

Impact of a Wilderness Orientation Program on College Student's Life Effectiveness

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Wilderness based outdoor orientation programs have been offered at colleges and universities to incoming freshmen since the 1930s. Although these programs appear to impact students in a positive way (e.g. self-efficacy), little research has documented whether these programs facilitate change on college student perceptions of life effectiveness. This exploratory study examined a 4-day wilderness based program at a university in the southeastern United States. Three groups of students were studied over the course of a semester using the Life Effectiveness Questionnaire (LEQ) (Neill, Marsh & Richards, 2003). When compared to a control group, the two groups of students who participated in the wilderness oriented program had higher scores on six of the eight LEQ dimensions (e.g. time management, emotional control) and overall total than students who did not participate at both the beginning and end of their first semester of college. Conclusions and implications for practice are made to promote proactive planning measures for improving outdoor orientation programs.

KEYWORDS: college students, Life Effectiveness Questionnaire, wilderness orientation programs

Introduction

Wilderness based outdoor orientation programs have been offered at colleges and universities for decades. Dartmouth College is credited with providing the first program in 1935 (Hooke, 1987). The First Ascent Program at Appalachian State University (ASU) is a wilderness orientation program that began in 2002. First year students are brought to campus the summer before the start of their first semester of college to participate in an intensive four-day backpacking pre-orientation experience. This program was created by staff as a means of addressing the anxiety often experienced by adolescents transitioning from high school to college. As Douglas (1965) described years ago, wilderness experiences can provide an escape from everyday norms, distractions, and demands, thereby, enabling program participants to use the outdoors as a medium to focus on "the power of direct experience in creating avenues for greater understanding and awareness" and personal growth (Ewert, 1996, p.31).

The First Ascent program is led by upper class student leaders to help first year students begin to navigate college life. In addition, select faculty visit in the field to facilitate substantive discussions on college life. Some of the primary goals of this program include: (1) to provide a supportive experience that students can use as a reference point during their transition to college and beyond, (2) to develop a peer-based support network through a shared experience, (3) to promote independence while fostering interdependence, (4) to immerse students in the great outdoors with the intent of creating meaningful relationships amongst students without the distractions of technology and the everyday environment, (5) to reduce feelings of fear and/or anxiety associated with interactions with staff and faculty, and (6) to welcome students to the "Appalachian family" (David Hutchinson, personal communication October 30th, 2009). With these goals in mind, this paper explores whether participating in the First Ascent Program positively contributes to an individual's perception of life effectiveness. "cold hard numbers" and can document the positive changes taking place in people's lives and hearts by becoming more physically active through their involvement in outdoor recreation endeavors. The development of such instruments and measurement tools must be a top priority if the field of outdoor recreation, education and leadership is to gain and keep a foothold in the world of social, psychological, social-psychological, educational, and leadership development research.

Often times in student affairs and university recreation adventure-based outdoor programs are carefully created by university staff with specific aims in mind. These programs are implemented and intuitively practitioners report that these programs are “special” and that they “work.” They base these beliefs upon anecdotal observations of students enjoying the experience in the outdoors, as well as from stories told by student participants about the memories that they cherish with respect to their adventure. Although these programs appear to impact students in a positive way, little has been done to document the evidence to support these assumptions. And more importantly, little evidence exists to evaluate whether or not the program (once it is finished) has any lasting impact on an individual’s perceived life effectiveness.

Assessment and program evaluation in student affairs and university recreation has become vital to the survival of such programs. Experts in the area of assessment noted:

The pressure on student affairs to demonstrate its effectiveness, for whatever purpose (survival, quality improvement, accreditation, enrollment management, affordability, strategic planning, policy development and decision making, local political contexts) still exists and is growing. Moreover, in addition to continuing internal and external pressures, regional accrediting agencies have become more serious about outcomes assessment as a criterion for accreditation (Schuh & Upcraft, 2001, p. xi).

The First Ascent Program is a typical example of a program in which university resources are being allocated with little attention paid towards systematically assessing program effectiveness beyond satisfaction levels. With a primary goal of educators to provide learning that can transfer to life, an examination of the outcomes of a program like First Ascent is necessary to reveal the advantages of implementing a program such as this. Therefore, the purpose of this study was to examine whether participating in the First Ascent Program positively contributes to an individual’s perception of life effectiveness. Specifically, three incoming freshman groups were compared: two groups that had participated in First Ascent (one via volunteer signup and the other one as required as part of an on campus living situation) and one acting as a control. This study occurred over the course of their first semester and the Life Effectiveness Questionnaire (LEQ) (Neill, Richards, & Marsh, 2003) was used to measure perceived changes.

