Impact of the Environment: How Does Attending a Hispanic Serving Institution Influence the Engagement of Baccalaureate-seeking Latina/o Students?

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Abstract

Hispanic-Serving Institutions (HSIs) enroll the majority of Latina/o students in higher education; however, it is unclear how HSIs influence Latina/os’ postsecondary experiences. In this study, we examined how the Latina/o student experience differed between students who did and did not attend four-year HSIs. The results suggest that HSIs generally have positive, but modest, effects on Latina/o’s student engagement and self-perceived gains. The differences were more pronounced for first-year students than seniors.

Keywords: Latina/o students; Hispanic-Serving Institutions; student engagement;
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Over the next decade, the number of Latina/o high school graduates will likely increase by over 40 percent, with many going on to college (Western Interstate Commission for Higher Education, 2012). Hispanic-Serving Institutions (HSI) enroll about 60 percent of Latina/o undergraduates (Excelencia in Education, 2014), making HSIs critical to improving the educational attainment of Latina/os. Nearly every HSI began as majority-serving and evolved into an HSI as the demographics of their student body changed over time (Raines, 1998). Despite the growth in HSIs, it is unclear how HSIs influence the educational experiences of Latina/o students.

This paper updates and expands upon previous research assessing the Latina/o undergraduate experience at four-year HSIs. Nelson Laird and colleagues (2007) asked whether campus demographic profile influenced student engagement, but did not find substantial differences by HSI status. Recognizing the rising enrollment of Latina/o students, many HSI institutions have increased programming and services designed for Latina/o undergraduates. Thus, this study revisits the issue and investigates if the impact of attending an HSI has changed over the past decade.

Hispanic-Serving Institutions

Overview

The HSI campus designation is a product of the advocacy of the Hispanic Association of Colleges and Universities (HACU) (Laden, 2001). The designation recognizes postsecondary institutions where Hispanics comprise at least 25% of the student body. At the urging of HACU (Hispanic Association of Colleges and Universities, 2014), the HSI moniker was later adopted by
the federal government in 1992 and codified via amendments to the Higher Education Act of 1965 (2013). Thus, HSIs are distinct from Historically Black Colleges and Universities (HBCU) and Tribal colleges in that HSI designation is derived from their enrollment profile, not their founding mission. The Higher Education Act (2013) allows non-profit HSIs with substantial enrollments of needy students to apply for grants under Title V to strengthen their educational offerings.

Nearly all HSIs have gained the designation over the last 30 years, due to the changing demography of American college students (Laden, 2004). HSIs are located in areas with high concentrations of Latina/os and are typically found in states adjacent to the Mexican border, plus Florida and Puerto Rico (Li, 2007). Compared to four-year non-Minority Serving Institutions (MSIs), HSIs are more likely to have open admissions policies and less likely to offer doctorates than non-MSIs. Among baccalaureate-granting institutions, HSIs also have lower graduation rates than non-MSIs (Li, 2007). Due to these traits, HSIs generally have lower than average levels of institutional prestige in America’s stratified higher education system.

Of the Latina/o undergraduates enrolled in public four-year institutions, a third attended HSIs, one-half enrolled in non-minority-serving institutions, while the remainder attended other MSIs (Li, 2007). Latina/o undergraduates attending HSIs are more likely to be female, low income, and older than their peers at non-minority-serving institutions (Li, 2007). Additionally, Latina/o students who attended larger high schools, had higher percentages of Hispanic K-12 teachers, and valued attending college close to home were more likely to attend an HSI (Núñez & Bowers, 2011).
The HSI Environment

Faculty attitudes and perceptions do not substantially differ between institutions with low and high Latina/o enrollment (Hubbard & Stage, 2009). However, Latina/o faculty and administrators are more common at HSIs (Laden, 2001), which can help to create an environment that can potentially aid and empower Latina/os (Arana, Casteñeda-Sound, Blanchard & Aguilar, 2011; Dayton, Gonzalez-Vasquez, Martinez & Plum, 2004; Maestas, Vaquera, & Muñoz Zehr, 2007; Torres, 2006). Arana and colleagues (2011) showed that supportive family and peers and cultural connections to the institution helped Latina/os persist.

