Introduction

Student success is a significant factor in employment outcomes, earnings, and increased social status (Collier & Morgan 2007). Higher educational attainment is associated with higher median earnings for young adults ages 25-34 who work full-time. Further, the wage gap between those with a bachelor’s degree or higher and individuals with a high school education has increased in the last thirty years (U.S. Department of Education, 2011). In short, attaining a college degree is extremely beneficial and increases the chances that an individual will earn better wages. Still, research suggests that some students are better prepared to achieve that goal than are others.

Researchers have suggested that, although they have not received much attention in the research literature, second-year students may face unique academic difficulties (Schreiner & Pattengale, 2000; Wilder, 1993). Because much of the research regarding student success has focused on first-year students, further research is needed for other class levels, specifically sophomores. This report focuses on retention and belonging of SINQ students and the factors that may affect both.
RETENTION

Research Questions:
How do social and economic factors affect retention of PSU sophomore inquiry students?

Previous Research

Pattengale and Schriener (2000) said that the sophomore year may be a time in which students disengage from academic life, thus creating an adverse effect on their success. Tinto (1987) also suggested that the important issues for first-year students may not be important issues for students at other stages in a college career. It is important to analyze the factors that may affect sophomore retention separately from those factors that are already known about freshmen retention and student success, as the literature strongly suggests that these students’ issues are different from other grade levels and little research exists on this population. Because there is so little literature on sophomore retention, studies that explored many different dimensions of student success (such as persistence and GPA) were considered.

Factors of Interest

Demographic factors

Race

- Perception of barriers and motivations for attending differ culturally (Hunter, Gardner, & Tobolowsky, 2005).
- Institutional contacts are of particular importance to underrepresented groups (Fischer, 2007).

Gender
• Men report being under pressure to be successful, which impacts major selection and career planning (Bellani, 2007).

• Women begin in non-traditional majors and often transition to more accepted majors in the sophomore year (Leppel, 2001).

Age

• Non traditional aged students need more flexibility because of balancing college, family and job responsibilities (Hagedorn, 2005; Kazis et al. 2007).

First-Generation Status

• First-generation students may have less awareness of “how to do the college role” than traditional students due to lack of background information about higher education (Collier & Morgan, 2007).

Connectedness factors

Transfer

• Transferring vertically and horizontally and reverse transfer lead to negative student outcomes (Pascarelli & Terenzini, 2005).

• Community college transfers generally showed a higher degree of transfer shock than did transfers from all other institutions, especially at the sophomore level (Keeley & House, 1993).

First-Term (Transfer)

• Sophomore transfer students' GPA's declined in their first term more steeply than other grade level transfers (Keeley & House, 1993).
• ‘Sophomore slump’ meets ‘Transfer shock’?

Working

• Working part-time is related to positive student outcomes (Pascarelli & Terenzini, 2005).

Housing

• Students who are more autonomous in college are more decided in their career direction (Guay et al, 2008).

  *Academic factors (proxy indicators of commitment/certainty)*

Highest Degree Expected

• Higher Certainty is related to higher GPA (Graunke & Woosley, 2005).

Major Decided

• Lower persistence rates are more likely for undecided students (Hillman, Lum & Hossler, 2008).

• Transfer (both vertical and horizontal) is more likely for undecided students (Hillman, Lum & Hossler, 2008).

• The relationship between major selection and student success is more about perceived economic opportunity in the field and climate of department than about the discipline (highest graduation rates in science, engineering, business, health related professions). (Pascarella & Terenzini, 2005).