Review of Literature

The following review of literature is divided into two distinct sections: outdoor adventure based education and learning communities. The section on outdoor adventure based education is intended to lay the foundation for the benefits of wilderness orientation programs, while the learning communities section is intended to highlight the potential of a residentially-based program that is linked to our study.

Outdoor Adventure Based Education

A significant amount of research focusing on the benefits of outdoor adventure based education exists. The single most conclusive study that focuses on such benefits is a meta-analysis which combined the results from 96 different studies on adventure education (Hattie, Marsh, Neill, & Richards, 1997). This study consisted of more than 12,000 participants. Hattie et al. concluded that participant gains (although small to medium in effect) were found in self-confidence, teamwork, leadership abilities, and communication skills. Studies by Neill (1994), Davidson (2001), and Hattie et al. (1997) suggested that outdoor education increases self-concept, independence, confidence, self-efficacy, and self-understanding. Davidson (2001) studied the impact of Outdoor Education programs on adolescent boys in Australia and concluded that participation in such activities increases one's ability to overcome challenges. It is interesting to note that the adolescent years have many factors in common with the first year college student. Adolescents tend to be unsure and awkward as they search for their identity, come to terms with their sexuality, and seek to find a place within social relationships. This is akin to the first year student as they search for a sense of self within the context of the newness of the college environment. It is vital for first year students to be able to navigate the challenges associated with transitioning to the first year of college and beyond. Kegan (1982) and Baxter Magolda (2004) referred to the search for self as the concept of self-authorship:

Higher education has a responsibility to help young adults make the transition from being shaped by society to shaping society in their role as leaders in society's future. Balancing individual goals with responsibility to the community requires an internally defined sense of self from which productive interactions with others stem (Baxter Magolda, 1999, p. 630).

Gass, Garvey, and Sugarman (2003) conducted a conclusive study over a 17 year period. They found that college students reported, "connections to one another, as well as the university environment, can have a powerful, positive impact upon entering students" (p. 39). Their study spoke to the experiences of students during their college years as well as their success in post graduation endeavors.

Several studies have investigated the link between wilderness or adventure based recreation programs and the development of self-efficacy in first year college students (Davis-Berman & Berman, 1989; Ferguson & Jones, 2001; Jones & Hinton, 2007; Kelly, Coursey, & Selby, 1997; Paxton & McAvoy, 1998; Propst & Koesler, 1998; Richardson, 2003; Sutherland, 2001). Other studies have explored the benefits associated with levels of social support perceived by those participating in wilderness orientation experiences (Bell, 2006). In summary, the literature suggests that outdoor adventure education can positively impact self-confidence, self-concept, independence, interdependence, self-efficacy, self-understanding, teamwork, leadership abilities, and communication skills. Taken together these characteristics can be broadly tied to life effectiveness.

Learning Communities

The concept of living/learning communities is not new to American higher education. In fact, this intentional design began at U.S. colleges and universities during the late 1980s (Gabelnick, MacGregor, Matthews, & Smith, 1990). A compelling study by Stassen (2003) suggested that learning communities have a positive effect on student persistence for first year (to the second year) students. In a qualitative study of informal learning conducted by Domizi (2008), students reported that they benefit and learn from one another while participating in a living/learning community in many ways. For example, students questioned their own belief system as a result of being exposed to the beliefs and behaviors of others. Student also reported a greater appreciation of differences (diversity) from the interactions that they had with one another in the living/learning community (Domizi, 2008).

Prior to the First Ascent Program experience, the researchers were given another opportunity to assess life effectiveness with a residential learning community. This particular residential learning community is called the Outdoor Residential Learning Community (ORLC) and it “is designed for students who are interested in developing and refining outdoor leadership skills, exploring career opportunities in outdoor recreation, and want to be part of an interactive and fun-filled community” (Appalachian State University, 2009). Members of the ORLC:(1) live and learn with other students who are interested in outdoor leadership and exploring careers in outdoor recreation, (2) participate in outdoor skill development workshops and trainings hosted by Outdoor Programs and, (3) interact with committed faculty and staff who actively contribute to the field of outdoor programs (Appalachian State University, 2009). In addition, students who reside in the ORLC take two courses together, both of which are directed at the outdoor theme. These students are also required to participate in the First Ascent program (Appalachian State University, 2009).

