College students' development of social support and its relationship to pre-orientation experiences

Brent J. Bell

University of New Hampshire, Durham

Follow this and additional works at: https://scholars.unh.edu/dissertation

Recommended Citation
Bell, Brent J., "College students' development of social support and its relationship to pre-orientation experiences" (2005). Doctoral Dissertations. 259.
https://scholars.unh.edu/dissertation/259

This Dissertation is brought to you for free and open access by the Student Scholarship at University of New Hampshire Scholars' Repository. It has been accepted for inclusion in Doctoral Dissertations by an authorized administrator of University of New Hampshire Scholars' Repository. For more information, please contact nicole.hentz@unh.edu.
College students' development of social support and its relationship to pre-orientation experiences

Abstract
The work of any life transition involves specific tasks, often including the re-establishment of social support in a variety of forms (Weiss, 1974). College students are particularly affected by transition, often disrupting established support systems while transitioning into adulthood. To assist with this transition, campuses offer a number of services (e.g., admissions/alumni programs, campus visits, pre-orientation programs, first-year orientation, first-year seminars). Such services are defined in this study as Comprehensive Transitional Programs (CTP). Little is known about how CTP impact social support. This study focused on adapting the Campus Focused Social Provisions Scale (CF-SPS), as an instrument to measure social support, and investigate whether students in different pre-orientation experiences reported different levels of social provisions on the CF-SPS.

The study was conducted at Harvard and Princeton universities because of their similar pre-orientation programs (i.e., wilderness, service, and pre-season athletics) and similar population demographics. A sample (n = 1601) of first-year and sophomore students was categorized by pre-orientation experiences and analyzed by numerous demographic variables (e.g., ease of making friends, number of roommates). A factor analysis resulted in a three-factor model for the CF-SPS, resulting in a high overall scale reliability (alpha = .94). A t-test showed no significant differences between schools, but a MANOVA indicated participants on wilderness orientation programs reported significantly higher levels of overall social provision scores and also in all six CF-SPS sub factors. Pre-season athletes reported significant differences on the sub-factor social integration (i.e., belonging to a group sharing your interest and values) (p < .05). Service programs reported no significant differences.

A MLR indicated the variable "ease of making friends" as explaining the largest variance of any models (R2 = 20%--14%). Both women and sophomores were more likely to report higher levels of social provisions on campus, except with the variable of social integration. The study proposes new models for social provision development on campus (e.g., the primacy of social integration) and indicates areas for future research. The study was exploratory and somewhat limited by lack of specific controls for selection bias and inability to access a control/matched comparison group.

Keywords
Education, Higher, Education, Tests and Measurements, Psychology, Social

This dissertation is available at University of New Hampshire Scholars' Repository: https://scholars.unh.edu/dissertation/259
COLLEGE STUDENTS' DEVELOPMENT OF SOCIAL SUPPORT AND ITS RELATIONSHIP TO PRE-ORIENTATION EXPERIENCES

BY

BRENT J. BELL
Bachelor of Arts, University of New Hampshire, 1989
Master's of Science, New England College, 1996

DISSERTATION

Submitted to the University of New Hampshire
in Partial Fulfillment of
the requirements for the Degree of

Doctor of Philosophy

in

Education

May, 2005
This dissertation has been examined and approved.

Dissertation Co-director, Ann Diller
Professor of Education

Dissertation Co-director, Michael A. Gass
Professor of Kinesiology

Michael J. Middleton
Assistant Professor of Education

Keith C. Russell
Assistant Professor of Kinesiology

Douglas F. Challenger
Associate Professor of Sociology

February 7, 2005
Date
DEDICATION

This dissertation is dedicated to my late grandfather, Alexander Bell (1910-1979). Although he passed away before I went to college, it would be he who would be most proud of me today.
ACKNOWLEDGEMENTS

My grandfather, Alexander Bell, put the fire in my belly for education. An Irish immigrant from Ballymena, Northern Ireland, he was not provided with the opportunity to attend college or even finish high school. Whether accurate or not, it was my grandfather who told me I was smart, I would be the first in the family to go to college, and my education was important. He told me all these things years before I went to kindergarten.

My second inspiration in this journey is my longtime advisor, teacher, mentor, and friend, Mike Gass. My undergraduate experience in college was transformed by walking into Mike’s office, and my life’s journey has been influenced by him each step of the way. A talented educator, writer, and father, Mike has set a standard that helps push me toward excellence. He is where I get my social provision of guidance.

Ann Diller and Mike Middleton have offered both words of support and encouragement (the provisions of competence). I thank Ann for the care, understanding, and help in moving this process forward. Mike’s consistent positive comments and support for my study helped motivate me to continue when I felt especially lost and hopeless.

My provision of social integration comes from my Sunday night buddies, one of them being Doug Challenger. I appreciate his friendship and his willingness to work with me on this project. I hope it is the first of many team projects.
Keith Russell, the new faculty member who stepped up last minute to replace an open spot on the committee due to a sabbatical, has provided tangible support, coming through for me when I was in need.

The missing provisions of attachment and nurturance are met by my lovely wife, Beth Holden Potier. Nothing about dissertation work is encouraging for one’s romantic partners, and many relationships find their end in such a process. Always the non-conformist, Beth never let the dissertation work overwhelm the potential for a great relationship and marriage (all accomplished during the writing of this project). She has been understanding and accommodating, and I could not imagine a better partner. She is a remarkable woman who I respect, admire, and love to make laugh. Thank you, Beth, for so much understanding as I worked on what you called the DD (damn dissertation).

I received a lot of help from so many friends and family: Dad, Preston and Amy, Jocelyn, Mike Tchou, Sarah Hardin, Kate Callaghan, Pat Bauer, Steph Stuart, Sheila, Kathleen, Ibby Nathans, FOP SC’s 2000-2005, Helen, Amy Dray, P.J., Matissa, and the woman who changed my thinking—Barbara Houston.

I could not have accomplished this academic task without social support.
TABLE OF CONTENTS

DEDICATION.........................................................................................iii
ACKNOWLEDGMENTS........................................................................iv
LIST OF TABLES................................................................................x
LIST OF FIGURES..............................................................................xiii
ABSTRACT..........................................................................................xiv

I. INTRODUCTION.............................................................................1
   Explorations of Social Provisions Among College Students............1
   Measures of Social Support.............................................................6
   Research Questions for the Study...................................................9
   Definition of Key Terms................................................................10
   Theoretical Assumptions...............................................................14
   Research Assumptions.................................................................14
   Limitations....................................................................................15
   Significance of Study.....................................................................16

II. REVIEW OF THE LITERATURE.....................................................17
   Introduction..................................................................................17
   Types of Pre-Orientation Programs..............................................23
   Research on Pre-Orientation Programs........................................24
   Wilderness Orientation Program Development............................26
LIST OF TABLES

Table 1.1: Comparison of Social Support Theories ........................................ 7
Table 1.2: Social Provision Definitions .......................................................... 11
Table 2.1: The Differences in Wilderness Orientation Programs by Structure .... 28
Table 2.2: Summary of Research Regarding College Students Participating in Wilderness Orientation Programs
Table 3.1: Comparison of Pre-Orientation Programs at Harvard and Princeton .... 51
Table 3.2: Rationale for the Demographic Variables Used in the Study ............ 55
Table 3.3: Differences in the Survey Instructions of the Campus-Focused Social Provision Scale (CF-SPS) and the Social Provisions Scale (SPS).
Table 3.4 Type of Variables Included in the Demographic Survey ................. 61
Table 3.5 Factors Explained in the two 4 x 2 x 7 MANOVAs ......................... 63
Table 4.1 Comparisons of the Harvard/Princeton Campus Populations and the Study Sample.
Table 4.2 Princeton Students Ethnicity Compared with Study Sample ............ 70
Table 4.3 Factor Loadings of Exploratory Factor Analysis of the Harvard/Princeton Data: A Rotated Factor Matrix
Table 4.4 Cronbach’s Alpha for Sub-scales .................................................... 73
Table 4.5 MANOVA of Total Campus-Focused Social Provisions Scale Scores Compared by Pre-Orientation Experience and School. .... 76
Table 4.6: MANOVA of Attachment Scores Compared by Pre-orientation Experience and School. .................. 77
Table 4.7 MANOVA of Social Integration Scores Compared by........................ 78 Pre-Orientation Experience and School.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
Table 4.8: MANOVA of Nurturance Scores Compared by Pre-Orientation Experience and School.

Table 4.9: MANOVA of Competence Scores Compared by Pre-Orientation Experience and School.

Table 4.10: MANOVA of Guidance Scores Compared by Pre-Orientation Experience and School.

Table 4.11: MANOVA of Tangible Support/Reliable Alliance Scores Compared by Pre-Orientation Experience and School.

Table 4.12: The Estimated Marginal Means for the Campus-Focused Social Provisions Scale and Sub Factors by Gender and Pre-Orientation Experience.

Table 4.13: Campus-Focused Social Provision Scores Separated by Year.

Table 4.14: Independent Samples T-test for Campus-Focused SPS Scores and Year in School.

Table 4.15: The Bi-Variate Correlations Between the Perception of the Value of Pre-Orientation Programs and the Campus-Focused Social Provisions Scale (CF-SPS).

Table 4.16: Frequency Table of the Value of Pre-Orientation Programs at Harvard and Princeton.

Table 4.17: The Means, Standard Deviations, Correlations and Regression Analysis Summary for the Total Score on the Campus-Focused Social Provisions Scale.

Table 4.18: Predictor Variable Intercorrelations.

Table 4.19: The Means, Standard Deviations, Correlations, and Regression Analysis Summary for the Sub-Factor Attachment, and Student Predictor Variables.

Table 4.20: The Means, Standard Deviations, Correlations, and Regression Analysis Summary for the Sub-Factor Guidance and Student Predictor Variables.

Table 4.21: The Means, Standard Deviations, Correlations, and Regression Analysis Summary for the Sub-Factor Social Integration and Student Predictor Variables.
Table 4.22: The Means, Standard Deviations, Correlations, and Regression ...........97
Analysis Summary for the Sub-Factor Nurturance and Student Predictor Variables

Table 4.23: The Means, Standard Deviations, Correlations, and Regression ...........98
Analysis Summary for the Sub-Factor Competence/Reassurance of Worth and Student Predictor Variables

Table 4.24: The Means, Standard Deviations, Correlations, and Regression ...........99
Analysis Summary for the Sub-Factor Tangible Support and Student Predictor Variables

Table 4.25: Differences in Campus-Focused Social Provision Scores Based ..........100
Upon Ethnicity

Table 4.26: The Regression Analysis Summary for Ethnicity and .......................101
Campus-Focused Social Provision Scale Scores

Table 4.27: The Summary of Independent Variables Significantly Impacting the ....103
Variance in the Multiple Linear Regression Models
LIST OF FIGURES

Figure 2.1: The Comprehensive Transitional Program from First Contact Until the End of First-year of School.

Figure 4.1 The Means for the Campus-Focused Social Provisions Scale when Separated by School.

Figure 4.2: The Value of Pre-Orientation Programs reported by Participants at Harvard and Princeton.

Figure 5.1: Presentation of Factor Analysis Results for the Social Provisions Scale and the Campus-Focused Social Provisions Scale.

Figure 5.2: Model of Social Provisions Development Through Three Factors.

Figure 5.3: Programmatic Model of The Development of Social Provisions.

Figure 5.4: Stage Model of Social Provision Development Among First-Year College Students.
ABSTRACT

COLLEGE STUDENTS’ DEVELOPMENT OF SOCIAL SUPPORT AND ITS RELATIONSHIP TO PRE-ORIENTATION EXPERIENCES

By Brent J. Bell

University of New Hampshire, May 2005

The work of any life transition involves specific tasks, often including the re-establishment of social support in a variety of forms (Weiss, 1974). College students are particularly affected by transition, often disrupting established support systems while transitioning into adulthood. To assist with this transition, campuses offer a number of services (e.g., admissions/alumni programs, campus visits, pre-orientation programs, first-year orientation, first-year seminars). Such services are defined in this study as Comprehensive Transitional Programs (CTP). Little is known about how CTP impact social support. This study focused on adapting the Campus Focused Social Provisions Scale (CF-SPS), as an instrument to measure social support, and investigate whether students in different pre-orientation experiences reported different levels of social provisions on the CF-SPS.

The study was conducted at Harvard and Princeton universities because of their similar pre-orientation programs (i.e., wilderness, service, and pre-season athletics) and similar population demographics. A sample (n = 1601) of first-year and sophomore students was categorized by pre-orientation experiences and analyzed by numerous
demographic variables (e.g., ease of making friends, number of roommates). A factor analysis resulted in a three-factor model for the CF-SPS, resulting in a high overall scale reliability (α = .94). A t-test showed no significant differences between schools, but a MANOVA indicated participants on wilderness orientation programs reported significantly higher levels of overall social provision scores and also in all six CF-SPS sub factors. Pre-season athletes reported significant differences on the sub-factor social integration (i.e., belonging to a group sharing your interest and values) (p < .05). Service programs reported no significant differences.

A MLR indicated the variable "ease of making friends" as explaining the largest variance of any models (R² = 20%-14%). Both women and sophomores were more likely to report higher levels of social provisions on campus, except with the variable of social integration. The study proposes new models for social provision development on campus (e.g., the primacy of social integration) and indicates areas for future research. The study was exploratory and somewhat limited by lack of specific controls for selection bias and inability to access a control/matched comparison group.
CHAPTER I

INTRODUCTION

Exploration of Social Provisions Among College Students

Young adults are involved in a broad range of life transitions, one of the most common being attendance at a post-secondary educational institution. Currently 60% of adolescents in North America experience some form of post-secondary education (Pratt, Bowers, Terzian, Hunsberger, Mackay, Thomas, Pancer, Ostaniewicz, Alisat, & Rog, 2000). To assist in this process, many higher education institutions implement some form of an orientation program to assist with the transition from high school to college. Although the design, quality, and length of such orientation programs vary between institutions, all devote a focused time period specifically designed to prepare first-year students for particular transition issues during their first weeks of school. (Doermann, 1926; Strumpf & Sharer, 1993). Several studies show these early weeks of transition to the university can be critical for long-term university adjustment (Baker & Siryk, 1984; Fox, Zakely, Morris, & Jundt, 1993).

One mechanism assisting students in the positive transition to college is the creation of social support systems (Barefoot, 1992; Coleman, 1960; Perigo & Upcraft, 1989; Robinson, 1989). Research demonstrated certain forms of social support can provide an important buffering effect to the stress of such transitions (Cohen & Wills, 1985; Pratt et al., 2000). Furthermore, social support has been found to positively

1

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
correlate with a variety of healthy outcomes in a range of contexts (Cohen & McCay, 1984; Cohen & Syme, 1985; Cohen & Wills, 1985; Sarason & Sarason, 1985; Thoits, 1982). However for the typical college student, this important transition occurs at a time when students’ support systems are disrupted by the move to a new environment away from their existing primary groups (Pratt et al., 2000).

Leaving one’s family in late adolescence or early adulthood is a common experience across cultures. This common transition in American culture classified by psychologists as a normative life transition, a psychological term for a transitional phenomena experienced by a substantial number of people (Birnie-Lefcovitch, 1996). Such transitions are characterized by fundamental alterations in the way individuals view themselves and the world, requiring new patterns of behavior for successful adjustment (Birnie-Lefcovitch, 1996). Most normative life transitions occur at fairly predictable points in one’s life (e.g., adolescence) and such predictability allows for preparation. For instance, parents of young children prepare each other for adolescence with comments like “Wait until she is 13” or “Wait until he is a teenager; then you will have your hands full.” Such comments are reminders of a future normative life transitions. In North American and European cultures, the transition from high school to college is one of these normative life transitions. Recognizing this, every accredited college and university in the United States currently offers some form of orientation programs to assist students with this transition (Gardener & Hanson, 1993).

Chickering and Reisser (1993) outlined this transition as having academic, physical, and social implications for each individual student. Academically, students must alter their study habits and learning styles to meet the enhanced rigors of a college
education. Physically, students examine questions of body image, sexuality, and general health.

This study focuses on students' social transition from high school to college. This change can be profound: students generally leave behind the strong social bonds of family and long-term friendships. Although most students enter college with few or no social relationships in the new environment, theorists note the importance of social relationships to a college students' development (Astin, 1999; Chickering & Reisser, 1993; Kuh, 1990; Tinto, 1988).

In the examination of this social transition process, this study specifically investigates students' development of social support in college. This study is based on the concept that social support is an important human need. Harvard students have identified this point as their greatest fear about going to college; over 60% of the students participating in a wilderness orientation program in 2002 said their greatest fear was not that the work at Harvard would prove too challenging but that they would not be able to make new friends (see Appendix B). Although students may differ in their needs for interpersonal interaction with peers, all require some form of social support to make a healthy transition to college. Tinto (1988) argued that social support interactions are the primary vehicles integrating students into college life. Based on this principle, one of the key tasks of transitioning from a family life to college life is recreating or developing health and productive social support systems in a new environment.

Research on first-year students at residential campuses emphasizes the need for social integration. Students who participate in first-year seminar courses (e.g., small classes that teach students about the university, study skills, and self-awareness) receive
many benefits. They achieve higher GPA’s (Barefoot, Warnock, Dickinson, Richardson & Roberts, 1998), persist to graduate to a greater degree (Barefoot, et. al. 1998; Hoff, Cook, & Price, 1996), and take a shorter time to complete a degree program (Barefoot, et. al. 1998). Students also often believe the biggest impact of these courses is getting to know a group of peers or interpersonal connections, not the specific content of the course (Barefoot, 1992).

Research on a group of students transitioning to college through a wilderness orientation program (WOP) at the University of New Hampshire showed those who participated had higher GPA’s and persisted to a greater degree than comparison groups after 12 months at the university (Gass, 1987). Follow up research showed these same students continued to possess significantly lower rates of attrition at 42 months when compared to these same comparison groups (Gass, 1990). With these same subjects, Gass, Garvey and Sugarman (2003) identified the friendships students made on the wilderness orientation program as a critical factor for easing the initial transition to college.

Two studies of student transitions at Wilfrid Laurier University in Canada explored questions of student transition. In the first study, 55 first-year students were randomly assigned into experimental and control groups during their first semester at college. The experimental group met six times throughout the semester in once-a-week group support meetings (the meetings did not last the whole semester), while the control group did not meet. Findings indicated students in the experimental group had higher gains on measures of social support and academic adjustment to college when initial levels of social support were controlled (Lamothe et al., 1995).
The second study randomly assigned 96 students into six experimental groups (n=50) and a control group (n=46). An intervention program of nine meetings throughout the first year of college and facilitated by upperclassmen was conducted. Students who met in one of these small groups had higher scores on measures of university adjustment and were less likely to report skipping classes and smoking. Women were less likely to be depressed and reported higher levels of social support (Pratt, et. al., 2000).

In these studies, outcomes for different first-year orientation programs demonstrated positive results, yet the specific mechanisms achieving these results remained unsubstantiated. Qualitative research by Barefoot (1992) and Gass, Garvey, and Sugerman (2003) reported that participants believe an important variable is peer group support. Further research from Lamothe et al. (1995) and Pratt et al. (2000) suggested a similar mechanism. But the concept of peer group support remains inadequately examined, especially concerning the role of social support development in various orientation programs.

This study attempts to provide the groundwork for measuring how social support initially develops on campus and impacts the transition to a residential college. The previous studies by Lamothe et al. (1995) and Pratt et al. (2000) measured social support as a global variable, not distinguishing between on-campus support and support from family, home, and off-campus relationships. By focusing specifically on the development of social support on campus, this study aims to outline methods for college orientation programs to evaluate factors that help or hinder students in college transitions.
Measures of Social Support

The social support literature is a large body of research with over 30 years of inquiry and over 600 peer-reviewed studies. Three large literature reviews (Cobb, 1979; Cohen & Wills, 1985; House & Kahn, 1985) concluded that a lack of agreement on a consistent measure of social support hindered results for many of the social support studies, preventing an effective mean for comparison between tests.

Based upon the theories of Weiss (1974), a psychiatrist and Harvard Medical School researcher on loneliness, The Social Provisions Scale (SPS) was created and has been widely used to measure social support over the last 10 years. The SPS is based on Weiss’s concepts concerning the functional specificity of relationships, based on the premise that people need certain provisions from relationships and having more of one provision (e.g., a large number of social friends) does not compensate for a deficit in some other provision (e.g., a significant attachment to another) (Mancini & Blieszner, 1992).

Russell, Cutrona, Rose, and Yorke (1984) were responsible for creating and refining the SPS instrument to measure social support. This instrument was developed during a time when various multi-factor measures of social support were emerging. A comparison of different theories in Table 1 illustrates the similarities and differences in the various social support definitions. Weiss (1974) and Cobb’s (1979) work stand out because they characterize a six-factor model for social support, but Weiss (1974) includes a provision not defined by any other researcher (i.e., the opportunity for nurturance). This provision does not represent the social support a person receives from nurturing, but
rather the need met by nurturing or caring for others. Weiss’s definition differs from Cobb’s in that Cobb defines active support as the nurturing a person receives from others.

Table 1.1. Comparison of social support theories.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>6-factor model</td>
<td>6-factor model</td>
<td>3-factor model</td>
<td>3-factor model</td>
<td>4-factor model</td>
<td></td>
</tr>
<tr>
<td>Attachment</td>
<td>Emotional Support</td>
<td>Affect</td>
<td>Emotional Support</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Integration</td>
<td>Network Support</td>
<td>Support</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reassurance of Worth</td>
<td>Esteem Support</td>
<td>Affirmation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reliable Alliance</td>
<td>Material Support</td>
<td>Aid</td>
<td>Tangible Aid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guidance</td>
<td>Instrumental Support</td>
<td>Informational support</td>
<td>Appraisal Support</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Opportunity for Nurturance</td>
<td>Active Support</td>
<td>(being nurtured, not nurturing as in Weiss’s definition)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The Social Provisions Scale (SPS) has been used in over 60 studies as a multi-factor measure of social support. The instrument shows strong concurrent and discriminant validity (Cutrona, 1986), even when adapted for specific populations such as athletes and unwed mothers (Cutrona & Russell, 1987; Ryska & Yin, 2000). The SPS has been used to measure social support as a consistent trait (Baron, Cutrona, Hicklin, Russell, & Lubbaroff, 1990; Blaney, 1997; Cutrona, 1989; Cutrona, Cole, Colangelo, Assouline, & Russell, 1994; Cutrona & Russell, 1987; DiTommaso & Spinner, 1997; Kurdek, 1988) and to measure how the development of social support changes over time (Lamothe et al., 1995; Pratt et al., 2000; Sproule, 1999). What has not been explored is whether the SPS, when focused on a specific community of support (e.g., a campus), is sensitive to measuring the development of social support over time (i.e., can the SPS distinguish whether social provisions among college students represent a state that changes over time or a static trait?) In addition, no research has determined how first year college students interpret Weiss' theoretical provisions. This present study sought to determine whether some provisions (e.g., an opportunity for nurturance) are either not important to college students, or are so highly correlated with other provisions that a new model is required to describe a college student populations.

The purpose of this study was to examine whether the Social Provisions Scale (SPS), when amended to focus specifically on campus relationship (the Campus-Focused Social Provisions Scale), can adequately measure social support and verify a multi-factor model at a minimal statistical level generally accepted by social scientists. For example, if each factor is intra-correlated ($r > .3$) at a level higher than the inter-correlations between sub-factors, then this would provide the minimal statistical support necessary to
claim a minimally acceptable relationship. If this statistically acceptable relationship exists, it could provide a useful measure for orientation programs and for programs seeking to connect students to campus and support their transition.

Research Questions for the Study

Question one: Did an exploratory factor analysis of the data from the Campus-Focused Social Provisions Scale result in a six-factor model with eigen values greater than one as predicted by Weiss’s theory (1972) and the results of the Cutrona and Russell study on the development of the Social Provisions Scale (1984)?

Question two: Does the Campus-Focused Social Provisions Scale (CF-SPS) demonstrate statistical reliability through results of a reliability analysis of the scale and sub scales (alpha >. 7) and demonstrate inter-item correlations (r > .3)?

Question three: What potential differences exist in the Campus-Focused Social Provisions Scale scores when students are categorized by four pre-orientation experiences (i.e., wilderness program, service program, pre-season athletics, no orientation)? Is this pattern consistent on two different campuses (Harvard and Princeton)? What are the effects of gender on Campus-Focused Social Provision scores?

Question four: Do differences exist in the Campus-Focused Social Provisions Scale scores when students are categorized by the first six weeks of their first year and the first six weeks of their sophomore year? Is this pattern consistent between two different campuses?

Question five: Do students’ levels of social provisions correlate with their reports on the value of the pre-orientation experience (wilderness program, service...
program, pre-season athletics, no orientation)? Is this pattern consistent between two different campuses?

Questions 6: What are the influences of demographic variables (such as gender, graduation class size, distance of hometown from campus, type of hometown environment, number of roommates) upon the findings of the previous four research questions?

Definitions of key terms

Comprehensive Transitional Programs: For the purposes of this paper, the broad heading of comprehensive transitional programs (CTP) is used to describe the process of orientation in its entirety, from the first contact until the end of the first-year. This term provides clarity over the lack of distinction between a one-week orientation event and an overall orientation program.

Entry and Admissions Programs: The first formal contacts with students (e.g., campus tours, speaking to parents, discussions of financial aid) helping to prepare a student for entry into a college community.

Pre-Orientation Programs: These programs provide the transitioning student with a common experience with a small group of her/his new classmates. Some of the more common pre-orientation programs are wilderness trips and service trips, but common experiences may include poetry workshops, art projects, campus clean-up, and explorations of local resources.

Orientation Programs: A formal event-based experience that occurs on the college campus prior to fall enrollment involving transitioning students to the social and academic campus community.
Extended Orientation Programs: Transitional programs occurring after the beginning of regular coursework and the campus orientation program, the extended orientation programs in this paper generally refer to academic classes but extended orientation programs could include advising, residence hall programming, and other first-year events meant to ease a student into the institutional community.

Social Support: In this study, social support is defined as a multi-factor measure involving Weiss’s six social provisions (see Table 2). An individual may accumulate strong sub-factors of social support, but be at risk of low social support in other areas. Under the definitions used in this study, true social support involves a person having all six provisions or sub-factors met. Each sub-factor is defined and explained below in Table 1.2.

Table 1.2. Social Provisions Definitions

<table>
<thead>
<tr>
<th>Attachment</th>
<th>Attachment in Weiss’s definition refers to individual intimacy, typically met by a romantic partner or “best” friend. A person who does not meet this provision is emotionally lonely and looks for someone to partner with (Russell et al., 1984; DiTommaso, 1997).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Integration</td>
<td>Social integration is the integration into a social group that shares interests or recreational and social activities. Ideally, a person finds a group of people with similar interests, attitudes, and beliefs that he/she finds enjoyable, whether through church, a book club, a bar, a Cajun dance festival or motorcycle rallies. Weiss (1974) finds integration into a social group a human need.</td>
</tr>
</tbody>
</table>
Table 1.2 Continued

<table>
<thead>
<tr>
<th>Provision</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reassurance of worth/Competence</td>
<td>Reassurance of worth involves a person being appreciated for his or her skills; it could also be called “recognized competence.” A person may meet this provision through work, hobbies, or at school (Russell et al., 1984; Weiss, 1974).</td>
</tr>
<tr>
<td>Reliable alliance/Tangible Support</td>
<td>Reliable alliance measures the perception a person has that his or her social support network will provide tangible support. This provision may be met through formal agreements made during rituals or in informal agreements between friends. Fraternity or sorority rituals on campus, for example, promise tangible aid to the members who become “brothers” or “sisters” of the organization (Russell et al., 1984; Weiss, 1974).</td>
</tr>
<tr>
<td>Guidance</td>
<td>Guidance describes the provision met by a person or people to whom an individual can turn for advice and discussion of important decisions or problems (Russell et al., 1984). Parents and professors often fulfill this role.</td>
</tr>
<tr>
<td>Opportunity for Nurturance</td>
<td>This provision is met when a person feels depended upon or needed by others for help, care and/or personal well-being (Russell et al., 1984).</td>
</tr>
</tbody>
</table>

Traditional college student: In this study such a student who has a background with US secondary school education (K-12) or its equivalent. The student graduates from a secondary school system at an age of 17 to 19 in the late spring and enters a four-year
secondary institution the following fall. The traditional college student typically attends college some distance from home, creating geographical separation from home and family.

First-year student: The term refers to students enrolled in their first year of classes at a college.

Sophomore: For this study, a sophomore is defined by time rather than by credits (i.e., sophomores are students in their second year at the institution).

Wilderness orientation program (WOP): A pre-orientation program using the wilderness as a tool to introduce students to the college community. Wilderness trips are often organized into small groups of 8-12 first-year students led by trained upperclassmen.

Community service orientation programs: These pre-orientation programs combine work with community services programs with team building exercises, structurally similar to wilderness orientation programs.

Pre-season athletics: Refers to the student-athletes who come to campus early, before classes or orientation, to practice and live with other teammates in preparation for an athletic season that begins during fall semester. Typically sports such as football, soccer, and field hockey rely on approximately two weeks of concentrated time for practice before classes or orientation begins.

Normative life transition: a psychological term referring to a typical change or adjustment phenomenon experienced by larger numbers of people (Birnie-Lefcovitch, 1996).
Theoretical Assumptions

This research study follows a theoretical assumption that human beings are social creatures and that with few exceptions, humans live and grow in social contact with others. In fact, humans are driven by a deep need to have numerous types of social contacts, such as an intimate and nurturing relationship(s) as well as social group membership (Weiss, 1974). This need is so strong that even when faced with death, most people express more anxiety and fear over the effect their death will have on their primary social group than over facing the unknown or loss of life (Baumeister & Leary, 1995). People’s relationships with others are important to our experiences as human beings. Weiss (1974) concluded that humans have social needs that are only met in relationships with others, and it is not possible to have one relationship meeting all needs. It is through this context that this study is conducted: it assumes that humans need to be social and that during unique times when people experience a loss to their primary social group (e.g., moving from home to attend college) reestablishing a source of social provisions is a key factor in a healthy transition.

Research Assumptions

This study assumes the following:

1. All subjects volunteered to participate in the study without coercion.

2. Subjects honestly represented themselves when answering questions on the survey items.
3. The survey items are valid and reliable representations of on-campus perceived social support.

4. Past research validating the instruments applies to this population.

5. The pre-orientation experiences this year were representative of other pre-orientations.

Limitations

The following items have been identified as restrictions to the study, narrowing the generalizations that can be made as a result of the data collected.

1. This study is limited by the type of institutions used as samples.

2. The results of the study are most applicable to the specific institutions involved and may not be representative of the larger population of collegiate orientation programs.

3. The results of the study are limited to students who self-selected into pre-orientation programs or applied to the type of orientation program they participated (note: students were not randomly assigned to any of the conditions and a selection bias may have impacted the effects).

4. This study is limited by numerous variables not controlled in this study, which could have interacted with other variables and impacted the results.

5. This study is limited by the solicitation techniques used in the study; institutional review boards at each school varied in their approach to data collection among students. Dissimilar collection techniques could result in different types of population samples.
6. This study is not able to uncover causation, but only represents a measure of findings at one time. Any relationships between variables may be due to confounding variables, type I errors, or may represent a true relationship between variables, just not a valid causal relationship.