• Students whose major matches their interest profile are more likely to have higher GPA (Tracey and Robbins, 2006).
Dataset

2010 + 2011 Prior Learning Survey

- Surveys Administered Week 4 of Fall Term
- Response Rate: 52% of all SINQ enrolled students
- N=1,909 (Not included: seniors, non-admitted, post-bac students)

**2010 & 2011 SINQ Student Profile (%)**

<table>
<thead>
<tr>
<th>Race</th>
<th>2010 &amp; 2011</th>
<th>Age</th>
<th>Class</th>
<th>Status</th>
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</thead>
<tbody>
<tr>
<td>American Indian</td>
<td>1.1</td>
<td>24.9</td>
<td>Freshmen</td>
<td>Transfer</td>
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<td>Asian/Pacific Islander</td>
<td>10.6</td>
<td>14.1</td>
<td>Sophomore</td>
<td>Non-transfer</td>
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<tr>
<td>Black</td>
<td>3.5</td>
<td>28.1</td>
<td>Junior</td>
<td></td>
</tr>
<tr>
<td>Hispanic/White</td>
<td>65.8</td>
<td>57.5</td>
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<td>Transfer</td>
</tr>
<tr>
<td>International</td>
<td>9.1</td>
<td>14.4</td>
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<tr>
<td>Multiple/Unknown</td>
<td>2.6</td>
<td>30.8</td>
<td>Junior</td>
<td></td>
</tr>
</tbody>
</table>

Source: PLS Survey (2010+2011)
N=1,909
Retention Findings

SINQ PLS Overall Student Retention

The following is an exploration of some of the statistically significant findings regarding retention. Financial factors were not included; however, it seems that traditional student retention is not affected by financial stress (those traditional students who indicated major concern actually had higher retention than those students who did not), while transfer student retention is much lower among students who indicated major financial concerns. It may be that transfer students have a more reasonable understanding of their financial situations.

SINQ Retention, by age (%)

Source: PLS Survey (2010+2011)

<table>
<thead>
<tr>
<th>Age</th>
<th>Retention Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Youngest-20</td>
<td>86%</td>
</tr>
<tr>
<td>21-24</td>
<td>81.4%</td>
</tr>
<tr>
<td>25-Oldest</td>
<td>75.4%</td>
</tr>
</tbody>
</table>

Source: PLS Survey (2010+2011)
Students over the age of 25 had the lowest retention, while students under the age of 21 had the highest retention. Literature that discusses the impact of demands outside of school on the academic success of older students may explain why this is happening (Hagedorn, 2005; Kazis, et al, 2007).

Transfer students have a much lower retention rate than do non-transfer students. The literature suggests that this may be especially true for community college transfer students (Keeley & House, 1993).
Students who worked 1-15 hours per week had the highest retention. Retention falls below the overall percentage after 21 hours per week. This supports literature that has found that working part-time leads to positive student outcomes (Pascarella & Terenzini, 2005).

![Retention, by Major Decision (%)](image)

Source: PLS Survey (2010 + 2011)
N=1,770 (p<.001)

Students who indicated that they had not yet decided on a major had lower retention than those students who had decided. This supports literature that has found that positive student outcomes are linked with certainty and commitment to one’s academic path (Graunke & Woosley, 2005; Hillman, Lum & Hossler, 2008; Pascarella & Terenzini, 2005, Tracey & Robbins, 2006). While this question is only a proxy measure of certainty and commitment, it can be assumed that students who are undecided may be less certain of or committed to their academic future.

A regression was run on all of the factors discussed here (see Appendix) to determine significant predictors of SINQ student retention. Transfer status, working full time, and undecided major were all significant negative predictors of retention. There is a 51% decrease in the odds of retention for students who are working over 35 hours per week; there is a 48%
decrease in the odds of retention for students who have not decided on a major; there is a 38% decrease in the odds of retention for students who have transferred from another institution.

BELONGING

Research Questions:

How do social and economic factors influence student feelings of belonging at PSU?

Previous Research

With a changing dynamic of student populations, understanding factors that influence student retention for different types of students is more important than ever. Institutions of higher education need this information so they can best serve the needs for each sub-population. Some research indicates the amount of social support students perceive is also related to academic persistence (Paul & Brier 2001; Dixon Rayle et al. 2006; Nicpon et al. 2006; Laanan 2007). Others have found that financial concerns influence student transfer decisions (Hoyt & Winn 2004, Herzog 2005; Luo et al 2007). Taking into account the variety of possible factors contributing to student retention it becomes even more imperative for institutions to assess the specific needs of their own student bodies.

