# Beginning College Survey of Student Engagement (BCSSE) 2009 OSU Results 

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# BEGINNING COLLEGE SURVEY OF STUDENT ENGAGEMENT (BCSSE) 2009 OSU Results 

Executive Summary

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OSU entering first year students who attended a summer START session and were 18 years old or older were asked to participate in the Beginning College Survey of Student Engagement (BCSSE) survey. The BCSSE was designed to measure the high school experiences and college expectations of entering first year students. Further the BCSSE parallels the National Survey of Student Engagement (NSSE) which is administered to senior students and first year students during the winter and spring terms. Thus, by using both instruments, the experiences of first year students can be examined in terms of high school experiences, expected experiences in college, and actual college experiences. This report examined the responses of first year students on the BCSSE. Additional reports will be issued after the NSSE data is available in Fall, 2010.

A total of 2,924 students were asked to participate in the survey with 2,781 completions which is a return rate of $95 \%$. Approximately $32 \%$ of these were first generation college students (defined as no parent or guardian had graduated with a 4-year college degree). Overall respondents reported that they would be full-time students and that they had a high school grade point average of B or better. Most (77\%) reported their race as white (non-Hispanic) with about 23\% reporting a race other than white. Most (85\%) intended to graduate from Oregon State though about 13\% were uncertain whether or not they would graduate.

Six scales were developed to assess high school academic engagement, expected college academic engagement, perseverance, expected academic difficulty, perception of academic preparation, and the importance of the campus environment in providing both challenge and support. Three scales, showed a mean of over 7.00 on a scale that ranged from 0 (minimum) to 10 (maximum). These scales included: Expected Academic Perseverance, Perceived Academic Preparation, and Importance of the Campus Environment. The remaining three scales showed a mean range of 5.15 to 5.79 with 0 (minimum) to 10 (maximum).

Overall, entering students reported a moderate level of high school academic engagement as measured by the High School Academic Engagement Scale with a mean of 5.36 on a scale of 0 (minimum) to 10 (maximum). While some students reported a lot of engagement others reported very minimal or no engagement on the questions that made up this scale. The most frequent response to questions was "some" or "sometimes." For example when asked how frequently they had worked with classmates outside of class to prepare class assignments, over 50\% reported sometimes. Likewise when asked about the frequency of making a class presentation,
over $50 \%$ of students reported sometimes. Less than $10 \%$ reported very often making a class presentation or working with classmates outside of class to prepare class assignments with another 10\% reporting they never engaged in these behaviors.

Likewise students reported a moderate expectation for academic involvement during their first year with a mean of 5.79 on a scale of 0 (minimum) to 10 (maximum). While their expectations of academic engagement were somewhat higher than their reported high school engagement experience, it was nevertheless still a modest level of expected academic engagement as measured by the Expected Academic Engagement Scale.

Students did overall report that they believed that they were fairly well-prepared academically for their first college year. The mean score on the Perceived Academic Preparation scale was a 7.16 with a range of 0 (minimum) to 10 (maximum). This scale had the highest mean rating of the six scales. Overall students reported that they were prepared fairly well for writing and speaking. Likewise they reported that they were fairly well prepared for thinking critically and analytically. As expected, students reported that they were not as well prepared to analyze math or quantitative problems as they were for other areas in this scale.

Students expected to spend more time preparing for class in their first year of college than they had done during their last year of high school. During the last year of high school $64 \%$ reported studying 10 hours or less per week. In contrast, only 8\% expected to study 10 hours or less per week in college. While only $18 \%$ of students reported studying 16 hours or more during their last year of high school, 73\% expected to study 16 or more hours per week in their first college year. Further, when asked the frequency with which they expected to work with classmates outside of class to prepare class assignments, over $46 \%$ reported that they expected to do this often. Another $30 \%$ expected to do this very often during their first college year.

Students were fairly certain that they would persist in college in the face of academic adversity. The mean rating on the Expected Academic Perseverance scale was 7.06 with 0 (minimum) and 10 (maximum). Most students reported that they were quite certain that they would ask instructors for help, find additional information for course assignments they did not understand, and finish something they started even when confronted with challenges (frequencies above 50\% for these items). Not surprisingly, those students who reported that they did not intend to graduate from OSU showed the least amount of certainty about whether or not they would finish something in the face of challenges.

Generally, students reported that they expected a modest amount of academic difficulty in their first college year. The mean rating on the Expected Academic Difficulty scale was 5.15 with a range of 0 (minimum) and 10 (maximum). Approximately $29 \%$ rated learning course material as potentially quite difficult for them while only $6 \%$ rated learning course material as not very difficult at all. Managing time was the area in which
students expected to have the most difficulty. Students overall reported that they expected little difficulty with getting help with school work or interacting with faculty. Students were fairly clear about the importance of the campus environment in providing both challenge and support. Importance of the Campus Environment scale mean was 7.04 with 0 (minimum) and 10 (maximum) on this scale. About $53 \%$ reported that it was quite important to them that the campus provide a challenging academic experience. Only about 2\% reported that this was not important to them. Two areas were overall rated as very important to students. These included: support to help them succeed academically and opportunities to attend campus events and activities. The area that was endorsed least often as being important was assistance coping with non-academic responsibilities. Only 10\% reported this area as being very important to them.

Student involvement in co-curricular activities in high school was somewhat limited in most categories with high involvement including only about 10\% of respondents in areas such as performing or visual arts, student government, publications, honor societies, academic or vocational clubs, and religious youth groups. Further, fewer than $25 \%$ of students reported that they had very often had serious conversations with students who differed from them in terms of race/ethnicity or religious beliefs, political opinions or personal values. Involvement in athletic teams (varsity, jr varsity, club sports, etc.) had high involvement from about 40\% of students. Engagement in community service or volunteer work had high involvement from about 20\% of students. In terms of use of time, students expected to work for pay more, study more, participate in co-curricular activities about the same, and relax and socialize a little more than they did in high school.

Students also expected to engage in integrative academic activities to a substantial degree during their first college year. Approximately 90\% expected to often or very often work on a paper or project that required integrating ideas or information from various sources. Nearly $75 \%$ expected to often or very often put together ideas or concepts from different courses when completing assignments or during class discussions. Further, about 80\% expected to try to understand better someone else's views by imagining how an issue looked from his/her perspective. And lastly a little over $80 \%$ expected to learn something that changed the way they understood an issue or idea. These results suggested that most incoming students expected to be engaged in reasonably high level intellectual activity during their first college year. As with other surveys (e.g., Sanderson, 2003a, 2003b, 2004, 2005, 2006) of incoming first year students, they have a fairly high opinion of their academic preparation and ability to succeed academically at their chosen college/university.

Overall, OSU's entering students were optimistic about their ability to succeed at OSU. They generally reported feeling well-prepared in most areas with the possible exception of mathematics. Most expected to graduate from OSU with their degree and they expected to engage in the intellectual/academic environment at OSU. They did report that they wanted to have access to campus events and activities and that they wanted access to services that would help them succeed academically. They expected to work more hours for pay, study somewhat more, and have time to relax and socialize a little
than they had in their last year of high school. They were concerned overall about their ability to pay for college and this was especially true for first generation students.

This current report provides only a snapshot of the high school experiences and expectations for entering students' first college year. This is the first of several reports based upon the BCSSE data. Future reports will contain information from BCSSE, Banner, and the NSSE.

Recommendations

1. Continue to administer the BCSSE on those years that NSSE is administered.
2. Return to the CIRP freshman survey on years the BCSSE is not administered.
3. Continue to use the BCSSE data with available BANNER data and the NSSE data to develop key indicators of attrition/retention for first year students.
4. Assess to what degree entering student expectations about the academic experience are met during their first year.

# BEGINNING COLLEGE SURVEY OF STUDENT ENGAGEMENT 2009 OSU Results 

## INTRODUCTION AND OVERVIEW

In summer 2009 OSU participated in the Beginning College Survey of Student Engagement (BCSSE). Entering first year students who attended OSU's START program were invited to participate. This is the first year in which OSU has participated in the BCSSE which has been available publically for three years.

The BCSSE was developed to measure the experiences of pre-college students concerning their expectations for and attitudes about participating in educationally purposeful activities during their first year of college. Additionally, the BCSSE also asks participants to provide information on their pre-college academic and co-curricular experiences.

In addition the BCSSE parallels the National Survey of Student Engagement (NSSE) in which OSU has participated since 2002. The BCSSE scores of pre-college participants can be matched with first year student scores on the NSSE. The ability to look at student scores before and near the end of their first year of college can provide information about how expectations were met, whether pre-college engagement relates to actual college engagement and where there are areas in further need of development.

