/Trip] Please take the time to answer the questionnaire completely. No personally identifying information will be collected.

Do you have any questions about the research study?

After survey is returned:

Thank you for your participation in this research study. If you have any questions in regards to this research please feel free to email me at rzwart@indiana.edu.

Appendix B

SCHOOL OF PUBLIC HEALTH
INDIANA UNIVERSITY
Department of Recreation, Park, and Tourism Studies
Bloomington

Leisure Motivation Scale

Thank you for participating on this course. This purpose of this survey is to provide data for graduate student research. Please remember that this is *not* a test. There are no correct or incorrect answers, and everyone will have different responses. Be sure to answer the statements as you feel *now*—even if you have felt differently at some other time in your life. Please consider your answers carefully and be as truthful as possible. Please do not leave any statements blank.

Your responses will remain completely confidential. THANK YOU for your participation.

Course_____ **Gender:** F ___ M___ Other_____ **Ethnicity:** ☐ Black or African American ☐ Asian

☐ **Student Leader** ☐ **Participant** ☐ Hispanic or Latino ☐ White

Age _____

☐ American Indian or Alaska Native ☐ Two or more races

Previous activity experience:
☐ No experience
☐ Minimal experience
☐ Some experience
☐ Experienced

☐ Native Hawaiian or other Pacific Islander

If you have any experience please explain the extent here: _____

Date:

What year are you in school?
- ☐ Freshman
- ☐ Sophomore
- ☐ Junior
- ☐ Senior
- ☐ Fifth-Year Senior

ONE OF MY REASONS FOR PARTICIPATING IN THIS COURSE IS…	Never True	Seldom True	Somewhat True	Often True	Always True
1. to expand my interests.	1	2	3	4	5
2. to seek stimulation.	1	2	3	4	5
3. to make things more meaningful to me.	1	2	3	4	5
4. to learn about things around me.	1	2	3	4	5
5. to satisfy my curiosity	1	2	3	4	5
6. to explore new ideas.	1	2	3	4	5
7. to learn about myself.	1	2	3	4	5
8. to expand my knowledge.	1	2	3	4	5
9. to discover new things.	1	2	3	4	5
10. to be creative.	1	2	3	4	5
11. to be original.	1	2	3	4	5

12. to use my imagination.	1	2	3	4	5
13. to be with others.	1	2	3	4	5
14. to build friendships with others.	1	2	3	4	5
	Never True	Seldom True	Somewhat True	Often True	Always True
15. to interact with others.	1	2	3	4	5
16. to develop close friendships	1	2	3	4	5
17. to meet new and different people.	1	2	3	4	5
18. to help others.	1	2	3	4	5
19. so others would think well of me for doing it.	1	2	3	4	5
20. to reveal my thoughts, feelings, or physical skills to others.	1	2	3	4	5
21. to influence others.	1	2	3	4	5
22. to be socially competent and skillful	1	2	3	4	5
23. to gain a feeling of belonging.	1	2	3	4	5
24. to gain other's respect.	1	2	3	4	5
25. to get a feeling of achievement	1	2	3	4	5
26. to see what my abilities are.	1	2	3	4	5
27. to challenge my abilities.	1	2	3	4	5
28. because I enjoy mastering things	1	2	3	4	5
29. to be good in doing them.	1	2	3	4	5
30. to improve my skill and ability in doing them.	1	2	3	4	5
31. to compete against others.	1	2	3	4	5
32. to be active.	1	2	3	4	5
33. to develop physical skills and abilities.	1	2	3	4	5
34. to keep in shape physically.	1	2	3	4	5
35. to use my physical abilities.	1	2	3	4	5
36. to develop physical fitness.	1	2	3	4	5
37. to be in a calm atmosphere.	1	2	3	4	5
38. to avoid crowded areas.	1	2	3	4	5
39. to slow down.	1	2	3	4	5
40. because I sometimes like to be alone.	1	2	3	4	5
41. to relax physically.	1	2	3	4	5
42. to relax mentally.	1	2	3	4	5
43. to avoid the hustle and bustle of daily activities.	1	2	3	4	5
44. to rest.	1	2	3	4	5

