



## The Division of Student Affairs Assessment Committee is pleased to present the first edition of *Student Life Studies*,

a publication created to highlight findings from some of the meaningful assessment work conducted by the Division of Student Affairs. In this and future editions, *Student Life Studies* will share data and inform the University community of research conducted across the division, and will explore data trends over time related to changes in policy, program initiatives, and student services. The assessment and research projects featured in this publication combine theory and practice, using the applied assessment model outlined by the Syracuse University Assessment Council in 2001, which asks:

1. What is the objective or identified need?
2. Does the policy, program, or service meet the identified need or stated objective?
3. What evidence exists that the stated objective or identified need has been met?
4. Based on the assessment of objectives, what changes will be made in the policies, programs, and services provided?

To view the complete articles and detailed data reports for the abstracts and summaries in this publication, visit [assessment.syr.edu/assessment/research/research.htm](http://assessment.syr.edu/assessment/research/research.htm). Faculty are encouraged to make use of the data available on this site should it be applicable and supportive to course content and objectives. Please contact Dessa Bergen-Cico, associate dean of students, at [dkbergen@syr.edu](mailto:dkbergen@syr.edu) with questions, suggestions, or feedback about the research and assessment findings reported in this publication, or the data available on our web site.

## Student Health Behavior

By Dessa Bergen-Cico, associate dean of students  
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In Spring 2004, Syracuse University's Division of Student Affairs disseminated TheHealthSurvey via e-mail to a random sample of 1,700 undergraduate students. A total of 414 respondents completed the survey, yielding a response rate of 24.4 percent; the respondents were disproportionately female: 66 percent (n=262). The ethnicity was under-representative of the Black student population: 5.8 percent (n=24); 79 percent of respondents identified themselves as white; 9.4 percent identified as Asian/Pacific Islander; 2.7 percent identified as Hispanic; 1.7 percent identified as Native Indian/Alaskan Native; and 1.2 percent identified as other. Sixty-five percent lived in residence halls, 20 percent lived off campus, 13 percent lived in campus apartments, 4 percent lived in Greek housing, and 1.5 percent lived at home with family.

The complete results of this comprehensive baseline assessment of health-related knowledge, attitudes, perceptions, behaviors, and preferences for methods of health-related educational outreach can be viewed online at [assessment.syr.edu/assessment/healthsurvey/HealthSurvIndex](http://assessment.syr.edu/assessment/healthsurvey/HealthSurvIndex). These survey findings facilitate understanding of not only the health-related patterns, risks, and opportunities of our students as a whole population, but also the specific challenges and assets of certain groups of students. These data should be used to engage the campus in discussions of the reach and effectiveness of policies, programs, and services using data about the health status of our students and their most pressing campus health concerns.

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### Safer Sex?

Of the 414 students surveyed, 71 percent (n=293) reported being sexually active. Among those who are sexually active, 15.3 percent (n=44) reported that neither they nor their partner used a barrier form of protection (dental dam, male or female condom) against sexually transmitted infections (STIs) when they had sexual intercourse in the previous year; and 43.6 percent (n=123) did not use protection the last time they had sexual intercourse. Moreover, only 17 percent (n=71) of all students reported having been tested for HIV/AIDS. These findings point to the need for targeted education regarding the risk and prevention of STIs, including HIV/AIDS.

### Mental Health

Eighty-seven percent of students reported that depression and stress are substantial health concerns. Over the past year, 24.6 percent (n=99) of students reported being worried that a friend might be seriously considering attempting suicide; 20 percent (n=80) knew of someone who attempted suicide; and 16 percent (n=64) knew someone who committed suicide. Among our students, 10.5 percent (n=42) reported having seriously considered attempting suicide in the previous year; 4.6 percent (n=18) made a plan to commit suicide; and 1.2 percent

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# Exploring the Association Between Campus Co-Curricular Involvement and Academic Success

By Dessa Bergen-Cico, associate dean of students, [dkbergen@syr.edu](mailto:dkbergen@syr.edu); and Joe Viscomi, assistant director for assessment, [jviscomi@syr.edu](mailto:jviscomi@syr.edu)

The relevance of student involvement and co-curricular participation in academic success, persistence, and retention has been the focus of substantial research that has drawn complex conclusions. According to researchers, student involvement can impart students with a sense of attachment to an institution, thereby impacting persistence and retention positively. Many of these studies indicate confounding factors such as gender, affiliation, ethnicity, and varied definitions of student involvement as contributing to the complexity (Astin, 1999; Hernandez, Hogan, Hathaway, and Lovell, 1999).

The current study employs basic statistical analysis, including exploratory data analysis (EDA), to demonstrate the effects of student involvement in co-curricular activities with academic success. Student attendance at co-curricular events is categorized as one type of student engagement in campus life. For the purposes of this research, student involvement was defined as attendance at University-sponsored co-curricular events, including student organization-sponsored programs, therefore distinguishing this study from previous research, which focused on involvement that required a degree of participatory commitment and affiliation (e.g., athletic teams and Greek membership).

Using student identification card-swipe data collected at University co-curricular events, it was possible to accurately identify attending students, collect demographic information, and record cumulative and current grade point average (GPA). This analysis was conducted using data collected for five consecutive semesters, yielding approximately 37,000 records. Students are categorized as involved and engaged based on attendance at co-curricular events collected via student I.D. card swipe. This analysis focuses on the Fall 2002 first-year student cohort.

The data were analyzed and categorized into three groups, based on the total number of events attended during the five semesters this study encompasses: one group includes students attending four or fewer events; a second group includes students attending 5-14 events; and a third group includes those students attending 15 or more events. When the GPAs for students in each of the aforementioned three groups were analyzed and compared, it was found that the cohort of first-year students

*Continued on p. 3*

## Student Health Behavior *Continued from p.1*

(n=5) of our student respondents attempted suicide. Students were as likely to seek counseling for depression [10.4 percent (n=43)] from another student as they were from a campus professional [8 percent (n=32)] and were least likely [2.7 percent (n=11)] to seek out counseling from an “adult (non-professional counselor)” on campus. Indications of the patterns of student responses to questions on depression and suicide, including their experiences and those of their friends, indicate a critical need for non-clinical primary prevention programs and engagement strategies to address these prevalent issues, in addition to maintaining the quality counseling services available at SU.

