

2022

DRIVING

TOWARD A DEGREE

CLOSING OUTCOME GAPS
THROUGH STUDENT SUPPORTS



Bay View Analytics

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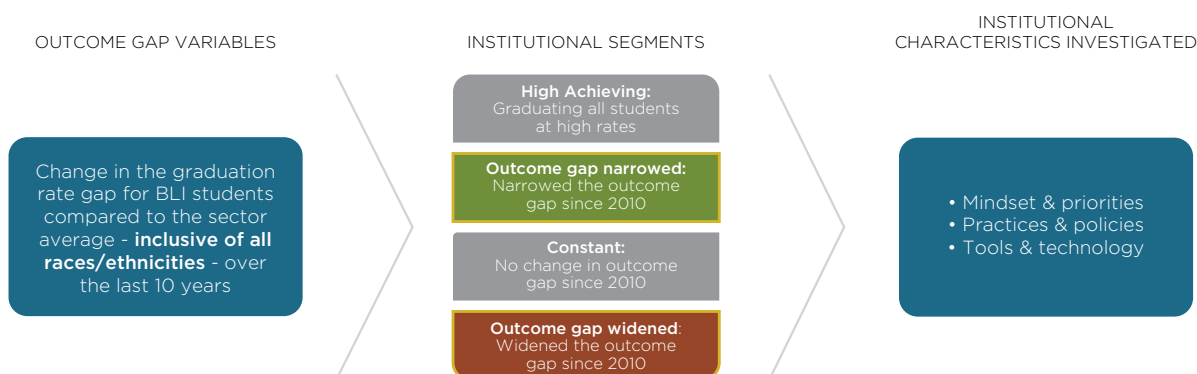
EXECUTIVE SUMMARY: CLOSING OUTCOME GAPS THROUGH STUDENT SUPPORTS

Equity in outcomes is critical to student success in higher education. Throughout the past five years, we have engaged with institutional administrators, frontline support providers (advisors, counselors, and others), and technology stakeholders to better understand the challenges to improving student success through academic advising and other student supports. **In this year's research, we designed a methodology to measure progress towards equitable academic outcomes by race and ethnicity, represented by data on how the needs of Black, Latinx, Indigenous (BLI) groups, and students with financial needs differ from those of White students. The data also reflects how the scaled implementation of certain advising practices and technologies plays a role in closing gaps in graduation rates by race and ethnicity.**

We frame our work around an academic outcome gap using an updated methodology we developed that includes historically underserved minorities in higher education as part of the norm (rather than solely White students). Over the last decade, student demographics have shifted in the higher education ecosystem. In 2010, White students made up 62% of the student population at two- and four-year institutions. In the most recent data available from IPEDS, White students make up 54% of the student population. Most prior research on academic outcome gaps compares the performance of BLI students to White students. We created an updated way to measure the outcome gap at the institutional level by including BLI students in the norm and ensuring the inclusion of all other racial and multiracial groups.

Figure 1

Updated approach to measuring equitable academic outcomes



Briefly, our methodology disaggregates institutional graduation rate data (150% of normal time) by race and ethnicity and compares that institution-specific figure to the sector average (including all races and ethnicities). We measure this “gap” in the most recent data available to us to see how it has changed in relation to the same measure from 10 years prior¹. We then segmented our survey responses into institutions that have seen this gap narrow over time (positive movement for equity in this academic outcome) versus institutions that have seen the gap widen over time.

1. See Appendix A for detailed methodology.

A practical and strategic advantage of our methodology over the status quo is that, for the first time, Minority Serving Institutions (MSIs) can be included in the conversation on closing graduation gaps by race and ethnicity. When the performance of BLI students is compared only to the performance of White students, MSIs do not often have a high enough sample of White students to be included in any meaningful analyses. In 2022, we are grateful that close to 2,000 respondents representing 1,022 unique institutions have elected to participate in our research; furthermore, our survey sample includes 136 unique Hispanic serving institutions (HSIs), 38 unique Historically Black Colleges and Universities (HBCUs), and other Minorities Serving Institutions (MSIs; namely Predominately Black Institutions and Tribal Colleges and Universities). Given the students that MSIs serve, we have given particular attention to an MSI segmentation in our work. Additionally, of the 1,022 unique institutions represented, a comparable number are “outcome gap narrowed” institutions (338) and “outcome gap widened” institutions (215), with MSIs roughly evenly distributed across these two segments. For details, refer to the Updated Approach to Measuring Equitable Outcomes section and Appendix A.

Apart from the demographic changes in the student body, we observe in our survey that academic advisors (professional and faculty) believe that the support needs (and barriers to improved advising) are different for BLI students and students with financial need and, importantly, not well understood. This suggests that to design better student supports for BLI students, as a field, we need to focus on these students’ needs and understand how to recognize when it may be important to offer them differentiated services. Most support providers are White women (and this is reflected in our survey and corroborated by NACADA²). This is not to say that student support teams must reflect the demographics of those they serve, but they may need awareness training and professional development in serving BLI populations.

Leveraging this new segmentation based on outcome gaps, we interrogate mindset, practice, and technology implementation data from Driving Towards a Degree to see if we can identify key areas of investment that may drive differences in progress towards closing graduation rate outcome gaps for Black and Latinx students. We find that mindset – i.e., attitudes about commitment to equity – is consistent across the outcome gap narrowed versus outcome gap widened institutions in our sample set. Both types of institutions believe equity is a priority in the design of their advising practices and believe that technology has a role in creating more equitable academic outcomes for BLI students and those with financial need.

2. <https://nacada.ksu.edu/Portals/0/AboutUs/NACADA%20Leadership/Administrative%20Division/Membership%20Comm/2019/Fall2019%20Demographics.pdf?ver=2020-01-16-150921-367>

In contrast, we find that institutions with narrowed outcome gaps have statistically significant differences in caseload numbers (and reported caseload manageability), and deployment of select advising technologies compared to institutions that widened their racial and ethnic outcomes gaps over the last decade. Specifically, the implications of these findings for the advising field are far-reaching:

- **Caseload size is lower, and manageability is higher at institutions where the race/ethnicity graduation rate gap has improved in the last 10 years.** When caseloads are high, it limits the scalability of certain effective³ advising practices, such as mandatory advising. And, when caseloads are high during peak season, professional advisors spend less time with each student during advising sessions.
- **Scaled implementation of caseload management technology and integration solutions is more prevalent at outcome gap narrowed institutions” and “outcome gap widened institutions”** (controlling for full-time equivalent enrollments of over 5,000). These findings make sense given caseloads are higher at larger institutions and rely on several technologies to support advising processes.

