

# Wilderness Orientation: Exploring the Relationship Between College Preorientation Programs and Social Support

*Brent J. Bell*

*This study investigated whether students differ in reported levels of social support by different types of preorientation experiences (i.e., wilderness program, community service program, preseason athletics, or no preorientation participation) measured by the Campus-Focused Social Provisions Scale (CF-SPS). Two colleges provide a sample (N = 1,601) of first-year and sophomore students. Participants in the wilderness orientation programs reported higher levels of social provisions in all six subfactors of social support. Preseason athletes reported significant differences on the subfactor social integration ( $p < .05$ ). Service programs reported no significant differences. Students' reported level of shyness and how easily they make friends were important variables for explaining the variance in social support scores. Women and sophomores were more likely to report higher levels of social support, excepting the variable social integration. The study was exploratory and lacked controls for selection bias.*

**Keywords:** Wilderness Orientation, College Orientation, Preorientation, Social Support, Social Provisions

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**Y**oung adults are involved in a broad range of life transitions. One of the most common is attendance at a postsecondary educational institution. To assist in this process, higher education institutions have implemented orientation programs to smooth the transition from high school to college. Several studies show the early weeks of transition to the university can be critical to long-term university adjustment (Baker & Siryk, 1984; Fox, Zakely, Morris & Jundt, 1993). This important transition typically coincides with students separating from, sometimes at great distance, the established social bonds of family and long-term friendships. Meanwhile theorists note the importance of social relationships to college students' development (Astin, 1999; Chickering & Reisser, 1993; Kuh, 1990; Tinto, 1988). To assist in easing transition, many colleges and universities have added preorientation programs (occurring before the first semester/orientation) and extended orientation programs (occurring during a student's first semester) to the options students have for making this important social transition from high school to college.

The research demonstrates that students who participate in extended orientation courses such as a first-year seminar (e.g., small classes that teach students about the university, study skills, and self-awareness) receive many benefits. They achieve higher grade point averages (Barefoot et al., 1998), higher persistence, measured by completion of a degree (Barefoot et al., 1998; Hoff, Cook, & Price, 1996), and take a shorter time to complete a degree program (Barefoot, 1998). Students report 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).

Two studies on extended orientation programs at Wilfrid Laurier University in Canada demonstrated that extended orientation programs have an impact on the development of social support (a relationship, or network or relationships, providing for emotional and tangible needs). 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, 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 facilitated by senior students was conducted throughout the first year of college. 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 (Pratt et al., 2000).

In both of the studies, social support was considered an important mechanism assisting students in the positive transition to college. Similarly, other researchers identify peer connections as being an important factor to successful transition (Barefoot & Gardener, 1993; Coleman, 1960; Perigo, & Upcraft, 1989; Robinson, 1989). Research has 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). Social support has further been found to correlate with a variety of health outcomes in a range of contexts (Cohen & McKay, 1984; Cohen & Syme, 1985; Cohen & Wills, 1985; Sarason & Sarason, 1985; Thoits, 1982). However, for the typical student, the transition to college occurs at a time when support systems are disrupted by the move to a new environment away from his/her existing primary groups (Pratt et al., 2000).

Although students may differ in their needs for interpersonal interaction with peers, all require some form of social supports to make a healthy transition to college. Tinto (1988) argued that social interactions are the primary vehicles integrating students into college life. Based on this principle, one of the key tasks of transitioning to college life is recreating or developing healthy and productive social support systems in a new environment.

Research on a group of students transitioning to college through a wilderness preorientation program (WPOP) at the University of New Hampshire showed those who participated had higher GPAs 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). During interviews with these same subjects 17 years later, Gass, Garvey, and Sugerman (2003) noted that the friendships students made on the wilderness orientation program were a critical factor for each participating student in easing the initial transition to college. However, the concept of peer group support remains inadequately examined, especially concerning the role of social support development among preorientation programs.

This study provides the groundwork for developing a sensitive and reliable measure of social support (the CF-SPS), and provides exploratory results of differences in social support scores based on preorientation experiences. 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, the CF-SPS can better distinguish between students with high social provision scores but low levels of social support on-campus. Successful orientation and transition to campus is assumed to be related to the development of new supportive relationships on campus.