The NSSE was developed in order to assess the degree to which students were engaged in educationally purposeful activity. These activities were empirically derived from good educational practices. Students who were actively engaged in academic and out-of-class activities benefited more from the collegiate experience than did those students who were not so actively engaged in the educationally related activities available to them (Pascarella and Terenzini, 1991).

Chickering and Gamson (1987), after reviewing 50 years of research on teaching and learning, proposed seven principles of good educational practices. These principles served as the organizing principles for the development of the NSSE. Further after their publication, these principles became pivotal influences in education and strongly influenced efforts to assess the quality of the undergraduate student experience.

This report is the first of two reports based on the BCSSE and later the combined NSSE and BCSSE data. Since the BCSSE was designed to work with the NSSE, a report combining the BCSSE and the NSSE will be developed that will compare responses on the NSSE to entering student responses on the BCSSE.

## METHODOLOGY

## Sample

Students who were 18 or over and who attended a summer START program (orientation program) for new first year students were asked to participate in the study by completing the BCSSE survey. A total of 2,924 students were asked to participate with 2,781 students completing the survey for a return rate of $95 \%$.

## Survey and Administration

Students who were attending a summer START session (including Alaska, Hawaii, and California sessions) and who were 18 or over were asked to participate. The paper and pencil survey was administered in a proctored classroom setting after the first welcome activity of the START session.

The survey was developed by a team of experts in survey development and student engagement and parallels the National Survey of Student Engagement so that these two surveys can be used in tandem to examine the first year experience. The BCSSE survey contains three sections: high school experiences, expectations and beliefs about their first college year, and background characteristics.

Participants were read a standard script prior to beginning the survey. They were also provided with a written explanation of the purpose of the survey, how information would be used and who to contact should they have questions.

Completed surveys were electronically scored at the Center for Survey Research at Indiana University. Following scoring of surveys, data tables were available to the researchers via a secure web environment.

## Data Analysis

OSU was provided with frequency distribution tables for each item as well as a summary report of the various engagement scales on the BCSSE. Information on each participant that provided a valid OSU identification number was also obtained using the OSU data warehouse system. This allowed the researchers to examine survey responses for various populations of students (e.g., all HHS students, students enrolled in the Honors College, etc.). Further examination of this information will be conducted throughout the year.

## RESULTS

A total of 2,924 students were asked to participate with 2,781 students actually completing the survey for a return rate of $95 \%$. The Results section of this report was divided into sections for ease and clarity of reporting. The first section includes the
description of respondents. The next six sections correspond to the BCSSE Mean Scales described below. The final sections include:

- Co-curricular engagement during high school
- Use of time in the last year of high school and expected use of time during the first college year,
- Expectations of engagement during the first year of college, and
- Paying for college.


## BCSSE Mean Scaled Scores

Six scales were developed by researchers at the National Survey of Student Engagement (NSSE) at Indiana University. The BCSSE is a project of the NSSE organization. These six standardized scales allow examination of high school experiences as well as student expectations for key aspects important to student engagement and success in college. The six scales include:

- High school academic engagement,
- Perceived academic preparation,
- Expected academic engagement,
- Expected academic perseverance,
- Expected academic difficulty, and
- Importance of campus environment.


## Description of Respondents

All respondents completed the BCSSE using a paper/pencil version of the survey while attending OSU START. As expected 99\% reported that they anticipated being full-time students. More men than women responded to the survey which mirrors the enrollment of OSU. This finding however is somewhat different as typically more women will respond to surveys than men. It is likely that the classroom setting and monitored survey administration may have influenced this return.

Most respondents listed white (non-Hispanic) as their race with approximately 23\% reporting a race other than white. Approximately $32 \%$ of the respondents were first generation college student, defined as no parent or guardian completed a 4-year degree.

Further, most students had attended a public high school (87\%) and the majority (53\%) reported a high school grade point average of A (i.e., A+, A, A-). Another 46\% reported a grade point average of $B$ (i.e., $B+, B, B-$ ). Only about 1\% reported less than a $B$ average.

Table 1 below provides further self-reported information about students who participated in the study.

Table 1
Respondent Self-Report Characteristics

| Characteristics | Count | Percent |
| :---: | :---: | :---: |
| Enrollment Status |  |  |
| Full-time | 2735 | 99 |
| Gender |  |  |
| Female | 1327 | 48 |
| Male | 1435 | 52 |
| Race/Ethnicity |  |  |
| American Indian or other Native American | 38 | 1 |
| Asian, Asian American, or Pacific Islander | 263 | 10 |
| Black or African American | 26 | 1 |
| White (non-Hispanic) | 2120 | 77 |
| Mexican or Mexican American | 73 | 3 |
| Puerto Rican | 2 | 0 |
| Other Hispanic or Latino | 46 | 2 |
| Multiracial | 92 | 3 |
| Other | 29 | 1 |
| Prefer not to respond | 68 | 2 |
| High School Graduation Year |  |  |
| 2006 or earlier | 31 | 1 |
| 2007 | 30 | 1 |
| 2008 | 88 | 3 |
| 2009 | 2624 | 95 |
| First Generation Status <br> (defined as no parent or guardian has graduated with a 4 -year college degree) |  |  |
| Yes | 817 | 32 |
| International or Foreign National Student |  |  |
| Yes | 62 | 2 |
| Type of High School |  |  |
| Public | 2423 | 87 |
| Private, religiously affiliated | 305 | 11 |
| Private, independent | 27 | 1 |
| Home school | 11 | 0 |
| Other (e.g., GED) | 10 | 0 |
| High School Grades |  |  |
| A | 896 | 33 |
| A- | 561 | 20 |
| B+ | 522 | 19 |
| B | 631 | 23 |
| B- | 104 | 4 |
| C+ | 26 | 1 |
| C | 6 | 0 |
| C- or lower | 1 | 0 |
| Grades not Used | 3 | 0 |

Table 2 contains responses from first year students concerning intentions for grades, graduation, degree level, and major area. Most students expected to have a slightly
lower grade point average their first year in college than they did for their last year in high school. However, approximately $91 \%$ do expect to make at least a B average. Additionally, about one third intend to get a Master's degree.

Table 2
Respondent Academic Intentions

| Category | Responses | Count | Percent |
| :--- | :--- | :---: | :---: |
|  | A | 346 | 13 |
|  | A- | 710 | 26 |
|  | B+ | 648 | 24 |
|  | B | 768 | 28 |
|  | $\mathrm{~B}-$ | 178 | 7 |
|  | $\mathrm{C}+$ | 56 | 2 |
|  | C | 23 | 1 |
|  | $\mathrm{C}-$ or below | 0 | 0 |
|  | Grades not used | 2 | 0 |
| Intend to graduate from OSU year grades | No |  |  |
|  | Yes | 57 | 2 |
|  | Uncertain | 2,354 | 85 |
| Highest academic degree intended from <br> any college |  | 351 | 13 |
|  | Associate's |  |  |
|  | Bachelor's | 20 | 1 |
|  | Master's | 745 | 27 |
|  | Doctoral | 899 | 33 |
|  | Uncertain | 512 | 19 |
| Major area |  | 565 | 21 |
| (See Appendix 1 for listing and frequency |  |  |  |
| for OSU majors) | Arts and Humanities | 104 | 5 |
|  | Business | 574 | 14 |
|  | Education | 279 | 14 |
|  | Engineering | 40 | 2 |
|  | Physical Science | 476 | 25 |
|  | Professional | 54 | 3 |
|  | Social Science | 208 | 11 |
|  | Other | 115 | 6 |
|  | Undecided | 376 | 19 |
|  |  | 5 | 0 |

Approximately 20\% fewer students expected to get A's than reported getting A's in high school. Further for grades A-, B+, and B approximately 55 more of these grades were expected in the first college year. Students in high school anticipate getting lower grades in their first college year. However, they do not appear to expect to get substantially lower grades except in the "A" category of grades. Figure 1 below illustrates the range of high school grades to expected college grades in the first year.

Figure 1


Approximately 25\% of students reported that they had no close friends attending OSU. Generally however, most students had at least one close friend attending OSU during their first year. Figure 2 below contains information on all students, female students, male students and first generation students and close friends attending OSU.

Figure 2


Mathematics is often a stumbling block for students during their first year of college. Most respondents took and passed Algebra II and Pre-calculus/Trigonometry in high school. Approximately 40\% reported that they passed calculus and only 26\% reported passing probability or statistics. Most students did not take calculus, probability or statistics in high school. Table 3 below contains information about both the mathematics classes taken in high school and whether or not students passed, did not pass, or did not take the classes.