Methods

Participants

Data collection occurred during summer and fall 2007 and 2008. As previously stated, this study consisted of the analysis of three groups. The First Ascent Program participants consisted of (1) members of a residential learning community who were required to participate in the Program, called the ORLC group (n= 42 students), (2) students who voluntarily signed up for the First Ascent Program, called the First Ascent-only group (n=105 students), and (3) the Control group which consisted of a random sample of incoming first year students (n=500 students). The sample was randomly drawn from a computerized list of student names and provided by the ASU Office of Institutional Research, Assessment and Planning.

Procedures

Each of the students was asked to voluntarily participate in the study by completing an online survey that measured among other things perceived life effectiveness. The ORLC and First Ascent-only groups were requested to take the online survey immediately before the First Ascent Program as part of the pretest. All three groups were then asked to complete the online survey within the first two weeks of their first semester as part of the initial post-test assessment. Follow up reminders were sent to each group during the first few weeks of class with the control group offered a small financial incentive to participate. At the end of the first semester, participants who had completed the initial post-test were again asked to complete the online survey as a post test follow-up. Follow up reminders were sent to each group at the end of the semester. Data was originally entered into an Excel spreadsheet and subsequently analyzed using the Statistical Package for the Social Sciences (SPSS) version 15.0.

Instrumentation

Neill et al. (2003) developed the Life Effectiveness Questionnaire (LEQ) to measure individual's perception of life effectiveness as viewed through developmental changes. These changes are often associated with participation in adventure or other experiential education based programs. Many researchers have looked to the LEQ to measure outcomes of experiential education programs and personal development

intervention programs (Wilderdom.com, 2006). The LEQ measures individual's perception of life effectiveness, and life effectiveness is defined as a multi-dimensional construct of the self-concept, "aimed at enhancing a person's capacity to be effective in the multitude of tasks involved in life" (Neill et al., 2003, p. 6). The instrument itself is short and easily administered.

The LEQ version H (LEQ-H) is made up of 24 questions that are designed to measure the extent to which a person's perceived actions, behaviors, and feelings prove effective in managing and succeeding at life. The LEQ contains eight life effectiveness dimensions (Table 1) including: a) Time Management, b) Social Competence, c) Active Initiative, d) Task Leadership, e) Intellectual Flexibility, f) Achievement Motivation, g) Emotional Control, and h) Self-Confidence. Using the LEQ, participants self report on their perceived effectiveness of the subscale categories in their living and working (or school) lives. Participants respond to each question using an 8-point Likert scale with 1 equaling "false - not like me" to 8 indicating a "true - like me" response.

Neill et al. (2003) ran a multifactor Confirmatory Factor Analysis of the 24-item, 8-factor LEQ-H model (890 cases) and determined an excellent model fit ($\chi^2 = 718.94$, $df = 224$) with a TLI of .945 and an RNI of .956. They also tested a global life effectiveness (i.e., composite of the 8 effectiveness dimensions scores) and found a good fit ($\chi^2 = 972.55$, $df = 244$) lending support for computation of a global life effectiveness measure. Furthermore, Neill et al. (2003) found support for the 24-item, 8-factor model across gender and age with good to strong statistical strength. While longer versions of the LEQ using 32 or 40 items have been developed with good psychometrics also found, the researchers in this study chose the 24-item version (Neill et al., 2003) due to ease of administration and its similar psychometrics.

Table 1
Life Effectiveness Questionnaire Dimensions

TIME MANAGEMENT - The extent that an individual perceives that they make optimum use of time
SOCIAL COMPETENCE - The degree of personal confidence and self-perceived ability in social interactions.
ACHIEVEMENT MOTIVATION - The extent to which the individual is motivated to achieve excellence and put the required effort into action to attain it.
INTELLECTUAL FLEXIBILITY - The extent to which the individual perceives that they can adapt their thinking and accommodate new information from changing conditions and different perspectives.
TASK LEADERSHIP - The extent to which an individual perceives that they can lead other people effectively when a task needs to be done and productivity is the primary requirement.
EMOTIONAL CONTROL - The extent to which the individual perceives that they maintain emotional control when they are faced with potentially stressful situations.
ACTIVE INITIATIVE - The extent to which the individual likes to initiate action in new situations.
SELF CONFIDENCE - The degree of confidence the individual has in their abilities and the success of their actions.