Our work has many implications for the advising ecosystem:

1. First and foremost, we believe that institutions need to track their racial and ethnic graduation rate outcome gaps over time in a way that includes BLI students in the norm and then monitor this figure closely because, ultimately, you cannot change what you do not measure. **We posit that institutional leadership needs to designate an accountable party to make closing the outcome gap (or in some cases, reversing the widening of outcome gaps) part of their institutional strategic plans.**
2. Technology solution providers can support the pursuit of equity in academic outcomes for BLI students by making data on student identities (and thereby needs) more easily accessible to support providers so they can meaningfully engage students with services customized for their experiences.
3. Finally, **policymakers should pay attention to which institutions are closing academic outcome gaps for BLI students to find ways to scale their impact through funding or directing students of color to those institutions by publicizing their success.**

3. CCRC developed an evidence-based framework for advising redesign called SSIPP, which emphasizes a sustained, strategic, integrated, proactive, and personalized approach to advising

UPDATED APPROACH TO MEASURING EQUITABLE ACADEMIC OUTCOMES

We create an academic outcome gap definition for Black, Latinx, and Indigenous students that includes these students as the norm. Our methodology is designed to counter the status quo of comparing BLI student achievements to White student achievements, which does not account for systemic differences in preparedness for post-secondary education or acknowledge the role of systemic racism in the design of US higher education institutions and the incarnation of Community Colleges and Minority Serving Institutions (MSIs) as secondary to institutions founded to serve wealthy White students.

Based on nationally available outcomes data disaggregated by race, ethnicity, and institution, we calculated a graduation rate outcome gap variable for Black, Latinx, and Indigenous students (i.e., completion rate in 150% of normal time) over the last decade. The graduation rate outcome gap for Black students is calculated by comparing an individual institution's graduation rate for Black students against the sector average (two-year, four-year public, or four-year private, inclusive of Black students) now and 10 years ago. This calculation was repeated for Latinx and Indigenous students. We then segmented our data into institutions who narrowed this graduation rate outcome gap for any or all groups over the last decade (a positive trend for equitable academic outcomes) and those institutions who saw this outcome gap widen. Methodology details are included in Appendix A of this report.

CLOSING GRADUATION RATE GAPS FOR BLACK AND LATINX STUDENTS

Leveraging this new outcome gap segmentation, we interrogate the Driving Toward a Degree research data on mindset, practice, and technology to determine what commonalities and differences exist amongst the institutions that saw their outcome gaps narrow vs. widen over the last 10 years.

Table 1

Institutional and survey-level characteristics
of outcome gap comparison segments

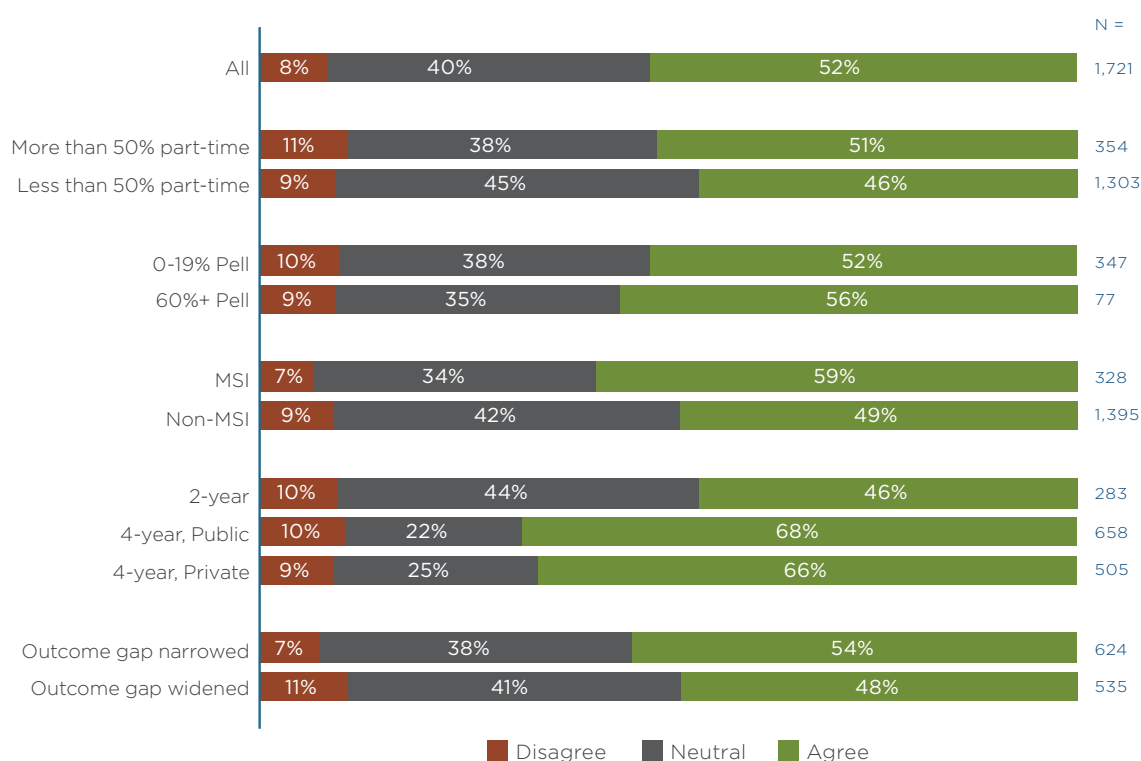
	OUTCOME GAP NARROWED	OUTCOME GAP WIDENED
IPEDS universe <i>n</i>	978	731
Average instructional expenditure per FTE, 2020	\$9,145	\$8,192
D2D 2022 respondent <i>n</i>	678	475
Unique institutions represented by respondents	338	215
Average percentage point change in graduation rate for BLI students 2010-2020	+7.7%	-7.7%

MINDSET

Mindset contributes to how individuals, institutions, and organizations approach their goals and determines the level of motivation in pursuit of that goal. When that goal is more equitable outcomes in higher education, table stakes for change are that faculty, advisors, and other student success stakeholders believe that racial and socioeconomic equity in student supports is a priority at their institution, and that there are actions they can take to further that goal. In the category of mindset, we did not find that outcome gap narrowed institutions were significantly different from those that saw their racial outcome gaps widen or from other institutions. Most respondents from all types of institutions generally believed their colleges and universities prioritize equity in student supports (see Figure 2) and believed that advising technology can improve equity in academic outcomes for BLI populations and students with financial needs (see Figures 3a and 3b).

Figure 2

My institution prioritizes racial and socioeconomic equity in students supports across all levels and departments