Significance of Study

This research could uncover relationships between social support and both programmatic variables and traits such as ethnicity, gender, or geography. It also has the potential to provide information about measuring social support that could be useful to student affairs practitioners. These contributions may add to a larger conversation about the importance and value of relationships in education, a topic more relevant than ever as technology offers increasingly efficient and remote delivery of educational content. This research begins to prepare student affairs professionals for the emerging questions such as the purpose of a residential college and the role of personal relationships in a college experiences. This study will examine how instruments to measure social support specifically to the residential college environment as well as how certain types of campus activities are correlated to social support.
CHAPTER II

REVIEW OF LITERATURE

This chapter includes a review of the literature pertaining to college transitional programs and the influences such programs have to social support. It is divided into distinct sections covering the following topics: a) the context and history of behind present day transitional programs, b) the types of pre-orientation programs and accompanying research, c) connection between transitional programs and social support, d) an overview of social support research and literature.

Introduction

"Entrance into an undergraduate degree program often represents the first in a series of many steps in the total development of the beginning student. Upon admittance, students soon learn that they have entered a distinctly different and intricate subsystem of the larger society, complete with its own set of social, moral and educational practices." (Gass, 1986, p. 1).

Entrance into an undergraduate degree programs is currently mediated through a formal "orienting" process designed to assist students in their integration into an academic community. Although structured orientation programs are less than 150 years old, the history of academia is filled with informal student led experiences meant to facilitate the student’s transition into social subsystems within educational institutions.
New paradigms of student development have emerged over the last century on college campuses. One example of these new paradigms is the replacement of the type of faculty member who fulfilled all community roles (e.g., advisor, residence supervisor, counselor, and disciplinarian) by non-academic specialists. This change was a result of two desires: (1) for programs able to better facilitate the education of a more diverse group of college students (first socio-economically diverse, then gender and ethnically diverse) and (2) allowing faculty to place more emphasis on creating new knowledge through research and academic pursuits separate from the community tasks of a residential college (Fenske, 1989a).

Out of such changes in administrative structures emerged an area of student development organizing more effective and humane orientation processes for incoming students, often replacing peer-led hazing rituals that had marked centuries of student transition to the university. The first college orientation program of this type took place in 1888 at Boston University (Bonner, 1972, quoted in Gass, 1986), and by the 1920s such programs became common (Fenske, 1989b). A formal college orientation program is currently in place at every accredited college and university in America (Newman & Miller, 2003). Research on orientation programs indicates such programs can have a powerful influence upon first-year students' social and academic experiences (Rode, 2000).

Although the timing and scheduling of orientation programs is diverse, the goals of orientation programs are relatively unified. They exist to facilitate the smooth transition of students into the academic atmosphere of the college or university (Smith & Brackin, 1993).
The Council for Advancement of Standards in Higher Education (CAS) (an organization promoted by professional groups such as the American College Personnel Association and the National Association of Student Personnel Administrators) sets standards for areas such as orientation programs. The CAS standards describe three common goals of orientation:

1. Orientation programs will aid students in their transition to the institution.
2. Orientation programs will expose new students to the broad educational opportunities of the institution.
3. Orientation programs will integrate new students into the life of the institution.

Although college orientation programs share similar goals, the length and design of such programs are as varied and diverse as the institutions leading them. Even the meaning of the word orientation varies from campus to campus. Schools tend to differ on two aspects of orientation: the timing of orientation and how comprehensive the program is in regard to services beyond one orientation event. These differences in timing and structure pose difficulties in terminology. At one school the term orientation may only describe the week prior to school where students come for activities and registration events, yet at another school orientation may mean a comprehensive 16-month process beginning with first admissions office contact with the student and lasting well into the student’s first-year (Upcraft, Mullendore, Barefoot, & Fidler, 1993).

These comprehensive programs focus on social, academic, and community development for the first-year students, but such comprehensive transitional programs are rare. The most comprehensive programs begin at the time of admissions and continue through the end of the first year.
For the purposes of this paper, the broad heading of comprehensive transitional programs (CTP) is used to describe the process of orientation in its entirety. This term provides clarity over the lack of distinction between a one-week orientation event and an overall orientation program. The model in Figure 2.1 shows how the specific parts work together temporally, beginning at the top of the model where students make their first contact with the university and concluding with students finishing their first-year of college.

The four distinct parts of the Comprehensive Transitional Programs (CTP) ideally work together, sharing information and resources toward the successful integration of new students into the campus community. On many campuses the programs sponsored through the variety of offices (e.g., admissions, academic affairs, student development) share overlapping goals but not a united focus. By organizing campus programs into four areas supporting transition, each area can more clearly understand their role in assisting students in a comprehensive transitional program.

The first contact students have with the campus is often through an Office of Admissions. Entry and admissions programs can integrate with the overall CTP or act more independently, depending upon the campus. From a transitional standpoint, the first contact and interview with students (e.g., campus tours, speaking to parents, discussions of financial aid) are all aspects of preparing a student to enter a new role in a new community. Some programs include meeting with alumni in the hometown area of the students, weekend visits to campus during the spring semester, and sending information to the potential student. It should be noted that while these admissions programs may serve an orientation function, either by design or by accident, they also
serve other goals, namely recruitment and marketing the university to the prospective student.

Pre-orientation programs tend to occur over the summer, often right before the students come to campus. These programs provide the transitioning student with a common experience with a small group of her/his new classmates. The programs often involve the students working at a shared task facilitated by older students and staff who serve as guides. The type of tasks, training of guides, and length of programs all vary a great deal across campuses. Some of the more common pre-orientation programs are wilderness trips and service trips, but common experiences may include poetry workshops, art projects, campus clean-up, and explorations of local resources.

Throughout this dissertation, “orientation program” refers to the formal event organized and officially sponsored by the college, this is the most common definition in the literature. The most common type of program is the event-based experience that occurs just prior to fall enrollment. Orientation programs should cover the transitional areas of academic, personal, and social adjustment of new students (Upcraft & Farnsworth, 1984).

Extended orientation programs refer to experiences that occur after the beginning of regular coursework but that still focus on the incorporation of the new student into the institution. The most popular extended orientation programs are a variety of First-year 101 courses designed for new students; these courses teach students about skills, strategies, and insights into transitioning effectively to college. Other schools offer seminar courses for first-years that focus on an academic subject removed from a personal or social focus, but that are structured to facilitate strong interactions among the
transitioning peers and faculty members. Other examples of extended orientation programs include advising, residence hall programming, and other first-year events meant to ease a student into the institutional community.

Of the four parts to a CTP, the entry and admissions programs and orientation programs are common on all college campuses in some form. Pre-orientation and extended orientation programs are not common to all campuses, although many campuses will have one area but not the other.

Figure 2.1. The Comprehensive Transitional Program (CTP) from first contact until end of the First-year.

---

Research on Orientation and Comprehensive Transitional Programs

Research on orientation programs (CTP) has traditionally involved the measurement of two major dependent variables, both of which are thoroughly discussed in the orientation literature: (1) grade point average (GPA) and (2) retention (Pergio & Upcraft, 1989). Research on orientation programs (CTP) has found positive results in
regard to retention (Beal & Noel, 1980; Lenning, Sauer, & Beal, 1980; Ramist, 1981; quoted in Perigo & Upcraft, 1989) suggesting that students who attend orientation programs tend to persist in school. However Pascarella and Terenzini (1991) caution that such results may be due to selection bias since orientation studies have been not been randomly sampled. Still numerous studies suggest orientation programs have a somewhat positive influence on student success in school (Fox, Zakely, Morris, & Jundt, 1993).

Fewer of the studies in the literature focus on GPA, and the findings with regard to orientation programs and GPA are mixed. For example, Rudmann (1992) found no differences in GPA when comparing a group participating in an extended orientation course with a group of non-participators, while Shoemaker (1995) found students who did participate in a different extended orientation course had significantly higher second semester GPAs than the control group. Santa Rita and Bacote (1991) found the GPAs of participants in an extended orientation course and a control group increased at the same rate, therefore showing no program effect. Although researchers generally agree that orientation programs and extended orientation programs increase retention (Molnar, 1996), the research on GPA is not conclusive.

Types of Pre-orientation Programs

Since the 1970s many colleges and universities have enhanced their orientation program efforts by providing pre-orientation programs. Pre-orientation programs typically occur before the traditional campus orientation program. At some colleges, (e.g., Harvard and Princeton), two popular pre-orientation programs are wilderness orientation programs (WOP) and community service programs. Pre-orientation programs
typically divide students into small groups where they focus on working together in a task (e.g., backpacking a route in the mountains, completing a service project) while being led by upper-class students and college staff. While not designed as pre-orientation programs pre-season athletes share related processes (e.g. common experience, meeting other students, interaction with staff and upper-class students, focusing on teamwork) when they come to campus early to participate in pre-season training. Based on the similarities of the processes, these three types of programs are the focus of this study.

More than these three particular types of pre-orientation experiences exist. Colleges provide numerous types of programs for first-year students in transition. Many programs are based upon a select sub-set of first-year students (e.g., women in science, international students, ROTC cadets, students with learning disabilities). Other pre-orientation programs similar to wilderness or service programs are designed around an experience, such as working on a campus clean-up crew, or attending a poetry workshop with a professor, or attendance at a camp for first years. Other programs are mixes of populations and experiences (e.g., a program for future artists to learn about the campus art community, work on art projects with their peers). Still out of all of these variations, service and wilderness programs are the most recognizable because of the large number of campuses sponsoring such programs.

Research on Pre-Orientation Programs

Research on pre-orientation programs is small when compared to traditional orientation programs. Within the three types of programs researched in this study (wilderness, service and pre-season athletics), the quantity and quality of scholarship varies. For example, almost no research exists for service programs and pre-season
athletics. Even the literature on wilderness orientation programs is small; still, it represents the only research available regarding pre-orientation programs. Because of this problem much of the following literature review in this study focuses primarily on wilderness orientation studies.

After reviewing wilderness orientation programs (WOP), Davis-Berman and Berman (1996) concluded that WOPs have increased in number and in size among private colleges and were generally being run by student leaders, which indicated an increase from an earlier study by O'Keefe (1989). Few current programs involve faculty as leaders, although sometimes arrangements are made for faculty to visit or meet a WOP group (Curtis, 1999). The typical purpose of most programs is the promotion of pro-social goals such as cooperation, teamwork, and building positive and healthy relationships (Galloway, 1999). Most wilderness pre-orientation programs are managed by a student services office or exist as a free-standing program, perhaps as an outing club (Vlamis, 2002). Since programs are mainly student-led, part of the programming focus is generally on peer group development (Curtis, 1999).

Service programs are also usually student-led and housed in offices of student affairs. Pre-season athletics that involve coaches, however, are administered by athletic departments and potentially have different primary goals than programs administered by student affairs professionals. Still many of the structures of pre-season athletic practices are similar enough to the structures of pre-orientation programs (e.g., meeting upperclass students, small group work with other first-years, sharing meals, sharing a common experience) that results could be helpful in understanding how pre-orientation programs operate.
Research at Harvard identifies one aspect of athletic programs worth noting: student athletes who have concerns about life issues approach their coaches more often than any other figure on campus (Van Tassel, 2003). Since pre-orientation programs do not provide individuals with the level of influence as coaches, this structural difference may have an effect upon the social provision guidance for pre-season athletes. Still many principles are comparable as mentioned above. Common to pre-orientation programs and pre-season athletics is a belief that such programs give students a head start on orientation by simply being around the campus community earlier, an important concept needing additional exploration.

Wilderness Orientation Program Development

When the first known wilderness pre-orientation experience for students began at Dartmouth College in 1935, its goal was to increase interest in the Dartmouth Outing Club (Hooke, 1987). When its beneficial effects on orientation to Dartmouth College were recognized, only then did it become formalized as a pre-orientation trip aimed at helping students prepare for Dartmouth. Dartmouth presently runs three-day wilderness orientation experiences involving well over 90% of each year’s class. The pre-orientation trips have become an integral part of most students’ transition to Dartmouth College.

It was not until 1968 that the second wilderness orientation program began at Prescott College (Gass, 1986), but soon afterwards numerous programs began to emerge. By 1984, Gass identified over 41 wilderness orientation programs (Gass, 1984). In 1996 Davis-Berman & Berman (1996) identified 64 programs. At present more than 110 known wilderness orientation programs are operating in the United States (Bell, 2002).
A majority of the programs focus on five to six day trips guided by student leaders. Some programs include adventure activities such as rock climbing or ropes course experiences.

The variety of wilderness orientation programs are defined by seven major variables outlined in Table 2.1. As mentioned earlier in this study, campuses tend to design programs unique to their own institution, but many institutions share commonalities. No specific research has yet been conducted to look at which factors in the wilderness orientation model are essential for outcomes.
Table 2.1: The Differences in Wilderness Orientation Programs by Structure.

<table>
<thead>
<tr>
<th>Program Structure Variables</th>
<th>Range of Programs</th>
<th>Most Common</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time: length of course</td>
<td>Two – 28 days</td>
<td>Six days, just prior to registration.</td>
</tr>
<tr>
<td>When is the course held</td>
<td>Just prior to registration or multiple sessions through out the summer.</td>
<td></td>
</tr>
<tr>
<td>Leaders</td>
<td>Student volunteers, paid student staff, college staff members, third party contractors.</td>
<td>Student volunteers</td>
</tr>
<tr>
<td>Accommodations: (e.g., sleeping, hygiene)</td>
<td>Tents, tarps, summer camp, on campus</td>
<td>Camping with no showers or flush toilets.</td>
</tr>
<tr>
<td></td>
<td>No showers, flush toilets—showers and flush toilets.</td>
<td></td>
</tr>
<tr>
<td>Activities</td>
<td>Camping, ropes course, rock climbing, trail work, canoeing, sailing, spelunking.</td>
<td>Hiking is most prevalent, but significant number of programs use ropes course, canoeing, and trail work as an aspect of a WOP.</td>
</tr>
<tr>
<td>Group size</td>
<td>Eight –10 students up to whole gatherings of the class—almost all programs break students into some type of small group during the pre-orientation.</td>
<td>Eight to 10 students.</td>
</tr>
<tr>
<td>Cost</td>
<td>Free –$1200</td>
<td>Approximately $400</td>
</tr>
<tr>
<td>Population</td>
<td>Undergraduate programs, graduate programs, high school programs.</td>
<td>Undergraduate program</td>
</tr>
<tr>
<td>University Management</td>
<td>Student affairs or Dean of students program, sponsored by a student group or organization such as the outing club, or orientation office hires third party contractor.</td>
<td>Campuses are highly mixed in regard to management.</td>
</tr>
</tbody>
</table>
Research on Wilderness Orientation Programs Reviewed

Much of the literature on wilderness orientation programs is unpublished or not published in referred journals (e.g. Kelley, 1972; Stogner, 1978), limiting access to program information. Other material takes the form of masters and doctoral level theses and dissertations, which are often difficult to obtain (Davis-Berman & Berman, 1996). In addition to being inaccessible, few of these studies have addressed serious threats to internal and external validity.

Of the 26 studies and published articles regarding WOP programs, six studies possess some appropriate rigorous procedure limiting some of the major internal validity threats through the use of comparison groups as well as demonstrate significant differences between students on a wilderness orientation program and other student populations. Two of these studies are unpublished doctoral dissertations, one is an unpublished master thesis, and two others pertain to the same population. Beyond these studies, little evidence exists to document the effectiveness of wilderness orientation programming. Although an excellent in-depth study has been conducted at UNH and is worthy of review, it must be noted that the results of the UNH study may be generalizable to different institutions because of limited external validity.

Research at the University of New Hampshire showed wilderness orientation participants possessed significantly higher second semester GPA scores and a higher rate of retention than non-participants (Gass, 1987). The participants were also measured for student developmental gains through an instrument created from Chickering’s theory of student development (Student Development Task Indicator or SDTI-2). The developmental theory asserts students come to campus with tasks to accomplish as part of
their growth process through the institution and that these tasks move students toward appropriate and predictive levels of identity formation. Students participating on the University of New Hampshire wilderness orientation program scored significantly higher in the task areas of developing autonomy and developing interpersonal relationships and in the sub-task areas of interdependence, appropriate relationships with the opposite sex, and tolerance than non-participants. Another interesting finding was that significant differences between the groups’ levels of retention/attrition and GPAs did not show up until second semester (Gass, 1987).

Retention of students is one impact area where orientation programs are thought to make a difference (Upcraft et. al., 1993). A second longitudinal study found students on the wilderness orientation trip UNH had significantly more persistence after the first 12 months of school than did the control group and Freshman Camp (FC) treatment group, and significantly more persistence than the control group (but not the FC group) at the end of 42 months. After 16 years, a qualitative study conducted on the same UNH group evaluated the impact of the 1984 wilderness orientation trip. Participants said the trip was a positive experience in their adjustment to college; they also believed its timing and intensity were key to its success and the program had both short-term and long-term beneficial effects (Gass, Garvey, & Sugarman, 2002).

Wilderness orientation research often cites the Gass (1987, 1990) studies as evidence of the positive effects of orientation programming, but the external validity of these studies is limited in their application until replications are performed. One such study was conducted by Vlamis (2002) at Hartwick College using the same instrument Gass (1986) used, but at a different institution and in an adventure-based setting (e.g.,
using ropes course elements and camp setting) as opposed to a wilderness travel program where students set up and move camp throughout the program.

In this study, Vlamis (2002) found significant differences in scores on the student development task indicator between groups (significant increase in emotional autonomy, instrumental autonomy, and appropriate educational plans), but the treatment group did not find significance in the same areas as the treatment group at UNH (tolerance and appropriate relationships with the opposite sex). After comparing the goals and outcomes of the two programs, Vlamis believed program goals are instrumental in creating specific changes related to program participation. In her conclusion, the author stressed the need to remember “the generalizability of each study is limited and differences may be the result of unique program goals at different institutions.” (Vlamis, 2002, p. 88).

Recent dissertations studying wilderness orientation programs have looked to different potential outcomes with mix results. Kafsky (2001) researched the development of the Alderian principle of social interest (e.g., development of cooperation, self knowledge, healthy social skills, communication skills) among WOPs and found participants in a wilderness orientation program designed to develop social skills rated themselves significantly higher on the Social Interest Scale than a control group. This design did not control for the effects of the social skills curriculum independent of the wilderness model, but the researcher noted the study was a preliminary step toward greater exploration of wilderness programs impact on the development of social interest.

Devlin (1996) measured the level of friendship formation between participants and a randomly selected control group. Participants in the WOP reported higher levels of
friendship formation directly after the trip and four years later compared to a control group.

Of the other 20 research studies (many of which are descriptive studies), internal validity questions elicit concerns because of a variety of alternative explanations for each study’s conclusions. Many researchers promptly admit difficulty in designing studies with high levels of controls that would reduce internal validity due to campus, financial, or IRB restrictions. Only six studies truly possess appropriate internal controls to answer major internal validity threats and five demonstrated significance in their findings. The other 19 studies report fairly positive results for wilderness orientation programs, although validity threats need to be noted.

At least two hypotheses can be formulated to potentially explain the factors behind such threats. First, researchers may be so invested in the positive effects of wilderness orientation programs that their findings result from a confirmation bias (i.e., they see the programming as more effective than it actually is). However, when compared to the six studies with greater control over internal validity threats the results of these 20 studies show similar positive trends. The overall body of research does not contradict this general trend of either positive or neutral gains. The second hypothesis is that the studies do represent a general trend, with many studies coming to similar conclusions despite difficulties in controlling for internal and external validity threats. These studies are overviewed in Table 2.2. Italicizing the author’s name in the table below delineates the six studies possessing appropriate internal controls.
Table 2.2: Summary of Research regarding College Students Participating on Wilderness Orientation Programs

<table>
<thead>
<tr>
<th>Researchers</th>
<th>Year</th>
<th>Results and Research shortcomings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Sullivan, Sprunger &amp; Williams</td>
<td>1971</td>
<td>This study found greater levels of academic success, number of extracurricular activities and levels of physical strength and endurance among participants in the WOP compared to other groups. This research encountered serious internal validity threats. (from Gass, 1986)</td>
</tr>
<tr>
<td>2. Wells</td>
<td>1975</td>
<td>Participants on a WOP with low levels of inner control reported significant changes; those with high levels of inner control reported no changes. This research had internal validity threats. (from Gass, 1986)</td>
</tr>
<tr>
<td>3. Lechner</td>
<td>1976</td>
<td>Asserted students who participated on a WOP finished college in four years more often than non-participants. This study was a subjective analysis and not an empirical study. (from Gass, 1986)</td>
</tr>
<tr>
<td>4. Dawson</td>
<td>1976</td>
<td>Compared personality differences between participants in a WOP and non-participants. WOP participants were less outgoing and sophisticated (especially males). Descriptive study specific to program and individuals. Did not show effects from a WOP program. (from Gass, 1986)</td>
</tr>
<tr>
<td>6. Stogner</td>
<td>1978</td>
<td>WOP participants did not report differences in self-concept, but were significantly different from non-participants in GPA and self-satisfaction. Experimental design.</td>
</tr>
<tr>
<td>7. Hansen</td>
<td>1982</td>
<td>WOP participants experienced significantly greater levels of tolerance, interdependence, mature career plans, and knowledge of campus resources. This study was limited by serious internal validity threats. (from Gass, 1986)</td>
</tr>
<tr>
<td>8. Gass</td>
<td>1984</td>
<td>Descriptive study identifying existing WOP similarities in rationale, content, and assessment. Reported 34 WOP, 20 programs provide follow-up experiences, five schools use a formal assessment device.</td>
</tr>
<tr>
<td>9. Raiola</td>
<td>1984</td>
<td>Reported that students who participated in the WOP adjusted better to school. Subjective analysis, not an empirical study. (from Gass, 1986)</td>
</tr>
<tr>
<td>10. Gilbert</td>
<td>1985</td>
<td>WOP participants had higher retention rates and were more involved in extracurricular activities. Subjective analysis, not an empirical study. (from Gass, 1986)</td>
</tr>
<tr>
<td>12. Gass</td>
<td>1987</td>
<td>WOP participants had higher second semester retention and GPA, scored higher in student development task areas of autonomy and developing interpersonal relationships.</td>
</tr>
<tr>
<td>Participants also scored significantly higher in sub-task areas of interdependence, appropriate relationships with the opposite sex, and tolerance when compared with non-participants.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>13. O’Keefe</td>
<td>1989</td>
<td>Overview of types of WOP models. Proposed three major models used by WOP’s across the United States. Found programs were equally offered by large and small institutions, over half of the programs served less than 50 students a year, most operate just prior to the start of the semester, average length is 6-7 days, and costs range between $50-1200. Descriptive study.</td>
</tr>
<tr>
<td>14. Gass</td>
<td>1990</td>
<td>A longitudinal analysis on the effectiveness of the WOP studied in Gass’ (1986) study found program participants to have a significantly greater retention rate than a control group and a group participating in an alternative orientation program at 12 months time, but only significantly greater than the control group at 42 months.</td>
</tr>
<tr>
<td>15. Davis-Berman &amp; Berman</td>
<td>1996</td>
<td>Study provided a description and summary of WOPs concluding the profile of such programs has changed since the O’Keefe study (1989). Descriptive study.</td>
</tr>
<tr>
<td>16. Devlin</td>
<td>1996</td>
<td>WOP participants reported a significant difference in friendship formation at the end of four years compared to a control group. Students in WOP self-selected, but the control group was randomly assigned; both groups were matched according to demographic variables.</td>
</tr>
<tr>
<td>17. Brown</td>
<td>1998</td>
<td>Compared a WOP group with a service group and extended orientation group. Concluded WOP attendees demonstrated significantly higher adjustment to college measured on the College Transition Questionnaire and Student Adaptation to College Questionnaire over the service group. Participants in the WOP also stayed in school at higher levels after four years compared to other program participants, but no significance testing was conducted. Participants self-selected into programs.</td>
</tr>
<tr>
<td>18. Wardwell</td>
<td>1999</td>
<td>Studied self-other discrepancies at Princeton, found WOP participants developed more realistic views of social norms on campus in regard to alcohol use and attending parties. Participants were less anxious compared to a control group of students who did not participate in the wilderness program. Selection bias is the main validity issue with this research.</td>
</tr>
<tr>
<td>19. Galloway</td>
<td>2000</td>
<td>In a review of WOP programs reported that social goals are more predominant than academic goals, program assessment is typically informal, programs follow a generic outdoor program model and the education level of program leaders is not a factor inhibiting formal assessment. Descriptive study.</td>
</tr>
<tr>
<td>20. Fears &amp; Denke</td>
<td>2001</td>
<td>Descriptive article introducing WOPs and discussing there role on a campus and how they are managed. Not an empirical study.</td>
</tr>
<tr>
<td>21. Kafsky</td>
<td>2001</td>
<td>Students on WOP scored significantly higher on scores of self-interest (social skills development) than a control group, differences between groups were insignificant at a 6-8 week follow-up measure. Study was conducted on one campus with low sample sizes.</td>
</tr>
<tr>
<td>22. Farmer</td>
<td>2002</td>
<td>Compared matched pairs of students on a WOP with a control group to assess academic performance and social adjustment, no significant differences were found in GPA between groups, although the WOP group reported greater adjustment based on the development of a strong group of colleagues that aided their transition to college. Internal validity threats because of selection bias, matched pairs were only done on four variables (residency status, prior college experience, gender, ethnicity) with weak links to variance in GPA.</td>
</tr>
<tr>
<td>23. Oravecz</td>
<td>2002</td>
<td>Compared WOP participants at three institutions, found WOP effect on grades, retention, and extracurricular involvement to be insignificant on quantitative measure, but reported positive impacts on qualitative assessments for adjustment to college, establishing meaningful relationships, development of self confidence and retention into the sophomore year. Selection bias is the main validity issue.</td>
</tr>
<tr>
<td>24. Pierce</td>
<td>2002</td>
<td>Compared four different types of wilderness orientation program based upon different activities (rocks, backpacking, rope course and mixed trip) and found no significant differences between groups. Participants were randomly sampled.</td>
</tr>
<tr>
<td>25. Vlamis</td>
<td>2002</td>
<td>Assessed group of students in an adventure orientation program (use of initiatives and challenge course elements) and found no statistical differences in attrition/retention or GPA, but did find significant differences between groups in student development measures of emotional autonomy, instrumental autonomy, and appropriate educational plans.</td>
</tr>
<tr>
<td>26. Gass, Garvey and Sugarman</td>
<td>2003</td>
<td>A 17 year follow-up study to a wilderness orientation group at University of New Hampshire resulted in three common themes described by participants; the WOP experience challenged assumptions, built a peer friendship and support network that was sustained during and many times after college, positive impact of program on their education and professional lives after graduation. Qualitative study with limited external validity beyond the particular group.</td>
</tr>
</tbody>
</table>

The above table was adapted from “The Effects of a Wilderness Orientation Program on Incoming Students to a University Setting” by M. A. Gass, 1986, doctoral dissertation, p. 92-95, and “The Effects of an Adventure Orientation Program on Incoming First Year Students” by E. Vlamis, 2002, thesis, p. 37-39, with permission from both authors.
Consistent gains are generally reported by the groups involved in wilderness orientation programs (except one study, Johnson, 1985, which found no differences). According to Vlamis (2002), the gains reported are increases in: academic success (Sullivan, Sprunger & Williams, 1971), inner control (Wells, 1975), self-concept (Wetzel, 1978), GPA (Stogner, 1978), tolerance, independence, mature career plans, knowledge of campus resources (Hansen, 1982), adjustment to school (Raiola, 1984), retention (Gilbert, 1985), adjustment to campus and finishing school more often (Brown, 1998) as well as other positive variables. More recent research shows positive gains for lowering self-other discrepancies (Wardwell, 1999), increases in the development of self interest and social skills (Kafsky, 2001), greater adjustment to campus (Farmer, 2002; Ovarecz, 2002), greater self confidence (Ovarecz, 2002), and increases in emotional autonomy, instrumental autonomy, and appropriate educational plans (Vlamis, 2002).

Tempering the positive gains described above regarding wilderness orientation research is the validity threat of selection bias (e.g., the way the treatment group self-selects for a program). The people who volunteer to participate may represent how they are different from the student population (e.g., have similar values, believes and attitudes) rather than accurately representing the student population. Some evidence suggests that self-selection for wilderness orientation programs may actually attract individuals that lag slightly behind the student population. “Self-selected participants in adventure orientation programs were often students who were behind socially or academically when compared to other incoming first year students” (Vlamis, 2002, p. 79). Kafsy (2001) found WOP participants to have lower scores in social skills than the control group, although the result did not reach significance because of a lack of difference or low sample size. The
study had low power (12%) to detect an effect from the treatment and was susceptible to being inconclusive. The research overall on wilderness orientation suggests at the very least that the programs are not detrimental to students, and despite the many validity threats, generally positive benefits are reported from numerous sources.

**Community Service Pre-Orientation Programs**

Community service pre-orientation programs have many of the same characteristics as wilderness programs. These programs place students in small groups led by upper-class leaders and focus on teamwork around a common task or experience. Many college and university community service pre-orientation programs originated either on campuses with successful wilderness programs or successful extended college service trips (e.g., Habitat for Humanity’s Collegiate Challenge program started in 1989 by promoting spring break service trips to college students). At Harvard and Princeton, the community service pre-orientation programs were directly the result of students and staff realizing that weeklong programs focusing on service rather than wilderness travel might be popular and bring benefits to interested students. Both Universities’ wilderness programs faced problems with long wait lists of students who could not be accommodated. The service programs were designed to provide a pre-orientation experience for students on the wait list and a program for those students who may not be enthusiastic about camping, but would come early for a different type of experience.

No survey data exist on the number of colleges offering a pre-orientation service experience. Presently 40 campuses are known to have pre-orientation service programs, including all of Ivy League schools possessing wilderness pre-orientation programs with the exception of Dartmouth. The only research on community service pre-orientation
programs was conducted at Salisbury State College in Maryland and compares three different orientation programs: community service, wilderness, and classroom meetings (Brown, 1998). According to Brown (1998), students in the outdoor program scored higher on the scale of social adjustment than participants in service or classroom conditions, and they had higher second semester retention rates. He found no other significant differences between groups (Brown, 1998).

Pre-Season Athletics

Sports teams at colleges and universities often bring students to campus early for institutionalized team practices to prepare for the upcoming intercollegiate season. Although these pre-season events may benefit student athletes' transition to campus, a thorough search of the literature did not discover any pertinent articles relating to orientation effects of pre-season athletics, (e.g. the effect of athletic pre-season training camp on social and academic integration into the campus community). But theorists assert that student-athletes may have unique needs special enough that orientation programs may need to be designed specifically for them (Newman & Miller, 2003).

Pope and Miller (1996) concluded that student athletes would benefit from an increased reliance on special orientation or transitional programs. Despite this belief, an attempt to provide college football players with such a program demonstrated no significant results with an academic success program designed to increase grades and retention (Odland, 2001). Clearly there is a need for more research to explore the role of the student athletes and their social and academic integration into the campus community.

While some studies shed light on the interaction of college athletics and university education, most have focused on the differences in the student athlete and their non-
athletic peers. Studies reporting on the unique features of a student athlete focus on themes such as alcohol and drug use, conflicts with academic and athletic requirements, and moral and ethical challenges stemming from athletic participation that render them different than their non-athletic peers.

A study on recruited student athletes who participate in a formal campus visit, a type of entry and admission program preparing athletes for transition to the institution, found out of 10,000 recruited athletes at 224 different NCAA institutions participating in the study that 42% of the visitors consumed alcohol during this visit. The study also reported 35% participated in a drinking contest and 51% were involved in at least one alcohol-related activity on a recruiting visit to campus (Suggs, 1999). Although this seems to portray athletes differently from their peers, surveys of over 38,000 college students found 49.8% of first-year students experience binge drinking within the beginning weeks of college (CORE Alcohol and Drug Survey, 2003).