Garcia (2012) found that institutional selectivity and resources correlated to college completion for Latina/os. This suggests that institutional context is an important factor in Latina/os’ college success. This notion is supported by other research relating academic and social integration to students’ sense of belonging at HSIs (Maestas, Vaquera, & Muñoz Zehr, 2007) and Latina/o’s cultural integration to GPA at PWIs (Cerezo and Chang, 2013).

Impact of Enrollment at an HSI

Campus environment has a profound impact on a student’s experience, interactions, engagement, and satisfaction with the institution (Kuh, 2000; Musoba, Collazo, & Placide, 2013; Smart, Feldman, & Ethington, 2000). Students of color who feel supported in college are also more satisfied with their campus experience and more likely to be engaged in extra-curricular activities (Hurtado, Cuellar, & Guillermo-Wann, 2011). Yet, research on focusing on how differences between HSIs and non-HSIs influences student outcomes is mixed.

Nelson Laird, et al. (2007) found positive and significant differences between Hispanic seniors who enrolled at HSIs and Predominantly White Institutions (PWIs) on Active and Collaborative Learning, Supportive Campus Environment, and Gains in Overall Development.
However, the magnitude of the differences was small, leading them to conclude that “the average Hispanic senior at an HSI looks quite similar to the average Hispanic senior at a PWI in terms of engagement, satisfaction with college, and gains in overall development” (Nelson Laird, et al., 2007, p.39). Cuellar (2014) found that academic self-concept was lower for Latina/o first-year students at HSIs and emerging HSIs compared to non-HSIs. However, students attending institutions with substantial Latina/o populations had substantial gains in academic self-concept by their senior years, thus closing the gap between their peers attending non-HSI institutions.

There is mixed evidence on the relationship between attending an HSI and college completion at four-year institutions. One study using administrative data from Texas found a negative correlation between attending an HSI and college completion (Flores & Park, 2013). However, the same authors subsequently analyzed the same data using a quasi-experimental method and found that HSI attendance was not related to college completion for Hispanic students (Flores & Park, 2015). A third study examining college completion found no association between the representation of Latina/o students and personnel and Latina/o degree completion (Garcia, 2012).

**Theory**

Student engagement theory guided this study. The theory combines Astin’s (1984) student involvement theory, Pace’s (1984) quality of student effort concept, and Kuh and colleagues’ research on the benefits of out-of-class activities (Kuh, Schuh, Whitt, & Associates, 1991). Despite their different approaches and terminology, these authors all essentially argue that students’ learning and development is a product of the time and effort spent purposefully engaged in educationally beneficial activities. Thus, the theory distinguishes between
involvement through group membership and engagement through being an active participant of a group.

A distinguishing trait of student engagement theory, compared to the quality of effort concept and student involvement theory, is the emphasis on the role of institutions. While the theory acknowledges that engagement ultimately requires students to act, it highlights the role of institutions in creating an environment that provides opportunities for engagement and a climate that permits and expects students to become involved in educationally-beneficial activities both in- and out-side of the classroom. This requires having a multifaceted diverse student body, faculty, and staff that maximizes the probability that all students find a sub-community they can “identify with and receive support from people like themselves” (Kuh et al., 1991, p. 369). However, it also requires colleges to create an institutional culture that binds these diverse groups together. Therefore, student engagement theory holds both students and institutions responsible for students’ level of engagement on a campus.

Student engagement theory calls upon HSIs to create an educational environment that supports Latina/o students, despite their roots as PWIs. HSIs should recognize and integrate their Hispanic identity into their mission to educate students, as Latina/os form a substantial portion of the student body. Since HSIs tend to enroll more low-income and older students (Li, 2007), they should have programming that facilitates the college transition for these non-traditional populations. Additionally, HSIs need to ensure that Latina/os comprise a critical mass of the faculty and staff in order to serve as mentors and role models students. Furthermore, faculty and administrators should take affirmative steps to create culturally responsive and relevant curriculum for Latina/os that provides visibility for Latina/o scholars, viewpoints and history (Garcia, 2014).
Research Questions

With the growth of the Latina/o college student population and rise of HSIs as a class of institutions, it is important to understand better how HSIs influence of Latina/o undergraduates. Thus, guided by student engagement theory, we explored the following research questions:

1. How does the level of student engagement and perceived gains differ between Latina/os who did and did not attend HSIs?
2. Are HSIs especially effective in promoting student engagement for Latina/os?