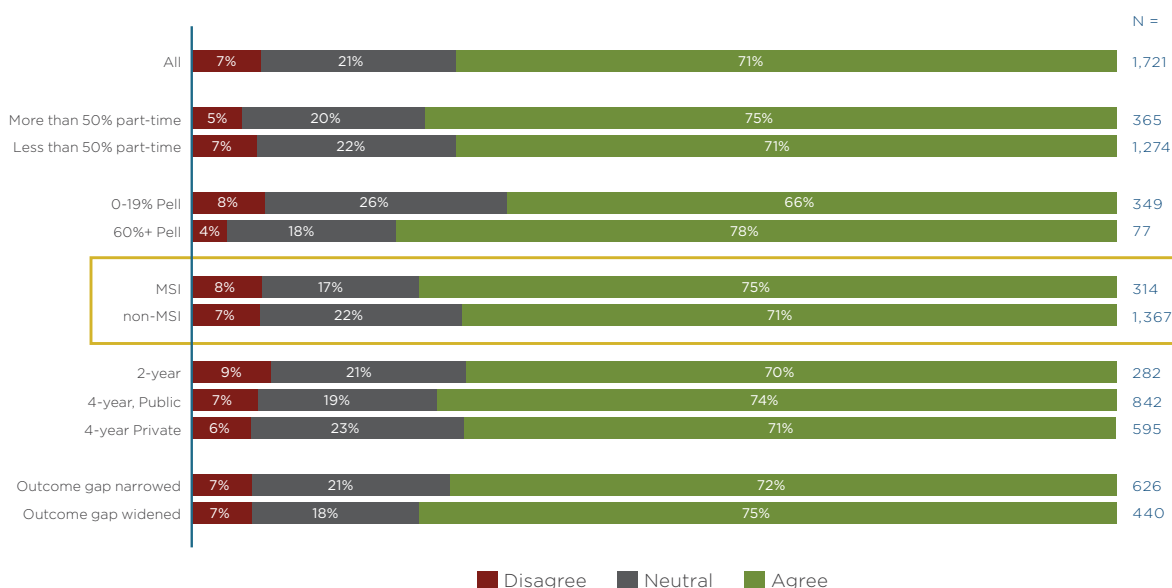
No meaningful differences when data are parsed by race or ethnicity of the respondent.

Note: All survey questions are listed in Appendix B

71% of all survey respondents believe technology can advance equitable academic outcomes for Black, Latinx, and Indigenous students (see Figure 3a). Respondents at MSIs are slightly more likely to hold the same opinion.

Figure 3a

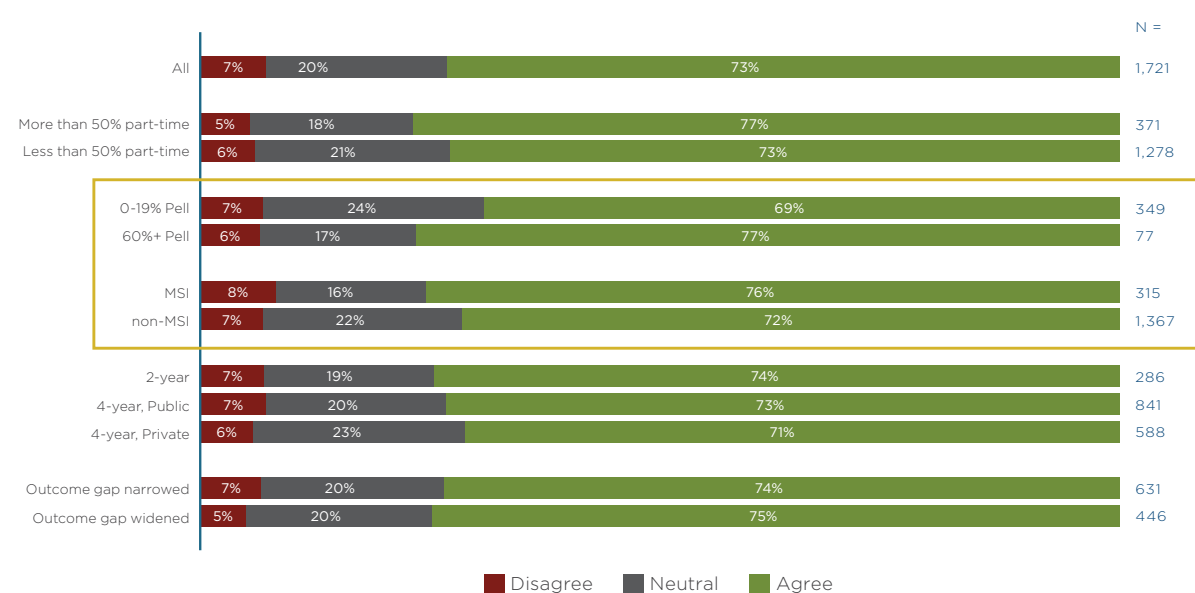
Belief that advising technology can advance equity in academic outcomes for Black, Latinx, and Indigenous students



Institutions with a high percentage of Pell grant recipients believe more strongly in the ability of technology to advance equity for students with financial needs (see Figure 3b).

Figure 3b

Belief that advising technology can advance equity in academic outcomes for students with financial needs

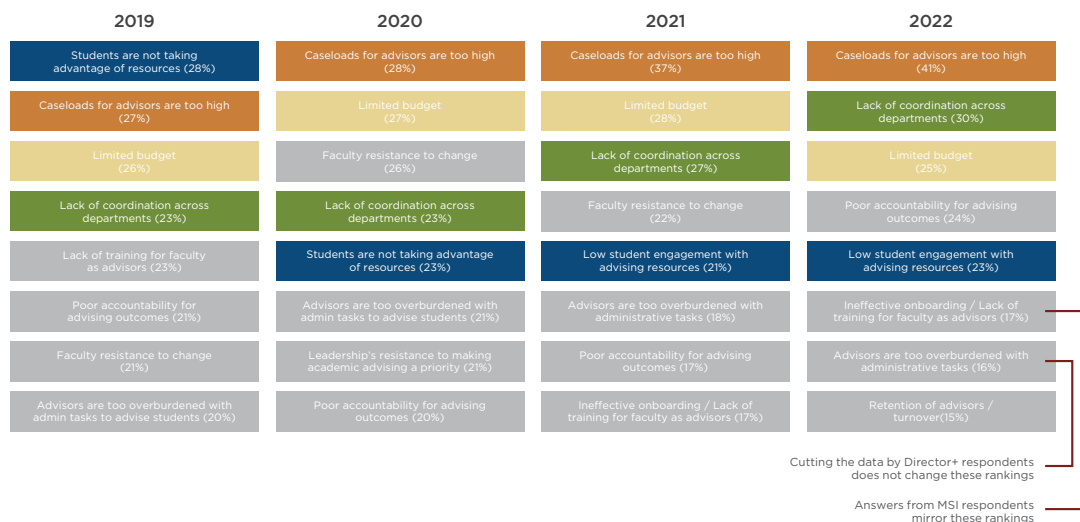


PRACTICE: CASELOAD MANAGEMENT

We identified high caseload as a perennial barrier to improving advising over the past three years.

