



A Comparison of SEVIS and GSS Institutions

An analysis of how academic institutions in the SEVIS student and exchange visitor files differ from those institutions in the GSS

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To analyze the coverage of the NSF-NIH Survey of Graduate Students and Postdoctorates in Science and Engineering (also known as the Graduate Student Survey or GSS), the institutions covered by the survey were compared against those from the Student and Exchange Visitor Information System (SEVIS). SEVIS institutions were linked to the Integrated Postsecondary Education Data System (IPEDS) to identify their program codes. Once these SEVIS institutions were identified, those that had Classification of Instructional Programs (CIP) codes in GSS fields of interest were collected and compared against the GSS records. Since SEVIS is the more comprehensive frame, this left us with two populations to consider and compare—organizations that were in SEVIS and in the GSS, and organizations that were in SEVIS but not in the GSS. Origin of data—from the student data files or the exchange visitor data files—was also considered throughout these analyses.

This report consists of two comparisons of institutions with respect to their SEVIS and GSS status:

- Analysis I compares organizations that are in SEVIS, but not in GSS, with those that are in both SEVIS and GSS—*for student data*; and
- Analysis II compares organizations that are in SEVIS, but not in GSS, with those that are in SEVIS and in GSS—*for exchange visitor data*.

Analysis I: Students—GSS vs. Non-GSS

Analysis I focused on the student portion of the SEVIS database and made comparisons by GSS participation. These comparisons were only made among institutions that had CIP programs in the Science and Engineering fields pertinent to the GSS, based on institutional characteristics compiled from IPEDS data. Out of 1,082 institutions in SEVIS with CIP programs that were of interest to GSS, only 54.5% (n=590) were in the GSS database. This sizable difference in inclusion warrants an investigation of how GSS and non-GSS institutions differ, in order to address potential coverage issues.

The following paragraphs thus describe the similarities and differences among the schools in GSS and not in GSS, and are followed by a breakdown of these institutional components. Note that 59 of the 1,082 schools were not in IPEDS, and thus were excluded from the comparison analyses. These 59 institutions were exclusively institutions not in the GSS.

Key Differences

On most items, the results for non-GSS schools were not particularly different from those of GSS schools. The two places where the most substantial discrepancies existed, however, were in the classification of the institution and its highest degree awarded. The majority of GSS institutions were public, compared to only 24% (n=104) of non-GSS institutions. Non-GSS institutions were more frequently private, not-for-profit institutions (63.5%, n=275) than public institutions, and were occasionally private, for-profit

institutions. And while a majority of non-GSS institutions offered a Master’s as their highest degree, GSS institutions offered highest degrees at the doctoral and “doctoral and first professional” levels more frequently than did non-GSS institutions.

Marginal differences between GSS and non-GSS institutions also existed along several other variables—hospital presence, awarding of medical degrees, awarding of professional degrees, presence of a tenure system, and geographic region. These differences, along with those above, are summarized briefly in Table 1—with the percentage difference between GSS and non-GSS institutions in the last column (and the category with the higher percentage for each variable in parentheses, a convention that is used throughout this report). Each is discussed in more detail below.

Table 1: Key Differences for Student Data¹

Variable	The institution...	GSS Institutions	Non-GSS Institutions	% Difference
Control	is public	63.6% (375)	24.0% (104)	39.6% (GSS)
	is private, not for profit	36.3% (214)	63.5% (275)	27.2% (Non-GSS)
	is private, for profit	0.2% (1)	12.2% (53)	12.0% (Non-GSS)
Highest degree	offers a doctorate as its highest degree	29.2% (172)	21.7% (94)	7.5% (GSS)
	offers a doctorate/first-professional degree as its highest degree	42.7% (252)	12.2% (53)	30.5% (GSS)
	offers a Master’s as its highest degree	25.8% (152)	50.8% (220)	25.0% (GSS)
Hospital	has a hospital	12.9% (76)	1.4% (6)	11.5% (GSS)
Medical degree	grants a medical degree	25.4% (150)	3.2% (14)	22.2% (GSS)
First-professional	offers a first professional degree	44.7% (264)	19.2% (83)	25.5% (GSS)
Tenure system	has a tenure system	95.3% (562)	63.0% (273)	32.3% (GSS)

¹ All tables provide relevant percentages with *n* in parentheses.

