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Queer-Spectrum and Trans-Spectrum Student Experiences in American Higher Education

The Analyses of National Survey Findings

RUTGERS
Tyler Clementi Center

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INTRODUCTION

In the wake of Tyler Clementi's death in 2010, a national conversation on the challenges facing queer-spectrum and trans-spectrum youth reached a tipping point. Scholars, practitioners and students attending institutions of higher education engaged in critical and, at times, long overdue conversations about the overall well-being of queer-spectrum and trans-spectrum students pursuing postsecondary education.

In partnership with the Tyler Clementi Foundation, Rutgers University established The Tyler Clementi Center, a research institute dedicated to exploring the impact of bias, peer aggression, and campus climate on postsecondary students who experience marginalization or stigma related to their sexual orientation, gender identity and expression, race, ethnicity, nationality, religion/faith, and/or ability among other stigmatized identities/experiences.

Compelled by the circumstances of Tyler Clementi's death, the Tyler Clementi Center convened a partnership with four premier postsecondary research centers to better understand the experiences of queer-spectrum and trans-spectrum students attending U.S. institutions of higher education. Our research team reviewed findings from the National Survey of Student Engagement (2017), the Undergraduate Student Experience in the Research University Survey (2016), the American College Health Association-National College Health Assessment (2016), and the four surveys conducted by the Higher Education Research Institute, including The Freshman Survey (2016), the Your First College Year Survey (2016), the Diverse Learning Environments Survey (2016), and the College Senior Survey (2017). Through the extrapolation of queer-spectrum and trans-spectrum student responses among these datasets, our research team assembled a snapshot of their experiences at 4-year colleges and universities in the United States.

This snapshot reveals a campus climate that is failing to provide an equitable learning environment for queer-spectrum and trans-spectrum students, along with troubling disparities across academic engagement and student health. In an increasingly data-driven culture, empirical evidence of queer-spectrum and trans-spectrum student experiences is critical not only to the goal of understanding their unique challenges and needs, but paramount to the pursuit of establishing comprehensive resource provisions that ensure their overall success in the academy. Indeed, less than 15% of American colleges and universities have either one full-time employee whose job duties are at least 50% dedicated to, or one graduate assistant who is fully dedicated (20 hours a week), to serving the unique needs of queer-spectrum and trans-spectrum populations.[1]

This paper is a call to action for institutional leaders, faculty, and staff. We have a fundamental responsibility to create a campus climate that relieves queer-spectrum and trans-spectrum students of the burden to navigate stigma without mentorship, develop their own queer/trans-affirming social support networks and resource provisions, and/or be obliged to educate the faculty, staff, and clinicians employed to serve their needs.

The Impact of Campus Climate

Considerable attention has been given to the influence of campus climate on students' health and overall development in the higher education setting. Campus climate describes "the cumulative attitudes, behaviors, standards, and practices of employees and students of an institution" that impact access, inclusion, and respect for "individual and group needs, abilities and potential."[2] An integral component of the undergraduate student experience, campus climate has a strong relationship with student success and persistence.

Supplementing the normative stress and challenges of college, queer-spectrum and trans-spectrum students navigate the additional stress of prejudice, harassment, discrimination and violence on campus.[3] This stress may arise from social exclusion, verbal and/or physical harassment, non-verbal exclusion (e.g. looks and stares), discrimination, and negative perceptions of campus climate held by queer-spectrum and trans-spectrum populations on campus.[4] Even students who have not experienced specific acts of harassment or discrimination may find campus climates to be unwelcoming and unsupportive.[5] It is important to note, however, that when queer-spectrum and trans-spectrum students anticipate that they could be harassed or discriminated against on campus, they may perceive a neutral campus climate (one free of overt acts of homophobia/transphobia) as a positive campus climate (affirming and inclusive) if they do not experience or observe acts of harassment or discrimination on campus.[6] In response to a chilly campus climate, queer-spectrum and trans-spectrum students may choose to conceal their sexual identity and/or gender identity to avoid harassment or discrimination, avoid areas of campus where queer-spectrum and trans-spectrum students are known to congregate, and avoid discussion of their sexual and gender identities with those in positions of power (e.g. supervisors/ administrators/instructors/teaching assistants)– all of which may increase social and emotional isolation.[7]

> If students from different social identity groups experience, or at least perceive, campus climates differently, and if perceptions of campus climates can affect education and developmental outcomes of college students, then are not those working in higher education obliged to intervene?[8]

Both climate and these strategies undertaken by students to mitigate its effect lead to low self-esteem and self-acceptance, self-hatred, self-doubt, and feelings of inferiority and rejection.[9] This compounds an already increased risk for negative health and academic outcomes such as substance misuse, depression, suicide ideation, academic and co-curricular disengagement, and attrition.[10] Coupled with lack of representation within faculty and administration,[11] and academic courses centered on queer-spectrum and trans-spectrum

experiences and history,[12] queer-spectrum and trans-spectrum students endure both marginalization and erasure.

While this paper is not the product of a longitudinal or correlational study, the analyses presented are based upon Astin's conceptual I-E-O framework.[13] Informed by a substantive body of research, we describe the experiences of queer-spectrum and trans-spectrum students reported across 7 national datasets as they relate to the characteristics and experiences of students entering higher education (input), perceptions/experiences of campus climate (environment), and academic engagement and overall health (outcomes).

Invisibility in National Data Sets

Given the complexities of language used to describe sexual and gender identities, national assessment and research on queer-spectrum and trans-spectrum college students presents unique challenges.[14] While social identity demographics are fundamental to examining the experiences of our students, few guidelines have been established for "contextualizing demographic variables into empirical analyses, particularly within quantitative research."[15] Further, scholarship addressing sexual and gender identities in higher education is grossly underrepresented among tier-one higher education journals.

Garvey conducted a study of quantitative research articles published among five tier-one higher education journals from 2010-2012, including The Journal of Higher Education, Review of Higher Education, Research in Higher Education, Journal of College Student Development, and Higher Education.[16] Of the 373 (53.89%) articles written on quantitative studies, only 1.88% (n=7) included sexual identity demographics and only 0.54% (n=2) included gender identity demographics, all of which were published in the Journal of College Student Development. The omission of queer-spectrum and trans-spectrum demographics in quantitative survey research render these populations invisible to university leaders driving institutional advocacy, policy reform, and resource allocation on college campuses.[17]

The omission of queer-spectrum and trans-spectrum demographics in quantitative survey research render these populations invisible to university leaders.

1.88%

Only 1.88% of research articles surveyed included sexual identity demographics and only 0.54% included gender identity demographics.

Rankin and Garvey succinctly capture the conundrum of these two challenges, observing, "[a]s a scholarly community, we find ourselves in a catch-22, whereby certain social identities are under-researched, yet survey developers do not include these demographic questions because of a lack of empirical research on these populations."[18] These authors note that, while a select number of national datasets have provided a strong foundation for innovative empirical analyses, they have yet to incorporate items measuring sexual identity and gender identity.

This landscape is in the midst of a cultural shift, as leading higher education research centers have begun to incorporate sexual and gender identity demographic variables to their respective instruments (Table TCC1). As

a result, higher education scholars like ourselves now have an unprecedented opportunity to examine queer-spectrum and trans-spectrum student experiences through the use of large-scale datasets.

TABLE TCC1

The First Year Sexual Identity and Gender Identity Variables were Included in each National Dataset

SURVEY INSTRUMENT (YEAR ESTABLISHED)*	SEXUAL IDENTITY	GENDER IDENTITY
CIRP Freshman Survey (1966)	2015	2015
CIRP Your First College Year (2000)	2011	2011
CIRP College Senior Survey (1993)	2015	2015
CIRP Diverse Learning Environments Survey (2011)	2011	2011
Nat'l Survey of Student Engagement (2000)	2013	2014
Student Experience in the Research Institution (2010)	2010	2010
ACHA National College Health Assessment (2000)	2008**	2008**

*Survey information retrieved from the following websites on 3/27/2017: https://heri.ucla.edu, http://nsse.indiana.edu, https://seru.umn.edu and http://www.acha-ncha.org,

*From 2000-2007, sexual identity and gender identity were ineffectively collapsed into a single question, *Which of the following best describes you? Heterosexual, Gay/Lesbian, Bisexual, Transgendered, Other.* In 2008, the NCHA revised the survey with two distinct questions.

Definitions & Approaches

The Power of Language

Scholars who conduct assessments with students identifying within queer-spectrum populations (bisexual, gay, lesbian, queer, pansexual, same-gender loving, etc.) and/or trans-spectrum populations (androgynous, gender nonconforming, genderqueer, transfeminine, transmasculine, transgender, etc.) note extensive changes within these communities just in the last decade. In the majority of the literature examining sexual identity and gender identity, researchers use the acronym "LGBT" to reference sexual and gender minorities. It is important to value individual identities when conducting research with queer-spectrum and trans-spectrum populations. However, given the fluid and evolving sexual and gender identities[19] of individuals, we use the terms queer-spectrum and trans-spectrum to honor how individuals choose to identify themselves as opposed to placing them into socially constructed, fixed categories of sexuality and gender.

Sexual Identity

Each of the aforementioned surveys include demographic questions measuring sexual identity and gender identity. While some of these questions use the phrase se*xual orientation* in the language of their questions, the term *sexual identity* more aptly described what these questions measure. Throughout this paper, we will use the term sexual orientation only when referring to the exact language asked in the survey. We collapsed survey response items, as noted in Table TCC2, into four categories, due to differences in the way questions were phrased across the seven surveys: heterosexual, queer-spectrum, asexual, and no-response. Students who wrote in answers that did not correspond with a queer-spectrum sexual identity, and those who chose or preferred not to respond to the question, were removed from analysis. Respondents who identified as *asexual* were removed from analysis due to concerns regarding the misinterpretation of *asexual** as a definition of "not sexually active at this time."

TABLE TCC2

Queer-Spectrum Survey Participants

INSTRUMENT	SURVEY CHOICES
NSSE	**Which Of The Following Best Describes Your Sexual Orientation?** *Straight (Heterosexual), Bisexual, Gay, Lesbian, Queer, Questioning/Unsure, Another Sexual Orientation (please specify), I Prefer Not To Respond*
CIRP	**What Is Your Sexual Orientation?** *Heterosexual/Straight, Gay, Lesbian, Bisexual, Queer, Other*
SERU	**Do You Consider Yourself To Be:** *Heterosexual or Straight, Gay or Lesbian, Bisexual, Queer, Questioning, Other, please elaborate:, Decline to State*
ACHA-NCHA	**What Term Best Describes Your Sexual Orientation?** *Asexual, Bisexual, Gay, Lesbian, Pansexual, Queer, Questioning, Same Gender Loving, Straight/Heterosexual, and Another Identity (please specify)**

*Students who indicated an *asexual* sexual identity were not included in the current analyses due to several methodological limitations across the national surveys. (1) Respondents misinterpreted the *asexual* response choice as "not sexually active at this time" which over-represented the asexual population. (2) Various definitions of asexual if provided to respondents (e.g., people who do not experience sexual attraction, people who experience little or no sexual attraction). (3) "Forced" responses (*asexual* was a response choice in sexual identity) as opposed to "Free" response (respondents could write in asexual if it was not offered as a choice).[20]

Gender Identity

Questions measuring gender identity were collapsed into three categories, noted in Table TCC3, including: non-transgender (cisgender), trans-spectrum, and no-response. Again, write-in answers that did not indicate a trans-spectrum identity were removed from analysis, as well as students identifying as *intersex*, and those who chose or preferred not to respond to the question.

Students who participated in the NSSE were provided a write-in option to indicate *another gender identity*, in addition to *male*, *female*, and *I choose not to respond*. Among students who chose *another gender identity*, only those that indicated a trans-spectrum identity were collapsed into this category. Students who responded to CIRP surveys were asked, *Do you identify as transgender?*, phrasing that reduces trans-spectrum identities to a single term. When examining gender in a non-binary manner–predicated by the reality that there are many gender identities beyond male/female/transgender- a student who answers *no* to this question could identify with any number of other gender identities besides male/female. Thus, we refer to these students as non-transgender instead of cisgender when discussing CIRP surveys.

TABLE TCC3

Trans-Spectrum Survey Participants

INSTRUMENT	SURVEY CHOICES
NSSE	**What Is Your Gender Identity?** *Man, Woman, Another Gender Identity (please specify), I prefer not to respond*
CIRP	**Do You Identify As Transgender?** *Yes, No*
SERU	**What Sex Were You Assigned At Birth, Such As On An Original Birth Certificate?** *Male*, Female*, Intersex, Decline To State* **What Is Your Current Gender Identity?** *Male*, Female*, Trans Male/Trans Man, Trans Female/Trans Woman, Genderqueer/Gender Non-Conforming, Other (Please Specify), Decline To State*
ACHA-NCHA	**Do You Identity As Transgender?** *Yes, No* **Which Term Do You Use To Describe Your Gender Identity?** *Woman*, Man*, Trans Woman, Trans Man, Genderqueer, Another Identity (Please Specify)* **What Sex Were You Assigned At Birth, Such As On An Original Birth Certificate?** *Female*, Male**

*Survey participants who indicated a sex-assigned-at-birth that was different from their gender identity (e.g. *female* sex-assigned-at-birth/*male* gender identity & *male* sex-assigned at birth/*female* gender identity) were included in the trans-spectrum total.