### Eating Behavior

When asked how they feel about their present weight, 58.7 percent (n=236) of students reported that they felt overweight. Thirty-three percent (n=136) of respondents reported binge-eating behavior, whereas 31 percent (n=128)

reported routinely skipping meals to control their weight. Of those who reported binge-eating behavior, 66 percent (n=90) are worried about their behavior; 68 percent (n=92) have been bingeing for a year or longer; and 45 percent (n=61) of those who binge do not feel in control of their binge eating. Three percent (n=14) of all students surveyed believed they have an eating disorder; an additional 21 percent (n=88) were unsure or questioning their behavior; and 22 percent (n=87) of respondents said they have been asked if they have an eating disorder. Body image, disordered eating behaviors, and heavy drinking are co-occurring health issues for SU students; 7.6 percent (n=30) of students reported that they vomit to get rid of alcohol and continue drinking.

### Prevention, Education, and Outreach

Of the students who attended health-related education programs, 96 percent would recommend the educational programs to their

peers. However, education and outreach program attendance was relatively low among respondents (less than 10 percent). Collectively, as a University, a strong need exists to increase awareness of wellness programs, resources, and services that support the mind, body, and spirit of the campus community. Extensive programs and services are in place, but data indicate the majority of SU students are not aware of resources or do not participate in prevention/education programs. Addressing these issues through the curriculum and structured co-curricular methods are among the most effective means of engaging students in discussion and analysis of complex health and social issues critical to their development.

### Healthy Student Lifestyles

The majority of SU students—53 percent (n=205)—reported moderate alcohol consumption (four or fewer drinks in a given outing), and 17 percent (n= 69) of students described themselves as abstain-

ers/non-drinkers. The majority of students—89 percent (n= 354)—do not drink and drive; 74 percent (n=299) do not ride in a car with a driver who has been drinking. Survey data indicate that 25.6 percent (n=100) of undergraduate students would like access to alcohol-free living environments. These findings indicate a student desire for the availability of substance- (alcohol-) free residence hall living options. Currently about 1.5 percent of housing options are designated as substance free (e.g., the Living In a Substance-Free Environment (L.I.F.E.) Floor).

### Future Directions for Campus Community Wellness

The University Wellness Task Force worked throughout 2004 to develop a comprehensive wellness plan engaging faculty, staff, and students. Its report of recommendations to the University community is forthcoming. ▲

who attended co-curricular programs had markedly higher GPAs in contrast to the cohort of their first-year peers who attended fewer co-curricular programs.

Chart B1 is a plot of the distribution of each group's cumulative GPA covering five semesters of grades (encompassing Fall 2002, Spring 2003, Fall 2003, Spring 2004, and Fall 2004).

**Chart B1 Box Plot of First-Year Student Cohort (Fall 2002 enrollment) Cumulative GPA—Fall 2004**

Each box plot in the chart is similar to a bell curve, except that the boxes do not assume any particular distribution. The box represents the distance from the 25<sup>th</sup> percentile to the 75<sup>th</sup> percentile (i.e., the middle 50 percent of all the data points). The horizontal line in the box represents the median and the circle represents the mean. The upper tail is the top 25 percent and the lower tail is the bottom 25 percent; asterisks are outliers. The following table lists the descriptive statistics for each of the boxes in Chart B1.

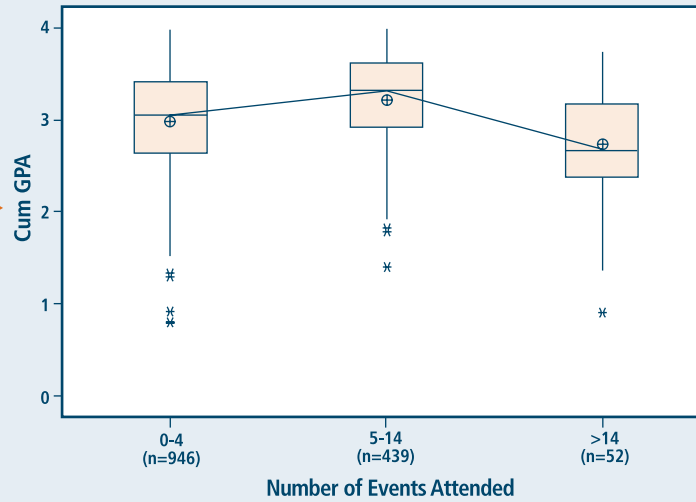
Event Attendance	n	Mean GPA	Standard Deviation	Median GPA	First Quartile	Third Quartile
0 to 4	946	2.98	0.57	3.05	2.65	3.42
5 to 14	439	3.22	0.50	3.32	2.93	3.63
>15	52	2.73	0.60	2.68	2.38	3.17

The data for the median GPA indicate that students attending 5-14 events have a GPA that is a quarter of a point higher than their peer group attending four or fewer events, and their GPA is nearly two-thirds of a point higher than their peer group attending 15 or more events.

The plot and table illustrate that the middle group (students attending 5 to 14 events) have higher GPAs with a smaller variation than the other two groups. One might consider this outcome is due to random chance. To explore this possibility, further analysis was conducted and addressed in Chart B2.

**Chart B2 Interval Plot of Semester GPA vs. Term GPA By Number of Events Attended First-Year Student Cohort (Fall 2002 enrollment) 95% CI\* for the Mean**

Chart B2 is a plot of the means and medians of the two groups' semester GPA for each of the five semesters included in this study (Note: for this phase of analyses, the group attending 15 or more events was eliminated because of the small *n* value). The 95 percent confidence interval for the means indicates that 95 times out of 100



the given interval contains the true mean. This interval identifies any differences in the distributions of the means. The greater detail in Chart B2 illustrates the distinction between the two groups more clearly.

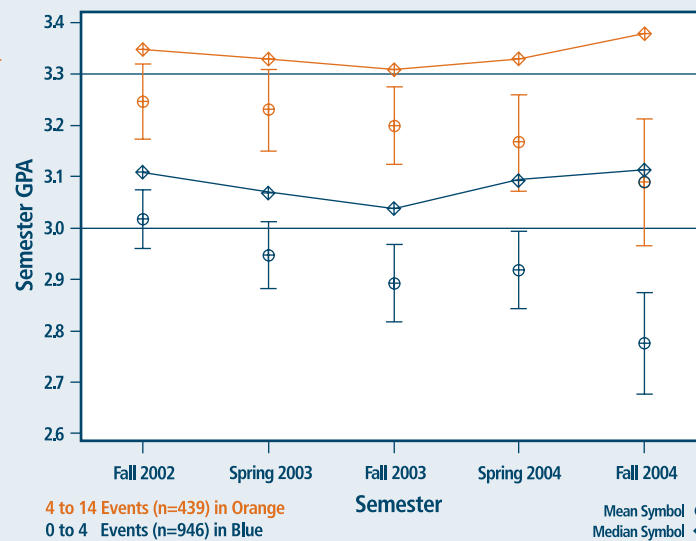
If event attendance/activity involvement had no association, one would expect to see a random pattern of association between the two groups. However, there is a very systematic pattern; in each semester, the group attending 5-14 events consistently has a higher GPA by approximately a quarter of a point. There is no interval overlap of the 95 percent confidence intervals for the means for any given semester.