Methods

Data

To answer these questions, we utilized data from the 2013 and 2014 administrations of the National Survey of Student Engagement (NSSE). NSSE is a large, multi-institutional survey designed to assess how baccalaureate-seeking students engage in a variety of educationally beneficial activities. The survey is administered annually to first-year and senior students from February to May. We limited our data analyses to randomly sampled first-year and senior students identified as Hispanic or Latina/o by their institutions, and who took at least one course on campus. 19,495 first year and 24,600 senior students at 782 institutions met our criteria and responded to NSSE, respectively. Our data contain respondents from 37 of the 95 (39%) baccalaureate-granting HSIs identified by the Carnegie classifications program (Carnegie Foundation for the Advancement of Teaching, 2014).

Table 1 contains the sample characteristics by HSI status for first-year and senior students. About two-thirds of the sample was female, with little variation by HSI-status or class standing. The vast majority of first-year students enrolled full-time, although students attending HSIs were slightly more likely to enroll part-time. Among the seniors, 24 and 17 percent of HSI
and non-HSI students enrolled part-time. For both first-year and senior students, students enrolled at HSIs on average had lower parental education levels than their peers at non-HSIs. Most of the HSIs had an aggregated Carnegie classification of master’s-granting, while the classifications at non-HSIs were more evenly distributed. Similarly, the HSI institutions were primarily publicly controlled (87%), while 59 and 67 percent of the first-year and senior students at non-HSIs attended public institutions. The Hispanic enrollment proportion was 60 and 13 percent at HSIs and non-HSIs, respectively.

Due to the exploratory nature of the study, we examined the NSSE Engagement Indicators (EI) and students’ Perceived Gains (PG). The EIs are the successors to the NSSE Benchmarks and are valid measures of group level behaviors and perceptions (National Survey of Student Engagement, 2014). PG is a composite measure of 12 items asking students how their institution improved their knowledge, skills and personal development. The survey items comprising these measures and their reliabilities are located in Appendix A. The other core variable of interest was the HSI status of the respondents’ institution. This variable was merged into the dataset from the Carnegie Classifications Data File (Carnegie Foundation for the Advancement of Teaching, 2014). In addition to these measures, we used data collected via the NSSE instrument or from institutions on students’ age, gender, parental education, major, residence, standardized test score, and time spent working. We also utilized data on the following institutional characteristics: Basic 2010 Carnegie Classification (aggregated), control, locale, enrollment size, and 25th percentile SAT/ACT score.

We used multiple imputation via chained equations (MICE) to impute missing data, as multiple imputation is a preferable method to work with missing data (Allison, 2001) and studies show that MICE outperforms alternative imputation techniques (van Buuren, 2007; Yu, Burton,
& Rivero-Arias, 2007). A total of 20 imputations were created for each missing data value. Continuous variables were imputed using predictive mean matching, while binary, ordinal, and categorical variables used logistic, ordinal logistic, and multinomial logistic regression, respectively.

**Analyses**

We performed the following analyses for each of the 11 outcomes and for first-year (FY) and senior students, separately. Our initial analyses compared the outcome means by HSI status using two-sample t-tests. Next, we used the Blinder (1973) - Oaxaca (1973) counterfactual decomposition technique to investigate differences in the EIs by HSI status. The technique decomposes the mean difference between groups to an explained portion, attributable to differences in characteristics between HSIs and non-HSIs, and an unexplained portion. The latter portion is traditionally used as a measure of discrimination, as the method was developed to study discrimination between groups. However, in this study it represents differences in effectiveness of the two institution types in promoting student engagement.

To decompose the mean differences, we first estimated a pooled regression model with the observed student and institutional characteristics including HSI status. Then, we estimated separate regression models for students who did and did not attend HSIs. Next, we estimated the means for the observable characteristics by HSI status. We then used the above results to decompose the mean differences into an explained and unexplained portion. The explained component shows how much of the mean difference was explained by differences in observable characteristics between students who did and did not attend an HSI. In contrast, the unexplained component shows how much of the difference was attributable to differences in the regression coefficients between models for HSI and non-HSI students. It also quantifies the costs or benefits
of attending an HSI over a non-HSI. We used this approach on the advice of Jann (2008) due to the exploratory nature of our study and because prior research does not suggest that the coefficients of one group is discriminatory in a single direction. We also normalized the categorical variables as the choice of the reference group influences the results of the unexplained component (Yun, 2005). We estimated the decomposition analyses using the OAXACA program for Stata (Jann, 2008). We adjusted the standard errors in all analyses to account for the clustered nature of our data and the uncertainty of the imputation.