Factors of Interest

Adjustment Factors

Transfer

- Transfer students report feeling less like members of their receiving university than students who began their first year there (Ose, 1997; Woosley & Johnson, 2006).
• Transfer students feel more comfortable with their new environment during their 2nd term than their 1st term (Flaga, 2006).

Working

• Working on-campus is associated with positive social outcomes (Kodama, 2002).

Housing

• Students who live off-campus are more likely to feel marginalized (Kodama, 2002; Wintre & Morgan 2009).

Academic and Demographic Factors

Student-Faculty Involvement

• Interacting with faculty members is associated with positive student outcomes (Laanan, 2007; Engstrom & Tinto, 2008).

First-Generation Status

• Developing a sense of belonging and place on campus is an important task for first-generation academic success (Bradbury & Mather 2009).
• First-generation students are more likely to feel uncomfortable and alone compared to their continuing peers (Kodama 2002).

Dataset

2012 Prior Learning Survey

• Surveys Administered Week 4 of Fall Term
• Response Rate: 50.3% of all SINQ enrolled students
• N=855 (Not included: non-admitted, post-bac students)
Belonging Findings

SINQ Student Belonging: Strongly Agree & Agree

Source: PLS Survey (2012)
N=854
The following is an exploration of some of the statistically significant findings regarding belonging. Students were asked to respond to the statement “I feel like I belong here” using a Likert-type scale. Students were determined to feel like they belong if they responded with “Strongly Agree” or “Agree.”

<table>
<thead>
<tr>
<th>Belonging, by Transfer Type (%)</th>
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</thead>
<tbody>
<tr>
<td>Continuing Transfer</td>
</tr>
<tr>
<td>First-Term Transfer</td>
</tr>
</tbody>
</table>

Source: PLS (2012)
N=320 (p<.061)

First-term transfer students reporting feeling like they belonged more often than continuing transfer students. While there is a significant difference between first-term transfer students and continuing transfer students, this does not support the literature on transfer student adjustment that says transfer students begin to feel more comfortable in their new environment after the first term (Ose 1997; Flaga 2006). Since the survey is administered so early in the term, first-term transfer students may have responded based on their future expectations as opposed to what they are currently experiencing while the continuing transfer students responded based on their actual experiences.
Students 26 and older reported feeling more like they belonged than students aged 21-25 but felt less like they belonged than students younger than 21. This does not support previous findings that nontraditional students, who are typically older, feel less like they belong than traditional students (Ishitani & McKitrick, 2010).

Students who worked both on and off campus were most likely to indicate that they felt like they belonged. Students working on-campus were the least likely to report that they felt like
they belonged. This goes against previous literature that found a positive association between working on-campus and student social outcomes (Kodama, 2002).

A regression was run on all of the factors discussed here (see Appendix) to determine significant predictors of SINQ student belonging. Student-faculty involvement and living on-campus were all significant positive predictors of student belonging. There is a 22% increase in the odds of retention for students who are more involved with faculty; there is a 74% increase in the odds of retention for students who live on-campus.

SUMMARY OF FINDINGS

Based on this analysis, the most important factors of student retention are: working full-time, transfer status, and having declared a major. These sub-populations of SINQ students may need more attention or resources (see recommendations). For belonging, the most important factors are student-faculty involvement and living on-campus. It may be important to focus on faculty interactions with students as well as to attempt to further understand how SINQ students interpret belonging (see recommendations and discussion). Students living off-campus may also need more attention or resources.