Figure 4a

Top barriers to advising

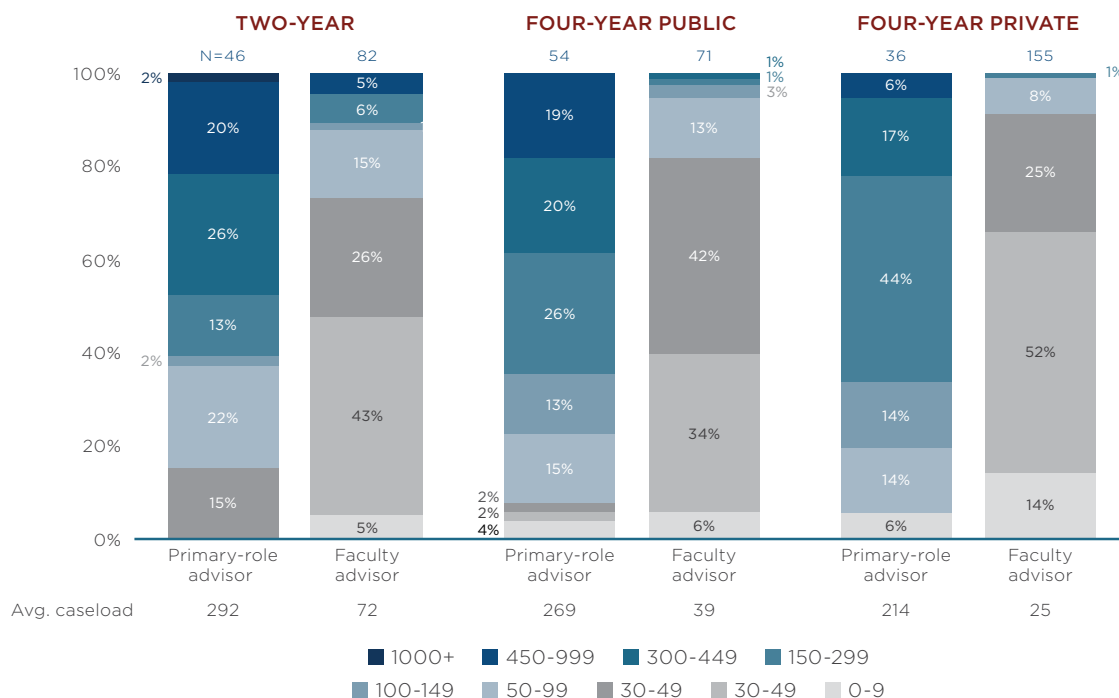


Note: Changes in magnitude across the respective answer options can be attributed to the addition of barriers to choose from in 2019 and 2020; (2017 n=1,291), (2019 n=1,339), (2020 n=1,440), (2021 n=1,310), (2022 n=685)

Over two-thirds of primary-role advisors manage a caseload of 150+ students; faculty advisors typically manage much smaller caseloads. These findings are depicted in detail in Figure 4b.

Figure 4b

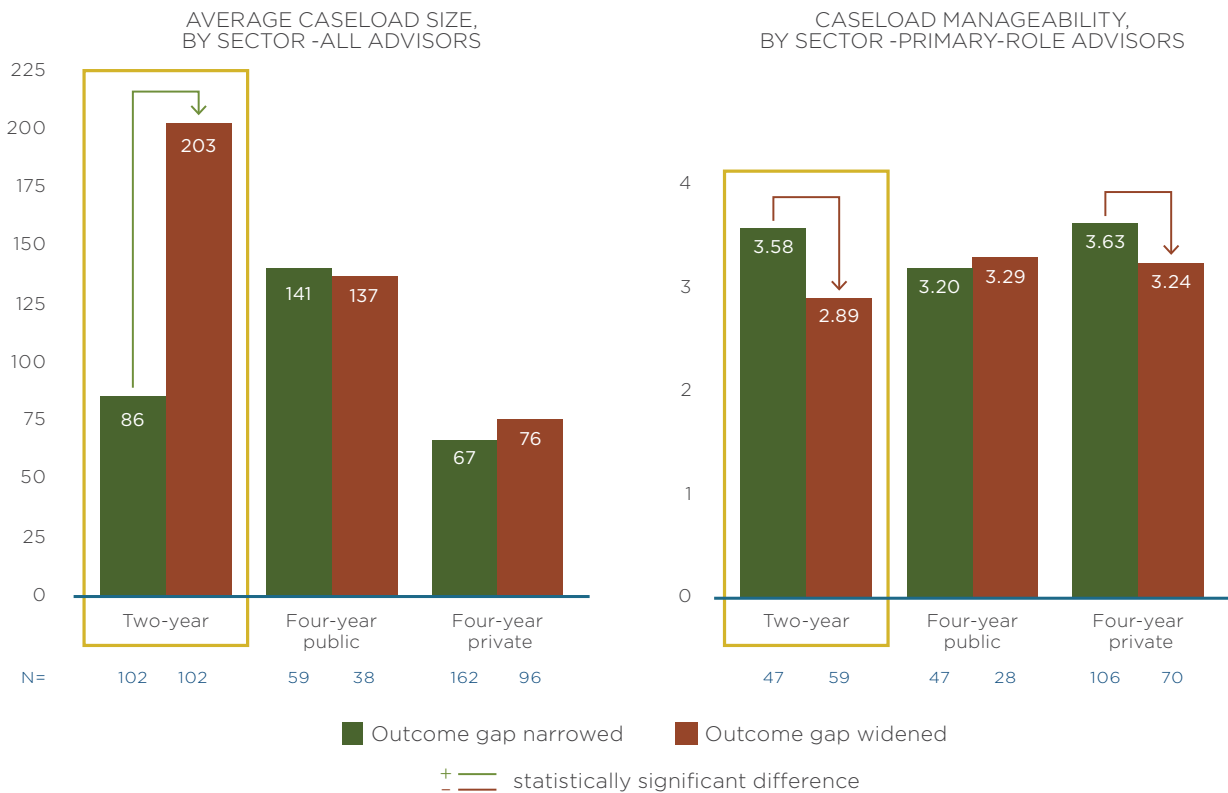
Caseload size by sector, primary-role advisor, and faculty with advising responsibilities



At Community Colleges, we observe that those narrowing the graduation rate gap over the last decade had statistically significantly lower caseloads than those institutions that experienced their outcome gap widen over the same period (see Figure 4c).

Figure 4c

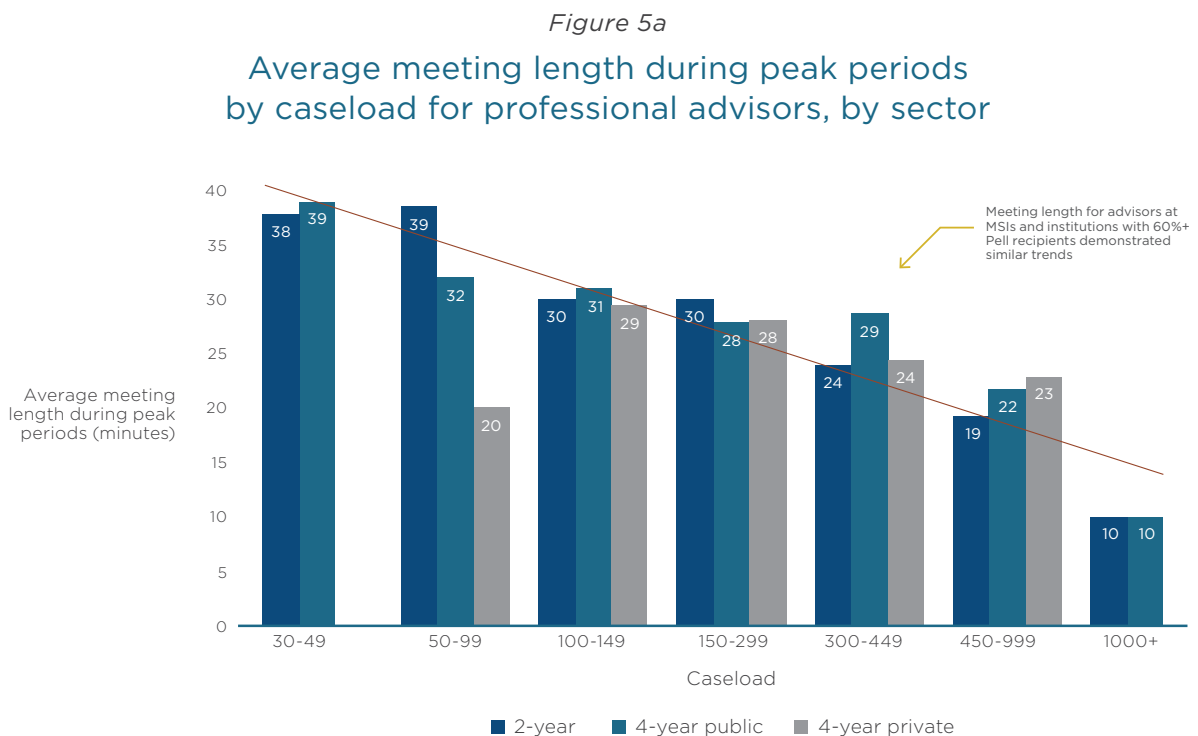
Caseload size and manageability by sector



