

The Pennsylvania State University
The Graduate School
College of Health and Human Development

**OUTDOOR ORIENTATION PROGRAMS:
RECREATION SOCIALIZATION, SOCIAL SUPPORT,
AND IDENTITY DEVELOPMENT IN EMERGING ADULTHOOD**

A Dissertation in
Recreation, Parks, and Tourism Management

by

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Submitted in Partial Fulfillment
of the Requirements
for the Degree of

Doctor of Philosophy

December 2012

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ABSTRACT

Outdoor orientation programs can be found at over 160 universities in the United States. These programs serve to ease the transition to college by providing opportunities to meet other students and develop bonds that will allow for greater social support at an important and often difficult time in a student's life. These programs have been studied in the past, resulting in evidence that suggests that the programs do increase perceived feelings of social support, which eases this transition and translates to improved academic performance in college. Other studies have shown that short, intense outdoor recreation programs may serve to provide a vehicle for identity development through novel experiences that involve overcoming challenges and attaining goals. While previous studies have examined programs as short in duration as 2 weeks, this study will examine the effects of a program that is only 6 days in length.

This study examines the ORION Wilderness Experience program, an outdoor orientation program at The Pennsylvania State University. The aims of the study are to examine potential effects of the program upon leisure behavior, social support and identity development. In addition to examining potential outcomes of ORION similar to previous program evaluations, this study also examines the effects of the program as an agent to recreation socialization by exposing students to new outdoor activities and social circles within which to pursue recreation experiences. Conceptually, this study frames the program experience and outcomes within the emerging adulthood life stage, which adds a new dimension to the existing theoretical foundations of recreation socialization research.

This investigation included a self-administered survey of ORION program participants immediately before and after the program, as well as approximately six to ten weeks later in a follow-up survey. Results of this study support the hypotheses that the ORION program serves as a vehicle of recreation socialization by introducing participants to new activities, increasing their level of involvement in outdoor recreation, providing social circles within which to recreate. ORION participants also reported an increase in the importance of outdoor activities in their lives. While outdoor orientation programs have been examined in previous research, no study to date has examined the effects of these programs on participants' outdoor recreation behavior.

The group of ORION program participants was compared to two other groups: a comparison group comprised of students who received an alternate university orientation program (USE) and a control group of students who received no orientation program. Findings related to social support and identity development were compared between these three groups. Findings support the hypothesis that participation in the ORION program increases participants' feelings of social support and identity development.

Planned contrasts were limited by inequality in sample sizes and baseline differences, and results suggest that students in the alternate orientation program also receive benefits related to social support and identity development. However, participants in both ORION and USE felt more supported than students in the control group.

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ACKNOWLEDGEMENTS

The successful completion of this study and the resulting document would never had happened if it weren't for the family, friends, colleagues and mentors that have continually encouraged and directed me over the past several years. My journey into the academic world and the study of outdoor recreation would never have happened if not for the introduction I received from Dr. Ed Leoni at Southeast Missouri State University.

Upon arriving at Penn State for my graduate studies, I met my two best friends in the whole world, Dr. Nate Trauntvein and Dr. Libby Covelli. No one has been as constant a source of support and encouragement over the past 7 years as those two individuals. Thank you for always listening and offering your advice in all things professional and personal.

I am thankful for the direction of my committee. Dr. Andy Mowen, thank you for teaching me about how to be a professional in the world of academia and how to successfully harvest some delicious pheasant. Dr. Harry Zinn, thank you for providing an area of expertise in social psychology and human development that has broadened my perspective and allowed me to successfully fit in to my new department at Washington State University. Dr. Ed Yoder, thank you for teaching me the importance and simplicity of sound data analysis. I learned more from you than any statistics class I've ever taken, and yet you've never once left me confused when leaving your classroom. Most of all, thank you Dr. Alan Graefe. Without your mentorship, I would not be here. The fact that you can balance your very successful career with a high quality of life centered around your family showed me that I could be happy in our profession. You

are and will always be the example of what I want in my career in teaching, advising and research. Thank you as well for attending almost every tailgate I hosted at Penn State.

Thank you to everyone at Shaver's Creek Environmental Center, namely Susanne Dubrouillet, Jen Bean, Jen Steigerwalt, Doug Steigerwalt, Rod Lee and Dr. Rob Andrejewski. The center offered me grounding in professional experience amid the academic world of my graduate studies. Thank you Susanne for being my first mentor in outdoor recreation programming and teaching me what it takes to be a real leader. Thank you Jen for being my friend, for supporting me and for teaching me how to be a true professional in the world of outdoor programs. Thank you Jen for helping me through one of the most difficult times of my life and also being an integral part of the best day of my life. Thanks Doug for being the funniest guy at the center. Someone has to make those jokes in the Monday meetings. Thanks Rod for showing me what being the best facilitator possible looks like. Thank you Bob for being my friend, my peer, and for teaching me how to make awesome beer.

The personal drive I have relied on throughout my career is a product of my family. The examples set by my father, Kirt, my mother, Barbie, and my older brother, Brock, have instilled the virtues of hard work and personal pride that inspire me to do the work that needs to be done, and do it as best I can. Thank you Dad for teaching me how to work my ass off. Thank you Mom for teaching me unending empathy and compassion. Thank you Brother for teaching me loyalty, personal sacrifice and dedication. Thank you to my younger siblings, Rachel, Rebecca and Randall. You are a constant source of happiness and motivation for me.

Lastly, thank you, thank you, thank you to my beautiful, amazing, perfect wife, Dr. Brittany Cooper. My life has never been better than it has been since the day I met you. Every day, I wake up with an amazing support system, a really fun friend, and an ideal example of a professional right next to me. Thank you for keeping me balanced and happy as I have gone through the process of writing this dissertation. You are the best thing that ever happened to me.

Additional thanks go out to all of my professors, classmates, students, and friends that have not been mentioned here. You've all made some impact on my life and I thank you for it. These acknowledgements were written from the heart with no second thoughts.

CHAPTER ONE INTRODUCTION

Background

Over the past 50 years, several studies and papers have examined the process by which individuals are socialized into outdoor or adventure recreation activities (Bixler & Morris, 1998; Burch, 1969; Field & O'Leary, 1973; Scott & Willits, 1998; Sofranko & Nolan, 1972; Yoesting & Burkhead, 1974). These studies have examined levels of involvement, the age of introduction, the effects of interpersonal interactions and the influence of social groups, as well as the progression of outdoor recreation behavior throughout different stages of the lifespan. The earliest studies examined the socialization of children into outdoor recreation, particularly through interactions with parents or other relatives. Soon thereafter, socialization research focused on the other stages of life. Researchers have come to find that socialization is not as simple as introduction and corresponding participation in any given activity. It is a developmental process by which individuals are socialized *into* and *in* recreation through learned values, patterns and behaviors. This process occurs throughout the lifespan and is influenced in several ways by the circumstances associated with a given stage (Kelly, 1973, 1974, 1978, 1987; Iso-Ahola, Jackson, & Dunn, 1994).

More recently, researchers have examined certain outdoor recreation experiences that may have another, more profound, effect on individuals' behavior. These experiences come by way of university programs that utilize outdoor experiences to build social bonds and introduce students to the college environment. Outdoor

orientation programs most commonly involve multi-night backpacking trips, in which program participants depend on each other and work together to travel, carry supplies, cook meals and set up camp while on the trail. The cooperation and trust that is necessary for a successful, and preferably enjoyable, expedition expedites social interactions and bonding among trip participants. Ideally, the social bonds created on these short, but intense, experiences create a support system for participants to utilize at the beginning of the college experience. Outdoor orientation programs have been studied for effects on social support and academic outcomes (Bell, 2006). However, these outdoor orientation program experiences have not been examined in relation to recreation socialization, despite the fact that the programs involve several elements related to recreation socialization, including interpersonal interactions, social groups and exposure to new outdoor activities or settings (Bell & Holmes, 2010).

Outdoor orientation programs occur at a unique stage of personal development. This stage, coined "emerging adulthood" by Jeffrey Arnett (2000), is a time associated with new freedoms, featuring more opportunities for growth and personal exploration than adolescence, while retaining fewer personal responsibilities than adulthood. These characteristics fit the profile of the average American college student, who has access to university activities, organizations and other resources, and being free of mortgage payments, child rearing or long-term career responsibilities. Given that outdoor orientation programs are provided to incoming college freshmen in the United States, virtually all program participants fit the profile of an emerging adult. This stage in life is an ideal time for exposure to, and opportunities for, socialization in outdoor or adventure

recreation activities. Because the concept of emerging adulthood has only recently entered the literature, it has yet to be applied to recreation socialization research. While some studies have examined individuals of the same age group, those studies viewed these individuals as being in a stage of “late adolescence” or “early adulthood.” This study’s use of the emerging adulthood concept will allow for a more accurate understanding of outdoor orientation program participants, because it acknowledges emerging adulthood as a significant life stage, rather than a mediating transition between adolescence and adulthood.

As previously noted, recreation socialization is a long-term, developmental process that spans multiple stages of life and continues to influence the way in which individuals experience activities both new and old. However, there is some reason to believe that the unique and intense experience of an outdoor orientation program may serve to socialize program participants into outdoor or adventure recreation activities to a level that would require more time and influence in a normal life course. Aspects of recreation socialization, such as introduction to new activities, joining social circles of peers who enjoy similar activities and gaining competency and skills in those activities, happen at an intense rate within outdoor orientation programs. An example of research that examines the effects of a short-term program on a long-term process measured identity development outcomes as a result of participation in a two week-long outdoor recreation program (Duerden, Widmer, Taniguchi, & McCoy, 2009). The study found significant increases in identity development, despite the short duration of the program. This study will examine similar outcomes related to identity development with a program

that is even shorter in duration (the ORION program lasts 6 days).

Purpose of Study

The purpose of this study was to examine the effects of a 6 day outdoor orientation program on a group of incoming college freshmen at The Pennsylvania State University. The study sought to identify effects associated with recreation socialization, social support and identity development due to participation in the ORION Wilderness Experience program. Study participants were asked about their past, current and future intentions for participation in outdoor recreation activities, both before and after participating in the program, as well as with whom they intend to participate and how much they value outdoor recreation in their lives. Those surveyed were also asked about their feelings of social support before and during the first semester at Penn State. An additional aim of this study was to evaluate any changes in students' identity development as a result of participation in the program.

By examining these constructs, this study sought to add new information to the current literature on socialization by examining a stage in life, emerging adulthood, that had not been examined specifically in the existing literature. This study also intended to add to the literature on outdoor orientation programs, which had not examined the socializing effects of outdoor orientation programs. Finally, the author of this study intended to provide new information concerning the value of outdoor orientation programs for researchers, program directors and universities who offer (or are considering) outdoor orientation programs.

Research Questions and Hypotheses

R1: Do ORION participants experience socialization into outdoor recreation as a result of participation in the program?

H1a: Participants will participate in new activities (that participants did not list in a pre-test survey of past experiences) during their ORION experience.

H1b: Participants' level of involvement in outdoor recreation activities will increase (compared to a pre-test survey) after their ORION experience (two measurements will be taken, one immediately after the program, and a second at approximately 6 – 10 weeks after participants' Outdoor Orientation Program experience).

H1c: ORION participants will indicate that outdoor recreation activities have become a more important part of their lives after participating in the ORION program.

H1d: ORION participants will continue to participate in outdoor recreation activities with fellow program participants after the program.

R2: Does participation in the ORION program affect feelings of social support during program participants' first college semester?

H2a: ORION participants will indicate stronger feelings of social support at the two post-program survey points, using the campus-focused social support scale (CF-SPS) as a measurement (Bell, 2006), as compared to the participants' program pre-test score.

H2b: ORION participants will indicate higher levels of social support, as measured by the CF-SPS, than participants in a non-outdoor university orientation program (the comparison group participates in Urban Service Experience, a freshman orientation program featuring community service and cultural learning in Philadelphia, PA) and students receiving no orientation at posttest and follow-up test.

R3: Does participation in an outdoor orientation program affect aspects of identity development?

H3a: ORION participants will indicate higher levels of identity development at the two post-program survey points, using the Erikson Psychological Stage Inventory (EPSI) and the Identity Styles Inventory (ISI) as a measurement (Rosenthal et al., 1981), as compared to the participants' program pre-test score.

H3b: ORION participants will indicate higher levels of identity development, as measured by the Erikson Psychosocial Stage Inventory (EPSI) and the Identity Styles Inventory (ISI), than students participating in a non-outdoor university orientation program (the comparison group participates in Urban Service Experience, a freshman orientation program featuring community service and cultural learning in Philadelphia, PA) and students receiving no orientation at posttest and follow-up test.

Study Limitations

The sample utilized by this study included a group of incoming freshmen students at Penn State University. That sample is comprised of 18 and 19-year old college students, most of whom are white and from a middle or upper class socioeconomic background. Those studied were all educated, having graduated from high school and performed at a level that allowed for acceptance to the university. Accordingly, the results of this study should only be generalized to individuals in similar situations. The generalizability of all research on emerging adulthood has been criticized for being limited to educated, mostly white, and mostly middle to upper class individuals in developed western countries. The same criticism can be applied to this study; however, these limitations are expected in a situation where the aim is to examine college students specifically.

This study's findings are also limited by sample size. Three groups were examined (treatment, comparison and control). Due to the number of participants in the Urban Service Experience program, this comparison group was significantly smaller than the treatment group. A small sample size in the initial measurement, combined with a poor response rate on the follow-up survey resulted in a significantly smaller control group as well. The study is also limited due to the fact that the follow-up survey time point was conducted soon after the posttest, and varied depending on which ORION session each participant was enrolled (approximately 6 to 10 weeks after the posttest).

Definitions

Socialization: defined by sociologist Frederick Elkin as, “the learning and internalizing of appropriate patterns, values and feelings” (Elkin, 1960: 4). John Kelly defines this concept broadly as “learning the skills, social norms, attitudes and even taste appropriate to participation” (Kelly, 1977: 122). This concept was measured by examining participants’ experiences with and sources of introduction to activities, as well as participants’ entering into social circles and finding value in outdoor recreation.

Social Support: defined by outdoor orientation program researcher Brent Bell as “a relationship, or network of relationships, providing for emotional and tangible needs.” Social support was measured using Bell’s Campus-Focused Social Provisions Scale, which includes measures of attachment, social integration, reassurance of worth / competence, reliable alliance / tangible support, guidance, and opportunity for nurturance as the six elements of social support (Bell, 2007).

Identity Development: defined by researcher Mat Duerden as development of an ability to function productively in family, school, etc., development of close and enduring relationships, and employment of various information-processing strategies (Duerden, Widmer, Taniguchi, & McCoy, 2009). Identity development was measured using the Erikson Psychological Stage Inventory (Rosenthal, Gurney, & Moore, 1981), as well as the Identity Styles Inventory (Berzonsky, 1992).

CHAPTER TWO LITERATURE REVIEW

Outdoor Orientation Programs

University-affiliated freshman trips into the outdoors began in the 1930s, with the first documented trip taking place at Dartmouth College in 1935 (Dartmouth College, internet site). This trip, however, was intended to introduce students to the university's Outing Club, rather than to orient them to college. Prescott College organized the first program that resembles outdoor orientation programs that exist today (Prescott College, 2007). The Arizona school's outdoor orientation program mirrored the ideas of a popular program called Outward Bound. Outward Bound was a program created by a British pioneer in the adventure recreation field named Kurt Hahn, who sought to build character in young men through challenging, physically strenuous activities, namely sailing voyages. The program grew in popularity and eventually expanded to the United States. Prescott drew on the growing popularity of Outward Bound, as well as the sentiment that the youth of America at that time were immature and "soft" and sold their freshman orientation program as a way for students to build character and prepare for the challenges of college life (Smith, 2007). Since Prescott's program was instituted in 1968, programs meant to orient students to college through outdoor activities have become commonplace in the United States, beginning in the Ivy Leagues and later emerging at over 160 universities across the country (Bell & Holmes, 2010).

In more recent years, researchers have identified and substantiated additional benefits of outdoor orientation programs. Michael Gass, a leading researcher on

outdoor orientation programs, identified 6 areas of student development that are facilitated through outdoor orientation programs: developing meaningful peer relationships, positive student and faculty interaction, career development, interest in academics, adequate preparation for college and compatibility with student expectations (1999). Gass' ideas reflect the current focus of outdoor orientation programs, which have transitioned from an Outward Bound-based mindset to one that focuses on improving students' college experience and academic performance by introducing students to their new locale and building peer relationships that lead to social support during the transition to college.

Just as programs like Outward Bound used the outdoors as a vehicle for character-building and personal development, contemporary outdoor orientation programs make use of the outdoor recreation experience to accomplish goals that are more pertinent to present-day college students. Elements of the experience, such as challenge, exploration, decision-making and living in close proximity with a small group of people working as a team to navigate, cook meals and build shelters serve as a medium for establishing close social bonds in a short amount of time. The primary purpose of today's university outdoor orientation programs is to foster meaningful peer relationships, which are expected to increase social support and improve students' academic performance. Recent studies have found promising results concerning the ability of outdoor orientation programs in achieving these goals (Bell, 2007; Bell & Holmes, 2010; Gass, 1999). Students who participated in outdoor orientation programs indicated improvements in, or higher levels compared to control groups, for the following

outcomes: self-concept, esteem, efficacy or satisfaction, social skills, social support, adjustment to college environment, academic success and retention rates (Bell & Holmes, 2009).

Particular focus has been given to the relationship between outdoor orientation programs, social support and academic outcomes. A 2006 study by Brent Bell found significant evidence to support this relationship, using the Campus-Focused Social Provisions Scale (CF-SPS). This scale utilized a previous measure of global social support and adapted it to distinguish social support gained through campus relationships from support that students received from other sources (family, relatives, etc.; Lamothe et al., 1995; Pratt et al., 2000). This study will utilize the Campus-Focused Social Provisions Scale to measure social support gained by participants through the ORION program.

The study being proposed in this paper will examine the ORION Wilderness Experience, an outdoor orientation program at Penn State University. The program, which has been in existence for 15 years, reflects these goals. ORION's program mission is stated as such: "the *ORION Wilderness Orientation Program* is designed to guide incoming University Park students as they embark on their university adventure. The program allows these participants to develop bonds with each other and the natural community" (Shavers Creek Environmental Center website, 2011, para. 1). ORION participants complete a weeklong program featuring 4 nights of backpacking, canoeing, and a high ropes challenge course experience, as well as other social activities. A focus on building, developing and sustaining social bonds is evident throughout the program's

activities. Icebreakers, teambuilding and group facilitation activities are provided throughout the week, which concludes with a cookout, group skits and a final debriefing ceremony that often lasts several hours.

As a freshman orientation program, ORION utilizes outdoor adventure recreation activities to expose students to a new locale, new peers and the natural environment at a pivotal stage of the life cycle.