### **Measures of Social Support**

The social support literature is a large body of research with more than 30 years of inquiry and more than 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 means of comparison between tests. One of the more accepted measures of social support is the Social Provisions Scale, based upon the theories of Weiss (1974), a psychiatrist and Harvard Medical School researcher who focused 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, and the premise that people need certain provisions from relationships as outlined in Table 1. 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. The Social Provisions Scale (SPS) has been used in more than 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 single mothers (Cutrona & Russell, 1987; Ryska & Yin, 2000). No research has determined how first-year college students interpret Weiss's theoretical provisions.

### **Method**

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 98% at both Harvard and Princeton. Both institutions offer similar preorientation programs for students prior to the official start of their respective fall semesters (outlined in Table 2). Although Harvard has more program options

**Table 1**  
**Definitions of Weiss's Six-Factor Model for Social Provisions**

Provision/Factor	Description
Attachment	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 feels a need to find a friend or partner (Russell et al., 1984; DiTommaso, 1997).
Social Integration	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 s/he 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.
Reassurance of Worth/Competence	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 a self-perceived contributory role in a social group (Russell et al., 1984; Weiss, 1974).
Reliable Alliance/Tangible Support	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).
Guidance	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.
Opportunity for Nurturance	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).

(e.g., an arts orientation, paid positions through Dorm Crew), Princeton enrolls a greater percentage of students in its preorientation programs. Four preorientation experiences—the wilderness orientation program, the community service program, preseason athletics, and the experience of not attending any preorientation program—are common to both Harvard and Princeton.

This study focused on examining the largest comparable programs:

**Table 2**  
**Comparison of Preorientation Programs at Harvard and Princeton**

General Description of the preorientation program	Preorientation programs at Harvard University	Preorientation programs at Princeton University
A six-day wilderness trip: two trained upper-class leaders and 8-10 students	First-Year Outdoor Program—FOP (275 students in '03, 286 in '02)	Outdoor Action—OA (600 first-year students)
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.	First-Year Urban Program – FUP (88 first-year students in '03, 90 in '02)	Community Action—CA (100 first-year students)
Fall athletic teams begin team practices prior to the beginning of school, introducing students to teams before they begin orientation.	Preseason Athletics (e.g., football, soccer, golf) (72 first-year students)	Preseason Athletics (e.g., football, soccer, golf) (120 first-year students)
A three-day program helps international students learn about the local campus and understand the relevant laws and paperwork.	First-Year International Program—FIP (70 students)	International Preorientation Program (82 students)
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.	First-Year Arts Program—FAP (40 first-year students)	
Students arrive a week early and assist in cleaning out the residence halls prior to move-in. Students are paid to work.	Dorm Crew— (195 students)	
Students do not participate in a preorientation program.	No preorientation program—1,000 students	No preorientation program—200 students
Total programs	Seven preorientation conditions at Harvard	Five preorientation conditions at Princeton

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 at the time of the study was also an employee of Harvard, concerns were expressed regarding the potential for students to feel coerced through direct contact with the researcher. To meet the concerns of the Harvard Committee on Student Research Participation, the researcher hired a 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 via 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.

Students were able to connect to Psychdata (an online survey center) through a link in the e-mail. The website explained the consent process and also offered students who completed the study a chance to enter a raffle for \$100. Students who continued were taken to a separate unlinked page so that no identifying information was attached to the survey data. The e-mail addresses of the participants were then used to conduct a raffle of \$100 for 10 participants.

### **Instrument**

The original Social Provisions Scale (SPS) was developed by Russell et al. (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 being a valid and reliable instrument. The SPS is also considered one of the leading models of social support (Cohen & Wills, 1985).

Both the SPS and the CF-SPS contain 24 items, four items for each

of the six social provisions or subfactors. Each subfactor 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 1,792 respondents, which included college students ( $n = 1,183$ ), public school teachers ( $n = 303$ ), and nurses from a military hospital ( $n = 306$ ). The test-retest reliability factor of the total SPS score (0.915) was estimated based on the formula for reliability of a linear combination of scores devised by Nunnally (1978, as cited in Cutrona & Russell, 1987, p. 41). Test-retest reliabilities for each factor had coefficient alphas ranging from 0.653 to 0.760, 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 subfactors. Consistent with Weiss's predictions, attachment was significantly related to how satisfied individuals were with their romantic/dating relationships ( $\beta = .547, p < .001$ ) 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 seems 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, asking students to focus their answers to forms of social support found on campus, and by adding the words "on campus" to each of the sentences in the survey. For example, an SPS item "There are people I can depend on to help me if I really need it" was changed for the CF-SPS to, "There are people on campus I can depend on to help me if I really need it."