**P-value** is the probability that the statistical difference is due to chance. The smaller the p-value, the more significant the difference.

The confidence intervals demonstrate clearly that these differences are statistically significant, which is equivalent to a p-value of 0.05. The direction of the means and the medians for the two groups move upward and downward together; this also indirectly supports the contention of an association between co-curricular activity and academic success. Gender differences were also noted, but any gender effect was overshadowed by group membership.

This study demonstrates an association between engagement in co-curricular activities and GPA; these initial findings will direct future research in student co-curricular engagement. Using academic success (academic success is defined here by cumulative and semester GPA) as the central measurement, the focus is further narrowed by establishing subcategories of co-curricular activities to explore which elements contribute most notably to the experience of engagement and involvement. Data will also be analyzed by gender, ethnicity, school/college, and academic program. Future analysis will include additional student cohorts (e.g., the first-year students from the Fall 2003 class to see if the findings above are repeated).

This study is not intended to demonstrate cause and effect, only to identify and describe association.



This work is the foundation of what will hopefully expand into more specific and advanced studies exploring the association between co-curricular involvement and academic success based on comparative analysis of the GPAs of students involved in co-curricular activities and the GPAs of non-participatory students. The data analysis identifies the characteristics of involvement that contribute to academic success and profiles characteristics of disengagement. The complete results of this research can be viewed online at [assessment.syr.edu/assessment/engagement.html](http://assessment.syr.edu/assessment/engagement.html).

\*The sample mean (as included in this article) is actually an estimate of the population, or "true" mean. The confidence interval gives an estimated range of values that is likely to include this "true" mean; it is calculated from the sample data. For a 95 percent CI, there is one chance in 20 that the "true" mean is NOT included in the given interval.

# Student Exploration of Diversity and Identity Through Shared Living Experiences

By Eric M. Nestor, coordinator of assessment, operations, and technology, Office of Residence Life, [emnestor@syr.edu](mailto:emnestor@syr.edu)

The Diversity Survey has been conducted annually since Spring 2001 by the Office of Residence Life (ORL). The core of the survey has remained constant: to enable longitudinal comparative assessment with periodic updates and revisions to improve the instrument's effectiveness and to meet changing needs. Created to assess the climate in the residence halls and on campus as it relates to diversity, the Diversity Survey asks residential students to respond to the following areas of inquiry: (1) programming; (2) overall campus climate; and (3) discrimination.

In the 2001-02 academic year, the University began a randomized housing process. One goal was to encourage students to experience and learn more about diversity and appreciate SU's diverse student population. Randomized housing eliminates new first-year and transfer students' self-selection of residence hall preference by building location, which in the past has produced homogeneous residence halls. Rather, students are housed with other students in a randomized manner. The Diversity Survey was implemented in advance of the University's randomized housing process to assess the campus climate as it relates to issues of diversity.

Diversity encompasses several factors, including many attributes that are not visible, such as personal beliefs, values, and abilities. When relating issues of diversity to student roommates,

it is only by getting to know one's roommate(s) that a resident can truly begin to learn about all the differences they each bring to the table.

The Diversity Survey was modified in 2003 to allow students to share what differences existed between themselves and their roommate(s) during both the first year and upper-class years in the residence halls. Students were asked to indicate how their roommate(s) differed from their own identity based on the following characteristics: ethnicity/race, gender, learning disability, physical disability, religious affiliation, sexual orientation, and socio-economic status.

The 2003 survey was distributed electronically to 2,759 undergraduate and graduate students who were enrolled full time at Syracuse University during the Spring 2003 semester and living on campus and off campus. The sampling frame was generated from Syracuse University records and stratified by campus living situation (on campus/off campus), gender, and ethnicity. Off-campus students are not

usually included in the sample for this survey. However, following the Blackface incident that occurred on campus in Spring 2002, the Office of Greek Life and Experiential Learning (GLEL) was interested in how the off-campus population, specifically the Greek population, perceived the campus climate as it relates to diversity. To support their interest, the Office of Residence Life collaborated with

GLEL by incorporating off-campus students into the sample. A total of 417 students responded, yielding a response rate of 15 percent.

The 2004 survey was distributed electronically to 1,461 under-

graduate and graduate students who were enrolled full time at Syracuse University during the Spring 2004 semester and living on campus. The sampling frame was generated from Syracuse University records and stratified by on campus living situation (residence hall/apartment), gender, and ethnicity. A total of 204 students responded, yielding a response rate of 14 percent. Of note, the sample contained 71 percent female and 68.6 percent white respondents overall; 49

percent of the total respondents were white females.

Results from the 2003 and 2004 Diversity Surveys indicate that students at Syracuse University are engaged in situations that challenge them to develop an understanding of and appreciation for those who are different from them. Among students who completed the surveys, one-third (33 percent) in 2003 and slightly less than half (42 percent) in 2004 reported that they lived with someone during their first year who differed from their ethnicity/race. About one-third of students each year indicated that their roommate(s) differed in their religious affiliation (34 percent in 2003 and 36 percent in 2004) during their first year. Approximately one-quarter (28 percent) of students in 2003 and one-third (32 percent) in 2004 reported that their roommate(s) differed in their socio-economic status during their first year. When asked whether their roommate(s) during their first year differed based on sexual orientation, eight percent in 2003 and seven percent in 2004 reported this difference was present.

In 2004, a "country of citizenship" category was added to the survey, allowing students to indicate roommate differences in this area as well. Several students reported that their roommates differed in terms of country of citizenship (2004 only), gender, or ability level. These data suggest that not only are students experiencing diversity in their living situations as first-year stu-

*...students at Syracuse University are engaged in situations that challenge them to develop an understanding of and appreciation for those who differ...*



dents, but these experiences are embedded. As most areas of difference are not visible, students needed to get to know their roommate(s) on a personal level to report some of these differences. Thus, while SU needs to continue doing more to provide opportunities for students to celebrate diversity, these data suggest they are experiencing it as first-year students.