Emerging Adulthood

Outdoor orientation programs serve as a means to improve the way that new university students transition into college life. Virtually all participants in these programs are 18 or 19 year-old college freshman who are only months removed from enrollment in high school and living with parents (the ORION program does not accept participants over the age of 20). Recently, new research and theory in the psychology and human development field has developed concerning this stage of life.

In a 2000 American Psychologist article, Jeffrey Arnett introduced the idea of emerging adulthood. Arnett identified the years from the late teens through the mid-twenties as a unique and interesting stage of human development, particularly for individuals living in industrialized societies. For these people, emerging adulthood is a time of change, new freedom and exploration, but also a time where individuals retain some of the security found in adolescence. Several changes in a young person's life signify the change from adolescence to emerging adulthood. Most of these changes revolve around becoming a legal citizen and graduating from secondary school, which

typically happens around the age of 18 in the United States. At the age of 18, Americans are recognized as mature and responsible enough to vote in elections and join the military.

Americans in their late teens and early twenties exhibit the highest rates of residential change of any age group (Rindfuss, 1991). This is a key characteristic of emerging adulthood, displaying the unstable nature of this life stage. Following the completion of secondary school, most emerging adults (about 70 percent) leave the home of their parents to pursue a post-secondary degree or enter the workforce (Goldschneider & Goldschneider, 1994). Even for those who remain in the parental household, most do so while attending college or moving into full-time jobs. Those individuals who remain at home very rarely do so until marriage (10% of men, 30% of women; Goldschneider & Goldschneider, 1994). These changes result in new freedom from parental rules and social norms, increasing the need for and chance to explore a new sense of identity, romantic relationships, career and educational goals, and leisure activities.

Despite these changes, Arnett argues that individuals of this age are not to be considered adults either. When surveyed, these individuals commonly deny the fact that they themselves are adults. When asked the question, “do you feel that you have reached adulthood?” only about 30 percent of survey participants between the ages of 18 and 25 answered yes (less than 10 percent answered no), while another 60 percent answered “yes and no” (Arnett, 2000). Many emerging adults do not become completely autonomous from their parents during this time. Although to a lesser degree than during

adolescence, they often remain financially supported and to some degree monitored by parents during college. Most emerging adults are in the process of preparing themselves for long-term careers, but have yet to begin it.

Another key characteristic of this stage is a lack of family commitment. Most 18 to 25 year-old Americans are unmarried and without children (the median marriage age of women in the U.S. is 25.2; Noble, Cover, & Yanagishita, 1996). The lack of responsibility that embodies emerging adulthood allows for freedom to explore many avenues of life, including recreational activities. As Arnett also notes, emerging adults, “pursue novel and intense experiences than adolescents because they are less likely to be monitored by parents and can pursue them more freely than adults because they are less constrained by roles” (2000, p. 10).

Arnett’s concept of emerging adulthood was used in a 2007 article in the *International Journal of Wilderness* that examined the link between outdoor recreation participation and environmental values among emerging adults (Zinn & Graefe, 2007). The authors presented a review of the outdoor recreation literature highlighting the tendency of emerging adults to pursue newer, faster and more competitive activities than their parents’ generation. Referencing the work of Arnett, the authors noted that emerging adults are in a state of “semiautonomy” characterized by independent role exploration (Arnett, 2001). They also emphasized the point that human values, which become “deeply-held and enduring” throughout adulthood, typically take shape during emerging adulthood. As these concepts come together, we begin to see a picture of a developmental stage where the next generation of Americans finds their leisure

repertoire and builds enduring values around it.

Identity Development

Erik Erikson, the famous developmental psychologist who coined the phrase, “identity crisis” assigned the crisis of identity versus role confusion to the adolescent stage of the life cycle (1950). He asserted that a “clear sense of identity is considered essential for a smooth transition from childhood to adulthood” (Erikson 1959). Because of social construct changes since Erikson’s work and Erikson’s own belief concerning a prolonged adolescent stage for individuals in industrialized societies, Arnett attributes this crisis to emerging adults in contemporary American society (2000). Arnett cites other psychologists who agree with the idea that identity formation continues into the mid-twenties (Montmayor, Brown, & Adams, 1985; Waterman, 1982; Valde, 1996; Whitborne & Tesch, 1985). The experiences of emerging adulthood offer a means to explore educational, vocational, romantic and ideological aspects of life in an experimental manner that is not afforded to adolescents (who lack the necessary freedoms) or adults (who are constrained by other responsibilities).

Higher education itself promotes personal identity development (Pascarella & Terenzini, 1991). College students have a great deal of freedom, as well as a great deal of resources, from which to build new worldviews. The breadth of new peers, advisors, mentors, classes, orientation programs, student organizations and recreation opportunities set the stage for a level of identity development that is unrivaled by individuals outside of emerging adulthood and the college environment. College

students are exploring - thinking and planning ways they can become the person they want to be - without an expectation to be there just yet.

The adventure recreation activities utilized by outdoor orientation programs are an ideal vehicle for personal development and identity formation. Erikson (1959) named factors present in outdoor recreation experiences, such as individual expression and receiving feedback and validation from others, as key components of identity formation. Leisure researchers have also explored this concept and listed similar (self-expression and feedback) and other (new experiences, social development, challenge, risk, skill acquisition and self-reflection) aspects of recreation experiences that contribute to identity development and a sense of self-competence (Ewert, 1987; Kivel, 1998; Kleiber & Kirshnit, 1990; Munson & Widmer, 1997; Priest, 1992; Shaw, Kleiber, & Caldwell, 1995). Many, if not all, of these aspects are present and essential to any outdoor orientation program.

In a 2009 article examining the relationship between adventure recreation and identity development, the authors note, “successfully overcoming challenges and developing competence serve as catalysts for identity development” (Duerden, Widmer, Taniguchi, & McCoy, p. 342 - 343). This study evaluated the effects of a two-week adventure recreation program on participants’ levels of identity development, using the Erikson Psychological Stage Inventory and the Identity Styles Inventory (Erikson, 1959, 1963; Berzonsky, 1992). The study produced promising results, finding significantly higher increases in identity development (using both instruments) for participants who participated in the adventure recreation experience, compared to a control group. These

findings suggest that there is value in examining outdoor orientation programs, which are also designed to provide a short, intense adventure recreation experience. In addition to providing social support in the new university environment, outdoor orientation programs may also serve to foster identity development for emerging adults.

Recreation Socialization

As noted above, emerging adults exist in a stage in life defined by newfound freedom, opportunities to explore and experiment and a lack of familial or professional constraints (Arnett, 2000). These aspects of emerging adulthood are particularly true for university students. College students often enjoy a great deal of free time, due to a lack of financial, professional and familial responsibilities (Zinn & Graefe, 2007). They are also provided with many opportunities for new academic, social and recreational experiences within the university environment. At the same time, college students are free from direct supervision by parents (or otherwise) and thus are free to explore new leisure activities. The popular thought is that this leisure time is devoted largely to unhealthy, negative, or deviant leisure activities such as alcohol or drug use. The prevalence of deviant behavior among has been empirically documented (Kleiber, 1999). Given this evidence, one should also consider that the motivation for these risky behaviors comes from a desire for sensation-seeking that many college students may find in adventure recreation activities. These aspects of emerging adulthood and the college environment provide an ideal situation for individuals to become socialized into new outdoor or adventure recreation behaviors.

Recreation socialization research has been present in the literature since the 1960s. The earliest articles examined relationships between childhood and adult participation in outdoor recreation activities, such as hunting and fishing. One of the earliest notable articles on the subject examined socialization into outdoor recreation, primarily hunting. Seeking information concerning the way in which people are socialized into these activities, the author examined differences in rural and urban residents (Hendee, 1969). The study found that rural residents were more likely to engage in hunting activities than urban residents. The author attributed this to differences in lifestyle and value systems between the two groups and the fact that rural residents were more likely to be introduced to hunting by parents during their childhood.

In the same year, a study by William Burch was published, which sought to apply a theoretical framework to recreation behavior. Like the Hendee article, most recreation research had focused heavily on cultural or demographic variables to group participants (social class, race, gender, residence, etc.). However, this study's findings supported the author's "personal community" hypothesis, that "gross social issues and psychological drives are significantly filtered and re-directed by the social circles of workmates, family and friends... (and) transactions with and socialization by one's workmates, parents, spouse and friends will shape the nature of one's leisure style" (Burch, 1969 p. 138). A similar study by Cheek demonstrated similar findings, noting that, "going to a local park is something done as a member of a social gathering" (Cheek, 1976, p. 154).

These findings were also supported by a study that was published three years

later. In that study, Field and O'Leary asserted that it was the social group, not the activity, that determined an individual's leisure behavior (1973). The authors noted that, in accordance with accepted methods, researchers had been utilizing random samples, resulting in "the connectedness of humans (being) sampled out" (Field & O'Leary, 1973, p. 17). The findings supported the authors' hypothesis that the determinants of leisure behavior are due largely to the characteristics and composition of social groups, as well as the social meanings that those groups place on recreation activities.

Research continued to examine the influence of childhood participation and source of introduction on levels of adult participation. Two articles presented a positive relationship between frequency of participation during childhood and adulthood (Sofranko & Nolan, 1972; Yoesting & Burkhead, 1974). In both articles, the authors noted that while childhood residence and parental influence resulted in greater participation levels as a child, they did not directly predict adult participation, when controlling for youth participation. In addition, Sofranko and Nolan found that while these findings were true for hunters (who generally participate with peers), they were not true for fishermen (who generally participated with their adult families. Yoesting and Burkhead found that while parents were the prime sources of introduction during childhood, friends filled that role once individuals reached adulthood. Two additional articles examined the relationship between childhood experiences and adult attitudes and behaviors, finding that individuals accumulate outdoor recreation experiences, referred to as "outdoor capital," which may predict those individuals' attitudes toward wild areas and outdoor recreation activities (Bixler, Floyd, & Hammitt, 2002; Bixler &

Morris, 1998). These findings foreshadow more recent findings concerning recreation socialization over the family life cycle and the overall lifespan. These articles also note that mediating factors in developmental life stages between childhood and adulthood result in lower correlations between childhood and adult participation (Sofranko & Nolan, 1972; Yoesting & Burkhead, 1973). These assertions suggest that emerging adulthood may be an important life stage to evaluate in terms of recreation socialization and the development of a leisure repertoire.

In the mid-1970s, John Kelly published a series of articles applying developmental theory to recreation socialization (Kelly, 1973; 1974; 1978). Citing a definition of socialization by sociologist Frederick Elkin, “the learning and internalizing of appropriate patterns, values and feelings,” Kelly defines this concept broadly as the basic questions of “when?” “with whom?” and “how?” for “investigating “becoming a leisure user” (Elkin, 1960, p. 4; Kelly, 1974, p. 182). The author also defines recreation socialization as, “learning the skills, social norms, attitudes and even taste appropriate to participation” (Kelly, 1977: 122).

Kelly continued to study this topic and later published two books on the sociology of leisure, in which he further explained the application of developmental theory to recreation socialization (Kelly, 1987; Kelly & Godbey, 1990). From a developmental theory perspective, recreation is viewed as a long-term element of the life course that highlights both continuity and change. Recreation behaviors serve as a way to learn, act and develop as an individual. Like the findings of aforementioned researchers, Kelly’s developmental perspective on recreation socialization asserted that activities should be

categorized by the social orientation in which they are participated and the interactions that influence and are influenced by the activities that individuals participate with (Kelly, 1974).

In a 1974 study, Kelly's findings indicated that socialization (the "when?") occurs during both childhood and adulthood (49 and 51 percent, respectively). When asking the question, "with whom?" Kelly found that most activities are begun within the family (63 percent). In addition, respondents were asked about the 10 most important activities in their lives at the present time. Respondents named family-based activities twice as often as activities with social circles outside of their family when listing their most valued choices (this finding was also supported by a 1972 study by John Kelly). Family roles were also evident in other analyses. When differentiating activities by social orientation, the findings indicated shifts in participation centered around parenthood. Unconditional activities, those that are done for the intrinsic value of the activity itself, tend to phase out in favor of complementary activities, which are role-related, as respondents transition from pre-parental to parental stage in the family life cycle. The results were further validated in a replication study by the same author (Kelly, 1977). Through this theoretical lens, recreation socialization is viewed as a function of the lifespan, and therefore is strongly tied to the family life cycle.

More recent literature also supports these findings. In a longitudinal study dating back to 1947, researchers found consistency in broad leisure patterns for survey respondents in their fifties, who first reported on their leisure as high school sophomores (Scott & Willits, 1998). The longitudinal design of this study allows for an examination of

the effects of changes over the life span on leisure patterns. The behavior of participants seems fairly consistent, if only in broad categorical terms.

Another more recent study provides information that may serve to inform the developmental process of recreation socialization across multiple stages of the lifespan. The article examines individuals' tendencies to pursue both consistency and novelty in their leisure by starting, stopping, continuing and replacing recreational activities while progressing from one life stage to another (Iso-Ahola, Jackson, & Dunn, 1994). This article is particularly interesting in regards to the present study. Findings of the study illustrate the importance of understanding the emerging adulthood life stage in regards to recreation behavior. After the first life stage (which ends at age 23, as defined by the authors), the rates of starting new activities and replacing old activities with new ones trends from positive to negative. In addition, rates of consistency or continuing with the same activities rise as survey respondents aged. Emerging adults are at a stage in life in which they are seeking the novelty of new leisure experiences, just prior to the stage that involves new responsibilities within the family life cycle and career. Because individuals tend to continue with the same activities or seek novelty in activities closely related to those already present in their lives, the activities they begin at this stage will likely continue to be present in their leisure repertoire throughout the life span.

Summary

An examination of the aforementioned literature offers both direction for the design of this study and examples of where the base of current knowledge can be expanded. While previous recreation socialization studies have examined the

relationship between child and adult recreation behavior, none have directly addressed emerging adulthood, a life stage characterized by increased opportunities and freedom than adolescence, but without the responsibilities of adulthood (Zinn & Graefe, 2004). This stage occurs at a time when personal exploration is at its peak, before the commitments of adulthood cause individuals to begin engaging in new activities less and less (Iso-Ahola, Jackson, & Dunn, 1994). Emerging adulthood is, in many ways, an individual's last chance to have the freedom to start engaging in new activities. Previous recreation socialization studies have also neglected to examine outdoor orientation programs like ORION, despite the fact that the programs are very common in the United States, have been found to provide beneficial outcomes to participants, and feature content that may accelerate the socialization process (Bell & Holmes, 2010; Bixler & Morris, 1998).

Previous studies of outdoor orientation programs have found that participants receive positive effects related to their feelings of social support after having participated in an outdoor orientation program (Bell, 2006). This study will also examine participants' feelings of social support before and after participating in the ORION program, at a university that has not been empirically tested. The Pennsylvania State University has been home to a very successful outdoor orientation program for 15 years, but has had no empirical test of these outcomes prior to the current study.

Finally, this study will examine program outcomes on participants' identity development. While previous studies have examined the effects of short, intense outdoor recreation programs on identity development, none have examined outdoor

orientation programs or programs as short in duration as the ORION program (Duerden, Widmer, Taniguchi, & McCoy, 2009). This study will use measures verified by previous studies to build upon the existing literature.

CHAPTER THREE METHODS

Introduction

Data for this study were collected during the summer and fall of 2011 in an effort to better understand the effects of the ORION Wilderness Experience program, an outdoor orientation program at The Pennsylvania State University. The primary purpose of this study was to provide new information on the effects of outdoor orientation programs by examining the effects of these programs on participants' outdoor recreation behavior.

This study focused on understanding the socialization process that may occur as a result of the participants' exposure to new activities and interpersonal connections at a crucial stage in human development known as emerging adulthood. Outdoor recreation behavior was measured by asking respondents about their participation and intent to participate in eight common outdoor recreation activities. The eight activities chosen were: hiking, camping, backpacking, paddling (kayaking or canoeing), rock climbing, mountain biking, hunting or fishing and participation in a high ropes challenge course. Hiking, camping, backpacking, high ropes challenge course and paddling are all included in the ORION program.

In order to assess the extent to which the ORION program introduces students to specific outdoor recreation activities, survey respondents were asked about their experiences prior to their participation in the outdoor orientation program (See Appendix A, page 98). Students were asked if they had participated in each of the 8

activities in their lifetime, as well as how often they had participated in each activity during the previous year. Program participants were also asked about with whom they may have been introduced to outdoor recreation activities and with whom they had participated prior to the ORION program. Finally, participants were asked to rate the perceived importance of outdoor recreation activities in their lives before participating in the ORION program.

Participants' past experiences, behavior and attitudes concerning outdoor recreation were compared with their intentions for future recreation behavior and their participation in outdoor recreation activities during the first 6 weeks of the fall semester. In a posttest, participants were asked about how often they intended to participate in those 8 outdoor activities that were used in the pretest. As in the pretest, participants were also asked with whom they intended to participate and the importance of outdoor recreation activities in their lives. The posttest, which was conducted immediately after the program ended, also provided an opportunity to ask the participants directly whether or not they were first introduced to specific outdoor recreation activities by the ORION program. The intentions items included in the posttest were measured again at a follow-up test, which was administered 6 weeks into the fall semester. At this time, participants were also asked about how often and with whom they had participated in each of the 8 outdoor recreation activities (hiking, camping, backpacking, paddling, high ropes course, rock climbing, mountain biking and hunting or fishing).

In addition to recreation socialization, this study also examined program

effects on social support and identity development. While previous studies of outdoor orientation programs have examined program effects on social support, the ORION program has not been empirically studied for social support outcomes. To date, there are no published studies examining the connection between outdoor orientation programs and identity development.

Program participants' feelings of social support were measured before and after the program experience, using the Campus-Focused Social Provisions Scale (Bell, 2007; see Appendix A, page 98). The CF-SPS is a measure adapted from the Social Provisions Scale by changing the wording of the 24 items to represent a student's feelings of social support from only friends who are known through university life (Russell, Cutrona, Rose, & Yorke, 1984). The original SPS was designed by Russell et al. using Weiss' theory of social and emotional loneliness, which focused on 6 social provisions, which serve as protective factors against loneliness: attachment, social integration, guidance, reliable alliance, reassurance of worth and opportunity for nurturance (Weiss, 1974). Pre and post-test measures were compared. Measures were compared with a comparison group of participants from a non-outdoor university orientation program (Urban Service Experience) and a control group of freshman students who received no university orientation program.

Program participants' identity development was measured before and after the program experience, using two measures. Identity development through this life stage was measured using the Erikson Psychological Stage Inventory (Rosenthal, Gurney, & Moore, 1981). The EPSI instrument is based in Erikson's theory of the

identity crisis that occurs at this life stage (Erikson, 1960). Identity development was also measured using instruments designed to assess coping and problem-solving strategies (Identity Styles Inventory, Berzonsky, 1992). According to Berzonsky's theory, students could deal with life issues in a healthier way, by acquiring information and making informed choices (Informational Identity Style) or in an unhealthy way, by avoiding or denying the existence of a problem (Diffuse / Avoidant Identity Style). The identity development instrument used 18 items to measure Erikson's Psychosocial Stage Inventory, as well as each of the two Identity Styles theorized by Berzonsky (See Appendix A, page 98).