Sample

Tables TCC4 and TCC5 reflect the total number of queer-spectrum and trans-spectrum students among the seven datasets included in these analyses. These tables further demonstrate the complexities that arise when attempting to operationalize sexual identity and gender identity in survey research. Combined, this study included 66,208 queer-spectrum and 6,607 trans-spectrum survey participants attending 918 unique 4-year institutions across the United States- the largest sample examined to date.

TABLE TCC4

Disaggregated Queer-Spectrum Survey Participants

# of Institutions	SERU	NSSE	CIRP TFS	CIRP YFCY	CIRP DLE	CIRP CCS	ACHA-NCHA	TOTAL
	18	636	250	249*	25	79	126	1,383**
Total N=	87,996***	517,850	169,480	18,348	30,289	19,117	73,665****	916,745
Lesbian	[2,651]	2,886	1,095	151	287	183	815	[16,348]
Gay		4,229	1,833	306	414	302	1,196	
Queer	326	2,274	941	247	275	335	722	5,120
Questioning/Unsure	423	3,188	—	—	—	—	1,249	4,860
Pansexual	—	1,324	—	—	—	—	1,171	2,495
Same-Gender Loving	—	—	—	—	—	—	80	80
Other (Please Specify)	1,600	545	—	—	—	—	—	2,145
Other (No Write-In Option)	—	—	2,504	398	612	273	—	3,787
Total Queer-Spectrum n= for each survey	**9,879**	**27,487**	**12,872**	**2,022**	**2,764**	**1,853**	**9,331**	**66,208**

*52 institutions participated in the 2016 Your First College Year survey, but results here include a supplemental sample from 197 institutions.

**Combined, these analyses include 918 distinct 4-year institutions across the United States.

***The analysis of SERU responses related to queer-spectrum students reflects an amended sample (N=86,351), after removing responses indicating an *asexual* identity (n=528) and those choosing *decline to state* (n=705).

****The analysis of ACHA-NCHA responses related to queer-spectrum students reflects an amended sample (N=68,187), after removing responses indicating an *asexual* identity (n=4,364), and those choosing *another identity* (n=759).

TABLE TCC5

Disaggregated Trans-Spectrum Survey Participants

# of Institutions	SERU 18	NSSE 636	CIRP TFS 250	CIRP YFCY 249*	CIRP DLE 25	CIRP CCS 79	ACHA-NCHA 126	TOTAL 1,383**
Total N=	87,996***	517,850	169,480	18,348	30,289	19,117	73,665	916,745
Transgender	—	185	675	156	225	160	1,322	2,723
Male Gender Identity/ Female Sex Assigned at Birth	52	—	—	—	—	—	109	161
Female Gender Identity/Male Sex Assigned at Birth	80	—	—	—	—	—	93	173
Trans Female/ Trans Woman	103	—	—	—	—	—	46	149
Trans Male/Trans Man	130	—	—	—	—	—	91	221
Genderqueer or Gender Non-Conforming	739	139	—	—	—	—	471	1,349
			WRITE-IN					
Nonbinary	—	489	—	—	—	—	—	489
Genderfluid	—	268	—	—	—	—	—	268
Agender	—	222	—	—	—	—	—	222
Other Gender Identity	422	268	—	—	—	—	691	1,381
Total Trans-Spectrum n= for each survey	**1,526**	**1,571**	**675**	**156**	**225**	**160**	**2,294****	**6,607**

*52 institutions participated in the 2016 Your First College Year survey, but results here include a supplemental sample from 197 institutions.

**Combined, these analyses include 918 distinct 4-year institutions across the United States.

***The analysis of SERU responses related to trans-spectrum students reflects an amended sample (N=87,755), after removing responses indicating an *intersex* identity (n=19) and those choosing *decline to state* (n=222).

****The ACHA-NCHA asks three questions regarding gender identity, some of which overlap. Thus, this number accurately reflects the sample of students who identify as trans-spectrum.

Findings

Combined, these analyses included 66,208 queer-spectrum and 6,607 trans-spectrum survey participants attending 918 unique 4-year institutions across the United States — the largest sample examined to date.

CAMPUS CLIMATE

Campus climate describes the "attitudes, behaviors, and standards/practices [of faculty/staff/students] that concern the access for, inclusion of, and level of respect for individual and group needs, abilities, and potential" in higher education settings.[21] Because each of the surveys included in this study have a unique focus, we will examine those that reflect the greatest number of climate-related questions in this section.

The analyses below will include climate findings from the Undergraduate SERU Survey, the CIRP Diverse Learning Environments Survey, and the National Survey of Student Engagement.

Undergraduate Student Experience in the Research University Survey

This online survey is administered among a consortium of public research universities to all degree-seeking undergraduates in the spring. The Undergraduate Student Experience in the Research University (SERU) survey is a broad and deep survey of engagement, experiences in the major, assessment of the campus climate and unique demographics, and multiple outcomes. The 2016 Undergraduate SERU Survey included 18 public research universities and yielded 87,996 participants. The exploration of SERU responses outlined below (on selected items for queer-spectrum and trans-spectrum students) is not meant to be rigorous academic inquiry, rather an illustration of how higher education researchers can utilize the SERU Survey as a data source to study queer-spectrum and trans-spectrum student experiences and their correlates of success.

Queer-Spectrum Students

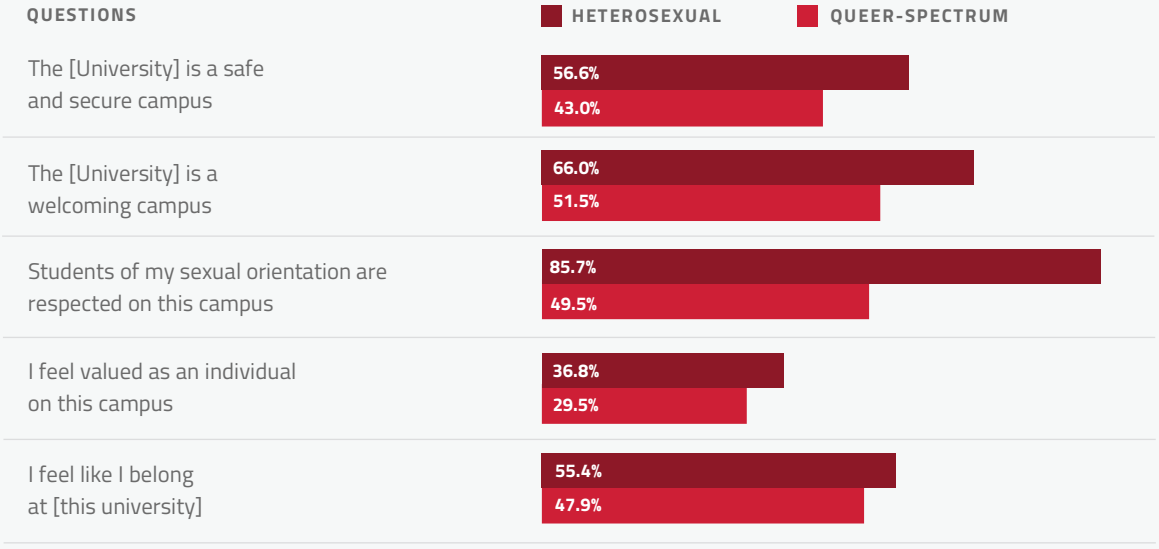
Queer-spectrum students represented 11.4% (n = 9,879) of total participants, and were identified based on their responses to the sexual identity item. Students who considered themselves to be *gay or lesbian*, *bisexual*, *queer*, or *questioning* were collapsed into a queer-spectrum category. Responses to the *other* option were recoded where intent was clear to either the queer-spectrum or heterosexual/straight category. This exploration of SERU responses includes an examination of various dimensions of campus climate and overall sense of belonging among queer-spectrum students, along with their heterosexual peers.

Campus climate was examined using a subset of items from the SERU. Student's agreement to the following items were reviewed to examine student's perceptions of overall campus climate. Students rated their agreement on a six point balanced scale from Strongly Agree to Strongly Disagree.

The [University Name] is a safe and secure campus
The [University Name] is a welcoming campus
Students of my sexual orientation are respected on this campus
I feel valued as an individual on this campus
I feel that I belong at [University Name]

In terms of broad indicators of campus climate, a slight majority of all survey participants reported agreement that their campuses were safe, welcoming, and respected their sexual identity. When examined by sexual identity, a smaller percentage of queer-spectrum students agree, with substantial differences being observed across the board (Figure SERU1).

FIGURE SERU1
Campus Climate for Heterosexual and Queer-Spectrum Students*



*Students who responded Agree/Strongly Agree

A lower proportion of queer-spectrum students reported that they felt valued by their institution or enjoyed a sense of belonging comparable to their heterosexual peers. In terms of respect on campus for one's sexual orientation, the vast majority of heterosexual students reported agreement that their sexual identity was respected on campus, whereas only about half of the queer-spectrum students felt the same way. In terms of respect for a student's gender, regardless of sexual identity, cisgender male students reported higher levels of agreement that their gender was respected on campus (77.7%). Cisgender female students reported lower levels of respect overall (56.5%), with queer-spectrum females reporting the lowest levels.

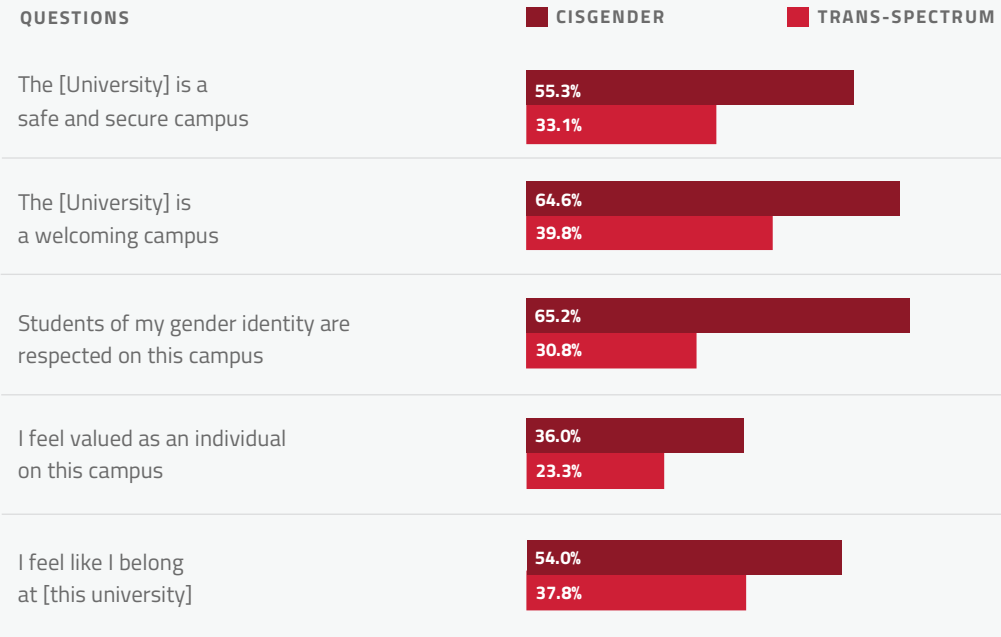
Trans-Spectrum Students

Trans-spectrum participants represented 1.7% (n = 1,526), using current gender identity and sex-assigned-at-birth to identify a trans-spectrum category and a cisgender category. This exploration of SERU responses will include an examination of various dimensions of campus climate and overall sense of belonging among trans-spectrum students and their cisgender peers.

Again, as with queer-spectrum students, trans-spectrum students reported lower levels of agreement on the aforementioned measures of campus climate when compared to their cisgender peers, but those differences were amplified. Only a third of trans-spectrum students agreed that their campus was safe and secure and only a slightly larger percent felt it was welcoming. Cisgender students had a sense of belonging that was significantly higher than trans-spectrum peers (81.5% and 37.8%, respectively). Overall, only 54.9% of trans- spectrum students felt their gender was respected on campus vs. 88.6% of cisgender students. Trans-spectrum students overall reported lower levels of agreement that their campuses were welcoming, but the pattern continues that the differences were amplified when comparing various dimensions of marginalized groups intersected with gender identity compared to their cisgender peers (Figure SERU2).