45. to relieve stress and tension.	1	2	3	4	5
46. to do something simple and easy.	1	2	3	4	5
	Never True	Seldom True	Somewhat True	Often True	Always True
47. to unstructure my time.	1	2	3	4	5
48. to get away from the responsibilities of my everyday life.	1	2	3	4	5
*49. to travel.	1	2	3	4	5
*50. to develop leadership skills.	1	2	3	4	5
*51. to gain experience.	1	2	3	4	5
*52. to spend time with my friends.	1	2	3	4	5
*53. for the course credit.	1	2	3	4	5
*54. to expand my résumé.	1	2	3	4	5
*56. for the pictures.	1	2	3	4	5

Appendix C

INDIANA UNIVERSITY INFORMED CONSENT STATEMENT: Survey

Defining Student Motivations in Outdoor Adventure Activities.

You are invited to participate in a research study of **what are the motivating factors that students have to participate in specific outdoor recreation activities.** You were selected as a possible subject because of your participation in outdoor adventure programs**.** We ask that you read this form and ask any questions you may have before agreeing to be in the study.

The study is being conducted by Ryan Zwart, under the supervision of Lynn Jamieson from the Recreation, Park, and Tourism Studies Department in the School of Public Health with Indiana University.

STUDY PURPOSE

The purpose of the study is to provide insight into several topics revolving around university outdoor recreation programs (ORPs). First, this study looks to ascertain what motivates individuals to participate and continue to participate in university ORPs. Second, to determine continued administration of these programs due to learning motivations, physical activity, and adventure needs, finally to assist in determining what types of motivational factors result in participation in multiple outdoor recreation activities.

INFORMATION ABOUT PARTICIPATION AND PROCEDURES FOR THE STUDY:

If you agree to be in the study, you will receive a questionnaire that asks about reasons that you choose to participate in outdoor recreation programs on campus. The questionnaire should take around 10-15 minutes.

Prior to you starting the questionnaire, you will provide your informed consent by signing this form. We will both retain a copy of the consent form with both signatures on it. Please do not put your name on the questionnaire so that your anonymity is protected. Some demographic information (non-identifiers) are asked at the beginning of the questionnaire. Please answer all of the questions on the questionnaire.

If at any time during questionnaire you wish to exit the study, please let the researcher know and your questionnaire will be disregarded and data destroyed.

RISKS OF TAKING PART IN THE STUDY:

While there are some inherent risks in the outdoor adventure activity that you are participating in there are no obvious additional risks pertaining to your involvement in this study.

The research staff will do everything we can to make you feel as comfortable as possible during the questionnaire and answer any questions associated with participation in this study.

BENEFITS OF TAKING PART IN THE STUDY:
This study may potentially spark your interest in furthered participation in outdoor adventure programs. It may also help you and other participants, through personal reflection, become aware of the benefits and outcomes that these programs have for you personally.

CONFIDENTIALITY

Efforts will be made to keep your personal information confidential. We cannot guarantee absolute confidentiality. Your personal information may be disclosed if required by law. Your identity will be held in confidence in reports in

which the study may be published and databases in which results may be stored. **Again, please do not put your name on your questionnaire.**

Organizations that may inspect and/or copy your research records for quality assurance and data analysis include groups such as the study investigator and his/her research associates, the Indiana University Institutional Review Board or its designees, the study sponsor, and (as allowed by law) state or federal agencies, specifically the Office for Human Research Protections (OHRP) who may need to access your research records. All information in the study will be kept confidential. Your data will be stored securely and will be made available only to me, my faculty advisor, and an IRB approved research and analysis team who will participate in processing and analysis of your comments.

CONTACTS FOR QUESTIONS OR PROBLEMS

If at anytime you have any questions about the study or procedures, you may contact the researcher, Ryan Zwart at rzwart@indiana.edu , or the faculty supervisor, Lynn Jamieson at (812) 855-8676. If you cannot reach the researcher during regular business hours (i.e. 8:00AM-5:00PM), please call the IU Human Subjects Office at (812) 856-4242 [for Bloomington] or (800) 696-2949.