Results

We present the study’s results in two sections, one each for first-year (FY) and senior students. The sections begin by looking at descriptive mean differences between HSIs and non-HSI and then presenting the Blinder (1973)-Oaxaca (1973) decomposition results. Table 2 contains the overall study results for both FY (panel 1) and senior (panel 2) students.

First-year Students

The first section under the mean heading contains the mean for students who did and did not attend a HSI for each of the EIs and the results from the two-sample t-tests. For FY students, those attending HSIs on average had significantly fewer Discussions with Diverse Others (DDO) and poorer interactions with members of the campus community than their peers enrolled a non-HSI. However, students at HSIs reported that their instructors were more likely to use Effective Teaching Practices (ETP) and perceive greater gains in their personal and social development. We did not observe significant differences on the remaining outcomes.

Next, we employed the Blinder (1973)-Oaxaca (1973) decomposition technique to investigate if the mean differences are explained by observable characteristics or are function of the different student experience at HSIs and non-HSIs. The explained columns detail how much
of the difference in means was explained by differences in observable characteristics between HSIs and non-HSIs. These differences could be attributable to institutional characteristics like selectivity or Carnegie Classification or student characteristics like gender or the amount of time spent working. In contrast, the unexplained columns show how much of the difference was unexplained and attributable to differences in the regression coefficients between models for HSI and non-HSI students. The unexplained difference estimate has historically been referred to as the discrimination parameter as it estimates the differences in the strength of the relationship between the observable characteristics and the outcome. In this study, the unexplained coefficients show whether HSIs were more or less effective in promoting the EIs and PG than non-HSIs. For DDO, about half the mean difference was a function of the difference in the student and institutional characteristics between HSIs and non-HSIs, while the remaining difference was unexplained. The explained difference for Quality of Interactions (QI) was larger than the observed difference. Thus, the unexplained QI estimate was significant and positive. If the students at HSIs and non-HSIs had the same profiles, we would expect HSIs to have higher QI means than non-HSIs, in contrast to the simple mean difference, which favored non-HSIs. For ETP and PG, about 20 percent of the observed mean differences could be explained due to differences in the observables. The unexplained portion of the difference for both outcomes remained positive and significant.

The decomposition results also provide additional context to the variables not found to be significantly different in the t-tests. For Collaborative Learning (CL), the unexplained coefficient was 2.4, indicating that HSIs promote engagement in CL activities beyond what would be expected given the characteristics of HSIs. A similar, but smaller in magnitude effect was observed for Higher Order Learning (HOL). For Reflective and Integrative Learning (RIL),
Student-Faculty Interaction (SFI), and Supportive Environment (SE), observable characteristics accounted for a significant portion of the unadjusted mean difference between the groups. However, the unexplained coefficients were not significant, indicating that HSI and non-HSI institutions would have statistically equivalent means on these measures if they contained the same student populations.

**Seniors**

The t-test results for seniors indicate that HSIs had higher means on HOL, Learning Strategies (LS), CL, and PG than non-HISIs. The opposite was observed for RIL, DDO, and SFI. The decomposition results indicated that virtually the entire mean differences for RIL, LS, and SFI were due to differences in observable characteristics. For HOL, characteristic differences explained about half of the simple mean difference, reducing the unexplained estimate to a nonsignificant .3. Thus, if HSIs and non-HISIs enrolled students with similar characteristics, we would expect the institution types to produce equivalent means for the outcomes above. Only a fifth of the mean difference for DDO could be explained by differences in observed characteristics. The unexplained difference suggests that non-HISIs have an unexplained advantage in promoting DDO over HSIs. For CL and PG, observable characteristics explained a negative percentage of the observed mean differences. Therefore, if both groups had the same characteristics, we would expect the magnitude of the observed mean difference between HSIs and non-HSI to increase.

**Discussion**

In the two decades since the federal recognition of HSIs as a class of institutions, a small, but growing body of research has focused on how HSIs impact the educational experiences of Latina/os. The findings of the existing literature are mixed. Some studies found that HSI status or
the percentage of Latina/o students has no appreciable relationship with Latina/o student engagement and college completion (Flores & Park, 2015; Garcia, 2013; Nelson Laird, et al., 2007). In contrast, another study found a negative correlation between HSIs and college completion (Flores & Park, 2013). Yet, others have found that HSI and emerging HSI enrollment is correlated with greater gains in Latina/os’ academic self-confidence by the senior year (Cuellar, 2014).