The LEQ can be scored for a composite value of life effectiveness (overall LEQ score) or by the eight individual dimensions. As noted, the psychometrics for the LEQ scales has been established and the instrument possesses acceptable levels of validity and reliability (Neill et al., 2003; Sibthorp, 2001; Wang et al., 2008).

Results

Of the original sample, 81 (77.1%) students from the First Ascent-only group completed the pretest, 65 (80.2%) completed the first posttest, and 35 (53.8%) completed the second posttest. Thirty-eight (90.5%) ORLC students completed the pretest, 18 (47.3%) completed the first posttest, and 18 (100.0%) completed the second posttest. Ninety-five (19.0%) of the Control group students completed the first posttest with 25 (26.3%) completing the second posttest. The Control group did not receive the pretest because they had not yet arrived to campus.

Demographic Characteristics

Information was collected about age, gender, and ethnicity. However, there was very little variation in age or ethnicity among and between groups. On the other hand, the percentages for gender between and across groups at varied points in time revealed that percentages were similar for the First Ascent and Control groups at both post-tests but were quite dissimilar from the ORLC group (Table 2). It should be noted that ORLC members are selected by university officials with the intention to create a gender balanced environment.

Table 2
Gender Between and Across Groups

Gender by Group and Time	Pre-Test	Post-Test 1	Post-Test 2
First-Ascent only			
Male	40.0%	34.4%	29.4%
Female	60.0%	65.6%	70.6%
ORLC			
Male	39.1%	47.1%	42.1%
Female	60.9%	52.9%	57.9%
Control			
Male	N/A	29.6%	21.7%
Female	N/A	70.4%	78.3%

Within Group Analysis over Time and LEQ Scores

The researchers analyzed each of the three groups across data collection periods given their respective LEQ scores. ANOVA of the First Ascent-only group revealed main effect differences ($p < .05$) for three of the eight LEQ dimensions as well as the overall LEQ score (Table 3). Time Management at the end of first semester (post-test 2) revealed a mean score ($M = 18.62$, $SD = 3.00$) that was statistically significant ($p < .05$) and greater than the pre-test score ($M = 16.78$, $SD = 3.49$) but not statistically significant from post-test 1 ($M = 17.39$, $SD = 3.31$) ($F = 8.37$, $p < .001$). The effect size (ES) difference between post-test 2 and pretest equaled .27. On the other hand, the Social Competence ($F = 4.10$, $p = .018$) score didn't reveal any group mean differences although post-test 1 and 2 scores were greater than pre-test scores. For Task Leadership ($F = 6.22$, $p = .002$), the pre-test group mean was statisti-

cally significant and less ($M = 17.80$, $SD = 3.17$) than both post-test scores with the post-test 2 mean score ($M = 19.18$, $SD = 3.24$) the greatest. ES difference between pre-test and post-test 1 equaled .17, while $ES = .21$ between pre-test and post-test 2. In other words, task leadership was perceived to increase over time. The same held true for total LEQ ($F = 9.38$, $p < .001$) with the pre-test group mean statistically significant and less ($M = 151.00$, $SD = 16.1$) than both post-test scores with the post-test 2 mean the greatest ($M = 160.21$, $SD = 15.1$). ES difference between pre-test and post-test 1 equaled .18, while $ES = .28$ between pre-test and post-test 2. Of the remaining five dimensions, pre-test scores were less than post-test 2 scores for each dimension with post-test 2 scores greater than post-test 1 scores for three of the five measures.

ANOVA for the ORLC group revealed no main effect differences for the eight LEQ dimensions. There was a difference ($F = 4.22$, $p = .018$) for the overall LEQ score (Table 3). Total LEQ at the end of first semester (post-test 2) was statistically significant ($p < .05$) and greater ($M = 161.42$, $SD = 11.24$) than the pre-test score ($M = 151.52$, $SD = 14.11$) but not statistically significant from post-test 1 ($M = 158.77$, $SD = 13.48$). ES difference between pre-test and post-test 2 equaled .36. In other words, life effectiveness was perceived to increase over time. While not statistically significant, pre-test scores were less than post-test scores for seven of the eight dimensions with post-test 2 scores greater than post-test 1 scores for the eight measures.