What happens after their first year? Overall, students continue living with peers who differ from their identity. Numerous students reported living with someone after their first year that differed from their socio-economic status (29 percent in 2003 and 35

percent in 2004), religious affiliation (41 percent in 2003 and 34 percent in 2004), and ethnicity/race (29 percent in 2003 and 30 percent in 2004). While SU would like to see these numbers increasing after the first year, it is positive to see them holding relatively steady.

Students experience a diversity of living situations during their first year that continues into their upper-class years. How can SU better increase first-year students' appreciation of diversity? Survey results indicate students choose to live with those who differ from their own identity after their first year in college. Therefore, an increased dialogue

among students during their first year would help them to not only learn more about their peers, but also gain an appreciation for them and the differences they each bring to the table. The focus of these interactions must be on the mutual and respectful exchange of perspectives. Through such perspective-taking, students will increase their understanding of each other's experiences. One of the goals of this process would be to affect roommate choice in a positive manner, where students seek to live with peers who will continue to challenge their individual assumptions and encourage a celebration of differences. Such a

process would create experiences for first-year students that will foster their development in the sophomore year and beyond. If we are successful in creating such experiences for our students, we should have residence halls with environments that encourage discussions of diversity, are celebratory in nature, and explore issues of race, gender, class, sexual orientation, ability, religion, and nationality. As students continue their study at Syracuse University, the hope would be that they continue this focus and interest in diversity as they move into South Campus apartments and off-campus housing. ▲

Chart C1 Students' Self-Reported Differences of Identity in Roommate(s) First Year vs. Upper-Class Years Spring 2003 (\*Country of Citizenship was not an option in the 2003 survey.)

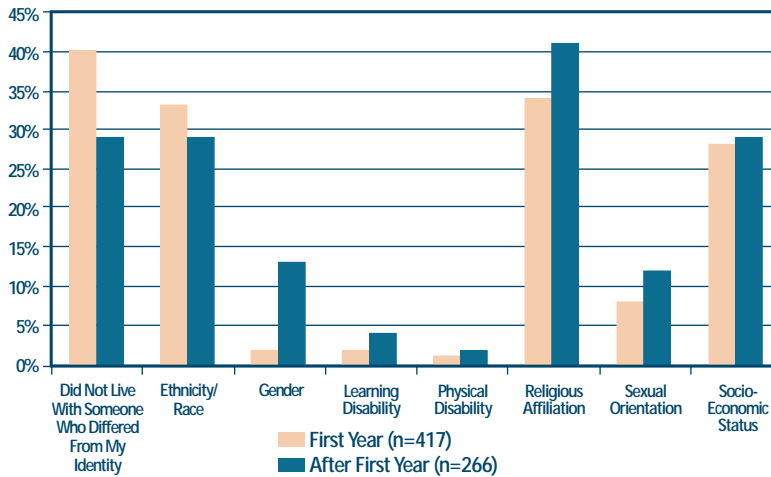
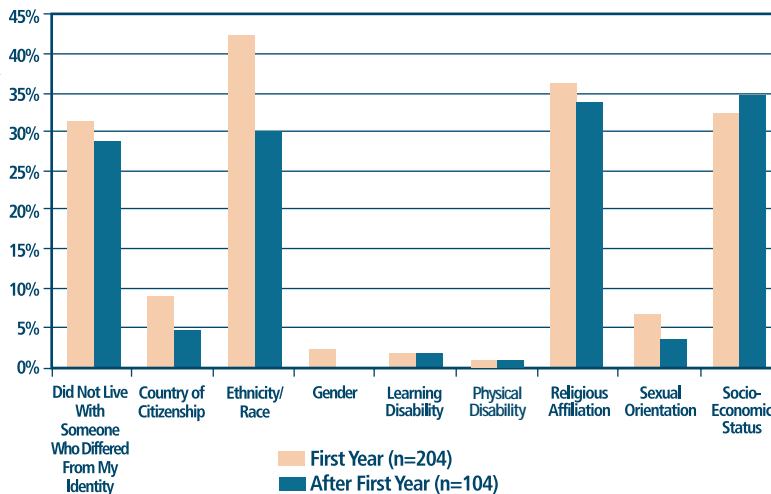


Chart C2 Students' Self-Reported Differences of Identity in Roommate(s) First Year vs. Upper-Class Years Spring 2004



DIVERSITY

# Syracuse Welcome: A Slice of SU Life— The New Student’s Perspective

By Mariana J. Lebron, director,  
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Syracuse University implemented a revised new student orientation program—*Syracuse Welcome: A Slice of SU Life*—in August 2003. Through a collaborative campus-wide process, the following six outcomes were identified for the program: (1) a successful move-in; (2) a successful student transition; (3) a sense of belonging by students and parents; (4) engagement/involvement by students and parents; (5) developing school/college connections; and, (6) developing a shared Syracuse University identity. The Center for the Support of Teaching and Learning (CSTL) collected feedback from 801 new students (28 percent response rate), 728 parents (25 percent response rate), 11 implementation team members, 15 orientation leaders, 64 resident advisors, 48 Office of Residence Life professional staff, 11 members of the Academic Coordinating Committee (ACC), and 112 volunteers. This article summarizes CSTL’s findings from the student responses only for *Syracuse Welcome 2003*. For further information on student responses, please see the “Syracuse Welcome 2003 New Student Orientation Summary of Responses to the Student Survey (December 2003).”<sup>1</sup>



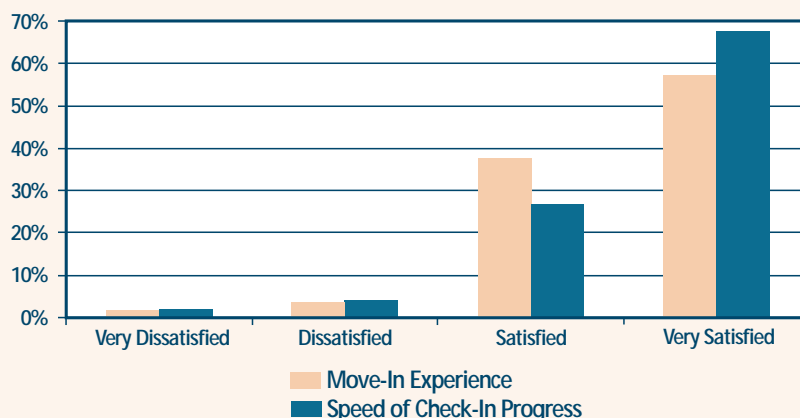
### Successful Move-In

Results indicated that new students had a successful move-in experience (Chart D1). Student volunteers were commended for their helpfulness. Although most respondents indicated that improvement was not needed, some suggestions were given, such as streamlining the move-in process (create exact move-in times, have working elevators, and extend move-in over more days); providing more student volunteers, moving equipment, and residence hall directions; providing technical computing assistance and follow-up in the residence halls after move-in; and sharing more information on what students could expect during the move-in process.