Athletes entering college are characterized as possessing lower grades, lower SAT scores, and a history of academic difficulty overlooked by admissions departments and deans’ offices. Studies of academic achievement and athletic participation do support some of the claims above (Shulman & Bowen, 2001). A study on athletes at highly selective universities (defined by spending more than 10 hours a week involved with a sport) found that athletes tend to enter college with lower academic credentials than their peers, but also overachieve academically compared to their matched peers with similar academic credentials (Aries, McCarty, Salovey, & Banaji, 2004).

A study by Stevenson (1998) reported lower levels of moral reasoning, moral development, and social responsibility with male athletes as well as those participating in
revenue producing college athletic teams (instead of individual sports). Stoll (1995) reported that the biggest factor in low moral development scores is how the athlete is trained to view others in competition. The ability to objectify opponents, supported socially through teammates and peers, may be the biggest factor in differences between athletes and non-athletes (Stoll & Beller, 1995). Others reported athletics to be an important and beneficial aspect of healthy development (Harris, 1993), noted the beneficial aspects of working on a team, following rules, and being physically active. Even Stevenson (1998) argued that moral development scores are cognitive measures and may not reflect actual behavior. Although a large literature exists on athletic participation and moral development, little is known about how student athletes adjust differently to the university.

Most student athletes do not arrive on campus because of the benefits of scholarships, recruitment efforts, and relaxed academic standards. The reality is that when viewed within the context of the developmental life cycle, collegiate student athletes and their non-athlete peers share very similar profiles. College students struggle with the same developmental issues, and are challenged in identical ways to resolve their age and stage appropriate developmental tasks to ultimately promote their emotional health and social maturity (Stevenson, 1998).

Beyer and Hannah (2000) reported that integration into college through athletics is similar to a rite of passage (e.g., coaches separate the students from the rest of campus at specific times, students go through tough challenges together, keep schedules that separate them from the rest of campus). Bell (2003) argues that pre-orientation programs such as a WOP also had similarities with a rites of passage model. As a transitional
event, pre-season athletics and pre-orientation programs may share more similarities than differences suggested above.

While student athletes may have some unique needs, evidence linking student athletes as developmentally different from non-athletic students is unclear. Given the lack of research, it may be too early to develop orientation models specifically for this population until more research on the true impact of transitional impact of such programs has been conducted (Newman & Miller, 2003). No investigation has occurred on the effects of pre-season athletic program as an orientation program (Newman & Miller, 2003). It remains unknown how the differences or unique qualities of student athletes impacts their development of social provisions.

**Conclusion of Pre-Orientation Program Review**

Pre-orientation programs in higher education are offered by over 110 higher learning institutions in the forms of either a wilderness or community service program. Pre-season athletic programs are not typically considered to be pre-orientation programs, but share many of the structural elements with other pre-orientation programs (e.g., such as coming to school early and working and living in an intensive environment with new peers). The research on pre-orientation wilderness programs had demonstrated positive results, but because of internal and external validity threats any generalizability needs to be done cautiously.

**Orientation Programs and the Development of Social Support**

Orientation programs (CTP) have several key purposes, one being to assist students with their personal adjustments to the campus social environment (Upcraft & Farnsworth, 1984). The focus of this particular objective is to help student become
socially adjusted citizens within the learning community (Smith & Brackin, 1993). In general, first-year students experience more adjustment problems (e.g., appetite disturbances, feelings of worthlessness, concentration problems, depression, and suicidal thoughts) than any other academic classes (Kashani & Priesmeyer, 1983). Several studies have found peer isolation to be correlated to academic failure and attrition (Astin, 1973; Faugh, 1982; Husband, 1975; Krebs, 1971; Tinto & Cullen, 1973; quoted in Gass, 1986; and Reyes, 1989, Wehlage, 1989), while corresponding studies have found student integration to be important toward success (Klem & Connel, 2004; Parke & Welsh, 1998). When first-year students feel outside the norm, dysfunctional adjustments to college can be exacerbated by socio-demographic variables such as minority racial status (Jay & D’Augelli, 1991).

Numerous studies identify social support and/or peer support as positive aids to student coping with transitional issues (Gore & Aseltine, 2003; Gore, Aseltine, & Colten, 1992, House, Umberson, & Lanis, 1988). Peer and social support have positive effects on mental health development (Gore & Aseltine, 2003) and is a key factor in the success or failure of transitional programs. Both Astin (1993) and Pascarella and Terenzini (2001) found that students are more likely to attain their degrees when they are involved with their fellow students and with faculty.

Orientation experiences (CTP) play a key role in first-year student persistence largely because it facilitates a students’ initial ability to meet social challenges in an unfamiliar environment (Pascarella, Terenzini, & Wolfe, 1986; Pascarella & Terenzini, 1991). These reports are similar for extended orientation programs where students indicate variables such as making friends, connecting with a faculty member, and getting
to know others better as the important outcomes of participation in such a program (Barefoot et al., 1998). Part of the desire for making friends is that students often seek assistance in buffering the difficult personal issues often accompanying the transition to college as they leave the more familiar home environment and attempt to meet new demands (Chickering, 1969). In fact, new students typically prioritize making friends above learning how to become a successful student (Barefoot & Gardener, 1993).

Because social support and student focuses on social integration are key variables in transitional programs, a greater understanding of social support concepts and their connection to the design of transitional programs is needed. Effective programs will need to understand how to integrate students into the social and academic community so many researchers and theorists recognize as important. The next section will review the social support literature.

**Social Support Literature**

The social support literature highlights a variety of benefits resulting from higher levels of social support, including buffering the effects of stressors on mental health (Burda, Vaux, & Schill, 1984; Cohen, 1992; Cohen & Wills, 1985; Hobfoll & Vaux, 1993; Kessler & McLeod, 1985; Sarason & Sarason, 1985; Stroebe & Stroebe, 1996, Wills, 1990), prevention of loneliness (Vaux, 1988), and various physical health outcomes (Cohen & McKay, 1984; Cohen & Syme, 1985; Cohen & Wills, 1985; House & Kahn, 1985; Sarason & Sarason, 1985;Thoits, 1982; Wortman, 1984). For college students, social support levels were positively correlated with university adjustment and self-esteem and negatively correlated with later measures of depression, stress (as previously mentioned) and other problems in college (Lamothe et al., 1995).
The literature on social support is varied by how it is measured, even among studies measuring perceived social support. This study focuses on the definition by Weiss (1974), which measures social support as a perception of interpersonal bonds in six different support areas. This definition differs from other measures focusing on actual amount of tangible social support received or social network size. Research shows that perception of social support has the strongest connection to positive outcomes (Amarel, 2002) and the perceived availability and adequacy of social support is the type of support associated with psychological and physical well-being for college students (Jay & D’Augelli, 1991).

The Social Provisions Scale

The Social Provisions Scale (SPS) measures a subject’s perception of social support. The SPS has been shown to have validity and reliability as a measure, including discriminant validity with the Beck Depression Inventory and the Neuroticism Scale (Cutrona & Russell, 1987).

Studies among college students and the Social Provisions Scale demonstrate that specific social provisions are related to loneliness and depression. DiTommaso and Spinner (1997) found the inability to form stable and lasting social relationships (as opposed to romantic or family bonds) was a strong predictor of both loneliness and mental health problems for college students. Lower levels of attachment (e.g., not having a close friend or romantic partner) were strongly related to increased levels of emotional loneliness (DiTommaso & Spinner, 1997). The specific social provision of social integration was significantly related to levels of social loneliness as Weiss (1974) predicted (DiTommaso, & Spinner, 1997). This was further supported by Vaux (1998),
who found the social provision of social integration was a predictor for social loneliness and scores on the provisions of attachment and reassurance of worth (competence) predicted emotional loneliness. Hawkins (1995) found the social provisions of attachment and reassurance of worth (competence) were most related to predicting depressive symptomatology in women, but for men only the provision reassurance of worth (competence) was related to depressive symptomatology.

Cutrona (1986) studied helping behaviors after a stressful event in conjunction with the SPS. Her research indicated that students who reported the highest levels of social provisions also reported the highest levels of helping behaviors following a stressful incident. She also found an association between the lowest number of helping behaviors received and level of depression (Cutrona, 1986).

One study documented a link between perceived social support and performance on academic or academic-like tasks. Subjects high in perceived social support performed better on a difficult anagram task than did subjects low in social support (Sarason, Sarason, Keefe, Hayes, & Shearing, 1986). Subjects high in social support also reported less cognitive interference, concentrated more on performing the task, and reported fewer interfering thoughts or worries during the task (Sarason, Sarason, Keefe, Hayes, & Shearing, 1986).

Kraus, Bazzini, Davis, Church, & Kirchman,(1993) studied social support among 500 college students and discovered increased overall social provision scores and subscale scores were related to beneficial outcomes. Students total SPS score was related to higher levels of self-esteem and reports of higher quality of friendship. Involvement in a romantic relationship was correlated with higher scores on the social provision of
attachment and the provision of nurturance, and was also related to lower social integration scores (Kraus, Bazzini, Davis, Church, & Kirchman, 1993). These results are consistent with Weiss’s (1974) theory.

Gender also seems to play an important role in SPS findings. Women possess higher levels of social provisions across all sub-factors (Hawkins, Tan, Hawkins, Smith, & Ryan, 1999); Kraus et al., 1993; Lamothe, et al, 1988; Pratt et al, 2000), even when finding no differences in the number or frequency of social contacts (Montgomery, Haemmerlie & Edwards, 1991).

Two studies focus specifically on the Social Provisions Scale scores among first-year college students in an extended orientation program. Lamothe (1995) demonstrated that students participating in a six-week program of once-a-week meetings with two facilitators to discuss adjustment issues and improve social ties had better adjustment to the university and more gains in social support than the non-intervention group. Pratt et al., (2000) conducted a similar study at the same university using the same six-week program of once-a-week facilitated discussions. He randomly assigned students to groups and conducted three tests, a pre-test prior to coming to school, a test in November just at the end of the intervention, and a March follow-up. In November scores showed positive directional gains, but no significant results (Pratt et al., 2000). Pratt found significant differences between groups in March, with those in the intervention group scoring higher on measures of adjustment to the university, but only women had significant differences in social support (Pratt et al., 2000).

The effect from an intervention on college first-years may exhibit a lag time before results show up on tests (Oppenheimer, 1984). This is certainly consistent with
the findings of Gass (1987) and Vlamis (2002) discussed earlier, and was consistent with Pratt's research. Unpublished research examining the effects of outdoor education programs upon participants at the National Outdoor Leadership School, Outward Bound, and the Student Conservation Association reported that participants found the importance and impact of the outdoor programs tended to become more valuable to the participants the further they were from the actual experience (Kellert, 1998). Gore (2003) explains such difficulty occurs in conducting research on a transitioning adolescents because so many changes are occurring that it takes time for the adolescent to realize which events had an impact and which did not (Gore, 2003). These results may point to an incubation period or a lag time following such experiences which makes measurement of the effects of a program more difficult.

Conclusion

Social support literature reports many positive outcomes potentially buffering against problems of depression, loneliness and stress—a group of problems to which first-year college students are particularly vulnerable. Research literature also supports the use of social support development as a factor in beneficial outcomes (e.g., increases in adjustment to the university, increases in academic performance, and increases in the quality of friendships). Because the concept of social support possesses critical value for transitional programs, examination of how different aspects of pre-orientation programs relate to social support is imperative. The development of the CF-SPS to specifically measure a student's on-campus support may provide information on the different factors of transitional programming that are related to different social provisions.
Based on the preceding review of literature, the following questions are central to this study:

Question one: Did an exploratory factor analysis of the data from the Campus-Focused Social Provisions Scale result in a six-factor model with eigen values greater than 1 as predicted by Weiss’s theory (1972) and the results of the Cutrona and Russell study on the development of the Social Provisions Scale (1984)?

Question two: Does the Campus-Focused Social Provisions Scale (CF-SPS) demonstrate statistical reliability through results of a reliability analysis of the scale and sub scales (alpha > .7) and demonstrate inter-item correlations (r > .3)?

Question three: What potential differences exist in the Campus-Focused Social Provisions Scale scores when students are categorized by four pre-orientation experiences (wilderness program, service program, pre-season athletics, no orientation)? Is this pattern consistent on two different campuses (Harvard and Princeton)? What are the effects of gender?

Question four: Do differences exist in the Campus-Focused Social Provisions Scale scores when students are categorized by the first six weeks of their first year and the first six weeks of their sophomore year? Is this pattern consistent between two different campuses?

Question five: Do students’ levels of social provisions correlate with their reports on the value of the pre-orientation experience (wilderness program, service program, pre-season athletics, no orientation)? Is this pattern consistent between two different campuses?
Questions 6: What are the influences of demographic variables (such as gender, graduation class size, distance of hometown from campus, type of hometown environment, number of roommates) upon the findings of the previous four research questions?
CHAPTER III

RESEARCH METHODOLOGY

This chapter is a report on the methods used in this research study. It covers the setting, sample, data collection procedures, instruments, key variables, and methods of data analysis of the study.

Setting

This study was conducted at Harvard and Princeton Universities. Harvard University’s undergraduate population consists of 6,649 students with an entering first-year class of 1,600. Princeton University has 4,635 undergraduates and an entering class of 1,160 students. The admissions process at both colleges is highly selective, drawing students with outstanding academic credentials. The graduation rate is near 99% at both Harvard and Princeton. Both institutions offer similar pre-orientation programs for students prior to the official start of their respective fall semesters (outlined in Table 3.1). Although Harvard has more program options (e.g. an arts orientation, paid positions through Dorm Crew), Princeton enrolls a greater percentage of students in its pre-orientation programs. Four pre-orientation experiences -- the wilderness orientation program, the community service program, pre-season athletics, and the experience of not attending any pre-orientation program -- are common to both Harvard and Princeton.
Table 3.1, Comparison of Pre-orientation Programs at Harvard and Princeton.

<table>
<thead>
<tr>
<th>General Description of the pre-orientation program</th>
<th>Pre-orientation programs at Harvard University</th>
<th>Pre-orientation programs at Princeton University</th>
</tr>
</thead>
<tbody>
<tr>
<td>A six-day wilderness trip: two trained upper-class leaders and eight to ten students.</td>
<td>First-year Outdoor Program — FOP (275 students in '03, 286 in '02)</td>
<td>Outdoor Action--OA (600 first-year students)</td>
</tr>
<tr>
<td>A six-day community service program, modeled after the outdoor program. Students are led by upperclassmen and do service projects with community agencies close to campus.</td>
<td>First-year Urban Program -- FUP (88 first-year students in '03, 90 in '02)</td>
<td>Community Action--CA (100 first-year students)</td>
</tr>
<tr>
<td>Fall athletic teams begin team practices prior to the beginning of school, introducing students to teams before they begin orientation</td>
<td>Pre-season Athletics (e.g., Football, Soccer, Golf) (72 first-year students)</td>
<td>Pre-season Athletics (e.g., Football, Soccer, Golf) (120 first-year students)</td>
</tr>
<tr>
<td>A three-day program helps international students learn about the local campus and understand the relevant laws and paperwork.</td>
<td>First-year International Program -- FIP (70 students)</td>
<td>International Pre-Orientation Program at Princeton (82 students)</td>
</tr>
<tr>
<td>A six-day program led by a Professor of Theater; student leaders provide first-years with artistic interests a head start exploring Harvard’s art resources.</td>
<td>First-year Arts Program — FAP (40 first-year students)</td>
<td></td>
</tr>
<tr>
<td>Students arrive a week early and assist in cleaning out the residence halls prior to move-in. Students are paid to work.</td>
<td>Dorm Crew — (195 students)</td>
<td></td>
</tr>
<tr>
<td>Students do not participate in a pre-orientation program.</td>
<td>No pre-orientation program—1,000 students</td>
<td>No pre-orientation program—200 students</td>
</tr>
<tr>
<td>Total programs = seven</td>
<td>Seven pre-orientation conditions at Harvard</td>
<td>Five pre-orientation conditions at Princeton</td>
</tr>
</tbody>
</table>
This study focused on examining the largest comparable programs: the wilderness orientation, the community service orientation program, the pre-season athletic program, and students participating in no pre-orientation program. For the purposes of this study, programs such as Harvard's Dorm Crew and the smaller international programs were not evaluated.

Sample

All first- and second-year students at Harvard and Princeton were invited to participate in this study. Because of different institutional review board (IRB) policies at the two colleges, students were solicited in different ways. Harvard restricts the use of student e-mail for any solicitation unless the student gives his or her expressed permission. Since the researcher is also an employee of Harvard, concerns were expressed regarding the potential for students to feel coerced if an officer of the university solicited them for a study. To meet the concerns of the Harvard Committee on Student Research Participation (CSRP), the researcher hired a small group of student employees to solicit first- and second-year students at a busy campus intersection located between the first-year dining commons and the first-year mailroom. Advertisements were also placed in student residence halls, and individual students were encouraged to tell friends about the study. Students who were interested in the study could ask for more information to be sent to them over e-mail. Through this method a number of students were sent an e-mail with a live link to the survey.

At Princeton, postcards and e-mail messages were sent to all students asking them to participate in the study. Students received a postcard Monday morning in their campus
mailboxes. That evening they received an e-mail message with a live link to the Web-based survey. After two days, a reminder e-mail was sent to all first and second-year students asking them to please participate and expressing gratitude to those students who had already taken the survey. No further solicitation was conducted at Princeton.

Princeton’s Institutional Review Panel for Human Subjects required the study to be supported and sponsored by a faculty member of Princeton University. Dr. Joel Cooper, a member of the Psychology Department, agreed to sponsor the study due to his previous interest in the Princeton Outdoor Action Program. Princeton also required this researcher to complete an on-line course, “Human Participants Protection Education for Research Teams,” through the National Institute of Health. Princeton placed only one restriction on the proposed study: it disallowed any student under 18 years old from participation. A button and accompanying question was added to the survey asking for participation only from students 18 years old or older. At Harvard all enrolled students were considered emancipated minors for the purposes of the study and did not face the same restriction.

After both Universities granted permission, the University of New Hampshire’s Institutional Review Board approved the study contingent on the researcher following the procedures laid out by both Princeton and Harvard (see Appendix for proposals and permission letters). Data collection for both schools was managed through Psychdata, a professional Web testing company which hosts a secure Web server for research. Psychdata was recommended by the UNH Institutional Review Board.

Students were able to link to the Psychdata site through the Internet domain www.edtest.net, purchased by the researcher to provide a clear and simple link to the
survey. The researcher also purchased two other site addresses (www.edtest.org and www.edtest.com) in case student participants had trouble remembering the site address. These domains would send students directly to the survey hosted on the Psychdata Web site.

The first Web page introduced the study asking for the student’s consent (see Appendix D). After reading the consent form students who agreed to participate in the study were asked for their e-mail addresses so they could participate in a raffle for a prize of $100. Students who continued were taken to a separate unlinked page so that no identifying information was attached to the survey data (see Appendix D). The introduction page provided the participant with explicit information regarding the study and the anonymous nature of participants’ responses. This also allowed the researcher to check the e-mail addresses against a student database to determine whether unintended participants took the survey. Because the survey data was unlinked to addresses, this information could only be noted not controlled. Having the e-mail addresses of the participants also provided a method of conducting a raffle and contacting winners.

Instruments

Demographic Questionnaire

A total of eight demographic questions for Harvard students and nine demographic questions for Princeton students were asked before the participants completed a 24-question survey. Table 3.2 lists the demographic questions as well as a rationale for their inclusion in the study. Because of Harvard IRB restrictions, the question regarding ethnicity was only asked at Princeton. The full survey is available in
Appendix D. The demographic questions were used to both control and explore factors influencing the results of the CF-SPS.

Table 3.2 Rationale for the Demographic Variables used in the Study

<table>
<thead>
<tr>
<th>The Variable</th>
<th>Hypothesis on why the variable may impact the study.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Lamothe et al (1995) demonstrated gender has an effect on the type of adjustment students prefer in developing social support. Women tended to prefer small group discussion, while men tended to prefer physical activity. No data was found on transgender students.</td>
</tr>
<tr>
<td>The number of students in your high school class</td>
<td>Several studies conducted on college campuses have used size of high school class as a potential confounding variable. Few studies have found an interactive effect for this variable, but it is commonly included because of its predominance in the student development literature.</td>
</tr>
<tr>
<td>How many people at Harvard did you already consider close friends before you arrived on campus, or before you participated in a pre-orientation program?</td>
<td>Since the study looked at the development of provisional relationships, it is important to control for students who already have developed relationships with other people on campus, such as relatives, friends from high school, etc. A few students may have a sibling attending the school, a parent who is a faculty member, etc. It is expected that these students would confound the study since they do not lose their support system in the way this research proposes.</td>
</tr>
<tr>
<td>If you participated in a pre-orientation program, how satisfied were you with the experience?</td>
<td>The perceived value of the pre-orientation experience may correlate to different levels of social provisions. This variable is key to answering one of the main questions in this study and also deepens understanding concerning participation.</td>
</tr>
<tr>
<td>How would you describe your hometown environment?</td>
<td>Based on the theory of Walsh and Golins (1976) who assert that one of the strengths of Outward Bound programs is by placing the learner a new and vigorous learning environment, it can be surmised that wilderness orientation programs actually benefit students from cities more than those who come from rural environments where the wilderness may be familiar. Research has shown some differences in rural/urban effects in regard to urban high school athletes receiving better guidance (Roenbeck, Sutton, &amp; Forsyth, 1989); and rural males may have less need for social affiliation (Query, 1973).</td>
</tr>
<tr>
<td>Approximately how far is the Harvard/Princeton campus from the place you call home?</td>
<td>Students who attend a college close to home will most likely have greater access to support systems not available to those students who come from longer distances. The distance a college is from home is correlated negatively with the strength of a parent bond after four years (Sheh Wei, 2000) and had a small but interactive effect on the adjustment to college (Brooks, 1995). Research</td>
</tr>
</tbody>
</table>
showed significant correlations between distance from home and admittance rates to a college campus mental health unit (Rosecan, Goldberg, & Wise, 1992)

| Ethnicity | It is well documented (e.g., Lewis, 2003) that different ethnicities can have very different perspectives on the same issue or same experience. This variable allows the researcher to see if a student’s ethnic identity is correlated with his or her development of social support as found in other studies (Watters, 1999; Zea & Jarama, 1995;).

| Number of roommates | The number of roommates may have an impact upon the social support development of students in this study. Harvard and Princeton are unique among colleges in this regard, as many more sizes of rooms are available for students than the standard double and triple available on most campuses. No studies have looked specifically at the number of roommates and effects upon the development of social support, although research shows roommates can have an influence upon drinking behavior (Hartford, Wechsler, & Rohman; 1983) and help-seeking behaviors (Gray, 1987).

| Ease of making friends | Research shows that the people who report the highest levels of happiness are extroverts who find it easy to make friends (Argyle, 2001). Ease of making friends would seem to correlate positively with social support, and shyness should negatively correlate with levels of social support. Little is known about this variable’s effects on the measure of social provisions. |
Development of the Campus Focused Social Provisions Scale

The original Social Provisions Scale (SPS) was developed by Russell, Cutrona, Rose, and Yurko (1984) based upon the theoretical work of Weiss (1969, 1973, 1974). In this study the Campus-Focused Social Provision Scale (CF-SPS) was developed because of the SPS's history of validity and reliability.

Both the SPS and the CF-SPS contain 24 items, four items for each of the six social provisions or sub-factors. Each sub-factor contains two positively worded and two negatively worded statements. The six provisions defined by Weiss are: attachment, reliable alliance (tangible support), guidance, reassurance of worth (competence), social integration, and opportunity for nurturance.

Several studies have demonstrated the reliability and validity of the Social Provisions scale. Russell et al. (1984) conducted the initial assessment of the instrument on a sample of 1792 respondents, which included college students (n = 1183), public school teachers (n = 303), and nurses from a military hospital (n = 306). The test-retest reliability factor of the total SPS score (.915) was estimated based on the formula for reliability of a linear combination of scores devised by Nunnaly (1978), (cited in Russell & Cutrona, 1987, p. 41). Test-retest reliabilities for each factor had coefficient alphas ranging from .653 to .760, signifying adequate scores for an instrument used for research contexts (Cutrona & Russell, 1987). Early work by Russell et al. (1984) explored convergent validity with different measures of interpersonal relationships and scores on the SPS sub-factors. Consistent with Weiss's predictions, attachment was significantly related to how satisfied individuals were with their romantic/dating relationships ($\beta =$

57

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
.547, p < .001) whereas social integration was significantly related to how satisfied participants were with their friendships (beta = .317, p < .001). Reliable alliance was related to perceived quality of one’s family relationships (beta = .244, p < .001) and friendships (beta = .253, p < .001).

The SPS showed a negative correlation with the Beck Depression Inventory (r = -.278, p < .001) (Beck, et. al., 1961) and also with the neuroticism scale (r = -.199, p < .01) from the Eysenck Personality Inventory (Eysenck & Eysenck, 1975). Given the convergent and discriminate validity with other measures and the test-retest reliability, the SPS seemed to be an adequate measure of social support and consistent with Weiss’s theory.

The Social Provisions Scale was adapted for this study by making the questions and directions specific to a college campus context, rather than measuring all relationships. This adjustment was made by making slight modifications to the directions listed in Table 3.3 and by adding the words “on campus” to each of the sentences in the survey.
Table 3.3: Differences in the Survey Instructions of the Campus-Focused Social Provisions Scale (CF-SPS) and the Social Provision Scale (SPS).

<table>
<thead>
<tr>
<th>Example of the instructions for the Social Provisions Scale</th>
<th>Example of the instructions for the Campus-Focused Social Provisions Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>In answering the following questions, think about your current relationships with friends, family members, co-workers, community members, and so on. Please indicate to what extent each statement describes your current relationships with other people. Use the following scale to indicate your opinion</td>
<td>In answering the following questions, think about your college based relationships with people on campus. This test is NOT a measure of your relationships with non-campus friends and family, but is specifically geared towards your college experience. Please indicate the extent to which each statement describes your current relationship with people you interact with on campus (on campus includes peers, professors and staff members).</td>
</tr>
<tr>
<td>STRONGLY DISAGREE = 1</td>
<td>STRONGLY DISAGREE = 1</td>
</tr>
<tr>
<td>DISAGREE = 2</td>
<td>DISAGREE = 2</td>
</tr>
<tr>
<td>AGREE = 3</td>
<td>AGREE = 3</td>
</tr>
<tr>
<td>STRONGLY AGREE = 4</td>
<td>STRONGLY AGREE = 4</td>
</tr>
</tbody>
</table>
The Campus Focused SPS was reviewed by a selected group of nine graduate students at Harvard and the University of New Hampshire. Feedback on the instrument demonstrated that answers distributed themselves across all four nominal markers, indicating that the survey was sensitive to differences among students.

Data Analysis

Data from the Web survey was downloaded into the SPSS statistical program for analysis. Groups of descriptive statistics were collected to look for data that was incomplete or did not fit the criteria of the study (e.g., junior or senior participants). Scatterplots were constructed for each variable as a check for outliers and as a visual check of how participants responded. The sampling procedure resulted in 721 full sets of data from Harvard and 900 full sets of data at Princeton. Both schools had some incomplete or inappropriate data; for instance, at Harvard 23 juniors and seniors filled out surveys that were deleted from the data set. Data conversions were made if a survey had one missing data point within a social provision sub-factor. If more than two data points were missing within a provision, the survey was deleted from the study. In total 31 surveys were eliminated from the study due to missing data and 76 surveys were saved by making averaging the sub-factor scores to fill in a missing data point.

The SPS measures overall social support as the sum of the six different sub-factors. This provides seven dependent variables: attachment, social integration, guidance, reliable alliance (tangible support), reassurance of worth (feelings of competence), nurturance, and the overall social provisions score. The independent variables are derived from the demographic questions in Table 3.2, listing such items as
year in school and pre-orientation experience. Table 3.4 lists the variables used in the study with accompanying ranges or categories.

Table 3.4  **Types of Variables included in the Demographic Survey.**

<table>
<thead>
<tr>
<th>Type of Variable</th>
<th>Categories or range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male/Female</td>
</tr>
<tr>
<td>Distance from college</td>
<td>1-4</td>
</tr>
<tr>
<td>Size of high school</td>
<td>1-4000</td>
</tr>
<tr>
<td>Shyness</td>
<td>1-5</td>
</tr>
<tr>
<td>Established peer support</td>
<td>0-20</td>
</tr>
<tr>
<td>Perceived ease at making friends</td>
<td>1-3</td>
</tr>
<tr>
<td>Hometown environment</td>
<td>1-3</td>
</tr>
<tr>
<td>Ethnicity (Princeton only)</td>
<td>7 categories</td>
</tr>
<tr>
<td>Satisfaction with orientation</td>
<td>1-7</td>
</tr>
<tr>
<td>Number of roommates</td>
<td>0-8</td>
</tr>
<tr>
<td>Distance from home</td>
<td>0-2000</td>
</tr>
</tbody>
</table>

**Analysis of Questions**

For each of the six research questions, a specific statistical analysis was conducted to determine results.

**Question 1**  Did the Campus-Focused Social Provision Scale (CF-SPS) demonstrate statistical reliability through results of a reliability analysis of the scale and sub scales (alpha > .7) and demonstrate inter-item correlations (r > .3)?

A reliability analysis was conducted to determine alpha levels for the Campus-Focused Social Provisions Scale. The alpha level is a measure of internal consistency within the measure. Alpha levels are measured on a scale between zero and one, with zero referring to a state of total inconsistency and one referring to a perfectly consistent measure. A group of inter-item correlations was also conducted. Correlation measures are scaled between negative one and positive one. The closer a correlation is to zero, the
weaker the relationship between the variables. This test reflects the relationships between the sub-factors in the Campus Focused Social Provisions Scale. Ideally items will not be perfectly related to each other nor completely distinct. If a question is too related it indicates a redundant question in the scale. Ideally each sub-factor item should measures some shared and some distinct aspects of social provisions.

*Question 2* Did the Campus Focused Social Provisions scale result in a six-factor model with eigen values greater than 1 as predicted by Weiss’s theory (1972) and the results of the Russell et al. (1984) study on the development of the Social Provisions Scale?

The above question was analyzed using an exploratory factor analysis. A factor analysis looks for variables that are correlated with one another but are largely independent of other subsets of variables. The subsets are grouped into factors that are thought to reflect underlying processes or communalities. In the present study it was expected that the six social provision sub-factors would result in six somewhat independent categories of variables. The study used an exploratory factor analysis instead of a confirmatory factor analysis because the CF-SPS was a new measure different from the SPS, focusing upon social support on-campus not a global measure. It was important to ascertain if the more specific measure would factor in a unique manner with the sample.

The eigen value refers to the statistical process of grouping the variances between items over groups of variables, and in this case, setting the bar for how much variance in the grouping needs to be accounted for to be recognized. An eigen value (> 1) is the standard measure in most research using factor analysis (Steiner, D. L, 1994).
Questions 3. What potential differences exist in the Campus-Focused SPS scores when students are categorized by four pre-orientation experiences (wilderness program, service program, pre-season athletics, no orientation)? Is this pattern consistent between two different campuses (Harvard and Princeton)? What are the effects for gender?

This question was explored by using a MANOVA design, looking first for main effects and interactions between the four pre-orientation categories and the two categories for school. The MANOVA design was a $4 \times 2 \times 7$, with seven dependant variables (the six sub factors and overall score on the CF-SPS). Because gender is also an important variable in this research, a similar $4 \times 2 \times 7$ MANOVA was conducted replacing the variable school with the variable for gender (see Table 3.5). Significant differences were examined using the Tukey post hoc test, a common post hoc test used in social science research.