Table 3

## High School Math Classes

|  | Algebra II | Pre-cal/Trig | Calculus | Probability or Stat |
| :--- | :---: | :---: | :---: | :---: |
| Did not pass | 0 | $1 \%$ | $1 \%$ | $1 \%$ |
| Passed | $98 \%$ | $78 \%$ | $40 \%$ | $26 \%$ |
| Did not take | $1 \%$ | $21 \%$ | $59 \%$ | $73 \%$ |

Most students who took specific math classes reported passing them. However, as the level of mathematics classes increased the percentage of students taking the class decreased.

Figure 3


Most (98\%) students reported that they took four or more years of high school English. However, fewer students took four years or more of mathematics (74\%), science (59\%), history/social science (50\%) or foreign language (19\%).

Nationally, for students entering doctoral institutions, the level of preparation in terms of the number of year's courses were taken differed somewhat from OSU's results. Nationally, students reported that $98 \%$ had taken English for four or more years, the same as those entering OSU. However, $87 \%$ reported four or more years of
mathematics, $71 \%$ science, $67 \%$ history/social sciences, and $26 \%$ foreign languages. Table 4 below contains the percent of OSU entering first year students and the number of years of each subject area studied in high school.

Table 4

## Number of Years of CoursesTaken in Subject Area in High School

|  | English/ <br> Literature | Math | Science | History/Social <br> Science | Foreign <br> Language |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 0 years | $0 \%$ | $0 \%$ | $0 \%$ | $0 \%$ | $1 \%$ |
| 1 year | $0 \%$ | $0 \%$ | $0 \%$ | $0 \%$ | $2 \%$ |
| 2 years | $0 \%$ | $2 \%$ | $7 \%$ | $7 \%$ | $49 \%$ |
| 3 years | $1 \%$ | $24 \%$ | $34 \%$ | $42 \%$ | $29 \%$ |
| 4 years | $96 \%$ | $67 \%$ | $50 \%$ | $48 \%$ | $17 \%$ |
| $\mathbf{5}+$ years | $2 \%$ | $7 \%$ | $9 \%$ | $2 \%$ | $2 \%$ |

Generally, more students had reported taking Advanced Placement (AP) courses, Honors courses and college courses for credit during high school than had not done so. Approximately $67 \%$ of high school students had taken at least one AP course, $62 \%$ at least one Honors course, and $55 \%$ at least one college course for credit during high school. Table 5 below contains the percentage of students who reported taking AP, Honors, or college credit classes in high school and the number of classes taken in each category.

Table 5

## Advanced Placement, Honors, and College Credit Classes Completed in High School

|  | Advanced <br> Placement (AP) <br> classes | Honors Classes at your <br> high school (not AP) | College Courses for <br> Credit |
| :---: | :---: | :---: | :---: |
| $\mathbf{0}$ classes | $33 \%$ | $38 \%$ | $45 \%$ |
| $\mathbf{1}$ classes | $19 \%$ | $14 \%$ | $17 \%$ |
| $\mathbf{2}$ classes | $15 \%$ | $13 \%$ | $12 \%$ |
| $\mathbf{3}$ classes | $12 \%$ | $8 \%$ | $9 \%$ |
| $\mathbf{4}$ classes | $8 \%$ | $8 \%$ | $5 \%$ |
| $\mathbf{5}$ classes | $13 \%$ | $20 \%$ | $11 \%$ |

Students were asked to evaluate how academically challenging they believed their high school was. Very few students rated their high schools as extremely challenging. Most students (approximately 60\%) rated their school at a 4 or better out of 6 with 6 being extremely challenging.

Figure 4


## High School Academic Engagement

High school academic engagement was measured using a scale developed by the NSSE organization and composed of 12 items on the BCSSE survey. These items aligned with similar items on the NSSE. High school academic engagement was defined as "engagement in educationally relevant behaviors during the last year of high school." Table 6 below contains the items that composed this scale.

Table 6

## Items Composing High School Academic Engagement Scale

| High School Academic Engagement (HSE) | During your last year of high school, about how much reading and writing did you to? <br> - Assigned reading (textbooks or other course materials) <br> - Writing short papers or reports (5 or fewer pages) <br> - Writing longer papers or reports (more than 5 pages) |
| :---: | :---: |
| Engagement in educationally relevant behaviors during the last year of high school | During your last year of high school, about how many hours did you spend in a typical 7-day week doing each of the following? <br> - Preparing for class (studying, doing homework, rehearsing, etc.) |
|  | During your last year of high school about how often did you do the following? <br> - Asked questions in class or contributed to class discussions <br> - Made a class presentation <br> - Discussed grades or assignments with a teacher <br> - Worked with other students on projects during class <br> - Worked with classmates outside of class to prepare class assignments <br> - Prepared two or more drafts of a paper or assignment before turning it in <br> - Discussed readings or classes with teachers outside of class <br> - Discussed ideas from your readings or classes with others outside of class (students, family members, etc.) |

Table 7 below contains the mean scale core for High School Academic Engagement as well as comparisons to scores based on gender and first generation status. Each scale score had a range of 0 to 10. OSU's mean score for High School Academic Engagement was 5.36.

Women reported significantly more high school academic engagement than did men with a moderately low effect size of .31. There were no significant differences between first generation students and those who were not.

Table 7
BCSSE Mean Scale Scores and Selected Comparisons

| BCSSE Scales ${ }^{\text {a }}$ | OSU |  |  | OSU Gender Comparisons |  |  |  | OSU First-Generation ${ }^{\text {d }}$ Comparisons |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| High School <br> Academic | All Students |  |  | Means |  | Tests of mean differences |  | Means |  | Tests of mean differences |  |
| Engagement HSE) | Mean | SD | $N$ | Female | Male | $S i g^{b}$ | $\begin{aligned} & \text { Effect } \\ & \text { size }^{c} \end{aligned}$ | FG | NonFG | $\underset{b}{\text { Sig }}$ | Effect |
| Engagement in educationally relevant behaviors during the last year of high school. | 5.36 | 1.34 | 2,781 | 5.57 | 5.16 | *** | . 31 | 5.36 | 5.37 |  | -. 01 |

${ }^{\text {a }}$ Scale scores are expressed in 0 (minimum) to 10 (maximum) point scales. A mean scale score was then calculated for each student using the items composing the scale.
${ }^{\text {b }}$ T-test results (2-tailed): * $p<.05,{ }^{* *} \mathrm{p}<.01,{ }^{* * *} \mathrm{p}<.001$. The smaller the significance level, the less likely that the difference is due to chance.
${ }^{\text {c }}$ Effect size is the mean difference divided by pooled standard deviation. It indicates the practical significance of the mean difference (effect size .2 is often considered small, .5 is moderate, and .8 is large).
${ }^{d}$ First generation is defined as no parent or guardian having graduated with a 4-year college degree.

## High School Academic Engagement —Item Level Report

Most students reported that they had written short papers (5 or fewer pages) in their last year of high school quite a bit or very much. Less than 5\% reported that they had written short papers very little in their last year of high school.

Approximately 40\% reported that they had written longer papers or reports (more than 5 pages) very little or not at all during their last year of high school. Only $27 \%$ indicated that they had written papers of more than 5 pages quite a bit or very much during their last year of high school. Figure 5 below graphically represents the amount of reading/writing students reported doing in their last year of high school.

Figure 5


Over 60\% of first year students reported that they spent 10 hours or less preparing for class during their last year of high school. Further approximately 95\% also reported a high school grade point average of B or better. Thus, for most students studying 10 hours or less was sufficient to receive at least a B average their last year of high school. See Figures 1 and 6.

Figure 6


Students were more likely to ask questions in class or participate in class discussions than they were to make a class presentation. While most students reported at least sometimes making a class presentation, nearly all students indicated that they had asked questions or contributed in some way to class discussion. Figure 7 below contains information on the frequency with which students made class presentations or asked questions/contributed to class discussion.

Figure 7


Not unexpectedly students were more likely to talk with teachers about grades or assignments than they were to talk with teachers outside of class about ideas from readings or assignments. Figure 8 contains information about the frequency with which students talked with high school teachers about these two areas.

Figure 8


Most students (60\%) were accustomed to working with other students on projects during class often or very often during their last year of high school. Though this practice did not carry over to working with classmates outside of class to prepare class assignments. In that case only $34 \%$ reported that they worked with others outside of class on projects.

Generally students (93\%) indicated that they talked about ideas from readings or classes with others outside of class at least some of the time. Likewise most students (87\%) indicated that they at least sometimes prepared two or more drafts of a paper or assignment before turning it in. See Figure 9 below.

Figure 9


## Perceived Academic Preparation

This section of the report contains information on the students' perceptions of their academic preparation for college-level work. The scale is made up of seven items that focus on skills that are essential for academic success in college.

Students were asked how prepared they were to be successful in college along these 7 dimensions. Table 8 below contains the specific items that compose the Perceived Academic Preparation Scale of the BCSSE.