FIGURE SERU2

Campus Climate Comparison of Trans-Spectrum & Cisgender Peers*



*Students who responded Agree/Strongly Agree

Diverse Learning Environments Survey (DLE)

The Diverse Learning Environments Survey is conducted by the Cooperative Institutional Research Program at the Higher Education Research Institute at UCLA. The DLE survey focuses on the campus climate for diversity and links student perceptions of institutional climate, student learning outcomes, and campus practices as experienced with faculty, staff, and peers. The following analysis will examine harassment and discrimination, reporting behaviors and perceptions of administrative response, sense of belonging, perceptions of community and respect on campus, and student behaviors that influence campus climate. Twenty-five 4-year institutions participated in the 2016 administration of the Diverse Learning Environments Survey, resulting in responses from 30,289 undergraduates at all levels.

Queer-Spectrum Students

A total of 2,764 students, just under 14% of those who responded to the question, *What is your sexual orientation?,* identified as queer-spectrum. When examining questions measuring experiences with discrimination, queer-spectrum students experienced discrimination based upon their sexual orientation at ten times the rate of heterosexual peers (30.1% vs. 2.8%, respectively), and at twice the rate based upon their gender. (33.7% vs. 17.7%, respectively). Forms of discrimination included verbal comments, written comments (emails, texts, social media), and exclusion (from gatherings, events). When asked how frequently they witnessed discrimination, 42.3% of queer-spectrum students responded "very often/often/sometimes," versus 27.6% of heterosexual peers. Both queer-spectrum students (84.7%) and heterosexual students (89.0%) indicated that they had never reported an incident of discrimination to a campus authority. Perhaps this is related to the finding that a third of queer-spectrum students (32.8%) and less than half of heterosexual students (46.3%) were satisfied/very satisfied with administrative responses to incidents of discrimination.

Both queer-spectrum students (84.7%) and heterosexual students (89.0%) indicated that they had never reported an incident of discrimination to a campus authority.

32.8%

of queer-spectrum students were satisfied w /administrative responses to incidents of discrimination.

When asked to indicate their satisfaction with the overall sense of community among students, if they felt a sense of belonging on campus, or if they believed there was respect for differences in sexual orientation on campus, there were not significant differences among queer-spectrum and heterosexual students. However, nearly twice the proportion of queer-spectrum students (28.4%) had considered dropping out of college, compared to 16.5% of their heterosexual peers.

Seven out of ten queer-spectrum students (70.1%) frequently discussed issues related to sexism, gender differences, or gender equity, compared to 38.5% of their heterosexual peers. Queer-spectrum students were more likely to frequently make an effort to educate others about social issues (53.2%), challenge others on issues of discrimination (49.2%), and recognize the biases that affect their own thinking (67.2%) than their straight peers (35.5%, 29.4%, and 49.5%, respectively). Overall, those who identified as *queer* were more likely to exhibit these behaviors than any other group.

Trans-Spectrum Students

A total of 225 students (<1%) of survey participants who responded to the the question, *Do you identify as transgender?,* identified as trans-spectrum. Trans-spectrum students experienced discrimination based upon their gender at nearly three times the rate of non-transgender peers (56.9% vs. 19.5%, respectively), and at nearly seven times the rate based upon their sexual orientation (41.2% vs. 6.1%, respectively). When asked how frequently they witnessed discrimination, 74.2% of trans-spectrum students responded "very often/often/sometimes," versus 56.5% of their non-transgender peers. Trans-spectrum students (29.5%) were also more likely to report an incident of discrimination to a campus authority than their non-transgender peers (11.4%).

When asked about overall sense of community on campus, 46.0% of trans-spectrum students were either satisfied or very satisfied, compared to 59.8% of non-transgender students. When asked about their sense of belonging on campus, just over two-thirds (69.2%) of trans-spectrum students agreed/strongly agreed, versus 78.0% of non-transgender students. However, nearly twice the proportion of trans-spectrum students (37.8%) had considered dropping out of college, compared to 17.9% of their non-transgender peers.

Trans-spectrum students (52.1%) were more likely to frequently challenge others on issues of discrimination than non-transgender students (31.9%). More than two-thirds of trans-spectrum students (69.2%) frequently recognized the biases that affected their own thinking compared to just over half (51.7%) of non-transgender students.

National Survey of Student Engagement

Launched in 2000, the National Survey of Student Engagement (NSSE) was created as a new approach to gathering information about collegiate quality, focusing on empirically confirmed good practices in undergraduate education that reflect behaviors by students and institutions that are associated with desired outcomes of college. The NSSE measures various aspects of campus climate, including the quality of interactions with students/faculty/staff/administrators, frequency of collaborative learning, and perceptions of substantial gains and satisfaction. The 2017 National Survey of Student Engagement was administered at 636 four-year colleges and universities, yielding 517,850 respondents.

Queer-Spectrum Students

Queer-spectrum students represented 5.3% (n = 27,487) of total participants in the 2017 administration of the National Survey of Student Engagement. Generally, queer-spectrum students perceived lower quality of interactions with others on campus than their heterosexual peers, particularly interactions other students (47.6% perceiving high-quality interactions vs. 55.8%, respectively) and interactions with administrative staff and offices (36.4% vs. 41.9%, respectively). Quality interactions with faculty for queer-spectrum students, however, was on par with those of heterosexual students. These findings were further reflected in aspects of collaborative learning and student-faculty interaction. Around half (56.0%) of queer-spectrum students frequently worked with other students on course projects or assignments, compared to nearly two-thirds (62.2%) of heterosexual students. Differences between queer-spectrum and heterosexual students on aspects of student-faculty interaction either favored queer-spectrum students or were trivial differences. For example, 27.2% of queer-spectrum students frequently worked with a faculty member on activities other than coursework compared to 24.6% of heterosexual students.

Overall, queer-spectrum students also perceived less substantive emphasis on support from their institutions than heterosexual students. For example, 37.9% of heterosexual students perceived substantial institution emphasis on helping them manage their non-academic responsibilities, compared to only 29.7% of queer-spectrum students. Although differences were relatively small, queer-spectrum students expressed lower satisfaction with their college experience than heterosexual students, as well. For example, although a majority (83.6%) of queer-spectrum students positively rated their entire educational experience, a larger proportion (87.0%) of heterosexual students did the same.

Trans-Spectrum Students

Trans-spectrum students represented less than 1% (n = 1,571) of total participants in the 2017 National Survey of Student Engagement. Trans-spectrum students perceived lower quality of interactions with students, academic advisors, faculty, student services staff, and other administrative staff and offices than their heterosexual peers. For example, 41.3% of trans-spectrum students perceived having high-quality interactions with other students and 30.4% perceived having high quality interactions with other administrative staff and offices, compared to 54.9% and 41.3% of cisgender students, respectively. These relationships were reflected in aspects of collaborative learning and student-faculty interactions. Less than half (48.9%) of trans-spectrum students frequently worked with other students on course projects or assignments compared to three in five (61.4%) cisgender students. Similarly, only 35.7% of trans-spectrum students frequently talked about career plans with a faculty member compared to 41.7% of their cisgender peers.

Generally, trans-spectrum students perceived less substantive emphasis on support from their institutions than their cisgender peers. For example, 57.8% of trans-spectrum students felt their institution substantially provided support for their overall well-being and 24% felt their institution substantially provided support for helping them to manage their non-academic responsibilities, compared to 66.3% and 37.0% of cisgender students, respectively. Trans-spectrum students similarly rated their perceived gains and satisfaction with their educational experiences lower than their cisgender peers. For example, although the majority (81.8%) of trans-spectrum students positively rated their entire educational experience, a larger proportion of cisgender students (86.5%) did the same.

To review disaggregated findings for queer-spectrum and trans-spectrum students, please see Appendices A-F.

HEALTH OUTCOMES

Among all of the surveys that inquired about health and wellness, queer-spectrum and trans-spectrum student responses were consistently disparate to those of heterosexual and cisgender/non-transgender students. These outcomes are influenced by various aspects of campus climate, as well as the experiences students have prior to college entry.

This section will explore findings at various points in a student's academic tenure, starting with a review of findings from the CIRP Freshman Survey and the CIRP Your First College Year Survey, followed by findings from the American College Health Association-National College Health Assessment, and concluding with findings from the CIRP College Senior Survey.

The CIRP Freshman Survey

The Cooperative Institutional Research Program at UCLA's Higher Education Research Institute conducts surveys with incoming freshmen before they arrive on campus (The Freshman Survey) and at the conclusion of their first year of college (Your First College Year). With data on more than 15 million students from over 1,900 institutions, the CIRP Freshman Survey (TFS) is the nation's largest and longest-running study of higher education. Two hundred fifty colleges and universities participated in the 51st administration in 2016, resulting in a sample of 169,480 incoming freshmen.

Since TFS data is collected before the students have had significant contact with the institution, typically during orientation or the summer before their first year, this instrument provides a snapshot of who the students are when they start college and serves as a baseline for studying campus climate, student development, and college impact. The comprehensive nature of the TFS allows institutions to examine students' demographic and background characteristics, college choice process, high school experiences, goals, and expectations for college. The following analysis will focus primarily on mental health reporting and perceptions of emotional well-being.

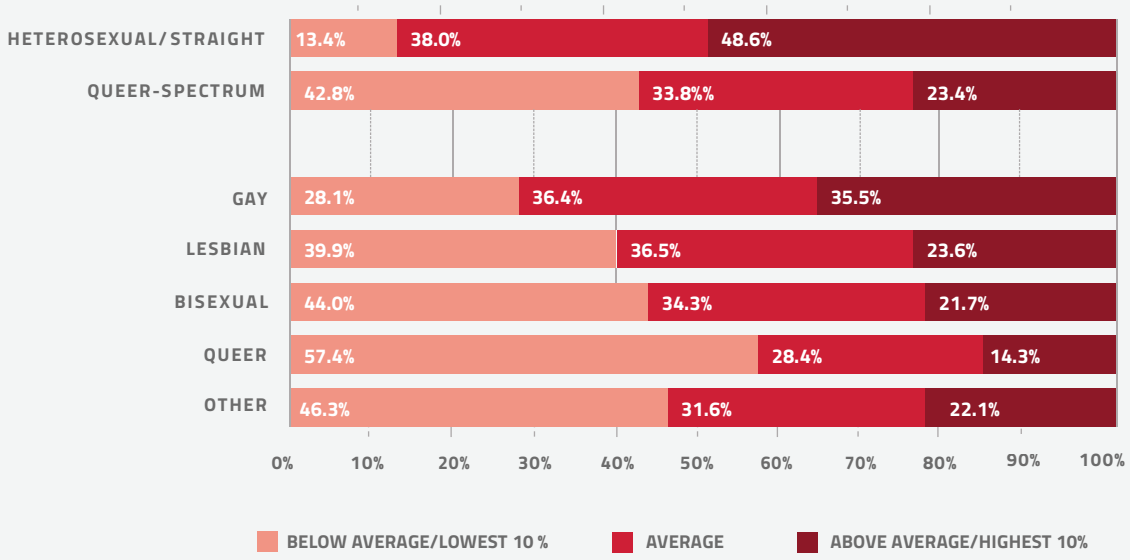
Queer-Spectrum Students

On The Freshman Survey, students are asked to report their sexual orientation. A total of 12,872 students, about 8.5% of those who responded to this question identified as queer-spectrum. Queer-spectrum students were more likely to enter college reporting a psychological disorder than their heterosexual peers (36.8% compared to 8.8%). Similarly, queer-spectrum students were more likely to frequently feel depressed (35.2%), anxious (60.3%), and overwhelmed by all they had to do (56.9%) than heterosexual students (10.1%, 32.7%, and 39.8%,

respectively). When asked to rate their emotional health compared to the average person their age, less than one-quarter (23.4%) of queer-spectrum students selected at least above average, compared to nearly half (48.6%) of heterosexual students. Further, more than four out of ten (42.8%) queer-spectrum students selected below average or lowest 10%, compared to just 13.4% of heterosexual students (Figure CIRP1). It is encouraging to note that queer-spectrum students reported a higher likelihood of seeking personal counseling while in college, with more than two-thirds (68.3%) reporting at least some chance they would do so, compared to just under half (46.8%) of heterosexual students.

FIGURE CIRP1

Self-Rated Emotional Health of Incoming Freshmen



Since there is variation within groups of queer-spectrum students, disaggregating by personal identity can be helpful. For example, the proportion of incoming students who reported having a psychological disorder ranged from 8.8% of heterosexual students to 58.6% of students who identified as queer. Students who specifically identified as queer were also more likely to have frequently felt depressed, anxious, overwhelmed by all they had to do, and to rate their emotional health lower than both their straight and queer-spectrum peers.