Given these mixed findings, we examined how the Latina/o student experience differed between students who did and did not attend HSIs for both first-year and senior students. Using the Oaxaca-Blinder decomposition technique, we generally found that HSI attendance either had no or a positive relationship with student engagement and perceived gains after accounting for observable differences between HSI and non-HSI students. Among first-year students, the results found significant and positive unexplained effects of HSI attendance for HOL, CL, ETP, QI, and PG. For seniors, the same was true of CL and PG. However, we observed negative unexplained differences for HSI enrollment on the DDO EI for both first-year and senior students.

While the above results were significant, many of the unexplained differences were of a relatively small magnitude. NSSE researchers recommend classifying effect sizes less than .10 as trivial, .10 to .29 as small, and .30 to .49 as medium, and .50 or above as large (Rocconi & Gonyea, 2015). None of the effect sizes in this study could be classified as medium or large, while the only differences falling into the small category were CL and DDO for both first-year and senior students and PG for first-year students. Thus, it appears that the unexplained effects of HSI attendance on student engagement and perceived gains are relatively modest. Furthermore, our findings comport with Nelson-Laird and colleagues’ (2007) study comparing Hispanic
seniors of the 2003 graduating class at PWIs and HSIs, indicating that the effectiveness of HSIs on the senior experience has not appreciably changed over the past decade.

The most likely reason for the relatively modest impacts and their persistence over time is that unlike HBCUs and Tribal Colleges, HSIs are defined by their enrollment profile not their founding mission. Thus, HSIs generally have a tradition of serving and catering to the needs of primarily White, not Latina/o, students. It appears that many HSIs have not yet adopted their role in educating Latina/os into their mission or put their new mission into action. This structural inertia is troubling as we, informed by student engagement theory, believe that institutions need to respond to the students they serve and modify their educational environment to best suit the needs of their students. This includes changes to diversify the faculty, staff, and curriculum and create support systems aimed to assist Latina/os.

This is the first study that quantitatively compared the engagement of first-year Latina/os enrolled in HSIs and non-HSIs on a large-scale. We found significant and positive unexplained differences for HSI attendance on five of the eleven outcomes examined. However, only two of the senior outcomes met the same criteria. This suggests that HSIs have a greater impact on the first-year than the senior experience. There are three primary rationales for this finding. First, the relative homogeneity of the first college year compared to the senior year, where students are distributed among multiple departments, may facilitate institutional efforts to implement a culturally responsive and relevant education for Latina/o students. Alternately, due to their higher than average attrition rates (Li, 2007), HSIs may devote extra resources to the first college year to promote persistence. A third, but less likely, rationale is that the growth of Latina/os recently reached a tipping point, altering the educational environment at HSIs for first-year students, but not in time for seniors.
After accounting for observable differences, the only unexplained negative effect for HSIs occurred on DDO. The magnitude of these differences was the largest for seniors and second largest for first-year students, indicating that Latina/os at HSIs have fewer discussions with people of another race/ethnicity, from a different economic background, and with different religious beliefs or political views than their peers at non-HSIs. This relationship may occur because Latina/os at non-HSIs are a substantial minority and are essentially forced to interact with peers from different backgrounds. In contrast, the higher prevalence of Latina/os at HSIs may allow Latina/os to self-segregate, which leads to fewer interactions with diverse peers, even in situations where Latina/os constitute a minority of students. The critical mass of Latina/os at HSIs may explain why collaborative learning was the other EI with effect sizes greater than .10 for both first-year and senior students. Simply, the common backgrounds among students at HSIs may make Latina/os more likely to ask for help from another classmate or join a study group. If this rationale holds true, it highlights the importance of creating a critical mass of various student populations at all institutions.