Table 3.5: Factors Explained in the Two $4 \times 2 \times 7$ MANOVAs

<table>
<thead>
<tr>
<th>4 factors</th>
<th>2 factors</th>
<th>7 factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wilderness Orientation</td>
<td>Harvard</td>
<td>The total CF-SPS and the six sub factors</td>
</tr>
<tr>
<td>Community Service</td>
<td>Princeton</td>
<td></td>
</tr>
<tr>
<td>Pre-season athletics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Pre-Ontention</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>4 factors</th>
<th>2 factors</th>
<th>7 factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wilderness Orientation</td>
<td>Male</td>
<td>The total CF-SPS and the six sub factors</td>
</tr>
<tr>
<td>Community Service</td>
<td>Female</td>
<td></td>
</tr>
<tr>
<td>Pre-season athletics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Pre-Ontention</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Question 4. Do differences exist in the Campus-Focused SPS scores when students are categorized by the first six weeks of their first year and the first six weeks of their sophomore year? Is this pattern consistent on two different campuses?

The fourth question was first analyzed by using a t-test to check for overall differences in the means between the two years. The t-test gives a rough idea whether differences exist, but further exploration was conducted to see where the differences may be more pronounced or alternately, not found at all. Another step in this analysis involved the testing of a 2 x 2 x 7 MANOVA looking for differences by year in school (first or second year) and by school (Princeton or Harvard). The MANOVA was conducted in addition to separate t-tests because the MANOVA allows for analysis of interaction effects not available in conducting separate t-tests.

Question 5. Do students' levels of social provisions correlate with their reports on the value of the pre-orientation experience (wilderness program, service program, pre-season athletics, no orientation)? Is this pattern consistent between two different campuses?

A simple correlation test was conducted on the metric variable of the value of pre-orientation programs in relation to the three pre-orientation conditions. The value question asked students involved in pre-orientation programs to rate how valuable they thought the program was after participation. Correlations of $(r < .1)$ were considered weak, while those with $(r > .3)$ were considered strong.

Question 6. What are the influences of demographic variables (gender, graduation class size, distance of hometown from campus, type of hometown environment, level of
physical activity, number of roommates) on the measure of campus-focused social provisions?

To examine the potential influence of these variables, a multiple linear regression (MLR) was conducted to measure factors possessing the strongest relationships to the seven dependent variables. A MLR can be conducted in several ways, but this study used the standard approach in which all variables are entered at once.

A multiple linear regression works best if the model with the best predictive power can be created using the smallest number of variables. Variables that demonstrated insignificant correlations or troublesome results in previous analysis were eliminated from the linear regression to help reduce the number of variables in the model. Other variables not sufficiently analyzed in previous questions were submitted to t-tests or correlations to provide an exploratory analysis to judge whether the variables were potentially valuable to the regression model.

Since an MLR relies on metric variables or dichotomous variables, the categorical variables were manipulated to make them dichotomous when needed. The three pre-orientation conditions involved in this study were transformed into three new dummy variables by setting up the categories 1) wilderness pre-orientation or not; 2) service pre-orientation or not; 3) pre-season athletics or not. A dummy variable was also created for ethnicity which was transformed into the variable "white or not" for the purposes of this study.

A standard multiple linear regression was run on the remaining grouping of variables for all the data and then re-run with only the Princeton data by adding the
variable for ethnicity. Since the ethnicity question was not asked at Harvard, this method of analysis seemed to make the most sense.
CHAPTER IV

RESULTS

Introduction

The following chapter highlights the results from the data analysis for this study. Data cleaning and sampling results are explained. The six questions are explored in detail using the results from statistical analysis generated with the SPSS statistical software package.

The six research questions of the study are:

Question one: Does the Campus-Focused Social Provisions Scale (CF-SPS) demonstrate statistical reliability through results of a reliability analysis of the scale and sub scales (alpha > .7) and demonstrate inter-item correlations (r > .3)?

Question two: Did an exploratory factor analysis of the data from the Campus-Focused Social Provisions Scale result in a six-factor model with eigen values greater than 1 as predicted by Weiss’s theory (1974) and the results of the Russell et al. study on the development of the Social Provisions Scale (1984)?

Question three: What potential differences exist in the Campus-Focused Social Provisions Scale scores when students are categorized by four pre-orientation experiences (wilderness program, service program, pre-season athletics, no orientation)? Is this
pattern consistent between two different campuses (Harvard and Princeton)? What are the effects of gender?

**Question four:** Do differences exist in the Campus-Focused Social Provisions Scale scores when students are categorized by the first six weeks of their first year and the first six weeks of their sophomore year? Is this pattern consistent on two different campuses?

**Question five:** Do students' levels of social provisions correlate with their reports on the value of the pre-orientation experience (wilderness program, service program, pre-season athletics, no orientation)? Is this pattern consistent between two different campuses?

**Questions 6:** What demographic variables (such as gender, graduation class size, distance of hometown from campus, type of hometown environment, number of roommates) predict social provisions?

**Group Demographics**

A total of 1622 subjects completed surveys for this research study. Table 4.1 provides demographic comparisons to the total campus population. Some differences exist between the sample and the population: a higher percentage of women, for example, completed the survey (56% of the sample was female) than are reflected in the total population of Harvard and Princeton (48% and 46% females respectively). Table 4.1 also exhibits such differences as Harvard having a larger percent of the sample composed of participants in the wilderness orientation program—28% compared to 18% in the total Harvard population—and more first-years—63% compared to 51%.
Table 4.1. **Comparisons of the Harvard/Princeton Campus Population and the Study Sample.**

<table>
<thead>
<tr>
<th></th>
<th>Harvard</th>
<th>Princeton</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sample size</td>
<td>Population</td>
</tr>
<tr>
<td>Students overall</td>
<td>721</td>
<td>3,273</td>
</tr>
<tr>
<td>First years</td>
<td>466/63.3%</td>
<td>1,645/51%</td>
</tr>
<tr>
<td>Sophomores</td>
<td>247/33.6%</td>
<td>1,628/49%</td>
</tr>
<tr>
<td>Male</td>
<td>304/41.3%</td>
<td>1,690/52%</td>
</tr>
<tr>
<td>Female</td>
<td>419/56.9%</td>
<td>1,565/48%</td>
</tr>
<tr>
<td>Pre-orientation experience</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No pre-orientation</td>
<td>330/45%</td>
<td>1,696/53%</td>
</tr>
<tr>
<td>Wilderness</td>
<td>207/28%</td>
<td>584/18%</td>
</tr>
<tr>
<td>Service</td>
<td>42/6%</td>
<td>172/5%</td>
</tr>
<tr>
<td>Pre-season Athletics</td>
<td>9/1%</td>
<td>144/4%</td>
</tr>
<tr>
<td>International</td>
<td>23/3%</td>
<td>50/2%</td>
</tr>
<tr>
<td>Other</td>
<td>110/15%</td>
<td>622/19%</td>
</tr>
</tbody>
</table>

Note. Data on the campus population numbers were collected by contacting the campus program offices, the campus registrar’s office and websites for both schools.

Information on ethnicity was available at Princeton only. Table 4.2 shows the participants in the sample who fit into ethnic groups defined by the common admissions...
application used by Princeton. No statistical tests were used to compare the sample to the population data from the Registrar's office. From the perspective of face validity, no major differences were observed between the sample and the population.

Table 4.2: Princeton Students Ethnicity Compared with Study Sample

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Sample</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. African American/Black</td>
<td>48 / 5.4%</td>
<td>382 / 8.2%</td>
</tr>
<tr>
<td>2. Native American /Alaskan Native</td>
<td>4 / .4%</td>
<td>35 / .8%</td>
</tr>
<tr>
<td>3. Asian American, Indian sub-continent</td>
<td>100 / 11.2%</td>
<td>601 / 12.8%</td>
</tr>
<tr>
<td>4. Hispanic/Latino</td>
<td>46 / 5.1 %</td>
<td>294 / 6.3%</td>
</tr>
<tr>
<td>5. Native Hawaiian, Pacific Islander</td>
<td>3 / .3%</td>
<td>N/A</td>
</tr>
<tr>
<td>6. White Caucasian</td>
<td>600 / 67.3%</td>
<td>2974 / 63.6%</td>
</tr>
<tr>
<td>7. Other</td>
<td>58 / 6.5%</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Note. Information of population statistics was reported from Princeton University Registrar's Office website, www.princeton.edu.

It is also important to note that the Harvard sample is smaller \((n=710)\) compared to Princeton \((n=900)\), even though the Harvard population is larger than Princeton's.

**Data Cleaning**

Three subjects from the Princeton data were eliminated due to a large amount of missing data. Thirty-five subjects from Harvard were eliminated for either for missing data or wrong year in college; juniors and seniors who took the survey and were eliminated. One transgender individual filled out a data set, but since it only represented one person it prevented any meaningful statistical analysis from occurring and was thus eliminated.
Comparison of the Harvard and Princeton Data Sets

Each factor of the Campus-Focused Social Provisions Scale and the overall total score were analyzed using t-tests to look for differences between the samples by school. The t-tests showed no significant differences in the means between the two samples’ seven dependant variables (shown in Appendix E) so the two data sets were collapsed into one data set (n=1609).

Question one: Did an exploratory factor analysis of the data from the Campus-Focused Social Provisions Scale result in a six factor model with eigen values greater than 1 as predicted by Weiss’s theory (1974) and the results of the Russell et al. study on the development of the Social Provisions Scale (1984)?

Russell et al. used a confirmatory factor analysis with the data collected in their 1984 study to demonstrate consistency between Weiss’s theory and the Social Provisions Scale instrument. Since the SPS instrument was adapted to a specific population for this study, an exploratory factor analysis was used to explore how data would be reduced into groups or factors among this specific population. The results of the Campus-Focused Social Provisions Scale data for an exploratory factor analysis, using varimax rotation and Eigen values over 1, resulted in a three-factor model.

The three-factor model is different from the expected six-factor model proposed by Russell et al., (1984) but the social provision sub factors, made up of four survey questions per sub factor, were not split among the three factors generated in the factor analysis. The sub factors were stable, but the results did not show six separate groupings of data. Instead, the factors of attachment, guidance, and tangible support were not differentiated and factored together. Social integration and competence also factored together, as shown in Table 4.3. Nurturance was the only factor to separate itself distinctly from the others.
Since the three-factor model does not reorder the social provisions identified in Weiss's (1974) theory and Russell et al.'s (1984) development of the Social Provisions Scale, and the results of the reliability analysis were high ($\alpha = .93$), the decision was made to continue using the six-factor model for analysis, recognizing that the provisions of attachment, guidance, and tangible support and the factors of social integration and competence are highly related among participants in this study.

Table 4.3: Factor Loadings of Exploratory Factor Analysis of the Harvard/Princeton Data, a Rotated Factor Matrix

<table>
<thead>
<tr>
<th>Survey items</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attachment 1</td>
<td>0.562</td>
<td>0.212</td>
<td>0.219</td>
</tr>
<tr>
<td>Attachment 2</td>
<td>0.660</td>
<td>0.291</td>
<td>0.355</td>
</tr>
<tr>
<td>Attachment 3</td>
<td>0.669</td>
<td>0.156</td>
<td>0.387</td>
</tr>
<tr>
<td>Attachment 4</td>
<td>0.554</td>
<td>0.393</td>
<td>0.368</td>
</tr>
<tr>
<td>Guidance 1</td>
<td>0.543</td>
<td>0.359</td>
<td>0.159</td>
</tr>
<tr>
<td>Guidance 2</td>
<td>0.686</td>
<td>0.211</td>
<td>0.302</td>
</tr>
<tr>
<td>Guidance 3</td>
<td>0.677</td>
<td>0.303</td>
<td>0.201</td>
</tr>
<tr>
<td>Guidance 4</td>
<td>0.671</td>
<td>0.314</td>
<td>0.209</td>
</tr>
<tr>
<td>Tangible 1</td>
<td>0.652</td>
<td>0.236</td>
<td>0.214</td>
</tr>
<tr>
<td>Tangible 2</td>
<td>0.510</td>
<td>0.433</td>
<td>0.152</td>
</tr>
<tr>
<td>Tangible 3</td>
<td>0.597</td>
<td>0.379</td>
<td>0.151</td>
</tr>
<tr>
<td>Tangible 4</td>
<td>0.520</td>
<td>0.393</td>
<td>0.182</td>
</tr>
<tr>
<td>Social Integration 1</td>
<td>0.384</td>
<td>0.516</td>
<td>0.009</td>
</tr>
<tr>
<td>Social Integration 2</td>
<td>0.341</td>
<td>0.471</td>
<td>0.230</td>
</tr>
<tr>
<td>Social Integration 3</td>
<td>0.435</td>
<td>0.573</td>
<td>0.009</td>
</tr>
<tr>
<td>Social Integration 4</td>
<td>0.417</td>
<td>0.559</td>
<td>0.007</td>
</tr>
<tr>
<td>Competence 1</td>
<td>0.102</td>
<td>0.542</td>
<td>0.001</td>
</tr>
<tr>
<td>Competence 2</td>
<td>0.152</td>
<td>0.715</td>
<td>0.007</td>
</tr>
<tr>
<td>Competence 3</td>
<td>0.342</td>
<td>0.548</td>
<td>0.251</td>
</tr>
<tr>
<td>Competence 4</td>
<td>0.417</td>
<td>0.588</td>
<td>0.254</td>
</tr>
<tr>
<td>Nurturance 1</td>
<td>0.305</td>
<td>0.144</td>
<td>0.636</td>
</tr>
<tr>
<td>Nurturance 2</td>
<td>0.136</td>
<td>0.005</td>
<td>0.590</td>
</tr>
<tr>
<td>Nurturance 3</td>
<td>0.226</td>
<td>0.194</td>
<td>0.743</td>
</tr>
<tr>
<td>Nurturance 4</td>
<td>0.266</td>
<td>0.258</td>
<td>0.615</td>
</tr>
</tbody>
</table>

Note. Bold text represents the highest score in the Alpha Factoring after rotations.

Questions two: Do the Campus-Focused Social Provisions Scale (CF-SPS) and sub scales demonstrate statistical reliability through results of a reliability analysis of the scale and sub scales ($\alpha > .7$) and demonstrate inter-item correlations ($r > .3$)?
SPSS statistical software was used to conduct a reliability analysis using Cronbach’s Alpha, an accepted measure of assessing scale reliability (Medical Outcomes Trust, 1995). Reliability for the overall Campus-Focused Social Provisions Scale was high ($\alpha = .93$). The subsequent reliability for each sub-scale were lower, but still very strong (shown in Table 4.4). The sub-scale items ranged from (.76-.84), with a low ($\alpha = .76$) for competence and a high of ($\alpha = .84$) for attachment.

The inter-item correlation scores indicates the shared variance within a sub factor. Ideally inter-item correlations are not too high ($r > .8$) since the questions may been deemed repetitive, but also not too low ($r > .3$) indicating the questions may not be reliably measuring the same construct. The inter-item correlations in this study ranged from to ($r = .30$) for nurturance Question #2, to ($r = .76$) for attachment Question #2. The sub-scale inter-correlations ranged between ($r = .33$) for competence #3 and ($r = .67$) for attachment #3. All sub-scale items were correlated with each other ($r > .3$). The results show that the Campus-Focused Social Provisions Scale does show high reliability and appropriate levels of inter-item correlation on all items.

Table 4.4: Cronbach's Alpha for Sub-Scales

<table>
<thead>
<tr>
<th>Sub Scale</th>
<th>Alpha</th>
<th>Standardized Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tangible</td>
<td>.81</td>
<td>.81</td>
</tr>
<tr>
<td>Attachment</td>
<td>.84</td>
<td>.84</td>
</tr>
<tr>
<td>Guidance</td>
<td>.83</td>
<td>.83</td>
</tr>
<tr>
<td>Nurturance</td>
<td>.79</td>
<td>.79</td>
</tr>
<tr>
<td>Social integration</td>
<td>.80</td>
<td>.81</td>
</tr>
<tr>
<td>Competence</td>
<td>.76</td>
<td>.76</td>
</tr>
</tbody>
</table>

Question three: What potential differences exist in the Campus-Focused Social Provisions Scale scores when students are categorized by four pre-orientation experiences.
(wilderness program, service program, pre-season athletics, no orientation)? Is this pattern consistent on two different campuses (Harvard and Princeton)? What are the effects of gender?

A multiple analysis of variance (MANOVA) was conducted using the six sub-factors of the CF-SPS and the overall CF-SPS score as dependent variables. The independent variables were the four pre-orientation experiences and the grouping variables of school and gender. The MANOVA results show significant differences in all seven dependent variables (see Table 4.5).

The MANOVA results for the overall CF-SPS showed a significant main effect for pre-orientation programs $F(5, 1558)=7.59, p<.001$. There was no significant main effect for school, but there was an interaction effect for pre-orientation x school $F(5, 1558)=3.01, p<.05$. A Tukey post hoc test showed that the wilderness pre-orientation group had significantly higher mean scores compared with the study participants who did not attend a pre-orientation program ($p<.001$), explaining the main effect for program.

The interaction effect was explained by a difference between Harvard and Princeton participants who did not participate in a pre-orientation program. The participants at Princeton who did not participate in any pre-orientation experience scored lower on the CF-SPS than the similar group at Harvard, even though the WOP groups at both schools reported similar mean scores (see Figure 4.1).

No main effect was indicated for pre-season athletics or service. The CF-SPS scores for pre-season athletics was high at both schools, but the low sample size ($n=68$) rendered these tests non-significant for this study, even though the scores for pre-season athletes have the highest means for the overall CF-SPS scores (see Figure 4.1).
Figure 4.1: Means for the Campus-Focused Social Provisions Score when Separated by School

Harvard and Princeton pre-orientation experience

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
Table 4.5: MANOVA of Total Campus-Focused Social Provisions Scale Scores

Compared by Pre-Orientation Experience and School

<table>
<thead>
<tr>
<th>Condition</th>
<th>Harvard</th>
<th>Princeton</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>Min</td>
</tr>
<tr>
<td>No orientation</td>
<td>77.04</td>
<td>40</td>
</tr>
<tr>
<td>Wilderness</td>
<td>78.59</td>
<td>57</td>
</tr>
<tr>
<td>Service</td>
<td>77.58</td>
<td>54</td>
</tr>
<tr>
<td>Pre-season</td>
<td>85.15</td>
<td>62</td>
</tr>
<tr>
<td>Athletics</td>
<td>78.46</td>
<td>52</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Source</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-orientation</td>
<td>5</td>
<td>900.83</td>
<td>7.593**</td>
</tr>
<tr>
<td>School</td>
<td>1</td>
<td>126.53</td>
<td>1.06</td>
</tr>
<tr>
<td>Pre-Orientation x School</td>
<td>5</td>
<td>357.71</td>
<td>3.01*</td>
</tr>
<tr>
<td>Error</td>
<td>1558</td>
<td>118.64</td>
<td></td>
</tr>
</tbody>
</table>

*p < .05. ** p < .001

Note: Effect size for Wilderness, (d = .31)

Attachment

The sub-factor attachment showed results similar to the overall Campus-Focused Social Provisions Scale score. Table 4.6 exhibits both a significant main effect for pre-orientation experience (F (5, 1558) = 4.45, p < .001) and a significant interaction for school x pre-orientation (F (5, 1558) = 2.27, p < .05). A Tukey post hoc test showed the only significant differences in the groups of participants was in the wilderness pre-orientation program (p = .04) compared against those who did not participate in a pre-orientation program. Students at both schools who participated in the wilderness program reported higher attachment scores than all other groups. The Princeton group with no pre-orientation participation had significantly less attachment than the Harvard no pre-orientation group, leading to a significant interaction. The groups at both schools
who participated in the pre-orientation wilderness program had similar levels of attachment shown in Table 4.6.

Table 4.6: MANOVA of Attachment Scores Compared by Pre-Orientation Experience and School

<table>
<thead>
<tr>
<th>Condition</th>
<th>Harvard Mean</th>
<th>Min</th>
<th>Max</th>
<th>SD</th>
<th>N</th>
<th>Princeton Mean</th>
<th>Min</th>
<th>Max</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>No orientation</td>
<td>12.44</td>
<td>4</td>
<td>16</td>
<td>2.93</td>
<td>320</td>
<td>11.49</td>
<td>4</td>
<td>16</td>
<td>3.00</td>
<td>195</td>
</tr>
<tr>
<td>Wilderness</td>
<td>12.65</td>
<td>4</td>
<td>16</td>
<td>2.46</td>
<td>205</td>
<td>12.52</td>
<td>4</td>
<td>16</td>
<td>2.88</td>
<td>481</td>
</tr>
<tr>
<td>Service</td>
<td>12.54</td>
<td>7</td>
<td>16</td>
<td>2.56</td>
<td>42</td>
<td>12.22</td>
<td>4</td>
<td>16</td>
<td>3.04</td>
<td>96</td>
</tr>
<tr>
<td>Pre-season Athletics</td>
<td>14.30</td>
<td>8</td>
<td>16</td>
<td>2.71</td>
<td>10</td>
<td>12.24</td>
<td>6</td>
<td>16</td>
<td>2.74</td>
<td>50</td>
</tr>
<tr>
<td>Other</td>
<td>12.15</td>
<td>4</td>
<td>16</td>
<td>2.85</td>
<td>108</td>
<td>12.93</td>
<td>9</td>
<td>16</td>
<td>2.46</td>
<td>15</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>12.15</strong></td>
<td><strong>4</strong></td>
<td><strong>16</strong></td>
<td><strong>2.85</strong></td>
<td><strong>685</strong></td>
<td><strong>12.93</strong></td>
<td><strong>9</strong></td>
<td><strong>16</strong></td>
<td><strong>2.46</strong></td>
<td><strong>837</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Source</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-orientation</td>
<td>5</td>
<td>900.83</td>
<td>4.45**</td>
</tr>
<tr>
<td>School</td>
<td>1</td>
<td>25.20</td>
<td>3.25</td>
</tr>
<tr>
<td>Pre-Orientation x School</td>
<td>5</td>
<td>17.59</td>
<td>2.27*</td>
</tr>
<tr>
<td>Error</td>
<td>1558</td>
<td>7.74</td>
<td></td>
</tr>
</tbody>
</table>

*p < .05.  ** p < .001

Note: Effect size for Wilderness, (d = .17)

Social Integration

The sub-factor social integration also showed a significant main effect for the program (F (5, 1558) = 6.59, p < .001), no main effect for school and no significant interaction. As shown in Table 4.7, the difference between the scores for Harvard and Princeton was consistent across campuses.

A Tukey post hoc test showed significant differences for the group participating on the wilderness orientation (p < .001) and close to a significant main effect for the group of pre-season athletes (p = .059) compared to the group with no pre-orientation experience. When the condition wilderness was held constant (Harvard mean = 13.95,
Princeton mean = 13.86), the group of students participating on a service trip (Harvard mean = 13.54, Princeton mean = 13.23) were close to being significantly different from the wilderness group in the Tukey post hoc test ($p = .053$). In both schools, students participating in the wilderness orientation program reported higher levels of social integration than the students participating in the no pre-orientation group.

Table 4.7: MANOVA of Social Integration Scores Compared by Pre-Orientation Experience and School

<table>
<thead>
<tr>
<th>Condition</th>
<th>Harvard</th>
<th>Princeton</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Condition Mean</td>
<td>Condition Min</td>
</tr>
<tr>
<td>No orientation</td>
<td>13.65</td>
<td>4</td>
</tr>
<tr>
<td>Wilderness</td>
<td>13.95</td>
<td>7</td>
</tr>
<tr>
<td>Service</td>
<td>13.54</td>
<td>9</td>
</tr>
<tr>
<td>Pre-season</td>
<td>14.90</td>
<td>13</td>
</tr>
<tr>
<td>Athletics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>13.52</td>
<td>7</td>
</tr>
<tr>
<td>total</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Source</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-orientation</td>
<td>5</td>
<td>29.17</td>
<td>6.59**</td>
</tr>
<tr>
<td>School</td>
<td>1</td>
<td>4.43</td>
<td>1.02</td>
</tr>
<tr>
<td>Pre- Orientation x School</td>
<td>5</td>
<td>7.08</td>
<td>1.60</td>
</tr>
<tr>
<td>Error</td>
<td>1558</td>
<td>4.42</td>
<td></td>
</tr>
</tbody>
</table>

*p < .05. **p < .001

Note: Effect size for Wilderness, ($d = .26$)

**Nurturance**

The results of pre-orientation experiences and the sub-factor nurturance also showed a significant main effect $F (5, 1558) = 4.10, p < .001$, for program, but no significant interaction. A Tukey post hoc test resulted in significant differences for the group that participated in a wilderness orientation ($p = .003$) compared to the group with no pre-orientation experience. In both schools, students participating on the wilderness
orientation program reported higher levels of nurturance scores than the students participating in the no pre-orientation groups.

Table 4.8: MANOVA of Nurturance Scores Compared by Pre-Orientation Experience and School

| Condition | Harvard | | Princeton | | |
|---|---|---|---|---|---|---|
| | M | Min | Max | SD | N | M | Min | Max | SD | N |
| No orientation | 10.67 | 4 | 16 | 2.68 | 320 | 10.09 | 4 | 16 | 2.49 | 195 |
| Wilderness | 10.93 | 5 | 16 | 2.12 | 205 | 10.97 | 4 | 16 | 2.47 | 481 |
| Service | 10.92 | 6 | 16 | 2.34 | 42 | 10.82 | 6 | 16 | 2.41 | 96 |
| Pre-season Athletics | 10.60 | 4 | 15 | 3.23 | 10 | 10.66 | 7 | 16 | 2.23 | 50 |
| Other | 10.77 | 4 | 16 | 2.45 | 108 | 11.80 | 10 | 15 | 1.56 | 15 |
| total | | | | | 685 | | | | | 837 |

Source | Df | Mean Square | F |
---|---|---|---|
Pre-orientation | 5 | 23.01 | 4.10** |
School | 1 | 1.54 | .276 |
Pre-Orientation x School | 5 | 8.99 | 1.60 |
Error | 1558 | 5.60 | |

*p < .05. ** p < .001
Note: Effect size for Wilderness, (d = .25)

Competence/Reassurance of Worth

The results of the MANOVA of pre-orientation experiences and the sub-factor competence showed a significant main effect $F (5, 1558) = 7.59, p < .001$, for pre-orientation experiences, but no difference by school and no significant interactions.

A Tukey post hoc test showed significant differences for the condition of wilderness orientation ($p < .001$) compared to the condition of no pre-orientation experience. A significant difference was also found between the group with a wilderness pre-orientation experience and the service pre-orientation experience group ($p < .05$).

Table 4.9 shows that participants in the wilderness orientation condition at both schools...
had significantly higher levels of competence than the no pre-orientation group and the service group.

Table 4.9: MANOVA of Competence Scores Compared by Pre-Orientation Experience and School

<table>
<thead>
<tr>
<th>Condition</th>
<th>Harvard</th>
<th>Princeton</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>Min</td>
</tr>
<tr>
<td>No orientation</td>
<td>12.56</td>
<td>4</td>
</tr>
<tr>
<td>Wilderness</td>
<td>13.04</td>
<td>7</td>
</tr>
<tr>
<td>Service</td>
<td>12.61</td>
<td>6</td>
</tr>
<tr>
<td>Pre-season</td>
<td>13.40</td>
<td>12</td>
</tr>
<tr>
<td>Athletics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>12.66</td>
<td>7</td>
</tr>
<tr>
<td>total</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Source</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-orientation</td>
<td>5</td>
<td>22.18</td>
<td>7.59**</td>
</tr>
<tr>
<td>School</td>
<td>1</td>
<td>.008</td>
<td>.021</td>
</tr>
<tr>
<td>Pre- Orientation x School</td>
<td>5</td>
<td>2.08</td>
<td>.524</td>
</tr>
<tr>
<td>Error</td>
<td>1558</td>
<td>3.99</td>
<td></td>
</tr>
</tbody>
</table>

*p < .05. **p < .001

Note: Effect size for Wilderness, (d = .32)

Guidance

A Levene’s test for the Equality of Variance resulted in two findings for significance for the seven dependant variables. The last two provisions, tangible support F (5,1558) = 5.069, p < .001, and the provision guidance F(5,1558) = 2.600, p = .024, did not meet one of the key assumptions for an analysis of variance—equality of variance. The Games-Howell post hoc test, one that compensates for inequality of variances, was used to assess these variables.

The results of the MANOVA and the dependant variable guidance showed a significant main effect for pre-orientation experience F (5, 1558) = 4.97, p < .001, and no main effect for school, but an interaction for school and pre-orientation F (5, 1558) =
3.10, $p < .05$. A Games-Howell post hoc test showed that the participants in the condition of wilderness pre-orientation scored significantly higher ($p = .003$) for the social provision of guidance than those students with no pre-orientation experience. The interaction effect for school x pre-orientation experience is due to significantly lower guidance scores among the group not participating in pre-orientation experiences at Princeton as compared to Harvard students (Princeton mean for group with no pre-orientation= 12.80, Harvard mean for group with no pre-orientation = 13.53).

**Table 4.10: MANOVA of Guidance Scores Compared by Pre-Orientation Experience and School**

<table>
<thead>
<tr>
<th>Condition</th>
<th>Harvard</th>
<th>Princeton</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>Min</td>
</tr>
<tr>
<td>No orientation</td>
<td>13.53</td>
<td>5</td>
</tr>
<tr>
<td>Wilderness</td>
<td>13.68</td>
<td>8</td>
</tr>
<tr>
<td>Service</td>
<td>12.54</td>
<td>7</td>
</tr>
<tr>
<td>Pre-season</td>
<td>14.40</td>
<td>10</td>
</tr>
<tr>
<td>Athletics</td>
<td>13.32</td>
<td>8</td>
</tr>
<tr>
<td>total</td>
<td>13.32</td>
<td>8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Source</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-orientation</td>
<td>5</td>
<td>23.99</td>
<td>4.97**</td>
</tr>
<tr>
<td>School</td>
<td>1</td>
<td>.827</td>
<td>.165</td>
</tr>
<tr>
<td>Pre-Orientation x School</td>
<td>5</td>
<td>15.54</td>
<td>3.10*</td>
</tr>
<tr>
<td>Error</td>
<td>1558</td>
<td>5.00</td>
<td></td>
</tr>
</tbody>
</table>

* $p < .05$. ** $p < .001$

Note: Effect size for Wilderness, $(d = .24)$
Tangible Support/Reliable Alliance

The results of the MANOVA and the dependant variable tangible support showed a significant main effect for pre-orientation experience $F(5, 1558) = 7.12, p < .001$, no main effect for school, but an interaction for school and pre-orientation $F(5, 1558) = 4.13, p = .001$. The participants in the wilderness program reported more tangible support than the participants with no pre-orientation experience, and the participants with no pre-orientation at Princeton had lower tangible support scores than the no pre-orientation group at Harvard (Princeton mean for group with no pre-orientation = 13.01, Harvard mean for group with no pre-orientation = 13.95).

A Games-Howell post hoc test showed that the condition of wilderness experience was significantly higher ($p = .003$) for the social provision of guidance than the condition of no pre-orientation experience.