### **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, as well as checking for normality, linearity, and homoscedasticity. The sampling procedure resulted in 721 full sets of data from Harvard and 900 full sets of data from Princeton after data cleaning and was reasonably representative of the campuses in key areas, outlined in Table 3. 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 subfactor. The missing data point was replaced with the mean of the other three questions defining that subfactor. 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 averaging the subfactor scores to fill in a missing data point.

The CF-SPS measures overall social support as the sum of the six different subfactors. 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.

**Table 3**  
***Comparisons of the Harvard/Princeton Campus Population and the Study Sample***

	Harvard		Princeton	
	Sample size	Population	Sample size	Population
Students overall	721	3,273	901	2,351
First years	466/63.3%	1,645/51%	523/58%	1,177/50%
Sophomores	247/33.6%	1,628/49%	378/42%	1,174/50%
Male	304/41.3%	1,690/52%	389/43.2%	1,258/54%
Female	419/56.9%	1,565/48%	512/56.8%	1,093/46%
Preorientation experience				
No preorientation	330/45%	1,696/53%	191/21.2%	745/31%
Wilderness	207/28%	584/18%	485/52.7%	1,202/51%
Service	42/6%	172/5%	96/10.7%	164/7%
Preseason Athletics	9/1%	144/4%	50/5.5%	139/6%
International	23/3%	50/2%	63/7%	82/3%
Other	110/15%	622/19%	15/1.6%	19/.8%

*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.

### **Research Questions**

*Question 1.* Did the Campus-Focused Social Provision Scale (CF-SPS) demonstrate statistical reliability through results of a reliability analysis of the scale and subscales ( $\alpha > 0.7$ ) and demonstrate inter-item correlations ( $r > .3$ )?

*Question 2.* Did the CF-SPS result in a six-factor model 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?

*Question 3.* (a) What potential differences exist in the CF-SPS scores when students are categorized by four preorientation experiences (wilderness program, service program, preseason athletics, no orientation)? (b) Is this pattern consistent between two different campuses (Harvard and Princeton)? (c) What are the effects for gender?

*Question 4.* (a) Do differences exist in the CF-SPS scores when first-year students are compared to sophomores? (b) Is this pattern consistent on two different campuses?

*Question 5.* 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?

## **Results**

### **Reliability**

*Question 1.* Did the CF-SPS demonstrate statistical reliability through results of a reliability analysis of the scale and subscales ( $\alpha > 0.7$ ) and demonstrate inter-item correlations ( $r > .3$ )?

A reliability analysis was conducted to determine alpha levels for the CF-SPS resulting in the initial findings of a reliable instrument that also was sensitive to differences between conditions. The reliability of the CF-SPS, using Cronbach's alpha, was high ( $\alpha = .93$ ). The subsequent reliability for each subscale was lower, but still very strong. The subscale 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 indicate the shared variance within a subfactor. Ideally inter-item correlations are not too high ( $r > .8$ ) since the question may be 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 ( $r = .30$ ) for nurturance question #2, to ( $r = .76$ ) for attachment question #2. The subscale inter-correlations ranged between ( $r = .33$ ) for competence question #3 and ( $r = .67$ ) for attachment question #3. All subscale items were correlated with each other ( $r > .3$ ). The results show that the CF-SPS does show high reliability and appropriate levels of inter-item correlation on all items.

### ***Differences Between Schools***

A *t* test between schools was conducted to analyze the differences in the data sets. The *t* test was not significant, indicating that the condition of school did not make a difference in the outcomes between variables. For ease of analysis the data was compressed into one data set.

*Question 2.* Did the CF-SPS result in a six-factor model? The results of 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 subfactors, made up of four survey questions per subfactor, were not split among the three factors generated in the factor analysis. The subfactors 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 Figure 2. Nurturance was the only factor to separate itself distinctly from the others.