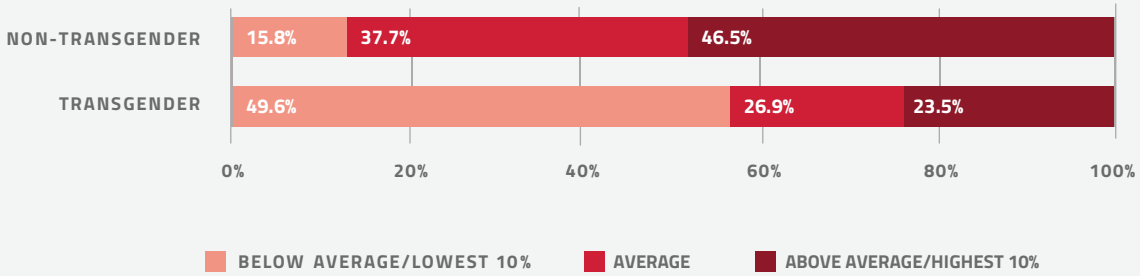
Trans-Spectrum Students

Of the 169,480 incoming students who responded to the 2016 CIRP Freshman Survey (TFS), 675 (<1%) identified as transgender compared with those who responded as non-transgender. Some of the most troubling findings related to emotional and psychological health. More than half (52.3%) of the trans-spectrum students reported having a psychological disorder at college entry, more than 40 percentage points higher than the non-transgender students (11.1%). In the year before starting college, trans-spectrum students were more likely to have frequently felt depressed (48.6%), anxious (64.1%), and overwhelmed by all they had to do (58.3%) than non-transgender students (12.1%, 35.0%, and 41.2%, respectively).

When asked to rate their emotional health compared to the average person their age, less than one-quarter (23.5%) of trans-spectrum students selected at least above average, compared to nearly half (46.4%) of non-transgender students. Further, nearly half (49.6%) of trans-spectrum students selected below average or lowest 10%, compared to just 15.8% of non-transgender students (Figure CIRP2). It is slightly encouraging to note that trans-spectrum students reported a higher likelihood of seeking personal counseling while in college, with 38.9% reporting a very good chance they would do so, compared to 14.7% of non-transgender students.

FIGURE CIRP 2

Self-Rated Emotional Health of Incoming Transgender & Non-Transgender Freshmen



Your First College Year Survey

The Cooperative Institutional Research Program administers the Your First College Year survey in the spring of the first year, focused primarily on issues of academic adjustment and transition to college. Fifty-two 4-year institutions participated in the 2016 YFCY administration (n=16,953) and a supplemental sample (n=1,395) was drawn from 197 other institutions, resulting in a total sample of 18,348.

Queer-Spectrum Students

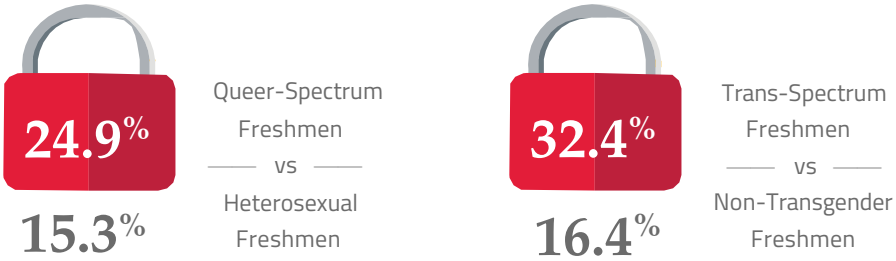
A total of 2,022 students fell into the queer-spectrum group (12.7%). Nearly one-quarter of queer-spectrum students frequently felt lonely or homesick (23.4%) and isolated from campus life (24.9%) during their first year of college, compared to 16.4% and 15.3% of heterosexual students, respectively. When disaggregating by sexual identity within the queer-spectrum group, students who identify as queer were more likely to frequently feel lonely or homesick (30.4%) and isolated from campus life (32.1%) than other queer-spectrum students. Just over a third (34.0%) of queer-spectrum students used student psychological services at least occasionally, compared to 20.8% of their heterosexual peers.

Again, while the gap is not as wide as for trans-spectrum students, queer-spectrum students rate their emotional health lower than their straight peers. Nearly half (48.5%) of queer-spectrum students rate their emotional health below average or lowest 10%, compared to less than one in five (18.0%) straight students. More variation emerges within the queer-spectrum group, ranging from just under one-third (32.7%) of gay students to nearly two-thirds (64.8%) of queer students rating their emotional health as below average or in the lowest 10% of their peers. Queer-spectrum students also find it a bit more difficult to develop close friendships with other students during the first year of college, with 38.4% finding it somewhat or very difficult to do so, compared to 27.9% of straight students who feel the same.

Trans-Spectrum Students

Roughly 1% (n=156) of students who took the 2016 Your First College Year identified as transgender. With respect to adjusting to college, trans-spectrum students were nearly twice as likely as non-transgender students to feel isolated from campus life (32.4% and 16.4%, respectively). Further, more than half of trans-spectrum (52.7%) students felt unsafe on campus at least occasionally, compared to about one-quarter (23.4%) of non-transgender students. More than three-quarters of trans-spectrum students (77.9%) worried about their health at least occasionally during the first year of college, compared to just over half (52.9%) of non-transgender students. This is also reflected in use of student services with 65.1% of trans-spectrum students utilizing student health services at least occasionally, compared to 54.3% of non-transgender students.

Students Who Felt Isolated From Campus Life



An even larger gap emerges in the usage of student psychological services, with 58.1% of trans-spectrum students using them at least occasionally, compared to just 22.0% of non-transgender peers. Similar to the findings at college entry, gaps in self-rated emotional health remain as two-thirds of the trans-spectrum students (66.2%) rate their emotional health below average or in the lowest 10% of their peers, compared to less than one-quarter (21.4%) of non-transgender students.

The ACHA-National College Health Assessment

The National College Health Assessment (NCHA), developed and administered by the American College Health Association (ACHA), provides an overall snapshot of college health. It is used by institutions of higher education to assess the health needs, develop and evaluate programs, allocate resources, and understand impediments to academic performance of their students. Since its launch in 2000, the ACHA-NCHA has collected data from more than 1.7 million students at more than 800 institutions. These institutions self-select to participate in the survey, with many schools participating every 2 to 3 years. Results described here are from 73,665 undergraduate students at 126 4-year institutions in Spring 2016.

Queer-Spectrum Students

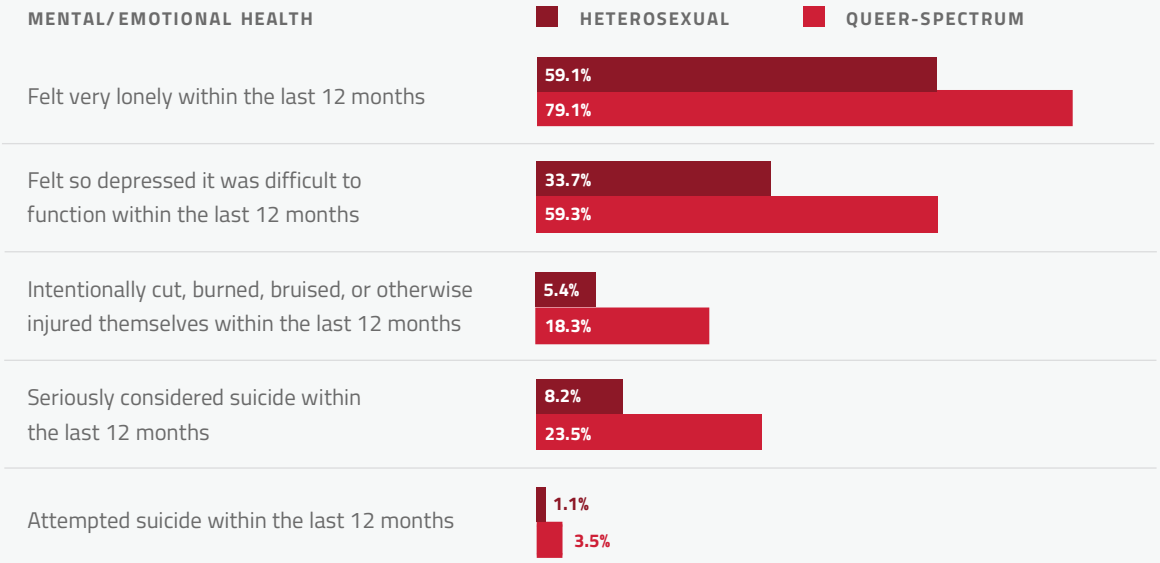
The ACHA-NCHA asks students to indicate which term best describes their sexual identity. Queer-spectrum students comprised 12.7% (n=9,331) of the survey participants, compare against heterosexual peers (86.3%). Students who identified as *asexual* (4,364) or chose *another identity* (n=759) were not included in this analysis.

Mental Health & Self-Harm

In exploring rates of several mental health issues among students, queer-spectrum students more frequently reported feelings of loneliness and feeling so depressed it was difficult to function. The differences in rates of self-injury, suicide ideation, and suicide attempts are at least 3 times as high (and in some cases, higher) for queer-spectrum students when compared with their straight peers (Figure NCHA1).

FIGURE NCHA 1

Comparison of Mental/Emotional Health and Self-Injurious Behaviors of Straight/Heterosexual & Queer-Spectrum Students



Substance Use

With only one exception, queer-spectrum students reported higher rates of alcohol, tobacco, and other drug use than their straight peers. In the case of both marijuana and tobacco products, 50% more queer-spectrum students than straight students reported using in the last 30 days. While the overall proportion of students using ecstasy, methamphetamine, opioids, and the misuse of prescription medication is relatively low in general, the differences between queer-spectrum students and their straight peers are concerning. The rate of ecstasy and other club drug use in the last 30 days was twice as high for queer-spectrum students, and the rates of methamphetamine and other amphetamine use in the last 30 days was almost twice as high for queer-spectrum students. The use of prescription opioids coupled with sedative use increases the risk of an opioid overdose. The rates of queer-spectrum students reporting the misuse of both prescription opioids and prescription sedatives within the last 12 months was double that of their straight peers (Table NCHA1, p.23).

TABLE NCHA1

Comparison of Substance Use of Straight/Heterosexual & Queer-Spectrum Students

SUBSTANCE	STRAIGHT/ HETEROSEXUAL	QUEER-SPECTRUM
Alcohol use within the last 30 days	63.9%	69.1%
Marijuana use within the last 30 days	18.8%	30.9%
Any tobacco use within the last 30 days*	14.7%	21.2%
Any ecstasy or other club drug use within the last 30 days	1.1%	2.1%
Any meth or other amphetamine use within the last 30 days	2.0%	3.4%
Any heroin use within the last 30 days	0.3%	0.7%
Any prescription drug misuse within the last 12 months**	11.8%	17.4%
Pain medication misuse within the last 12 months	4.8%	7.9%
Prescription opioid and sedative misuse within the last 12 months	1.6%	3.2%

*Cigarettes, e-cigarettes, waterpipe, smokeless tobacco, or cigars/little cigars/clove

**Antidepressants, erectile dysfunction medication, pain medication/opioids, sedatives, or stimulants

Academic Impediments

Students were asked on the ACHA-NCHA about several things that might negatively impact their academic performance. Queer-spectrum students reported that anxiety and stress negatively impacted their academics at higher rates than their straight peers. The differences were even greater for financial problems and roommate difficulties (nearly twice the rate), depression (twice the rate), drug use (more than twice the rate), eating disorders (two and a half times the rate), and discrimination (more than four times the rate) for queer-spectrum students than for their straight peers (Table NCHA2).

TABLE NCHA2

Comparison of Academic Impediments of Straight/Heterosexual & Queer-Spectrum Students

ACADEMIC IMPEDIMENTS	STRAIGHT/ HETEROSEXUAL	QUEER-SPECTRUM
Anxiety	22.1%	39.1%
Depression	14.0%	31.8%
Discrimination	0.9%	4.2%
Drug use	1.6%	3.8%
Eating disorder/problem	1.2%	3.0%
Finances	6.6%	10.8%
Roommate difficulties	5.8%	9.2%
Stress	32.0%	45.3%

Sexual Victimization & Relationship Violence

Queer-spectrum students reported being in an emotionally, physically, or sexually abusive relationship at much higher rates than their straight peers. A similar pattern was observed among students that reported being a victim of stalking (4.7% and 8.7% for straight and queer-spectrum students, respectively.) Twice the proportion of queer-spectrum students reported any sexual victimization, and more than twice as many reported specifically that they were sexually penetrated without their consent when compared to their straight peers (Table NCHA3).