"If a school is struggling with proactive efforts they likely need more insights to react to. The students who are struggling are not those who usually raise their hand. With mentoring services, the school would get notification of a needed intervention when a student needs additional support via a mentor voice."

Erin Mayhood, VP, Product Management, Mentor Collective

There are many reasons why caseload may influence student success as measured by the graduation rate within 150% of the standard time. For one, caseload impacts the amount of time professional advisors can spend with students at each meeting across institutional sectors as shown in Figure 5a.



Additionally, caseload impacts whether certain advising practices can be deployed at scale. See Figure 5b for an example of how mandatory advising is limited by caseload size. When scale of implementation of mandatory advising at an institution is parsed by reported caseload size at that same institution, we observe that institutions with a higher caseload are less likely to have fully scaled mandatory advising. While there is evidence that the number of advisor meetings is a significant predictor of persistence for students (particularly first-generation students)⁴, mandatory advising is a debated practice given that not all institutions have the resources to broadly implement the practice. Also, even when mandatory advising is targeted towards smaller populations (e.g., transfer students or first-time students), there are questions around equitable access to support services that immediately arise.

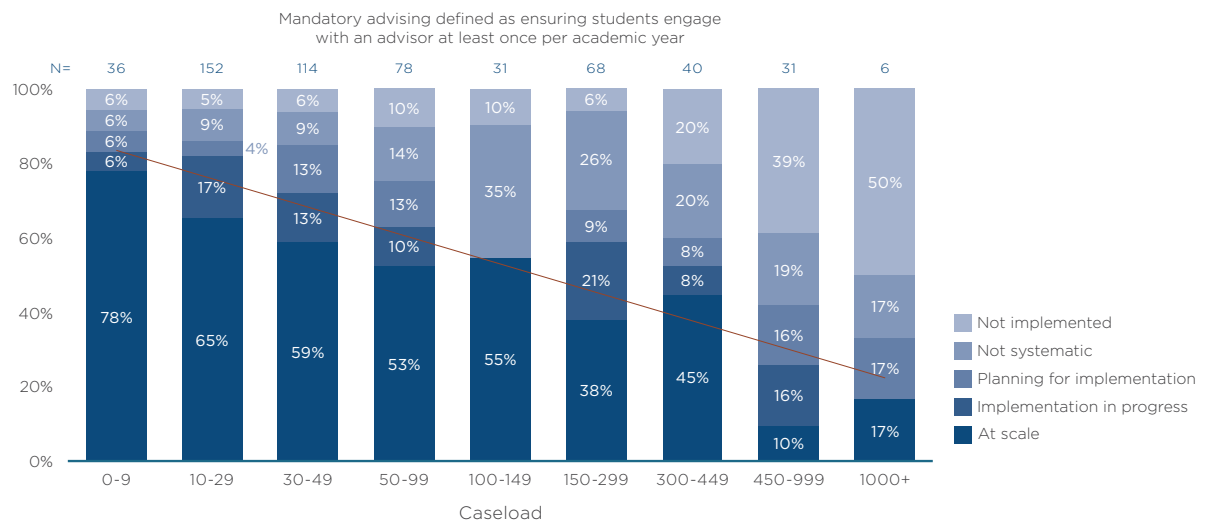
“Dilemma: If advising is not required, and many students never interact with an academic advisor, how can the claim be made that academic advising influences and impacts institutional metrics like retention and completion?”

Wendy Troxel, Director, NACADA Center for Research at Kansas State University

4. Swecker, H. K., Fiftolt, M., & Searby, L. (2013). Academic advising and first-generation college students: A quantitative study on student retention. *NACADA Journal*, 33(1), 46-53.

Figure 5b

Scale of Implementation of Mandatory Advising, by advising caseload



While caseload does not limit scaled deployment of all commonly considered advising policies or practices⁵, it does meaningfully limit the options for institutions with very high caseloads. Institutions with higher caseloads should think carefully about what they are asking their advisors and other support providers to do with the limited time they have with students and whether they are meeting students' needs. Figure 5c outlines some practices and policies which are negatively impacted by caseload size. If a practice is called out as being limited by caseload size in Figure 5c, it indicates that when scale of implementation of a practice (e.g., mandatory advising) at an institution is parsed by reported caseload size at that same institution, we observe that institutions with a higher caseload are less likely to have fully scaled that practice (i.e., we observe a diagonal line from top left to bottom right as in Figure 5b).

Given caseload's impact on advising practices and policies, technology is often used to help institutions manage their caseload issues. For more on this, please read our Implementation of Technology section.

Figure 5c

Advising practices with caseload as a limiting factor

	Advising Policy / Practices	Implementation limited by caseload
High Impact on Student Academic Outcomes	Sustained advising to engage students in supportive activities throughout college	
	Mandatory advising with an advisor at least once per academic year	✓
	Proactive efforts to reach out to students when they appear to be struggling	
	Assignments of advisors to work with the same students over time	
	Creation of structured pathways through programs of study	
	Expectations clearly set for students	✓
	Establishment of expected touch points	
Low Impact on Student Academic Outcomes	Flexibility for advisors to use their best judgment	
	Mandatory enrollment in FYE courses	✓
	Advising and other support functions have access to comprehensive student data	✓
	Assignment of advisors who better reflect the demographics of the student body	