For questions about your rights as a research participant or to discuss problems, complaints or concerns about a research study, or to obtain information, or offer input, contact the IU Human Subjects Office at (812) 856-4242 [for Bloomington] or (800) 696-2949.

VOLUNTARY NATURE OF STUDY

Your participation in this study is voluntary. You may choose not to take part or may leave the study at any time. Leaving the study will not result in any penalty. Your decision whether or not to participate in this study will not affect your current or future relations with Indiana University or Indiana University Outdoor Adventures.

SUBJECT'S CONSENT

In consideration of all of the above, I give my consent to participate in this research study.

I will be given a copy of this informed consent document to keep for my records. I agree to take part in this study.

Subject's Printed Name:_____

Subject's Signature:_____ **Date**:_____

(Must be dated by the subject)

Printed Name of Person Obtaining Consent:_____

Signature of Person Obtaining Consent:_____ **Date**:_____

Appendix D

Study Information Sheet:

This study is conducted by Ryan Zwart, a graduate student in the Recreation, Park, and Tourism Studies Department at Indiana University

The purpose of the study is to provide insight into several topics revolving around university outdoor recreation programs (ORPs). First, this study looks to ascertain what motivates individuals to participate and continue to participate in university (ORPs). Second, to determine continued administration of these programs due to learning motivations, physical activity, and adventure needs, finally to assist in determining what types of motivational factors result in participation in multiple outdoor recreation activities.

Eligibility: Subjects must be an undergraduate student at Indiana University and must be participating in an Indiana University Outdoor adventure for credit course, class, or adventure trip.

Date/Location: The survey will be administered at the beginning of the course, class, or adventure trip, prior to any course specific material instruction.

Research Activities: Volunteers will be asked to participate in a survey

Time Commitment: 10-15 minutes

Potential Benefits: This study may potentially spark an interest in furthered participation in outdoor adventure programs. It may also help participants, through personal reflection, become aware of the personal motivations to participate in these programs.

If interested in participating in this study, please

Email Ryan Zwart: rzwart@indiana.edu

Appendix E

Table 1
Kolmogorov-Smirnov Test for Normality

LMS Factor	Course	Statistic	Df	Kolmogorov-Smirnov Sig.
Intellectual	White water canoe	.150	13	.200*
	White water kayak	.135	18	.200*
	Mountain biking	.082	17	.200*
	Backpacking	.125	48	.057
	Coastal kayak	.117	21	.200*
	Rock climbing	.072	41	.200*
	Map and compass	.181	11	.200*
	Intro to wilderness leadership	.108	31	.200*
	Flat water canoe	.218	10	.195
	Foundations of adventure	.117	41	.175
Social	White water canoe	.178	13	.200*
	White water kayak	.123	17	.200*
	Mountain biking	.133	17	.200*
	Backpacking	.167	48	**.002**
	Coastal kayak	.149	21	.200*
	Rock climbing	.086	40	.200*
	Map and compass	.189	12	.200*
	Intro to wilderness leadership	.098	28	.200*
	Flat water canoe	.152	10	.200*
	Foundations of adventure	.099	41	.200*
Competence/Mastery	White water canoe	.178	13	.200*
	White water kayak	.132	17	.200*
	Mountain biking	.150	17	.200*
	Backpacking	.115	49	.114
	Coastal kayak	.180	20	.091
	Rock climbing	.123	40	.130
	Map and compass	.182	12	.200*
	Intro to wilderness leadership	.126	31	.200*
	Flat water canoe	.136	10	.200*
	Foundations of adventure	.127	41	.094
Stimulus avoidance	White water canoe	.129	13	.200*
	White water kayak	.124	18	.200*
	Mountain biking	.111	17	.200*
	Backpacking	.072	46	.200*
	Coastal kayak	.103	21	.200*
	Rock climbing	.114	39	.200*
	Map and compass	.212	11	.179
	Intro to wilderness leadership	.158	31	.048
	Flat water canoe	.204	10	.200*
	Foundations of adventure	.148	41	**.024**

*. This is a lower bound of the true significance

Appendix F

Table 13.