Table 8

## Items Composing Perceived Academic Preparation (PAP) Scale

| Perceived | How prepared are you to do the following in your academic work at this college? |
| :--- | :--- |
| Academic | - Write clearly and effectively |
| Preparation | - Speak clearly and effectively |
| (PAP) | - Think critically and analytically |
| Student <br> perception of <br> their | - Analyze math or quantitative problems |
| academic | - Use computing and information technology |
| preparation | - Learn effectively with others |

All of the students who took the BCSSE expressed confidence in their level of academic preparation as measured by the PAP scale. With a mean of 7.16 with a range of 0 (minimum) and 10 (maximum) students indicated confidence in their preparation for college. Overall males expressed more perceived confidence in their level of preparation than did females. Likewise, non-first generation students reported more confidence in their preparation than did first generation students. Table 9 below contains the means, significance levels and effect sizes for the comparisons.

Table 9
BCSSE Mean Scale Scores and Selected Comparisons

| BCSSE <br> Scales ${ }^{\text {a }}$ | OSU <br> All Students |  |  | Gender Comparisons |  |  |  | First-Generation ${ }^{\text {d }}$ Comparisons |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Means |  | Tests of mean differences |  | Means |  | Tests of mean differences |  |
|  | Mean | SD | $N$ | Female | Male | Sig ${ }^{\text {b }}$ | Effect $s i z e^{c}$ | FG | $\begin{gathered} \text { Non- } \\ \text { FG } \\ \hline \end{gathered}$ | $\underset{b}{\text { Sig }}$ | $\begin{aligned} & \text { Effect } \\ & \text { size }^{c} \end{aligned}$ |
| Perceived Academic Preparation (PAP) |  |  |  |  |  |  |  |  |  |  |  |
| Student perception of their academic preparation. | 7.16 | 1.39 | 2,781 | 7.10 | 7.22 | * | -. 09 | 7.02 | 7.25 | *** | -. 17 |

[^0]
## Perceived Academic Preparation—Item Level Report

Generally, students reported that they were better prepared in writing than in speaking during high school. However, overall most students rated their preparation in these areas a 4 or above on a 6-point scale. See Figure 10 below.

Figure 10


Figure 11 below contains information on the relative rating of preparedness for critical thinking, analyzing math/quantitative problems and using technology. Overall students rated their preparation fairly highly in all three areas. As expected however, the area rated less in terms of preparation was in analyzing math or quantitative problems.

Approximately 89\% of students rated their preparation in critical thinking as 4 or above on a 6 point scale ( $1=$ not very prepared, $6=$ very prepared). Likewise $78 \%$ rated their preparation for using computer or information technology at a 4 or above using the same scale. While student ratings for preparation in analyzing math or quantitative problems were less than the other two areas, $70 \%$ rated their preparation at 4 or above.

Figure 11


Approximately 95\% of students indicated that they felt prepared to work effectively with others. Further $90 \%$ reported that they were prepared to learn effectively on their own. Figure 12 below contains the student ratings on their preparedness to work effectively with others and to learn effectively on their own.

Figure 12


## Expected Academic Engagement

Students were asked to estimate the frequency with which they would pursue specific academic engagement activities during their first year of college. Table 10 below contains the definition of Expected Academic Engagement as well as the specific survey items that composed this scale.

Table 10

## Items Composing Expected Academic Engagement Scale

| Expected Academic Engagement (EAE) | During the coming school year, about how many hours do you think you will spend in a typical 7-day week doing? <br> - Preparing for class (studying, reading, writing, doing homework or lab work, analyzing data, rehearsing, and other academic activities |
| :---: | :---: |
| Expected engagement in educationally relevant behaviors during the first year of college | During the coming school year, about how often do you expect to do each of the following? <br> - Ask questions in class or contribute to class discussions <br> - Make a class presentation <br> - Work with other students on projects during class <br> - Work with classmates outside of class to prepare class assignments <br> - Discussed grades or assignments with an instructor <br> - Discuss ideas from your readings or classes with faculty members outside of class <br> - Discuss ideas from your readings or classes with others outside of class (students, family members, co-workers, etc.) |

Students expected to engage in educationally relevant behaviors during their first year to a medium degree. The mean rating was 5.79 with a scale range of 0 (minimum)-10 (maximum). Men and women showed a significant difference between their expected academic engagement with women expecting more engagement than did men. This has been the typical pattern for differences between men and women regarding expected engagement. Further first generation students showed significantly more expectation of academic engagement than did non-first generation students. Table 11 below contains the means, standard deviations, significance, and effect sizes for comparisons. While there were significant differences reported, the effect sizes were small.

Table 11
BCSSE Mean Scale Scores and Selected Comparisons

| BCSSE <br> Scales ${ }^{\text {a }}$ | OSU |  |  | OSU Gender Comparisons |  |  |  | OSU First-Generation ${ }^{\text {d }}$ Comparisons |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | All Students |  |  | Means |  | Tests of mean differences |  | Means |  | Tests of mean differences |  |
|  | Mean | SD | $N$ | Female | Male | Sig ${ }^{\text {b }}$ | Effect $s i z e^{c}$ | FG | $\begin{gathered} \text { Non- } \\ \text { FG } \end{gathered}$ | Sig ${ }^{\text {b }}$ | $\begin{aligned} & \text { Effect } \\ & \text { size }^{c} \end{aligned}$ |
| Expected Academic Engagement (EAE) |  |  |  |  |  |  |  |  |  |  |  |
| Expected engagement in educationally relevant behaviors during the first year of college. | 5.79 | 1.45 | 2,781 | 5.88 | 5.70 | ** | . 12 | 5.94 | 5.72 | *** | . 15 |

${ }^{\text {a }}$ Scale scores are expressed in 0 (minimum) to 10 (maximum) point scales. A mean scale score was then calculated for each student using the items composing the scale.
${ }^{\mathrm{b}}$ T-test results (2-tailed): * $\mathrm{p}<.05,{ }^{* *} \mathrm{p}<.01,{ }^{* * *} \mathrm{p}<.001$. The smaller the significance level, the less likely that the difference is due to chance.
${ }^{c}$ Effect size is the mean difference divided by pooled standard deviation. It indicates the practical significance of the mean difference (effect size .2 is often considered small, .5 is moderate, and .8 is large).
${ }^{d}$ First generation is defined as no parent or guardian having graduated with a 4-year college degree.

## Expected Academic Engagement—Individual Item Report

Each of the items that made up the Expected Academic Engagement scale is reported on below.

Students generally expected to spend more time preparing for class in their first year of college than they had done during their last year of high school. During the last year of high school 64\% reported studying 10 hours or less per week. In contrast, only 8\% expected to study 10 hours or less per week in college. While only $18 \%$ of students reported studying 16 hours or more during their last year of high school, $73 \%$ expected to study 16 or more hours per week in their first college year. Figure 13 below contains the graphic comparison of frequencies for time spent studying in the last year of high school and expected first year of college.

Figure 13


Students' expectations for asking questions in class or contributing to class discussions were somewhat different than their reported behavior during their last year of high school. Approximately 66\% of students reported that during their last year of high school they had often or very often asked questions in class or contributed to class discussions. However, 70\% expected to often or very often engage in these behaviors during their first college year.

Students reported little difference between past behavior and future expectations concerning making a class presentation (see Figure 7 and Figure 14). While approximately $46 \%$ of students reported that they had often or very often made class presentations in their last year of high school, only 44\% expected to make a class presentations often or very often during their first college year.

Figure 14


Student expectations for working with other students on projects during class in their first college year were high with $95 \%$ expecting to do this at least some of the time.

Likewise 96\% expected to work with classmates outside of class at least sometimes to prepare assignments. In terms of how these expectations compared to their reported behavior during their last year of high school, about 99\% of students reported having worked with other students during class on projects. Additionally $91 \%$ reported that they had worked with high school classmates at least some of the time outside of class to prepare assignments.

Approximately 96\% of students reported that they expected to discuss ideas from readings and classes with others outside of class at least some of the time. Interestingly $58 \%$ expected to do this often or very often. Compared to their reported behavior during their last year of high school, this is an increase in their expectations over previous behavior. During their last year of high school only 48\% reported having talked to others outside of class about ideas from readings or class experiences. Figures 9 and 15 contain the frequency distributions for past behavior in these areas and expected future behavior.

Figure 15


Approximately 99\% of students reported that they expected to discuss grades or assignments with faculty members at least sometime during their first year in college. Nearly two-thirds also expected to have this discussion often or very often.
Having discussions with faculty outside of class time about ideas from readings or classes was also expected to happen at least sometimes during that first year by 94\% of students. About 39\% also expected to have these conversations often or very often during their first year. When comparing their previous behavior in terms of talking with
faculty about ideas, only about 76\% indicated that they had had these conversations during their last year with high school faculty. Only 26\% reported that they had had these kinds of conversations with high school faculty often or very often.