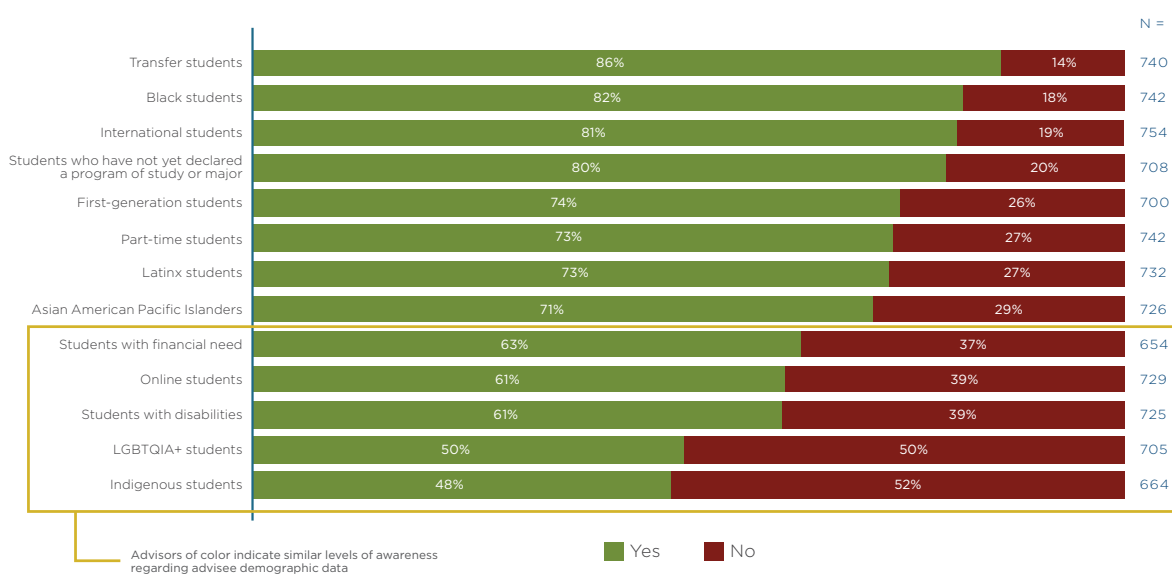
5. The list of advising practices was developed with input from ATD, NASPA, UERU, and NACADA

PRACTICE: BLI STUDENT IDENTIFICATION AND NEED RECOGNITION

With high caseloads and limited time, the first step to better engaging students is to know who they are when they show up at an advising session to help identify their needs. Unfortunately, as shown in Figure 6, advisors often cannot tell—based on data available to them during an advising session—whether students they meet with belong to certain student groups (e.g., Indigenous), or may be eligible for specialized support services (e.g., disabled students), or might benefit from knowing how to engage with other student services (e.g., students with financial needs). In our sample, 37% of advisors are unaware of the financial needs of students in their caseload, and 52% of advisors surveyed could not tell if students in their caseload identified as Indigenous. Students themselves are often unsure of how to leverage institutional resources and may not know to ask academic advisors questions about services that could be beneficial. This fact is particularly true for first-generation college students who are generally a population that can benefit from referrals.

Figure 6

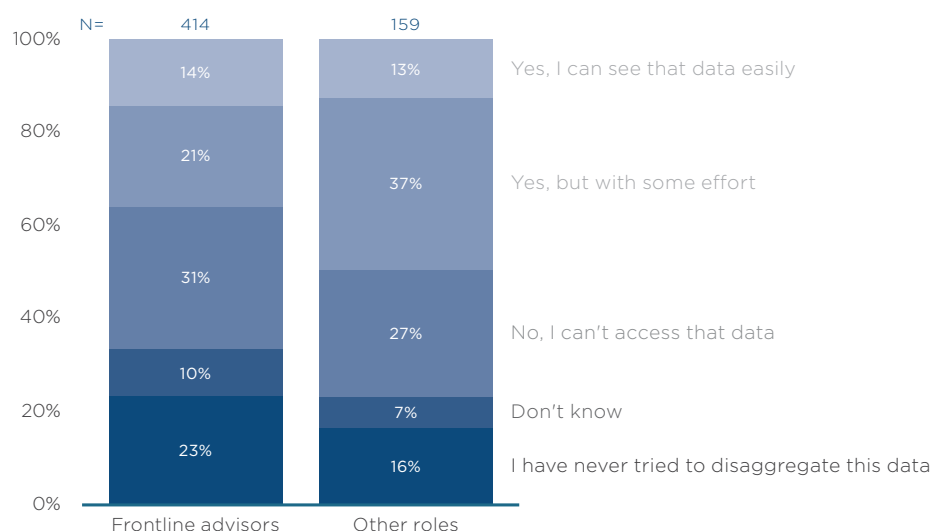
Advisor awareness of student identities based on data available during student meetings



As we observe in Figure 7, only a minority (14%) of both frontline advisors and other roles report being able to easily identify the demographics of students they have not met with this year. However, institutions with 60%+ Pell recipients and MSIs report being able to easily identify this information at higher rates (32% and 19%, respectively). In contrast, institutions where outcome gaps for minorities have widened (vs. narrowed) are less likely to say they can easily identify these demographics (11% vs. 15%). Overall, 23% of frontline advisors have never even tried to look at this data (possibly because they do not have the bandwidth). Understanding who is not taking advantage of advising services can inform outreach and advising practices that impact equitable outcomes.

Figure 7

Ability to identify demographics of students in caseload *not* met



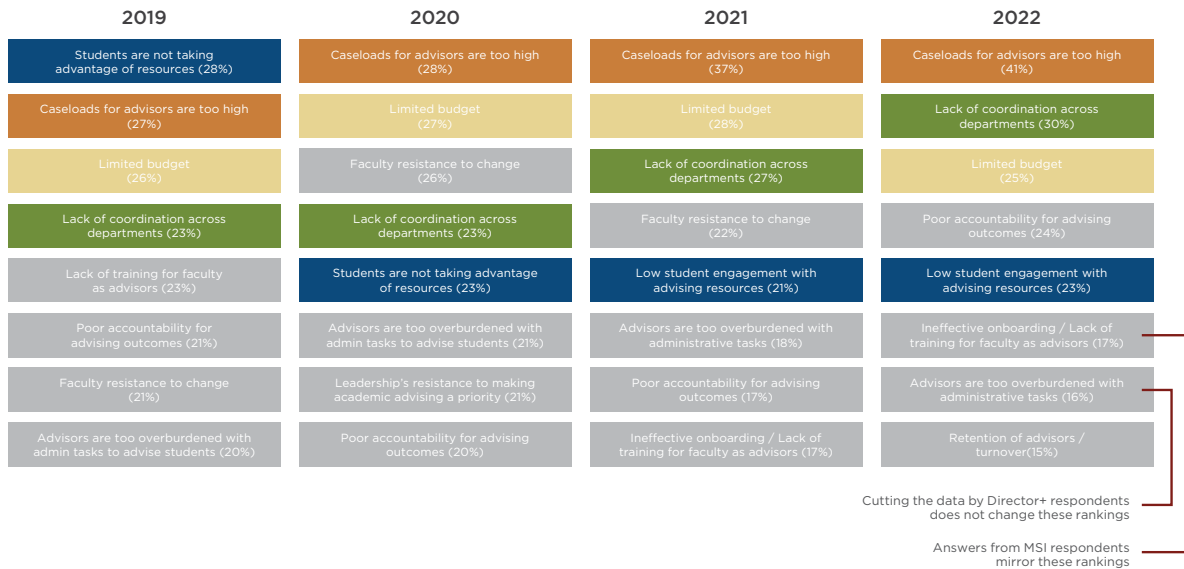
Identifying students is the first step towards empowering advisors to better identify student needs and connect them with the most appropriate and impactful resources. However, advisors also report limited knowledge of what those student-specific needs may be.