Multiple Comparisons Between Course Types For Social Motivation

Course	Course	Mean Difference	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
135 (WW Kayak)	133 (ww Canoe)	-.36727	.27074	.939	-1.2321	.4975
	125 (Mountain Biking)	.10784	.25205	1.000	-.6972	.9129
	113 (Backpacking)	-.16054	.20740	.999	-.8230	.5019
	136 (Coastal Kayak)	-.13772	.23974	1.000	-.9035	.6281
	144 (Rock Climbing)	.08738	.21275	1.000	-.5922	.7669
	129 (Map and Compass)	-.22304	.27706	.998	-1.1080	.6619
	305 (ITWL)	-.45518	.22594	.590	-1.1769	.2665
	132 (Flatwater Canoe)	-.19804	.29285	1.000	-1.1335	.7374
	Foundations of Adventure	-.72812*	.21198	**.024**	-1.4052	-.0510
125 (Mountain Biking)	133 (ww Canoe)	-.47511	.27074	.763	-1.3399	.3897
	135 (WW Kayak)	-.10784	.25205	1.000	-.9129	.6972
	113 (Backpacking)	-.26838	.20740	.954	-.9308	.3941
	136 (Coastal Kayak)	-.24556	.23974	.991	-1.0113	.5202
	144 (Rock Climbing)	-.02047	.21275	1.000	-.7000	.6591
	129 (Map and Compass)	-.33088	.27706	.973	-1.2159	.5541
	305 (ITWL)	-.56303	.22594	.278	-1.2847	.1587
	132 (Flatwater Canoe)	-.30588	.29285	.989	-1.2413	.6295
	Foundations of Adventure	-.83596*	.21198	**.004**	-1.5130	-.1589

113 (Backpacking)	133 (ww Canoe)	-.20673	.22975	.996	-.9406	.5271
	135 (WW Kayak)	.16054	.20740	.999	-.5019	.8230
	125 (Mountain Biking)	.26838	.20740	.954	-.3941	.9308
	136 (Coastal Kayak)	.02282	.19226	1.000	-.5913	.6369
	144 (Rock Climbing)	.24792	.15732	.859	-.2546	.7504
	129 (Map and Compass)	-.06250	.23717	1.000	-.8200	.6950
	305 (ITWL)	-.29464	.17474	.802	-.8528	.2635
	132 (Flatwater Canoe)	-.03750	.25544	1.000	-.8534	.7784
	Foundations of Adventure	-.56758*	.15627	**.013**	-1.0667	-.0684
144 (Rock Climbing)	133 (ww Canoe)	-.45465	.23460	.643	-1.2040	.2947
	135 (WW Kayak)	-.08738	.21275	1.000	-.7669	.5922
	125 (Mountain Biking)	.02047	.21275	1.000	-.6591	.7000
	113 (Backpacking)	-.24792	.15732	.859	-.7504	.2546
	136 (Coastal Kayak)	-.22510	.19802	.980	-.8576	.4074
	129 (Map and Compass)	-.31042	.24186	.957	-1.0830	.4621
	305 (ITWL)	-.54256	.18107	.087	-1.1209	.0358
	132 (Flatwater Canoe)	-.28542	.25980	.984	-1.1153	.5444
	Foundations of Adventure	-.81550*	.16331	**.000**	-1.3371	-.2939
Foundations of Adventure	133 (ww Canoe)	.36085	.23390	.873	-.3862	1.1080
	135 (WW Kayak)	.72812*	.21198	**.024**	.0510	1.4052
	125 (Mountain Biking)	.83596*	.21198	**.004**	.1589	1.5130
	113 (Backpacking)	.56758*	.15627	**.013**	.0684	1.0667

	136 (Coastal Kayak)	.59040	.19719	.087	-.0395	1.2203
	144 (Rock Climbing)	.81550*	.16331	**.000**	.2939	1.3371
	129 (Map and Compass)	.50508	.24118	.533	-.2653	1.2755
	305 (ITWL)	.27294	.18015	.885	-.3025	.8484
	132 (Flatwater Canoe)	.53008	.25917	.568	-.2977	1.3579

*. The mean difference is significant at the 0.05 level.