Students overall expected to have more conversations with faculty and they tended to expect more in terms of discussing ideas with faculty outside of class. See Figures 16 and 8.

Figure 16


## Expected Academic Perseverance

This scale represents the degree to which students believe they will persist even when they face obstacles or difficult choices. Students who are able to face obstacles and work to overcome them have a better chance of continuing in school than those who are unable or do not know how to manage adversity/challenge.

Table 12 below contains the definition and the specific questions that made up the Expected Academic Perseverance scale.

Table 12

## Items Composing Expected Academic Perseverance Scale

| Expected | During the coming school year, how certain are you that you will do the <br> following? <br> Academic |
| :--- | :--- |
| Perseverance <br> (EAP) | Study when there are other interesting things to do <br> - Find additional information for course assignments when you don't understand <br> the material |
| Student <br> certainty that <br> they will | - Participate regularly in course discussions, even when you don't feel like it <br> persist in the <br> face of <br> academic <br> adversity |
| - Ask instructors for help when you struggle with course assignments |  |

The mean score of student certainty that they will persist in the face of obstacles is relatively high at 7.06 on a scale of 0 (minimum) to 10 (maximum). Women showed a significantly higher mean than did men while first generation and non-first generation showed no difference in expected academic perseverance. See Table 13 below.

Table 13
BCSSE Mean Scale Scores and Selected Comparisons

| BCSSE <br> Scales ${ }^{\text {a }}$ | OSU <br> All Students |  |  | OSU Gender Comparisons |  |  |  | OSU First-Generation ${ }^{\text {d }}$ Comparisons |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Means |  | Tests of mean differences |  | Means |  | Tests of mean differences |  |
|  | Mean | SD | $N$ | Female | Male | Sig ${ }^{\text {b }}$ | $\begin{gathered} \text { Effect } \\ \text { size }^{c} \\ \hline \end{gathered}$ | FG | $\begin{gathered} \text { Non- } \\ \text { FG } \\ \hline \end{gathered}$ | Sig ${ }^{\text {b }}$ | $\begin{aligned} & \text { Effect } \\ & \text { size }^{c} \end{aligned}$ |
| Expected <br> Academic Perseverance (EAP) |  |  |  |  |  |  |  |  |  |  |  |
| Student certainty that they will persist in the face of academic adversity. | 7.06 | 1.45 | 2,781 | 7.19 | 6.93 | *** | . 18 | 7.09 | 7.04 |  | . 04 |

[^1]
## Expected Academic Perseverance—Individual Item Report

Approximately $60 \%$ of students reported that they were certain (rating 5 or 6 ) on a 6 point scale that they would ask instructors for help when they encountered difficulties with course assignments. Another $37 \%$ were somewhat certain (rating of 3 or 4 ) that they would seek help from faculty.

Likewise only $61 \%$ indicated that they were certain that they would find additional information for course assignments when they were not understood. Another $38 \%$ were somewhat certain that they would seek out additional information for course assignments that were not understood. See Figure 17 below.

Figure 17


About $30 \%$ of students indicated a high degree of certainty (5 or 6 on a 6 point scale) that they would participate regularly in course discussions, even when they did not feel like it. Likewise only $37 \%$ indicated that they were pretty certain that they would study even when there were other interesting things to do (5 or 6 on a 6 point scale). With the myriad of distractions available on a campus, it seems likely that a large proportion of students will have difficulty choosing to study when there are other interesting things to do.

Students reported more certainty that they would finish something they started even when they encountered challenges. Nearly $72 \%$ reported a high degree of certainty (rating of 5 or 6 on a 6 point scale) that they would persist in the face of challenges. However, only 57\% reported a high degree of certainty (rating of 5 or 6 on a 6 point scale) that they would stay positive even when they had done poorly on a test or assignment. See Figure 18 below.

Figure 18


Of those students who reported that they intended to graduate from OSU only 35.7\% were very certain that they would finish something when they encountered challenges. Likewise, $30.4 \%$ who were less certain about graduating from OSU were very certain that they would finish something when they encountered challenges. As might be expected, those students who did not intend to graduate from OSU showed the least amount of certainty about whether or not they would finish something in the face of challenges. Table 14 below contains the percentage of students who intended to graduate and their level of certainty about finishing something when they encountered challenges.

## Table 14

## Percent of Students Who Intend to Graduate and Level of Certainty about Finishing Something When Challenges Are Encountered

|  | Intend to graduate from OSU |  |  |
| ---: | :---: | :---: | :---: |
| Finish something you started <br> when you encounter challenges | No | Yes | Uncertain |
| Not at all certain 1 | $1.8 \%$ | $0.1 \%$ | $0.3 \%$ |
| 2 | $0.0 \%$ | $0.5 \%$ | $2.0 \%$ |
| 3 | $8.8 \%$ | $5.1 \%$ | $6.9 \%$ |
| 4 | $38.6 \%$ | $21.0 \%$ | $23.5 \%$ |
| 5 | $29.8 \%$ | $37.7 \%$ | $37.0 \%$ |
| Very certain 6 | $21.1 \%$ | $35.7 \%$ | $30.4 \%$ |

## Expected Academic Difficulty

The academic experience at the college or university level is much different than the high school academic experience. Thus, students were asked to assess the level of expected difficulty they would have managing the collegiate academic environment. Table 15 below contains the definition and the survey items that composed this scale.

Table 15

## Items Composing Expected Academic Difficulty (EAD)

| Expected Academic |
| :--- |
| Difficulty (EAD) |
| Expected academic |
| difficulty during the first |
| year of college |

During the coming school year, how difficult do you expect the following to be?

- Learning course material
- Managing your time
- Getting help with school work
- Interacting with faculty

Students' mean rating of expected difficulty was 5.15 with a scale range of 0 (minimum) and 10 (maximum). This suggests that students are not necessarily expecting a great deal of difficulty managing the academic environment during their first college year. There were no significant differences between male and female ratings and first generation and non-first generation students in their mean ratings. See Table 16 below.

Table 16
BCSSE Mean Scale Scores and Selected Comparisons

| BCSSE <br> Scales ${ }^{\text {a }}$ | OSU <br> All Students |  |  | OSU Gender Comparisons |  |  |  | OSU First-Generation ${ }^{\text {d }}$ Comparisons |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Means | Tests of mean differences |  |  | Means |  | Tests of mean differences |  |
|  | Mean | SD | $N$ | Female | Male | Sig ${ }^{\text {b }}$ | Effect size ${ }^{c}$ | FG | Non- | $\mathrm{Sig}_{b}$ | Effect size ${ }^{\text {c }}$ |
| Expected Academic Difficulty (EAD) |  |  |  |  |  |  |  |  |  |  |  |
| Expected academic difficulty during the first year of college. | 5.15 | 1.48 | 2,781 | 5.20 | 5.11 |  | . 06 | 5.14 | 5.14 |  | 01 |

[^2]
## Expected Academic Difficulties—Individual Item Report

Four survey items made up the Expected Academic Difficulties scale. Figure 19 below contains the levels of difficulty and the frequency for each item. Approximately $29 \%$ of students rated learning course material as potentially quite difficult for them (rating of 5 or 6 , on a 6 -point scale), while only $6 \%$ rated learning course material as not very difficult for them (rating of 1 or 2 , on a 6 -point scale).

Approximately 30\% students rated getting help with coursework as not very difficult for them (rating of 1 or 2 ). Likewise about $30 \%$ rated interacting with faculty as not very difficult for them (rating of 1 or 2). About $10 \%$ rated getting help with coursework as potentially quite difficult for them (rating of 5 or 6 ). Again likewise, only $9 \%$ reported that interacting with faculty might be quite difficult for them (rating of 5 or 6 ).

Managing time was the area in which students expected to have the most difficulty. Approximately 49\% expected that managing time might be quite difficult for them (rating of 5 or 6). Only about 10\% expected that managing time would not be very difficult (rating 1 or 2). See Figure 19.

Figure 19


## Additional Areas of Potential Difficulty

While only four survey items were used to develop the Expected Academic Difficulties scale, two other areas were also assessed in terms of the students' expectations of experiencing difficulties. These included: (1) Expected difficulty paying for college expenses, and (2) Expected difficulty making new friends.

First generation students (~56\%) and female students (~45\%) expressed the greatest level of expected difficulty paying for their college expenses. Only 7\% of first generation students and $9 \%$ of female students reported that they expected no difficulty paying for college expenses. The following two figures (20 and 21) contain the frequency distribution of student ratings on level of difficulty expected for these two areas.