Independent sample t-tests, comparing post-test scores, for the Control group revealed one statistically significant group mean difference across the LEQ dimensions (Table 3). Task Leadership was statistically greater for the second post-test ($M = 18.96$, $SD = 3.39$ versus $M = 16.70$, $SD = 4.10$).

Table 3
Within Group Analysis over Time and LEQ Scores

LEQ Dimensions	First Ascent-only			ORLC			Control	
	Pre-Test ($n = 81$)	Post-Test 1 ($n = 65$)	Post-Test 2 ($n = 35$)	Pre-Test ($n = 38$)	Post-Test 1 ($n = 18$)	Post-Test 2 ($n = 18$)	Post-Test 1 ($n = 95$)	Post-Test 2 ($n = 25$)
Time Management	16.78 ₁	17.39 _{1,2}	18.62 ₂	17.22	18.06	18.26	15.70	15.65
Social Competence	18.38	19.62	19.44	19.00	19.29	20.37	17.04	18.91
Achievement Motivation	21.00	20.93	21.65	20.16	20.00	20.05	21.41	21.48
Intellectual Flexibility	19.84	19.92	20.18	19.39	19.88	20.05	19.00	18.39
Task Leadership	17.80 ₁	18.88 ₂	19.18 ₂	18.17	19.12	19.84	16.70 ₁	18.96 ₂
Emotional Control	19.31	19.43	19.74	19.04	20.18	20.37	16.37	17.09
Active Initiative	20.25	20.49	20.26	20.43	21.74	21.94	18.93	19.09
Self Confidence	20.49	20.41	21.15	19.30	20.29	20.74	20.22	21.00
LEQ Total	151.00 ₁	157.08 ₂	160.21 ₂	151.53 ₁	158.77 ₂	161.42 ₂	145.37	150.57

Note: Different subscripts represent statistically significant ($p < .05$) group mean differences for that dimension. If no subscripts then there were no statistically significant ($p < .05$) group mean differences for that dimension.

Between Group Analysis at one Point in Time and LEQ Scores

Each of the three groups was examined across data collection periods given their respective LEQ dimensional and total scores. In the pre-test analysis, independent sample t-tests comparing the First Ascent-only group to the ORLC group found no statistically significant mean differences (Table 4). Note: There was no pre-test component with the control group.

For post-test 1 ANOVA revealed main effect differences for five of the eight LEQ dimensions as well as the overall LEQ score. For Time Management ($F = 3.52, p < .043$), the control group ($M = 15.70, SD = 3.65$) was statistically significant ($p < .05$) and different from the ORLC group ($M = 18.06, SD = 3.05$) scoring lower on the time management dimension but was not statistically different from the First Ascent-only group ($M = 17.39, SD = 3.31$) (Table 4). The ES difference between the control group and ORLC for Time Management equaled .33. For Social Competence ($F = 4.43, p < .014$), the control group ($M = 17.04, SD = 3.29$) was statistically significant and different than the First Ascent-only group ($M = 19.62, SD = 3.32$) with a lower mean score, but was not statistically different from the ORLC group ($M = 19.29, SD = 3.14$). ES difference between the control group and First Ascent-only group for Social Competence equaled .27. For Task Leadership ($F = 4.65, p = .012$), the control group was statistically significant and different than the other two groups with a group mean score of 16.70 ($SD = 4.10$), while the First Ascent-only group had a mean of 18.89 ($SD = 2.98$) and the ORLC group equaled a mean of 19.12 ($SD = 2.87$). ES difference between the control group and First Ascent group equaled .29, while $ES = .32$ between control group and ORLC group. In other words, the control group had less perceived task leadership than the other two groups. Similar to the Task Leadership dimension, the control group was statistically significant and different than the other two groups concerning Emotional Control ($F = 5.99, p = .003$) with a group mean score of 16.37 ($SD = 4.96$) while the First Ascent-only group had a mean of 19.43 ($SD = 4.10$) and the ORLC group equaled a mean of 20.18 ($SD = 3.40$). ES difference between the control group and First Ascent group equaled .32, while ES equaled .41 between control group and ORLC group. For Active Initiative ($F = 4.25, p = .017$) the control group ($M = 18.93, SD = 4.21$) was similar to the First Ascent group ($M = 20.49, SD = 3.22$) but different from the ORLC group ($M = 21.94, SD = 2.54$). ES difference between the control group and ORLC equaled .40. Finally, and much as was found for Task Leadership and Emotional Control, total LEQ ($F = 4.83, p = .01$) for the control group was statistically significant and less than the other two groups with a group mean score of 145.37 ($SD = 21.34$) while the First Ascent-only group had a mean of 157.08 ($SD = 16.61$) and the ORLC group equaled a mean of 158.76 ($SD = 13.48$). ES difference between the control group and First Ascent group equaled .29, while ES equaled .35 between control group and ORLC group.