Pre and post-test measures were compared. Measures of both the EPSI and ISI were compared with a group of participants from a non-outdoor university orientation program (Urban Service Experience), as well as a group of university students who received no orientation to university life.

Data Collection

Three groups of Penn State University students were surveyed: a treatment group, a comparison group and a control group. The treatment group is the primary focus of this study. This group included participants in the ORION Wilderness Experience program, a nature-based freshman orientation program at Penn State University. The comparison group included participants in a service-based freshman orientation program called Urban Service Experience. This program features the same goals as the ORION program (introducing students to other incoming

freshmen, campus life, etc.), but did not include any aspects of outdoor recreation. The control group included a group of incoming freshman students at Penn State University who did not participate in an orientation program. Of the 287 students who made up the three groups, 267 students were surveyed as part of this study (93% response rate). By group, response rates were 212 of 217 the ORION students in the treatment group (98%), 25 of the 30 URBAN Service Experience students in the comparison group (83%) and 30 of the 40 students in the control group (75%).

A purposeful sampling method was used, with the goal of surveying every participant in each of the two orientation programs. Response rates were high in both the treatment and comparison groups; however the control group was far more difficult to retain through the third data collection time point. The treatment and comparison groups benefited from certain factors that contributed to the high response rate. Participants were already assembled as a captive audience at each time of survey. The instrument was designed to be relatively short (completed in 15 minutes or less), which became especially important when asking participants to complete the survey after they had already done so two times previously. In addition, at least some of the survey respondents likely felt some sort of buy-in to the program and were more eager to participate in the survey having just had a positive experience with the program. Of the 217 students who participated in the ORION program, 212 filled out at least one of the three surveys. Of those survey respondents, 163 completed all three forms.

The control group, however, did not benefit from all of these factors. While

they were a captive audience at the first data collection (a surveyor approached two classes of RPTM 120 students in the classroom setting), the follow-up survey had to be completed online because the course in which the students were assembled at the first data collection was no longer in session. In addition, the group did not have any sense of buy-in to the research project, which may very well have been a positive influence on the response rate for the other two groups. In addition to an initial request after the students had completed the pretest survey and an email sent with a link inviting the students to complete the follow-up survey at the third data point, three reminder emails were sent to each student who had yet to complete the survey in an attempt to bolster the low response rate. Ultimately, only 12 of the 30 students who completed the pretest survey responded to the follow-up survey at the third collection time.

Data were collected from survey respondents using self-report questionnaires, administered at three time points. The first measurement was a pretest measurement. For the treatment and comparison groups, the pretest occurred immediately prior to participation in that program. The control group, who did not participate in a freshmen orientation program, was surveyed in a classroom at approximately the same time that the other groups were completing their pretest measures. The pretest also occurred in waves for the treatment and comparison groups. Because the ORION outdoor orientation program features four sessions each summer, there were four waves of pretests collected. The comparison group, which was a service-based freshmen orientation program, featured two sessions.

Consequently, there were two waves of pretests for the comparison group.

The second measurement was a posttest measurement and only surveyed the treatment and comparison groups. Because this measurement was conducted to examine the effects of the two programs, it was not necessary to survey the control group at this point. Participants in the treatment and comparison groups were surveyed immediately following the conclusion of that program. As was the case with the pretest, the posttest measures were conducted in waves that corresponded with each of the four ORION sessions and two Urban Service Experience sessions.

A third measurement was conducted approximately 6 – 10 weeks following the end of the treatment and comparison programs, depending on the session in which each participant took part. Respondents in the control group were also surveyed at this point.

Testing of Research Questions and Hypotheses

R1: Do ORION participants experience socialization into outdoor recreation as a result of participation in the program?

H1a: Participants will participate in new activities (that participants did not list in a pre-test survey of past experiences) during their ORION experience.

Participants were asked about previous experience with outdoor recreation activities, including the activities featured in the ORION Wilderness Experience (hiking, camping, backpacking, paddling, and challenge courses) in a pretest survey measurement. These responses were compared to their participation in activities included in the ORION program.

H1b: Participants' level of involvement in outdoor recreation activities will increase (compared to a pre-test survey) after their ORION experience (two measurements were taken, one immediately after the program, and a second at approximately 6 – 10 weeks after participants' Outdoor Orientation Program experience).

Participants were asked about their participation in outdoor recreation activities during the first few weeks of the fall semester, as well as intention for participation in outdoor activities, such as backpacking, hiking, camping and other outdoor activities during the year following the ORION program.

Responses were compared with participants' previous experiences, as indicated at the pretest measurement using crosstab analyses. Participation prior to the ORION program, participation during the first few weeks of the fall semester and intent for future participation were all collapsed into a dichotomous "have not" or "has / will participate" variable due to small numbers of participants who indicated moderate or high levels of participation or intent. Because the dichotomous variable resulted in a 2 by 2 crosstab analysis and the data is dependent (repeated measures), a McNemar test of significance was used to determine the significance of the relationship between past participation and intent for future participation, as well as the relationship between past participation and participation during the first few weeks of the students' fall semester. The McNemar test is a more appropriate test than other nominal tests of significance (such as a Pearson's chi square test, which is appropriate for independent, non-related variables) because of the dependent (repeated measures) nature of the data (Agresti, 2002; McNemar, 1947; Siegel, 2002).

H1c: ORION participants will indicate that outdoor recreation activities have become a more important part of their lives after participating in the ORION program.

Participants were asked to rate the importance of various outdoor recreation activities in their lives in a pretest (taken immediately prior to the program), posttest (taken immediately following the program) and follow-up survey (taken approximately 6 – 10 weeks following participation in the program). Responses at each time point were compared using paired t-tests.

H1d: ORION participants will continue to participate in outdoor recreation activities with fellow program participants and leaders after the program.

Participants were surveyed at two points after participating in the program. At these points, participants were asked if they intend to participate in, or have continued to participate in, outdoor recreation activities with other ORION participants or leaders. Frequency distributions were calculated to examine the extent to which ORION participants continue to participate in outdoor recreation activities with other ORION participants or leaders.

R2: Does participation in the ORION program affect feelings of social support during program participants' first college semester?

H2a: ORION participants will indicate stronger feelings of social support at the two post-program survey points, using the campus-focused social support scale (CF-SPS) as a measurement (Bell, 2006), as compared to the participants' program pre-test score.

Participants' social support was measured using the Campus-Focused Social Provisions Scale. Pretest, posttest and follow-up measures were compared using paired t-tests.

H2b: ORION participants will indicate higher levels of social support, as measured by the CF-SPS, than participants in a non-outdoor university orientation program and students receiving no orientation at posttest and follow-up test.

Social support for ORION and USE participants, as well as a control group, was measured using the Campus-Focused Social Provisions Scale. Scores measured on the pretest were used to determine if baseline differences exist between the three groups using an One-way Analysis of Variance with Scheffe post-hoc tests. Posttest measures were used to compare any differences in score between the treatment and comparison groups immediately after participation in their respective programs using independent t-tests. Finally, the follow-up measurement was used to compare differences

between all three groups using a series of independent t-tests.

R3: Does participation in an outdoor orientation program affect aspects of identity development?

H3a: ORION participants will indicate higher levels of identity development at the two post-program survey points, using the Erikson Psychological Stage Inventory (EPSI) and the Identity Styles Inventory (ISI) as a measurement (Rosenthal et al., 1981), as compared to the participants' program pre-test score.

Identity development for ORION participants was measured using the Erikson Psychological Stages Inventory. Identity development was also measured using the Identity Styles Inventory, which measures an individual's problem-solving and coping strategies. The ISI identifies two primary styles, Informational and Diffuse / Avoidant. A positive change in EPSI and Informational Identity Style would suggest positive identity development. A negative change in Diffuse / Avoidant Identity Style would suggest positive identity development (Diffuse / Avoidant ISI is an unhealthy way of dealing with life events). Pretest, posttest and follow-up measures were compared using paired t-tests.

H3b: ORION participants will indicate higher levels of identity development, as measured by the Erikson Psychosocial Stage Inventory (EPSI) and the Identity

Styles Inventory (ISI), than students participating in a non-outdoor university orientation program (the comparison group participates in Urban Service Experience, a freshman orientation program featuring community service and cultural learning in Philadelphia, PA) and students receiving no orientation at posttest and follow-up test.

Identity development for ORION and USE participants, as well as a control group, was measured using the Erikson Psychological Stages Inventory.

Identity development was also measured using the Identity Styles Inventory, which measures an individual's problem-solving and coping strategies. The ISI identifies two primary styles, Informational and Diffuse / Avoidant. A positive change in EPSI and Informational Identity Style would suggest positive identity development. A negative change in Diffuse / Avoidant Identity Style would suggest positive identity development (Diffuse / Avoidant ISI is an unhealthy way of dealing with life events). Scores measured on the pretest were used to determine if baseline differences exist between the three groups using an One-way Analysis of Variance with Scheffe post-hoc tests. Posttest measures were used to compare any differences in score between the treatment and comparison groups immediately after participation in their respective programs using independent t-tests. Finally, the follow-up measurement was used to compare differences between all three groups using a series of independent t-tests.

CHAPTER FOUR RESULTS

The primary objective of this study was to examine the effects of an outdoor orientation program (the ORION Wilderness Experience) on the university students at Penn State University who participated in that program. Effects on students' outdoor recreation behavior, feelings of social support and identity development were measured as part of this investigation. The secondary objective of this study was to compare the results of those students who participated in the ORION program to a comparison group of students who participated in a non-outdoor university orientation program (the Urban Service Experience), as well as a control group of university students who received no orientation program prior to beginning their careers at Penn State University. All students examined were incoming freshmen.

This chapter will describe the respective programs and the students who participated in the study. First, the sample of students who comprised each group will be described. Following that, results will be presented in order of the research questions and hypotheses that were described in the first chapter. The first research questions concern measures of outdoor recreation socialization, followed by examination of social support and identity development. Results concerning social support and identity development will describe findings within the treatment group (ORION Wilderness Experience program participants) before offering planned contrasts between the three groups (treatment, comparison and control).

Sample

All survey respondents in this study were incoming freshmen students at Penn State University. The sample included three groups (Table 1). The first group examined was a treatment group, consisting of participants in the ORION Wilderness Experience program, an outdoor orientation program at Penn State University. The second group was a comparison group of participants in the Urban Service Experience program (USE), a service-based orientation program at Penn State University. These programs have the same outcome objective, which is to ease students' transition into college life by introducing them to a small group of students before they enter college. The ORION program is nature-based and features multiple outdoor recreation activities, whereas the USE program is service-based and set entirely in an urban area (Philadelphia, PA). A third group of students who received no orientation served as a control group in this study. Those students were drawn from two sections of a Leisure and Human Behavior class at Penn State University.

Table 1. Participation in the study by group.

Group	Total in Group (N)	Completed any Survey (N)	Completed Pretest (N)	Completed Posttest (N)	Completed Follow-up Test (N)	Completed All Tests (N)
Treatment (ORION)	217	212	185	180	195	163
Comparison (USE)	30	25	25	26	25	25
Control	40	30	30	N/A	12	12

Demographics

Gender was the only demographic variable about which participants were asked. The overall sample was 52 percent female (127 female respondents, 116 male respondents). The treatment group (ORION) was nearly even, with 92 males and 94 females (Table 2). The comparison group (USE) was 83 percent female (25 females and 5 males) and the control group was 67 percent male (20 males and 10 females). A multivariate analysis of variance showed no interaction effect between gender and social support or identity development variables. All program participants in the ORION and USE programs were between of 18 and 20 years of age. Survey respondents in the control group were not asked about their age, but the majority were very likely within the same age range as the treatment and comparison groups.

Table 2. Participant gender by group

Group	Male		Female		Total
	N	%	N	%	N
Treatment (ORION)	92	49%	94	51%	186
Comparison (USE)	5	17%	25	83%	30
Control	20	67%	10	33%	30
Total	116	48%	127	52%	243

Outdoor Recreation Behavior

Study respondents were asked to provide information concerning their outdoor recreation behavior prior to and following participation in the ORION Wilderness Experience program. Information provided included: lifetime participation in outdoor recreation activities, frequency of participation in outdoor recreation activities during the past year, intent to participate in outdoor recreation activities during the upcoming year, and participation in recreation activities during the 6 – 10 weeks between the posttest measure and the follow-up measure. Eight recreation activities were included in the survey, including hiking, camping, backpacking, paddling (kayaking or canoeing), rock climbing, mountain biking, hunting or fishing and participation in a high ropes challenge course. Those students surveyed also provided information concerning with whom they had participated, or with whom they intended to participate, in those eight outdoor recreation activities. Finally, respondents evaluated the importance of each activity in their lives at each time point (pretest, posttest and follow-up survey).

Introduction to New Activities

H1a: Participants will participate in new activities during their ORION experience.

Participants' introduction to new outdoor recreation activities was evaluated by asking survey respondents to indicate whether or not they had participated in any of eight outdoor recreation activities, five of which are included in the ORION Wilderness Experience program. Overall, most ORION program participants had some history of experience with some outdoor recreation activities (Table 3). The most common activities that participants had engaged in were hiking (75% of respondents had participated in the activity at some point in their lifetime), camping (76%) and paddling (78%). Least common lifetime activities were backpacking (31%), mountain biking (37%) and participation in a high ropes challenge course (46%). It is interesting to note that two of the three least common activities (backpacking and high ropes course challenge course) were activities that are included in the ORION Wilderness Experience program.

There were a significant number of participants who had never participated in hiking (25%), camping (24%), backpacking (69%), paddling (22%), or a high ropes challenge course (54%). Those participants were first exposed to at least four of these activities while participating in the ORION Wilderness Experience program. All ORION participants engage in hiking, camping and backpacking during the program. In addition, participants participate in an "additional adventure day," where they are either canoeing or recreating on a high ropes challenge course. Because participants

were not asked which additional adventure day activity they were part of, this study does not find a specific number of participants who were physically introduced to those activities. In total, 171 of the 212 participants in the ORION Wilderness Experience program had no history of participation in at least one of the five activities featured in the program (Table 3). These results support the hypothesis that the ORION program introduces participants to new outdoor recreation activities.

Table 3. Lifetime Participation in Outdoor Recreation

Activity	Has Not Participated in Lifetime (%)	Has Participated in Lifetime (%)
Hiking*	25	75
Camping*	24	76
Backpacking*	69	31
Paddling (Canoe or Kayak)**	22	78
High Ropes Course**	54	46
Rock Climbing	34	66
Mountain Biking	63	37
Hunting or Fishing	30	70
Any Activity	14	86

N = 212

*All ORION Wilderness Experience participants participate in these activities

**Half of all ORION Wilderness Experience participants participate in these activities

Note: 171 of 212 participants surveyed had not participated in at least one of the five activities featured in the ORION program.

Level of Involvement

H1b: Participants' level of involvement in outdoor recreation activities increases after their ORION experience.

In order to assess the relationship between participation in the ORION program and level of involvement in outdoor recreation activities, survey respondents were asked about their level of involvement in outdoor recreation activities during the year prior to participation in the ORION program, as well as the level of involvement during the first 6 – 10 weeks of the fall semester and the level of involvement that they intend to have in the year following participation in the ORION program.

Overall, participants' outdoor recreation behavior during the year prior to participation in the ORION program mirrored their lifetime experience (Table 4). Within the past year, 73% of all survey respondents had participated in at least one outdoor activity. The most common activities were hiking (66% of participants had participated in the activity in the past year) and paddling (55%). The least common activities were backpacking (17%) and recreating on a high ropes course (15%), which are both activities featured in the ORION Wilderness Experience program.

Table 4. Past Year's Participation in Outdoor Recreation

Activity	Had Not Participated in Past Year (%)	Had Participated in Past Year (%)
Hiking	34	66
Camping	56	44
Backpacking	83	17
Paddling (Canoe or Kayak)	45	55
High Ropes Course	85	15
Rock Climbing	73	27
Mountain Biking	80	20
Hunting or Fishing	68	32
Any Activity	27	73

N = 185 (87% response rate)

A different pattern of behavior was presented in participants' intentions for future recreation participation than that of their behavior over the past year (Table 5). Overall, participants expressed an intent to increase participation in outdoor activities. Whereas 73 percent of participants had reported engaging in some outdoor activity in the past year, 83 percent of participants indicated an intent to participate in outdoor recreation in the coming year. Activity preferences changed as well. Previously, hiking (66%), paddling (55%), camping (44%) and hunting or fishing (32%) were the activities most commonly enjoyed by those surveyed. According to participants' intentions, the most popular activities for future participation were hiking (92%), camping (82%), paddling (77%) and backpacking (69%). The four most popular activities for future participation were all activities featured in the ORION program. In addition, backpacking (the primary activity featured in ORION) went from the second-least popular activity (17% indicating they had participated in the activity over the past year) to the fourth most popular (69% indicated an intent to participate in the activity in the coming year; Table 5).

Table 5. Intent to Participate in Outdoor Recreation - posttest

Activity	No Intent to Participate (%)	Intent to Participate (%)
Hiking	8	92
Camping	18	82
Backpacking	31	69
Paddling (Canoe or Kayak)	23	77
High Ropes Course	56	44
Rock Climbing	44	56
Mountain Biking	61	39
Hunting or Fishing	58	42
Any Activity	17	83

N = 181 (85% response rate)

A crosstab analysis was performed to assess any significant differences in survey respondents' level of involvement in outdoor recreation before and after participating in the ORION program. Significance was determined using a McNemar test. Of those who had participated in any outdoor recreation activity listed in the past year, 69 percent indicated an intention to participate in at least one of those activities in the next year ($p < .001$; Table 6). Of the eight individual activities examined in the analysis, all eight were found to have significant differences that indicate an increased level of involvement in outdoor recreation activities. This analysis supports the hypothesis that participation in the ORION program increases level of involvement in outdoor recreation activities, as measured by intention to participate.