Key Similarities

Analyses of nine variables revealed similar data between GSS and non-GSS institutions, with at least 90% of institutions in each category reporting similar characteristics. Seven of those nine agreements were at least 95%.

Both GSS and non-GSS institutions tended to: be located in similar geographic areas (with a few marginal differences in the rank order of regions); be eligible for Title IV programs; be the same type of institution (most being four-year colleges); have postsecondary status; report by academic year; possess degree-granting status; be active in the current year; grant undergraduate degrees; and *not* be Historically Black Colleges or Universities (HBCUs). In addition, while the vast majority of institutions in both categories granted graduate degrees, a larger percent difference did exist for this category than for the others.

Breakdown of Institutional Characteristics

Control of Institution

The majority of GSS institutions 63.6% (n=375) were public, while only 24% (n=104) of non-GSS institutions were public. Non-GSS institutions were more frequently private, not-for-profit institutions 63.5% (n=275) than public. Of GSS institutions, on the other hand, only 36.3% (n=214) were private, not-for-profit institutions. Private, for-profit institutions, while virtually absent from the category of GSS institutions, were more prevalent among non-GSS institutions (with 53, or 12.2%, of non-GSS institutions falling into this category). Table 2 displays the breakdown of institutional control for all institutions, as well as the percent difference (with the category having the higher percentage in parentheses). Shading also denotes the category with the highest percentage. From these data, it is evident that control of institution is indeed one distinguishing factor between GSS and non-GSS institutions.

Table 2: Control of GSS and Non-GSS Institutions for Student Data

Control of Institution	Non-GSS Institutions	GSS Institutions	Percent Difference
Not available	0.2% (1)	0.0% (0)	0.2% (Non-GSS)
Public	24.0% (104)	63.6% (375)	39.6% (GSS)
Private not-for-profit	63.5% (275)	36.3% (214)	27.2% (Non-GSS)
Private for-profit	12.2% (53)	0.2% (1)	12.0% (Non-GSS)

Highest Degree Offering and Degrees Granted

Differences in highest degree offered existed between GSS and non-GSS institutions. A majority of non-GSS institutions awarded a Master's degree as their highest offering (50.8%, n=220), with only 25.8% (n=152) of GSS institutions doing the same. On the other hand, 42.7% (n=252) of GSS institutions awarded their highest degree at the level of "doctoral and first-professional," as compared to only 12.2% (n=53) of non-GSS institutions. For doctoral degrees only, 29.2% (n=172) of GSS institutions and 21.7% (n=94) of non-GSS institutions awarded the degrees as their highest, yielding only a 7.5% difference. Table 3 presents all data on highest degree offered by these institutions.

Table 3: Highest Degree Offered by GSS and Non-GSS Institutions for Student Data

Highest Degree Offered	Non-GSS Institutions	GSS Institutions	% Difference
Non-degree granting	0.2% (1)	0.2% (1)	0.0% (N/A)
Associates	4.6% (20)	0.0% (0)	4.6% (Non-GSS)
Bachelor's	3.2% (14)	0.2% (1)	3.0% (Non-GSS)
Master's	50.8% (220)	25.8% (152)	25.0% (Non-GSS)
Master's and first-professional	6.9% (30)	2.0% (12)	4.9% (Non-GSS)
Doctoral	21.7% (94)	29.2% (172)	7.5% (GSS)
Doctoral and first-professional	12.2% (53)	42.7% (252)	30.5% (GSS)
Not available	0.2% (1)	0.0% (0)	0.2% (Non-GSS)

Nearly all of the GSS (99.5%) and the non-GSS (99.8%) institutions possessed degree-granting status, and 99.8% of both were active in the current year. 93.5% (n=405) of non-GSS organizations offered undergraduate degrees, as did 95.4% of GSS organizations (n=563). A slightly larger difference is observed for the awarding of graduate degrees; 91.9% (n=398) of organizations not in the GSS awarded graduate degrees, compared to 99.7% (n=588) of organizations in the GSS (a 7.8% difference).