### Successful Student Transition

When asked how comfortable they felt with their transition to Syracuse University, more than 58 percent of students reported feeling “very comfortable” with their transition to SU. Another 33 percent felt “somewhat comfortable,” and 10 percent felt “a little” or “not at all comfortable.” They indicated the following as examples of what was most helpful in their transition: interactions with resident advisors, floormates, classmates, upper-class students, faculty, University staff, academic advisors, and peer advisors.

Chart D1 The Move-In Experience ▼

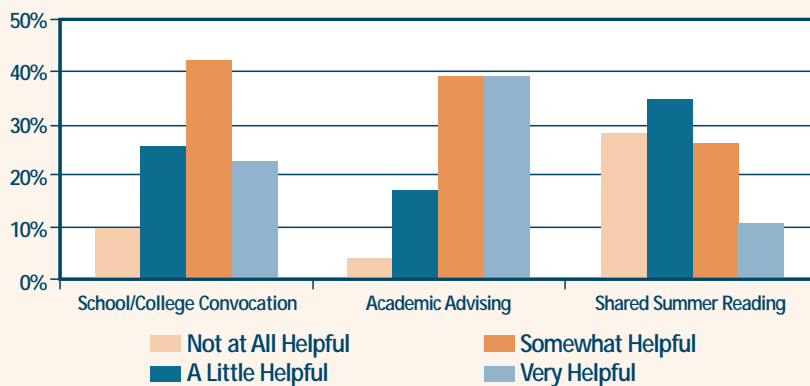


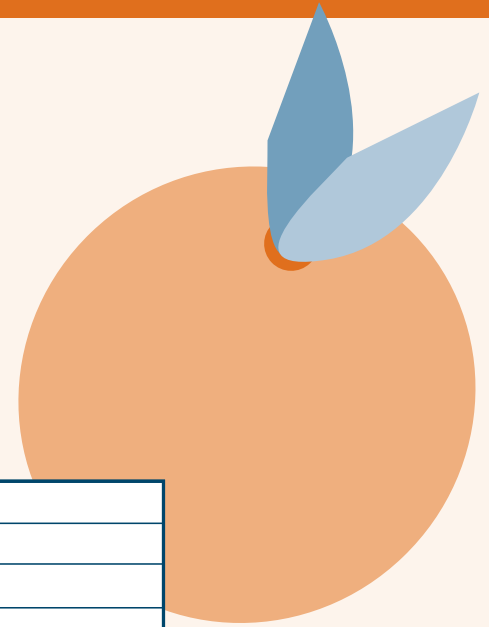
### School and College Connections

*Syracuse Welcome* is structured to allow new students to have different experiences based on their individual schools and colleges; therefore, there is no singular experience. Respondents offered feedback based on these different experiences. Overall, 80 percent of respondents reported feeling “somewhat connected” or “very connected” to their school or college. The majority of respondents

indicated that academic advising was either “somewhat helpful” or “very helpful” (78 percent); they also reported that their school/college convocations were either “somewhat helpful” or “very helpful” (65 percent). Respondents reported that convocations, social events and activities (e.g., picnics), and peer and academic advising were important and responsible for building connections.

Chart D2 Helpfulness of School/College Activities ▼

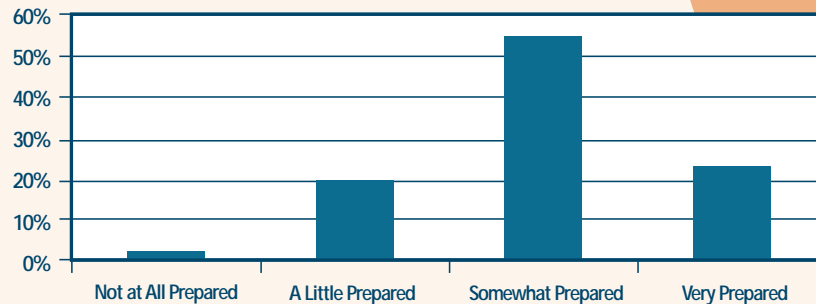




### Preparation for Classes

When asked how prepared they felt for classes, 55 percent of respondents reported feeling “somewhat prepared” for classes and 23 percent felt “very prepared.” In order to feel prepared, respondents indicated that it helped to meet people, including upper-class students and faculty; to tour campus; to attend school/college convocation; and to attend the Chancellor’s Convocation. Suggestions for how the University could better assist new students in feeling prepared for classes included engaging new

Chart D3 Level of Preparation for Classes ▼



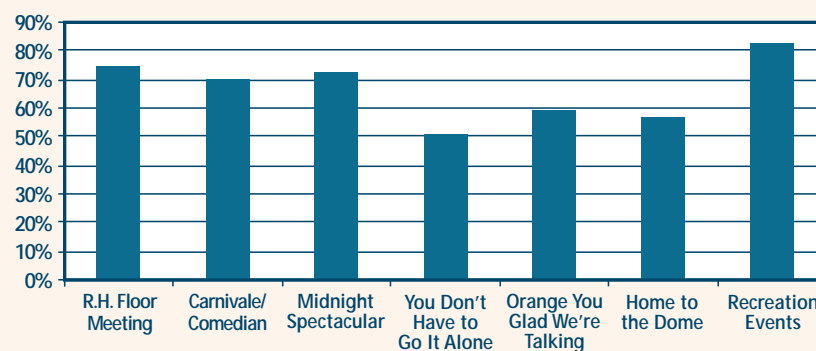
students in tours of the campus and its buildings, clarifying academic expectations, providing more explanation about and assistance with schedules and the

registration system, and allowing more free time between orientation and the start of classes.