Table 6. Crosstab Analyses of Level of Involvement, Past Year and Intent to Participate at Posttest

Activity	Does Not Intend to Participate in Next Year (%)	Intends to Participate in Next Year (%)	Total (%)	McNemar Test of Significance
Hiking				
No Participation Past Year	6	29	35	< .001
Participation Past Year	2	63	65	
Camping				
No Participation Past Year	12	44	56	< .001
Participation Past Year	5	39	44	
Backpacking				
No Participation Past Year	27	56	83	< .001
Participation Past Year	3	14	17	
Paddling				
No Participation Past Year	11	34	45	< .001
Participation Past Year	12	34	55	
High Ropes Course				
No Participation Past Year	49	35	84	< .001
Participation Past Year	7	9	16	
Rock Climbing				
No Participation Past Year	35	37	72	< .001
Participation Past Year	9	19	28	
Mountain Biking				
No Participation Past Year	56	25	81	< .001
Participation Past Year	3	16	19	
Hunting or Fishing				
No Participation Past Year	47	20	67	.036
Participation Past Year	10	23	33	
Any Activity				
No Participation Past Year	13	14	27	< .001
Participation Past Year	4	69	73	

N = 176

Participation in the year prior to students' ORION experience was also compared with the follow-up measurement of intent to participate during the upcoming year. At follow-up, seventy-eight percent of the participants in this study indicated an intent to participate in at least one of the eight activities listed (Table 7). This figure was less than the percent of participants who answered the same question on the posttest (83 percent; see Table 5, page 47), but still higher than the percent of participants who reported involvement in at least one activity during the

year prior to participating in the ORION program (73 percent; Table 4). Of the eight activities listed in the survey, a higher percent of participants indicated an intent to participate in an activity during the upcoming year (at follow-up) than reported participating in that activity over the year prior to their ORION experience, with only paddling (48 percent intending on future participation versus 55 percent participating in the previous year) and hunting or fishing (23 percent intending on future participation versus 32 percent previously participating) having lower percentages.

Table 7. Intent to Participate in Outdoor Recreation – follow-up test

Activity	No Intent to Participate (%)	Intent to Participate (%)
Hiking	22	78
Camping	43	57
Backpacking	59	41
Paddling (Canoe or Kayak)	52	48
High Ropes Course	82	18
Rock Climbing	63	37
Mountain Biking	77	23
Hunting or Fishing	77	23
Any Activity	22	78

N = 190 (90% response rate)

An additional set of analyses concerning level of involvement in outdoor recreation was a crosstab analysis comparing participants' involvement in outdoor recreation before and intentions for involvement after participating in the ORION program (at follow-up measurement; Table 8). Significant differences in level of involvement were identified using a McNemar test of significance. Significant differences indicating an intent for increased involvement were found in five of the eight activities listed in the survey (hiking, camping, backpacking, rock climbing and mountain biking). A significant difference indicating a decrease in involvement was

found for hunting or fishing. High ropes course participation increased and paddling participation decreased, but neither changed significantly ($p < .761$ and $p < .148$, respectively). The three activities that failed to show significant increases in participation are also the three most dependent on context and specialized equipment. All three involve considerable distance of travel from campus (the high ropes course is located 13 miles from campus). While many students bring bicycles to college, few bring canoe or kayaks because there is no ideal way to store those boats on campus (non-local freshman students are required to live on campus). Penn State University does not allow weapons on campus, which also places a limitation on a student's ability to hunt. Given the context and situational factors, the results of this analysis provide some support for the hypothesis that participants will indicate an increase in level of involvement in outdoor recreation after participating in the ORION Wilderness Experience program.

Table 8. Crosstab Analyses of Level of Involvement, Past Year and Intent to Participate at Follow-Up Test

Activity	Does Not Intend to Participate in Next Year (%)	Intends to Participate in Next Year (%)	Total (%)	McNemar Test of Significance
Hiking				
No Participation Past Year	11	23	34	.008
Participation Past Year	11	55	66	
Camping				
No Participation Past Year	28	28	56	.024
Participation Past Year	16	28	44	
Backpacking				
No Participation Past Year	51	31	82	< .001
Participation Past Year	7	11	18	
Paddling				
No Participation Past Year	29	17	46	.148
Participation Past Year	25	29	54	
High Ropes Course				
No Participation Past Year	71	14	85	.761
Participation Past Year	12	3	15	
Rock Climbing				
No Participation Past Year	48	25	73	.050
Participation Past Year	15	12	27	
Mountain Biking				
No Participation Past Year	68	13	81	.006
Participation Past Year	8	11	19	
Hunting or Fishing				
No Participation Past Year	61	7	68	.014
Participation Past Year	16	16	32	
Any Activity				
No Participation Past Year	8	19	27	.350
Participation Past Year	13	60	73	

N = 212

The follow-up survey instrument also asked participants to describe their involvement in outdoor recreation activities during the first weeks of the fall semester following their participation in the ORION program. Because all participants were surveyed at one time, the time period measured in this analysis was between 6 to 10 weeks, depending on which session (there were four sessions over the course of five

weeks) the student participated in the ORION program. While this measurement does not offer a fair comparison of involvement in relation to an entire year's participation in outdoor recreation, it was the only opportunity to ask participants about post-program participation (as opposed to intent).

Overall, participation in outdoor recreation decreased during the students' first weeks of the fall semester (Table 9). ORION participants were participating in outdoor recreation activities during their first few weeks of the fall semester, however. At least eight percent of the students were participating in backpacking, thirteen percent had camped and 1 in 4 of the students had at least been hiking in those weeks. Given the many possible constraints associated with this time period (financial limitations, new residential situation, new social circles and the pressures associated with beginning a university class schedule, among others), the fact that students are investing time and resources to outdoor recreation should not be overlooked.

Table 9. Participation in Outdoor Recreation during First Weeks of Semester

Activity	Had Not Participated (%)	Had Participated (%)
Hiking	75	25
Camping	87	13
Backpacking	92	8
Paddling (Canoe or Kayak)	82	8
High Ropes Course	93	7
Rock Climbing	93	7
Mountain Biking	91	9
Hunting or Fishing	95	5
Any Activity	68	32

N = 192 (91% response rate)

Value placed in Outdoor Recreation

H1c: ORION participants will indicate that outdoor recreation activities have become a more important part of their lives after participating in the ORION program.

Survey respondents were asked to indicate the importance of each of eight outdoor recreation activities in their lives at each of the three survey time points. Importance was rated one through five on a Likert-type scale. The hypothesis stating that outdoor recreation activities would be a more important part of participants' lives after experiencing the ORION program was tested using a series of paired t-tests.

The first set of analyses compared participants' rating of activity importance before and after participating in the ORION program. Of the eight activities examined, participants indicated a significant increase in the importance of seven activities (Table 10). Hunting or fishing was the only activity that did not significantly change in importance rating. Of the activities in question, the greatest increases in importance were found with backpacking (.98), hiking (.46), camping (.37) and high ropes course (.35). These activities are all featured in the ORION program, with the primary activity, backpacking, showing the greatest increase in importance to participants. The first set of analyses supports the hypothesis that participants will place a higher value in outdoor recreation activities after having experienced the ORION program.

Table 10. Paired t-test comparing pretest and posttest measures of activity importance

Activity	Mean	N	Mean Change	t	p
Hiking	2.84	173	.46	6.41	< .001
pretest	3.30				
posttest					
Camping	2.81	172	.37	5.47	< .001
pretest	3.19				
posttest					
Backpacking	1.85	172	.98	11.66	< .001
pretest	2.83				
posttest					
Paddling	2.65	166	.29	3.68	< .001
pretest	2.94				
posttest					
High Ropes Course	1.82	173	.35	4.59	< .001
pretest	2.17				
posttest					
Rock Climbing	2.15	171	.21	2.52	.013
pretest	2.36				
posttest					
Mountain Biking	1.84	172	.26	3.53	.001
pretest	2.10				
posttest					
Hunting or Fishing	2.29	173	-.01	.161	.873
pretest	2.28				
posttest					

A second set of analyses was conducted, examining the change in activity importance between the posttest, which was taken immediately after the ORION program concluded, and the follow-up test, which was administered approximately six to ten weeks after the program ended (time varied depending on in which session each participant was enrolled). At this time point, a significant decrease was found with all eight activities' importance to program participants, indicating a diminishing effect of the program in terms of activity importance (Table 11). Considered alone, this set of analyses does not support the hypothesis that

participants will place greater value in outdoor recreation activities after having experienced the ORION program. However, if a significant positive increase remains from pretest to follow-up test, then the second set of analyses only shows a diminished, not non-existent, effect.

Table 11. Paired t-test comparing posttest and follow-up test measures of activity importance

Activity	Mean	N	Mean Change	t	p
Hiking	3.30	166	-.37	- 5.82	< .001
posttest	2.93				
Camping	3.16	166	-.43	- 6.10	< .001
posttest	2.73				
Backpacking	2.83	164	-.38	- 5.54	< .001
posttest	2.45				
Paddling	2.91	166	-.46	- 6.38	< .001
posttest	2.45				
High Ropes Course	2.20	165	-.32	- 4.82	< .001
posttest	1.88				
Rock Climbing	2.36	165	-.20	- 2.55	.012
posttest	2.16				
Mountain Biking	2.07	165	-.18	- 2.32	.022
posttest	1.88				
Hunting or Fishing	2.28	165	-.30	- 3.75	< .001
posttest	1.98				

A third set of analyses was conducted, comparing the importance that participants placed in outdoor recreation activities. Of the eight activities examined, only two demonstrated a significant change in importance between the pretest and follow-up (Table 12). Participants indicated a significant positive change in the

importance of backpacking in their lives. This activity represented the single largest change (.62) of all activities. Conversely, participants indicated a significantly lower rating (- .27) of importance on hunting and fishing after having participated in the ORION program. Overall, these results do not support the hypothesis that participants will indicate that outdoor recreation activities are a more important part of their lives after having participated in the ORION Wilderness Experience program. It is worth noting, however, that participants did report that backpacking, which is the primary activity in the ORION program, is more important than it was before participating in the program ($t = 7.28$; $p < .001$).

Table 12. Paired t-test comparing pretest and follow-up test measures of activity importance

Activity	Mean	N	Mean Change	t	P
Hiking					
pretest	2.84				
follow-up test	2.95	164	.11	1.41	.161
Camping					
pretest	2.80				
follow-up test	2.72	163	-.08	- 1.02	.310
Backpacking					
pretest	1.85				
follow-up test	2.47	160	.62	7.28	< .001
Paddling					
pretest	2.62				
follow-up test	2.46	164	-.16	- 1.91	.058
High Ropes Course					
pretest	1.79				
follow-up test	1.87	164	.09	1.04	.298
Rock Climbing					
pretest	2.13				
follow-up test	2.13	164	0	0	1.0
Mountain Biking					
pretest	1.79				
follow-up test	1.89	164	.10	1.27	.207
Hunting or Fishing					
pretest	2.25				
follow-up test	1.98	163	-.27	- 3.40	.001

With Whom do Participants Recreate?

H1d: ORION participants will continue to participate in outdoor recreation activities with fellow program participants and leaders after the program.

Survey participants were asked about with whom they have and intend to recreate. At posttest, respondents were asked with whom they intended to recreate in the coming year (Table 13). At follow-up test, respondents were asked with whom they had recreated between the conclusion of the ORION program and the survey time point, as well as with whom they intended to recreate in the coming year (Tables 14 and 15). In all instances, participants were more likely to indicate recreating with other ORION participants or ORION leaders than by themselves or with friends and family who did not participate in ORION.

Results were strongest in the posttest, which was taken immediately after the conclusion of the ORION program (Table 13). At posttest, 80 percent of participants indicated that they would be hiking with ORION friends. Sixty-nine percent said they would be camping and backpacking with those friends as well.

Table 13. Participants indicate with whom they intend to recreate at posttest

Activity	With ORION Friends (%)	Alone or With Non-ORION Friends (%)	Will Not Participate (%)
Hiking	80	15	5
Camping	69	18	13
Backpacking	69	10	21
Paddling (Canoe or Kayak)	61	20	19
High Ropes Course	45	12	43
Rock Climbing	49	18	33
Mountain Biking	37	17	46
Hunting or Fishing	35	25	40

N = 212

Those results were not quite as strong at the follow-up test measurement of students' participation in the weeks since the ORION program concluded, largely because those students had not participated as much as they had intended to according to the posttest survey (Table 14). At that time point, 20 percent indicated having hiked with ORION friends, 18 percent had backpacked with ORION friends and 17 percent had camped with ORION friends. This decrease was primarily due to the fact that 67 percent had not hiked, 79 percent had not backpacked and 76 percent had not camped in that time span, not because they were recreating with friends outside of their ORION-centered social circle. Participants who had recreated continued to report recreating with ORION friends more than non-ORION friends, in all eight activities listed.

Table 14. Participants indicate with whom they have recreated this semester at follow-up test

Activity	With ORION Friends (%)	Alone or With Non-ORION Friends (%)	Had Not Participated (%)
Hiking	20	13	67
Camping	17	7	76
Backpacking	18	3	79
Paddling (Canoe or Kayak)	13	8	79
High Ropes Course	13	4	83
Rock Climbing	13	5	82
Mountain Biking	11	9	80
Hunting or Fishing	11	5	84

N = 212

Results were least supportive of the hypothesis in the follow-up test concerning with whom survey respondents intended to recreate during the remainder of the year. In all, respondents reported less intent to participate in outdoor recreation activities than they indicated in the posttest survey (Table 15). Further, a greater

proportion of respondents indicated an intent to recreate with non-ORION friends than did in the posttest measure. Still, program participants reported a greater intent to recreate with ORION friends than non-ORION friends in all of the eight activities except for hunting and fishing (numbers were equal: 16 percent each for ORION and non-ORION friends).

Table 15. Participants indicate with whom they intend to recreate at follow-up test

Activity	With ORION Friends (%)	Alone or With Non-ORION Friends (%)	Will Not Participate (%)
Hiking	48	30	22
Camping	39	22	39
Backpacking	35	13	52
Paddling (Canoe or Kayak)	33	19	48
High Ropes Course	21	10	69
Rock Climbing	28	15	57
Mountain Biking	17	15	68
Hunting or Fishing	16	16	68

N = 212

To simplify results, an additional calculation was made, comparing only those survey respondents who had recreated or intended to recreate (Table 16). This eliminated the confusion associated with a declining number of participants indicating that they had or would recreate and focused solely on with whom they would be recreating. Survey respondents indicated that they had or intended to recreate with ORION friends more than non-ORION friends in every activity and every survey time point except one (intent for hunting or fishing was a 50 percent split of ORION and non-ORION friends at the follow-up survey). This calculation supported the hypothesis that ORION program participants would continue to recreate with other ORION participants or ORION leaders after having experienced the program.

Table 16. Percent of recreating participants who will recreate with ORION friends

Activity	Intent at Posttest (%)	Participation at Follow-up Test (%)	Intent at Follow-up Test (%)
Hiking	84	60	61
Camping	80	70	64
Backpacking	88	84	74
Paddling (Canoe or Kayak)	76	61	63
High Ropes Course	79	75	68
Rock Climbing	73	74	66
Mountain Biking	68	54	54
Hunting or Fishing	59	68	50

N = 212

Social Support

This study examined the relationship between participation in a university orientation program and feelings of social support before and during a student's first semester in college. Planned contrasts were made concerning ORION programs participants' feelings of social support before and after participating in the program, as well as after having been in the campus environment, six weeks into the fall semester. In addition, ORION program participants' feelings of social support were compared with the feelings of social support indicated by students in a comparison group and a control group.

Creation of Scale Variables

Social support was measured using the Campus-Focused Social Provisions Scale (CF-SPS), a survey instrument developed and utilized in a previous study of university outdoor orientation programs and social support (Bell, 2006). The scale is comprised of 24 items, which make up 6 sub-domains, or provisions. Each of the six

provisions features 4 items (2 positively worded, 2 negatively worded – which are reverse coded). Reliability analyses were conducted for each of the six provisions, as well as the overall scale. Overall, the measures displayed good to excellent reliability using Cronbach’s Alpha statistics (Table 17; additional detail provided in Appendix B). The overall social support measure resulted in a Cronbach’s Alpha statistic of .92, .92 and .93 for the pretest, posttest and follow-up test measures, respectively. Cronbach’s Alpha statistics for the six provision scales were between .72 and .90.

Table 17. Reliability Analysis of Scale Variables

Scale	Cronbach’s Alpha		
	Pretest N = 231	Posttest N = 204	Follow-up Test N = 223
Campus Focused – Social Provisions Scale	.92	.92	.93
Reliable Alliance	.83	.72	.83
Attachment	.82	.73	.79
Guidance	.90	.84	.83
Opportunity for Nurturance	.78	.78	.81
Social Integration	.78	.77	.81
Reassurance of Worth	.72	.73	.79

Pretest and follow-up measures include treatment, comparison and control groups
 Posttest measures include treatment and comparison groups

ORION Wilderness Experience Program and Social Support

H2a: ORION participants will indicate stronger feelings of social support at the two post-program survey points, as compared to the participants’ program pre-test score.

A series of paired t-tests were conducted to measure the effects of participation in the ORION Wilderness Experience program on participants’ feelings of social support. Participants were surveyed immediately before (pretest) and after (posttest) the program, as well as with a follow-up survey that was administered after the participants had been enrolled in the fall semester for approximately six weeks.

The first set of analyses focused on the mean change in social support score from pretest to posttest. All six social support provisions, as well as the overall social support measure, were significantly higher after participation in the ORION program (Table 18). The largest increases were seen in opportunity for nurturance ($t = 11.03$, $p < .001$), guidance ($t = 8.68$, $p < .001$) and overall social support ($t = 10.77$, $p < .001$). This set of analysis supports the hypothesis that ORION participants would indicate stronger feelings of social support after the program experience.

Table 18. Paired t-test analyses of ORION program participants' social support score change from pretest to posttest

Scale	Mean Change	t	p
Social Support (Campus Focused-Social Provisions Scale)	.642	10.77	< .001
Reliable Alliance	.433	5.99	< .001
Attachment	.816	8.65	< .001
Guidance	.630	8.68	< .001
Opportunity for Nurturance	.787	11.03	< .001
Social Integration	.494	7.04	< .001
Reassurance of Worth	.681	11.32	< .001

N = 166

A second set of analyses compared participants' feelings of social support at the posttest and follow-up test. Given the hypothesis, which states that ORION participants will feel more social support after experiencing the program, no significant mean change from posttest to follow-up test would indicate that the hypothesized effect is remaining in effect weeks after the conclusion of the program. Results from the second set of analyses support this hypothesis, as none of the six provisions or the overall social support measure significantly decreased between the posttest and follow-up test (Table 19).

Table 19. Paired t-test analyses of ORION program participants' social support score change from posttest to follow-up test

Scale	Mean Change	t	p
Social Support (Campus Focused-Social Provisions Scale)	-.01	.17	.864
Reliable Alliance	-.05	.61	.541
Attachment	.003	.04	.971
Guidance	.005	.07	.945
Opportunity for Nurturance	.005	.06	.951
Social Integration	-.03	.46	.645
Reassurance of Worth	-.01	.23	.819

N = 156

A third set of analyses was conducted, comparing the mean scores for social support measured at pretest and follow-up test. As was the case at the posttest measure, all six provisions and the overall social support scale were significantly higher at follow-up test than at pretest (Table 20). As was also true at pretest, reassurance of worth ($t = 8.07, p < .001$), opportunity for nurturance ($t = 7.78, p < .001$) and overall social support ($t = 10.77, p < .001$) showed the largest increases in social support score from pretest to follow-up test. As did the first two sets of analyses, the results of this third set of analyses support the hypothesis that ORION program participants will report stronger feelings of social support after having experienced the program.