RECOMMENDATIONS

Focus on transfer students

It may be the case that transfer students don’t understand University Studies and they often don’t take courses (SINQ, then Junior Cluster, then Capstone) in the order in which they were intended. It may be beneficial for students to receive more information about the UNST path and the reasons behind it. One possibility for providing this information could be some sort of online tutorial. There is an existing Virtual Transfer Center provided by Enrollment
Focus on working students

Working students may need help understanding the possibilities for part-time work on campus (such as work study or temp-pool). It also may be the case that students feel they must continue to work full-time in order to maintain their health insurance benefits. It may help students if there were some comparison provided between a standard employer insurance package and the type of insurance PSU offers; they may be willing to cut back their hours worked if they knew what type of health insurance is available to them.

Focus on student-faculty interaction

In larger classes, students may be intimidated to approach professors to talk about classwork as well as students’ own personal interests. Since SINQ classes are smaller than other courses, this may be an opportunity to help students feel more at ease when approaching faculty and student services personnel. Other suggestions may include providing opportunities for undergraduate students to participate in research with faculty.

Adjust the survey instrument

Other studies have used multiple questions about the campus environment in order to create a belonging index that may more accurately reflect student feelings of belonging. In order to do this, we suggest adding the following questions from Hausmann et al (2009) and Kodama (2002):

- “I feel that I am a member of the PSU Community”
- “I See myself as a part of the PSU Community”
- “I feel a sense of pride in being a PSU Student”
DISCUSSION

These findings were presented in the University Studies department on March 14, 2013 to administrators, faculty, and peer mentors who are involved with SINQ students. Following the presentation there was a discussion at length about the findings and additional feedback regarding SINQ students.

The following is a summary of the topics that came up for discussion:

- Differences between sophomore transfer students and junior transfer students—the issues they face may be different and we should keep this in mind when talking about transfer students in general.

- Financial background of students—while this was not part of the presentation (and financial concerns were not included in the regression), this came up as a topic of interest. Again, it seems that finances and financial stress seem to be more of an issue for transfer students than for traditional students (for example, traditional students who indicated they had ‘major’ financial stress actually had a retention rate of 87%, while transfer students who answered the same way had a retention rate of 75%).

- Differences between SINQ students enrolled in online and in-person courses—again, there may be differences in the issues they deal with in SINQ courses. There is currently an exploratory study of differences between online and in-person SINQ students. Results may be available next term.

- Focusing on belonging of international students—there was an observation made that international students may rely more heavily on social connections with their friends than other students (about 87% of international students were retained in 2010+2011)
- Effect of sports participation on belonging—students who play sports may feel more like they belong than other students. There were no questions on the 2012 survey about involvement in sports—this was not examined.

- Do students interpret belonging as certainty in their educational goals as opposed to feeling comfortable in the campus environment? It is important that the instrument is measuring what we intend it to measure. Adding the recommended questions about belonging may alleviate this problem.

- Opportunities for undergraduate research—the majority of the discussion was spent talking about possibilities for undergraduate research and how this may affect both student-faculty interaction and belonging. It was noted that the limited class sizes of SINQ courses may be a good opportunity for this type of research. Attempts have been made to do this in the past but the feedback was that ‘we were thinking too big’ and weren’t able to make it work. It may be beneficial in the future to research which elements of this research are the most influential (practical experience, faculty mentorship, etc?). It may be possible to bring this to a manageable level and incorporate some aspects of research into SINQ courses. It was suggested that some type of inter-disciplinary research should be threaded throughout UNST—from FRINQ through each level, not just during the Capstone course. Currently, the Mentor Writing Committee does research writing workshops and there was some discussion about expanding these to include more elements of research.

- There was a suggestion that, in addition to an online tutorial that helps transfer students understand UNST, it should be made clear to students that visitors come from all over the world to explore this program—this frames UNST as a prestigious program that is well
respected. There was an observation made that when Capstone students found out about these visitors they had a very different view of the program and the importance of what UNST offers.

- Finally, the point was made that advocating for support of changes to the program is easier when you have data behind you—please use these findings however you see fit—and let us know about it! There is a link on the University Studies Assessment Reports page where you can view this and other reports and relay your experiences and actions you’ve taken based on the information there (see: http://www.pdx.edu/unst/university-studies-assessment-reports).