TABLE NCHA3

Comparison of Sexual Victimization and Relationship Violence of Straight/Heterosexual & Queer-Spectrum Students

SEXUAL VICTIMIZATION AND RELATIONSHIP VIOLENCE WITHIN THE LAST 12 MONTHS	STRAIGHT/ HETEROSEXUAL	QUEER-SPECTRUM
Sexually touched without consent	7.7%	15.7%
Sexual penetration attempted without consent	3.1%	7.1%
Sexually penetrated without consent	1.9%	4.5%
One or more of the three types of sexual victimization above	8.3%	16.6%
Emotionally abusive relationship	7.9%	12.7%
Physically abusive relationship	1.7%	3.0%
Sexually abusive relationship	1.7%	3.9%
One or more of the three types of abusive relationships above	8.6%	14.2%

Trans-Spectrum Students

The ACHA-NCHA asks students three questions related to their sex and gender. *What sex were you assigned at birth, such as on an original birth certificate?* (Response options are *female* and *male*), *Do you identify as transgender?* (Response options are *no* and *yes*), and, [*w]hich term do you use to describe your gender identity*? (Response options are *woman*, *man*, *trans woman*, *trans man*, *genderqueer*, and *another identity*.) Responses to all three questions are used to sort participants into three categories for reporting purposes: female, male, and non-binary. For the purpose of this analysis, female and male cases were collapsed into a single category labeled cisgender (n=70,706) and compared with cases in the non-binary category (n=2,294) in the areas of sexual/ relationship violence, substance use, mental health, and impediments to academic performance. The trans-spectrum students represent 3.8% of the sample.

SERIOUSLY CONSIDERED SUICIDE IN THE LAST 12 MONTHS

1 of 5 Queer-Spectrum Students

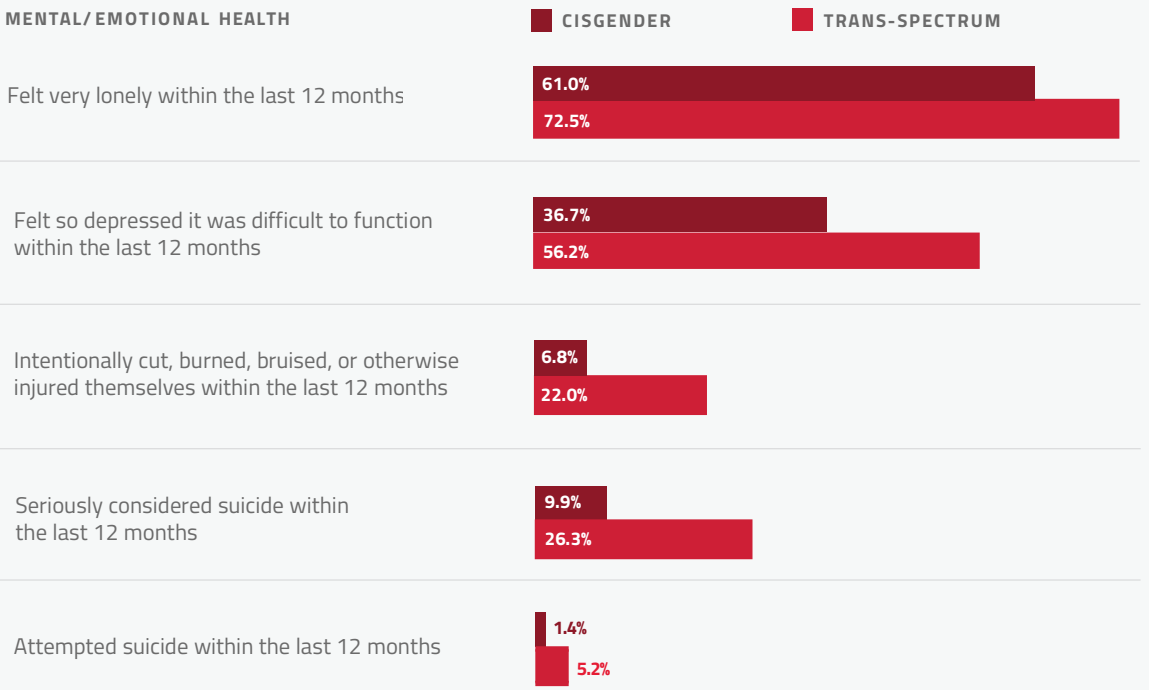
1 of 4 Trans-Spectrum Students

Mental Health & Self Harm

In exploring rates of several mental health issues among students, trans-spectrum students report similarly higher rates of feeling loneliness and feeling so depressed is was difficult to function. The differences in rates of self-injury, suicide ideation, and suicide attempts are at least 3 times as high (and in some cases, higher) for trans-spectrum students when compared with their cisgender peers. It is also important to note that trans-spectrum peers reported higher rates among all items (Figure NCHA2).

FIGURE NCHA2

Comparison of Mental/Emotional Health and Self-Injurious Behaviors of Cisgender & Trans-Spectrum Students



Substance Use

Mirroring many of the findings among queer-spectrum students, trans-spectrum students reported higher rates of alcohol, tobacco, and other drug use than their cisgender peers. The one exception is that a slightly smaller proportion of trans-spectrum students reported using alcohol in the last 30 days than did their cisgender peers. While the overall proportion of students using ecstasy, methamphetamine, opioids, and the misuse of prescription medication is relatively low in general, the differences between trans-spectrum students and their cisgender peers are of similar concern as findings for queer-spectrum peers and their straight counterparts. In the case of ecstasy and other club drug use in the last 30 days, and the rates of methamphetamine and other amphetamine use in the last 30 days, the rates were almost twice as high for trans-spectrum students. The use of prescription opioids coupled with sedative use increases the risk of an opioid overdose. The rates of trans-spectrum students reporting the misuse of both prescription opioids and prescription stimulants within the last 12 months was double that of their cisgender peers (Table NCHA4, p.27).

TABLE NCHA4

Comparison of Substance Use of Cisgender & Trans-Spectrum Students

SUBSTANCE	CISGENDER	TRANS-SPECTRUM
Alcohol use within the last 30 days	64.1%	61.0%
Marijuana use within the last 30 days	20.0%	24.2%
Any tobacco use within the last 30 days*	15.6%	18.8%
Any ecstasy or other club drug use within the last 30 days	1.3%	2.0%
Any meth or other amphetamine use within the last 30 days	2.2%	4.1%
Any heroin use within the last 30 days	0.3%	1.8%
Any prescription drug misuse within the last 12 months**	12.3%	16.3%
Pain medication misuse within the last 12 months	5.1%	8.0%
Prescription opioid and sedative misuse within the last 12 months	1.7%	3.8%

*Cigarettes, e-cigarettes, waterpipe, smokeless tobacco, or cigars/little cigars/clove cigarettes

**Antidepressants, erectile dysfunction medication, pain medication/opioids, sedatives, or stimulants

Academic Impediments

Again, students were asked on the ACHA-NCHA about several things that might negatively impact their academic performance. Trans-spectrum students reported that anxiety and stress negatively influenced their academics at higher rates than their cisgender peers. The differences were even greater for financial problems and roommate difficulties (nearly twice the rate), depression (over twice the rate), drug use (twice the rate), eating disorders (nearly three times the rate), and discrimination (six times the rate) for trans-spectrum students than for their cisgender peers. Trans-spectrum students also reported discrimination as an academic impediment at higher rates than their queer-spectrum counterpart (Table NCHA5).

TABLE NCHA5

Comparison of Academic Impediments of Cisgender & Trans-Spectrum Students

ACADEMIC IMPEDIMENTS	CISGENDER	TRANS-SPECTRUM
Anxiety	23.8%	39.5%
Depression	15.5%	33.7%
Discrimination	1.2%	7.3%
Drug use	1.8%	3.9%
Eating disorder/problem	1.4%	4.1%
Finances	7.1%	13.1%
Roommate difficulties	6.1%	11.1%
Stress	33.4%	44.3%

Sexual Victimization & Relationship Violence

Trans-spectrum students reported being in an emotionally, physically, or sexually abusive relationship at higher rates than their cisgender peers. A similar pattern was observed among students that reported being a victim of stalking (5.2% and 9.2% of cisgender and trans-spectrum students, respectively.) A higher proportion of trans-spectrum students reported any sexual victimization, and almost twice as many reported specifically that they were sexually penetrated without their consent when compared to their cisgender peers (Table NCHA6).

TABLE NCHA6

Comparison of Feelings of Sexual Victimization and Relationship Violence of Cisgender and Trans-Spectrum Students

SEXUAL VICTIMIZATION AND RELATIONSHIP VIOLENCE WITHIN THE LAST 12 MONTHS	CISGENDER	TRANS-SPECTRUM
Sexually touched without consent	8.5%	14.1%
Sexual penetration attempted without consent	3.5%	6.1%
Sexually penetrated without consent	2.2%	4.7%
One or more of the three types of sexual victimization above	9.2%	15.1%
Emotionally abusive relationship	8.5%	13.7%
Physically abusive relationship	1.9%	3.4%
Sexually abusive relationship	1.9%	4.8%
One or more of the three types of abusive relationships above	9.2%	15.2%

CIRP College Senior Survey

The College Senior Survey (CSS) is designed to be an exit survey for graduating seniors, which addresses a variety of college experiences, student views, and future plans. The mental health findings from this survey suggest that mental health disparities span the entire college experience, even among those who persist to graduation. The 2017 College Senior Survey was administered at 79 institutions, resulting in a sample of 19,117 students.

Queer-Spectrum Seniors

Gay, *lesbian*, *bisexual*, *queer* and students who chose *other* comprise 9.7% of survey participants (n=1,853) who fall into the queer-spectrum group. Differences in students' emotional well-being that were found among incoming freshmen were also present among college seniors, with 35.4% of queer-spectrum seniors rating their emotional health below average/lowest 10% versus 13.7% of their heterosexual peers. Queer-spectrum students were also more likely to frequently feel depressed (40.7%) and overwhelmed by all they had to do (66.1%) than straight students (14.5% and 44.9%, respectively). More than half of queer-spectrum students (56.1%) sought personal counseling during the past year, compared to just under one-third (32.6%) of straight students.

Trans-Spectrum Seniors

Among the 19,117 students who participated in the 2017 College Senior Survey, 160 students (<1%)) identified as transgender. Trans-spectrum students were more likely to frequently feel overwhelmed by all they had to do (70.5%) and depressed (48.3%) in the past year than non-transgender students (46.9% and 16.9%, respectively). Similar to data collected from incoming freshmen, a large proportion of trans-spectrum college seniors (45.9%) rated their emotional health as below average or in the lowest 10% of their peers, compared to just 16.2% of non-transgender students.

More than half of trans-spectrum students sought personal counseling during the past year.

48.3%

of queer-spectrum seniors report feeling frequently depressed.

More than half of trans-spectrum seniors (54.5%) sought personal counseling in the past year, compared to 34.9% of non-transgender students. While a different sample of students participated in the Freshman Survey and the Your First College Year Survey presented here, all illustrate widespread mental health concerns among queer-spectrum and trans-spectrum students of all class standings.

ACADEMIC ENGAGEMENT

Multiple surveys reviewed in these analyses asked questions related to academic engagement and disengagement. In this section, we examine the findings from the Undergraduate Student Experience in the Research Institution Survey and the National Survey of Student Engagement. The following discussion will explore academic engagement findings specific to each survey instrument included.

Student Experience in the Research University Undergraduate Survey

Again, the exploration of the SERU responses outlined below on selected items for queer-spectrum and trans-spectrum students is not meant to be rigorous academic inquiry but is aimed primarily to increase awareness of the SERU as a potential data source for higher education researchers studying the LGBTQIA student experience and their correlates of success. The 2016 Undergraduate SERU Survey included 18 public research universities and yielded 87,996 participants.

Queer-Spectrum Students

Queer-spectrum students represented 11.4% (n=9,879) of total participants, and were identified based on their responses to the sexual orientation item; students who considered themselves to be gay or lesbian, bisexual, queer, questioning were collapsed into a queer-spectrum category (Table TCC2, p. 8 and Table TCC4, p.10). Responses to the "other" were also recoded where intent was clear to either the queer-spectrum or heterosexual/straight category.

Majors & Degree Aspirations

When comparing the proportions of queer-spectrum and heterosexual students enrolled in STEM and non-STEM majors, significant differences were observed. For queer-spectrum students, 40.0% were enrolled in a STEM major as compared to 47.1% for heterosexual students. Within STEM, Engineering had the largest proportional differences in representation (with 8.3% and 13.6%, respectively). Outside of STEM, enrollment in Business majors showed nearly a 2 to 1 difference (3.9% and 8.5%, respectively), whereas relatively larger proportions of queer-spectrum students were enrolled in Visual and Performing Arts (6.9% vs. 3.5%) and in the areas of English (4.8% vs. 2.4%), Foreign Languages (4.5% vs. 2.1%), and Area, Ethnic, Cultural, and Gender Studies (3.4% vs. 1%). Relatively similar proportions were observed within the remaining 22 academic areas observed. In terms of planned degrees, queer-spectrum students were much more likely to indicate planning to earn a doctorate

(22.5%) as compared to heterosexual students (15.6%) and queer-spectrum students were much less likely to indicate that they planned to earn an MBA as compared to heterosexual students (5.4% vs. 10.8%).

Academic Engagement

Queer-spectrum students were more likely to report higher levels of academic engagement and involvement in high impact learning experiences than heterosexual peers (Table SERU1).