“What’s keeping us from improving advising across the board is high caseloads and the fact that advisors are meeting with students who show up to office hours. That reactive practice tends to leave our most vulnerable students on the sidelines, without the personalized support they need. And a disproportionate share of that population happens to be Black, Latinx, or from indigenous backgrounds.”

Shawn Gaide, Chief Revenue Officer, Civitas Learning

For the general student population of all backgrounds, advisors name high caseloads and lack of departmental coordination as the largest barriers to improving advising; this is consistent with results of Driving Towards a Degree research over the last three years as seen in Figure 8a.

Figure 8a
Top Barriers to Improving Advising

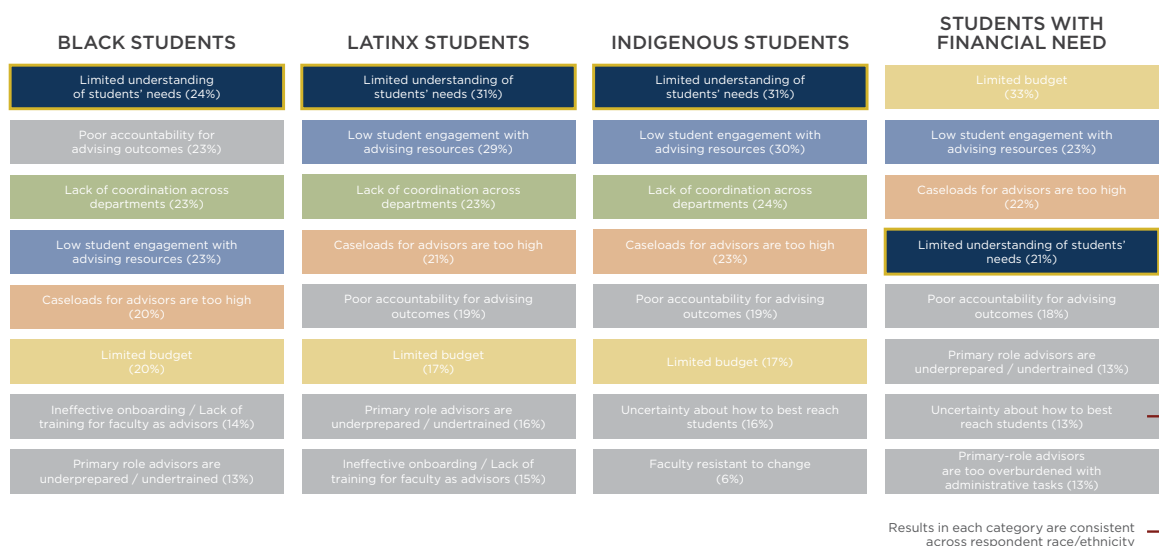


Note: Changes in magnitude across the respective answer options can be attributed to the addition of barriers to choose from in 2019 and 2020; (2017 n= 1,291), (2019 n= 1,339), (2020 n= 1,440), (2021 n=1,310), (2022 n=685)

However, a racially and ethnically explicit investigation into barriers for improving advising for Black, Latinx, and Indigenous (BLI) students reveals “limited understanding of students’ needs” and “low student engagement” as larger barriers for BLI students than for the general student population (see Figure 8b). MSIs also list a limited understanding of students’ needs as a high barrier to improving advising for Black students, indicating that this limited understanding is not specific to any subset of institutions. Similarly, a socioeconomically explicit examination of barriers to improving advising for students with financial needs reveals budget and low student engagement are the greatest barriers to improving advising for this population.

Figure 8b

Top Barriers to Improving Advising for BLI Students



Note: Survey question regarding Black, Latinx, Indigenous populations and students with financial need was not asked in prior D2D surveys; n = 350 (Black students), n = 329 (Latinx students), n = 300 (Indigenous students), n = 380 (students with financial need)

The field must improve on its abilities to equip support teams with data to recognize students who may require or be eligible for specialized support, understand students' support needs, and communicate effectively with students to refer them to appropriate services. One avenue of providing customized support without overburdening advisors could be peer mentorship, a method successfully implemented at higher education institutions through purpose-built services and technologies.

"One of the reasons why mentorship is so powerful is you're not relying on the advisor alone to get into the head and understand the patterns of challenges that ebb and flow throughout the year. You have another voice, that pure voice, the voice of a peer mentor, who can articulate things differently, and that provides the school with very unique insights."

Erin Mayhood, VP, Product Management, Mentor Collective

IMPLEMENTATION OF ADVISING TECHNOLOGY

Institutions have long relied on technology to support advising and other student success initiatives. The pandemic turned endemic has not slowed the demand for investment in student support. With 589 institutions⁶ starting the Spring 2022 semester primarily or fully online and learning how to leverage the online format more deeply rather than simply executing as public health concerns necessitated virtual learning at the start of the COVID-19 pandemic, the market swelled to support students in tutoring, with aids benefits and wellness, career planning, and life skills and mentoring technology categories. The market for advising technology continues to develop rapidly with 2021 investment levels almost tripling 2020 dollars⁷.

Figure 9

Adoption of advising product categories, director-level and above

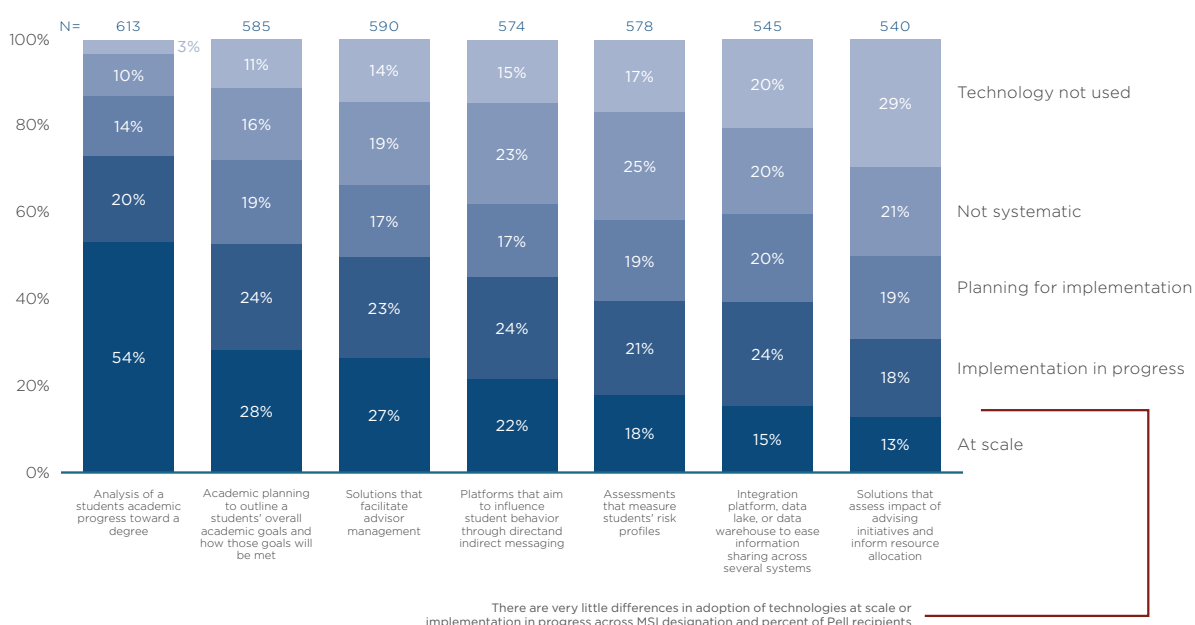


Figure 9 breaks down advising technologies by functional category, and analysis of student academic progress is the advising function most supported by technology at scale. This finding holds for all segments we investigated: MSI and non-MSI, institutions with high levels of Pell recipients and institutions with low levels of Pell recipients, as well as institutions that saw their Black and Latinx graduation rate gap narrow and widen. This is not surprising given how core degree audit systems are to tracking student progress towards a credential.