Table 4.11: MANOVA of Tangible Support Scores Compared by Pre-Orientation Experience and School

<table>
<thead>
<tr>
<th>Condition</th>
<th>Harvard</th>
<th>Princeton</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>Min</td>
</tr>
<tr>
<td>No orientation</td>
<td>13.95</td>
<td>4</td>
</tr>
<tr>
<td>Wilderness</td>
<td>14.12</td>
<td>9</td>
</tr>
<tr>
<td>Service</td>
<td>13.96</td>
<td>10</td>
</tr>
<tr>
<td>Pre-season</td>
<td>14.90</td>
<td>12</td>
</tr>
<tr>
<td>Athletics</td>
<td>13.72</td>
<td>7</td>
</tr>
<tr>
<td>Other total</td>
<td>13.72</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>685</td>
<td>837</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Source</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-orientation</td>
<td>5</td>
<td>29.27</td>
<td>7.12**</td>
</tr>
<tr>
<td>School</td>
<td>1</td>
<td>2.15</td>
<td>.524</td>
</tr>
<tr>
<td>Pre-Orientation x School</td>
<td>5</td>
<td>16.99</td>
<td>4.13*</td>
</tr>
<tr>
<td>Error</td>
<td>1558</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* $p < .05$. ** $p < .001$

Note: Effect size for Wilderness, ($d = .35$)
Summary

Overall the results show that participants on wilderness programs have significantly higher scores on the CF-SPS on all measures (total social support and the six sub-factors) than those students who did not participate in any pre-orientation experience \( (p < .05) \). The wilderness program category also shows higher scores than service trips on the factor for competence, but when the test is adjusted for inequality of variance, the gain is not significant \( (p = .06) \). The only pre-orientation experience showing a higher score on a dependant variable than the wilderness program and reaching significance is pre-season athletics on the factor of social integration \( (p = .059) \), but it should be noted that the sample size for this group is quite small \( (n=68) \).

The overall CF-SPS scores indicated an interaction effect for program x school, and there were similar interaction effects for the three sub factors attachment, guidance, and tangible support. Although students at both schools who participated in the pre-orientation programs had similar scores, Princeton students who did not participate in any pre-orientation program scored lower on the social provisions scale for these sub-factors than Harvard students with no pre-orientation experience.

Gender and Pre-Orientation

A second MANOVA was conducted to explore whether gender had any main effects or interactions with pre-orientation. The results indicated only main effects for gender and no significant interactions with the variable pre-orientation. The main effects for gender were found on the overall Campus-Focused Social Provisions Scale score \( F(1,1605)= 9.63, p = .002 \), with the largest main effect on the sub factor attachment \( F(1,1605)= 21.07, p < .01 \). The other three sub-factors with gender effects were guidance
F(1, 1605)= 11.19, p = .001 , nurturance F(1, 1605)= 8.96, p = .003 and tangible support F(1, 1605)= 6.18, p = .01. No significant main effects for gender were found for the social provisions of social integration and reassurance of worth/competence. The mean scores separated by gender show women reporting higher levels of social provisions on the total CF-SPS and all the sub-factors. Women reported significantly higher scores on five of the seven dependant variables at the p < .05 level of significance.

Table 4.12: The Estimated Marginal Means for The Campus-Focused Social Provisions Scale and Sub Factors by Gender and Pre-orientation Experience.

<table>
<thead>
<tr>
<th>Condition</th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>CF-SPS total</td>
<td>75.73</td>
<td>10.54</td>
</tr>
<tr>
<td>Attachment</td>
<td>11.80</td>
<td>2.74</td>
</tr>
<tr>
<td>Guidance</td>
<td>13.21</td>
<td>2.23</td>
</tr>
<tr>
<td>Nurturance</td>
<td>10.38</td>
<td>2.43</td>
</tr>
<tr>
<td>Social Integration</td>
<td>13.62</td>
<td>2.08</td>
</tr>
<tr>
<td>Competence</td>
<td>12.94</td>
<td>1.96</td>
</tr>
<tr>
<td>Tangible</td>
<td>13.75</td>
<td>1.99</td>
</tr>
</tbody>
</table>

**Question four:** Do differences exist in the Campus-Focused Social Provisions Scale scores when students are categorized by the first six weeks of their first year and the first six weeks of their sophomore year? Is this pattern consistent between two different campuses?

An independent-samples t-test was conducted to evaluate the hypothesis that sophomores will score higher than first-year students on the Campus-Focused Social Provisions Scale and the six sub-factors. The test was significant for six of the seven dependant variables supporting the hypothesis. The only condition in which first-years and sophomores were not significantly different was the sub-factor social integration. In all other conditions sophomore participants had higher social support scores than first-
year students. Table 4.13 shows the means and standard deviations for first-year and sophomores.

The two factors of social integration and competence had significant scores for the Levene's test for homogeneity of variance as shown in Table 4.14; the results for these tests were calculated using the more conservative test where equality of variances is not assumed.
Table 4.13:  Campus-Focused Social Provisions Scores Separated by Year.

<table>
<thead>
<tr>
<th>Year</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>CF-SPS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>First-year</td>
<td>985</td>
<td>75.67</td>
<td>10.87</td>
<td>.346</td>
</tr>
<tr>
<td>Sophomore</td>
<td>624</td>
<td>78.90</td>
<td>11.29</td>
<td>.452</td>
</tr>
<tr>
<td>ATT</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>First-year</td>
<td>985</td>
<td>11.95</td>
<td>2.89</td>
<td>.092</td>
</tr>
<tr>
<td>Sophomore</td>
<td>624</td>
<td>12.91</td>
<td>2.71</td>
<td>.108</td>
</tr>
<tr>
<td>GUID</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>First-year</td>
<td>985</td>
<td>13.31</td>
<td>2.24</td>
<td>.071</td>
</tr>
<tr>
<td>Sophomore</td>
<td>624</td>
<td>13.76</td>
<td>2.29</td>
<td>.091</td>
</tr>
<tr>
<td>SOC</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>First-year</td>
<td>985</td>
<td>13.61</td>
<td>2.03</td>
<td>.064</td>
</tr>
<tr>
<td>Sophomore</td>
<td>624</td>
<td>13.64</td>
<td>2.45</td>
<td>.090</td>
</tr>
<tr>
<td>NURT</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>First-year</td>
<td>985</td>
<td>10.35</td>
<td>1.94</td>
<td>.075</td>
</tr>
<tr>
<td>Sophomore</td>
<td>624</td>
<td>11.44</td>
<td>2.10</td>
<td>.098</td>
</tr>
<tr>
<td>COMP</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>First-year</td>
<td>985</td>
<td>12.72</td>
<td>1.94</td>
<td>.062</td>
</tr>
<tr>
<td>Sophomore</td>
<td>624</td>
<td>13.01</td>
<td>2.10</td>
<td>.084</td>
</tr>
<tr>
<td>TANG</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>First-year</td>
<td>985</td>
<td>13.73</td>
<td>2.06</td>
<td>.065</td>
</tr>
<tr>
<td>Sophomore</td>
<td>624</td>
<td>14.10</td>
<td>2.06</td>
<td>.082</td>
</tr>
</tbody>
</table>

Table 4.14 Independent Samples t-test for Campus-Focused SPS Scores and Year in School.

<table>
<thead>
<tr>
<th></th>
<th>Levene’s Test for equality of variance</th>
<th>T test for Equality of Means</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>Sig.</td>
</tr>
<tr>
<td>CF-SPS Equal var. not assumed</td>
<td>.942</td>
<td>.332</td>
</tr>
<tr>
<td>ATT Equal var. not assumed</td>
<td>1.87</td>
<td>.171</td>
</tr>
<tr>
<td>GUID Equal var. not assumed</td>
<td>.282</td>
<td>.595</td>
</tr>
<tr>
<td>NURT Equal var. not assumed</td>
<td>.743</td>
<td>.389</td>
</tr>
<tr>
<td>SOC Equal var. not assumed</td>
<td>4.42</td>
<td>.036</td>
</tr>
<tr>
<td>TANG Equal var. not assumed</td>
<td>4.964</td>
<td>.326</td>
</tr>
<tr>
<td>COMP Equal var. not assumed</td>
<td>4.49</td>
<td>.034</td>
</tr>
</tbody>
</table>

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
Question five: Do students’ levels of social provisions correlate with their reports of the value of the pre-orientation experience (wilderness program, service program, pre-season athletics, no orientation)? Is this pattern consistent between two different campuses?

Participants in the study were asked to rate the value of the pre-orientation experience on a scale of 1 to 5, from very detrimental to very valuable. Only 34 participants (3.1%) ranked their pre-orientation experiences as detrimental or very detrimental. The results of this particular question were negatively skewed with 84.8% reporting that their pre-orientation experience was valuable or very valuable. Because the data did not distribute normally, as shown in Figure 4.2, a key assumption for a correlation tests was violated.

A t-test was conducted to see if there were differences based upon school. No significant differences in the value of programs based upon the school were found \[ t(1101)= 1.36, p = .169, \] equal variances not assumed. Students at both schools tended to rate pre-orientation programs as valuable.
Figure 4.2: The Value of Pre-Orientation Programs reported by Participants at Harvard and Princeton.

A Pearson-product correlation was conducted to see if any relationship existed despite the negative skewing of the data. The results of the correlation tests show small positive correlations between the value of pre-orientation programs and scores on the Campus-Focused Social Provisions Scale and the six sub-factors. The largest correlation was between the total Campus-Focused Social Provisions Scale score and pre-orientation value, $r(1096) = .225, p < .05$. Table 4.15 shows the correlations results for this test.
Table 4.15: The Bi-Variate Correlations Between the Perception of the Value of Pre-Orientation Programs and the Campus-Focused Social Provisions Scale (CF-SPS).

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>N = 1103</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-O Value</td>
<td>.234**</td>
<td>.186**</td>
<td>.181**</td>
<td>.124**</td>
<td>.220**</td>
<td>.220**</td>
<td>.215**</td>
</tr>
<tr>
<td>Harvard</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-O Value</td>
<td>.224**</td>
<td>.149**</td>
<td>.180**</td>
<td>.083</td>
<td>.231**</td>
<td>.247**</td>
<td>.201**</td>
</tr>
<tr>
<td><strong>N = 394</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Princeton</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-O Value</td>
<td>.240**</td>
<td>.204**</td>
<td>.182**</td>
<td>.147**</td>
<td>.215**</td>
<td>.206**</td>
<td>.225**</td>
</tr>
<tr>
<td><strong>N = 709</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**P < .001

The results of the correlation tests show that participants who saw their pre-orientation experience as valuable had a weak but significant association with higher social support scores. This relationship was true when the sub factor scores were separated by school for all variables, except for one sub factor in the Harvard data. The participants at Harvard did not show a significant relationship between the variable of nurturance and their perceptions of pre-orientation value, $r (387) = .08, (p = .101)$.

A two-way contingency table analysis was conducted to evaluate if differences existed in the reports of program value by pre-orientation program. The frequency distribution is shown in Table 4.16. A Crosstabs analysis was not appropriate for this data because of the low sample sizes of ($n < 5$) in 30% of the cells, which results violated the important validity concern of having more than 80% of the cells with sample sizes greater than five for statistical validity. The frequency results by program are shown in Table 4.16.
Table 4.16: Frequency Table of the Value of Pre-Orientation Programs at Harvard and Princeton.

<table>
<thead>
<tr>
<th>Participant rating</th>
<th>Wilderness</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percent</td>
<td>Frequency</td>
<td>Percent</td>
<td>Frequency</td>
<td>Percent</td>
<td></td>
</tr>
<tr>
<td>Very detrimental</td>
<td>8</td>
<td>1.2</td>
<td>1</td>
<td>.7</td>
<td>1</td>
<td>1.7</td>
<td></td>
</tr>
<tr>
<td>Detrimental</td>
<td>13</td>
<td>1.9</td>
<td>1</td>
<td>.7</td>
<td>4</td>
<td>6.7</td>
<td></td>
</tr>
<tr>
<td>Not valuable/not detrimental</td>
<td>81</td>
<td>11.8</td>
<td>7</td>
<td>5.1</td>
<td>4</td>
<td>6.7</td>
<td></td>
</tr>
<tr>
<td>Valuable</td>
<td>308</td>
<td>44.9</td>
<td>64</td>
<td>46.4</td>
<td>20</td>
<td>33.3</td>
<td></td>
</tr>
<tr>
<td>Very Valuable</td>
<td>274</td>
<td>39.9</td>
<td>64</td>
<td>46.4</td>
<td>29</td>
<td>48.3</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>684</td>
<td>99.7</td>
<td>137</td>
<td>99.3</td>
<td>58</td>
<td>96.7</td>
<td></td>
</tr>
</tbody>
</table>

Questions 6: What demographic variables (gender, graduation class size, distance of hometown from campus, type of hometown environment, level of physical activity, number of roommates) predict social provisions?

To explore the above question, data from previous tests as well as exploratory tests were used to assess independent variables' effects on the seven dependant variables. Variables demonstrating weak correlations and insignificant findings were not included in the model. The variables that were theoretically important to the model (the pre-orientation experiences) or that demonstrated relationships to the dependant variables were entered into a standard multiple linear regression model.
The variables entered into the model were:

1. Pre-orientation experience was entered as three dummy variables for wilderness pre-orientation experience, service pre-orientation experience and pre-season athletics.

2. Gender effects were entered because they were significant in the MANOVA and were expected to have effects based on the literature review.

3. Year in school was entered because it was significant in the MANOVA and was considered an important variable to keep in the analysis.

4. Ease of making friends was entered because it represented a personality characteristic important to control for in the study, and this variable had large effects in exploratory analyses.

5. "How many close friends did you have on campus when you entered school?" was entered because it represents a key question regarding the effects of on-campus support systems.

6. Shyness was included, even though it highly correlated with ease of making friends. The two variables may represent separate types of individual differences rather than being on a continuum (e.g., you can make friends easily but still be shy).

7. Ethnicity was a variable only available in the Princeton study. Because of the small sample sizes in the nine non-white categories, the question was reduced to white and non-white participants among the Princeton sample, and a separate MLR was conducted on the smaller data set.
The MLR Results

The results for the multiple linear regression using the total score of the Campus-Focused Social Provisions Scale as the criterion (dependant) variable showed significant results on all the variables excluding the pre-orientation variable for service, $r(1353) = -.01, p = .33$, and the pre-orientation variable for pre-season athletics, $r(1353) = -.01, p = .21$. All the other predictors were significant at the $p < .05$ level.

The combination of all the variables was significantly related to the Campus-Focused Social Provisions Scale score, $F(8, 1344) = 63.22, p < .001$. Twenty-seven percent of the variance of the total Campus-Focused Social Provisions Scale was accounted for by these variables. Table 4.16 presents the coefficients and lists the standardized beta scores. It should be noted that the variable for ease of making friends and for general shyness are both negative correlations. The variables were scored so that higher scores represented less ease in making friends; a negative correlation demonstrates that ease in making friends is related to higher scores on the CF-SPS. Similarly with the scaling of shyness, a lower score indicates a greater degree of shyness, so a negative correlation relates a lack of shyness to higher CF-SPS.
Table 4.17: The Means, Standard Deviations, Correlations and Regression Analysis

Summary for the Total Score on the Campus-Focused Social Provisions Scale.

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>r</th>
<th>B</th>
<th>SEB</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>CF-SPS</td>
<td>77.2</td>
<td>11.1</td>
<td>---</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Predictor variables</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Year</td>
<td>1.4</td>
<td>.49</td>
<td>.49</td>
<td>3.07</td>
<td>.52</td>
<td>.14**</td>
</tr>
<tr>
<td>2. Gender</td>
<td>.57</td>
<td>.49</td>
<td>.09**</td>
<td>1.70</td>
<td>.52</td>
<td>.08**</td>
</tr>
<tr>
<td>3. Wilderness program</td>
<td>.49</td>
<td>.50</td>
<td>.12**</td>
<td>2.22</td>
<td>.56</td>
<td>.10**</td>
</tr>
<tr>
<td>4. Ease of making friends</td>
<td>1.7</td>
<td>.67</td>
<td>-.48**</td>
<td>-7.01</td>
<td>.44</td>
<td>-.42**</td>
</tr>
<tr>
<td>5. Shyness</td>
<td>2.3</td>
<td>.86</td>
<td>-.28**</td>
<td>-1.03</td>
<td>.34</td>
<td>-.08*</td>
</tr>
<tr>
<td>6. Service</td>
<td>.09</td>
<td>.29</td>
<td>-.12</td>
<td>1.42</td>
<td>.94</td>
<td>.04</td>
</tr>
<tr>
<td>7. Pre-season athletics</td>
<td>.04</td>
<td>.20</td>
<td>.02</td>
<td>3.07</td>
<td>.52</td>
<td>.06</td>
</tr>
<tr>
<td>8. Campus friends</td>
<td>1.4</td>
<td>2.6</td>
<td>.11**</td>
<td>1.70</td>
<td>.52</td>
<td>.07*</td>
</tr>
</tbody>
</table>

Note. R² = .27 (N = 1353, p < .001)
*p < .01, **p < .001

Table 4.18: Predictor Variable Intercorrelations

<table>
<thead>
<tr>
<th>Predictor variables</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Year</td>
<td>.01</td>
<td>.00</td>
<td>.00</td>
<td>.01</td>
<td>.01</td>
<td>.02</td>
<td>-.05*</td>
</tr>
<tr>
<td>2. Gender</td>
<td>-.03</td>
<td>-.05*</td>
<td>-.05*</td>
<td>.00</td>
<td>.07*</td>
<td>-.09**</td>
<td>-.04</td>
</tr>
<tr>
<td>3. Wilderness program</td>
<td></td>
<td>-.09**</td>
<td>-.08**</td>
<td>-32**</td>
<td>-.21**</td>
<td>.00</td>
<td></td>
</tr>
<tr>
<td>4. Ease of making friends</td>
<td></td>
<td>-.47**</td>
<td>.04</td>
<td>.01</td>
<td>-.11**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Shyness</td>
<td></td>
<td></td>
<td>.00</td>
<td>.02</td>
<td>-.06*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Service</td>
<td></td>
<td></td>
<td>-.07*</td>
<td>-.02</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Pre-season athletics</td>
<td></td>
<td></td>
<td>-.03</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Campus friends</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. *p < .01, **p < .001

Attachment

The results for the multiple linear regression using the sub-factor attachment as the criterion (dependent) variable showed significant correlations on all the variables.
excluding the pre-orientation variable for service, \( r (1353) = .00, p = .44 \), and the pre-orientation variable for pre-season athletics, \( r(1353) = .01, p = .32 \). All the other correlations were significant at the \( p < .05 \) level.

The combination of all the variables were significantly related to the attachment score, \( F(8, 1344) = 55.94, p < .001 \). The sample multiple correlation coefficient was .50, indicating approximately 25% of the variance of the attachment score was accounted for by these variables. Table 4.18 presents the coefficients and lists the standardized beta scores.

Table 4.19: The Means, Standard Deviations, Correlations, and Regression Analysis Summary for the Sub-Factor Attachment and Student Predictor Variables.

<table>
<thead>
<tr>
<th>Attachment Variable</th>
<th>M</th>
<th>SD</th>
<th>r</th>
<th>B</th>
<th>SEB</th>
<th>( \beta )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attachment</td>
<td>12.4</td>
<td>2.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Predictor variables</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Year</td>
<td>1.4</td>
<td>.49</td>
<td>.16**</td>
<td>.93</td>
<td>.14</td>
<td>.16**</td>
</tr>
<tr>
<td>2. Gender</td>
<td>.57</td>
<td>.49</td>
<td>.15**</td>
<td>.79</td>
<td>.14</td>
<td>.14**</td>
</tr>
<tr>
<td>3. Wilderness program</td>
<td>.49</td>
<td>.50</td>
<td>.06*</td>
<td>.24</td>
<td>.15</td>
<td>.04</td>
</tr>
<tr>
<td>4. Ease of making friends</td>
<td>1.7</td>
<td>.67</td>
<td>-.45**</td>
<td>-1.7</td>
<td>.11</td>
<td>-.40**</td>
</tr>
<tr>
<td>5. Shyness</td>
<td>2.3</td>
<td>.86</td>
<td>-.25**</td>
<td>-.18</td>
<td>.09</td>
<td>-.05*</td>
</tr>
<tr>
<td>6. Service</td>
<td>.09</td>
<td>.29</td>
<td>.00</td>
<td>.28</td>
<td>.25</td>
<td>.03</td>
</tr>
<tr>
<td>7. Pre-season athletics</td>
<td>.04</td>
<td>.20</td>
<td>.01</td>
<td>.54</td>
<td>.34</td>
<td>.04</td>
</tr>
<tr>
<td>8. Campus friends</td>
<td>1.4</td>
<td>2.6</td>
<td>.10**</td>
<td>.06</td>
<td>.03</td>
<td>.07*</td>
</tr>
</tbody>
</table>

Note. \( R^2 = .25 \) (\( N = 1353, p < .001 \))

\*\( p < .01 \), \**\( p < .001 \)

Guidance

The results for the multiple linear regression using the sub-factor guidance as the criterion variable showed significant correlations on all the variables except the pre-orientation variable for service \( (r (1353) = .01, p = .32) \) and the pre-orientation variable...
for pre-season athletics $r(1353) = .01, p = .38$). All the other correlations were significant at the $p < .05$ level.

The combination of all the variables was significantly related to the guidance score, $F(8, 1344) = 39.75, p < .001$. The sample multiple correlation coefficient was .43, indicating approximately 19% of the variance of the guidance score was accounted for by these variables. Table 4.19 presents the coefficients and lists the standardized beta scores.

Table 4.20: The Means, Standard Deviations, Correlations, and Regression Analysis Summary for the Sub-Factor Guidance and Student Predictor Variables.

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>$r$</th>
<th>B</th>
<th>SEB</th>
<th>$\beta$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guidance</td>
<td>13.5</td>
<td>2.25</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Predictor variables</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Year</td>
<td>1.4</td>
<td>.49</td>
<td>.08**</td>
<td>.93</td>
<td>.14</td>
<td>.08**</td>
</tr>
<tr>
<td>2. Gender</td>
<td>.57</td>
<td>.49</td>
<td>.09**</td>
<td>.79</td>
<td>.14</td>
<td>.08**</td>
</tr>
<tr>
<td>3. Wilderness program</td>
<td>.49</td>
<td>.50</td>
<td>.10**</td>
<td>.24</td>
<td>.15</td>
<td>.07*</td>
</tr>
<tr>
<td>4. Ease of making friends</td>
<td>1.7</td>
<td>.67</td>
<td>-.41**</td>
<td>-1.7</td>
<td>.11</td>
<td>-.36**</td>
</tr>
<tr>
<td>5. Shyness</td>
<td>2.3</td>
<td>.86</td>
<td>-.25**</td>
<td>-.18</td>
<td>.09</td>
<td>-.08*</td>
</tr>
<tr>
<td>6. Service</td>
<td>.09</td>
<td>.29</td>
<td>-.01</td>
<td>.28</td>
<td>.25</td>
<td>.02</td>
</tr>
<tr>
<td>7. Pre-season athletics</td>
<td>.04</td>
<td>.20</td>
<td>-.01</td>
<td>.54</td>
<td>.34</td>
<td>.02</td>
</tr>
<tr>
<td>8. Campus friends</td>
<td>1.4</td>
<td>2.6</td>
<td>.07*</td>
<td>.06</td>
<td>.03</td>
<td>.04</td>
</tr>
</tbody>
</table>

Note. $R^2 = .19 (N = 1353, p < .001)$

Social Integration

The results for the multiple linear regression using the sub-factor social integration as the criterion variable showed significant correlations on all the variables except three.

The first insignificant variable was the pre-orientation variable for service ($r(1353) = -.04, p = .09$), followed by gender ($r(1353) = -.00, p = .45$) and year in school ($r(1353) = .01, p = .43$). All the other correlations were significant at the $p < .05$ level.
The combination of all the variables was significantly related to the social integration score, $F(8, 1344) = 37.49, p < .001$. The sample multiple correlation coefficient was .43, indicating approximately 18% of the variance of the social integration score was accounted for by these variables. Table 4.20 presents the coefficients and lists the standardized beta scores.

Table 4.21: The Means, Standard Deviations, Correlations, and Regression Analysis Summary for the Sub-Factor Social Integration and Student Predictor Variables.

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>$r$</th>
<th>B</th>
<th>SEB</th>
<th>$\beta$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Integration</td>
<td>13.7</td>
<td>2.09</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Predictor variables</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Year</td>
<td>1.4</td>
<td>.49</td>
<td>.00</td>
<td>.93</td>
<td>.14</td>
<td>.08**</td>
</tr>
<tr>
<td>2. Gender</td>
<td>.57</td>
<td>.49</td>
<td>.00</td>
<td>.79</td>
<td>.14</td>
<td>.08**</td>
</tr>
<tr>
<td>3. Wilderness program</td>
<td>.49</td>
<td>.50</td>
<td>.10**</td>
<td>.24</td>
<td>.15</td>
<td>.07*</td>
</tr>
<tr>
<td>4. Ease of making friends</td>
<td>1.7</td>
<td>.67</td>
<td>-.41**</td>
<td>-.18</td>
<td>.09</td>
<td>-.08*</td>
</tr>
<tr>
<td>5. Shyness</td>
<td>2.3</td>
<td>.86</td>
<td>-.24**</td>
<td>-.28</td>
<td>.25</td>
<td>.02</td>
</tr>
<tr>
<td>6. Service</td>
<td>.09</td>
<td>.29</td>
<td>-.04</td>
<td>.28</td>
<td>.25</td>
<td>.02</td>
</tr>
<tr>
<td>7. Pre-season athletics</td>
<td>.04</td>
<td>.20</td>
<td>.05*</td>
<td>.54</td>
<td>.34</td>
<td>.02</td>
</tr>
<tr>
<td>8. Campus friends</td>
<td>1.4</td>
<td>2.6</td>
<td>.08*</td>
<td>.06</td>
<td>.03</td>
<td>.04</td>
</tr>
</tbody>
</table>

Note. $R^2 = .18$ (N = 1353, $p < .001$)

$p < .01$, **$p < .001$

Nurturance

The results for the multiple linear regression using the sub-factor nurturance as the criterion variable showed significant correlations on all the variables excluding the pre-orientation variable for service ($r (1353) = .01, p = .30$) and the pre-orientation variable for pre-season athletics ($r (1353) = -.01, p = .36$). All the other correlations were significant at the $p < .001$ level.

The combination of all the variables was significantly related to the nurturance score, $F(8, 1344) = 40.22, p < .001$. The sample multiple correlation coefficient was .44.
indicating approximately 19% of the variance of the nurturance score was accounted for by these variables. Table 4.21 presents the coefficients and lists the standardized beta scores.

Table 4.22: The Means, Standard Deviations, Correlations, and Regression Analysis

Summary for the Sub-Factor Nurturance and Student Predictor Variables.

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>r</th>
<th>B</th>
<th>SEB</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nurturance</td>
<td>10.7</td>
<td>2.47</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Predictor variables</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Year</td>
<td>1.4</td>
<td>.49</td>
<td>.21**</td>
<td>1.0</td>
<td>.12</td>
<td>.21**</td>
</tr>
<tr>
<td>2. Gender</td>
<td>.57</td>
<td>.49</td>
<td>.15**</td>
<td>.70</td>
<td>.12</td>
<td>.14**</td>
</tr>
<tr>
<td>3. Wilderness program</td>
<td>.49</td>
<td>.50</td>
<td>.08**</td>
<td>.38</td>
<td>.13</td>
<td>.08*</td>
</tr>
<tr>
<td>4. Ease of making friends</td>
<td>1.7</td>
<td>.67</td>
<td>-.34**</td>
<td>-.11</td>
<td>.10</td>
<td>-.30**</td>
</tr>
<tr>
<td>5. Shyness</td>
<td>2.3</td>
<td>.86</td>
<td>-.18**</td>
<td>-.12</td>
<td>.08</td>
<td>-.04</td>
</tr>
<tr>
<td>6. Service</td>
<td>.09</td>
<td>.29</td>
<td>.01</td>
<td>.37</td>
<td>.22</td>
<td>.04</td>
</tr>
<tr>
<td>7. Pre-season athletics</td>
<td>.04</td>
<td>.20</td>
<td>-.01</td>
<td>.30</td>
<td>.30</td>
<td>.02</td>
</tr>
<tr>
<td>8. Campus friends</td>
<td>1.4</td>
<td>.49</td>
<td>.12**</td>
<td>.09</td>
<td>.02</td>
<td>.10**</td>
</tr>
</tbody>
</table>

Note. R² = .19 (N = 1353, p < .001)
*p < .01, **p < .001

Competence or Reassurance of Worth

The results for the multiple linear regression using the sub-factor competence/reassurance of worth as the criterion variable showed significant correlations on all the variables excluding the pre-orientation variable for service (r (1353) = -.03, p = .16) and the pre-orientation variable for pre-season athletics (r (1353) = .04, p = .09). All the other correlations, listed in Table 4.23, were significant at the p < .05 level.

The combination of all the variables was significantly related to the competence score, F(8, 1344) = 29.44, p < .001. The sample multiple correlation coefficient was .38, indicating approximately 15% of the variance of the competence score was accounted for
by these variables. Table 4.22 presents the coefficients and lists the standardized beta scores.

Table 4.23: The Means, Standard Deviations, Correlations, and Regression Analysis

Summary for the Sub-Factor Competence/Reassurance of Worth and Student Predictor Variables.

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>r</th>
<th>B</th>
<th>SEB</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>of Worth</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Predictor variables</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Year</td>
<td>1.4</td>
<td>.49</td>
<td>.06*</td>
<td>.93</td>
<td>.14</td>
<td>.06*</td>
</tr>
<tr>
<td>2. Gender</td>
<td>.57</td>
<td>.49</td>
<td>-.05*</td>
<td>.79</td>
<td>.14</td>
<td>-.06*</td>
</tr>
<tr>
<td>3. Wilderness program</td>
<td>.49</td>
<td>.50</td>
<td>.13**</td>
<td>.24</td>
<td>.15</td>
<td>.11**</td>
</tr>
<tr>
<td>4. Ease of making friends</td>
<td>1.7</td>
<td>.67</td>
<td>-.35**</td>
<td>-1.7</td>
<td>.11</td>
<td>-.30**</td>
</tr>
<tr>
<td>5. Shyness</td>
<td>2.3</td>
<td>.86</td>
<td>-.23**</td>
<td>-.18</td>
<td>.09</td>
<td>-.08*</td>
</tr>
<tr>
<td>6. Service</td>
<td>.09</td>
<td>.29</td>
<td>-.03</td>
<td>.28</td>
<td>.25</td>
<td>.03</td>
</tr>
<tr>
<td>7. Pre-season athletics</td>
<td>.04</td>
<td>.20</td>
<td>-.04</td>
<td>.54</td>
<td>.34</td>
<td>.06*</td>
</tr>
<tr>
<td>8. Campus friends</td>
<td>1.4</td>
<td>2.6</td>
<td>-.08**</td>
<td>.06</td>
<td>.03</td>
<td>.05</td>
</tr>
</tbody>
</table>

Note. $R^2 = .19$ (N = 1353, $p < .001$)
*p < .01, **p < .001

Tangible Support/Reliable Alliance

The results for the multiple linear regression using the sub-factor tangible support as the criterion variable showed significant correlations on all the variables excluding the program variables for service ($r (1353) = .01, p = .38$) and pre-season athletics ($r (1353) = .03, p = .14$). All the other correlations, as listed in Table 4.23, were significant at the $p < .05$ level.

The combination of all the variables was significantly related to the tangible support score, $F(8, 1344) = 33.16, p < .001$. The sample multiple correlation coefficient was .40, indicating approximately 16% of the variance of the tangible support score was...
accounted for by these variables. Table 4.23 presents the coefficients and lists the
standardized beta scores.

Table 4.24: The Means, Standard Deviations, Correlations, and Regression Analysis

Summary for the Sub-Factor Tangible Support and Student Predictor Variables.