Figure 20


Most students expressed very little concern about making new friends. Only about 7\% of any of the listed groups in Figure 21 expressed any substantial expectation of difficulty in this area.

Figure 21


## Importance of Campus Environment

The Importance of the Campus Environment scale asked students to rate how important it is that the institution provides both a challenging and supportive environment. The specific questions that composed this scale are related to elements on a campus that demonstrate both challenge and support. These are contained in Table 17 below.

Table 17

## Items Composing Importance of Campus Environment (ICE) Scale

| Importance of Campus | How important is it to you that your college or university provides each of the following? |
| :---: | :---: |
| Environment | - A challenging academic experience |
| (ICE) | - Support to help you succeed academically <br> - Opportunities to interact with students from different economic, social, and |
| Student-related | racial or ethnic backgrounds |
| importance that the institution | - Assistance coping with your non-academic responsibilities (work, family, etc.) |
| provides a | - Support to help you thrive socially |
| challenging and supportive environment | - Opportunities to attend campus events and activities |

The mean rating of 7.04 on a scale of 0 (minimum) to 10 (maximum) strongly suggests that students find these characteristics important to them on a campus. Further female students reported significantly more importance than did male students on this scale. Likewise first generation students showed a significantly higher mean than did non-first generation students.

Additionally most of the items on the survey in this scale are items suggesting support. Only one item relates to a challenging academic experience. It seems likely that students may be responding to the supportive environment to a greater degree than to the challenging element.

Table 18 below contains the means, significance levels, and comparisons of each of the student groupings for this scale.

Table 18
BCSSE Mean Scale Scores and Selected Comparisons

| BCSSE Scales ${ }^{\text {a }}$ | OSU <br> All Students |  |  | OSU Gender Comparisons |  |  |  | OSU First-Generation ${ }^{\text {d }}$ Comparisons |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Means |  | Tests of mean differences |  | Means |  | Tests of mean differences |  |
|  | Mean | SD | $N$ | Female | Male | Sig ${ }^{\text {b }}$ | Effect $s_{s i z e}{ }^{c}$ | FG | $\begin{gathered} \text { Non- } \\ \text { FG } \\ \hline \end{gathered}$ | Sig ${ }^{\text {b }}$ | $\begin{aligned} & \text { Effect } \\ & \text { size }^{c} \end{aligned}$ |
| Importance of Campus Environment (ICE) |  |  |  |  |  |  |  |  |  |  |  |
| Student-rated importance that the institution provides a challenging and supportive environment. | 7.04 | 1.60 | 2,781 | 7.43 | 6.69 | *** | . 47 | 7.13 | 7.00 | * | . 08 |

${ }^{2}$ Scale scores are expressed in 0 (minimum) to 10 (maximum) point scales. See the following page for complete scale descriptions and component items.
${ }^{\text {b }}$ T-test results (2-tailed): * $\mathrm{p}<.05,{ }^{* *} \mathrm{p}<.01,{ }^{* * *} \mathrm{p}<.001$. The smaller the significance level, the less likely that the difference is due to chance.
${ }^{\text {c }}$ Effect size is the mean difference divided by pooled standard deviation. It indicates the practical significance of the mean difference (effect size .2 is often considered small, .5 is moderate, and .8 is large).
${ }^{d}$ First generation is defined as no parent or guardian having graduated with a 4-year college degree.

## Importance of the Campus Environment—Individual Item Report

On a scale of 1 (not important at all) to 6 (very important), about 53\% of students reported that it was quite important (rating of 5 or 6 ) to them that the campus provide a challenging academic experience. Only $2 \%$ noted that this was not really very important to them (rating of 1 or 2). Likewise only $51 \%$ reported that it was very important (rating 5 or 6 ) to them to have opportunities to interact with students from different economic, social and racial or ethnic backgrounds. However, 82\% indicated that it was very important (rating 5 or 6 ) for the campus to support them in order for them to succeed academically. See Figure 22 below.

Based upon students' rating of importance for campus to provide assistance coping with non-academic responsibilities, about 31\% rated that as quite important (rating of 5 or 6 ). While students clearly want academic support, they rated support to help them thrive socially much less important to them. Overall, only 41\% rated that as quite important to them (rating 5 or 6 ). Students did however rate it as quite important that they have opportunities to attend campus events and activities. Approximately 64\% rated this as very important to them (rating 5 or 6 ). See Figure 23 below.

Figure 22


Figure 23


Even when mean ratings for the items in this scale are examined, the two areas that have the highest mean ratings for importance to students are: (1) Support to succeed academically and (2) Opportunities to attend campus events and activities. Only one item rated below the middle of the scale and that was assistance coping with non-
academic responsibilities (work, family, etc.). Figure 24 below contains the graphic representation of the mean level of importance students assigned to various aspects of challenge and support ( $1=$ not important, $6=$ very important $)$.

Figure 24


## Co-Curricular Engagement during Last Year of High School

This section describes the degree of co-curricular involvement that students reported on the BCSSE survey. Table 19 below contains the specific items that are discussed in this section of the report.

Generally no more than 10\% of students reported being highly involved in any of the activities listed with the exception of athletic teams, performing and visual arts, and community service or volunteer work. Figures $25-33$ below contain the graph of frequency distributions of these items.

Items Categorized as Co-curricular Engagement during the Last Year of High School

| Co-curricular Engagement <br> during Last Year of High <br> School | - | Visual or performing arts |
| :--- | :--- | :--- |
|  | Athletic teams (varsity, junior varsity, club sports, etc.) |  |
|  | - | Student government |
|  | Publications (student newspaper, yearbook, etc.) |  |
| Level of involvement in: | Academic honor societies |  |
|  | - | Academic clubs (science, math, debate, etc.) |
|  | Vocational clubs (business, health, technology) |  |
|  | : Religious youth group |  |
| Community service or volunteer work |  |  |

Most students (over 50\%) were not involved in performing or visual arts programs. Students most likely to have greater involvement were female students. Overall, approximately $28 \%$ of female students were substantially involved in performing or visual arts. Males were the least likely to be involved in these activities. See Figure 25.

Figure 25


More students were highly involved in athletic teams than any other activity, listed in this section. Additionally of the subsections of students examined, the involvement of males, females, first generation, and non-first generation were very close to equal in their involvement in athletic teams. See Figure 26 below.

Figure 26


Again, most students reported that they were not at all involved in student government during their last year. Less than 10\% were highly involved with females being the most likely to be involved in this activity. See Figure 27 below.

Figure 27


Most students (80\% or greater) reported little or no involvement in student publications (student newspaper, yearbook, etc.) during their last year of high school.

Only about 10\% reported significant involvement in these activities. See Figure 28 below.

Figure 28


Female students were more likely to be engaged in academic honor societies than were male students during their last year of high school. Overall only about 15\% of students had substantial involvement in academic honor societies during their last high school year. See Figure 29 below.

Figure 29


Most students (80\%) reported very little or no involvement in academic clubs (science, math, debate, etc.) during their last year in high school. Only about 6\% showed substantial involvement. See Figure 30 below.

Figure 30


Over 80\% of students reported no involvement in vocational clubs (business, health, technology, etc.) during their last year in high school. Like other activities mentioned in this section, the degree of substantial involvement was about 10\%. See Figure 31.

Figure 31


Most students (72\%) reported no or very little involvement in religious youth groups during the last year of high school. About 12\% reported substantial involvement in these kinds of groups. See Figure 32.

Figure 32


Community service or volunteer work was second to involvement in athletic teams as the activity that showed the greatest degree of overall co-curricular engagement. Students reported at least some involvement in this activity at a higher rate than others with the exception of athletic teams. See Figure 33.

Figure 33


Student involvement in athletic teams and community service/volunteer work were the two co-curricular activities that students endorsed most often in terms of co-curricular engagement. Overall, other activities were secondary to those two in terms of the lists of activities from which students could select.

## Other Engagement Activity

Items included in this category or those which did not neatly fit into another category but that involved engagement in academically enriching activities. Additionally two of the items in this category pertain to missing class and completing homework assignments.

Figure 34 below contains the degree to which students read books for personal enjoyment or academic enrichment. Most students ( $\sim 90 \%$ ) read at least some for personal enjoyment or academic enrichment. Very few students reported no involvement or very little involvement in extracurricular reading.

Figure 34

(First generation is defined as no parent or guardian having graduated with a 4-year college degree)
Most students reported that they at least sometimes had serious conversations with students who differed from them in terms of race or ethnicity. Because other research suggests that serious interactions with people who are racially or ethnically different from oneself is beneficial to academic gains, this involvement in high school must have support to continue during the college years. Unfortunately, about 15\% of entering OSU students reported that they had never had serious conversations with students different from themselves. For these students the collegiate experience could be very different than their high school experience with diversity. Figure 35 below contains the graphic representation of the frequency with which students engaged with students who differed from them racially or ethnically.