Several limitations exist for this study. First, the data is drawn from institutions choosing to participate in NSSE. While it includes a large number and range of institutions, these campuses may not be representative of Latina/os seeking baccalaureate degrees. Additionally, although we included a wide variety of student and institutional characteristics in our models, we may lack data, such as parental income and program offerings, that explain part or all of the difference between HSI and non-HSI and thus potentially biasing our results. Third, our analyses treat HSIs as a homogenous group. Some institutions may have just emerged as an HSI and recently introduced interventions to aid Latina/os. Consequently, our results may mask important variability within HSIs. Furthermore, our data only include students enrolled at four-year
institutions who seek to obtain a baccalaureate degree. Thus, our results are not directly generalizable to two-year institutions, which are the majority of the HSIs. Finally, our measure of overall educational improvement, perceived gains, is self-reported and not a direct appraisal of students’ learning and development. However, previous research has correlated similar measures with direct assessments of changes in students’ educational improvement (Anaya 1999; Astin 1993).

**Implications for Research**

This study offers several implications for research. First, the decomposition analyses indicate that HSIs have generally positive, but small effects on the Latina/o student experience after accounting for differences in student characteristics. However, the results do not suggest the cause of the effects. Possible rationales could include institutional culture, specialized programming, and the presence of a critical mass of Latina/o peers or mentors. This study combined all HSIs in to a single category and did not account for the variability between HSIs (e.g., established vs. emerging). Thus, our results may mask important differences between HSIs that should be a focus of future research. While we examined outcomes at both the first and last year of undergraduate study, we were unable to examine long-term outcomes such as income and community involvement. As HSIs are frequently embedded into the Latina/o community, HSIs may influence some of these long-term outcomes.

**Implications for Practice**

While HSIs generally had positive effects on Latina/os’ engagement after accounting for student characteristics, the magnitude of these effects were relatively modest. Therefore, HSIs have room for improvement in creating an engaging educational environment for Latina/os, particularly when compared to HBCUs. HSIs must continue to integrate their designation into
the institutional mission and practice intentionally. Institutions must also accept the responsibility to engage their students and incorporate their diverse interests (Harper & Quaye, 2015). As the presence of Latina/o students continues to build on-campus, the institutions should continue to address the needs and interests of this community. Latina/o students bring multiple identities to campus, which also require support (such as gender, SES, academic ability). Institutions can support students’ varied identities through targeted programming and interventions. HSIs may also take into consideration the diversity, training, and skills of the faculty and staff (Quaye, Griffen, & Museus, 2015). Do these professionals relate with the changing demography of student body? Are they able to meet changing institutional needs and interests? Finally, community relationships are important for HSIs to build and maintain as majority of students attending HSIs grow up near the institution.

**Conclusion**

Due to the growth of the Latina/o undergraduate population, HSIs play an important role in educating this important student group. Using a decomposition approach, we found that HSIs generally have small, but generally positive effects on first-year and senior Latina/o students’ engagement compared to non-HSIs. This finding comports with previous research on HSIs focusing on student engagement (Nelson Laird, et al., 2007) and indicates that many HSIs have not created an educational environment that is especially effective for Latina/os.
References


Table 1

*Sample characteristics by HSI-status for first-year and senior students*

<table>
<thead>
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*Note:* Values are percentages. Percentages may not equal 100 due to rounding.
Table 2

Decomposition of mean differences by HSI status for Hispanic/Latino first-year and senior students

<table>
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<th></th>
<th>HSI</th>
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<th>Unexplained</th>
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<td>First-year students (N=19,495)</td>
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<td>.8 *</td>
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* p < .05, ** p < .01, *** p < .001

Note: Twofold, pooled models with normalized categorical variables. Robust standard errors adjusted for clustering within institutions and the uncertainty of the imputation. Observable characteristics included in regression models include: age, gender, parental education, major, residential status, SAT/ACT score, time spent working, enrollment size, Carnegie Classification (aggregated), control, locale, and 25th percentile SAT/ACT score.
Appendix A. NSSE Engagement Indicators Component Items and Reliabilities

**Higher-Order Learning (α = .86 FY, .87 SR)**

During the current school year, how much has your coursework emphasized the following

[Response options: Very little, Some, Quite a bit, Very much]:

- Applying facts, theories, or methods to practical problems or new situations
- Analyzing an idea, experience, or line of reasoning in depth by examining its parts
- Evaluating a point of view, decision, or information source
- Forming a new idea or understanding from various pieces of information

**Reflective & Integrative Learning (α = .88 FY, .89 SR)**

During the current school year, how often have you [Response options: Never, Sometimes, Often, Very Often]:

- Combined ideas from different courses when completing assignments
- Connected your learning to societal problems or issues
- Included diverse perspectives (political, religious, racial/ethnic, gender, etc.) in course discussions or assignments
- Examined the strengths and weaknesses of your own views on a topic or issue
- Tried to better understand someone else's views by imagining how an issue looks from his or her perspective
- Learned something that changed the way you understand an issue or concept
- Connected ideas from your courses to your prior experiences and knowledge

**Learning Strategies (α = .76 FY, .78 SR)**

During the current school year, how often have you [Response options: Never, Sometimes, Often, Very Often]:

• Identified key information from reading assignments

• Reviewed your notes after class

• Summarized what you learned in class or from course materials

**Quantitative Reasoning** (α = .86 FY, .88 SR)

During the current school year, how often have you [Response options: Never, Sometimes, Often, Very Often]:

• Reached conclusions based on your own analysis of numerical information (numbers, graphs, statistics, etc.)

• Used numerical information to examine a real-world problem or issue (unemployment, climate change, public health, etc.)

• Evaluated what others have concluded from numerical information

**Collaborative Learning** (α = .80 FY, .79 SR)

During the current school year, how often have you [Response options: Never, Sometimes, Often, Very Often]:

• Asked another student to help you understand course material

• Explained course material to one or more students

• Prepared for exams by discussing or working through course material with other students

• Worked with other students on course projects or assignments

**Discussions with Diverse Others** (α = .90 FY, .91 SR)

During the current school year, how often have you had discussions with people from the following groups [Response options: Never, Sometimes, Often, Very Often]:

• People from a race or ethnicity other than your own

• People from an economic background other than your own
- People with religious beliefs other than your own
- People with political views other than your own

**Student-Faculty Interaction** \( (\alpha = .84 \text{ FY}, .86 \text{ SR}) \)

During the current school year, how often have you [Response options: Never, Sometimes, Often, Very Often]:

- Talked about career plans with a faculty member
- Worked with a faculty member on activities other than coursework (committees, student groups, etc.)
- Discussed course topics, ideas, or concepts with a faculty member outside of class
- Discussed your academic performance with a faculty member

**Effective Teaching Practices** \( (\alpha = .85 \text{ FY}, .87 \text{ SR}) \)

During the current school year, to what extent have your instructors done the following [Response options: Very little, Some, Quite a bit, Very much]:

- Clearly explained course goals and requirements
- Taught course sessions in an organized way
- Used examples or illustrations to explain difficult points
- Provided feedback on a draft or work in progress
- Provided prompt and detailed feedback on tests or completed assignments

**Quality of Interactions** \( (\alpha = .83 \text{ FY}, .77 \text{ SR}) \)

Indicate the quality of your interactions with the following people at your institution. [Response options: 1 = Poor, 2, 3, 4, 5, 6, 7= Excellent, Not applicable]:

- Students
- Academic advisors
Faculty

Student services staff (career services, student activities, housing, etc.)

Other administrative staff and offices (Registrar, financial aid, etc.)

Supportive Environment ($\alpha = .89$ FY, .90 SR)

How much does your institution emphasize the following? [Response options: Very little, Some, Quite a bit, Very much]:

- Providing support to help students succeed academically
- Using learning support services (tutoring services, writing center, etc.)
- Encouraging contact among students from different backgrounds (social, racial/ethnic, religious, etc.)
- Providing opportunities to be involved socially
- Providing support for your overall well-being (recreation, health care, counseling, etc.)
- Helping you manage your non-academic responsibilities (work, family, etc.)
- Attending campus activities and events (performing arts, athletic events, etc.)
- Attending events that address important social, economic, or political issues

Perceived Gains ($\alpha = .91$ FY, .91 SR)

How much has your experience at this institution contributed to your knowledge, skills, and personal development in [Response options: Very little, Some, Quite a bit, Very much]:

- Writing clearly and effectively
- Speaking clearly and effectively
- Thinking critically and analytically
- Analyzing numerical and statistical information
- Acquiring job- or work-related knowledge and skills
• Working effectively with others

• Developing or clarifying a personal code of values and ethics

• Understanding people of other backgrounds (economic, racial/ethnic, political, religious, nationality, etc.)

• Solving complex real-world problems

• Being an informed and active citizen

Notes: $\alpha =$ Chronbach’s alpha. FY = first-year. SR = senior.