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>r</th>
<th>B</th>
<th>SE B</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tangible Support</td>
<td>13.9</td>
<td>2.03</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Predictor variables</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Year</td>
<td>1.4</td>
<td>.49</td>
<td>.08*</td>
<td>.34</td>
<td>.10</td>
<td>.08**</td>
</tr>
<tr>
<td>2. Gender</td>
<td>.57</td>
<td>.49</td>
<td>.05*</td>
<td>.16</td>
<td>.10</td>
<td>.04</td>
</tr>
<tr>
<td>3. Wilderness program</td>
<td>.49</td>
<td>.50</td>
<td>.11**</td>
<td>.39</td>
<td>.11</td>
<td>.10**</td>
</tr>
<tr>
<td>4. Ease of making friends</td>
<td>1.7</td>
<td>.67</td>
<td>-.38**</td>
<td>-1.0</td>
<td>.08</td>
<td>-.33**</td>
</tr>
<tr>
<td>5. Shyness</td>
<td>2.3</td>
<td>.86</td>
<td>-.23**</td>
<td>-.16</td>
<td>.07</td>
<td>-.07*</td>
</tr>
<tr>
<td>6. Service</td>
<td>.09</td>
<td>.29</td>
<td>.01</td>
<td>.27</td>
<td>.19</td>
<td>.04</td>
</tr>
<tr>
<td>7. Pre-season athletics</td>
<td>.04</td>
<td>.20</td>
<td>.03</td>
<td>.59</td>
<td>.25</td>
<td>.06*</td>
</tr>
<tr>
<td>8. Campus friends</td>
<td>1.4</td>
<td>2.6</td>
<td>.07*</td>
<td>.02</td>
<td>.02</td>
<td>.03</td>
</tr>
</tbody>
</table>

Note. R² = .16 (N = 1353, p < .001)
*p < .01, **p < .001

Ethnicity

Multiple independent sample t-tests were conducted on the Princeton data to look
for differences in the seven dependant variables based upon variable ethnicity. Because
the sample sizes were different between the two groups, with students identifying
themselves as white equaling 67% of the data (white = 599, non-white = 292), the more
conservative test where equal variances were not assumed was used. The results showed
significant differences in the means between the groups on six of the seven dependant
variables. The variable not demonstrating significance was for the sub-factor
competence, t (585) = -1.6, p = .10.
Table 4.25 shows that the means for students who identified themselves as white were higher in all categories on the Campus-Focused Social Provisions Scale. Based upon the significance of the six dependant variables, effect sizes (eta square) were calculated using the formula (Green & Salkind, 2003):

\[ \text{Eta}^2 = \frac{\tau^2}{1 + \frac{1}{n_1} + \frac{1}{n_2} - 2} \]

The effect sizes were all equal to .001 as shown in Table 4.24.

Table 4.25: Differences in Campus-Focused Social Provision Scores Based Upon Ethnicity

<table>
<thead>
<tr>
<th>Variable</th>
<th>White</th>
<th>M</th>
<th>SD</th>
<th>Non-White</th>
<th>M</th>
<th>SD</th>
<th>Df</th>
<th>t</th>
<th>Eta²</th>
</tr>
</thead>
<tbody>
<tr>
<td>CF-SPS</td>
<td>77.49</td>
<td>11.38</td>
<td>74.99</td>
<td>11.77</td>
<td>559</td>
<td>-3.00*</td>
<td>.001</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attach</td>
<td>12.34</td>
<td>2.89</td>
<td>11.92</td>
<td>2.95</td>
<td>566</td>
<td>-1.99*</td>
<td>.001</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guide.</td>
<td>13.58</td>
<td>2.23</td>
<td>13.19</td>
<td>2.48</td>
<td>527</td>
<td>-2.24*</td>
<td>.001</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social integration</td>
<td>13.71</td>
<td>2.23</td>
<td>13.18</td>
<td>2.27</td>
<td>568</td>
<td>-3.305**</td>
<td>.001</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nurturance</td>
<td>10.90</td>
<td>2.48</td>
<td>10.46</td>
<td>2.37</td>
<td>600</td>
<td>-2.585*</td>
<td>.001</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Competence</td>
<td>12.97</td>
<td>2.05</td>
<td>12.73</td>
<td>2.02</td>
<td>585</td>
<td>-1.65</td>
<td>.001</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tangible</td>
<td>13.98</td>
<td>2.03</td>
<td>13.48</td>
<td>2.27</td>
<td>524</td>
<td>-3.16*</td>
<td>.001</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The effects sizes were consistent with an exploratory hierarchical multiple linear regression conducted by adding ethnicity in as a separate step to evaluate the differences made in the \( r^2 \) measure. The linear regression for all seven criterion variables produced weak \( r^2 \) ranging from .001-.004, meaning this variable accounted for approximately less than 1% of the variance in Campus-Focused Social Provisions Scale scores. Of the seven variables only social integration (\( p = .04 \)), \( r^2 = .004 \), was significant.
Table 4.26: The Regression Analysis Summary for Ethnicity and Campus-Focused Social Provision Scale Scores.

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>SEB</th>
<th>β</th>
<th>r</th>
<th>F</th>
<th>R2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethnicity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CF-SPS</td>
<td>1.25</td>
<td>.79</td>
<td>.05</td>
<td>.125**</td>
<td>2.50</td>
<td>.002</td>
</tr>
<tr>
<td>Attachment</td>
<td>.24</td>
<td>.20</td>
<td>.04</td>
<td>.09*</td>
<td>1.43</td>
<td>.001</td>
</tr>
<tr>
<td>Guidance</td>
<td>.19</td>
<td>.17</td>
<td>.03</td>
<td>.09*</td>
<td>1.23</td>
<td>.001</td>
</tr>
<tr>
<td>Social</td>
<td>.33</td>
<td>.16</td>
<td>.07</td>
<td>.14**</td>
<td>4.27*</td>
<td>.004</td>
</tr>
<tr>
<td>Integration</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nurturance</td>
<td>.22</td>
<td>.17</td>
<td>.04</td>
<td>.10*</td>
<td>1.63</td>
<td>.002</td>
</tr>
<tr>
<td>Competence</td>
<td>.01</td>
<td>.03</td>
<td>.00</td>
<td>.07*</td>
<td>.011</td>
<td>.000</td>
</tr>
<tr>
<td>Tangible</td>
<td>.296</td>
<td>.15</td>
<td>.06</td>
<td>.12**</td>
<td>3.58</td>
<td>.004</td>
</tr>
</tbody>
</table>

Ease of Making Friends Interaction

Since the multiple linear regression results showed the ease of making friends variable as having consistently the largest explanatory power in the tested models, this variable was further analyzed. Since social provisions are based upon social connections, someone who makes friends easily would logically have access to more provisions through social groups, but this also could mean that those with a high level of social provisions perceive themselves as making friends more easily. Of interest with this variable is the potential interaction between those participants who do not make friends easily and their participation in a pre-orientation programs. Does a pre-orientation program compensate for those who have a difficult time making friends?

To explore the effects and possible interaction of the ease in which a person makes new friends, a 4 x 5 x 7 one-way MANOVA was conducted combining the “ease of making friends” by the “pre-orientation experience” by the Campus-Focused Social Provisions Scale scores. The results showed a marginal tendency towards an interactive
effect where attendance on a wilderness trip compensated for difficulty in making friends with the total Campus-Focused Social Provisions Scale scores, but these results were not significant $F(3, 1349) = .647, p = .58$. Results on the sub-factors showed similar results.

**Summary**

The MLR used seven different predictor variables to develop linear models for each sub factor of social provisions and the overall score. The pre-orientation variable was broken into three dummy variables service, WOP, and pre-season athletics. The two variables with the highest explanatory power in all models were ease of making friends and shyness, (see Table 4.26). These two variables combined with WOP and ethnicity (for the Princeton data) were the only variables significantly related to all seven models ($p > .05$). The variable year in school was significant in all models except social integration. Previous friends on campus was significant in all models except competence. Gender was significant in all models except social integration and overall CF-SPS scores, and the variable pre-season athletics was only significant with the social provision social integration. Although many variables were significant predictors, the effect sizes of the variables was small and the variance explained by the models was low, ranging from $R^2 = .27$ for overall CF-SPS scores to $R^2 = .16$ for the sub factor tangible support.
Table 4.27: The Summary of Independent Variables Significantly Impacting the Variance in the Multiple Linear Regression Models.

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Independent variables significantly predicting the variance in the DV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall CF-SPS</td>
<td>1. Ease of making friends&lt;br&gt;2. Shyness&lt;br&gt;3. Year&lt;br&gt;4. WOP&lt;br&gt;5. Previous friends on campus</td>
</tr>
<tr>
<td>Attachment</td>
<td>1. Ease of making friends&lt;br&gt;2. Shyness&lt;br&gt;3. Year&lt;br&gt;4. Gender&lt;br&gt;5. Previous friends on campus&lt;br&gt;6. WOP</td>
</tr>
<tr>
<td>Guidance</td>
<td>1. Ease of making friends&lt;br&gt;2. Shyness&lt;br&gt;3. WOP&lt;br&gt;4. Gender&lt;br&gt;5. Year</td>
</tr>
<tr>
<td>Social Integration</td>
<td>1. Ease of making friends&lt;br&gt;2. Shyness&lt;br&gt;3. WOP&lt;br&gt;4. Previous friends on campus&lt;br&gt;5. Pre-season athletics</td>
</tr>
<tr>
<td>Nurturance</td>
<td>1. Ease of making friends&lt;br&gt;2. Shyness&lt;br&gt;3. Year&lt;br&gt;4. Gender&lt;br&gt;5. Previous friends on campus&lt;br&gt;6. WOP</td>
</tr>
<tr>
<td>Competence/Reassurance of worth</td>
<td>1. Ease of making friends&lt;br&gt;2. Shyness&lt;br&gt;3. WOP&lt;br&gt;4. Year&lt;br&gt;5. Gender</td>
</tr>
<tr>
<td>Tangible Support</td>
<td>1. Ease of making friends&lt;br&gt;2. Shyness&lt;br&gt;3. WOP&lt;br&gt;4. Year&lt;br&gt;5. Previous friends on campus&lt;br&gt;6. Gender</td>
</tr>
</tbody>
</table>

Note: Independent variables are listed from the highest $R^2$ scores to the lowest.
CHAPTER V

DISCUSSION

Introduction

The purpose of this chapter is to review, summarize, and discuss the study's research findings; to predict the potential implications of this study; and to discuss recommendations for future research. New models are also presented in the chapter to help provide important directions for researchers interested in this area of inquiry.

Purpose of the Study

The purpose of this exploratory study was twofold: (1) to investigate the Campus-Focused Social Provisions Scale as a reliable measure of social support differences among college students, and (2) to investigate whether students in different pre-orientation experiences reported different levels of social provisions. No other study has examined social support associated with participation in pre-orientation experiences by incoming college students.

It is important to note that this study was limited by administrative practices on both campuses regarding the use of pre-tests, access to students, multiple testing, and solicitation methods. These restrictions limited the internal validity of this study in two key areas. The most serious limitation was the inability of the research methodology to appropriately reduce the potential self-selection bias of the sample populations. The second important validity concern regarded inability to utilize a pre-test or some other...
relevant procedure (e.g., covariates) to control for potential pre-existing differences between the groups in the study. Both challenges are discussed in more detail below.

Random selection is generally the most accepted way to appropriately reduce selection bias (Campbell & Stanley, 1966), but it was not possible to use as a research methodology with this study. Several options were considered, such as using waiting lists as control groups or matching students with covariates. However, the universities’ Institutional Review Boards (IRBs) overseeing this project did not grant permission for a pretest due to concerns of potential negative influences associated with contacting students prior to their arrival at college by asking them to participate in a study. For example, the Harvard IRB was concerned that official-looking documents sent from the campus (or an agent of the campus) may give students the impression they needed to participate in the study, conforming to unwritten expectations of the college and inadvertently coercing some students to comply with requests. Other ways to control for bias (e.g., covariates) were not feasible in this study because such data were not available for the social provisions variables. Using such data would have required such pre-existing information, yet no studies exist on the relationship between available factors (e.g., distance from home, size of support network, satisfaction with roommates) and the CF-SPS.

The use of a pre-test for social provisions in this study was also inappropriate, since answering the adapted social provisions scale (CF-SPS) requires knowledge about the level of social provisions on campus. Since the majority of students were coming to campus for the first time, it is logical to assume almost every student beginning college did not possess any actual experience with on-campus social provisions. One
demographic question did ask students how many friends they had on campus before arriving to the university, potentially testing for one way participants could reasonably have claimed they possessed a high level of on-campus social provisions prior to arrival at college. In the end, however, this variable was found to have a minimal effect size accounting for only 1% of the variance in total social provision scores.

As a pre-test was not feasible or appropriate, the study was conducted using a one-time test given after the sixth week of the first semester. Despite the unavoidable threats to internal validity, the study's true importance lies in setting the stage for future research regarding the use of the CF-SPS and relationships of transitional programs to the development of social support.

Discussion of Findings and Conclusions

Factor Analysis Discussion

The exploratory factor analysis for the CF-SPS uncovered a three-factor model, differing from Weiss's six-factor theory of social provisions. An earlier confirmatory factor analysis of the SPS across multiple populations (e.g., elderly, nurses, unwed mothers) completed by Russell and Cutrona (1984) indicated six separate statistical distinctions between the sub-factors, confirming Weiss's theory (1974) of social provisions. For example, with the original SPS, a person could indicate a high level of guidance and a low score in attachment since all six sub-factors scored independent of each other. Among the first- and second-year college students in this study, no significant differences between the sub-factors of attachment, tangible support, and guidance were indicated on the CF-SPS. This was also true for the sub-factors of social
integration and competence as shown in Figure 5.1. Nurturance was the only sub-factor to remain independent of the other five.

Although the six sub-factors for the CF-SPS did not demonstrate independent results, the four survey questions making up each sub-factor remained interrelated. The continued interrelationships of the four questions to each sub-factor remained an important indicator of the construct validity of the CF-SPS. If weak interrelationships existed between the questions making up a sub-factor and the questions were more related to other constructs, it would challenge the validity of the sub-factors and Weiss’s (1974) definition of social provisions for this population.
Figure 5.1: Presentation of Factor Analysis Results for the Social Provisions Scale and the Campus Focused-Social Provisions Scale

The six independent sub factors for the Social Provisions Scale (Cutrona & Russell, 1984)

The three independent sub-factors for the Campus-Focused Social Provisions Scale

The different results are potentially due to: (1) the timing of social provision development among this sample or (2) the nature of peer group support among this population. Many of the research studies using the SPS measured global levels of social support, asking participants in surveys to rank social provisions based upon all forms of current social support. Such social support responses would reflect relationships maintained for long periods of time (e.g., family members, childhood friends,
colleagues). In this study, measures of social provisions were limited to those formed on campus, indicating that social support had either developed during the previous six weeks for first-year students or developed over the last year for the sophomore participants. This limited timeframe for social support development may have contributed to the results of the factor analysis. Developing enough variation in different aspects of social support, especially to levels that can demonstrate independence between certain sub-factors, may take more than one year to occur.

A second difference between the CF-SPS and the SPS is the focus on campus relationships, which for students during the beginning of school is likely to be heavily peer-focused (Barefoot, 1992) rather than parental or adult-focused. Developmentally; teenagers become more interested in maintaining supportive ties with peers and less interested in adult support (Converse, 2004). This developmental tendency may affect the results of the CF-SPS. Even though colleges may provide numerous opportunities for students to receive guidance or tangible support from faculty and staff, students may tend to look for support from peers. This may explain in part why the provisions of attachment, guidance and tangible support do not differentiate in this study.

The tendency of college students to be peer-focused during this time of transition with little time to develop more intricate social support systems may explain the results of the factor analysis for this sample. The implications of these results are important for staff working with new students. Harvard and Princeton universities both have highly structured advising systems composed of professional staff and faculty members aimed at providing guidance for students. It would be interesting to understand whether the advising structure at the university is perceived by students as providing the social
provision of guidance. If students perceive their primary need for this provision as being met by peers during their first and second years of college, a greater emphasis on peer advising may be a more effective and appropriate manner for working with students rather than trying to "force them" into the current organizational practice. With better understanding of how students seek guidance, college advising systems may consider adapting to provide guidance in ways that better match how students seek support.

Reliability Analysis Discussion

Another objective of this study was to find a reliable measure of on-campus social support. The Campus-Focused Social Provision Scale results were highly reliable (alpha = .94), and the inter-item correlations were greater than (r < .3), ranging from r = .33 to r = .67. Future research needs to be conducted on the CF-SPS to help validate its test-retest reliability, as well as examine if the measure remains reliable across different populations. Based upon this study, the CF-SPS possesses promise as a reliable measure and should be used in further studies assessing college campus transitional programs.

Differences by Gender, Year in School, and Pre-orientation Experience

Gender

The literature is fairly conclusive that gender differences exist on social support measures as a whole (Cutrona, 1986; Sarason & Sarason, 1985) and with the Social Provisions Scale (Russell & Cutrona, 1984). This study produced similar findings, discovering higher levels of social support on all provisions and across all circumstances for women except the sub-factor of social integration. Previous studies using the SPS indicated women had higher levels of social provisions in all sub-factors (Cutrona, 1986).
As the following section illustrates, the non-significant finding with social integration was also discovered with year in school.

**Year in School**

Sophomores reported significantly greater social provisions across all sub-factors except social integration ($p < .05$) when compared to first-year students. Previous research by Gass (1990) and Vlamis (2002) discuss a potential “incubation” effect for students participating in WOP: citing results based upon WOP experiences may not be immediately measurable, yet measurable when they have experienced enough time to develop into significant changes. The results for the Gass (1986) study found significantly greater scores for GPA and retention among WOP participants compared to a control group, as well as significant differences in student development measures between groups ($p > .05$), but those differences were not significant until 12 months had passed. Vlamis (2002) did not find significant differences in GPA and retention, but her study stopped testing students at six months after the WOP. If the incubation effect is true, Vlamis (2002) concluded she may not have waited long enough to detect differences.

The incubation effect is also supported by Kellert (1998), whose study of participants in three large outdoor programs (i.e., Outward Bound, Student Conservation Association, National Outdoor Leadership School), concluded that the impact of outdoor programs increases over time. Participants reflecting back on wilderness experiences after seven or eight years reported their wilderness experience as having more positive impact upon their lives than participants reflecting upon trips that recently occurred (Kellert, 1998).

111
Three potential explanations for the incubation effect may help researchers understand this phenomenon: (1) change does not occur immediately after the experience, but after it is processed by students over time; (2) change does occurs after the experience, but it is not recognized by the students until they have tested their new attitudes and beliefs in a social context; or (3) change occurs after the experience but the instruments measuring such a change are not sensitive enough to assess the changes. These three explanations are discussed further below.

The first possible explanation for the incubation effect is that there is truly an incubation time for student changes. A student may have important experiences on a pre-orientation program, but changes in attitudes and behavior may not occur until the student has time to reflect on and incorporate learning. This explanation assumes that people are relative stable in their beliefs and habits, so any process of change will seem slow compared to the initial impact of the experience. An example of this process is a student who is told he/she has a chronic illness (e.g., diabetes). Although he/she may change some behaviors to manage the disease, the student may not truly express the attitudes and beliefs of a person with diabetes until he/she has reflected upon the news for a number of months or even years. Participants in WOP may not understand how the lessons from their trip integrate and transfer into the specifics of their life on campus until they have faced new challenges in school. The challenge combined with a new perspective from the WOP may set students on a trajectory leading to a different type of growth than if the student faced the challenges without the WOP experience. Overtime the impact of the trip increases as the information from the WOP is integrated with the student's life on campus and new area's of awareness may be explored.
The second explanation assumes that the student did make significant changes after a pre-orientation experience, but does not recognize the change until enough feedback is registered from others. Hock (1995) described the power social information has upon our opinions of ourselves, referencing Solomon Asch’s (1951) conformity experiments from 1951. In Asch’s study, male college students conformed to a group of confederates, expressing obviously wrong answers because the erroneous unanimity of the confederates caused them to distrust their own perceptions. Asch (1951) noted the results for subject conformity were reduced when the answers were more obviously wrong. The inverse was also true: When answers were less clear the rates of conformity of the subject increased (Asch, 1951).

In the survey research used to measure student changes due to participation in a WOP, the answers are much less clear than differences in Asch’s study, which had subjects discern the length of lines printed on a page. When a transitioning college student answers questions about identity, preferences, and habits, they may be less likely to report changes until they have received considerable social confirmation from their peers and community members. Social support reporting may act in a similar manner, where students may have high levels of social provisions, but do not report upon these levels until they have time to confirm such commitments through social interactions. The need to interact and assess feedback from others may explain the incubation effect, since it may take many months for students to assess information from enough social experiences providing clarity over how they have changed.

The third explanation for the incubation effect may be that the change does occur in the participants soon after the experience, but the instruments used to measure such a
change are not sensitive enough to assess the differences. The “insensitive test” explanation of the incubation effect is related to the high regard reliability has among psychological surveys. If test results changed from test to test, but were not due to changes in the person, the test would be an unreliable measure of a construct since changes in the results were only due to retesting. Test-retest reliability is an important validity concern, but a reliable measure may be created at the expense of a test’s sensitivity to minor changes. The incubation effect may be due to the length of time it takes for the changes in a person to be large enough so they can be measured by a test that is relatively insensitive to measuring change.

These three explanations also can combine with each other. Reflection, social reinforcement, and insensitive measures probably all explain some of the reasons behind the incubation effect. This effect has not been well studied, but may have important impacts upon future research methods and help to explain non-findings for shorter research projects involving first-year students. This is an important area for more research.

Another interesting result specific to the sub factor social integration was that it not influenced by gender or by year in school. One plausible explanation for this result is that of all the social provisions, this provision may be the one students focus on first, or may act as the first stage of social support development for college students. The results are consistent with the theory of Baumeister and Leary (1995) on the need for belongingness as an essential motivation for students in transition. Further research by Barefoot (2000) may support this conclusion, noting that first-year students involved in first-year seminars will often focus their attention on connecting to their peers before
learning how to be successful in college. No research currently exists investigating the stages at which different provisions develop, but the question may have important implications for future research and future programming of student transitional experiences.

Differences by School

The fact that only one significant difference was found by school on any dependent measures supports the similarity between the Harvard and Princeton students and pre-orientation programs. The one difference occurring in the Princeton sample was the lower levels of social provisions among the students who do not attend a pre-orientation experience. As noted in Chapter 3, a higher percentage of first-year students from Princeton participated in a pre-orientation program compared to first-years at Harvard (85% compared to 50%).

Social Provisions and Pre-Orientation Programs

The MANOVA results measuring CF-SPS scores by pre-orientation experiences demonstrated significantly higher scores for participants in the WOP condition. Since this research did not employ a pre-post test design, only relationships, not causation, can be appropriately ascertained, but these results were consistent with the literature. Several studies have demonstrated that students on WOPs have higher scores on a number of positive variables such as academic success (Sullivan, 1971), inner control (Wells, 1975), self-concept (Wetzel, 1978), GPA (Stogner, 1978), tolerance, independence, mature career plans, knowledge of campus resources (Hansen, 1982), adjustment to school (Raiola, 1984), retention (Gilbert, 1985), adjustment to campus and finishing school more often (Brown, 1998), increases in the development of self interest and social skills
(Kafsky, 2001), greater adjustment to campus (Farmer, 2002; Ovarecz, 2002), and increases in emotional autonomy, instrumental autonomy, and appropriate educational plans (Vlamis, 2002), but this is the first study to examine associations of orientation programs and social support. WOPs demonstrated significant differences compared to the condition of no pre-orientation program on all seven of the dependent variables. The condition of pre-season athletics was significantly higher in the provision of social integration, but was not significantly different in any other provision. The condition of service demonstrated no significant differences with the no pre-orientation condition, and was almost found significant for lower scores on the provision of competence ($p=.63$).

The finding of high levels of social integration among pre-season athletes was consistent with expectations. Athletes work in small teams and are composed of individuals who share (at least) some of their interests, namely their sport. Other findings may exist for pre-season athletes, but given a small sample size for this group ($n=64$) compared to the large numbers for the conditions of WOP and no pre-orientation, such differences may not appear given the lack of power in the study in regard to this condition.

Service programs were not significant in any of the social provision variables, and may demonstrate a trend of lower scores for the provision of competence. One explanation for the lower feelings of competence may be that service programs encourage students to question their identities, particularity because many students are coming face to face with people challenged by issues of power, privilege, and wealth (First-year Urban Program, 2004). Dealing with such issues may have a powerful personal effect on a new student, and understandably interfere with feeling of social competence. The
alternative explanations are that service programs participants may have greater levels of
social support not measured by this test, or participants on a service program do not have
different levels of social provisions from the group of students who do not participate in a
pre-orientation program. Although many explanations can be discussed, the results of
this preliminary study shows service programs participants do not report levels of social
provisions different from students who do not participate in any pre-orientation programs.

Little research (i.e., two studies) is available on the impact of service trips, which
is similar to the pattern of this study. Brown’s (1998) study found service groups
provided lower levels of retention and lower satisfaction compared to wilderness
orientation programs. Another study by Seaman (1999) demonstrated outdoor groups
and service groups (not pre-orientation programs) made congruent gains.

The overall results of the social provisions separated by pre-orientation
experience demonstrated some interesting results to promote further study. Since this
research did not employ a pre-post test design, only relationships, not causation, can be
appropriately ascertained. Future research needs to be conducted to further examine
causal connections. This study does show potential for looking for differences in social
provisions as an outcome of transitional programs.

Reported Value of Pre-Orientation Programs

This study asked the students who participated in a pre-orientation program to report
its value on a five-point scale ranging from very detrimental to very valuable. The results
indicated only 3.8% of the participants reported their experience as detrimental or very
detrimental. The results were skewed, with 84.5% of the responses reporting the program
as being valuable or very valuable. A small group of 11.7% of participants (n = 34)
reported their experience with pre-orientation programs were detrimental. Since the data did not normally distribute itself, it was not useful for analysis as a correlation. But this finding brings up an interesting point regarding research on such programs. Even a pre-orientation program that had no significant association with social provisions, such as the service programs, were still rated as valuable by a majority of the participants. A few conclusions are noteworthy, (1) the value of the program is related to other variables beyond social support, or (2) students in the study attribute more value to the program than actually occurs.

Although this study can not present casual findings because the study did not have appropriate controls on threats to internal validity such as self-selection bias and use of a pre-test, it is fair to consider one explanation for significant differences reported for the WOP is program participation. If future research demonstrates such a result, then some of the value of the program may be due to the development of social support. But, since the results are not the same across pre-season athletics and participation in a service program, the actual benefits of the program may be based on key variables imperceptible to the participants (e.g., effects of a different diet, appreciation for campus comforts after being deprived of showers and beds, effects of exercise). Future research investigation should seek out other potential key variables important to pre-orientation programs.

Secondly, highly positive reports for pre-orientation programs may also be due to students reporting the role of these pre-orientation programs as having more perceived value than actual value. An important question for future research is discovering whether students’ perceptions of the pre-orientation programs are accurate. Certainly people believe many things are beneficial when they are not. In the 1930s Tour de France bike
racers were encouraged to smoke cigarettes as they raced in one of the world’s most difficult athletic contests because it was believed smoking helped provide improved lung-power, a perception different from reality. The misleading nature of self-reports is a challenge to psychological research, especially because numerous studies have concluded that subjects perceptions do not always align with fact (Baumeister, Campbell, Krueger, & Vohs, 1994). If 1930s Tour de France racers were surveyed regarding the value of cigarettes most would probably rate cigarettes as important and valuable. Research needs to uncover that a similar distorted assessment is not involved among participants in pre-orientation programs.

The Results of the Multiple Linear Regression

The multiple linear regression (MLR) analysis demonstrated relatively similar results for all seven dependent variables. The variable having the most explanatory power for all seven MLR equations (one for each DV) was ease of making friends. This particular variable was significantly related to the overall score in the CF-SPS \( (r = .48, \ p < .001) \), and possessed the greatest association with the sub factor nurturance \( (r = .34) \). The variable with second highest amount of significant explanatory power was the variable shyness with an overall correlation to the total CF-SPS Score of \( r = -.28 \). This particular variable was also most highly associated with the sub-factor nurturance \( (r = -.18, \ p < .001) \). These two variables shared some variance expressed through a strong intercorrelation \( (r = .47, \ p < .001) \) but were considered distinct variables in this study. A person who is shy may tend to avoid social situations and social interactions resulting in
fewer opportunities to make friends, but certainly some shy people exist who also make friends easily. More clearly defining this association is one area of future research.

To better understand how the variables may have combined to explain the variance for social provision scores, the variables were categorized into three areas of influence: internal factors, programmatic factors and demographic factors. From these categories, two models were developed in Figure 5.1 and Figure 5.2. Internal factors were defined as aspects of a person's personality contained internally (i.e., ease of making friends, shyness), and were not developed due to external situations. Programmatic factors were associated with participation in a pre-orientation program or other campus programs. Demographic factors were personal circumstantial factors not coming from internal conditions or related to program participation (e.g., ethnicity, age, gender). In this study the internal factors were defined by two variables (i.e., ease of making friends, shyness), and those variables explained the largest amount of the variance in all MLR models (i.e., the total CF-SPS model, all sub-factor models).

Thought was given to the categorization of the variable ease of making friends as a demographic factor because external conditions (e.g., attractiveness, wealth, fame) may influence the perception that making friends is easy, but the students in this study were believed to be expressing internal feelings about their own social skills. The second internal variable, shyness, is an internal trait afflicting as many as 40% of people in the U.S. (Kashef, 2001). Shyness was considered an internal personality factor and was negatively correlated with ease of making friends in this study. In this study these two variables represented all the internal factors related to social provisions. Different internal factors, (e.g., personality, mood, sense of humor), should be explored in future
research. This exploratory study was limited by number of the demographic variables used in the study in an effort to keep the length of the survey manageable and increase participation rates.

Programmatic factors in this study were the outcomes due to one of the transitional programs organized directly or indirectly by the college. The major programs investigated in this study were participation in one of the pre-orientation programs (i.e., wilderness, service, pre-season athletics). One variable not clearly a programmatic or a demographic variable was existence of an on-campus friends prior to arrival at college. Programs such as pre-frosh weekends, campus tours, regional alumni events, as well as connections created via e-mail lists are examples of campus programs leading to a person having an on-campus friend prior to arrival. Friendship arising out such programs could be considered programmatic variables in this study. Those relationships due to non-programmatic factors (e.g., friends from high school, kin relationships) would be defined as demographic factors. Unfortunately, this study was unable to discern the difference between these types of friendships. Recognizing the difficulty of categorizing this variable, it was split between the programmatic and the demographic factors. Future investigations of the validity of this model will have to consider the variable’s appropriate categorization.

The only programmatic factor associated with higher levels of social provisions was participation in a wilderness orientation program for seven dependent variables, and participating in pre-season athletics program for one dependent variable (social integration). Although these associations were consistently significant ($p < .05$), they explained only one to two percent of the variance in the social provision scores in any


121

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
model. Participation in the service program did not significantly associate with any of the variance in the CF-SPS scores.

Demographic variables in this study were defined by the variables of gender, year in school, and ethnicity. These variables were not considered internal personality differences, nor due to programming, but relatively stable facts about individuals. Although categories such as gender receive a lot of important discussion in regard to the accuracy of the differences in the definition between male and female, participants in this study were not limited to two gender choices in the survey. Still, all but one participant (n= 1609) identified as a either male or female. The variable measuring pre-existing campus friends also was partly associated with the demographic category as explained above. These demographic variables were significantly related to predicting four of the sub-factors of the social provisions scale (i.e., attachment, guidance, tangible support, nurturance). The specific variables gender and year had no significant effects upon the sub-factor social integration and the variable ethnicity had no significant relationship to the sub-factor competence. Like the programmatic variables, the variance explained by the demographic factors was quite small; less than 3% of the variance was explained for any category.

The variables in the MLR were categorized by type so a model could be formulated helping to outline the potential for the development of social provisions among transitioning college students. The results of this study and the proposed models in Figure 5.1 and 5.2 indicate the need for more research to (1) investigate the models to increase understanding of the process of social support development by college students,
and (2) discover the variables missing from this model explaining the 70% of the variance unaccounted for.