Table 20. Paired t-test analyses of ORION program participants' social support score change from pretest to follow-up test

Scale	Mean Change	t	p
Social Support (Campus Focused-Social Provisions Scale)	.642	10.77	< .001
Reliable Alliance	.482	5.43	< .001
Attachment	.779	6.87	< .001
Guidance	.573	5.85	< .001
Opportunity for Nurturance	.760	7.78	< .001
Social Integration	.508	6.31	< .001
Reassurance of Worth	.644	8.07	< .001

N = 153

Planned contrasts of Social Support

H2b: ORION participants will indicate higher levels of social support, as measured by the CF-SPS, than participants in a non-outdoor university orientation program and students receiving no orientation at posttest and follow-up test.

Three groups of survey respondents were compared as part of this study's examination of the effects of the ORION program on students' feelings of social support. ORION Wilderness Experience program participants served as a treatment group, while participants in the Urban Service Experience program served as a comparison group and students in two sections of a summer course at Penn State University served as a control group.

An analysis of variance was conducted to examine any pretest baseline differences in social support scores between the three groups. The ANOVA demonstrated no significant differences in social support between groups. It should be noted, however, that the sample sizes of the three groups were significantly

different (see Table 2, p. 49).

Table 21. Planned contrast of posttest social support scores for treatment and comparison groups

Scale	Treatment		Comparison		t	df	p	d
	N	M (SD)	N	M (SD)				
Social Support (Campus Focused-Social Provisions Scale)	178	5.73 (.80)	26	5.71 (.67)	.12	202	.905	.03
Reliable Alliance	179	5.96 (.92)	26	6.13 (.72)	-.89	203	.375	-.19
Attachment	179	5.64 (1.05)	26	5.54 (.93)	.46	203	.650	.19
Guidance	179	5.98 (.95)	26	6.12 (.75)	-.71	203	.480	-.15
Opportunity for Nurturance	179	5.06 (1.05)	26	4.72 (1.12)	1.52	203	.130	.32
Social Integration	179	6.02 (.83)	26	6.00 (.74)	.11	203	.909	.02
Reassurance of Worth	178	5.71 (.85)	26	5.76 (.80)	-.31	202	.760	-.06

Posttest social support scores for the treatment and comparison groups were compared using independent t-tests (the control group received no treatment and thus did not complete a posttest). At posttest, an independent t-test showed no significant difference in the scores of overall social support or any of the six social provisions between the treatment and comparison groups (Table 21). Both groups received an orientation program aimed at providing social support for students' transition to college. Results of these analyses do not support the hypothesis that ORION participants will demonstrate stronger feelings of social support than the comparison and control groups.

Table 22. Planned contrast of follow-up social support scores for treatment and comparison groups

Scale	Treatment		Comparison		t	df	p	d
	N	M (SD)	N	M (SD)				
Social Support (Campus Focused-Social Provisions Scale)	186	5.68 (.94)	25	5.78 (.76)	-.53	209	.596	-.11
Reliable Alliance	188	5.97 (1.03)	25	6.11 (.79)	-.66	211	.510	-.14
Attachment	188	5.55 (1.20)	25	5.63 (1.13)	-.30	211	.763	-.06
Guidance	188	5.91 (1.05)	25	6.12 (.81)	-.94	211	.346	-.20
Opportunity for Nurturance	187	5.01 (1.27)	25	4.93 (1.33)	.28	210	.788	.06
Social Integration	188	5.98 (.92)	25	6.06 (.75)	-.42	211	.679	-.09
Reassurance of Worth	188	5.63 (.96)	25	5.83 (.82)	-.98	211	.328	-.21

Social support scores for treatment and comparison groups were also compared in the follow-up survey. As was the case with the posttest analyses, independent t-tests revealed no significant difference in social support scores between the treatment and comparison groups (Table 22). Results of these analyses do not support the hypothesis that ORION participants will report stronger feelings of social support than students in the comparison and control groups.

Table 23. Planned contrast of follow-up social support scores for treatment and control groups

Scale	Treatment		Control		t	df	p	d
	N	M (SD)	N	M (SD)				
Social Support (Campus Focused-Social Provisions Scale)	186	5.68 (.94)	12	5.07 (1.27)	2.14	196	.033	.64
Reliable Alliance	188	5.97 (1.03)	12	5.63 (.99)	1.12	198	.266	.33
Attachment	188	5.55 (1.20)	12	4.83 (1.54)	1.97	198	.050	.59
Guidance	188	5.91 (1.05)	12	5.21 (1.37)	2.21	198	.028	.66
Opportunity for Nurturance	187	5.01 (1.27)	12	4.60 (1.25)	1.07	197	.287	.32
Social Integration	188	5.98 (.92)	12	5.29 (1.41)	2.42	198	.017	.72
Reassurance of Worth	188	5.63 (.96)	12	4.83 (1.32)	2.73	198	.007	.81

A planned contrast of social support scores between the treatment and control groups was conducted in the follow-up survey using independent t-tests. Results of the analyses revealed significantly different scores in four of the six social provisions as well as overall social support score (Table 23). The treatment group reported significantly higher feelings of overall social support ($t = 2.14, p < .033$), as well as four of the six social provisions (attachment, guidance, social integration and reassurance of worth). Measurements of the reliable alliance and opportunity for nurturance social provisions were not significantly different between the two groups. Based purely on the significance values of these independent t-tests, the analyses support at least of a portion of the hypothesis, that the ORION participants will report stronger feelings of social support than the control group. However, additional explanation related to potential type one error and effect sizes should be considered when interpreting the results of these analyses.

One concern of this study's series of analysis concerns problems that arise when conducting multiple comparisons simultaneously. The chance of finding significance rises with each additional t-test, simply for the fact that the more tests are run, the greater the odds are of finding a significant p-value by chance. One solution to this problem is to apply a Bonferroni correction. A Bonferroni correction divides the level of significance by the number of tests conducted (Dunn, 1961). In this instance, the original assumed level of significance is $p < .05$ and there are 7 tests being conducted. Therefore, the new level of significance is $p < .007$. Using this correction, only one provision (reassurance of worth) would be significant in the

planned contrasts analyses of the treatment and control groups. It should be noted, however, that the large difference in sample sizes affects the p-value of the group comparisons and that the Bonferroni correction itself has been criticized as being too conservative a test (Perneger, 1998). The Bonferroni correction is also criticized for only preventing a type one error. These factors may lead one to believe that the chance of a type two error is as much a concern as the chance of finding a type one error, and possibly more likely due to the disparity in sample sizes of the treatment and control groups.

The concerns related to the multiple comparisons problem, criticisms of the Bonferroni correction and the disparity of group sample sizes could be addressed by considering effect sizes of these analyses. A Cohen's *d* test of effect size indicates practical significance by controlling for the disparity in group size. Results of these analyses indicate that the five variables that were found to be statistically significant at the $p < .05$ level all demonstrate a large effect size (Cohen, 1988). Large effect sizes ($d > .5$) were found for the attachment, guidance, social integration and reassurance of worth provisions, as well as the overall social support scale (Table 23). The effect sizes of these planned contrasts add evidence to support the hypothesis that ORION participants will indicate stronger feelings of social support than students in a control group who receive no university orientation program.

Identity Development

This study examined the relationship between participation in a university orientation program and identity development. Planned contrasts were made using measurements of identity development before and after participation in the ORION program, as well as at a follow-up survey after the students had been enrolled in the fall semester for approximately six weeks. Planned contrasts of identity development measures were also made between treatment, comparison and control groups with the posttest and follow-up test surveys.

Reliability Analyses

Identity development was evaluated using two measurements. The first measurement of identity development was the Erikson Psychosocial Stage Inventory, which employs Erikson's assessment of identity development from adolescence into young adulthood (Rosenthal, Gurney, & Moore, 1981). The second measurement was the Identity Styles Inventory, which seeks to measure an individual's strategy in dealing with life events. Individuals may deal with life events by gathering information and making decisions (Informational Style) or avoiding and neglecting to resolve issues (Diffuse / Avoidant Style). Positive identity development is characterized by increasing Informational Style scores and decreasing Diffuse / Avoidant Style scores (Berzonsky, 1990). Analyses were conducted to establish the reliability of the three scales used in these identity development measures. Cronbach's alpha scores for the three scales ranged from .67 to .80, displaying fair to good reliability across all

three survey time points (Table 24).

Table 24. Reliability analysis of scale variables

Scale	Cronbach's Alpha		
	Pretest N = 239	Posttest N = 205	Follow-up N = 225
Erikson Psychosocial Stage Inventory	.76	.80	.79
ISI Informational Identity Style	.67	.78	.78
ISI Diffuse / Avoidant Identity Style	.69	.75	.75

Pretest and follow-up measures include treatment, comparison and control groups
 Posttest measures include treatment and comparison groups

ORION Wilderness Experience and Identity Development

H3a: ORION participants will indicate higher levels of identity development at the two post-program survey points, using the Erikson Psychological Stage Inventory (EPSI) and the Identity Styles Inventory (ISI) as a measurement (Rosenthal et al., 1981), as compared to the participants' program pre-test score.

A series of paired t-tests were conducted to compare participants' pretest, posttest and follow-up test identity development. Participants were surveyed immediately before (pretest) and after (posttest) participation in the ORION program, as well as at a follow-up survey point, which occurred approximately six weeks into the fall semester.

The first set of analyses compared pretest and posttest measures of the treatment group (ORION participants). ORION participants reported a significant increase in identity development, according to the Erikson Psychosocial Stage Inventory ($t = 7.53, p < .001$). Participants also demonstrated a significant increase in identity development according to the Informational Identity Style (ISI), but no

significant change in Diffuse / Avoidant Identity Style (ISI) (Table 25). The pretest mean for Diffuse / Avoidant Identity Style was a lower score than other measures (m = 2.96, as compared to a 5.39 score on Informational Identity Style), which may have resulted in a less likely chance of the score decreasing further. This finding partially supports the hypothesis that ORION participants have experienced positive identity development after having experienced the program.

Table 25. Paired t-test analyses of Identity score change from pretest to posttest

Scale	Mean Change	t	p
Identity Development (Erikson Psychosocial Stage Inventory)	.282	7.53	< .001
Informational Identity Style (Identity Style Inventory)	.226	4.89	< .001
Diffuse / Avoidant Identity Style (Identity Style Inventory)*	-.080	1.60	.111

* Scale measures a “negative” way of negotiating life events. Decreases in scores would be a positive effect of the program.

The second set of analyses compared posttest and follow-up measures of identity development (EPSI and ISI) for ORION participants. No significant change in this measurement, assuming that the pretest-posttest comparison was significant, would suggest a sustaining treatment effect on identity development and thus support the hypotheses. Results indicate no significant change in EPSI and ISI scores from posttest to follow-up test (Table 26). These results support the hypotheses, in that they do not demonstrate a significant diminishing of the program effect from posttest to follow-up test.

Table 26. Paired t-test analyses of Identity score change from posttest to follow-up test

Scale	Mean Change	t	p
Identity Development (Erikson Psychosocial Stage Inventory)	.023	.435	.664
Informational Identity Style (Identity Style Inventory)	.033	.66	.516
Diffuse / Avoidant Identity Style (Identity Style Inventory)*	-.125	1.83	.070

The third set of analyses compared the pretest and follow-up measurements of identity development (EPSI and ISI) of the treatment group (ORION program participants) using paired t-tests (Table 27). Results of the analyses indicate a significant increase in identity development, as measured by the Erikson Psychosocial Stage Inventory ($t=4.56$, $p < .001$). As was the case with the first set of analyses concerning the comparison of pretest and posttest, these analyses also indicate a significant increase in Informational Identity Style, as measured by the Identity Styles Inventory ($t=3.58$, $p < .001$), but no significant change in Diffuse / Avoidant Identity Style. Again, the pretest measurement of Diffuse / Avoidant Identity Style was particularly low (2.96 on a 7-point Likert-type scale), which left less chance that the score would significantly decrease. These results partially support the hypothesis that ORION participants' would experience positive identity development after having experienced the program.

Table 27. Paired t-test analyses of Identity score change from pretest to follow-up test

Scale	Mean Change	t	p
Identity Development (Erikson Psychosocial Stage Inventory)	.276	4.56	< .001
Informational Identity Style (Identity Style Inventory)	.194	3.58	< .001
Diffuse / Avoidant Identity Style (Identity Style Inventory)*	.021	.32	.752

Planned contrasts of Identity Development

H3b: ORION participants will indicate higher levels of identity development, as measured by the Erikson Psychosocial Stage Inventory (EPSI) and the Identity Styles Inventory (ISI), than students participating in a non-outdoor university orientation program (the comparison group participates in Urban Service Experience, a freshman orientation program featuring community service and cultural learning in Philadelphia, PA) and students receiving no orientation at posttest and follow-up test.

Three groups of survey respondents were compared in order to examine the research question concerning identity development. A treatment group was comprised of participants in the ORION Wilderness Experience program, an outdoor orientation program at Penn State University. A comparison group was drawn from Urban Service Experience, a service-based orientation program. A control group comprised of students from two sections of a Penn State University class was also surveyed.

An analysis of variance was conducted to identify any baseline differences in pretest identity development scores for the three groups. Baseline differences were found in two of the three variables (Table 28). The control group was significantly different from the treatment and control groups in both Informational Identity Style ($F = 11.62, p < .001$) and Diffuse / Avoidant Identity Style ($F = 4.77, p < .01$). This difference may be due to a significantly smaller sample size (Table 2), a factor that places limitations on comparing the groups in itself.

Table 28. Analysis of Variance for baseline identity characteristics of treatment, comparison and control groups

Scale	Treatment	Comparison	Control	F	p
Identity Development (Erikson Psychosocial Stage Inventory)	4.95	5.18	5.16	1.74	.178
Informational Identity Style (Identity Style Inventory)	5.39 ^a	5.31 ^a	4.78 ^b	11.62	< .001
Diffuse / Avoidant Identity Style (Identity Style Inventory)	2.95 ^a	2.88 ^a	3.41 ^b	4.77	.009

Means with different superscripts are significantly different based on Scheffe's test.

A series of independent t-tests were performed to examine differences in identity development scores between the treatment and comparison groups. Results of these analyses indicated no significant differences between the treatment and comparison groups concerning identity development (EPSI and ISI), at either the posttest or follow-up test survey points (Tables 29 and 30).

Table 29. Planned contrast of posttest identity scores for treatment and comparison groups

Scale	Treatment		Comparison		t	df	p	d
	N	M (SD)	N	M (SD)				
Identity Development (Erikson Psychosocial Stage Inventory)	182	5.23 (.86)	26	5.34 (.63)	-.79	40	.434	-.17
Informational Identity Style (Identity Style Inventory)	182	5.60 (.73)	26	5.49 (.47)	1.04	45	.306	.22
Diffuse / Avoidant Identity Style (Identity Style Inventory)	179	2.88 (.88)	26	2.69 (.62)	1.05	203	.294	.22

Table 30. Planned contrast of follow-up identity scores for treatment and comparison groups

Scale	Treatment		Comparison		t	df	p	d
	N	M (SD)	N	M (SD)				
Identity Development (Erikson Psychosocial Stage Inventory)	188	5.18 (.92)	25	5.38 (.74)	-1.05	211	.297	-.22
Informational Identity Style (Identity Style Inventory)	189	5.55 (.78)	25	5.53 (.66)	.12	212	.902	.03
Diffuse / Avoidant Identity Style (Identity Style Inventory)	188	2.97 (.93)	25	2.67 (.66)	1.56	211	.119	.33

Results of the independent t-tests comparing identity development (EPSI and ISI) between the treatment and comparison groups do not support the hypothesis that the treatment group would demonstrate higher EPSI and Information Identity Style (ISI) scores and lower Diffuse / Avoidant Identity Style (ISI) scores than the comparison group.

A series of independent t-tests were conducted to compare the identity development (EPSI and ISI) of the treatment and control groups. Results of these analyses indicated no significant differences in any of the three variables measured (Table 31). Results of the independent t-tests comparing identity development (EPSI and ISI) between the treatment and control groups do not support the hypothesis that the treatment group would demonstrate higher EPSI and Information Identity Style (ISI) scores and lower Diffuse / Avoidant Identity Style (ISI) scores than the control group.

Table 31. Planned contrast of follow-up identity scores for treatment and control groups

Scale	Treatment		Control		t	df	p	d
	N	M (SD)	N	M (SD)				
Identity Development (Erikson Psychosocial Stage Inventory)	188	5.18 (.92)	12	5.24 (.68)	-.21	198	.835	-.06
Informational Identity Style (Identity Style Inventory)	189	5.55 (.78)	12	5.19 (.65)	1.54	199	.125	.46
Diffuse / Avoidant Identity Style (Identity Style Inventory)	188	2.97 (.93)	12	3.05 (.92)	-.28	198	.779	-.08

Summary

The results of this study indicate that the ORION program has significant effects on participants' outdoor recreation behavior and intentions. The ORION Wilderness Experience program introduces a significant proportion of program participants to new outdoor activities. Those participants also demonstrate an intent to increase their level of involvement in outdoor recreation activities, including activities they have and have not participated in prior to the program experience. Despite the many possible constraints that would exist in the students' current situation (adjusting to a new residential situation, a college schedule and the pressures associated with starting college classes, among others), many students are already participating in activities like camping, backpacking and paddling, which require a considerable investment of time and resources. The ORION program also serves to introduce program participants to other students who enjoy outdoor recreation activities featured in the program. Students who participate in ORION continue to participate in outdoor activities with those other participants and leaders they met during their ORION experience. Finally, the ORION program introduces many students to backpacking for the first time and this activity becomes a newly important or more important part of many participants' lives.

An examination of the ORION program's effects on participants' feelings of social support indicates that the program has a significant positive effect on students' feelings of social support during their first semester of college. ORION participants indicate strongly significant increases in feelings of social support following their

program experience, and this effect remains through at least the first six weeks of their first semester of college.

Planned contrasts of social support with a comparison group and control group were somewhat inconclusive. Participants in the Urban Service Experience program, which served as the study comparison group, also experienced significant increases in social support after their program experience. Participants in the control group, which received no orientation program, indicated weaker feelings of social support than the treatment group, but significant differences in sample size weaken the strength of these findings.

ORION participants also showed improvements in identity development and informational identity style, a problem-solving strategy associated with positive identity development. Planned contrasts of these variables with other groups were largely inconclusive due to baseline differences and significantly different sample sizes, but the program showed positive effects for ORION participants. Further explanation of the implications, limitations, and future research directions associated with these results will be discussed in the next chapter.