Similar to what was found in post-test 1, ANOVA for post-test 2 revealed main effect differences five of the eight LEQ dimensions as well as the overall LEQ score. The control group scored significantly lower on the variable Time Management ($F = 5.18, p = .008$) than the other two groups with a mean score of 15.65 ($SD = 4.47$), the First Ascent-only group had a mean of 18.62 ($SD = 3.00$) and the ORLC group equaled 18.26 ($SD = 3.19$) (Table 4). The ES difference between the control group and First Ascent group for Time Management equaled .36, while ES equaled .32 between control group and ORLC group. For Achievement Motivation ($F = 3.06, p = .050$), post-hoc analysis revealed no group mean differences. For Individual Flexibility ($F = 3.24, p = .045$), post-hoc analysis revealed no group mean differences although the ES difference between the control group ($M = 18.39, SD = 3.38$) and First Ascent group ($M = 20.18, SD = 2.60$) equaled .28, while ES equaled .28 between control group and ORLC group ($M = 20.05, SD = 2.04$). Similar to Time Management, the control group ($M = 17.09, SD = 4.66$) for Emotional Control ($F = 4.81, p = .011$) was statistically significant and less than both the ORLC group ($M = 20.37, SD = 3.22$) and First Ascent-only group ($M = 19.73, SD = 3.39$). The ES difference between the control group and First Ascent group equaled .31, while ES equaled .38 between control group and ORLC group. For Active Initiative ($F = 3.05, p = .050$), the control group ($M = 19.09, SD = 4.22$) was similar to the First Ascent group ($M = 20.26, SD = 3.40$) but statistically different ($p < .05$) from the ORLC group ($M = 21.74, SD = 2.38$). ES difference equaled .36 between the control and ORLC groups. Lastly, for total LEQ ($F = 3.05, p = .050$) the control group had the lowest group mean score (150.57, $SD = 21.21$) but was not statistically significant and different from the ORLC group ($M = 161.42, SD = 11.24$) or the First Ascent group ($M = 160.21, SD = 15.08$) following post-hoc analysis. The ES difference between the control group and First Ascent group equaled .25, while ES equaled .30 between control group and ORLC group.

Table 4
Between Group Analysis at one Point in Time and LEQ Scores

LEQ Dimensions	Pre-Test		Post-Test 1			Post-Test 2		
	1 st Ascent-only	ORLC	1 st Ascent-only	ORLC	Control	1 st Ascent-only	ORLC	Control
Time Management	16.78	17.22	17.39 _{1,2}	18.06 ₂	15.70 ₁	18.62 ₂	18.26 ₂	15.65 ₁
Social Competence	18.38	19.00	19.62 ₂	19.29 _{1,2}	17.04 ₁	19.44	20.37	18.91
Achievement Motivation	21.00	20.16	20.93	20.00	21.41	21.65	20.05	21.48
Intellectual Flexibility	19.84	19.39	19.92	19.88	19.00	20.18	20.05	18.39
Task Leadership	17.80	18.17	18.88 ₂	19.12 ₂	16.70 ₁	19.18	19.84	18.96
Emotional Control	19.31	19.04	19.43 ₂	20.18 ₂	16.37 ₁	19.73 ₂	20.37 ₂	17.09 ₁
Active Initiative	20.25	20.43	20.49 _{1,2}	21.94 ₂	18.93 ₁	20.27 _{1,2}	21.74 ₂	19.09 ₁
Self Confidence	20.49	19.30	20.42	20.29	20.22	21.15	20.74	21.00
LEQ Total	151.00	151.52	157.08 ₂	158.76 ₂	145.37 ₁	160.21	161.42	150.56

Note: Different subscripts represents statistically significant ($p < .05$) group mean differences for that dimension. If no subscripts then there were no statistically significant ($p < .05$) group mean differences for that dimension.