An important implication of social support research with college students is determining how much a campus has control over the conditions promoting healthy social support. Ideally the campus could compensate programmatically for students who find making friends and reaching out for support challenging. Results may conclude that internal personality factors determine almost all the differences in social provision levels, and campus programs may make little impact on social support development. It is likely, as this study demonstrates, that a mix of internal, demographic and programmatic variables all impact the development of social provisions among college students.

The direction of such developments is an important area for future study. Figure 5.2 illustrates the programmatic and demographic factors influence the internal factors of the participants. Students who participated in a pre-orientation program may change the way they feel about themselves and begin to identify themselves differently due to participation in a program. If such a model is accurate, programmatic factors and demographic factors regarding identity may lead to new internal understandings. If true, then programs and education may have more influence upon social support development than the model in Figure 5.1 suggests.

Another area for future research is the need to discover a greater amount of the variance missing from this model. Although this study worked to focus the investigation of social support residing on campus, it is likely some of the variance is determined by off-campus factors (e.g., friends from home, family, off-campus romantic partners).
Phenomenological research may help to uncover what are the common experiences influencing social support development for college students.

Understanding more about social support development could have important implications upon campus transitional programs for incoming students. Campus programs are presently designed with little knowledge of outcomes beyond retention and GPA. Yet many programs on college campuses are designed without consideration of GPA and retention impacts (e.g., community development, entertainment, conflict resolution). A focus on social support is one important outcome influencing healthy transitions to a new community (Weiss, 1974). In this study it is believed that research illuminating effective programs leading to social support outcomes is an important area of inquiry for student affairs practitioners working with student in transition.
Figure 5.2: Model of Social Provisions Development through Three Factors

- **Internal factors**
  - Ease of making friends
  - Shyness

- **Program Factors**
  - Three Pre-Orientation experiences: WOP, Service, Pre-Season Athletics.

- **Demographic Factors**
  - Gender
  - Year in School
  - Previous friends (one half)

20% 3% 4%

27% of variance explained in Total Social Provisions

Figure 5.3: Programmatic Model of The Development of Social Provisions

- **Program Factors**
  - Three Pre-Orientation experiences: WOP, Service, Pre-Season Athletics.
  - Previous friends

- **Demographic Factors**
  - Gender
  - Year in School
  - Previous friends from home or similar connection

3% 4%

**Internal factors**
- Ease of making friends + Shyness

27%

27% of variance explained in Total Social Provisions

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
Limitations

The present study was an initial step toward understanding the role of social provision development and pre-orientation programs. Since this study examined a relatively new area of measurement the study was limited to a design which did not control many internal validity threats.

One of the limits of this research is the use of a specific group of students from two highly competitive universities. External validity is limited since many factors regarding this population and type of institution may not be applicable to other institutions or other types of students. This study was also conducted at one point in time, so any results due to this particular group or this particular time of year limits the generalizability of the study’s findings.

The pre-orientation programs researched in this study are comparatively similar in the goals, length, and training of leaders between the service, WOP and pre-season athletic programs. It is not known how changes in such variables significantly change the ability to make comparisons between programs. Vlamis (2002) concluded program goals may be an important component to distinguishing outcomes.

A new survey, the Campus-Focused Social Provisions Scale, was used for this study. But the scale has only been used in one study and does not have a history of test-retest reliability. Replications of studies using this instrument are needed to support the findings regarding the reliability of the CF-SPS.

Implications

The CF-SPS may be an effective instrument for measuring a transitional program’s ability to promote the perception of social support among college students.
The CF-SPS is adapted from a social support measure widely used in the psychology literature and is provided at no cost to researchers. More replications using the CF-SPS to measure the development of social provisions is one potential positive implication.

This study provides results indicating that social support may be an important factor able to be developed through transitional programs. Further research involving social support development of college students could impact the design and delivery of campus programming, hopefully increasing the effectiveness and understanding of college student transition. One important implication is the proposal of the stage model of social provision development among first-year college students for future study (See Figure 5.3). Such models could provide important guides for campus personnel if future research determines the model’s accuracy.

Most importantly, this study provides newly developed questions for deeper study into this area of inquiry. The variable ease of making friends is not a variable introduced in the prior literature as being important to social support development, but it was an important variable in this research. Uncovering new variables and new questions provides an opportunity for a richer analysis future studies.

Recommendations for Future Research

Numerous questions to be studied have already been recommended in the discussions above. Overall this study was intended to be exploratory, helping to begin a path toward recognition of the specific factors important in pre-orientation programs and how those factors help student adjustment. Several large questions are discussed below, recognizing the larger questions depend upon answers to smaller questions. Hopefully
these recommendations help to provide a direction toward understanding social support development among transitioning college students.

One important question for future research involves sampling and selection bias. This is a difficult issue for program directors of pre-orientation programs because the goal often is to try and serve as many students as possible. Random selection and assignment typically involves students randomly not being served by a pre-orientation program. This tension is especially apparent when trying to eliminate selection bias from a research project. When random selection and assignment are not possible, two potential alternatives may exist to help understanding for this internal validity threat: (1) use a matching design by employing covariates to control for internal validity threats or (2) more thoroughly explore the exact nature of bias for this population assuming differences exist.

The use of covariates in quasi-experimental designs relies upon appropriate covariates being available for matching. Matching designs, such as those used by Gass (1987) and Vlamis (2002), employed a useful methodology because of the availability of covariates for retention and academic performance. Unfortunately no specific covariates are available for the SPS, relegating a matching design to a future time when such information is available.

Another way to research selection bias may be to begin with the assumption that such bias exists. Instead of working to eliminate bias from the research, perhaps identifying the bias would present a more realistic method for investigating if select bias occurs. Future work identifying whether bias is present and what the particular effects of bias may be upon research studies is increasingly important. Without a clear
understanding of this issue, the internal validity of pre-orientation research is suspect. Examining these questions may begin with student interviews, asking them how pre-orientation participants are different from non-participants, and then may follow with survey research.

The programmatic model of the development of social support in Figure 5.2 provides an area in need of investigation. The model supports one of the important assumptions underlying the college educational system, in this case, that information and educational experiences make a difference. With so much time and energy spent on delivering transitional programs to college students, a more thorough investigation of how these programs actually impact students is an important area of future inquiry. Studies investigating those factors that help illuminate the process of students in transition (e.g., the true effect of programmatic influences) are important to support or challenge the assumptions campuses presently hold.

One important area of research that is absent in the current literature involves the question of how social provisions develop. Results from this study indicate that social integration is the only sub factor for social provisions not influenced by year in school or gender. Social integration may be the entry point for students developing social support on campus. The students may first reach out to a group sharing their interests. When student feel they fit into the group and they feel competent (satisfying two social provisions), students may begin to search for an attachment figure. Those students who find an attachment figure (e.g., best friend, romantic partner) may also find a person meeting the provisions of guidance and tangible support. This speculative model in Figure 5.3 could be beneficial toward the understanding of how students transition to
Another question uniquely arising out of this study is exploring the possible interaction effect upon students who do not make friends easily (the largest factor in development of social support) and pre-orientation programs. Although this study did not demonstrate such an interaction, it is possible the interaction occurred prior to the survey and the impact was not reported. This type of question necessitates a pre-
test/post-test design measuring the change of students’ perceptions of their ability to make friends. Future studies need to understand the effects of time and pre-orientation conditions upon changes in the variable ease of making friends.

Beyond the four research areas highlighted above, this study has introduced a number of future research questions. Student transition to college is an undeveloped area of inquiry worthy of more research. As this study has pointed out, many interesting and important questions remain to be discovered in future studies. Fortunately there has been more recent interest in this area of inquiry as a topic of dissertation and master theses (e.g., Kafsky, 2002; Farmer, 2002; Oravecz, 2002, Vlamis, 2002) and hopefully the future will provide more insights into how students transition to college.

Future research questions:

1. Will the CF-SPS three-factor structure remain consistent in other exploratory factor analyses or with other data?
2. Will the CF-SPS demonstrate reliability as a measure in a different study with college students?
3. Is there a more accurate social provisions model for college students?
4. Is social integration the most important social provision for college students transitioning to the university?
5. Do social provisions develop in stages?
6. Do certain social provisions have primacy over others?
7. How does the incubation effect among transitioning students work or not work?
8. Is there a selection bias with pre-orientation programs?
9. Why do non-participants at Princeton have much lower social provision scores than non-participants at Harvard?

10. Why don't service programs show any significance, even with similar structures to the WOP model?

11. What are the benefits of service programs if they do not promote social support?

12. How much are reports of pre-orientation programs value correlated with outcomes?

13. Do programs have influences upon internal variables of social skill development?

14. What other factors are responsible for explaining the variance in social support development?

15. What are the differences between personal/internal variables and external/structural variables on the development of social support?

16. Can a program have an interactive or corrective effect upon students predicted to have low social provisions scores?
REFERENCES


143


Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.

September 23, 2003

Bell, Brent
Education - Morrill Hall
6 Prescott Street
Cambridge, MA 02138

IRB #: 2948
Study: Wilderness Orientation Programs as a Mechanism for Social Support Development
Approval Date: 05/02/2003

The Institutional Review Board for the Protection of Human Subjects in Research (IRB) has reviewed and approved the protocol for your study as Expedited as described in Title 45, Code of Federal Regulations (CFR), Part 46, Subsection 110.

Approval is granted to conduct your study as described in your protocol for one year from the approval date above. At the end of the approval period, you will be asked to submit a report with regard to the involvement of human subjects in this study. If your study is still active, you may request an extension of IRB approval.

Researchers who conduct studies involving human subjects have responsibilities as outlined in the attached document, Responsibilities of Directors of Research Studies Involving Human Subjects. (This document is also available at http://www.unh.edu/osr/compliance/IRB.html.) Please read this document carefully before commencing your work involving human subjects.

If you have questions or concerns about your study or this approval, please feel free to contact me at 603-862-2003 or Julie.simpson@unh.edu. Please refer to the IRB # above in all correspondence related to this study. The IRB wishes you success with your research.

For the IRB,

Julie F. Simpson
Manager

cc: File

Research Conduct and Compliance Services, Office of Sponsored Research, Service Building, 51 College Road, Durham, NH 03824-3595 * Fax: 603-862-3564

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
3 August, 2004

University of New Hampshire
Department of Education
Morrill Hall
Durham, NH 03824

RE: Brent Bell’s use of Harvard students as subjects in his dissertation research, “Wilderness orientation programs as a mechanism for social support development among first-year students.”

To Whom It May Concern:

I write to confirm that Mr. Bell did receive the appropriate formal permission to recruit Harvard undergraduates as subjects in his research. At the time that Mr. Bell applied, permission to recruit Harvard students was granted by the Committee on Student Research Participation. That Committee is now defunct; the Chairman, Dr. Ducey, has left the University, and responsibility for granting permission to researchers to recruit Harvard undergraduates is about to be assumed by John O’Keefe, Assistant Dean of Harvard College.

While at many institutions, this responsibility falls to the institutional review board, this Committee (CUHS) has chosen to make its determinations solely on the basis of risk to human subjects, reviewing projects being carried out by researchers under the aegis of the University. Because Mr. Bell was conducting his research for his dissertation at the University of New Hampshire, the CSRP relied on the review by the U.N.H. IRB and concerned itself with the appropriateness of using Harvard undergraduates as subjects.

Please do not hesitate to contact me if you have further questions

With best regards,

Jane B. Calhoun
August 18, 2004

Mr. Brent J. Bell
Director, Freshman Outdoor Program
6 Prescott Street
Cambridge, Massachusetts 02138

Dear Mr. Bell,

This letter will confirm that you received from the Harvard College Committee on Student Research Participation all necessary permissions for the research you conducted in October 2003 for your dissertation. If there are any questions about this, please feel free to contact me at 617-384-7239.

Sincerely,

[Signature]

John T. O'Keefe
Assistant Dean of Harvard College
August 3, 2004

Brent Bell
140 Jerome St.
Medford, MA 02155

Subject: Human Subjects Certification for Research Entitled, "Wilderness Orientation Programs and Social Support Development Among College Students"
B. Bell, Principal Investigator

Dear Mr. Bell:

Princeton University does hereby certify that the research involving human subjects has been reviewed and approved by our Institutional Review Panel for Human Subjects on September 22, 2003.

If there is any way in which we can be of further assistance, please call me at 609.258.3105.

Sincerely,

Andrew J. Sylvester
Compliance Coordinator
asylvest@princeton.edu

cc: HS #: 2544

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
Fear in a Hat Research

Introduction

For a number of years leaders in the Harvard First-year Outdoor Program (FOP) have been conducting an activity called Fear in a Hat. Many FOP participants report the activity as one of the more valuable activities of their week in the woods. The activity is based upon the simple question, "What is your greatest fear about going to college?"

This study collected the answers to this question and analyzed them in regard to Chickering's theory of student development (1993). For students transitioning to college, Chickering expects students to seek out three areas of competence: physical, social, and academic. If students are largely concerned with gaining competence in the three task areas, then they may also express fears about not gaining competence as they transition to college.

How the study was conducted:

Fear in a Hat

Activity Description

This activity typically lasts an hour, so the group should be warm, well-fed and ready for some discussion.

The Set-up:

The leader(s) address the group: "This activity looks at some of our fears concerning college. It provides an opportunity for us to talk about real fears shared in this group in an anonymous manner.

"I will hand everyone a piece of paper and a pen. You will have a few minutes to reflect upon how you are feeling about going to college and to write down one of your biggest fears. Do not write your name or refer to yourself. Even if you do not mind sharing your fear, it helps to keep the others anonymous by not claiming your own fear.

"Once everyone has written down a fear, a hat will be passed around the group. Everyone will place "the" fear in the hat. The fears will be mixed up and then the hat will be passed around the group again. Each person will pull one fear out of the hat and read it out loud to the group. The group will then have time to discuss the fear, to see if others identify with it, and to offer up some advice or understanding. After a bit of discussion, the format is repeated until all the fears in the hat are read out loud and discussed.

155

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
Hints for discussion:

- This activity can be powerful if the group takes it seriously and is willing to have discussion on other people’s fears. When a group does not take it seriously, it may be best to gracefully bow out of the activity and try to reframe it later.
- Sometimes the discussion will focus too much on solutions, or superficial optimism. If one of the fears is “flunking out of school” it may be better to recognize that these things do happen and offer hints at developing some resiliency rather than denying that anyone in the group could ever fail at anything.

Overall:

This activity is not a problem solving activity as much as it is an activity where others tend to identify with other members of the group. I remember one group where a fear was read about not being accepted by the group, and after discussion it was discovered it was the biggest fear among every group member—being left out when transitioning back to campus. Such recognition of fears will inspire resolution, but the primary purpose of the activity is to promote understanding. Make sure the fears are heard and recognized.

Research results from past years:

Purpose: To look at the types of fears students on wilderness orientation programs have concerning transition to college. This study connected the responses to Chickering’s theory that the first need of college students is to develop social, academic, and physical competence.

A total of 218 student responses were collected. Each response was read and placed in a category based upon whether the fear referred to social fears (e.g., not making friends, not getting along with roommate, being alone), academic fears (e.g., failing, getting behind is school work, not being smart enough), or physical fears (e.g., getting out of shape, gaining weight, not being able to have time for activity). A new category was added during the research because so many responses related to fears about changing relationships with friends or parents back home. This fear was labeled Homesickness.

The categorization resulted in social fears being the largest group (n = 110) and academic fears (n = 82) falling just behind. This result is interesting since many staff and faculty at Harvard believe most students’ greatest fears concern academic challenges. Very few students on a wilderness orientation program reported fears relating to physical competence. Since this activity took place after the group had been hiking for a number of days, the participants may have already felt physically competent, or it may not be an important area of competence approaching the concerns new students have with social or academic competence issues.
The new category of homesickness was interesting, since it highlights an important issue occurring for students in transition. Many students may be grieving a life they left at home when arriving on campus. As much as the campus may be an escape from home for some, other students may feel a tremendous loss.

The chart below highlights the results of one year’s Fear in a Hat results.

Figure 1. The Fear in Hat Results Categorized by Social, Academic, Physical, and Homesickness fears.

Note: The term Interpersonal on the graph refers to the category social discussed above.
Student Adjustment College Survey

Welcome to "The Student Adjustment to College Survey," a Web-based survey that examines the experience of first-and-second-year students' adjustment to college. Before taking part in this study, please read the consent form below and click on the "continue" button at the bottom of the page if you understand the statements and freely consent to participate in the study.

Consent Form

This study involves a Web-based experiment designed to understand how students recreate social support systems when they come to college. The study is being conducted by Brent J. Bell, a Ph.D. student at the University of New Hampshire, and it has been approved by the (Harvard/Princeton) University Institutional Review Board. No deception is involved, and the study involves no more than minimal risk to participants (i.e., the level of risk encountered in daily life).

Participation in the study typically takes 15 minutes and is strictly anonymous. Participants begin by answering demographic questions and then by rating a series of statements.

All responses are treated as confidential, and in no case will responses from individual participants be identified. Rather, all data will be pooled and published in aggregate form only. This survey is being run from a secure "https" server, the kind typically used to handle credit card transactions. Reasonable steps have been taken to protect your confidentiality, although there is always a remote possibility that responses could be viewed by unauthorized third parties (e.g., computer hackers) or information tracked back to the computer you are using through a unique computer stamp (IP address). IP addresses in this study will be erased from the survey data before any results are viewed.

To encourage a high response rate, participants are entered into a raffle for 10 prizes of $100. Winners will be notified by e-mail after the conclusion of the study. Participation is voluntary; refusal to take part in the study involves no penalty or loss of benefits to which participants are otherwise entitled, and participants may withdraw from the study at any time without penalty or loss of benefits to which they are otherwise entitled.
If participants have further questions about this study or their rights, or if they wish to lodge a complaint or concern, they may contact the principal investigator, Brent Bell, at (617) 493-5585, brent@harvardfop.com or Andrew J. Sylvester, Princeton University, Office of Sponsored Research, Institutional Review Panel for Human Subjects 609-258-3105, asylvest@princeton.edu.

By agreeing to participate in this research you do not waive any legal rights or release Princeton University, its agents, or you from liability for negligence.

If you are a freshman or sophomore currently enrolled in college, understand the statements above, and freely consent to participate in the study, click on the "Continue" button to acknowledge your consent and begin the experiment.

CONTINUE

Introduction to the Study

Thank you for agreeing to participate in the Adjustment to College Survey.

This survey asks you to answer questions in regard to your college experience. The survey is broken up into five different sections. Please do the best you can to answer each question as honestly and thoughtfully as possible by choosing the answer that best represents how you feel or your experience.

The questions on this survey are not meant to cause any harm, but if you become upset or are negatively affected by participating in the survey, resources on campus—such as the Counseling Center at 258-3235— are available to you.

Information regarding the results of this study will be posted on the Outdoor Action Web site in the spring (www.princeton.edu/~oa ), or you can receive information by contacting the researcher, Brent J. Bell at brent@harvardfop.com

Once you begin the survey, you will not be able to returned to pages previously viewed. This is a security precaution to keep other people who may use the same computer from being able to uncover your responses to questions. Please answer each question before moving on to the next page.

If you wish to participate in a raffle for $100, please enter your e-mail in the space below.

Continue (after choosing continue the participant is taken to a separate survey, unlinked from this information).
Please answer the following questions as best as you can, being as honest and forthright as possible. This survey is asking you about your experience on campus, so please answer these questions with Princeton in mind.

What is your enrollment status?

- [ ] I am a first-year student (freshman)
- [ ] I am a second-year student (sophomore)
- [ ] Other (Please Specify)

Which choice best describes your participation in pre-orientation at Princeton?

- [ ] I did not attend a pre-orientation program
- [ ] I participated in OA (Outdoor Action)
- [ ] I participated in CA (Community Action)
- [ ] I participated in pre-season athletic training for an athletic team.
- [ ] I attended international student pre-orientation
- [ ] Other (Please Specify)

What is your gender:

[ ]

What is the approximate number of students in your high school graduating class?

[ ]

How many people, if any, did you consider close friends at Princeton before you arrived in September? (For example, if you had a friend from back home or a family member on campus, that would count as 1, but if you really did not know anyone well, that would be a 0).

[ ]

When it comes to making close friends do you:

- [ ] Make close friends easily
- [ ] Make friends, but it takes some work
- [ ] Have trouble making friends
- [ ] Find it very difficult to make friends
- [ ] Other (Please Specify)

Please approximate how long it takes you to travel to your off-campus home (parents/guardian) in hours (by car if possible, or specify if by plane)? (Please use demilical for parts of an hour, for example less than one hour, 15 minutes = .25 hours, or a 3 and 1/2 hour drive would be 3.5 hours).
How would you describe your hometown environment?

- Urban
- Suburban
- Rural

If you participated in a pre-orientation program (OA, CA, International Program) or pre-season athletics, please rate how valuable/detrimental you thought the experience was to your transition to college.

- Very detrimental
- Detrimental
- Not valuable, but not detrimental
- Valuable
- Very valuable

If you had a big problem, how much support would you receive from people on-campus as opposed to off-campus:

- All my support would come from people on-campus
- Most of my support would come from people on-campus.
- About half of my support would come from people on-campus and half from people off-campus
- Most of my support would come from people off-campus.
- All my support would come from people off-campus.
- Other (Please Specify)

Over the course of a typical week, approximately how many total minutes do you exercise, if at all?

How supportive is your family when you have problems at college?

- I get most of my support from my family.
- My family is moderately supportive
- My family does not offer me a lot of support
- Other (Please Specify)

How many roommates do you live with in your room/suite?

In answering the following questions, think about your current college-based 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 on campus (on campus includes peers, professors and staff members).
If you feel a statement is very often true of your current relationships on campus, you would respond with a Strongly Agree. If you feel a statement clearly does not describe your relationships on campus, you would respond with Strongly Disagree.
<table>
<thead>
<tr>
<th>Question:</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>There are people on campus I can depend on to help me if I really need it.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel that I do not have close personal relationships with other people on campus.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>There is no one on campus I can turn to for guidance in times of stress.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>There are people on campus who depend on me for help.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>There are people on campus who enjoy the same social activities I do.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other people on campus do not view me as competent.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel personally responsible for the well-being of another person on campus.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel part of a group of people on campus who share my attitudes and beliefs.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I do not think other people on campus respect my skills and abilities.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>If something went wrong, no one on campus would come to my assistance.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have close relationships on campus that provide me with a sense of emotional security and well being.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>There is someone on campus I could talk to about important decisions in my life.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have relationships on campus where my competence and skill are recognized.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>There is no one on campus who shares my interests and concerns.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>There is no one on campus who really relies on me for their well-being.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>There is a trustworthy person on campus I could turn to for advice if I were having problems.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel a strong emotional bond with at least one other person on campus.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>There is no one on campus I can depend on for aid if I really need it.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>There is no one I feel comfortable talking about problems with on campus.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>There are people on campus who admire my talents and abilities.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I lack a feeling of intimacy with another person on campus.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>There is no one on campus who likes to do the things I do.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>There are people on campus who I can count on in an emergency.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No one on campus needs me to care for them.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
In general, I am a shy person

☐ Strongly Disagree
☐ Disagree
☐ Agree
☐ Strongly Agree
☐ Other (Please Specify)

I am probably less shy in social interactions than most people.

☐ Strongly Disagree ☐ Disagree ☐ Agree ☐ Strongly Agree

Which category most closely represents your ethnic background?

☐ Select:

☐ Other:

Please click on "Submit" to finish this survey.
APPENDIX E
### Appendix E: Comparison of the Harvard/Princeton Campus Focused Social Provisions

#### Scale Independent Samples Test

**t-test for Equality of Means**

<table>
<thead>
<tr>
<th></th>
<th>Mean Difference</th>
<th>Std. Error Difference</th>
<th>95% Confidence Interval of the Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>t</strong></td>
<td><strong>Df</strong></td>
<td><strong>Lower</strong></td>
</tr>
<tr>
<td><strong>Total score</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attachment assumed</td>
<td>1.586</td>
<td>1607</td>
<td>.113</td>
</tr>
<tr>
<td>not assumed</td>
<td>1.594</td>
<td>1547</td>
<td>.111</td>
</tr>
<tr>
<td>Guidance assumed</td>
<td>.427</td>
<td>1607</td>
<td>.670</td>
</tr>
<tr>
<td>not assumed</td>
<td>.429</td>
<td>1551</td>
<td>.668</td>
</tr>
<tr>
<td>Social integration</td>
<td>assumed</td>
<td>1.608</td>
<td>.108</td>
</tr>
<tr>
<td>not assumed</td>
<td>1.637</td>
<td>1594</td>
<td>.102</td>
</tr>
<tr>
<td>Nurturance assumed</td>
<td>.094</td>
<td>1607</td>
<td>.925</td>
</tr>
<tr>
<td>not assumed</td>
<td>.094</td>
<td>1518</td>
<td>.925</td>
</tr>
<tr>
<td>Competence assumed</td>
<td>-1.546</td>
<td>1607</td>
<td>.122</td>
</tr>
<tr>
<td>not assumed</td>
<td>-1.553</td>
<td>1544</td>
<td>.121</td>
</tr>
<tr>
<td>Tangible support</td>
<td>assumed</td>
<td>1.175</td>
<td>.240</td>
</tr>
<tr>
<td>not assumed</td>
<td>1.183</td>
<td>1556</td>
<td>.237</td>
</tr>
<tr>
<td><strong>Total SPS score</strong></td>
<td>assumed</td>
<td>.793</td>
<td>.428</td>
</tr>
<tr>
<td>not assumed</td>
<td>.802</td>
<td>1570</td>
<td>.423</td>
</tr>
</tbody>
</table>
Appendix F: Means by Social Provision Scores for Men and Women

<table>
<thead>
<tr>
<th>Campus Focused SPS</th>
<th>Condition</th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>CF-SPS total</td>
<td></td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>No orientation</td>
<td></td>
<td>74.47</td>
<td>10.60</td>
</tr>
<tr>
<td>Wilderness</td>
<td></td>
<td>77.00</td>
<td>10.05</td>
</tr>
<tr>
<td>Service</td>
<td></td>
<td>74.31</td>
<td>12.73</td>
</tr>
<tr>
<td>Pre-season Athl.</td>
<td></td>
<td>76.73</td>
<td>9.91</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td>74.48</td>
<td>11.00</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>75.73</td>
<td>10.54</td>
</tr>
</tbody>
</table>

| Attachment        |                    | No orientation | 11.58 | 2.71 | 211 | 12.44 | 3.13 | 304|
| Wilderness        |                    | 12.04         | 2.67    | 307 | 12.98 | 2.76  | 379|
| Service           |                    | 11.52         | 3.37    | 44  | 12.70 | 2.59  | 94 |
| Pre-season Athl.  |                    | 12.10         | 2.86    | 38  | 13.40 | 2.61  | 22 |
| Total             |                    | 11.80         | 2.74    | 683 | 12.70 | 2.88  | 922|

| Guidance          |                    | No orientation | 13.08 | 2.20 | 211 | 13.37 | 2.57 | 304|
| Wilderness        |                    | 13.44         | 2.14    | 307 | 13.98 | 2.76  | 379|
| Service           |                    | 13.13         | 2.72    | 44  | 13.52 | 2.37  | 94 |
| Pre-season Athl.  |                    | 13.28         | 1.98    | 38  | 13.77 | 1.79  | 22 |
| Total             |                    | 13.21         | 2.23    | 683 | 13.69 | 2.28  | 922|

| Nurturance        |                    | No orientation | 10.09 | 2.63 | 211 | 10.70 | 2.59 | 304|
| Wilderness        |                    | 10.46         | 2.37    | 307 | 11.37 | 2.29  | 379|
| Service           |                    | 10.36         | 2.28    | 44  | 11.09 | 2.40  | 94 |
| Pre-season Athl.  |                    | 10.34         | 2.35    | 38  | 11.18 | 2.44  | 22 |
| Total             |                    | 10.38         | 2.43    | 683 | 11.07 | 2.44  | 922|

| Social Integration| No orientation     | 13.42         | 2.12    | 211 | 13.27 | 2.37  | 304|
| Wilderness        |                    | 13.91         | 1.92    | 307 | 13.87 | 1.97  | 379|
| Service           |                    | 12.84         | 2.53    | 44  | 13.56 | 2.17  | 94 |
| Pre-season Athl.  |                    | 14.08         | 1.79    | 38  | 14.32 | 1.70  | 22 |
| Total             |                    | 13.62         | 2.08    | 683 | 13.62 | 2.15  | 922|

| Competence/      | No orientation     | 12.72         | 2.01    | 211 | 12.35 | 2.25  | 304|
| Reassurance of    | Wilderness         | 13.14         | 1.90    | 307 | 13.09 | 1.86  | 379|
| worth            | Service            | 12.81         | 2.29    | 44  | 12.47 | 1.99  | 94 |
|                  | Pre-season Athl.   | 13.07         | 1.60    | 38  | 13.18 | 1.99  | 22 |
|                  | Total              | 12.94         | 1.96    | 683 | 12.75 | 2.04  | 922|

| Tangible         | No orientation     | 13.57         | 2.07    | 211 | 13.61 | 2.39  | 304|
| Wilderness        |                    | 13.97         | 1.83    | 307 | 14.29 | 1.84  | 379|
| Service           |                    | 13.66         | 2.34    | 44  | 13.86 | 2.00  | 94 |
| Pre-season Athl.  |                    | 13.84         | 1.66    | 38  | 14.86 | 1.48  | 22 |
| Total             |                    | 13.75         | 1.99    | 683 | 13.97 | 2.12  | 922|
Email to students at Harvard

To: Suppressed list

From: Brent Bell (bbell@fas.harvard.edu)

Subject Line: Harvard Student Adjustment to College Questionnaire

Dear Student,

I am writing to ask your assistance in my research on how students adjust to college. I have received your e-mail through a campus solicitation (either you sent me an e-mail or a signed an e-mail list). If you did not intend to receive this e-mail, I apologize for the SPAM.

Your response to this survey will provide important information on student life that may lead to improved practices on campus. I hope you will take the time (about five minutes) to complete the survey.

As an incentive, I will be raffling ten prizes of $100 to participants in the study.

If you are interested in this study and the raffle for $100, please go to the following link:

www.edtest.net
www.edtest.org

This study has been approved by the Harvard Committee for Student Research Participation.

I will also be sending a reminder e-mail to people who do not fill out the survey. If you do not want to participate and do not want to receive anymore e-mail, simply send a return to this e-mail with “no e-mail” written in the body of the text.

Thank you,

Brent Bell
Ph.D. Candidate, Experiential Education
University of New Hampshire
Director of First-year Outdoor Program
Harvard University
Email to Students at Princeton

To: Suppressed list

From: Brent Bell (fysurvey@fas.harvard.edu)

Subject Line: Princeton Student Adjustment to College Questionnaire

Dear Student,

If you are a freshman or sophomore, I would like to ask for your participation in a short (5-minute) survey at www.edtest.net. If you participate you will have a chance to win $100.

I am conducting research on how students adjust to college. Your participation is extremely valuable and may help to uncover findings helpful to other students.

Your response to this survey may help provide important information on student life that may lead to improved practices on campus. I hope you will take the time (about 5 minutes) to complete the survey. Your participation in the study is completely voluntary and no penalty will result from deciding not to participate or from discontinuing participation. The Institutional Review Panel for Human Subjects at Princeton has approved this study.

As an incentive, I will be raffling ten prizes of $100 to participants in the study.

I will also be sending a reminder e-mail to people who do not fill out the survey. If you do not want to participate and do not want to receive anymore e-mail, simply send a message with “no e-mail” written in the body of the text to fysurvey@fas.harvard.edu.