CHAPTER FIVE DISCUSSION

Introduction

The purpose of this study is to examine the effects of an outdoor orientation program on the college students who experienced the program during the summer prior to their first semester at Penn State University. Outdoor orientation programs, like Penn State University's ORION Wilderness Experience program, offer a unique set of circumstances that may inform the existing literature concerning recreation socialization. These programs also offer a way to bolster the social support system that students utilize during the transition from high school to college, which can be a crucial time in many individuals' lives. I will discuss the value of university outdoor orientation programs by discussing the program's effects on these feelings of social support, as well as the effects of participation in outdoor recreation programs on identity development, as has been explored previously with promising results. Finally, I will discuss the effectiveness of this study's methods and results, including study limitations and suggestions for future research.

Recreation Socialization

With this study, I have examined various aspects of recreation socialization as related to participation in a university outdoor orientation program. The results of this study have found that the ORION Wilderness Experience program serves as a source of introduction to outdoor recreation in some way for the vast majority of the

program's participants. Of those who participated in the program, 14 percent had never participated in any of the activities offered in the program and 81 percent had not participated in at least one of the five activities offered in the ORION program. Depending on a participant's experience history with outdoor recreation activities, the program may serve as an introduction to the outdoors in general, or as an introduction to more specialized recreation activities, i.e., to introduce an experienced hiker to backpacking or introduce an individual with rock climbing experience to a high ropes challenge course. Introduction is the first and simplest form of recreation socialization and results of this study indicate that the ORION program serves to introduce individuals to outdoor recreation at a point in their lives that is ideal for just that.

I've also examined the effects of the ORION Wilderness Experience program on participants' behavioral intentions and participation in outdoor recreation. In general, ORION participants' level of involvement in outdoor recreation increases after having experienced the program. Results of this study showed that the participants intended to increase their level of involvement in every activity at posttest and increase their level of involvement in every activity listed except hunting, fishing and recreating on a high ropes course at follow-up survey. At both posttest and follow-up survey, participants intended to increase their level of involvement in outdoor recreation in general.

Immediately following the program, participants indicated that these activities had become significantly more important parts of their lives. That effect faded after

several weeks at the time of the follow-up survey. The diminishing effect is not altogether shocking, and highlights the turbulent nature of this life stage, especially at the transition into college. The effect did remain for the primary program activity, backpacking. This demonstrates the intensity of the program and its unique ability to socialize individuals into an activity in a short time. The vast majority of the group was first introduced to backpacking with the ORION program (69%). We also see significant increases in level of involvement in backpacking within the group, as well as a propensity to continue to participate in backpacking with other ORION friends and leaders in the future.

An important theme in recreation socialization literature is the role of the social group in recreation participation. I've examined the effects of the ORION program in order to determine whether or not the program serves to create a social circle within which an individual can continue to participate in outdoor recreation activities. As we transition out of childhood, the primary source of socialization into and in outdoor recreation activities tends to change from parents and relatives to peers and friends (Yoesting & Burkhead, 1974). ORION participants are not only introduced to activities, but social circles as well. Participants continue to participate in outdoor activities with other ORION students and leaders after the conclusion of the program. When asked at posttest and follow-up, ORION participants indicated that they had participated and intended to continue participating with ORION friends, rather than other friends and family, in every activity listed. We know from the literature that outdoor recreation experiences are driven by social circles (Burch, 1969). ORION

provides this circle for those who experience the program.

Social Support

The primary goal of an outdoor orientation program is to provide social bonds that will ease a student's transition in college life. The transition into college is a time of great instability and change. It can be a difficult time for many emerging adults, especially if the turmoil is accompanied with a loss of social support as students leave their existing social circles as they leave home and move to campus. My study has examined the ability of the ORION program to fulfill the program objective and provide a social network for the students who experience the program.

Using the Campus-Focused Social Provisions Scale, an instrument that has been developed and successfully utilized in previous studies of outdoor orientation programs, I measured ORION participants' feelings of social support. ORION participants feel a stronger sense of social support after having completed the program. Not only did ORION students' feelings of overall social support increase, but their feelings of all six provisions that make up the CF-SPS also significantly increased. Six weeks into the students' first semester at Penn State University, this effect remains and students still feel significantly more supported than they did before their ORION experience.

When compared with other groups at posttest and follow-up, ORION participants' feelings of social support were not significantly higher than a comparison group of students who completed a service-based orientation program. It should be

noted that the service-based program has the same objectives, and is provided by the same center at Penn State University. ORION participants did, however, feel more supported than students who had not participated in a university orientation program, according to a social support measurement taken at the follow-up survey. The planned contrasts results do not negate the significant positive increases in social support that ORION participants experience, but do bring into question the utility of the outdoor components of the program.

Identity Development

In line with most outdoor programs, the ORION Wilderness Experience offers participants unique challenges that allow them to grow and develop through exploration, competence-building and attainment of group goals. Previous research has demonstrated that even programs of short duration can have an effect on identity development because of the intensity of the experience (Duerden, Widmer, Taniguchi, & McCoy, 2009). I measured program effects on identity development using the same measurements that were successfully used in the aforementioned 2009 study. My findings suggest that ORION participants experience an increase in sense of identity and the ability to deal with life events using an informational identity style (which focuses on gathering pertinent information and weighing options). This effect showed no significant diminishment at the follow-up survey, taken 6 to 10 weeks after the conclusion of the program. Participants did not demonstrate a significant change in diffuse / avoidant identity style (a negative way of dealing with

life events in which an individual avoids dealing with a problem instead of resolving the situation). This group of students, however, scored particularly low on the pretest evaluation of diffuse / avoidant identity style, which may have made it less likely that their score could significantly decrease at posttest or follow-up. No significant differences in identity development scores were found when the ORION group was compared with the comparison and control groups. This result is also questionable, because of significant differences at pretest baseline between the ORION group and the control group.

Implications

The findings of this study provide an addition to existing evidence and literature concerning outdoor orientation programs, outdoor recreation socialization, emerging adulthood and leisure across the lifespan. I will now discuss the implications of these findings.

The Value of University Outdoor Orientation Programs

Outdoor orientation programs began appearing on college campuses in the 1960s. Since then, programs like ORION have been developed at over 160 universities across the United States. Previous research on these programs has found promising results in the ability of these programs to provide social support for students, which can translate into a smoother transition to college and better academic performance. Michael Gass, one of the leading researchers of outdoor

orientation programs, has listed six areas of student development that are supported by outdoor orientation programs: developing meaningful peer relationships, positive student and faculty interaction, career development, interest in academics, adequate preparation for college and compatibility with student expectations (1999). This paper adds to that list by demonstrating the effect of outdoor orientation programs on students' leisure behavior. This study has shown that outdoor orientation programs introduce students to healthy, engaging activities that become important parts of their lives and connect them with social circles built around a common interest in outdoor recreation. Finding a peer group whose goals and motivations are centered around outdoor activities can be a better alternative to social circles centered around the deviant behaviors that are often associated with college life or the sedentary activities with which so many Americans fill their leisure time. Findings of this study also provide evidence in support of the idea that outdoor programs like ORION can serve to help individuals develop a healthier sense of self and strategies for addressing life events through learning skills, developing competence, overcoming challenges and attaining goals.

Theoretical Implications

The findings of this study serve to further the body of literature in the fields of leisure research and social psychology by applying the concept of emerging adulthood to recreation socialization and the leisure lifespan. This study used the writings of scientists like John Kelly and Douglas Kleiber, who view leisure and

recreation behavior as a lifelong process of both change and continuity that mirrors life events, as a theoretical foundation. This study provides additional knowledge to that line of thinking by adding a more recent concept, emerging adulthood, to the way that we examine leisure and the lifespan. Many of the previous studies of recreation socialization allude to life transitions at this age that act as mediators that lead to a lack of consistency in outdoor recreation behavior between adolescence and adulthood, but without examining the emerging adulthood life stage directly (Bixler & Morris, 1998; Sofranko & Nolan, 1972). The circumstances of emerging adulthood, such as sensation-seeking, a desire for novelty, freedom of exploration and freedom from responsibilities, add to the understanding of how our leisure behavior changes from adolescence to adulthood (Arnett, 2000; Zinn & Graefe, 2004). In the future, additional attention may be paid to this stage in life, given the fact that the early twenties are the point in which individuals' choices to begin new leisure activities begin to trend negatively rather than positively and that individuals leisure behavior becomes more and more consistent with age (Iso-Ahola, Jackson, & Dunn, 1994). Emerging adulthood is a crucial time where individuals will do the majority of their leisure exploration before making choices that will remain consistent and likely influence the way that their children recreate during their formative years.

Limitations

This study was subject to few, but significant limitations. The first limitation associated with this study was a limitation on the ability to generalize results to a

greater population. Because this study focuses on a unique type of program that only serves university students, it should only be generalized as such. The participants in this study are all students at Penn State University. The majority of them are white Americans who have the means to attend a relatively expensive university. As such, the findings of this study should only be used in comparing like individuals. These limitations also exist on the emerging adults, which allow for generalizations to most emerging adults and the contexts to which the emerging adult concept is applied.

This study is also limited by significant differences in group size. Due to the size of the program used to supply the comparison group and poor response rate with members of the control group, the treatment group was significantly larger than the two groups to which it was compared. This limits the strength of the findings related to the two research questions concerning planned contrasts of social support and identity development. Those results were further weakened by significant differences in pretest baseline scores of social support and identity development.

In addition, this study was limited by the data collection timeline. A follow-up measure was taken during the first semester following the students' participation in either the ORION Wilderness Experience program or the Urban Service Experience program. This measurement was taken at the ORION and USE course wrap-up session, which occurred between 6 and 10 weeks following a student's participation in the program, depending on in which ORION or USE session that student had participated. This time point was chosen because the captive audience provided by the wrap-up session could not be duplicated otherwise (for both the treatment and

comparison group). As was hoped, this resulted in a great response rate for the treatment and comparison groups. It did, however, place limitations on the study's findings because the follow-up survey was both: a measurement that was fairly soon after the posttest measurement, and a survey timeline that varied from one student to the next.

Suggestions for Future Research

The findings of this study lead me to ask further research questions in an effort to build on previous literature and what I have discovered in this study. The first and most obvious suggestion I have is to continue the line of questioning in this study in a longitudinal examination of outdoor orientation program participants. Program effects often diminish over time. This study's follow-up survey was meant to account for that fact to some extent. Results from the follow-up survey were mixed, with many effects maintaining their significance but others demonstrating a diminishing effect. A longitudinal approach that could track students throughout their college career could shed more light on the possible effects of the ORION program on students' outdoor recreation behavior, feelings of social support and identity development. Students' outdoor recreation behavior could be further measured, particularly measurements of students' actual reported participation (rather than simply relying on students' intentions to participate). In addition, students' tendency to participate in and gain leadership roles in outdoor programs like ORION and student organizations (such as the Penn State Outing Club) could be measured as another way of assessing

students' socialization into outdoor recreation.

Additional measures, spread over many years, could also more accurately measure the effects of the program on students' feelings of social support and indications of identity development. It is not unreasonable to assume that an outdoor orientation program serves to provide a social network of support during a students' first semester of college. A more impressive finding would be one that demonstrates an effect that persists throughout the student's college career. The same is true, and possibly more so, of measures of identity development. Given the more complex nature of identity development measures, long-term evaluations may be even more valuable with this construct.

Finally, a mixed methods approach may also add to the body of evidence concerning outdoor orientation programs. A qualitative approach that purposefully targets former ORION participants who have gone on to work as ORION leaders or student officers in organizations like the Penn State Outing Club could provide rich data pertaining to the factors that led those individuals to a deep level of involvement in outdoor recreation.

Conclusions

This study provides support for the value of outdoor orientation programs as a way for universities to assist their students in transitioning to college by providing a means for them to find social support, discover healthy and engaging activities and develop as individuals through challenge and learning. The findings also provide a

contribution to the existing literature by adding the concept of emerging adulthood as a lens through which to view the lifelong leisure process. The findings herein may serve to provide evidence for universities considering the implementation of a university outdoor orientation program. Future directions for research in leisure, social aspects of outdoor recreation and university programs have been proposed that may continue to add to the body of literature.

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APPENDIX A: Survey Instrument

ORION (Treatment Group) Pretest

How many times have you participated in the following activities?

(Please indicate the *number of times* you have participated within the given time period)

1. Hiking
_____ in the past week; _____ in the past 4 weeks; _____ in the past year; _____ in your lifetime
2. Camping
_____ in the past week; _____ in the past 4 weeks; _____ in the past year; _____ in your lifetime
3. Backpacking
_____ in the past week; _____ in the past 4 weeks; _____ in the past year; _____ in your lifetime
4. Canoeing, Kayaking or Rafting
_____ in the past week; _____ in the past 4 weeks; _____ in the past year; _____ in your lifetime
5. High Ropes Challenge Courses
_____ in the past week; _____ in the past 4 weeks; _____ in the past year; _____ in your lifetime
6. Rock Climbing
_____ in the past week; _____ in the past 4 weeks; _____ in the past year; _____ in your lifetime
7. Mountain Biking
_____ in the past week; _____ in the past 4 weeks; _____ in the past year; _____ in your lifetime
8. Hunting or Fishing
_____ in the past week; _____ in the past 4 weeks; _____ in the past year; _____ in your lifetime
9. Other Outdoor Recreation Activities
_____ in the past week; _____ in the past 4 weeks; _____ in the past year; _____ in your lifetime

What are those other outdoor activities? _____

With whom have you participated in the following activities?

- a. family
- b. friends
- c. family and friends
- d. alone
- e. have not participated in this activity

1. Hiking _____
2. Camping _____
3. Backpacking _____
4. Canoeing, Kayaking or Rafting _____
5. High Ropes Challenge Courses _____
6. Rock Climbing _____
7. Mountain Biking _____
8. Hunting or Fishing _____
9. Other Outdoor Activities _____

What are those other outdoor activities? _____

With whom were you introduced to the following activities?

- a. family
- b. friends
- c. family and friends
- d. alone
- e. have no participated in this activity

- 1. Hiking _____
- 2. Camping _____
- 3. Backpacking _____
- 4. Canoeing, Kayaking or Rafting _____
- 5. High Ropes Challenge Courses _____
- 6. Rock Climbing _____
- 7. Mountain Biking _____
- 8. Hunting or Fishing _____
- 9. Other outdoor activities: _____

What are those other outdoor activities? _____

Using a score of 1 to 5, express how important the following activities are in your life.

- 1. I never participate in this activity;
- 2. Not important at all;
- 3. Somewhat important;
- 4. Very important;
- 5. Extremely important

- 1. Hiking _____
- 2. Camping _____
- 3. Backpacking _____
- 4. Canoeing, Kayaking or Rafting _____
- 5. High Ropes Challenge Courses _____
- 6. Rock Climbing _____
- 7. Mountain Biking _____
- 8. Hunting or Fishing _____
- 9. Other outdoor activities: _____

What are those other outdoor activities? _____

Outdoor Orientation Programs and Identity

You will find a number of statements about beliefs, attitudes, and/or ways of dealing with issues.

Read each carefully, then use it to describe yourself.

For instance, if you strongly agree with a statement, mark a 6, if it you strongly disagree with a statement, mark a 2. There are no right or wrong answers.

Absolutely/ Always Disagree	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Absolutely/ Always Agree
1	2	3	4	5	6	7

1. I've spent a great deal of time thinking seriously about what I should do with my life. _____
2. When I discuss an issue with someone, I try to assume their point of view and see the problem from their perspective. _____
3. I've spent a lot of time and talked to a lot of people trying to develop a set of values that make sense to me. _____
4. When I have a personal problem, I try to analyze the situation in order to understand it. _____
5. I find that personal problems often turn out to be interesting challenges. _____
6. I like to have the responsibility for handling problems in my life that require me to think on my own. _____
7. I'm not really sure what I'm doing in school; I guess things will work themselves out. _____
8. It doesn't pay to worry about values in advance; I decide things as they happen. _____
9. I'm not really thinking about my future now; it's still a long way off. _____
10. It's best for me not to take life too seriously; I just try to enjoy it. _____
11. I try to avoid personal situations that will require me to think a lot and deal with them on my own. _____
12. I change my opinion of myself a lot. _____
13. The important things in life are clear to me. _____
14. I've got it together. _____
15. I know what kind of person I am. _____
16. I can't decide what I want to do with my life. _____
17. I like myself and am proud of what I stand for. _____
18. I find I have to keep up a front when I'm with people. _____

Outdoor Orientation Programs and Social Support

In answering the following questions, think about your relationships **with people on campus**. These questions are not a measure of your relationships with non-campus friends and family, but specifically geared towards your college experience. Please indicate the extent to which each statement describes your current relationship with people you interact with or developed relationships with on-campus (on campus includes peers, professors and staff members).

Absolutely/ Always Disagree	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Absolutely/ Always Agree
1	2	3	4	5	6	7

1. There are people on campus I can depend on to help me if I really need it. _____
2. I feel that I do not have close personal relationships with other people on campus. _____
3. There is no one on campus I can turn to for guidance in times of stress. _____
4. There are people on campus who depend on me for help. _____
5. There are people on campus who enjoy the same social activities I do. _____
6. Other people on campus do not view me as competent. _____
7. I feel personally responsible for the well-being of another person on campus. _____
8. I feel part of a group of people on campus who share my attitudes and beliefs. _____
9. I do not think other people on campus respect my skills and abilities. _____
10. If something went wrong, no one on campus would come to my assistance. _____
11. I have close relationships on campus that provide me with a sense of emotional security and well-being. _____
12. There is someone on campus I could talk to about important decisions in my life. _____
13. I have relationships on campus where my competence and skill are recognized. _____
14. There is no one on campus who shares my interests and concerns. _____
15. There is no one on campus who really relies on me for their well-being. _____
16. There is a trustworthy person on campus I could turn to for advice if I were having problems. _____
17. I feel a strong emotional bond with at least one other person on campus. _____
18. There is no one on campus I can depend on for aid if I really need it. _____
19. There is no one I feel comfortable talking about problems with on campus. _____
20. There are people on campus who admire my talents and abilities. _____
21. I lack a feeling of intimacy with another person on campus. _____
22. There is no one on campus who likes to do the things I do. _____
23. There are people on campus who I can count on in an emergency. _____
24. No one on campus needs me to care for them. _____

The last questions are about you personally and will be used only to categorize responses for different groups of participants. Your answers are confidential.

What is your home ZIP code? _____

This question is only used to categorize participants by rural, suburban and urban backgrounds.

What is your gender? Male Female

ORION (Treatment Group) Posttest

How often do you expect to participate in the following activities during this school year?