As previously noted, the purpose of this study was to examine whether participating in the First Ascent Program positively contributes to an individual's perception of life effectiveness. The findings indicate that the First Ascent and ORLC in comparison to the Control group scored higher on every dimension of the LEQ except for Achievement Motivation and Self Confidence. Therefore, this study provided some evidence that suggests that participation in wilderness orientation programs such as First Ascent and involvement in a living learning community such as the ORLC did contribute to perceived life effectiveness. It should be noted however that it was virtually impossible to control for other experiences (pre-college or during the first couple of weeks of college) that may have impacted student growth and development. Therefore, these findings should be treated as "indirect" or "mediated" effects (Pascarella & Terenzini, 2005, p. 13).

The determined effect sizes between the Control group and other groups, while generally small, lends partial support to the finding that participation in the First Ascent program may contribute to an individual's perception of life effectiveness in a way that is not experienced as fully by the Control group. For each dimension in question as well as the overall LEQ score, the First Ascent and ORLC groups began with higher mean scores as compared to the Control group. The LEQ dimensions of time management, intellectual flexibility, task leadership, emotional control, and achievement motivation scores did improve over time for the First Ascent and ORLC group. This is consistent with psychosocial theory on developmental changes in traditional age college students (Chickering & Reisser, 1993) as well as Astin's Theory of Involvement (1996). Psychosocial theories view individual growth and development in a series of stages whereby students change (mature) by being exposed to sociocultural and environmental influences. Chickering & Reisser (1993) contend that students move through vectors (stages in identity development) as they gain confidence through their own discovery of self and communion with others (Pascarella & Terenzini, 1991). Astin's Theory of Involvement (1996) purports that students learn by becoming involved/engaged in the collegiate experience. These two theories provide a useful backdrop to explain student change through the college years. First Ascent is one example of a program that provides first year students with a safe place to begin to engage with their peers and to discover a sense of self in a new culture.

The greater post test scores found for the First Ascent and ORLC groups in comparison to the Control group could be a byproduct of going through an experience that directly or indirectly influenced each of these dimensions. Two notable exceptions concerned the dimensions of achievement motivation and self confidence, although these results seem consistent with a recent book by Howe and Straus (2003) which claimed this generation of students tend to arrive to college with a

healthy sense of self (esteem) and have been consistently affirmed by their Baby Boomer parents. This generation of college students has been raised to think that they are “special” as parents have praised and coddled them throughout their young lives (Twenge, 2006). It is important to emphasize however that these parents have been well intended. While it seems only natural for parents to want the best for their children, research suggests that overly involved parents can impede the developmental process (Wartman & Savage, 2008). The college experience encourages students to separate from the dependent roles within the family as they begin to find their sense of self. It is important for parents to recognize the importance of the detachment process as they support their students in their collegiate journey.

An examination of the pre-test data revealed no statistically significant differences between the ORLC and First Ascent groups for any dimension. This was anticipated since participation in First Ascent had not yet occurred and the ORLC had not formed. Much as was found in the pre-test results, there were no statistically significant differences between the ORLC and First Ascent groups for any dimension on the first post-test. However, the Control group consistently scored lower in all dimensions except achievement motivation. In the second post-test findings, the data is consistent with the pre-test and first post-test findings noted previously with the exception of self-confidence. It can be surmised from these findings that participation in First Ascent and being a member of the ORLC impacted perceptions along most dimensions.

Concerning the within group differences found, the First Ascent group experienced positive changes from one LEQ administration to the next for four of the eight dimensions (time management, intellectual flexibility, task leadership, and emotional control) as well as the overall LEQ score. The ORLC positively changed for all of the dimensions and the overall LEQ score except achievement motivation. The Control group positively changed for six of the dimensions and the overall LEQ score except time management and intellectual flexibility. Noting that only a few of the changes were considered statistically significant, the First Ascent and ORLC groups experienced the greatest changes for time management and task leadership, with the ORLC group also exhibiting noticeable change in social competence, emotional control, active initiative, and self confidence. While recognizing there are many other factors that could help explain the changes in task leadership and time management, they are each integral components of the First Ascent Program. An example of task leadership during the experience entails participants taking on roles such as cooking and fire building, while time management is an integral part of achieving the various group tasks. The remaining four dimensions found for the ORLC group may be more reflective of the type of living learning community they are part of. Living and learning together necessitate a certain amount of

emotional control, active initiative, and self confidence. These dimensions are important interpersonal skills as one finds their sense of place within a peer group. As for the Control group the greatest changes were found in social competence and task leadership yet their scores were still lower when compared to the other groups.