### Student Life Events

Students indicated that *Syracuse Welcome* activities were helpful in their transition to the University. The highest rated activities included recreation events (83 percent), residence hall floor meetings (74 percent), the Midnight Spectacular (73 percent), and the Carnivale (69 percent). Approximately 96 percent reported they were able to make new friends during *Syracuse Welcome*. When asked how orientation could have better facilitated making friends, 152 suggestions were given. Most suggestions focused on providing more weekend activities. Suggestions were mostly centered on offering activities that were residence hall or floor based, more interactive and social activities, and small-group activities related to students’ interests.

Chart D4 Helpfulness of *Syracuse Welcome* Student Life Activities ▼



What is not revealed in the data is what made *Syracuse Welcome* such a success—the campus-wide collaborative effort in meeting student needs. Numerous teams, composed of representatives throughout the University, helped to implement programs that could reflect the needs and interests of SU’s diverse commu-

nity. Building on the collaborative theme, these results were shared with the *Syracuse Welcome* planning teams, with adjustments made using the recommendations given. ▲

<sup>1</sup> For a copy of this report, please contact Mariana Lebron, director, Office of Orientation and Transitions Services, at 315-443-1012.

# Panhellenic Sorority Recruitment: Learning by Assessing

By Joshua Grant McIntosh, senior associate director, [jgmcinto@syr.edu](mailto:jgmcinto@syr.edu); and Laurel Reed Rosch, associate director, [lreed@syr.edu](mailto:lreed@syr.edu), Office of Greek Life and Experiential Learning

## Introduction

Each February, approximately 625 first-year or second-year females participate in a process called Panhellenic Recruitment. The process is coordinated by the Office of Greek Life and Experiential Learning (GLEL) and the Panhellenic Council, the governance organizations for the 12 National Panhellenic Conference sororities. For the women who choose to participate in this process, it is

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*For the women who choose to participate in this process, it is an opportunity to learn about and possibly join the sorority culture at Syracuse University.*

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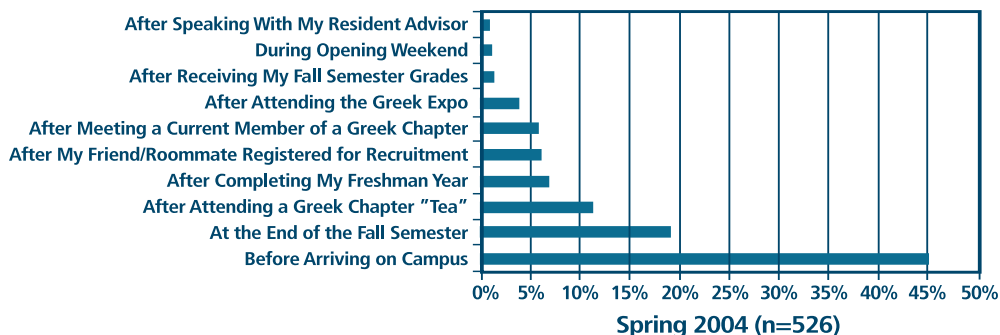
an opportunity to learn about and possibly join a sorority at Syracuse University. To better understand the expectations and experiences of those females participating in the recruitment process, both pre- and post-survey instruments were developed. A pre-participation survey was developed using a five-point Likert scale, multiple choice questions, and open-ended questions to gauge participants' perceptions of the marketing, registration, and recruitment processes, and identify their concerns related to the recruitment process. In 2003, a total of 551 participants completed the pre-assessment instrument, resulting in a response rate of 88 percent; in 2004, a total of 531 participants completed the pre-assessment instrument, resulting in a response rate of 89 percent. Using a five-

point Likert scale and open-ended questions, a post-participation instrument was designed to gauge participants' perceptions of their recruitment experience. In 2003, a total of 486 participants completed the post-assessment instrument, a response rate of 99 percent; in 2004, a total of 272 participants completed the post-assessment instrument, a response rate of 57 percent. This article highlights selected findings of the assessment of Panhellenic Recruitment during Spring 2004 and Spring 2003.

## Findings

The majority of respondents, 62 percent (n=328) and 55 percent (n=302), learned about Panhellenic Recruitment from students who were already members of a Greek chapter, supporting the assertion that personal connections are most likely to influence one's participation in events and activities. As a result of these data, the Panhellenic Council has initiated a plan to use individual chapter members in their marketing and registration efforts. Additionally, the Panhellenic Council has encouraged its members to identify themselves as being a sorority member when meeting new people, because it helps unaffiliated women make a personal connection to sorority life. Interestingly, 45 percent (n=235) of the respondents in 2004 indicated they decided to participate in the Panhellenic Recruitment process before arriving on campus (see Chart E1).

Chart E1 At what point did you primarily decide to participate in the Panhellenic Recruitment process? ▼



As a result of these data, the Panhellenic Council has adopted a "high visibility" during *Syracuse Welcome* events. However, further information regarding sorority and fraternity life would also be helpful to include in the first-year student mailings and orientation programming. An average of 85 percent of respondents in Spring 2004 and 84 percent in Spring 2003 either agreed or strongly agreed with the pre-recruitment statements. An average of 86 percent of respondents in Spring 2004 and 89 percent in Spring 2003 either agreed or strongly agreed with the post-recruitment statements. This indicates that respondents are satisfied with the information shared and registration process for Panhellenic Recruitment (See Chart E2).

Chart E2 Overall, are you satisfied with the recruitment process?

Furthermore, it demonstrates that the respondents are satisfied with the recruitment process. It is important to note that 82 percent of respondents (n=437) in Spring 2004 and 79 percent (n=431) in Spring 2003 anticipated joining a sorority. On average, 81 percent of students participating in Panhellenic Recruitment received a bid; therefore, it appears that there is congruence between expectations and actual outcomes.