References


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Dixon Rayle, Andrea, Sharon E. Robinson Kurpius, and Patricia Arredondo. 2007. “Relationship of Self-Beliefs, Social Support, and University Comfort with the Academic Success of


National Resource Center for the First-Year Experience and Students in Transition. University of South Carolina.


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## Appendix

### Table 1. Logistic Regression Models Predicting Retention

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Demographic Variables</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>American Indian (Reference: White)</td>
<td>.629</td>
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<td>.753</td>
<td></td>
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<td>Asian/Pacific Islander</td>
<td>.503</td>
<td>.441</td>
<td>(1.653)</td>
<td>(1.555)</td>
</tr>
<tr>
<td>Black, Non Hispanic</td>
<td>.596</td>
<td>.826</td>
<td>(1.815)</td>
<td>(2.285)</td>
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<td>Hispanic/Latino</td>
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<td>-.099</td>
<td>(.838)</td>
<td>(.906)</td>
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<td>International Student</td>
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<td>.186</td>
<td>(1.512)</td>
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<td>-.426</td>
<td>(.693)</td>
<td>(.653)</td>
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<td>Female (Reference: Male)</td>
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<td>.147</td>
<td>(1.144)</td>
<td>(1.159)</td>
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<td>Age 21-24 (Reference: Under 21)</td>
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<td>-.116</td>
<td>(.758)</td>
<td>(.891)</td>
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<td>Age over 24</td>
<td>-.637**</td>
<td>-.351</td>
<td>(.529)</td>
<td>(.704)</td>
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<td>First-Generation Student</td>
<td>.215</td>
<td>.177</td>
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<td>(1.194)</td>
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<td><strong>Connectedness Factors</strong></td>
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<td></td>
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<td>Transfer Student (Reference: non-transfer)</td>
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<td>-.496**</td>
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<td>First-term Student (Reference: continuing)</td>
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<td>(1.031)</td>
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<td>Working Full-time (Reference: working none)</td>
<td>-.717**</td>
<td>-.729**</td>
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<td>(.482)</td>
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<td>Working 1-34 hours/week</td>
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<td>-.156</td>
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<td>Live with Parents/Relatives</td>
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<td>(1.160)</td>
<td>(1.131)</td>
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<td>Live in Private Housing</td>
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<td>(982)</td>
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<td><strong>Academic Factors</strong></td>
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<td>Education Plan-transfer (Reference: PSU Degree)</td>
<td>-.733*</td>
<td>-1.036</td>
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<tr>
<td>Education Plan-other/undecided</td>
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<td>-.526</td>
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<td>Highest Degree Expected-Advanced</td>
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<td>(.537)</td>
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<td><strong>Constant</strong></td>
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<td>2.023**</td>
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<td>-2 Log Likelihood</td>
<td>1602.5</td>
<td>1578.1</td>
<td>1557.8</td>
<td>1481.4</td>
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</table>

*Note:* Unstandardized logistic coefficients with odds ratios in parentheses.

*p < .05  ** p < .01
<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
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<tr>
<td><strong>Adjustment</strong></td>
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<td>Student-Faculty Involvement</td>
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<td>1.229**</td>
<td>1.220**</td>
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<td>1.736*</td>
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<tr>
<td>Hispanic/Latino</td>
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<td>1.099</td>
<td>1.109</td>
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<tr>
<td>Other</td>
<td>.894</td>
<td>.906</td>
<td>.910</td>
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<tr>
<td>Male</td>
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<td>1.088</td>
<td>1.064</td>
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<tr>
<td>Age</td>
<td></td>
<td>1.267</td>
<td>1.210</td>
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<td><strong>Family Background</strong></td>
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<td>First Generation</td>
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<td><strong>Home Language</strong></td>
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<td>871.802</td>
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1. Reference: white  *p<.05, **p<.01, ***p<.001  
2. Reference: Off-Campus  
3. Reference: Non-transfer  
4. Reference: Younger Age 23  
5. Reference: Non-First Generation  
6. Reference: English