TABLE SERU1

Top Five Learning Experiences of Queers-Spectrum & Heterosexual Students*

LEARNING EXPEIENCE	HETEROSEXUAL/ STRAIGHT	QUEER-SPECTRUM
Academic experiences with a diversity focus	52.3%	64.8%
Writing-intensive/enriched course(s)	62.0%	66.8%
A research project or research paper as part of your coursework	35.2%	40.2%
First-year seminar	43.2%	45.4%
At least one research methods course	45.0%	45.5%

*Percentage of students who responded doing/have done

At the same time, queer-spectrum students are also more likely to report disengagement behaviors when compared to their heterosexual peers (Table SERU2). In terms of academic outcomes, as measured by GPA, there does not appear to be any meaningful difference between these two groups (queer-spectrum GPA=3.23, SD=0.53 heterosexual GPA=3.20, SD=0.53).

TABLE SERU2

Academic Engagement/Disengagement Behaviors of Queer-Spectrum & Heterosexual Students*

ACADEMIC BEHAVIOR	HETEROSEXUAL/ STRAIGHT	QUEER-SPECTRUM
Contributed to a class discussion	38.0%	44.8%
Brought up ideas or concepts from different courses during class	25.5%	31.6%
Gone to class unprepared	4.9%	8.0%
Skipped class	5.8%	9.0%

*Percentage of students who responded often/very often

Trans-Spectrum Students

Trans-spectrum students represented 1.7% (n=1,526) of survey participants, using current gender identity and sex assigned at birth to identify a trans-spectrum category and a cisgender category (Table TCC3, p.9 and Table TCC5, p.11).

Academic Engagement

Similar to the queer-spectrum analyses, trans-spectrum students were more likely to report higher levels of academic engagement and involvement in high impact learning experiences (Table SERU3). At the same time, trans-spectrum students were also more likely to report disengagement behaviors (Table SERU4).

TABLE SERU3

Top Five Learning Experiences of Trans-Spectrum & Cisgender Students*

LEARNING EXPERIENCE	CISGENDER	TRANS-SPECTRUM
Academic experiences with a diversity focus	53.5%	67.8%
Writing-intensive/enriched course(s)	62.5%	66.4%
A research project or research paper as part of your coursework	35.7%	43.8%
First-year seminar	43.5%	45.5%
At least one research methods course	44.9%	46.6%

*Percentage of students who responded doing/have done

In terms of academic outcomes, as measured by GPA, there does not appear to be any meaningful difference on average (trans-spectrum GPA=3.22, SD=0.53 & cisgender GPA=3.20, SD=0.53).

TABLE SERU4

Academic Engagement & Disengagement Behaviors of Trans-Spectrum & Cisgender Students

ACADEMIC BEHAVIOR	CISGENDER	TRANS-SPECTRUM
Contributed to a class discussion	38.6%	44.3%
Brought up ideas or concepts from different courses during class	26.1%	33.0%
Gone to class unprepared	5.1%	11.3%
Skipped class	6.1%	11.2%

*Percentage of students who responded often/very often

Majors & Degree Aspirations

When comparing the proportions of trans-spectrum and cisgender students enrolled in STEM and non-STEM majors, significant differences were observed. For trans-spectrum students, 39% were enrolled in a STEM major as compared to 54% for cisgender students. Within STEM, Biological and Biomedical Sciences had the largest proportional differences (with 9.8% vs. 14.6%), followed by Engineering (9.7% vs. 13%). Outside of STEM, the areas of Business (2.4% vs. 8.1%), Area, Ethnic, Cultural, and Gender Studies (1.2% vs. 6.6%), Visual and Performing Arts (3.8% vs. 9.1%), and Foreign Languages (5.3% vs. 2.3%) had some of largest differences in representation. The remaining academic areas examined were relatively similar between the groups. In terms of planned degrees, trans-spectrum students were much more likely to indicate planning to earn a doctorate (22.5%) as compared to cisgender students (15.6%), and much less likely to indicate that they planned to earn an MBA (3.8% vs. 10.2%).

National Survey of Student Engagement

With regard to academic engagement, the National Survey of Student Engagement measures the amount of time and effort students put into their studies and other educationally purposeful activities, and how the institution deploys its resources and organizes the curriculum and other learning opportunities to get students to participate in activities that decades of research studies show are linked to student learning. NSSE does not assess student learning directly, but survey results point to areas where colleges and universities are performing well and aspects of the undergraduate experience that could be improved. Again, the 2017 National Survey of Student Engagement was administered at 636 four-year colleges and universities, resulting in a sample of 517,850 students.

Queer-Spectrum Students

Queer-spectrum students comprised 5.3% (n=27,487) of survey participants. To review disaggregated findings for reflective and integrative learning measures and intended major and degree aspirations, see Appendices G-H.

Reflective and Integrative Learning

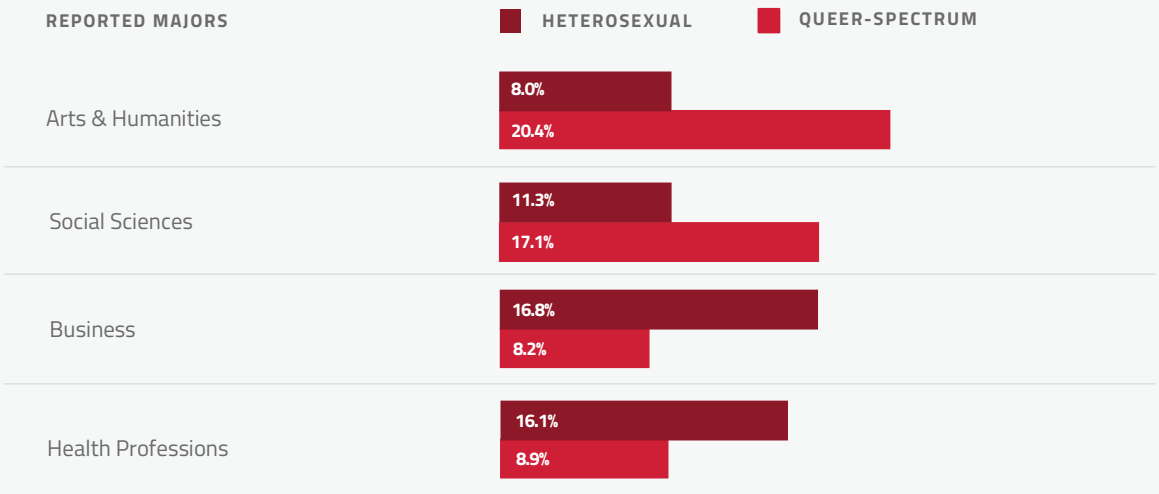
Generally, queer-spectrum students participated more frequently in reflective and integrative learning activities. Over two-thirds of queer-spectrum students (66.3%) frequently included diverse perspectives in course discussions or assignments, compared to 52.6% of heterosexual students, and more frequently connected their learning to societal problems or issues than heterosexual peers (68.0 vs. 57.7%, respectively). Queer-students more commonly examined the strengths and weaknesses of their own views when compared to heterosexual students (72.0% vs. 65.3%), and more frequently attempted to understand the views of another peer by imagining how an issue looks from their perspective (78.2% vs. 71.8%).

Major and Degree Aspirations

Queer-spectrum students more often majored in fields such as Arts and Humanities (20.4%) and Social Sciences (17.1%) than their straight peers (8.0% and 11.3%, respectively), but less often major in fields such as Business (8.2%) and Health Professions (8.9%) compared to their straight peers (16.8% and 16.1%, respectively). This varies

FIGURE NSSE1

Comparison of Majors of Heterosexual & Queer-Spectrum Students



within the disaggregated queer-spectrum population; for example, 31.5% of queer students majored in Arts and Humanities compared to 14.7% of lesbian students (Table NSSE 8, Appendix H). Queer-spectrum students more often aspired to a doctoral or professional degree (27.6%) than their straight peers (21.4%).

Trans-Spectrum Students

Of the 517,850 students who participated in the survey, 1,571 (<0.1%) students identified as trans-spectrum. To review disaggregated findings for reflective and integrative learning measures and intended major and degree aspirations, see Appendices I-J.

Reflective and Integrative Learning

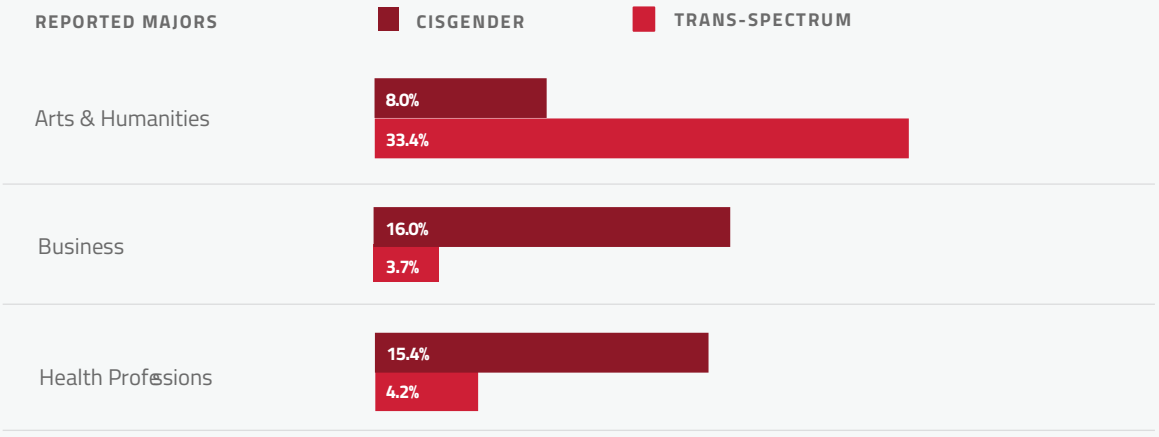
Generally, trans-spectrum students participated more frequently in reflective and integrative learning activities than their cisgender peers. Over three-quarters of trans-spectrum students (75.4%) frequently included diverse perspectives in course discussions or assignments, compared to 53.8% of cisgender students, and more frequently connected their learning to society problems or issues than cisgender peers (72.8 vs. 58.6% respectively). Like queer-spectrum students, trans-spectrum students more frequently examined the strengths and weaknesses of their own views when compared to cisgender students (73.7% vs. 65.8%), and more frequently attempted to understand the views of another peer by imagining how an issue looks from their perspective (77.8% vs. 72.4%). Disaggregated findings for trans-spectrum students are reflected in Table NSSE9 (Appendix I).

Major and Degree Aspirations

Trans-spectrum students more often majored in fields such as Arts and Humanities (33.4%) and Social Sciences (17.0%) than their cisgender peers (9.2% and 11.8%, respectively), but less often majored in fields such as Business (3.7%) and Health Professions (4.2%) than their cisgender peers (16.0% and 15.4%, respectively). Trans-spectrum students (29.7%) were also more interested in pursuing a doctoral or professional degree than their cisgender peers (22.0%). For disaggregated findings for trans-spectrum students, see Table NSSE10 (Appendix J).

FIGURE NSSE2

Comparison of Majors of Cisgender & Trans-Spectrum Students



Limitations and Recommendations for Future Research

Due to the amount of data reviewed for this initial paper, we were limited to a dichotomous analysis of queer-spectrum and trans-spectrum students in comparison to heterosexual and cisgender/non-transgender peers. The collapsing of sexual and gender identities obscures the differences within queer-spectrum and trans-spectrum populations, restricting the depth of our analysis. Thus, we were limited to providing a mere snapshot of our findings. Future papers will explore differences within queer-spectrum and trans-spectrum populations, the impact of other salient identities (e.g., racial identity, spiritual/religious affiliation) on students' experiences, and correlational analysis of the more troubling findings in our analyses, such as suicide ideation.

Further, instruments designed for the general student body preclude the inclusion of questions that capture the unique challenges facing queer-spectrum and trans-spectrum students (e.g. family support and acceptance) and lack the capacity to understand the qualitative aspects of these experiences.

Conclusion

As the architects of the student experience, it is not enough to reduce harm (e.g., harassment, discrimination and violence). Institutions must actively create environments where students perceive themselves as valued members of the campus community.

CONCLUSIONS AND IMPLICATIONS FOR PRACTICE

Based upon the analyses conducted across seven national survey instruments, it is clear that queer-spectrum and trans-spectrum students' experiences are disparate to those of heterosexual and cisgender students across climate, health, and academic engagement.

Academic Engagement

This study revealed that queer-spectrum and trans-spectrum students are disproportionately underrepresented in certain academic areas- particularly the health sciences/professions and business. While many institutions have established targeted recruitment and retention programs for women in these fields, they may benefit from engaging in similar efforts to increase representation of queer-spectrum and trans-spectrum students in Business, Health Professions, and STEM fields. Further, while queer-spectrum and trans-spectrum students consistently report higher frequencies of reflective and integrative learning behaviors, they simultaneously report markedly higher rates of academic disengagement behaviors and academic impediments related to depression, anxiety, and stress than their heterosexual and cisgender counterparts. Preparing faculty to recognize inconsistencies between cognitive engagement and behavioral disengagement, and increasing their awareness of campus resources, could provide an intervention that improves academic performance, persistence, and graduation rates.