While a majority of both GSS and non-GSS schools did *not* offer first-professional or medical degrees, more GSS institutions than non-GSS institutions did. 44.7% (n=264) of GSS institutions offered these degrees, compared to only 19.2% (n=83) of non-GSS institutions (a 19.3% difference). Looking specifically at medical degrees (a variable potentially related to presence of a hospital, as described below), about a quarter of GSS organizations awarded medical degrees (25.4%, n=150), compared to only 3.2% (n=14) of non-GSS organizations (a 22.2% difference)

Overview of the Institution

Both GSS and non-GSS institutions tended to be eligible for Title IV programs, at 99% (n=584) and 96.5% (n=418) respectively. Nearly all institutions were of the same type as well, with 95.2% (n=412) of non-GSS institutions being four-year institutions, and 99.8% (n=589) of GSS institutions falling into that same category. All institutions in both categories were considered primarily postsecondary. Additionally, only 3.5% (n=15) of non-GSS institutions and 4.2% (n=25) of GSS institutions held Historically Black College or University (HBCU) status. Overwhelmingly, institutions tended to report by academic year, rather than by program, with 97.7% of non-GSS institutions reporting in that manner and 98% of GSS organizations doing the same.

Two relative differences in institutional characteristics between GSS and non-GSS institutions were presence of a hospital and existence of a tenure system. Both exhibited a similar trend within the two categories of institutions—a majority of both types of institutions did not have hospitals, and a majority of

both *did* have tenure systems. However, while 12.9% of GSS institutions (n=76) had hospitals, only 1.4% (n=6) of non-GSS organizations did. Similarly, a majority of both classes of institution had tenure systems in place, but there was a considerable percentage difference. 95.3% (n=562) of GSS organizations had tenure systems in place, compared to only 63% (n=273) of non-GSS organizations.

Geographic Region

IPEDS categories were used to investigate whether or not GSS coverage varies by geographic region. For the most part, the groups had similar geographic distributions, with a few key differences in the rank ordering of specific geographic categories, displayed in Table 4. Both types of institutions were most often located in the Southeast and Mid East, though the rank order of these two regions was reversed between the categories. Non-GSS institutions were most frequently located in the Southeast, while GSS institutions were more frequently located in the Mid East. More specifically, 22.2% (n=96) of non-GSS schools and 19.0% (n=112) of GSS schools located were located in the Southeast, while 20.1% (n=87) of non-GSS institutions and 23.1% of GSS institutions were located in the Mid East. The largest percent difference between GSS and non-GSS schools was for the Far West, with 18.2% of non-GSS schools but only 13.6% of GSS schools located in this region (a 4.6% difference). All other percent differences were 3.2% or less. Information about the composition of each geographic region is shown in Table 5.

Table 4: Rank-Ordered Geographic Distribution of Non-GSS and GSS Schools for Student Data

Non-GSS Institutions	GSS Institutions
1. Southeast (22.2%, n=96)	1. Mid East (23.1%, n=136)
2. Mid East (20.1%, n=87)	2. Southeast (19.0%, n=112)
3. Far West (18.2%, n=79)	3. Great Lakes (14.4%, n=85)
4. Great Lakes (11.8%, n=51)	4. Far West (13.6%, n=80)
5. Plains (10.2%, n=44)	5. Southwest (10.2%, n=60)
6. Southwest (7.6%, n=33)	6. New England (8.3%, n=49)
7. New England (6.2%, n=27)	7. Plains (7.3%, n=43)
8. Rocky Mountains (2.3%, n=10)	8. Rocky Mountains (3.1%, n=18)
9. Outlying areas (1.2%, n=5)	9. Outlying areas (1.0%, n=6)
10. US Service Schools (0.2%, n=1)	10. US Service schools (1, 0.2%)