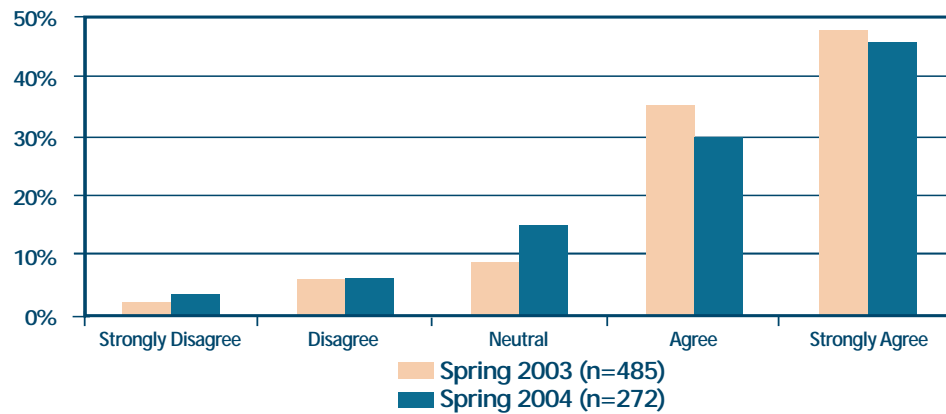
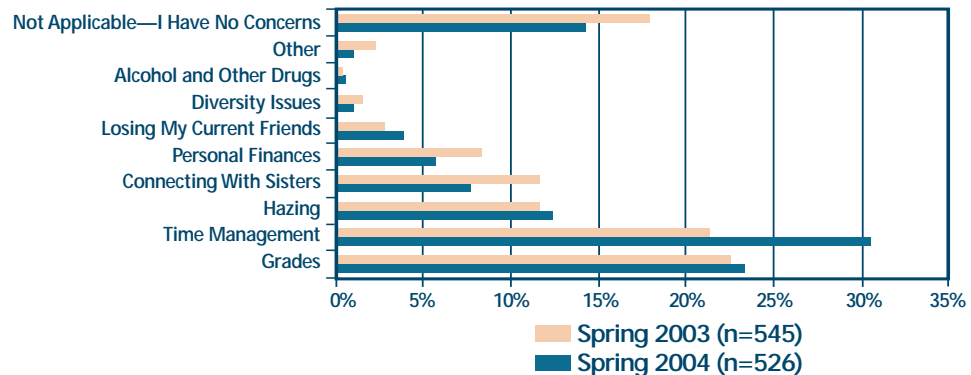


Chart E3 indicates that respondents are primarily concerned about joining a sorority because of grades, time management, and hazing. These results are relatively stable from Spring 2003 to Spring 2004.

Chart E3 Are you primarily concerned about joining a Panhellenic Greek chapter because of...

As a result of this information, the Panhellenic Council has designed an executive board position to create educational programming around these issues and has established a Panhellenic Council "New Member Question Hotline." In addition, GLEL is augmenting overall membership programs with additional information. ▲



## Exploratory Data Analysis

By Joe Viscomi, assistant director of assessment, [jviscomi@syr.edu](mailto:jviscomi@syr.edu)

### Introduction

This article is the first in a series that will discuss and explore the ideas and concepts of Exploratory Data Analysis (EDA); these articles will appear in this publication and as tutorials on the assessment web site. The purpose of this series is to stimulate thought about data analysis, to go beyond descriptive statistics (e.g., the mean and standard deviation), and ultimately, to understand and lessen dependency on inference testing. These articles intend to transform perceptions about data and the collection, analysis, and interpretation of data.

The Division of Student Affairs maintains a strong commitment to assessment with a philosophy that assessment is not just a task to be entered in the "complete" column. Assessment practice is meaningful, effective, and generates positive changes for students, faculty, and staff at the University. To be as successful as possible, staff must widen the scope of how they view and analyze data. Divisional units will be challenged to

move beyond analysis that relies solely on percents and frequencies, bar graphs, and means and standard deviations.

### What is EDA?

EDA is, in a very real sense, a philosophy of data analysis; it is a perspective, an approach to data analysis. This should not diminish the technical or mathematical rigor of EDA, but bring about a more complete picture of what EDA is. In EDA, it is the structure of the data that is to be uncovered and understood. It is necessary to examine the data beneath the surface and into the layers below that contain hidden information.

Consider a hypothetical building that has two floors and nine rooms. After a brief tour, one confirms the building has two floors and nine rooms. But until blue prints and wiring and plumbing diagrams are viewed, and until it is clear which walls are weight-bearing walls and

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## Exploratory Data Analysis

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which are not, renovation cannot begin. The structure must be known before it can be changed or improved. In the same way, EDA promotes examination of the data structure helping to reveal hidden relationships and associations.

### Why is it important?

Everything in the world and in everyday activities is a process, and every process has structure. Every process can be measured. While some are more difficult than others, they can be measured, and the underlying structure can be revealed. Much of the methodology of the more widely applied classical statistics relies profoundly on rigorous assumptions and rigid conditions. Very often, real-world data do not behave in a manner consistent with these assumptions or conditions. As the data deviate from these ideals, the related findings become less clear and more unreliable. As a result, analysis can falter somewhere between contradicting findings and complete error.

### How is it different from other methodologies?

As noted above, many of the more standard traditional statistical methodologies depend on very rigorous assumptions of the data. These methodologies perform inadequately and are unreliable when real-world data depart from these assumptions. EDA differs from the more standard traditional statistical methodologies in two distinct ways.

EDA relies on visual representation of the data (graphs, charts, schematics) and the use of resistant statistics and robust methodologies. Visual data displays may not only illuminate complex processes, but may also arrest the attention of the audience for the more tedious findings contained in some data analysis. Resistant statistics are more sensitive to the greater portion of the data sample and less sensitive to any large or extreme deviations that may be present.

Consider an example using salary data: Company ABC recruits new employees by citing an average salary of \$49,700. But, is there any actual information? All that exist are data. The distribution is unknown, so the mean alone doesn't really help. Having another commonly given statistic, a standard deviation of salary of \$35,907.44, doesn't help any further. It would be grossly misleading to assume a normal distribution, something that is done almost automatically when the mean and the standard deviation are included in the findings. An estimate assuming a normal distribution results in a salary range anywhere from -\$58,022 to \$157,422.32, which is erroneous.

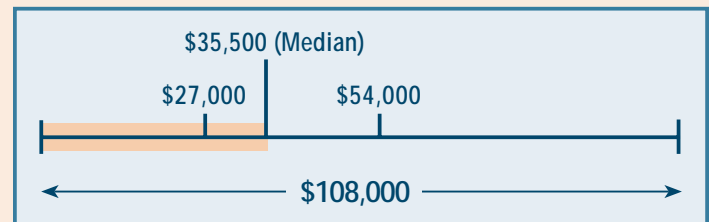
Suppose that, instead of the mean and standard deviation, different statistics were available, specifically, the median, a resistant statistic,

and the range. The median salary for this data set is \$35,500 and the range is \$108,000.

The range from the lowest salary to the highest salary is \$108,000. Imagine a line (see Figure F1) with interval \$108,000. By cutting that line in half, that point is \$54,000. By cutting that again in half, an estimate of \$27,000 is apparent, and approximately one-third

of the distance between \$27,000 and \$54,000 allows an estimate of the position of the median. Once the median is located, the location of half of all the salaries is identified; the shaded area, then, is where half of all salaries lie. The area on the line to the right of the median is where the other half of the salaries is located.