1. Hiking
____ Not at all; ____ 1 – 2 times per semester; ____ 1 – 2 times per month;
____ 1 time per week; ____ More than 1 time per week
2. Camping
____ Not at all; ____ 1 – 2 times per semester; ____ 1 – 2 times per month;
____ 1 time per week; ____ More than 1 time per week
3. Backpacking
____ Not at all; ____ 1 – 2 times per semester; ____ 1 – 2 times per month;
____ 1 time per week; ____ More than 1 time per week
4. Canoeing, Kayaking or Rafting
____ Not at all; ____ 1 – 2 times per semester; ____ 1 – 2 times per month;
____ 1 time per week; ____ More than 1 time per week
5. High Ropes Challenge Courses
____ Not at all; ____ 1 – 2 times per semester; ____ 1 – 2 times per month;
____ 1 time per week; ____ More than 1 time per week
6. Rock Climbing
____ Not at all; ____ 1 – 2 times per semester; ____ 1 – 2 times per month;
____ 1 time per week; ____ More than 1 time per week
7. Mountain Biking
____ Not at all; ____ 1 – 2 times per semester; ____ 1 – 2 times per month;
____ 1 time per week; ____ More than 1 time per week
8. Hunting or Fishing
____ Not at all; ____ 1 – 2 times per semester; ____ 1 – 2 times per month;
____ 1 time per week; ____ More than 1 time per week
9. Other Outdoor Recreation Activities
____ Not at all; ____ 1 – 2 times per semester; ____ 1 – 2 times per month;
____ 1 time per week; ____ More than 1 time per week

What are those other outdoor activities? _____

During this school year, with whom will you do the following activities?

a. family and/or friends ; b. ORION leaders / participants; c. alone; d. will not participate

- 1. Hiking _____
- 2. Camping _____
- 3. Backpacking _____
- 4. Canoeing, Kayaking or Rafting _____
- 5. High Ropes Challenge Courses _____
- 6. Rock Climbing _____
- 7. Mountain Biking _____
- 8. Hunting or Fishing _____
- 9. Other Outdoor Activities _____

What are those other outdoor activities? _____

With whom were you introduced to the following activities?

a. family; b. friends ; c. family and friends ; d. ORION leaders / participants; e. alone

- 1. Hiking _____
- 2. Camping _____
- 3. Backpacking _____
- 4. Canoeing, Kayaking or Rafting _____
- 5. High Ropes Challenge Courses _____
- 6. Rock Climbing _____
- 7. Mountain Biking _____
- 8. Hunting or Fishing _____
- 9. Other outdoor activities: _____

What are those other outdoor activities? _____

Using a score of 1 to 5, express how important the following activities are in your life.

- 1. I never participate in this activity;
- 2. Not important at all;
- 3. Somewhat important;
- 4. Very important;
- 5. Extremely important

- 1. Hiking _____
- 2. Camping _____
- 3. Backpacking _____
- 4. Canoeing, Kayaking or Rafting _____
- 5. High Ropes Challenge Courses _____
- 6. Rock Climbing _____
- 7. Mountain Biking _____
- 8. Hunting or Fishing _____
- 9. Other Outdoor Activities _____

What are those other outdoor activities? _____

Outdoor Orientation Programs and Identity

You will find a number of statements about beliefs, attitudes, and/or ways of dealing with issues.

Read each carefully, then use it to describe yourself.

For instance, if you strongly agree with a statement, mark a 6, if it you strongly disagree with a statement, mark a 2. There are no right or wrong answers.

Absolutely/ Always Disagree	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Absolutely/ Always Agree
1	2	3	4	5	6	7

1. I've spent a great deal of time thinking seriously about what I should do with my life. _____
2. When I discuss an issue with someone, I try to assume their point of view and see the problem from their perspective. _____
3. I've spent a lot of time and talked to a lot of people trying to develop a set of values that make sense to me. _____
4. When I have a personal problem, I try to analyze the situation in order to understand it. _____
5. I find that personal problems often turn out to be interesting challenges. _____
6. I like to have the responsibility for handling problems in my life that require me to think on my own. _____
7. I'm not really sure what I'm doing in school; I guess things will work themselves out. _____
8. It doesn't pay to worry about values in advance; I decide things as they happen. _____
9. I'm not really thinking about my future now; it's still a long way off. _____
10. It's best for me not to take life too seriously; I just try to enjoy it. _____
11. I try to avoid personal situations that will require me to think a lot and deal with them on my own. _____
12. I change my opinion of myself a lot. _____
13. The important things in life are clear to me. _____
14. I've got it together. _____
15. I know what kind of person I am. _____
16. I can't decide what I want to do with my life. _____
17. I like myself and am proud of what I stand for. _____
18. I find I have to keep up a front when I'm with people. _____

Outdoor Orientation Programs and Social Support

In answering the following questions, think about your relationships **with people on campus**. These questions are not a measure of your relationships with non-campus friends and family, but specifically geared towards your college experience. Please indicate the extent to which each statement describes your current relationship with people you interact with or developed relationships with on-campus (on campus includes peers, professors and staff members).

Absolutely/ Always Disagree	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Absolutely/ Always Agree
1	2	3	4	5	6	7

1. There are people on campus I can depend on to help me if I really need it. _____
2. I feel that I do not have close personal relationships with other people on campus. _____
3. There is no one on campus I can turn to for guidance in times of stress. _____
4. There are people on campus who depend on me for help. _____
5. There are people on campus who enjoy the same social activities I do. _____
6. Other people on campus do not view me as competent. _____
7. I feel personally responsible for the well-being of another person on campus. _____
8. I feel part of a group of people on campus who share my attitudes and beliefs. _____
9. I do not think other people on campus respect my skills and abilities. _____
10. If something went wrong, no one on campus would come to my assistance. _____
11. I have close relationships on campus that provide me with a sense of emotional security and well-being. _____
12. There is someone on campus I could talk to about important decisions in my life. _____
13. I have relationships on campus where my competence and skill are recognized. _____
14. There is no one on campus who shares my interests and concerns. _____
15. There is no one on campus who really relies on me for their well-being. _____
16. There is a trustworthy person on campus I could turn to for advice if I were having problems. _____
17. I feel a strong emotional bond with at least one other person on campus. _____
18. There is no one on campus I can depend on for aid if I really need it. _____
19. There is no one I feel comfortable talking about problems with on campus. _____
20. There are people on campus who admire my talents and abilities. _____
21. I lack a feeling of intimacy with another person on campus. _____
22. There is no one on campus who likes to do the things I do. _____
23. There are people on campus who I can count on in an emergency. _____
24. No one on campus needs me to care for them. _____

ORION (Treatment Group) Follow-Up Test

So far this semester...

How often have you participated in the following activities this semester?

1. Hiking
____ Not at all; ____ 1 – 2 times per semester; ____ 1 – 2 times per month;
____ 1 time per week; ____ More than 1 time per week
2. Camping
____ Not at all; ____ 1 – 2 times per semester; ____ 1 – 2 times per month;
____ 1 time per week; ____ More than 1 time per week
3. Backpacking
____ Not at all; ____ 1 – 2 times per semester; ____ 1 – 2 times per month;
____ 1 time per week; ____ More than 1 time per week
4. Canoeing, Kayaking or Rafting
____ Not at all; ____ 1 – 2 times per semester; ____ 1 – 2 times per month;
____ 1 time per week; ____ More than 1 time per week
5. High Ropes Challenge Courses
____ Not at all; ____ 1 – 2 times per semester; ____ 1 – 2 times per month;
____ 1 time per week; ____ More than 1 time per week
6. Rock Climbing
____ Not at all; ____ 1 – 2 times per semester; ____ 1 – 2 times per month;
____ 1 time per week; ____ More than 1 time per week
7. Mountain Biking
____ Not at all; ____ 1 – 2 times per semester; ____ 1 – 2 times per month;
____ 1 time per week; ____ More than 1 time per week
8. Hunting or Fishing
____ Not at all; ____ 1 – 2 times per semester; ____ 1 – 2 times per month;
____ 1 time per week; ____ More than 1 time per week
9. Other Outdoor Recreation Activities
____ Not at all; ____ 1 – 2 times per semester; ____ 1 – 2 times per month;
____ 1 time per week; ____ More than 1 time per week

What were those other outdoor activities? _____

So far this semester...

During this semester, with whom have you participated in the following activities?

a. family and/or friends ; b. ORION leaders / participants; c. alone; d. will not participate

1. Hiking _____
2. Camping _____
3. Backpacking _____
4. Canoeing, Kayaking or Rafting _____
5. High Ropes Challenge Courses _____
6. Rock Climbing _____
7. Mountain Biking _____
8. Hunting or Fishing _____
9. Other Outdoor Activities _____

What were those other outdoor activities? _____

How often do you expect to participate in the following activities during the remainder of this school year?

1. Hiking
____ Not at all; ____ 1 – 2 times per semester; ____ 1 – 2 times per month;
____ 1 time per week; ____ More than 1 time per week
2. Camping
____ Not at all; ____ 1 – 2 times per semester; ____ 1 – 2 times per month;
____ 1 time per week; ____ More than 1 time per week
3. Backpacking
____ Not at all; ____ 1 – 2 times per semester; ____ 1 – 2 times per month;
____ 1 time per week; ____ More than 1 time per week
4. Canoeing, Kayaking or Rafting
____ Not at all; ____ 1 – 2 times per semester; ____ 1 – 2 times per month;
____ 1 time per week; ____ More than 1 time per week
5. High Ropes Challenge Courses
____ Not at all; ____ 1 – 2 times per semester; ____ 1 – 2 times per month;
____ 1 time per week; ____ More than 1 time per week
6. Rock Climbing
____ Not at all; ____ 1 – 2 times per semester; ____ 1 – 2 times per month;
____ 1 time per week; ____ More than 1 time per week
7. Mountain Biking
____ Not at all; ____ 1 – 2 times per semester; ____ 1 – 2 times per month;
____ 1 time per week; ____ More than 1 time per week
8. Hunting or Fishing
____ Not at all; ____ 1 – 2 times per semester; ____ 1 – 2 times per month;
____ 1 time per week; ____ More than 1 time per week
9. Other Outdoor Recreation Activities
____ Not at all; ____ 1 – 2 times per semester; ____ 1 – 2 times per month;
____ 1 time per week; ____ More than 1 time per week
What were those other activities? _____

During the remainder of this school year, with whom will you do the following activities?

a. family and/or friends ; b. ORION leaders / participants; c. alone; d. will not participate

- 1. Hiking _____
- 2. Camping _____
- 3. Backpacking _____
- 4. Canoeing, Kayaking or Rafting _____
- 5. High Ropes Challenge Courses _____
- 6. Rock Climbing _____
- 7. Mountain Biking _____
- 8. Hunting or Fishing _____
- 9. Other Outdoor Activities _____

What are those other outdoor activities? _____

Using a score of 1 to 5, express how important the following activities are in your life.

- 1. I never participate in this activity;
- 2. Not important at all;
- 3. Somewhat important;
- 4. Very important;
- 5. Extremely important

- 1. Hiking _____
- 2. Camping _____
- 3. Backpacking _____
- 4. Canoeing, Kayaking or Rafting _____
- 5. High Ropes Challenge Courses _____
- 6. Rock Climbing _____
- 7. Mountain Biking _____
- 8. Hunting or Fishing _____
- 9. Other Outdoor Activities _____

What are those other outdoor activities? _____

Outdoor Orientation Programs and Identity

You will find a number of statements about beliefs, attitudes, and/or ways of dealing with issues.

Read each carefully, then use it to describe yourself.

For instance, if you strongly agree with a statement, mark a 6, if it you strongly disagree with a statement, mark a 2. There are no right or wrong answers.

Absolutely/ Always Disagree	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Absolutely/ Always Agree
1	2	3	4	5	6	7

1. I've spent a great deal of time thinking seriously about what I should do with my life. _____
2. When I discuss an issue with someone, I try to assume their point of view and see the problem from their perspective. _____
3. I've spent a lot of time and talked to a lot of people trying to develop a set of values that make sense to me. _____
4. When I have a personal problem, I try to analyze the situation in order to understand it. _____
5. I find that personal problems often turn out to be interesting challenges. _____
6. I like to have the responsibility for handling problems in my life that require me to think on my own. _____
7. I'm not really sure what I'm doing in school; I guess things will work themselves out. _____
8. It doesn't pay to worry about values in advance; I decide things as they happen. _____
9. I'm not really thinking about my future now; it's still a long way off. _____
10. It's best for me not to take life too seriously; I just try to enjoy it. _____
11. I try to avoid personal situations that will require me to think a lot and deal with them on my own. _____
12. I change my opinion of myself a lot. _____
13. The important things in life are clear to me. _____
14. I've got it together. _____
15. I know what kind of person I am. _____
16. I can't decide what I want to do with my life. _____
17. I like myself and am proud of what I stand for. _____
18. I find I have to keep up a front when I'm with people. _____

Outdoor Orientation Programs and Social Support

In answering the following questions, think about your relationships **with people on campus**. These questions are not a measure of your relationships with non-campus friends and family, but specifically geared towards your college experience. Please indicate the extent to which each statement describes your current relationship with people you interact with or developed relationships with on-campus (on campus includes peers, professors and staff members).

Absolutely/ Always Disagree	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Absolutely/ Always Agree
1	2	3	4	5	6	7

1. There are people on campus I can depend on to help me if I really need it. _____
2. I feel that I do not have close personal relationships with other people on campus. _____
3. There is no one on campus I can turn to for guidance in times of stress. _____
4. There are people on campus who depend on me for help. _____
5. There are people on campus who enjoy the same social activities I do. _____
6. Other people on campus do not view me as competent. _____
7. I feel personally responsible for the well-being of another person on campus. _____
8. I feel part of a group of people on campus who share my attitudes and beliefs. _____
9. I do not think other people on campus respect my skills and abilities. _____
10. If something went wrong, no one on campus would come to my assistance. _____
11. I have close relationships on campus that provide me with a sense of emotional security and well-being. _____
12. There is someone on campus I could talk to about important decisions in my life. _____
13. I have relationships on campus where my competence and skill are recognized. _____
14. There is no one on campus who shares my interests and concerns. _____
15. There is no one on campus who really relies on me for their well-being. _____
16. There is a trustworthy person on campus I could turn to for advice if I were having problems. _____
17. I feel a strong emotional bond with at least one other person on campus. _____
18. There is no one on campus I can depend on for aid if I really need it. _____
19. There is no one I feel comfortable talking about problems with on campus. _____
20. There are people on campus who admire my talents and abilities. _____
21. I lack a feeling of intimacy with another person on campus. _____
22. There is no one on campus who likes to do the things I do. _____
23. There are people on campus who I can count on in an emergency. _____
24. No one on campus needs me to care for them. _____

SOCIAL SUPPORT AND IDENTITY DEVELOPMENT ITEMS

Used for Comparison and Control Groups: Pretest, Posttest and Follow-up Test

University Orientation Programs and Identity

You will find a number of statements about beliefs, attitudes, and/or ways of dealing with issues.

Read each carefully, then use it to describe yourself.

There are no right or wrong answers.

For instance, if you strongly agree with a statement, mark a 6, if you strongly disagree with a statement, mark a 2.

Absolutely/ Always Disagree	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Absolutely/ Always Agree
1	2	3	4	5	6	7

1. I've spent a great deal of time thinking seriously about what I should do with my life. _____
2. When I discuss an issue with someone, I try to assume their point of view and see the problem from their perspective. _____
3. I've spent a lot of time and talked to a lot of people trying to develop a set of values that make sense to me. _____
4. When I have a personal problem, I try to analyze the situation in order to understand it. _____
5. I find that personal problems often turn out to be interesting challenges. _____
6. I like to have the responsibility for handling problems in my life that require me to think on my own. _____
7. I'm not really sure what I'm doing in school; I guess things will work themselves out. _____
8. It doesn't pay to worry about values in advance; I decide things as they happen. _____
9. I'm not really thinking about my future now; it's still a long way off. _____
10. It's best for me not to take life too seriously; I just try to enjoy it. _____
11. I try to avoid personal situations that will require me to think a lot and deal with them on my own. _____
12. I change my opinion of myself a lot. _____
13. The important things in life are clear to me. _____
14. I've got it together. _____
15. I know what kind of person I am. _____
16. I can't decide what I want to do with my life. _____
17. I like myself and am proud of what I stand for. _____
18. I find I have to keep up a front when I'm with people. _____

University Orientation Programs and Social Support

In answering the following questions, think about your current relationships with people on-campus. This test is not a measure of your relationships with non-campus friends and family, but specifically geared towards your college experience. Please indicate the extent to which each statement describes your current relationship with people you interact with or developed relationships with on-campus (on campus includes peers, professors and staff members).

Absolutely/ Always Disagree	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Absolutely/ Always Agree
1	2	3	4	5	6	7

1. There are people on campus I can depend on to help me if I really need it. _____
2. I feel that I do not have close personal relationships with other people on campus. _____
3. There is no one on campus I can turn to for guidance in times of stress. _____
4. There are people on campus who depend on me for help. _____
5. There are people on campus who enjoy the same social activities I do. _____
6. Other people on campus do not view me as competent. _____
7. I feel personally responsible for the well-being of another person on campus. _____
8. I feel part of a group of people on campus who share my attitudes and beliefs. _____
9. I do not think other people on campus respect my skills and abilities. _____
10. If something went wrong, no one on campus would come to my assistance. _____
11. I have close relationships on campus that provide me with a sense of emotional security and well-being. _____
12. There is someone on campus I could talk to about important decisions in my life. _____
13. I have relationships on campus where my competence and skill are recognized. _____
14. There is no one on campus who shares my interests and concerns. _____
15. There is no one on campus who really relies on me for their well-being. _____
16. There is a trustworthy person on campus I could turn to for advice if I were having problems. _____
17. I feel a strong emotional bond with at least one other person on campus. _____
18. There is no one on campus I can depend on for aid if I really need it. _____
19. There is no one I feel comfortable talking about problems with on campus. _____
20. There are people on campus who admire my talents and abilities. _____
21. I lack a feeling of intimacy with another person on campus. _____
22. There is no one on campus who likes to do the things I do. _____
23. There are people on campus who I can count on in an emergency. _____
24. No one on campus needs me to care for them. _____

The last questions are about you personally and will be used only to categorize responses for different groups of participants. Your answers are confidential.

What is your home ZIP code? _____

This question is only used to categorize participants by rural, suburban and urban backgrounds.