Figure 35

(First generation is defined as no parent or guardian having graduated with a 4-year college degree)
Likewise, most students ( $\sim 90 \%$ ) reported that they had at least sometimes had serious conversations with students who differed from them in terms of religious beliefs, political opinions, or personal values. Nevertheless about 10\% reported that they had never had such conversations during their last year of high school.

Figure 36

(First generation is defined as no parent or guardian having graduated with a 4-year college degree)

Most students (~93\%) reported that they had at least talked sometimes with a counselor, teacher or other staff member about college or career plans. Only about 7\% of students reported that they had never talked about these issues with a counselor, teacher or other staff member during their last year in high school. See figure 37 below.

Figure 37

(First generation is defined as no parent or guardian having graduated with a 4-year college degree)
Approximately 74\% of students reported that they sometimes missed a day of school during their final year in high school. Only about 14\% indicated that they had never missed a school day. See Figure 38 below.

Figure 38

(First generation is defined as no parent or guardian having graduated with a 4-year college degree)

Generally, most students (~69\%) reported that they at least sometimes came to class without completing readings or assignments during their last year of high school. Interestingly, about 31\% said that they never came to class without completing their assignments. Females were more likely to complete assignments than were male students. See Figure 39 below.

Figure 39

(First generation is defined as no parent or guardian having graduated with a 4-year college degree)

## Use of Time in the Last Year of High School and Expected Use of Time during the First College Year

Students were asked to account for the amount of time in a week that they engaged in specific activities. They were then asked the amount of time that they expected to engage in these activities during their first college year. Oftentimes patterns of behavior that were set in high school continue into college.

Figure 40 below contains information on the amount of time per week that students worked for pay during their last year of high school and the amount of time they expected to work per week for their first year in college. Most students expected to work for pay some during their first college year. Only about $28 \%$ did not expect to work during the first year.

Interestingly about 42\% reported that they did not work for pay during their last year of high school. Most worked at least a few hours per week during high school with students averaging between 6 and 15 hours per week of paid work.

Figure 40


On average students reported that they expected to spend less time participating in cocurricular activities during their first year in college than they did in their last year of high school. Approximately $60 \%$ of students indicated that they spend 11 hours or more per week during their last high school year participating in co-curricular activities, while about $51 \%$ reported that same expectation for their first college year. See Figure 41.

Figure 41


Students reported on average that they expected to spend less time relaxing and socializing in their first college year than they did during their last year in high school. Most students (58\%) thought that they would spend between 6 and 15 hours per week socializing during their first college year. See Figure 42 below.

Figure 42


Of the four questions that related to how students expected to spend time during their first college year, the only item that showed appreciable difference pertained to time spent studying (see Figure 13). Students reported that they expected to study more hours per week in their first college year than they did during their last high school year.

## Expectations of Integrative Activity during the First Year of College

Students were asked a series of questions about the expected frequency of engaging in specific academic experiences that have been shown to enhance learning. In Figure 43 below, over $91 \%$ of students expect to often or very often work on a paper or project that requires integrating ideas or information from various sources. Approximately 9\% expected to do this at least sometime during their first year.

Figure 43


Interestingly in Figure 44 only about 53\% of students expected to receive prompt feedback from faculty on their academic performance. Only 3\% never expected to receive prompt feedback from faculty. Other research has shown that receiving prompt and early feedback is essential to helping first year students make corrections in study habits, etc. before the end of the term.

Figure 44


Interactions with faculty members both inside and outside the classroom have had positive results in terms of student motivation and persistence. Most students (91\%) expected at least sometimes to work with faculty members on activities other than coursework during their first year. See Figure 45 below.

Figure 45


Approximately 76\% of students reported that they expected to put together ideas or concepts from different courses when completing assignments or during class discussions often or very often. About one quarter reported that they sometimes expected to do this. See Figure 46 below.

Figure 46


Overall, students (~99\%) reported that they expected to try to try to understand someone else's views by imagining how an issue looks from his/her perspective at least some of the time. Very few ( $<1 \%$ ) expected never to do this during their first year.

Figure 47


Again, students ( $\sim 100 \%$ ) overwhelmingly reported that they expected at least some of the time to learn something that would change the way they understood an issue or idea. See Figure 48 below.

Figure 48


## Paying for College

Having sufficient funds to pay for educational expenses is often problematic for many students. This section of the report provides information about how students expect to fund their first year at OSU.

About 8\% of students expected to fund all or nearly all of their educational expenses through scholarships and grants. Another $12 \%$ expected to pay all or nearly all through student loans. Parents and families comprised the largest funding source for students with $32 \%$ expecting all or nearly all of their educational expenses would be paid by parents/family. Only about 4\% expected to pay for all or nearly all of their educational expenses by themselves.

Only about $13 \%$ expected to get no help from their parents in terms of paying their college expenses. Further, 30\% expected no help from scholarships/grants and 35\% expected not to use student loans for funding. Figure 49 below contains student reported information on the amount of college expenses during the first year paid by various funding sources.

Figure 49


First generation students often have significant concerns about paying for college expenses. Figure 50 below contains information on how first generation students reported their expectations for paying their college expenses. About 16\% indicated that they expected all or nearly all to be paid by student loans. Another 17\% reported that parents/family would pay all or nearly all. Only 12\% indicated that scholarships and grants would pay all or nearly all and only $5 \%$ expected to pay all or nearly all themselves.

Figure 50


Approximately $20 \%$ of all first year students received a Pell Grant with a larger percentage of Pell Grants going to female students. For first generation students about 38\% received a Pell Grant. See Figure 51 below.

Figure 51


## DISCUSSION AND RECOMMENDATIONS

OSU entering first year students who attended a summer START session and were 18 years old or older were asked to participate in the Beginning College Survey of Student Engagement (BCSSE) survey. The BCSSE was designed to measure the high school experiences and college expectations of entering first year students. Further the BCSSE parallels the National Survey of Student Engagement (NSSE) which is administered to senior students and first year students during the winter and spring terms. Thus, by using both instruments, the experiences of first year students can be examined in terms of high school experiences, expected experiences in college, and actual college experiences. This report examined the responses of first year students on the BCSSE. Additional reports will be issued after the NSSE data is available in Fall, 2010.

A total of 2,924 students were asked to participate in the survey with 2,781 completions which is a return rate of $95 \%$. Approximately $32 \%$ of these were first generation college students (defined as no parent or guardian had graduated with a 4-year college degree). Overall respondents reported that they would be full-time students and that they had a high school grade point average of B or better. Most (77\%) reported their race as white (non-Hispanic) with about 23\% reporting a race other than white. Most (85\%) intended to graduate from Oregon State though about 13\% were uncertain whether or not they would graduate.

Six scales were developed to assess high school academic engagement, expected college academic engagement, perseverance, expected academic difficulty, perception of academic preparation, and the importance of the campus environment in providing both challenge and support. Three scales, showed a mean of over 7.00 on a scale that ranged from 0 (minimum) to 10 (maximum). These scales included: Expected Academic Perseverance, Perceived Academic Preparation, and Importance of the Campus Environment. The remaining three scales showed a mean range of 5.15 to 5.79 with 0 (minimum) to 10 (maximum).

Overall, entering students reported a moderate level of high school academic engagement as measured by the High School Academic Engagement Scale with a mean of 5.36 on a scale of 0 (minimum) to 10 (maximum). While some students reported a lot of engagement others reported very minimal or no engagement on the questions that made up this scale. The most frequent response to questions was "some" or "sometimes." For example when asked how frequently they had worked with classmates outside of class to prepare class assignments, over 50\% reported sometimes. Likewise when asked about the frequency of making a class presentation, over $50 \%$ of students reported sometimes. Less than $10 \%$ reported very often making a class presentation or working with classmates outside of class to prepare class assignments with another 10\% reporting they never engaged in these behaviors.

Likewise students reported a moderate expectation for academic involvement during their first year with a mean of 5.79 on a scale of 0 (minimum) to 10 (maximum). While their expectations of academic engagement were somewhat higher than their reported high school engagement experience, it was nevertheless still a modest level of expected academic engagement as measured by the Expected Academic Engagement Scale.

Students did overall report that they believed that they were fairly well-prepared academically for their first college year. The mean score on the Perceived Academic Preparation scale was a 7.16 with a range of 0 (minimum) to 10 (maximum). This scale had the highest mean rating of the six scales. Overall students reported that they were prepared fairly well for writing and speaking. Likewise they reported that they were fairly well prepared for thinking critically and analytically. As expected, students reported that they were not as well prepared to analyze math or quantitative problems as they were for other areas in this scale.