Table 5: Makeup of Geographic Regions for Student Data

Region	States
New England	CT, ME, MA, NH, RI, VT
Mid East	DE, DC, MD, NJ, NY, PA
Great Lakes	IL, IN, MI, OH, WI
Plains	IA, KS, MN, MO, NE, ND, SD
Southeast	AL, AR, FL, GA, KY, LA, MS, NC, SC, TN, VA, WV
Southwest	AZ, NM, OK, TX
Far West	AK, CA, HI, NV, OR, WA
Outlying areas	AS, FM, GU, MH, MP, PR, PW, VI

Analysis II: Exchange Visitors—GSS vs. Non-GSS

Analysis II moved from student-based data to the exchange visitor portion of the SEVIS database, and made the same comparisons by GSS participation. These comparisons were only made among institutions that had CIP programs in the Science and Engineering fields pertinent to the GSS, based on institutional characteristics compiled from IPEDS data.

There were 789 SEVIS institutions that had CIP program codes studied by the GSS. Of the 789, 368 (46.6%) were of interest to the GSS, but were *not* participants in the GSS. Thus, the following paragraphs describe the differences between and similarities among the schools in the GSS and schools in SEVIS (but not in the GSS), as well as provide a breakdown of institutional characteristics. Note that 266 of the 789 institutions were not in IPEDS, and thus were excluded from the comparison analyses. The 266 institutions came exclusively from the non-GSS population, reducing this category’s *N* from the 368 institutions noted above to 102.

Key Differences

There were three items for which the discrepancies between GSS and non-GSS schools were large. These three factors were: control of the institution, highest degree awarded by the institution, and whether or not the organization awarded a first-professional degree. Most GSS institutions were classified as public (68.4%), compared to only 28.4% (n=29) of non-GSS institutions. Non-GSS institutions were more frequently private, not-for-profit institutions. GSS institutions were found to more frequently award doctorates and doctorate-level, first-professional degrees (for example, the JD) as their highest degrees than non-GSS institutions; they also awarded first-professional degrees more frequently overall (regardless of whether this was noted as their highest degree). Consequently, non-GSS institutions more frequently awarded Bachelor’s and Master’s degrees as their highest offerings (with percent differences of 28.9% and 18.2%, respectively, when compared to GSS institutions).

In addition, there were other areas where, while GSS and non-GSS institutions showed the same general trend in data, the percentage difference between the two categories was somewhat large. Most prominent among these discrepancies were whether or not the institution awarded a medical degree, whether or not

the institution had a hospital, and whether a graduate degree was offered. These key differences between GSS and non-GSS institutions, along with those described in the paragraph above, are briefly summarized in Table 6 below (again, with the percentage difference and the category with the higher percentage located in the far right column).

Table 6: Key Differences for Exchange Visitor Data

	The institution...	GSS Institutions	Non-GSS Institutions	% Difference
Control	is public	68.4% (288)	28.4% (29)	40.0% (GSS)
	is private, not for profit	31.6% (133)	68.6% (70)	37.0% (Non-GSS)
	is private, for profit	0.0% (0)	2.9% (3)	2.9% (Non-GSS)
Highest degree	offers a doctorate/first professional degree as its highest degree	50.6% (213)	13.7% (14)	36.9% (GSS)
	offers a Master's as its highest degree	17.1% (72)	35.3% (36)	18.2% (Non-GSS)
	offers a Bachelor's as its highest degree	0.5% (2)	29.4% (30)	28.9% (Non-GSS)
First-professional	offers a first professional degree	51.3% (216)	22.5% (23)	28.8% (GSS)
Medical degree	grants a medical degree	32.3% (136)	3.9% (4)	28.4% (GSS)
Hospitals	has a hospital	15.4% (65)	2.0% (2)	13.0% (GSS)
Graduate degree	offers a graduate degree	99.5% (419)	70.6% (72)	28.9% (GSS)

Key Similarities

With the exception of these five characteristics, there was general agreement between GSS and non-GSS institutions on all other variables. Most schools were found to participate in Title IV; grant degrees; be primarily postsecondary, four-year-and-above institutions; be active in the current year; report by year; offer undergraduate degrees; have tenure systems; and *not* be Historically Black Colleges or Universities (HBCUs).