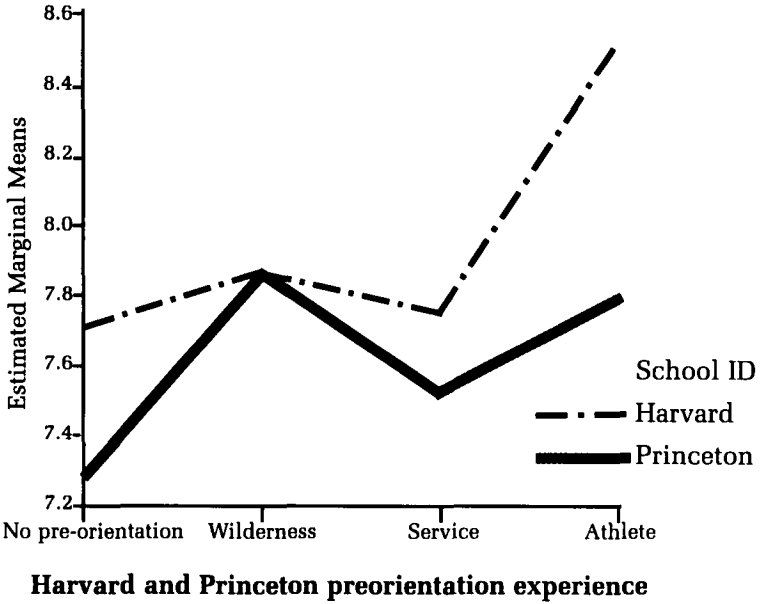
Since the three-factor model does not reorder the social provisions identified in Weiss's theory and Russell et al.'s development of the Social Provisions Scale, and the results of the reliability analysis were high ( $\alpha = .93$ ), the decision was made to continue using the six-factor model for 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.

*Question 3.* (a) What potential differences exist in the CF-SPS scores when students are categorized by four preorientation experiences (wilderness program, service program, preseason athletics, no orientation)? (b) Is this pattern consistent between the two campuses? (c) What are the effects for gender?

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

The MANOVA results for the overall CF-SPS showed a significant main effect for preorientation programs  $F(5, 1,558) = 7.59, p < .001$ . There was no significant main effect for school, but there was an interaction effect for preorientation and school  $F(5, 1,558) = 3.01, p < .05$ . A Tukey post-hoc test showed that the wilderness preorientation group had significantly higher mean scores compared with the study participants who did not attend a preorientation 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 preorientation



**Figure 1. Overall Campus-Focused Social Provision Scale means separated by preorientation experience.**

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 WPOP groups at both schools reported similar mean scores (see Figure 1).

No main effect was indicated for preseason athletics or service. The CF-SPS scores for preseason 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 preseason athletes have the highest means for the overall CF-SPS scores.

**Gender**

A second MANOVA was conducted to explore whether gender had any main effects or interactions with preorientation. The results indicated only main effects for gender and no significant interactions with the variable preorientation  $F(1,1,605) = 1.02, p = .43$ . The main effects for gender were found on the overall CF-SPS score  $F(1,1,605) = 9.63, p = .002$ , with the largest main effect on the subfactor attachment  $F(1, 1,605) = 21.07$ ,

$p < .01$ . The other three subfactors with gender effects were guidance  $F(1, 1,605) = 11.19, p = .001$ , nurturance  $F(1, 1,605) = 8.96, p = .003$  and tangible support  $F(1, 1,605) = 6.18, p = .01$ . No significant main effects for gender were found for the social provisions of social integration  $F(1, 1,605) = 6.11, p = .24$  and reassurance of worth/competence  $F(1, 1,605) = .222, p = .63$ . The mean scores separated by gender show women reporting higher levels of social provisions on the total CF-SPS and all the subfactors. Women reported significantly higher scores on five of the seven dependent variables at the  $p < .05$  level of significance.

**Question 4.** (a) Do differences exist in the CF-SPS scores when students are categorized by the first six weeks of their first year and the first six weeks of their sophomore year? (b) Is this pattern consistent on 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 CF-SPS and the six subfactors. The test was significant ( $p < .01$ ) for six of the seven dependent variables supporting the hypothesis. The only condition in which first-years and sophomores were not significantly different was the subfactor social integration. In all other conditions sophomore participants had higher social support scores than first-year students.