If you are willing to help me out, please use one of the links to begin the test right now:

www.edtest.net
www.edtest.org

Thank you in advance for helping support my research,

Brent Bell
Ph.D. Candidate, Experiential Education
University of New Hampshire
Director of First-year Outdoor Program (FOP)
Harvard University
Reminder Email to Students at Harvard and Princeton

To: Suppressed list

From: Brent Bell (bbell@fas.harvard.edu)

Subject Line: (Harvard/Princeton) Student Adjustment to College Questionnaire Reminder

Dear Student,

I recently sent an email concerning participation in a research project. I am conducting a Web survey looking at student adjustment to campus. I am asking all the freshmen and sophomores at (Harvard/Princeton) to participate. Would you please consider participating in this study. The survey is completely anonymous and is easily located at the following link:

www.edtest.net
www.edtest.org

Your response to this survey may help provide important information on student life that may lead to improved practices on campus. I hope you will take the time (about 10-15 minutes) to complete the survey.

As an incentive, I will be raffling ten prizes of $100 to participants in the study.

Thank you,

Brent Bell
Ph.D. Candidate, Experiential Education
University of New Hampshire
Director of First-year Outdoor Program (FOP)
Harvard University
Post card mailed to Princeton Students and Handed out on campus to Harvard Students

BACK of POST CARD

Dear Student,

I am a Ph.D. student at the University of New Hampshire conducting research on student adjustment to college. Within the next few weeks (right after break) I will be sending you an email asking you to participate in a survey at (exact link here).

This research is being conducted as part of my dissertation work. Your participation is extremely valuable to me and may help to uncover findings helpful to other students. To encourage you to participate I am offering ten prizes of $100 to be raffled to participants in my study.

Your participation in the study is completely voluntary and no penalty will result from deciding to not participate or discontinuing participation.

Please look for the forthcoming email. I hope you choose to participate and are one of the ten lucky people to win $100.

Thank you,

Brent J Bell
Ph.D. Candidate, Experiential Education,
University of New Hampshire,
Email: bbell@fas.harvard.edu

FRONT of POST CARD

Please help me with my research

Graduate student needs 10-15 minutes of your time.

Student’s Name

Campus Mail

Chance to WIN $100

175

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
First-Year Outdoor Program
first-Year Outdoor Program was started in 1979 to introduce incoming students to each other, to the college, and to the New England wilderness. As the largest pre-orientation program at Harvard, thousands of students have started their year at Harvard with FOP. Each year students hike in the backcountry of New England, thankful to be starting their year at Harvard where they have laughed, sweated, cooked, and sung with. FOP is a unique Harvard experience that provides a foundation for the first semester of college and beyond.

First-Year Outdoor Program is a great way to meet new classmates and to make the adjustment from high school to college. Outdoor experiences provide an excellent learning environment where cooperation, initiative, and reflection lead to the development of personal and community insights that are helpful even in the "civilized" setting of Harvard. FOP runs the week before Freshman Week. Participants will spend these six days backpacking in the remote and scenic wilderness of Maine, New Hampshire, or Vermont in groups of 8-12 first-years and two leaders. FOP leaders are Harvard students from all walks of life who are ready to share the insights and experiences they have gained over the years. Our leaders are well trained in outdoor leadership and are certified in wilderness first-aid. We carry and cook in backpacks, sleep outside under tarps, and use portable gas-lit stoves for cooking.

Daunting? Worried that you haven't spent much time in the outdoors? Fear not. Many participants come to FOP with no prior outdoor experience, but that doesn't stop them from having a great time! FOP leaders will teach you everything you need to know to be comfortable in the outdoors. There are also different levels of challenge, ranging from easier trips with access to facilities to more strenuous mountain traverses. So whether this is your first experience in the outdoors or your thirtieth, FOP is a great college experience not to be missed.

**OP really for me?**

- **Prior Outdoor Experience is Necessary.**
- **Financial Aid is Available.**
- OP lends the necessary gear to participants who cannot provide their own. Accommodations can be made for most Shabbat and Kashrut needs (please detail your level of observance).
- Each year, FOP participants come from every state as well as from many different countries.

**How's good! How do I sign up?**

Submit the enclosed application and return it or apply online at [www.harvardfop.com](http://www.harvardfop.com) by May 6. Space is limited. We will notify you by June 6, although we will try to notify you by email sooner. Once admitted, please send in the full program fee ($395 and $420 for switch canoe & backpack) trips. However, please do not let financial needs keep you from coming! We offer fee waivers of up to 100% using the same formula as the Harvard Financial Aid Office. Over a quarter of FOP participants received financial aid. Simply check the box on the application form to apply.

- Technical gear is a necessity on FOP trips to ensure the safety and comfort of our participants. FOP is able to supply practical gear to outfit students who need to borrow the necessary clothing, backpacks, and sleeping bags. We also have a large selection of boots, but strongly suggest you bring boots that are broken-in and have a "good relationship" with your own feet. A small fee is charged for FOP loaner gear to cover cleaning and repair. Please do not let the cost of gear deter you; let us do our best to ensure that you can participate.

- Keep in mind that much of the gear you need for FOP (boots, rain gear, and warm layers) will come in handy in the cold New England winter months. We can provide you with advice and a number of resources for purchasing gear at a reasonable price. You might also consider borrowing equipment from a friend.

If you have any questions, please check out our web page, [www.harvardfop.com](http://www.harvardfop.com), or drop us an email in the FOP office, fas.harvard.edu. We hope you join us this fall and congratulations on your acceptance to Harvard!

**OP Steering Committee:**

Andrew Bestwick
Kate Cosgrove
Rachel Garwin
Catherine "CJ" Jampele

Jim Murrett
Joe Platz
Brady Williams
Brent Bell, Ph.D., Director

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
First-Year Outdoor Program Sign-Up

You may also apply online at www.harvardfop.com.

Please fill out completely! Incomplete applications may not be considered!
Thanks for applying and have a great summer!

me_________________________ Last Name ___________________________ Nickname_______________________
(optional)___ Birthdate__________________ Height ____________
Address__________________________________________________________________________________________
________________ State___ Zip_______ Country_________ Home Phone (___)____________

: Address__________________________________________________________________________________________
________________ State___ Zip_______ Country_________ Summer Phone (___)____________
: summer address:____________________________________________________________________________________
hool(s) attended____________________________________________________________________________________

Idress where you can be reached________________________________________________________
email address__________________________________________________

cial Aid. FOP admissions are done on a need-blind basis. Whether or not you apply for finan
t not affect your chances of being accepted. For your information, loaner gear will be available.

need financial aid? Yes____ No____

u applied for financial aid from the College? Yes____ No____

it signature ___________________________________________ Date ____________________________
signature ___________________________________________ Date ____________________________
ed if applicant is under 21 years old)

of Trips. The majority of our trips are backpacking trips. However, we do offer service and su
ervice trips devote one day to volunteer trail work for the Appalachian Mountain Club (AMC) or Gr
in Club (GMC) and otherwise are a regular hiking trip. These trips provide an exciting and val:
ity to work on a team project, and they give us the chance to give back to the AMC and GMC an
serve our limited amount of wilderness. Switch trips include both canoeing and backpacking. S:
d, and we cannot guarantee placement in either type of trip. Please RANK below which type of
uld prefer (1 = highest, 3 = lowest).

________________ Backpacking Trip  ____________ Service Trip  ____________ Switch Trip

Swimming ability:  ___ non-swimmer

___ casual swimmer

___ competitive swimmer

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
Do you want to participate in the First-Year Outdoor Program?

**ground Information.** Please answer these questions honestly. Outdoor experience has a direct impact upon acceptance to the program. This information is only for placement purposes.

Rate how active you are:

- 10 = very active

What types of sports and physical activities do you do, and how often? Please list:

- Please answer these questions honestly.
- Outdoor experience has a direct impact upon acceptance to the program.
- The information is only for placement purposes.

D Other outdoor experience?

- Please list:

- Observant Trip
- Vegan*
- Food allergy
- Other special considerations

*Note: All trips are vegetarian, so please only select this if you are a vegan.

In all cases except for vegan please attach a sheet providing specific details.

*Return by MAY 6*

First-Year Outdoor Program
6 Prescott St.
Cambridge, MA 02138
(617)495-7935
www.harvardfop.com
Application for FUP 2005

Please print!

Name: ___________________________ Gender: ____________

Address: ______________________________________ Home Phone: ______________________

Cell Phone: ______________________

Email Address: ______________________

High School: ________________________________

Ethnic Background (optional): ________________________________

I will have regular access to the above email account throughout the summer (circle one): Yes  No

If you will not be home for ALL or PART of the summer please let us know:

from ________________ to ________________ FUP can reach me at:

Address: ______________________________________

Phone: ______________________________________

Email: ______________________________________

Please attach a response to the following questions:

1) Describe one or two community involvement experiences that have had a significant effect on you.
2) Tell us (in 150-200 words) a story about yourself or something that is important to you. Past FUPpies have written about important events in their lives or important influences – parents, books, great teachers, art, etc. This question is designed to help us get to know you better, so have fun with it!
3) Please discuss with us (again in 150-200 words) an issue you care about—anything confronting the United States, the world, or your neighborhood that makes you want to act!
4) Please include a self-portrait in ANY medium (pencil, pen crayon, collage, poem, foam, jello, etc.). Don’t worry about being Picasso; just have fun.

Because we have many more applicants that we are able to accept, we would appreciate it if you could be as specific and creative as possible to help us get to know you better.

Please Note:

- Previous community service/activist experience IS NOT a prerequisite.
- FUP meets at the same time as FOP (First-Year Outdoor Program), FAP (Freshman Arts Program), Dorm Crew and the International Student Orientation Program. You will be able to attend only one.
- Return this application postmarked by April 30, 2005 to:

  FUP Steering Committee
  c/o Freshman Dean’s Office
  6 Prescott Street
  Cambridge, MA 02138

And check out Harvard’s Public Service Network website: www.fas.harvard.edu/~pbh
Dear First-Year Student,

The First-Year Urban Program (FUP) is a student-run service program that introduces incoming first-years to the Boston-Cambridge area and the service, activism and social justice communities in and around Harvard. Students who participate in FUP spend the week preceding Freshman Week working on projects for non-profit community organizations in the area. FUPpies work in teams of six or eight with two or three upper-class leaders at their group's project site. At night, the groups come together for dinner, speakers, discussions, and evening fun. This year, FUP will take place from noon on Sunday, September 4th through late evening on Friday, September 9th.

FUP aims to provide a week of activity that will orient you to Harvard and Cambridge. You will get to know other first-year students in a low-pressure setting, meet and work with upper-class students, and become familiar with various public service issues in the area. The program will help you learn about your new urban environment while talking critically about service, identity, and social change. FUP also provides a fabulous and informative way to get to know Boston, including its lesser known spots.

Previous FUP projects have included: painting a mural in a cooperative housing unit for formerly homeless individuals, preparing food donations for distribution to low-income families, weeding and planting in a community garden, doing outreach for a community college GED program, and clearing an overgrown lot to construct a playground for an alternative school/family center.

Not only will you become an expert ceiling painter and an accomplished spackler, you will also spend time discussing issues of race, class, gender, and sexuality and their connection to the communities we work in. Your group will talk with community residents and leaders to deepen your understanding of their neighborhoods and the issues affecting them. In addition, FUPpies (your affectionate nickname) will gain further insight into social justice issues and the Boston and Cambridge communities through a series of panels and speakers. Past speakers have included Boston City Councillor Chuck Turner, students involved in social justice work, and members of organizations such as the Centro Presente Women's Refugee Project, Queer Nation, Fair Foods, and the Boston Tenants' Rights Association.

FUP 2005 will be made up of approximately 90 first-years and 30 leaders. FUP IS ENTIRELY FREE. FUP provides housing and food during the week. Due to limited space and resources, we cannot accept everyone who applies, but we always maintain an active waiting list. If you would like to join us, please complete the application on the reverse side and return it post-marked no later than April 30, 2005.

If you have any questions, please call us at (617) 495-8988 or e-mail us at fup@hcs.harvard.edu

Lauren Kuley '06, Chris Rucker '07, Sarah Howard '07 and Rachel Bolden-Kramer '06

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
Join us for Frosh Trip 2004!

Frosh Trip 2004

August 22 - September 3
Princeton University

Frosh Trip! The fun begins in Princeton...
which is incredible in its talent, diversity, and perspective."}

OA often becomes a lasting part of the Princeton experience. For many students, friendships made on the Frosh Trip last all four years. One participant stated, "From the time I even considered passing up this wonderful experience. At the end of the trip, I knew I had made a terrific, wonderful people I could call friends. I encourage all entering students to participate."

Another goal of the Frosh Trip experience is to encourage an understanding of the outdoors. Outdoor Action is committed to protecting the environment and preserving our valuable natural resources. We can teach you all the basic outdoor skills you will need to be comfortable on the trip. Your leaders will also emphasize "leave no trace" camping and recycling as a vital part of the wilderness trip. "I loved the lunch breaks when we would sit outdoors, relax, feel the wind through our hair, and enjoy the sunlight. I really had a great time learning about the outdoors."  

A Day on OA

Rolling out of your cozy sleeping bag into the crisp morning air, you leave the tent that kept you warm and dry last night. After a breakfast of pancakes or cereal you pack up and head out. Each day brings new vistas along the trail or the river. Lunch might be a chance to talk about how you spent your summer, or learning about what life at Princeton will be like.

Several miles and a few rest stops later, you get to your next campsite. After setting up camp, you can practice your culinary skills cooking dinner (from chicken fajitas to spaghetti) and maybe end with chocolate for dessert. You can learn an incredible amount about a group of people by living and working with them every day. After a relaxed evening discussion as the stars shine overhead, you crawl into your sleeping bag for a good night's rest.

The Frosh Trip offers a range of different activities. We place participants into trips appropriate to their level of physical condition.

I cannot tell you how glad I am that I participated in OA. I've made some really great friendships. It was a wonderful way to be introduced to Princeton and I would strongly recommend it to EVERYONE!

Outdoor Adventure trips are a good option for those who prefer to experience the outdoors while staying in one location. You can try out a full range of outdoor activities while staying at our beautiful wooded 275-acre outdoor education center in northern New Jersey. Campers are taught on the property with your group is a great introduction to the outdoors without the need to hike to a new destination every day. Your group will get to try different outdoor experiences on the property and in the nearby Appalachian Trail including day hikes, canoeing, rock climbing, rappelling, high ropes course, and a wall restoration service project. Participants will stay in tents on the camp property and cook outdoors. Bathrooms and shower facilities are available at the center.

Backpacking trips will hike anywhere from 6-10 miles a day (-5-8 hours). You will hike in one of a number of eastern wilderness areas such as: the plateaus of central Pennsylvania, the crags of the Catskills in New York, the scenic Appalachian Trail in Connecticut, Shenandoah National Park in Virginia, or the summits of the Green Mountains in Massachusetts and Vermont. The majority of Frosh trips are all-backpacking.

Backpacking and Rock Climbing trips combine backpacking and one day of rock climbing. You will hike from 6-10 miles a day (-5-8 hours) on the Appalachian Trail in New Jersey. One day will be spent at a climbing site learning basic rock climbing techniques.

Backpacking and Canoeing trips combine 3 days of hiking and 3 days of canoeing. You will cover anywhere from 6-10 miles hiking a day (-5-8 hours) or 8-15 miles canoeing per day (-4-8 hours). The trips explore the quiet flatwater or easy whitewater on the Delaware River in New York and New Jersey and backpack on the Appalachian Trail.

Canoeing trips travel anywhere from 8-15 miles per day (-4-8 hours) and range from quiet water canoeing on the lower Delaware River in New Jersey to easy whitewater canoeing on the upper Delaware in New York. Each night you will camp along the river in state park or private campgrounds.

The Outdoor Action Program

History

Since its inception thirty years ago, the Frosh Trip has been the first Princeton experience for over 12,820 incoming students. During the year students participate in a range of different activities that OA offers including backpacking, hiking, kayaking, rock climbing and cross-country skiing trips.

I really enjoyed my Outdoor Action trip and would recommend it to any incoming freshman. Even more than the beauty of the wilderness I enjoyed the instantaneous camaraderie that developed in our group. I feel it will continue throughout the year. All of our numerous questions about Princeton were knowingly and gladly informed by our leaders. We learned a lot, worked together, and had a great time.

This was one of the best ways I can think of to meet some other freshman. It was great! Thanks. I think it is a great program. I got to know my group really well—and the leaders were great. It was the perfect way for me to start off Princeton life.

Leader Training

All our leaders complete a rigorous training program that includes backpacking skills, wilderness first aid, leadership, and safety management. The OA Leader Training Program is one of the most extensive and emulate of all college outdoor programs. Outdoor Action's Leader Manual, The Backpacker's Field Manual, published by Random House, has sold over 50,000 copies worldwide and is used by outdoor programs around the country as a field manual and text book.

Special Needs

Outdoor Action is for everyone who wants to partici-
Dear Member of the Class of 2008:

Welcome to Princeton! The Outdoor Action Program would like to help introduce you to the University by offering you the opportunity to participate in the 31st annual Outdoor Action Frosh Trip Program, which runs the 31st annual Outdoor Action Frosh Trip Program, which runs members of your class before Orientation Week, learn about Princeton, and start your four years at Princeton with some new friendships. Last year, 599 first year students (52% of the Class of '07) joined us on 75 different outdoor trips—the single largest wilderness orientation program in the United States. Since Outdoor Action began in 1974, over 11,800 incoming students have started their Princeton experience with an Outdoor Action trip. This year we anticipate our biggest program ever, with more than 600 members of the Class of '08. Drawing so many students we get a wonderful cross-section of the diversity of the Class of 2008. The enclosed brochure explains the trip in more detail and some of the reasons why so many students choose to participate every year. We hope you can join us. Remember, the Outdoor Action Frosh Trip is for all members of the class.

Even if you have never been in the outdoors before, we have a trip that you'll enjoy and a group of new friends to meet. You can see more stories, photos, quotes and view the Frosh Trip video at the Frosh Trip Web site (www.princeton.edu/~oa/ft). The Frosh Trip really is a once-in-a-lifetime opportunity to start your college experience. Parents may be interested in knowing that research shows that students who participate in outdoor orientation programs have higher levels of social support at college than those that do not participate.

No Previous Experience Required: The goal of the Frosh Trip is to help you settle in at Princeton by making new friends and learning about the University. You do not need to have any previous outdoor or camping experience in order to participate. Your OA Leaders are other Princeton students who will be able to teach you all the skills you need to know to be comfortable in the outdoors for the week. In fact, a major part of the trip experience is having the participants take on more of the trip leadership as you learn new skills and feel more comfortable in the outdoors.

Trip Activities: The enclosed brochure has detailed information on the type of trip activities that we offer. We suggest you read it carefully and think about what type of trip you would be best suited for. Our trips travel to various locations in the Mid-Atlantic and Northeast from Virginia to Vermont. Students travel from Princeton by bus. The majority of our trips are all-backpacking trips. When you check your trip preferences, please understand that most people will be on an all-backpacking trip. In assigning people to trips we take your trip preferences into account along with your physical condition and any special needs such as medical conditions. We will do our best to place you in your first-choice trip. Certain types of trips have a limited enrollment so please indicate several preferences. If you have any special needs that will impact the type of trip you can participate in, please indicate this on your application. Although we accept participants to the program by the date of your application postmark, the assignment to the type of trip (backpacking, canoeing, outdoor adventure, etc.) does not take place until all applications are in so we can review health and physical condition information for all participants. You will receive a detailed letter in mid-July that tells you what general type of trip you will be on and what equipment you will need to bring. You will find out the specific trip location you have been assigned to when you arrive on campus. The time your group returns to campus at the end of the trip will vary depending on your trip location and the length of the bus ride. Groups typically return to campus between 3:00 PM and 8:00 PM on Friday, September 3.
Trip Dates: This year the trips will run from Sunday, August 29 through Friday, September 3. You will need to arrive on campus on Saturday, August 28. Check-in for Outdoor Action is at 4:00 PM where you will meet your leaders and the other members of your group and prepare for your trip. You can pick up your room key and move into your dorm room on Saturday, August 28. The University Housing Office will be open from 9:00 AM - 4:00 PM on Saturday for you to sign your housing contract and pick up your room key. (There are a few rooms that may not be available due to summer housing. We will have specific information on which rooms may be affected in July.) The trip will end on Friday, September 3. You will return from the trip in time for all aspects of Orientation Week. Any students who will not be able to arrive by 4:00 PM on Saturday such as students flying in from the West Coast, students coming from overseas, or students who observe the Jewish Sabbath should call the OA office to make special arrival arrangements. The dates of the trip typically conflict with fall varsity sports teams. If you are a recruited fall sport athlete, you should check with your coach about when you are required to arrive on campus for fall training.

Physical Condition: All OA trips are active and fun. We offer trips at various levels of physical activity so that we can provide an experience that is comfortable for everyone. Most of our trips involve backpacking so to determine the level of physical activity for each trip we look at factors like how many miles a day of hiking and how flat or hilly the area is. The Outdoor Adventure Trips stay at our base camp in New Jersey and are less strenuous. Your answers about your physical condition will help us place you in a trip that will be at the right level for you. Check the box on the Part A of the application that best describes your regular physical activity level and complete the information on Part B on height and weight. You also tell us what level of trip you would be most comfortable with. Use this scale on your application form to indicate the type of trip you would prefer.

<table>
<thead>
<tr>
<th>1 - Easy</th>
<th>2 - Moderate</th>
<th>3 - Strenuous</th>
<th>4 - Very Strenuous</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Camp trip. Most activities are in camp. Some light hiking, 4-6 miles on flat terrain</td>
<td>4-7 miles hiking/day on relatively flat terrain or shorter mileage on moderately hilly terrain</td>
<td>6-10 miles hiking/day on moderately hilly terrain or shorter mileage on hilly terrain</td>
<td>8-10 miles hiking/day possibly on steep terrain</td>
</tr>
</tbody>
</table>

Cost and Financial Aid: The cost of the trip is $420.00, which covers all trip expenses (food, equipment, and transportation). Princeton University is committed to making sure that the Frosh Trip Program is available to all members of the Class of 2008. Financial aid is available from the generous support of the Financial Aid Office, the Kevin Callaghan '83 Fund and the Zander Scott '92 Fund. Any student who is receiving financial aid from the University is eligible for financial aid for the Frosh Trip. To apply for financial aid, simply check the box on the application form and do not enclose any payment. We will review your request with the Financial Aid Office and let you know in mid-July about your request. The amount of your aid award is based on the amount of aid you are receiving from the University.

International Students: Outdoor Action encourages students from abroad to participate in the Frosh Trip. Your presence adds to the diversity and the learning experience of the trip and is a wonderful opportunity to share your rich experiences with other Princeton students. The University also offers a pre-orientation program for International students that takes place at the same time as the Frosh Trip so it is not possible to participate in both programs.

Students with Differing Abilities: Outdoor Action trips can often accommodate students with differing abilities such as hearing impairments, visual impairments, or mobility limitations. In the past students with conditions such as diabetes, profound deafness and mild cerebral palsy have participated. Please contact Rick Curtis at 609-258-6230 to discuss your particular needs and trip possibilities.

Information for Observant Jewish Students: For observant students we place people on trips that are close to Princeton so that we can return you to campus before sundown on Friday, September 3. If you need to return before sundown, please check the box on the application for Observant Student and we will place you on an appropriate trip. Trips will typically return to campus by 5:00 PM.
Food on the Trip – Vegetarians & Students who keep Kosher: OA’s basic menu uses a limited amount of meat (only tuna and chicken for some meals). If you are vegetarian, it is easy to prepare and eat your food before any meat is added. OA does provide non-meat protein sources such as TVP, cheese and peanut butter. If you are vegan or have other special dietary needs, contact the OA office so that we can talk about your particular needs.

For students who keep kosher, most of the food on OA trips is kosher and the menu will meet the needs of most students. If you keep strictly kosher, you will need to bring a few food items of your own. We can give you suggestions of what to bring and how much. We can also provide separate kosher pots, utensils and stoves if requested in advance. If you keep strictly kosher, please attach a note to your application with your specific needs. The menu for the Frosh Trip with information on what items are kosher will be available at the OA Web Site (www.princeton.edu/~oa/ft/) after July 15.

Religious Services: There will be Catholic and Episcopalian religious services on campus on Saturday, evening August 28 before the Frosh Trip departs.

What You Need to Bring: There is very little equipment you will need other than personal clothing and lightweight hiking boots. Since most of our trips involve backpacking you will also need a synthetic-fill sleeping bag with a nylon shell (please no cotton sleeping bags) and an internal or external frame backpack. If possible, please borrow these items from a friend or relative since we have to provide equipment for over 800 frosh and leaders. If you do not have either a sleeping bag or a backpack, Outdoor Action can provide them for you. There is a space on the application form to indicate if you need either a backpack or a sleeping bag. In July we will send you a detailed equipment list and instructions on how to prepare for your trip. If you want to get an early start on equipment, you can review last year’s equipment list on the OA Frosh Trip Web Site (www.princeton.edu/~oa/ft/).

Application Forms: Please complete both Part A and Part B of the enclosed application forms. You can also apply online at our Web site (www.princeton.edu/~oa/ft/) starting on June 1. If you apply online, you will only need to send us Part A with your name and address, signed by you and a parent along with your payment for the program. For those with Internet access, we encourage you to apply online since it helps us handle all the applications that come in. It also gives you an instant registration date for your application and email confirmation that your application has been received.

The application provides us with information about your trip preferences, physical condition (to help us place you in an appropriate trip), your health history, and any special needs. If you need an additional application, you can download a PDF format version from the OA Web site. Unless you are requesting financial aid, be sure to enclose a check or money order for $420.00 payable to Princeton University. Space on the trip is limited and enrollment will be dealt with on a first-come, first-served basis. Applications are processed based on the postmark date or Web sign-up date. Due to the popularity of the program, we suggest you return your application as soon as possible. Every year the trip fills before the application deadline (June 30). If you wait until the last minute to apply, there may not be a space for you. If you need to make early airline reservations to secure a good fare, make sure that your application is sent in time to guarantee you a space.

A detailed information packet will be mailed to you in mid-July, with specific information on what items to bring, where and when to arrive, how to get your room key, and other important information. This second letter serves as your confirmation that you are participating in the program. This second letter is your confirmation for participating in the program. If you do not receive this second letter by July 15, please call us to confirm that we received your application. There have been occasions (especially with students who live outside of the U.S.) when there was a problem with the mail and we never received the original application. We can’t hold a space for you if we do not receive an application. You can also check on the Web site around July 15 to see that you are on the list of participants (www.princeton.edu/~oa/ft/).
If enrollment is filled, we will notify you, and place you on our waiting list. If you are interested in participating in the Community Action Program in the event the Frosh Trip is full, please complete the Community Action application and return it along with your Frosh Trip application. Keep in mind that both programs fill before June 30. Do not send a check for Community Action.

Please return your application to:
Outdoor Action Program, 350 Alexander Street
Princeton University, Princeton, NJ 08544
www.princeton.edu/~oa/ft/

Health Forms: To approve participation of applicants, the University Health Services Office requires that all Outdoor Action Program participants complete and return the health history forms that were included in your matriculation packet to McCosh Health Center by June 30. We are not permitted to take people without medical clearance from the Health Center.

Immunizations: You must have all immunization requirements completed before the trip begins on August 31 (Measles, Mumps, Rubella, Polio, Diphtheria/Tetanus, and Hepatitis B). It is recommended that you have had a Tetanus booster shot within the last five years. You are required to get a Tetanus booster if you have not had one within ten years. If you have not had a booster within that time, please arrange to get one and include that information on your medical history form. The Hepatitis vaccine is given in three doses over 6 months. As long as you have started the series, you can participate. You may request an immunization exemption for religious reasons by checking the box on the application form.

Please be sure to note the following:
(1) Fill out both Part A and Part B of the application completely, and please print.
(2) Your signature and that of your parent or guardian is required on the application.
(3) If you fill out your application on the Web simply complete and return Part A with your signature and your parent or guardian's signature.
(4) Be sure to enclose your check or money order for $428 payable to Princeton University unless you are applying for financial aid.
(5) All applications are accepted on a first-come, first-served basis. The application postmark deadline is June 30.
(6) Make sure your completed medical forms have been sent to McCosh Health Center.

We hope that you will join us in August! If you have questions about the program, please feel free to contact one of the Frosh Trip Program Coordinators, Brian Henn '05, Meghan Prin '06, Chris Rizzi '05, Holly Zindulis '05, or the Outdoor Action secretary Jennifer Bomkamp at 609-258-6230. We look forward to seeing you in the fall. Have a great summer!

Sincerely,

Rick Curtis '79
Director

Brian Henn '05
Frosh Trip Coordinator
bhenn@princeton.edu

Meghan Prin '06
Frosh Trip Coordinator
mprin@princeton.edu

Chris Rizzi '05
Frosh Trip Coordinator
crizzi@princeton.edu

Holly Zindulis '05
Frosh Trip Coordinator
zindulis@princeton.edu

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
Community Action Pre-orientation Program

Click here to see an informational video about CA! (RealPlayer required)

September 4-10, 2005
Application deadline: July 1, 2005
Campus arrival date: Sunday, September 4, no later than 3:00 p.m.
Program dates: Sunday, September 4 - Saturday, September 10
Regular orientation begins: Sunday, September 11

For the nineteenth year, the Princeton University Student Volunteers Council (SVC) is pleased to offer Community Action. CA is a pre-orientation program led by upper-class students that is designed to promote an ethic of service and community awareness among undergraduates, foster productive collaboration between the University and surrounding communities, engage all participants in
both academic and interpersonal
dialogue, and provide quality
leadership opportunities for
upper-class students. We invite all
interested members of the Class of
2009 to apply.

The Student Volunteers Council is the
largest student-led organization on
campus. During the academic year
over 600 students volunteer weekly
through the SVC's student-led
projects. Students involved with the
SVC also organize campus-wide
awareness-raising activities to promote
reflection and action on pressing social
issues in our community. In the
summer, students remain active
through SVC-sponsored community
service internships. Students spend
their breaks volunteering on
SVC-supported service break trips in
places such as Philadelphia, Atlanta,
and Florida.
Community Action is the first opportunity for entering students to participate in community service at Princeton. During the week groups comprised of 8-12 first-year students and 3-4 upper-class students spend their days in Princeton, Trenton and Philadelphia renovating homes, restoring city gardens, serving food in soup kitchens, and working with children. Typical tasks include painting, spackling, tearing down walls, harvesting vegetables in community gardens, painting a mural in a school, touring local neighborhoods and agencies, and interacting with community members. No past experience is necessary - just a willingness to work hard and immerse yourself in our community.

Community Action is not all work. It's also a great way to meet other freshmen and learn more about Princeton. Each evening, groups go to a designated facility near their service site to clean up, cook, engage in group activities, and relax. Evening activities include a meal and discussion with
Princeton professors and administrators, a walk through Trenton’s annual Feast of Lights celebration, open-mic night at Trenton's hip Urban Word Cafe, and trips to campus for program-wide activities as well as a campus tour led by upper-class leaders. Student response has been very positive:

"This was one of the best experiences I’ve ever had. . . . Our group became very close, and working together made possible a kind of bonding that usually takes a very long time to develop."

"The discussions forced me to many of my preconceptions concerning the causes as well possible solutions to poverty and decay."

"The program gave me an interesting introduction to the SVC and made me more aware of the area that surrounds Princeton. I would definitely do it again. It was a great way to meet other first-year students."

"I thought the late-night discussions were provocative, and I enjoyed sharing my thoughts and ideas people who cared about what I saying . . . people who are now friends. It was a true bonding experience!"

The cost of the program is $150.