Chart F1 ▼



This very simple visual demonstrates that the data are skewed and most of the salaries are not well represented by the mean. In this particular case, the mean and the standard deviation are greatly affected by two extreme values, commonly referred to as outliers, and provide little information beyond point estimation.

By using the median and the range (resistant statistics), some simple arithmetic, a pencil, and the back of an envelope, one could have concrete and visual information regarding the data. Most importantly, through visual data display and resistant statistics, EDA allows for communication of these findings clearly to the statistical layman.

### Why should it be used?

When considering the appropriate methodologies to employ in data analysis, the first task is to identify the data. Are the data continuous, or are they discrete? Discrete data take only a finite number of real values on the number line; (e.g., the number of students granted diplomas in May 2004 or the number of vehicles using the University Avenue Garage on a given day). Continuous data can assume an infinite number of real values; (e.g., age, distance, and temperature). For those practicing assessment in the Division of Student Affairs, the term "data" usually means social science data. Data tend to be discrete, categorical data; (e.g., gender, ethnicity, school/college, strongly agree/strongly disagree, etc). In fact, the only continuous data collected are grades and, in some cases, financial data. All too often it is difficult to gather the scientifically valid sample necessary to satisfy many of the assumptions required by the more traditional methodologies of statistics. This and the many arguments outlined above make EDA a powerful analytical tool to be employed in the Division of Student Affairs.

In the next edition of *Student Life Studies*, data types, the phases of EDA, differences between resistant and robust as they apply to statistics, and elementary graph techniques will be discussed. ▲

*Everything in the world and in everyday activities is a process, and every process has structure. Every process can be measured.*

# Center for Career Services Placement Data

By Michael T. Cahill, director, Center for Career Services, [mtcahill@syr.edu](mailto:mtcahill@syr.edu)

In general, assessment appears to many as a daunting task; but often the most effective assessment is basic and simple. Such is the case with the Center for Career Services' placement data. Each year the Center for Career Services surveys the graduating class to discover what they are doing six months after graduation. Information is collected on employment status, job titles, employer names and locations, starting salaries, and graduate school attendance. The data collected are incredibly valuable. They allow the University to respond quickly and accurately to questions received from faculty, administrators, current and prospective students, parents, employers, and the media. While it is incredibly valuable to cite starting salaries for civil engineers, or the types of jobs obtained by philosophy majors, there is even more to be gained by following the trends through the years. These trends help provide support for current services and guidance for new initiatives and programs.

Chart G1 How SU Graduates Obtain Positions (2003)

One of the areas of data used to support a focus of services is the response received to the question of how students receive their positions. The most commonly cited method has remained the same for the past several years. Most students—45 percent,

44 percent, and 43 percent, respectively, for the past three years—report obtaining their positions through networking and outreach to employers (Chart G1). These data encourage emphasis and expansion of services that help students become more effective in networking and pursuing non-advertised job leads. Also, noting the geographic first destination of SU graduates informs an approach to alumni and employers. With more than 70 percent of respondents indicating they find employment in New York State or an adjoining state each year, much employer development effort is focused in these areas. This information is also used to encourage these employers to recruit at SU.

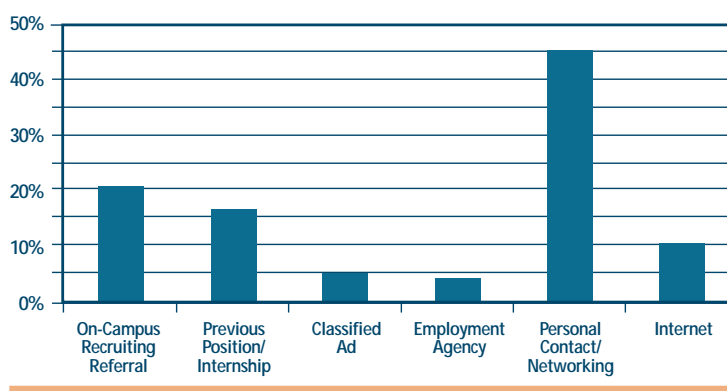
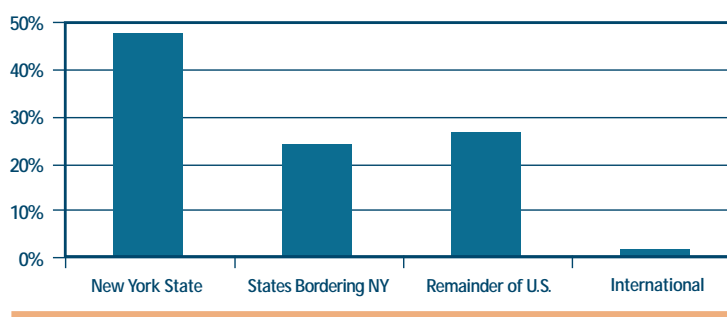


Chart G2 Where SU Grads Obtain Employment (2003)

Other trends from this report that have led to initiatives include the following:

- Understanding the value of networking to graduates and realizing that alumni represent one of the most natural networks for students, the *Mentor@SU* program was created. It is a program that pairs SU students with alumni and other faculty, staff, and employer representatives to help them explore career paths and opportunities. **For more information on the *Mentor@SU* program, contact 315-443-3616 or [sumentor@syr.edu](mailto:sumentor@syr.edu).**
- Noting that about one-third of SU graduates begin their careers in New York City every year, the Center for Career Services partners with Lubin House to develop a "Welcome to NYC" event for recent graduates, with increased programming for alumni in the city.



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## Center for Career Services Placement Data

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- In the past year, the percentage of graduates reporting that they received their positions through internships has doubled from eight to 16 percent, prompting the Career Services Network to examine the delivery of internships at SU.
- From 1998 to 2003, the percentage of students who attend graduate programs increased from nine to 18 percent; and for the past two years, 38 percent of graduates continuing their education were doing so at SU, leading the Center for Career Services to work with the Graduate School to develop and deliver a Graduate School Preparation Series.

These examples show how basic information, gathered annually, can be valuable in educating others about the work being done related to career services at SU, as well as in helping determine where to focus energies and resources.

The Placement Report for the previous three years can be accessed online at [students.syr.edu/careerservices/index.html](http://students.syr.edu/careerservices/index.html). ▲