What is your gender? Male Female

APPENDIX B: Reliability Analyses

Reliability Analysis of Campus-Focused Social Provisions Scale – Pretest

Item	M	SD	Item Total Correlation	Alpha if Item Deleted	Cronbach's Alpha
Social Support (Campus Focused – Social Provisions Scale)					.92
Reliable Alliance	5.51	.99	.83	.90	
Attachment	4.84	1.18	.81	.90	
Guidance	5.37	1.12	.88	.89	
Opportunity for Nurturance	4.31	1.06	.67	.92	
Social Integration	5.55	.84	.76	.91	
Reassurance of Worth	5.04	.83	.75	.91	

Reliability Analysis of Campus-Focused Social Provisions Scale – Posttest

Item	M	SD	Item Total Correlation	Alpha if Item Deleted	Cronbach's Alpha
Social Support (Campus Focused – Social Provisions Scale)					.92
Reliable Alliance	5.99	.90	.80	.90	
Attachment	5.63	1.03	.79	.90	
Guidance	6.00	.93	.89	.88	
Opportunity for Nurturance	5.02	1.06	.58	.93	
Social Integration	6.02	.81	.83	.89	
Reassurance of Worth	5.71	.85	.74	.90	

Reliability Analysis of Campus-Focused Social Provisions Scale – Follow-up Test

Item	M	SD	Item Total Correlation	Alpha if Item Deleted	Cronbach's Alpha
Social Support (Campus Focused – Social Provisions Scale)					.93
Reliable Alliance	5.96	1.01	.87	.91	
Attachment	5.52	1.22	.82	.92	
Guidance	5.90	1.06	.88	.91	
Opportunity for Nurturance	4.99	1.26	.70	.94	
Social Integration	5.95	.95	.84	.92	
Reassurance of Worth	5.61	.98	.78	.93	

Reliability Analysis of Reliable Alliance – Pretest

Item	M	SD	Item Total Correlation	Alpha if Item Deleted	Cronbach's Alpha
Reliable Alliance					.83
There are people on campus I can depend on to help me if I really need it.	5.29	1.31	.64	.80	
If something went wrong, no one on campus would come to my assistance.	5.74	1.09	.55	.83	
There is no one on campus I can depend on for aid if I really need it.	5.49	1.25	.76	.74	
There are people on campus who I can count on in an emergency.	5.50	1.21	.69	.77	

Reliability Analysis of Reliable Alliance – Posttest

Item	M	SD	Item Total Correlation	Alpha if Item Deleted	Cronbach's Alpha
Reliable Alliance					.72
There are people on campus I can depend on to help me if I really need it.	6.07	1.05	.55	.65	
If something went wrong, no one on campus would come to my assistance.	6.03	1.15	.52	.66	
There is no one on campus I can depend on for aid if I really need it.	5.93	1.36	.51	.67	
There are people on campus who I can count on in an emergency.	5.88	1.30	.49	.68	

Reliability Analysis of Reliable Alliance – Follow-up Test

Item	M	SD	Item Total Correlation	Alpha if Item Deleted	Cronbach's Alpha
Reliable Alliance					.83
There are people on campus I can depend on to help me if I really need it.	6.08	1.08	.65	.79	
If something went wrong, no one on campus would come to my assistance.	5.92	1.33	.65	.79	
There is no one on campus I can depend on for aid if I really need it.	5.95	1.21	.74	.75	
There are people on campus who I can count on in an emergency.	5.91	1.33	.62	.81	

Reliability Analysis of Attachment – Pretest

Item	M	SD	Item Total Correlation	Alpha if Item Deleted	Cronbach's Alpha
Attachment					.82
I feel that I do not have close personal relationships with other people on campus.	4.85	1.48	.58	.80	
I have close relationships on campus that provide me with a sense of emotional security and well-being.	4.82	1.48	.77	.70	
I feel a strong emotional bond with at least one other person on campus.	5.01	1.54	.68	.74	
I lack a feeling of intimacy with another person on campus.	4.69	1.37	.53	.81	

Reliability Analysis of Attachment – Posttest

Item	M	SD	Item Total Correlation	Alpha if Item Deleted	Cronbach's Alpha
Attachment					.73
I feel that I do not have close personal relationships with other people on campus.	5.43	1.61	.48	.71	
I have close relationships on campus that provide me with a sense of emotional security and well-being.	5.70	1.23	.58	.65	
I feel a strong emotional bond with at least one other person on campus.	5.99	1.16	.62	.63	
I lack a feeling of intimacy with another person on campus.	5.38	1.48	.46	.71	

Reliability Analysis of Attachment – Follow-up Test

Item	M	SD	Item Total Correlation	Alpha if Item Deleted	Cronbach's Alpha
Attachment					.79
I feel that I do not have close personal relationships with other people on campus.	5.46	1.73	.55	.77	
I have close relationships on campus that provide me with a sense of emotional security and well-being.	5.71	1.38	.65	.72	
I feel a strong emotional bond with at least one other person on campus.	5.75	1.46	.61	.73	
I lack a feeling of intimacy with another person on campus.	5.18	1.65	.61	.73	

Reliability Analysis of Guidance – Pretest

Item	M	SD	Item Total Correlation	Alpha if Item Deleted	Cronbach's Alpha
Guidance					.90
There is no one on campus I can turn to for guidance in times of stress.	5.58	1.19	.73	.89	
There is someone on campus I could talk to about important decisions in my life.	5.15	1.40	.79	.87	
There is a trustworthy person on campus I could turn to for advice if I were having problems.	5.33	1.19	.81	.86	
There is no one I feel comfortable talking about problems with on campus.	5.39	1.34	.78	.87	

Reliability Analysis of Guidance – Posttest

Item	M	SD	Item Total Correlation	Alpha if Item Deleted	Cronbach's Alpha
Guidance					.84
There is no one on campus I can turn to for guidance in times of stress.	5.98	1.17	.53	.86	
There is someone on campus I could talk to about important decisions in my life.	5.95	1.11	.67	.79	
There is a trustworthy person on campus I could turn to for advice if I were having problems.	5.97	1.13	.73	.77	
There is no one I feel comfortable talking about problems with on campus.	6.09	1.11	.75	.76	

Reliability Analysis of Guidance – Follow-up Test

Item	M	SD	Item Total Correlation	Alpha if Item Deleted	Cronbach's Alpha
Guidance					.83
There is no one on campus I can turn to for guidance in times of stress.	5.96	1.35	.66	.79	
There is someone on campus I could talk to about important decisions in my life.	5.83	1.34	.67	.78	
There is a trustworthy person on campus I could turn to for advice if I were having problems.	5.99	1.11	.71	.77	
There is no one I feel comfortable talking about problems with on campus.	5.82	1.38	.61	.81	

Reliability Analysis of Opportunity for Nurturance – Pretest

Item	M	SD	Item Total Correlation	Alpha if Item Deleted	Cronbach's Alpha
Opportunity for Nurturance					.78
There are people on campus who depend on me for help.	4.28	1.31	.61	.72	
I feel personally responsible for the well-being of another person on campus.	3.78	1.40	.45	.79	
There is no one on campus who really relies on me for their well-being.	4.56	1.37	.62	.71	
No one on campus needs me to care for them.	4.60	1.39	.68	.68	

Reliability Analysis of Opportunity for Nurturance – Posttest

Item	M	SD	Item Total Correlation	Alpha if Item Deleted	Cronbach's Alpha
Opportunity for Nurturance					.78
There are people on campus who depend on me for help.	5.12	1.25	.53	.75	
I feel personally responsible for the well-being of another person on campus.	4.45	1.49	.62	.71	
There is no one on campus who really relies on me for their well-being.	5.34	1.39	.61	.71	
No one on campus needs me to care for them.	5.15	1.33	.57	.73	

Reliability Analysis of Opportunity for Nurturance – Follow-up Test

Item	M	SD	Item Total Correlation	Alpha if Item Deleted	Cronbach's Alpha
Opportunity for Nurturance					.81
There are people on campus who depend on me for help.	5.20	1.38	.62	.77	
I feel personally responsible for the well-being of another person on campus.	4.48	1.70	.66	.75	
There is no one on campus who really relies on me for their well-being.	5.19	1.69	.62	.77	
No one on campus needs me to care for them.	5.04	1.56	.64	.76	

Reliability Analysis of Social Integration – Pretest

Item	M	SD	Item Total Correlation	Alpha if Item Deleted	Cronbach's Alpha
Social Integration					.78
There are people on campus who enjoy the same social activities I do.	5.92	.91	.61	.71	
I feel part of a group of people on campus who share my attitudes and beliefs.	4.82	1.26	.50	.78	
There is no one on campus who shares my interests and concerns.	5.69	1.08	.64	.69	
There is no one on campus who likes to do the things I do.	5.78	1.05	.61	.71	

Reliability Analysis of Social Integration – Posttest

Item	M	SD	Item Total Correlation	Alpha if Item Deleted	Cronbach's Alpha
Social Integration					.77
There are people on campus who enjoy the same social activities I do.	6.13	.96	.61	.70	
I feel part of a group of people on campus who share my attitudes and beliefs.	5.64	1.16	.60	.70	
There is no one on campus who shares my interests and concerns.	6.05	1.17	.54	.74	
There is no one on campus who likes to do the things I do.	6.25	.94	.56	.72	

Reliability Analysis of Social Integration – Follow-up Test

Item	M	SD	Item Total Correlation	Alpha if Item Deleted	Cronbach's Alpha
Social Integration					.81
There are people on campus who enjoy the same social activities I do.	6.16	1.05	.53	.81	
I feel part of a group of people on campus who share my attitudes and beliefs.	5.55	1.35	.64	.77	
There is no one on campus who shares my interests and concerns.	6.06	1.14	.70	.73	
There is no one on campus who likes to do the things I do.	6.04	1.18	.67	.75	

Reliability Analysis of Reassurance of Worth – Pretest

Item	M	SD	Item Total Correlation	Alpha if Item Deleted	Cronbach's Alpha
Reassurance of Worth					.72
Other people on campus do not view me as competent.	5.05	1.11	.44	.70	
I do not think other people on campus respect my skills and abilities.	5.22	1.03	.51	.66	
I have relationships on campus where my competence and skill are recognized.	4.92	1.29	.55	.63	
There are people on campus who admire my talents and abilities.	4.94	1.05	.55	.63	

Reliability Analysis of Reassurance of Worth – Posttest

Item	M	SD	Item Total Correlation	Alpha if Item Deleted	Cronbach's Alpha
Reassurance of Worth					.73
Other people on campus do not view me as competent.	5.52	1.25	.47	.71	
I do not think other people on campus respect my skills and abilities.	5.78	1.09	.48	.69	
I have relationships on campus where my competence and skill are recognized.	5.78	1.13	.55	.66	
There are people on campus who admire my talents and abilities.	5.76	1.07	.61	.62	

Reliability Analysis of Reassurance of Worth – Follow-up Test

Item	M	SD	Item Total Correlation	Alpha if Item Deleted	Cronbach's Alpha
Reassurance of Worth					.79
Other people on campus do not view me as competent.	5.53	1.33	.57	.76	
I do not think other people on campus respect my skills and abilities.	5.66	1.16	.71	.69	
I have relationships on campus where my competence and skill are recognized.	5.72	1.29	.56	.76	
There are people on campus who admire my talents and abilities.	5.54	1.21	.58	.75	

Reliability Analysis of ISI Informational Identity Style – Pretest

Item	M	SD	Item Total Correlation	Alpha if Item Deleted	Cronbach's Alpha
Informational Identity Style					.67
I've spent a great deal of time thinking seriously about what I should do with my life.	5.72	1.03	.293	.66	
When I discuss an issue with someone, I try to assume their point of view and see the problem from their perspective.	5.20	.98	.40	.63	
I've spent a lot of time and talked to a lot of people trying to develop a set of values that make sense to me.	5.26	1.19	.48	.60	
When I have a personal problem, I try to analyze the situation in order to understand it.	5.62	.98	.46	.61	
I find that personal problems often turn out to be interesting challenges.	4.59	1.18	.44	.61	
I like to have the responsibility for handling problems in my life that require me to think on my own.	5.44	1.10	.33	.65	

Reliability Analysis of ISI Informational Identity Style – Posttest

Item	M	SD	Item Total Correlation	Alpha if Item Deleted	Cronbach's Alpha
Informational Identity Style					.78
I've spent a great deal of time thinking seriously about what I should do with my life.	5.91	.97	.52	.75	
When I discuss an issue with someone, I try to assume their point of view and see the problem from their perspective.	5.66	.91	.54	.75	
I've spent a lot of time and talked to a lot of people trying to develop a set of values that make sense to me.	5.64	1.02	.56	.74	
When I have a personal problem, I try to analyze the situation in order to understand it.	5.78	.91	.65	.73	
I find that personal problems often turn out to be interesting challenges.	5.06	1.16	.56	.74	
I like to have the responsibility for handling problems in my life that require me to think on my own.	5.49	1.11	.40	.79	

Reliability Analysis of ISI Informational Identity Style – Follow-up Test

Item	M	SD	Item Total Correlation	Alpha if Item Deleted	Cronbach's Alpha
Informational Identity Style					.78
I've spent a great deal of time thinking seriously about what I should do with my life.	5.90	1.11	.48	.75	
When I discuss an issue with someone, I try to assume their point of view and see the problem from their perspective.	5.70	.99	.59	.73	
I've spent a lot of time and talked to a lot of people trying to develop a set of values that make sense to me.	5.46	1.22	.52	.74	
When I have a personal problem, I try to analyze the situation in order to understand it.	5.79	.99	.60	.72	
I find that personal problems often turn out to be interesting challenges.	4.88	1.22	.50	.75	
I like to have the responsibility for handling problems in my life that require me to think on my own.	5.42	1.09	.47	.76	

Reliability Analysis of ISI Diffuse / Avoidant Identity Style – Pretest

Item	M	SD	Item Total Correlation	Alpha if Item Deleted	Cronbach's Alpha
Diffuse / Avoidant Identity Style					.69
I'm not really sure what I'm doing in school; I guess things will work themselves out.	2.75	1.35	.41	.65	
It doesn't pay to worry about values in advance; I decide things as they happen.	2.98	1.21	.48	.62	
I'm not really thinking about my future now; it's still a long way off.	2.23	1.09	.55	.59	
It's best for me not to take life too seriously; I just try to enjoy it.	4.12	1.33	.44	.64	
I try to avoid personal situations that will require me to think a lot and deal with them on my own.	2.92	1.02	.35	.67	

Reliability Analysis of ISI Diffuse / Avoidant Identity Style – Posttest

Item	M	SD	Item Total Correlation	Alpha if Item Deleted	Cronbach's Alpha
Diffuse / Avoidant Identity Style					.75
I'm not really sure what I'm doing in school; I guess things will work themselves out.	2.50	1.21	.51	.71	
It doesn't pay to worry about values in advance; I decide things as they happen.	2.76	1.20	.58	.69	
I'm not really thinking about my future now; it's still a long way off.	2.20	1.09	.68	.65	
It's best for me not to take life too seriously; I just try to enjoy it.	4.09	1.39	.43	.75	
I try to avoid personal situations that will require me to think a lot and deal with them on my own.	2.74	1.10	.43	.74	

Reliability Analysis of ISI Diffuse / Avoidant Identity Style – Follow-up Test

Item	M	SD	Item Total Correlation	Alpha if Item Deleted	Cronbach's Alpha
Diffuse / Avoidant Identity Style					.75
I'm not really sure what I'm doing in school; I guess things will work themselves out.	2.67	1.32	.51	.71	
It doesn't pay to worry about values in advance; I decide things as they happen.	2.94	1.29	.63	.66	
I'm not really thinking about my future now; it's still a long way off.	2.27	1.18	.63	.67	
It's best for me not to take life too seriously; I just try to enjoy it.	3.89	1.42	.42	.75	
I try to avoid personal situations that will require me to think a lot and deal with them on my own.	2.95	1.17	.42	.74	

Reliability Analysis of Erikson Psychosocial Stage Inventory – Pretest

Item	M	SD	Item Total Correlation	Alpha if Item Deleted	Cronbach's Alpha
EPSI					.76
I change my opinion of myself a lot.	4.53	1.34	.51	.72	
The important things in life are clear to me.	5.14	1.17	.52	.72	
I've got it together.	4.86	1.05	.55	.71	
I know what kind of person I am.	5.18	1.04	.65	.69	
I can't decide what I want to do with my life.	4.72	1.46	.34	.76	
I like myself and am proud of what I stand for.	5.69	.92	.51	.72	
I find I have to keep up a front when I'm with people.	4.86	1.34	.36	.75	

Reliability Analysis of Erikson Psychosocial Stage Inventory – Posttest

Item	M	SD	Item Total Correlation	Alpha if Item Deleted	Cronbach's Alpha
EPSI					.80
I change my opinion of myself a lot.	4.60	1.29	.50	.78	
The important things in life are clear to me.	5.34	1.21	.53	.78	
I've got it together.	5.19	1.19	.63	.76	
I know what kind of person I am.	5.54	1.15	.70	.75	
I can't decide what I want to do with my life.	4.99	1.36	.47	.79	
I like myself and am proud of what I stand for.	5.82	1.02	.64	.76	
I find I have to keep up a front when I'm with people.	5.20	1.40	.36	.81	

Reliability Analysis of Erikson Psychosocial Stage Inventory – Follow-up Test

Item	M	SD	Item Total Correlation	Alpha if Item Deleted	Cronbach's Alpha
EPSI					.79
I change my opinion of myself a lot.	4.68	1.39	.48	.77	
The important things in life are clear to me.	5.26	1.31	.59	.75	
I've got it together.	5.08	1.35	.63	.74	
I know what kind of person I am.	5.48	1.26	.66	.74	
I can't decide what I want to do with my life.	4.86	1.57	.34	.80	
I like myself and am proud of what I stand for.	5.85	1.08	.54	.76	
I find I have to keep up a front when I'm with people.	5.24	1.38	.46	.78	

Robert J Cooper
Curriculum Vitae

Education

Ph.D. (2012) **The Pennsylvania State University**
Recreation, Park and Tourism Management

M.S. (2010) **The Pennsylvania State University**
Recreation, Park and Tourism Management

B.S. (2005) **Southeast Missouri State University**

Presentations

Cooper, R.J. (Presenter), Graefe, A.R., Mowen, A.J., Zinn, H.C. & Yoder, E. (2012). Recreation socialization through university outdoor orientation programs. *Northeastern Recreation Research Symposium*. Cooperstown, NY, April.

Cooper, R.J. (Presenter), Graefe, A.R. & Burns, R.C. (2011). Effects of visitor perceptions of crowding, conflict and norms. *Northeastern Recreation Research Symposium*, Bolton Landing, NY, April.

Cooper, R.J. (Presenter), Graefe, A.R. & Burns, R.C. (2010). An examination of encounter norms, perceived crowding and conflict on the White Salmon River in southern Washington state. *National Association of Recreation Resource Planners Conference*, Portland, OR, May.

Research Papers

Cooper, R.J., Graefe, A.R. & Burns, R.C. (2011). Effects of visitor perceptions of crowding, conflict and norms. *Proceedings of the 2011 Northeastern Recreation Research Symposium*.

Teaching Experience

RPTM 530 Graduate Research Methods, Penn State University
RPTM 480 Senior Management Seminar, Penn State University
RPTM 440 Adventure-Based Programming and Administration, Penn State University
RPTM 356 Programming in Recreation Services, Penn State University
RPTM 330 Adventure-Based Recreation Program Leadership, Penn State University
RPTM 297D Backpacking Leadership, Penn State University
RPTM 120 Leisure and Human Behavior, Penn State University