Students expected to spend more time preparing for class in their first year of college than they had done during their last year of high school. During the last year of high school 64\% reported studying 10 hours or less per week. In contrast, only 8\% expected to study 10 hours or less per week in college. While only $18 \%$ of students reported studying 16 hours or more during their last year of high school, $73 \%$ expected to study 16 or more hours per week in their first college year. Further, when asked the frequency with which they expected to work with classmates outside of class to prepare
class assignments, over 46\% reported that they expected to do this often. Another 30\% expected to do this very often during their first college year.

Students were fairly certain that they would persist in college in the face of academic adversity. The mean rating on the Expected Academic Perseverance scale was 7.06 with 0 (minimum) and 10 (maximum). Most students reported that they were quite certain that they would ask instructors for help, find additional information for course assignments they did not understand, and finish something they started even when confronted with challenges (frequencies above 50\% for these items). Not surprisingly, those students who reported that they did not intend to graduate from OSU showed the least amount of certainty about whether or not they would finish something in the face of challenges.

Generally, students reported that they expected a modest amount of academic difficulty in their first college year. The mean rating on the Expected Academic Difficulty scale was 5.15 with a range of 0 (minimum) and 10 (maximum). Approximately 29\% rated learning course material as potentially quite difficult for them while only $6 \%$ rated learning course material as not very difficult at all. Managing time was the area in which students expected to have the most difficulty. Students overall reported that they expected little difficulty with getting help with school work or interacting with faculty. Students were fairly clear about the importance of the campus environment in providing both challenge and support. Importance of the Campus Environment scale mean was 7.04 with 0 (minimum) and 10 (maximum) on this scale. About $53 \%$ reported that it was quite important to them that the campus provide a challenging academic experience. Only about 2\% reported that this was not important to them. Two areas were overall rated as very important to students. These included: support to help them succeed academically and opportunities to attend campus events and activities. The area that was endorsed least often as being important was assistance coping with non-academic responsibilities. Only $10 \%$ reported this area as being very important to them.

Student involvement in co-curricular activities in high school was somewhat limited in most categories with high involvement including only about 10\% of respondents in areas such as performing or visual arts, student government, publications, honor societies, academic or vocational clubs, and religious youth groups. Further, fewer than $25 \%$ of students reported that they had very often had serious conversations with students who differed from them in terms of race/ethnicity or religious beliefs, political opinions or personal values. Involvement in athletic teams (varsity, jr varsity, club sports, etc.) had high involvement from about 40\% of students. Engagement in community service or volunteer work had high involvement from about 20\% of students. In terms of use of time, students expected to work for pay more, study more, participate in co-curricular activities about the same, and relax and socialize a little more than they did in high school.

Students also expected to engage in integrative academic activities to a substantial degree during their first college year. Approximately 90\% expected to often or very often work on a paper or project that required integrating ideas or information from
various sources. Nearly $75 \%$ expected to often or very often put together ideas or concepts from different courses when completing assignments or during class discussions. Further, about $80 \%$ expected to try to understand better someone else's views by imagining how an issue looked from his/her perspective. And lastly a little over $80 \%$ expected to learn something that changed the way they understood an issue or idea. These results suggested that most incoming students expected to be engaged in reasonably high level intellectual activity during their first college year. As with other surveys (e.g., Sanderson, 2003a, 2003b, 2004, 2005, 2006) of incoming first year students, they have a fairly high opinion of their academic preparation and ability to succeed academically at their chosen college/university.

Overall, OSU's entering students were optimistic about their ability to succeed at OSU. They generally reported feeling well-prepared in most areas with the possible exception of mathematics. Most expected to graduate from OSU with their degree and they expected to engage in the intellectual/academic environment at OSU. They did report that they wanted to have access to campus events and activities and that they wanted access to services that would help them succeed academically. They expected to work more hours for pay, study somewhat more, and have time to relax and socialize a little than they had in their last year of high school. They were concerned overall about their ability to pay for college and this was especially true for first generation students.

This current report provides only a snapshot of the high school experiences and expectations for entering students' first college year. This is the first of several reports based upon the BCSSE data. Future reports will contain information from BCSSE, Banner, and the NSSE.

## Recommendations

1. Continue to administer the BCSSE on those years that NSSE is administered.
2. Return to the CIRP freshman survey on years the BCSSE is not administered.
3. Continue to use the BCSSE data with available BANNER data and the NSSE data to develop key indicators of attrition/retention for first year students.
4. Assess to what degree entering student expectations about the academic experience are met during their first year.

## REFERENCES

Chickering, A. W., \& Gamson, Z. F. (1987). Seven principles for good practice in undergraduate education. AAHE Bulletin (March), 3-7.

Pascarella, E. T., \& Terenzini, P. T. (1991). How college affects students: Findings and insights from twenty years of research. San Francisco: Jossey-Bass.

Sanderson, R. A. (2003a). Oregon State University 2002 Freshman Survey Results-Cooperative Institutional Research Program. Student Affairs Research Report 01-03. Corvallis, OR: Oregon State University.

Sanderson, R. A. (2003b). Oregon State University 2003 Freshman Survey Results-Cooperative Institutional Research Program. Student Affairs Research Report 01-04. Corvallis, OR: Oregon State University.

Sanderson, R. A. (2005). Oregon State University 2004 Freshman Survey Results-Cooperative Institutional Research Program. Student Affairs Research Report 02-05. Corvallis, OR: Oregon State University.

Sanderson, R. A. (2006). Oregon State University Cooperative Institutional Research Survey 2005 Freshman Survey Results. Student Affairs Research Report 03-06. Corvallis, OR: OSU Division of Student Affairs.

Sanderson, R. A. (2007). Oregon State University Cooperative Institutional Research Program 2006 Freshman Survey Results. Student Affairs Research Report 02-07. Corvallis, OR: OSU Division of Student Affairs.

## APPENDIX A

College for Students Who Provided a Valid OSU Student ID Number

| OSU College | Frequency | Percent |
| :--- | :---: | :---: |
| College of Agricultural Sciences | 124 | 5 |
| College of Education | 213 | 8 |
| Pre-Engineering | 594 | 21 |
| College of Forestry | 32 | 1 |
| College of Science | 544 | 19 |
| College of Liberal Arts | 288 | 10 |
| University Exploratory Studies Program | 301 | 11 |
| University Honors College | 71 | 3 |
| College of Health and Human Sciences | 310 | 11 |
| Pre-Business | 314 | 11 |
| Total | 2791 | 100 |

Total will equal over the number of respondents since some were college1 plus college2 for example College of Education or the Honors College thus some students were counted twice because of double/triple majors which for some meant two colleges or more.


[^0]:    ${ }^{\text {a }}$ Scale scores are expressed in 0 (minimum) to 10 (maximum) point scales. See the following page for complete scale descriptions and component items.
    ${ }^{5}$ T-test results (2-tailed): * $\mathrm{p}<.05, * * \mathrm{p}<.01,{ }^{* * *} \mathrm{p}<.001$. The smaller the significance level, the less likely that the difference is due to chance.
    ${ }^{\text {c }}$ Effect size is the mean difference divided by pooled standard deviation. It indicates the practical significance of the mean difference (effect size .2 is often considered small, .5 is moderate, and .8 is large).
    ${ }^{d}$ First generation is defined as no parent or guardian having graduated with a 4-year college degree.

[^1]:    ${ }^{\text {a }}$ Scale scores are expressed in 0 (minimum) to 10 (maximum) point scales. See the following page for complete scale descriptions and component items.
    ${ }^{\text {b }}$ T-test results (2-tailed): * $\mathrm{p}<.05,{ }^{* *} \mathrm{p}<.01,{ }^{* * *} \mathrm{p}<.001$. The smaller the significance level, the less likely that the difference is due to chance.
    ${ }^{c}$ Effect size is the mean difference divided by pooled standard deviation. It indicates the practical significance of the mean difference (effect size .2 is often considered small, .5 is moderate, and .8 is large).
    ${ }^{d}$ First generation is defined as no parent or guardian having graduated with a 4 -year college degree.

[^2]:    ${ }^{\text {a }}$ Scale scores are expressed in 0 (minimum) to 10 (maximum) point scales. See the following page for complete scale descriptions and component items.
    ${ }^{\text {b }}$ T-test results (2-tailed): * $\mathrm{p}<.05,{ }^{* *} \mathrm{p}<.01,{ }^{* * *} \mathrm{p}<.001$. The smaller the significance level, the less likely that the difference is due to chance.
    ${ }^{\text {c }}$ Effect size is the mean difference divided by pooled standard deviation. It indicates the practical significance of the mean difference (effect size .2 is often considered small, .5 is moderate, and .8 is large).
    ${ }^{d}$ First generation is defined as no parent or guardian having graduated with a 4-year college degree.