Mental & Emotional Health

Among all surveys inquiring about mental health, profound disparities existed between queer-spectrum and trans-spectrum students and their heterosexual and cisgender counterparts. While it appears that roughly half of queer-spectrum and trans-spectrum students are utilizing student psychological services, their self-appraisal of emotional health and rates of depression appear consistent across all class standings. This suggests that student psychological services may benefit from seeking alternative strategies to improve the overall mental health of queer-spectrum and trans-spectrum. Strategic outreach could have a measurable impact on self-harming behaviors (e.g., substance use, self-injury), academic impediments caused by depression and anxiety, and academic disengagement. It is imperative that clinicians providing queer-spectrum and trans-spectrum students with psychological services engage in on-going professional development to understand the unique needs of these populations. Clinical preparation, as opposed to Safe Zone training, cannot

be stressed enough, as queer-spectrum students and trans-spectrum students have very different environmental stressors and psychological needs from their heterosexual and cisgender/non-transgender peers, as well as from each other.[22]

Campus Climate

The analyses of campus climate measures revealed several disparities for queer-spectrum and trans-spectrum students. These students were less likely to feel valued by their institution, feel that their sexual identity and gender identities were respected on campus, or experience a sense of belonging similar to their heterosexual and cisgender peers. More troubling, these students were significantly more likely to have experiences with harassment and discrimination and less likely to view their campus as safe and secure. As the architects of the student experience, however, it is not enough to reduce harm (e.g., harassment, discrimination, violence). Institutions must actively create environments where these students feel a comparable sense of belonging to heterosexual and cisgender peers.

Assessment

For institutions seeking to assess their climate for queer-spectrum and trans-spectrum students, the Campus Pride Index is an excellent benchmarking tool to assess institutional strengths and areas for improvement.[23] The index measures various dimensions of campus life, including institutional policies, institutional commitment and support, academic life, student life, campus housing, campus safety, counseling and health services and recruitment and retention efforts as they relate to queer-spectrum and trans-spectrum students.[24] For professionals with limited time and/or resources to conduct a campus climate assessment, the Campus Pride Index is accessible and provides clear and concrete strategies to create an "inclusive, welcoming, and respectful environment" for queer-spectrum and trans-spectrum students.[25] With regard to these activities, whether they be undertaken by an ad hoc task force or under the purview of a different department, higher education administrators must make this work a priority, as opposed to viewing it as peripheral or secondary. Comparatively speaking, institutions routinely expend a great deal of resources to improve the experiences of student populations that are often much smaller in number (e.g., students who participate in Greek life, student athletes). When institutions neglect to examine the climate for these populations, they implicitly convey to queer-spectrum and trans-spectrum students that their needs are not worthy of attention.

Faculty/Staff & Peer Mentoring

Fostering the development of social support networks is essential to the success of queer-spectrum and trans-spectrum students. For many of these students, parents, siblings, and extended family are not a reliable source of support due to prejudicial regard for sexual orientation and/or gender identity and expression.[26] Simultaneously, students fearing lack of acceptance/rejection from family members are more likely to conceal their gender or sexual identity from them, thus isolating themselves from potential sources of support.[27] Faculty/staff mentors and advocates, and connection to queer-spectrum and trans-spectrum peers, strengthen a student's social support network in times of distress/victimization, foster positive identity development, and reduce social isolation and its related impacts on health and academic outcomes.[28]

Previous studies indicate that students are far more likely to reach out to a peer in times of distress than a campus professional.[29] Thus, college counseling centers might seek to cultivate queer-spectrum and trans-spectrum peer mentoring programs to ensure that students seeking support have a direct conduit to psychological support services. Moreover, peer mentoring programs encourage the development of peer support

networks, increase awareness of campus resources, and inherently promote help-seeking behaviors and greater self-efficacy.

Student Support Services

Queer-spectrum and trans-spectrum students support/outreach programs, delivered through offices with names like LGBT Life, LGBT Resource Center, Gender & Sexuality Center, and Campus Pride Center, are a leading strategy to address the needs of queer-spectrum and trans-spectrum students. Increasingly common within higher education, these offices regularly advance objectives that have tangible impacts on queer-spectrum and trans-spectrum students and provide a trusted point-of-entry for queer-spectrum and trans-spectrum students seeking support. Most critical to health and social outcomes, these programs provide concrete opportunities for queer-spectrum and trans-spectrum students to connect, build peer support networks, and develop a sense of community that fosters a sense of belonging on campus. In addition to fostering positive identity development, these support networks may also reduce internalized homophobia/transphobia and depressive symptoms, while improving coping behaviors and overall resiliency.[30] These centers represent a highly visible point-of-entry for queer-spectrum and trans-spectrum students seeking support, and are more likely to engender their trust by virtue of their mission.

In the context of the campus at large, resource centers also have a significant impact on campus climate. While program models vary by institution, services provided commonly address and respond to homophobia/transphobia within the campus community, educate the campus' various stakeholders about queer-spectrum and trans-spectrum issues, increase visibility of sexual and gender diversity, and proactively mitigate bias, microaggressions, and the underpreparedness of faculty/staff/administrators to support queer-spectrum and trans-spectrum students. These are key practices to creating and sustaining a welcoming, affirming and inclusive campus that involves the entire campus community.[31]

Most importantly, professionally staffed support services are critical to alleviating the burden on queer-spectrum and trans-spectrum students to convene their own resource networks (e.g., LGBTQ student organizations, peer-to-peer support). Undergraduate students are not equipped to address the complex challenges described in this paper—challenges they themselves may be experiencing. Additionally, these responsibilities increase stress, time away from academics and self-care, and may result in academic disengagement due to the over-commitment of queer-spectrum and trans-spectrum students to their peers.[32] Simply put, these students are entitled to be the recipients, as opposed to the providers, of resources and support as much as any other student.

Institutions of higher education must begin looking into outcomes beyond grade point average, retention, and graduation rates to measure student success. When only 55.4% of queer-spectrum students and 37.8% of trans-spectrum students report feeling a sense of belonging on campus, higher education leaders are obligated to take notice. These recommendations are but a few strategies to improve the climate for, and outcomes of, queer-spectrum and trans-spectrum students. For a more detailed list of strategies that institutions may employ, refer to Rankin, Weber, Blumenfeld & Frazer's 2010 State of Higher Education for LGBT People.[33] To conclude, we encourage higher education leaders to review policies and programs at their respective institutions, speak with queer-spectrum and trans-spectrum students about their experience on campus, and engage all members of the campus community in the creation and maintenance of an affirming climate for this important population.

Reference

Endnotes	41
References	42
Appendices A–J	45

ENDNOTES

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[7] Diplacido, 1998; Rankin, 2004; Rankin, 2005; Rankin, Weber, Blumenfeld & Frazer, 2010

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[9] Ross & Rosser, 1996; Rostosky & Riggle, 2002

[10] Amadio & Chung, 2004; Chakraborty, McManus Brugha, Bebbington & King, 2011; Herek, Gillis, Cogan & Glunt, 1997; Grossman, 1997; Hill & Grace, 2009; Mayock, Carr & Kitching, 2009; Rankin, Weber, & Garvey, 2015; Oswalt & Wyatt, 2011; Ross & Rosser, 1996; Smalley, Warren & Barefoot., 2016; Szymanski, Chung, & Balsam, 2001; Sue, 2010; Woodford & Kulick, 2015

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APPENDIX A

TABLE NSSE1

Percentages of High-Quality Interactions and Substantial Institution Emphasis by Sexual Orientation

Indicate the quality of your interactions with the following people at your institution.*	A**	B	G	L	P	Q	Q/U	ASO	H	QUEER SPECTRUM
Students	43.9	47.4	53.2	49.6	45.3	41.9	45.5	40.5	55.8	47.6
Academic advisors	46.0	46.7	49.3	50.0	50.5	43.7	44.5	48.1	50.0	47.1
Faculty	53.8	52.8	54.3	54.4	52.7	54.4	52.4	56.4	53.7	53.4
Student services staff (career services, student activities, housing, etc.)	41.7	40.4	42.2	41.2	42.8	36.3	39.5	35.9	42.4	40.3
Other administrative staff and offices (registrar, financial aid, etc.)	33.7	36.6	38.9	39.1	36.8	28.8	35.0	34.0	41.9	36.4
Providing support to help students succeed academically	76.3	72.3	71.5	72.2	72.5	65.7	73.2	68.2	74.9	71.7
Encouraging contact among students from different backgrounds (social, racial/ethnic, religious, etc.)	58.8	57.6	56.4	58.9	60.3	50.1	56.2	52.8	59.2	56.8
Providing opportunities to be involved socially	70.9	68.7	66.2	68.6	69.5	65.4	68.3	63.1	69.2	67.9
Providing support for your overall well-being (recreation, health care, counseling, etc.)	65.6	64.5	63.3	65.4	67.2	55.7	64.9	59.9	66.8	63.8
Helping you manage your non-academic responsibilities	26.4	30.1	32.6	34.5	27.2	20.1	28.2	26.2	37.9	29.7
Attending events that address important social, economic, or political issues (work, family, etc.)	51.7	51.1	47.6	50.6	53.7	50.3	51.7	43.5	48.7	50.5

* Percentages of students rating "6" or "7 Excellent" on a 1-7 scale

**A=Asexual, B=Bisexual, G=Gay, L=Lesbian, P=Pansexual, Q=Queer, Q/U=Questioning/Unsure, ASO=Another Sexual Orientation, H=Heterosexual

APPENDIX B

TABLE NSSE2

Percentages of Frequent Collaborative Learning and Student-Faculty Interaction by Sexual Orientation

During the current school year, about how often have you done the following?*	A**	B	G	L	P	Q	Q/U	ASO	H	QUEER SPECTRUM
Asked another student to help you understand course material	39.0	49.4	48.0	45.2	46.6	43.8	44.9	41.2	50.0	47.4
Explained course material to one or more students	54.8	63.1	65.2	59.5	61.4	62.3	56.0	60.3	60.5	62.0
Prepared for exams by discussing or working through course material with other students	35.3	47.1	50.7	45.3	42.2	44.0	41.5	37.6	51.1	46.1
Worked with other students on course projects or assignments	47.0	56.6	61.1	56.6	50.6	52.5	52.2	50.3	62.2	56.0
Talked about career plans with a faculty member	30.6	40.8	45.7	41.4	39.6	38.7	33.6	38.4	42.0	40.5
Worked with a faculty member on activities other than coursework (committees, student groups, etc.)	21.4	27.2	31.4	26.6	25.8	28.3	22.0	27.2	24.6	27.2
Discussed course topics, ideas, or concepts with a faculty member outside of class	26.1	32.5	36.6	32.9	30.1	36.0	26.9	36.6	29.8	32.8
Discussed your academic performance with a faculty member	21.2	31.8	36.3	32.6	30.8	31.3	25.6	32.6	31.9	31.8

*Percentages of students rating "6" or "7 Excellent" on a 1-7

**A=Asexual, B=Bisexual, G=Gay, L=Lesbian, P=Pansexual, Q=Queer, Q/U=Questioning/Unsure, ASO=Another Sexual Orientation, H=Heterosexual

APPENDIX C

TABLE NSSE3

Percentage of Substantial Perceived Gains and High Satisfaction by Sexual Orientation

How much has your experience at this institution contributed to your knowledge, skills, and personal development in the following areas?	A*	B	G	L	P	Q	Q/U	ASO	H	QUEER SPECTRUM
Understanding people of other backgrounds (economic, racial/ethnic, political, religious, nationality, etc.)**	58.7	64.9	65.5	67.0	66.0	63.3	62.3	56.2	65.1	64.7
	A*	B	G	L	P	Q	Q/U	ASO	H	QUEER SPECTRUM
How would you evaluate your entire educational experience at this institution?***	85.0	84.5	81.6	83.7	83.2	82.8	83.9	78.0	87.0	83.6
If you could start over again, would you go to the same institution you are now attending?****	82.7	81.2	76.7	81.2	82.0	78.1	80.6	78.8	84.2	80.2

*A=Asexual, B=Bisexual, G=Gay, L=Lesbian, P=Pansexual, Q=Queer, Q/U=Questioning/Unsure, ASO=Another Sexual Orientation, H=Heterosexual

**Percentages of students responding "Very much" or "Quite a bit"

***Percentages of students responding "Excellent" or "Good"

****Percentages of students responding "Definitely yes" or "Probably yes"

APPENDIX D

TABLE NSSE4

Percentages of High-Quality Interactions and Substantial Emphasis by Gender Identity