**Table 4**  
**Results of MANOVA for Preorientation Conditions**

Condition	Results
Wilderness	Significantly higher levels of social provisions, including total score and the six subfactors, than participants with no preorientation condition. No significant differences compared to service or preseason athletics.
Preseason Athletics	Significantly higher levels of social integration compared to no preorientation condition.
Service	No significant differences from other preorientation programs, including no preorientation condition.
Gender	Women reported higher social provision scores when compared to men in all categories except social integration and reassurance of worth/competence.
Year in School	Sophomores reported higher levels of social provision across all subfactors except social integration when compared with first-year students.

*Question 5.* 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?

The results for the multiple linear regression using the total score of the CF-SPS as the criterion (dependent) variable showed significant results on all the variables excluding the preorientation variable for service,  $r(1,353) = -.01, p = .33$ , and the preorientation variable for preseason athletics,  $r(1,353) = -.01, p = .21$ . All of the other predictors were significant at the  $p < .05$  level.

The combination of all the variables was significantly related to the CF-SPS score,  $F(8, 1,344) = 63.22, p < .001$ . Twenty-seven percent of the variance of the total CF-SPS was accounted for by these variables. Table 5 highlights that participant differences in the levels of on-campus social provisions existed between preorientation experience, gender, and year in school.

**Table 5**  
**Means, Standard Deviations, Correlations and Regression Analysis**  
**Summary for the Total Score on the Campus-Focused Social**  
**Provisions Scale**

Variable	<i>M</i>	<i>SD</i>	<i>r</i>	<i>B</i>	<i>SEB</i>	$\beta$
CF-SPS	77.2	11.1	—			
Predictor variables						
1. Year	1.4	.49	.13**	3.07	.52	.14**
2. Gender	.57	.49	.09**	1.70	.52	.08**
3. Wilderness program	.49	.50	.12**	2.22	.56	.10**
4. Ease of making friends	1.7	.67	-.48**	-7.01	.44	-.42**
5. Shyness	2.3	.86	-.28**	-1.03	.34	-.08*
6. Service	.09	.29	-.12	1.42	.94	.04
7. Preseason athletics	.04	.20	.02	3.07	.52	.06
8. Campus friends	1.4	2.6	.11**	1.70	.52	.07*

Note.  $R^2 = .27$  ( $N = 1,353, p < .001$ )

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

## Discussion

It is important to note that this study was limited by administrative practices on both campuses regarding the use of pretests, access to students, multiple testing, and solicitation methods. These restrictions limited the internal validity of this study in two related 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 pretest or some other relevant procedure (e.g., covariates) to control for potential preexisting differences between the groups in the study. As a pretest 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.

### ***Instrument***

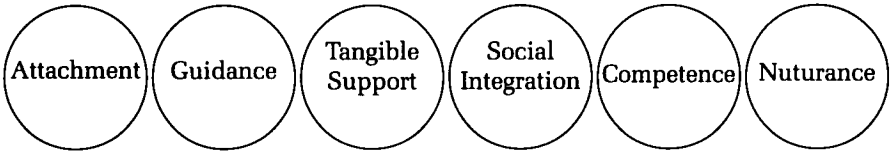
The exploratory factor analysis for the CF-SPS uncovered a three-factor model, differing from Weiss's six-factor theory of social provisions. An earlier confirmatory factor analysis of the SPS across multiple populations (e.g., elderly, nurses, single mothers) completed by Russell et al. (1984) indicated six separate statistical distinctions between the subfactors, 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 subfactors scored independent of each other. Among the first-year and second-year college students in this study, no significant differences between the subfactors of attachment, tangible support, and guidance were indicated on the CF-SPS. This was also true for the subfactors of social integration and competence.

Nurturance was the only subfactor to remain independent of the other five.

Although the six subfactors for the CF-SPS did not demonstrate independent results, the four survey questions making up each subfactor remained interrelated. The continued interrelationships of the four questions to each subfactor remained an important indicator of the construct validity of the CF-SPS. If weak interrelationships existed between the questions making up a subfactor and the questions were more related to other constructs, it would challenge the validity of the subfactors and Weiss's definition of social provisions for this population.

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

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



The three independent subfactors for the  
Campus-Focused Social Provisions Scale



**Figure 2. Presentation of factor analysis results for the Social Provisions Scale and the Campus-Focused Social Provisions Scale.**

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 subfactors, 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 & Gardener, 1993) rather than parental or adult-focused. Developmentally, teenagers become more interested in maintaining supportive ties with peers and less interested in adult support. 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 potential 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 mainly perceive their 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 framework. 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.