Breakdown of Institutional Characteristics

Control of Institution

With regard to the exchange visitor data, most GSS organizations, 68.4% (n=288), were public, while this was true for only 28.4% (n=29) of non-GSS organizations. Non-GSS organizations were more frequently private, not-for-profit institutions, with 68.6% (n=70) of them falling into this category, compared to 31.6% (n=133) of GSS organizations. Both, however, remained relatively unlikely to be private, for profit institutions—no GSS organizations fell into this category, and only 2.9% (n=3) of non-GSS organizations did. Table 7 displays this breakdown of data, with shading representing the category with the higher percentage.

Table 7: Control of GSS and Non-GSS Institutions for Exchange Visitor Data

Control of Institution	Non-GSS Institutions	GSS Institutions	Percent Difference
Public	28.4% (29)	68.4% (288)	40.0% (GSS)
Private not-for-profit	68.6% (70)	31.6% (133)	35.0% (Non-GSS)
Private for-profit	2.9% (3)	0.0% (0)	2.9% (Non-GSS)

Highest Degree Offering and Degrees Granted

As shown in Table 8, 31.1% of GSS institutions (n=131) awarded the doctorate as their highest degree, compared to 11.8% (n=12) of non-GSS institutions. The highest degree offered fell into the category of “doctorate and first-professional” for a slim majority of GSS organizations, 50.6% (n=213). By contrast, only 13.7% (n=14) of non-GSS institutions offered this same highest degree. These percentages suggest a higher frequency of awarding doctorates and doctorate-level, first professional degrees (for example, the JD) at GSS institutions than non-GSS institutions. 35.3% (n=36) of non-GSS institutions offered a Master’s as their highest degree, compared to only 17.1% (n=72) of GSS institutions—a difference of 18.2%. Similarly, non-GSS institutions more frequently awarded the Bachelor’s degree as their highest offering (29.4%, n=30) than GSS institutions (0.5%, n=2)—yielding a percent difference of 28.9%.

Table 8: Highest Degree Offered by GSS and Non-GSS Institutions for Exchange Visitor Data

Highest Degree Offered	Non-GSS Institutions	GSS Institutions	% Difference
Associates	1.0% (1)	0.0% (0)	1.0% (Non-GSS)
Bachelor’s	29.4% (30)	0.5% (2)	28.9% (Non-GSS)
Master’s	35.3% (36)	17.1% (72)	18.2% (Non-GSS)
Master’s and first-professional	8.8% (9)	0.7% (3)	8.1% (Non-GSS)
Doctoral	11.8% (12)	31.1% (131)	19.3% (GSS)
Doctoral and first-professional	13.7% (14)	50.6% (213)	36.9% (GSS)

About one-half (51.3%) of GSS institutions (n=216) offered first professional degrees in general, while only 22.5% (n=23) of non-GSS institutions did. Looking specifically at medical degrees, only 3.9% (n=4) of GSS institutions offered these advanced degrees, compared to 32.3% (n=136) of non-GSS institutions.

In addition, while a majority of both types of institution offered graduate degrees, GSS institutions offered these degrees more frequently than did non-GSS institutions; 99.5% (n=419) of GSS institutions did so, compared to 70.6% (n=72) of non-GSS institutions. Finally, both GSS and non-GSS institutions generally offered undergraduate degrees, with 96.3% (n=406) of GSS organizations and 98.6% (n=100) of non-GSS organizations doing so.