Indicate the quality of your interactions with the following people at your institution.*	AG**	GF	GQ	NB	TG	AGI	C	TRANS-SPECTRUM
Students	34.4	39.5	46.7	40.9	42.6	46.2	54.9	41.3
Academic advisors	41.9	42.6	51.1	45.6	50.0	42.0	49.7	45.0
Faculty	51.6	54.9	54.7	53.5	53.6	44.4	53.6	52.1
Student services staff (career services, student activities, housing, etc.)	38.9	36.1	36.3	37.7	47.8	29.7	42.1	37.3
Other administrative staff and offices (registrar, financial aid, etc.)	29.2	33.7	29.7	28.1	35.2	29.0	41.3	30.4
Providing support to help students succeed academically	65.8	74.4	71.0	65.6	62.5	64.8	74.5	67.1
Encouraging contact among students from different backgrounds (social, racial/ethnic, religious, etc.)	46.6	59.6	48.9	51.9	60.0	53.4	58.8	53.4
Providing opportunities to be involved socially	63.5	72.4	69.1	65.2	66.5	63.0	68.8	66.3
Providing support for your overall well-being (recreation, health care, counseling, etc.)	57.5	60.8	54.7	57.4	57.1	58.1	66.3	57.8
Helping you manage your non-academic responsibilities	20.3	28.0	19.4	22.0	23.4	29.4	37.0	24.0
Attending events that address important social, economic, or political issues (work, family, etc.)	41.8	51.5	51.1	50.0	43.8	46.2	48.7	47.8

*Percentages of students rating "6" or "7 Excellent" on a 1-7 scale

**AG=Agender, GF=Genderfluid, GQ=Genderqueer, NB=Non-Binary, TG=Transgender, AGI=Another Gender Identity, C=Cisgender

APPENDIX E

TABLE NSSE5

Percentages of Frequent Collaborative Learning and Student-Faculty Interaction, Substantial Perceived Gains, and High Satisfaction by Gender Identity

During the current school year, about how often have you done the following?*	AG**	GF	GQ	NB	TG	AGI	C	TRANS-SPECTRUM
Asked another student to help you understand course material	32.1	42.9	48.2	44.1	41.1	49.4	49.6	43.1
Explained course material to one or more students	50.9	64.2	68.3	62.4	59.5	62.8	60.4	61.3
Prepared for exams by discussing or working through course material with other students	28.5	42.5	43.9	40.9	35.9	46.0	50.4	40.0
Worked with other students on course projects or assignments	32.0	57.8	43.2	49.4	53.5	53.2	61.4	48.9
Talked about career plans with a faculty member	25.7	39.1	43.9	34.4	37.0	37.6	41.7	35.7
Worked with a faculty member on activities other than coursework (committees, student groups, etc.)	17.6	28.8	33.8	26.8	26.5	27.7	24.8	26.6
Discussed course topics, ideas, or concepts with a faculty member outside of class	25.7	33.5	38.1	36.5	36.8	40.6	30.0	35.3
Discussed your academic performance with a faculty member	18.6	36.0	31.7	27.9	35.1	35.6	31.9	30.4

*Percentages of students responding "Very often" or "Often"

**AG=Agender, GF=Genderfluid, GQ=Genderqueer, NB=Non-Binary, TG=Transgender, AGI=Another Gender Identity, C=Cisgender

APPENDIX F

TABLE NSSE6

Percentages of Frequent Substantial Perceived Gains, and High Satisfaction by Gender Identity

How much has your experience at this institution contributed to your knowledge, skills, and personal development in the following areas?*	AG**	GF	GQ	NB	TG	AGI	C	TRANS-SPECTRUM
Understanding people of other backgrounds (economic, racial/ethnic, political, religious, nationality, etc.)	50.9	67.4	65.5	62.2	58.4	60.7	64.9	61.1
	AG**	GF	GQ	NB	TG	AGI	C	TRANS-SPECTRUM
How would you evaluate your entire educational experience at this institution??***	77.7	83.5	84.9	85.4	83.2	74.3	86.5	81.8
If you could start over again, would you go to the same institution you are now attending?****	78.6	83.4	81.3	78.4	81.1	74.0	83.8	79.1

*Percentages of students responding "Very much" or "Quite a Bit"

**AG=Agender, GF=Genderfluid, GQ=Genderqueer, NB=Non-Binary, TG=Transgender, AGI=Another Gender Identity, C=Cisgender

***Percentages of students responding "Excellent" or "Good"

****Percentages of students responding "Definitely yes" or "Probably yes"

APPENDIX G

TABLE NSSE7

Percentages of Frequent Reflective and Integrative Learning Participation by Sexual Orientation

During the current school year, about how often have you done the following?*	A**	B	G	L	P	Q	Q/U	ASO	H	QUEER SPECTRUM
Combined ideas from different courses when completing assignments	60.6	67.2	66.9	66.6	67.3	71.8	59.5	66.9	62.4	66.6
Connected your learning to societal problems or issues	59.7	68.0	64.5	68.3	71.7	78.7	63.5	64.3	57.7	68.0
Included diverse perspectives (political, religious, racial/ethnic, gender, etc.) in course discussions or assignments	61.1	66.2	63.5	66.6	72.2	79.6	58.9	61.3	52.6	66.3
Examined the strengths and weaknesses of your own views on a topic or issue	66.2	72.4	72.7	70.8	74.4	77.3	66.0	71.8	65.3	72.0
Tried to better understand someone else's views by imagining how an issue looks from their perspective	75.6	78.4	77.1	77.7	82.8	81.0	75.3	77.4	71.8	78.2
Learned something that changed the way you understand an issue or concept	65.5	73.9	73.3	74.2	72.7	76.0	71.6	67.2	70.9	73.6
Connected ideas from your courses to your prior experiences and knowledge	83.5	85.9	84.6	84.8	87.3	88.9	83.6	83.9	82.1	85.6

*Percentages of students responding "Very often" or "Often"

**A=Asexual, B=Bisexual, G=Gay, L=Lesbian, P=Pansexual, Q=Queer, Q/U=Questioning/Unsure, ASO=Another Sexual Orientation, H=Heterosexual

APPENDIX H

TABLE NSSE8

Percentages of Students' Major and Degree Aspirations by Sexual Orientation

Major or Expected Major	A*	B	G	L	P	Q	Q/U	ASO	H	QUEER-SPECTRUM
Arts & Humanities	29.3	19.7	18.1	14.7	26.3	31.5	21.2	21.3	8.0	20.4
Biological Sciences, Agriculture, & Natural Resources	13.5	12.9	10.8	10.0	12.4	9.7	12.8	9.6	10.5	11.9
Physical Sciences, Mathematics, & Computer Science	10.9	6.4	8.2	5.1	6.3	6.4	7.5	7.1	5.7	6.7
Social Sciences	14.1	17.4	13.2	17.7	18.7	22.0	16.0	19.9	11.3	17.1
Business	4.8	7.7	13.2	8.9	4.7	3.8	7.5	8.0	16.8	8.2
Communications, Media, & Public Relations	3.8	4.7	6.4	4.3	4.1	4.6	4.1	3.7	3.8	4.8
Education	4.8	6.0	4.9	6.2	6.1	4.0	5.4	5.8	7.2	5.6
Engineering	5.6	5.4	6.1	4.4	3.3	3.3	6.0	5.9	8.3	5.2
Health Professions	4.4	9.3	9.0	13.0	6.2	5.0	8.0	5.9	16.1	8.9
Social Service Professions	3.1	5.2	3.8	8.3	4.9	3.4	4.8	4.6	5.1	5.1
All other majors	3.9	3.9	4.8	5.7	5.5	4.1	4.3	6.1	5.8	4.4
Undecided, undeclared	1.7	1.5	1.4	1.7	1.5	2.2	2.4	2.0	1.5	1.7

*A=Asexual, B=Bisexual, G=Gay, L=Lesbian, P=Pansexual, Q=Queer, Q/U=Questioning/Unsure, ASO=Another Sexual Orientation

APPENDIX H

TABLE NSSE8 (CONTINUED)

Percentages of Students' Major and Degree Aspirations by Sexual Orientation (Continued)

What is the highest level of education you ever expect to complete?	A*	B	G	L	P	Q	Q/U	ASO	H	QUEER SPECTRUM
Some college/ university but less than a bachelor's degree	3.8	5.4	7.0	7.6	5.4	4.5	4.1	4.5	6.3	5.6
Bachelor's degree (B.A., B.S., etc.)	35.5	27.8	28.7	28.3	30.5	25.1	32.0	32.1	31.8	28.5
Master's degree (M.A., M.S., etc.)	34.7	38.7	37.7	38.3	35.9	38.6	39.0	35.4	40.4	38.3
Doctoral or professional degree (Ph.D., J.D., M.D., etc.)	26.0	28.2	26.5	25.9	28.2	31.7	24.9	28.0	21.4	27.6

*A=Asexual, B=Bisexual, G=Gay, L=Lesbian, P=Pansexual, Q=Queer, Q/U=Questioning/Unsure, ASO=Another Sexual Orientation

APPENDIX I

TABLE NSSE9

Percentages of Frequent Reflective and Integrative Learning Participation by Gender Identity

During the current school year, about how often have you done the following?*	AG**	GF	GQ	NB	TG	AGI	C	TRANS-SPECTRUM
Combined ideas from different courses when completing assignments	60.4	64.9	77.7	71.3	70.3	63.2	62.7	67.7
Connected your learning to societal problems or issues	67.6	72.8	84.9	79.3	72.4	59.0	58.6	72.8
Included diverse perspectives (political, religious, racial/ethnic, gender, etc.) in course discussions or assignments	70.1	79.5	84.1	81.4	80.5	56.4	53.8	75.4
Examined the strengths and weaknesses of your own views on a topic or issue	66.2	72.3	81.3	78.7	74.1	67.8	65.8	73.7
Tried to better understand someone else's views by imagining how an issue looks from their perspective	74.3	80.9	87.1	79.5	79.9	68.3	72.4	77.8
Learned something that changed the way you understand an issue or concept	57.2	74.9	76.3	70.6	68.5	65.9	71.0	68.9
Connected ideas from your courses to your prior experiences and knowledge	83.8	83.9	95.0	89.7	87.0	80.9	82.4	86.5

*Percentages of students responding "Very often" or "Often"

**AG=Agender, GF=Genderfluid, GQ=Genderqueer, NB=Non-Binary, TG=Transgender, AGI=Another Gender Identity, C=Cisgender

APPENDIX J

TABLE NSSE10

Percentages of Students' Major and Degree Aspirations by Gender Identity

MAJOR OR EXPECTED MAJOR	AG*	GF	GQ	NB	TG	AGI	C	TRANS-SPECTRUM
Arts & Humanities	40.9	33.6	35.3	36.5	25.0	26.3	9.2	33.4
Biological Sciences, Agriculture, & Natural Resources	11.4	9.8	11.5	9.5	15.2	7.6	10.6	10.4
Physical Sciences, Mathematics, & Computer Science	9.5	8.7	5.0	8.0	10.9	9.5	5.9	8.7
Social Sciences	13.2	16.6	25.9	18.6	15.2	14.5	11.8	17.0
Business	2.3	4.2	0.7	2.5	4.3	7.6	16.0	3.7
Communications, Media, & Public Relations	5.0	5.3	5.0	4.5	4.3	2.3	3.8	4.4
Education	3.2	6.4	3.6	4.1	2.7	4.6	7.0	4.2
Engineering	3.6	3.8	4.3	3.3	3.8	4.6	8.0	3.8
Health Professions	3.6	2.3	2.2	2.7	6.0	9.2	15.4	4.2
Social Service Professions	4.1	3.8	0.7	3.5	4.9	4.2	5.1	3.7
All other majors	2.3	3.4	3.6	4.7	6.5	5.3	5.7	4.4
Undecided, undeclared	0.9	2.3	2.2	2.1	1.1	4.2	1.5	2.2

*AG=Agender, GF=Genderfluid, GQ=Genderqueer, NB=Non-Binary, TG=Transgender, AGI=Another Gender Identity, C=Cisgender

APPENDIX J

TABLE NSSE10 (CONTINUED)

Percentages of Students' Major and Degree Aspirations by Gender Identity (Continued)

What is the highest level of education you ever expect to complete?	AG*	GF	GQ	NB	TG	AGI	C	TRANS-SPECTRUM
Some college/university but less than a bachelor's degree	3.6	5.3	2.2	3.9	5.9	6.0	6.3	4.5
Bachelor's degree (B.A., B.S., etc.)	31.7	28.6	29.5	27.3	30.3	36.2	31.6	30.2
Master's degree (M.A., M.S., etc.)	38.9	36.1	33.8	37.0	31.4	33.6	40.1	35.6
Doctoral or professional degree (Ph.D., J.D., M.D., etc.)	25.8	30.1	34.5	31.8	32.4	24.2	22.0	29.7

* AG=Agender, GF=Genderfluid, GQ=Genderqueer, NB=Non-Binary, TG=Transgender, AGI=Another Gender Identity, C=Cisgender

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