Another objective of this study was to find a reliable measure of on-campus social support. The Campus-Focused Social Provisions 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.

## **Gender, Year in School, School, and Social Integration**

### ***Gender***

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

### ***Year in School***

Sophomores reported significantly greater social provisions across all subfactors 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 WPOP. Results

based upon WPOP experiences may not be immediately measurable. The results for the Gass (1986) study found significantly greater scores for GPA and retention among WPOP 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. Vlomis (2002) did not find significant differences in GPA and retention, but her study stopped testing students at six months after the WPOP. If the incubation effect is true, Vlomis (2002) concluded she may not have waited long enough to detect differences.

Three potential explanations for the incubation effect may help researchers understand this phenomenon: (a) change does not occur immediately after the experience but after it is processed by students over time; (b) change does occur 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 (c) change occurs after the experience but the instruments measuring such a change are not sensitive enough to assess the changes.

### ***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 preorientation programs. The one difference that occurred in the Princeton sample was the lower levels of social provisions among the students who do not attend a preorientation experience. It is important to note a higher percentage of first-year students from Princeton participated in a preorientation program compared to first-years at Harvard (85% compared to 50%).

### ***Social Integration***

An interesting result specific to the subfactor social integration was that it was 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. 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 Preorientation

### *Wilderness Orientation Programs*

The results of this study connect participants in a wilderness orientation program with the development of social support on campus. The wilderness orientation group is unique among other preorientation experiences in this study because it showed significant differences for all social support subfactors. Given the inability to control certain validity concerns (selection bias), this study cannot conclude that wilderness orientation programs cause social support development directly, but it is clearly one of the potential explanations for such a result. An alternative explanation is that the differences are based upon selection bias; participants who are more apt to develop on-campus social support are also more likely to sign up for a wilderness orientation program. A third hypothesis may indicate an interaction between the effects of wilderness orientation programs and unique features of the participants. Future research providing controls for selection bias (i.e., randomized samples) is an important next step in understanding the impact of a wilderness orientation experience upon participants.

### *Preseason Athletics*

Although athletes did have significant scores for social integration, it was notable that athletes did not score higher in guidance. One unique aspect of athletics is the significant role of a coach and a coaching staff on the student-athletes. The student-athletes in this study reported no differences in guidance compared to nonparticipants.

The significant result of higher social integration scores among this group makes perfect sense. Social integration involves finding a social group that shares your interests. Because athletes are, in effect, specialists in an interest, they should naturally find like-minded peers, even if the common interest is limited to a particular sport.

### *Community Service*

One of the most intriguing results of this study was the lack of significant social support differences between participants in the community service program and students who did not participate in any preorientation program. The community service program had many of the elements of the wilderness orientation program: a six-day common experience, small groups led by upper-class leaders, daily activities and games. The community service groups also believe they benefit participants by being a great source of friendships and support for participants, similar to the wilderness orientation programs. Given the similar elements, it seemed likely that the results would also be similar in regard to social support.

Selection bias may impact the results, but it does not seem likely that the students participating in community service are less predisposed to social support development than participants on the wilderness orientation program.

One potential difference between the wilderness orientation program and the community service program is the focal point of the activities. Wilderness trip activities are predominately focused on developing social support and teamwork among the small group camping together. These activities also occur in an environment removed from other social influences. The community service programs discuss teamwork in the context of a broader community, one that includes the small group, the community agencies, and often people involved in the service component, but are disconnected from the college. Reflection upon these experiences does not solely focus on the small group and its teamwork, but often focuses on issues of social justice and an individual student's role in systemic problems in the broader community.

Impelling students into an experience that provides reflection upon social justice, especially when college students are considered the future decision-makers in society, obviously has great value. The question becomes whether community service is the best preorientation experience for college students if such programs have little effect upon students' social support development.

### Conclusion

Overall, this research study provides a step forward in the assessment of preorientation programs by providing a new instrument with potential to assess social support for college students. It also provides exploratory results demonstrating differences in social support may be attributable to different preorientation conditions. Future research controlling for selection bias needs to be conducted. Given the recognition that peer influences are a powerful concern for transitioning college students (Barefoot, 2000; Bell, 2005), a deeper understanding of how students develop social support is a worthy area of future study.

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