Overview of the Institution

Nearly all GSS and non-GSS institutions participated in Title IV programs (100% of non-GSS institutions and 98.6% of GSS institutions). 100% of all were degree-granting, and were considered primarily postsecondary institutions. Furthermore, 99.5% (n=102) of the non-GSS institutions, as well as 100% (n=421) of GSS institutions, were classified as four-year-and-above institutions. A similarly large percentage of institutions were active in the current year, with 99.8% (n=420) of GSS organizations and 100% (n=102) of non-GSS organizations falling into that category. Both populations also had a tendency to report by year, rather than by department, with 100% (n=102) of non-GSS organizations and 98.8% (n=416) GSS organizations reporting by year. It should also be noted that both classes of institutions were relatively unlikely to be HBCUs, although the percentage was higher among GSS institutions than non-GSS institutions—3.1% (n=13) of GSS institutions were HBCUs compared to 1% (n=1) of non-GSS institutions.

Finally, the existence of a tenure system was relatively stable between the two categories of institutions. 92.2% (n=94) of non-GSS institutions and 97.6% (n=411) of GSS institutions had tenure systems. In addition, while 15.4% (n=65) of GSS institutions had hospitals, only 2% (n=2) of non-GSS institutions did.

Geographic Region

Again, IPEDS categories were used to investigate whether or not GSS coverage for exchange visitors varies by geographic region, and geographic distribution of the institutions did show some variation between the populations. As a whole, the exchange visitor data population shows that regardless of GSS status, the bulk of schools were located in the Southeast at 20.8% (total n=109), Mid East at 20.1% (total n=105), and the Great Lakes at 15.1% (total n=79). Non-GSS institutions were most frequently located in the Great Lakes region (19.6% of non-GSS institutions, n=20), while GSS institutions were most frequently located in the Southeast (21.9% of GSS institutions, n=92). The Mid East followed second for both GSS and non-GSS institutions, with 17.6% of non-GSS institutions and 20.7% of GSS institutions located there.

The largest percentage differences between GSS and non-GSS institutions existed for the Great Lakes, Southeast, and New England regions. Of non-GSS institutions, 15.7% were in New England, compared to 7.6% of GSS institutions (an 8.1% difference). 19.6% of non-GSS institutions were in the Great Lakes region, compared to 14% of those in the GSS (a 5.6% difference). Finally, 21.9% of GSS institutions and 16.7% of non-GSS institutions were located in the Southeast (a 5.2% difference). All other percent differences were less than 4%. For convenience purposes, Table 8 once again displays the makeup of the geographic regions referenced in Table 7.

Table 7: Rank-Ordered Geographic Distribution of Non-GSS and GSS Schools for Exchange Visitor Data

Non-GSS Institutions	GSS Institutions
1. Great Lakes (19.6%, n=20)	1. Southeast (21.9%, n=92)
2. Mid East (17.6%, n=18)	2. Mid East (20.7%, n=87)
3. Southeast (16.7%, n=17)	3. Great Lakes (14.0%, n=59)
4. New England (15.7%, n=16)	4. Far West (13.3%, n=56)
5. Far West (11.8%, n=12)	5. Southwest (9.7%, n=41)
6. Plains (8.8%, n=9)	6. Plains (8.1%, n=34)
7. Southwest (5.9%, n=6)	7. New England (7.6%, n=32)
8. Rocky Mountains (2.9%, n=3)	8. Rocky Mountains (4.3%, n=18)
9. Outlying areas (1.0%, n=1)	9. US Service schools (0.5%, n=2)
10. US Service schools (0.0%, 0)	10. Outlying areas (0.0%, n=0)

Table 8: Makeup of Geographic Regions for Exchange Visitor Data

Region	States
New England	CT, ME, MA, NH, RI, VT
Mid East	DE, DC, MD, NJ, NY, PA
Great Lakes	IL, IN, MI, OH, WI
Plains	IA, KS, MN, MO, NE, ND, SD
Southeast	AL, AR, FL, GA, KY, LA, MS, NC, SC, TN, VA, WV
Southwest	AZ, NM, OK, TX
Far West	AK, CA, HI, NV, OR, WA
Outlying areas	AS, FM, GU, MH, MP, PR, PW, VI