Limitations of the Study

Several limitations to this study need to be noted. The findings are derived from self-reported groups of respondents. Self-reported data can have limitations in that the respondents may have answered the questions according to how they would like to be perceived. This could potentially be true in this particular study as the student respondents are first year students who have the desire to fit in to ASU and potentially project a positive first impression. In addition, this study was conducted at a single institution in southeastern United States. Therefore, the ability to generalize the results is limited. Furthermore, participation in the First Ascent and ORLC programs are by choice and therefore the samples are self-selected. There may be inherent biases in self-selected groups of individuals. For example, in this study it is possible that some participants have an interest in outdoor recreation activities and wilderness experiences. To mitigate some of these concerns the researchers used a random sample of incoming students for the control group.

The general reliability of the findings is limited by the rate of return due to the dramatic drop off in participation numbers from the pre to post test administration of the instrument. While the overall return rate for survey data is acceptable, having more student participation in the study would add power to the findings. Increased student involvement in the study may have occurred if more incentives were given for all participant groups. The timing of this survey may have affected students' willingness to participate and may have affected the quality of their answers. The timing of sending a survey to first-year students when they are still settling into a new campus environment and experiencing many new things should be reconsidered. The gender of the respondents is not representative of the ASU population. The researchers did not attempt to seek similarly balanced participation from the Control or First Ascent groups. And, finally, the researchers did not isolate variables to measure the net effect of First Ascent and living in the ORLC on perceived life effectiveness. Therefore, the success of this intervention must be measured as an "indirect" or "mediated" effect (Pascarella & Terenzini, 2005, p. 13). The study reflects perceived changes in life effectiveness in this particular snapshot in time.

The shorter version of the LEQ, a 24-item instrument, was utilized in this study. Neill et al. (2003) acknowledged the limitations associated with this abbreviated instrument, primarily due to each dimension

only measuring three items. The researchers chose this version because of its soundness and ease in administration. The 32-item or 40-item LEQ versions, with 4 and 5 items per dimension respectively, may have yielded more powerful results. And lastly, it is important to note that this is a limited study in that it reveals a snapshot of findings that are true of this sample at this time.

Despite these limitations, this research stands as a useful exploratory study to assess the potential impact of a wilderness orientation program and residential learning community on perceived life effectiveness. Most importantly, this research will be shared with the directors of the First Ascent and the Outdoor Residential Learning Community at ASU with the hope that they will use the information for program development and further improvement. With this goal in mind, this will create a better program for future students entering ASU. In turn, a successful program can positively impact the malleability of these young adults as they seek to acquire life effectiveness skills as they grow and mature during the college years.

Recommendations

In preparation for recommending improvements to current practice, it was important for the researchers to consult with the 2006 Council for Advancement of Standards in Higher Education (CAS) manual for best practices related to student services programs. In doing so, the researchers discovered that the goals of the First Ascent Program are consistent with what is recommended as the industry standard in Orientation programs. An example of desirable outcomes noted in the Orientation section of CAS include; promoting leadership development, promoting healthy behaviors, creating meaningful interpersonal relationships, and forming a satisfying and productive lifestyle, etc. The First Ascent goals noted in the introduction, although not stated in this exact language, appear to be consistent with industry standards. Administrators would be well advised to further refine these goals and publish them in the form of student learning outcomes. Students, parents and other constituents need to be aware of the potential benefits of this innovative program. And, future assessment efforts would be aided in discovering if programs like First Ascent impact change, and if so, if this change is the intended one.

Future research should be conducted longitudinally to assess the impact of First Ascent on retention and on the first year to senior year experience. The possible impact of this program on individual's perceived life effectiveness after graduation is another area in need of review. An illuminating study by Gass et al (2003) speaks to the importance of findings over the lifespan. Specific attention could be directed at assessing the impact of peer mentoring and faculty interactions with

students in First Ascent on college student satisfaction. A study of institutions with similar programs would be helpful to benchmark current efforts. Future studies should include larger sample sizes to increase validity and reliability, as well as when feasible the use of randomized selection procedures. And finally, statistical controls should be put in place to tease out any precollege influences or mediating effects.

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