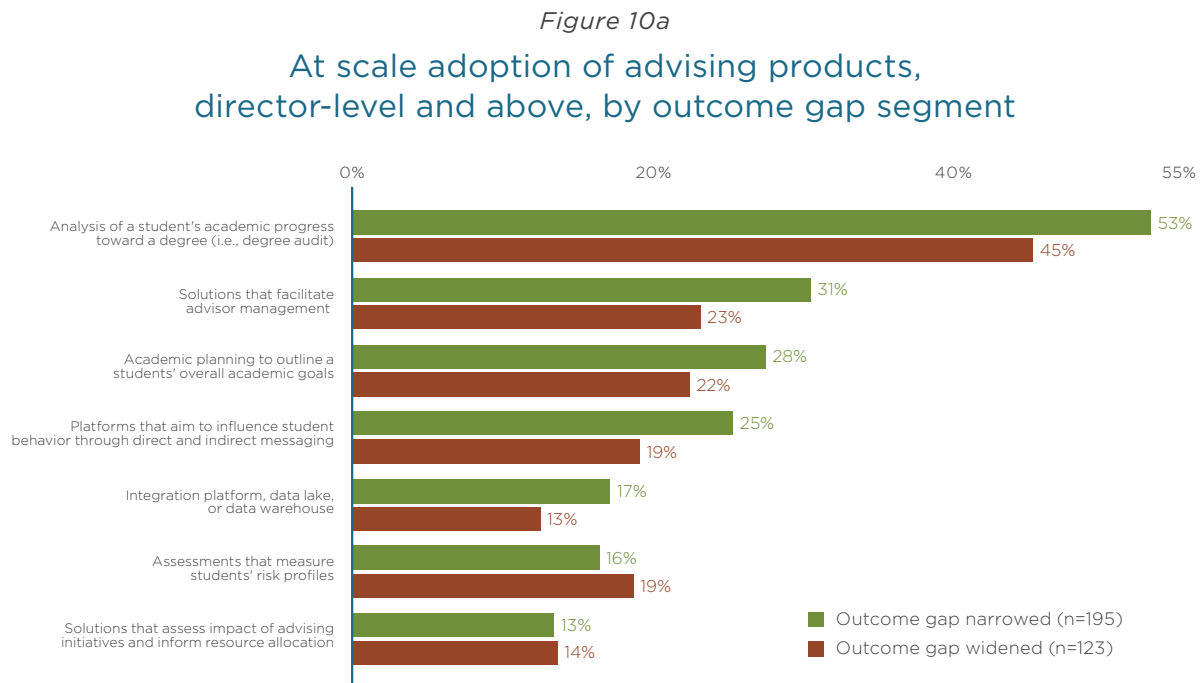
"When it comes to our primary advising tech we rely very heavily on degree audit, which is Degree Works. There's been a lot of work over 12-15 years to building components into Degree Works to support it as a primary tool. It is one of the few student facing tools that we have and ubiquitous to all areas of undergraduate academic advising - it is far and away the primary tool."

*Melissa Irvin, Assistant Dean, Academic Outreach & Support,
University of South Florida*

6. College Crisis Initiative: <https://collegecrisis.shinyapps.io/dashboard>

7. Pitchbook, Tyton Partners research and analysis

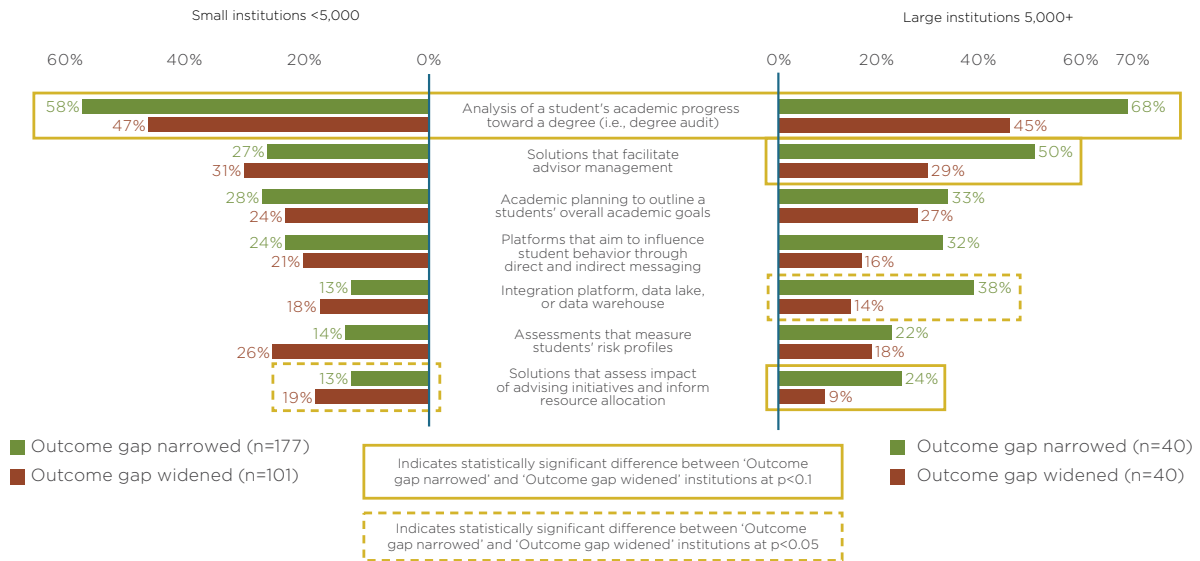
In Figure 10a we illustrate those institutions that narrowed their racial and ethnic graduation rate outcomes gaps over the last decade had higher rates of at-scale implementation of all but one advising technology category. While only the differences in implementation of degree auditing and risk profile solutions are significant for all institutions ($z=2.6$, $p<0.01$; $z=-1.8$, $p=0.07$), the pattern is worth noting.



When we separate larger institutions from smaller institutions, based on full-time equivalent student counts, in Figure 10b, we observe that for smaller institutions, there were fewer statistically significant differences in scaled implementation of advising technologies by outcome gap segment. Outcome gap narrowing institutions were significantly more likely to have implemented degree audits at scale over outcome gap widening institutions. Smaller outcome gap widening institutions were more likely to have implemented at-scale assessment solutions that measure student risk profiles.

Figure 10b

At scale adoption of advising products, director-level and above, by size and outcome gap segment



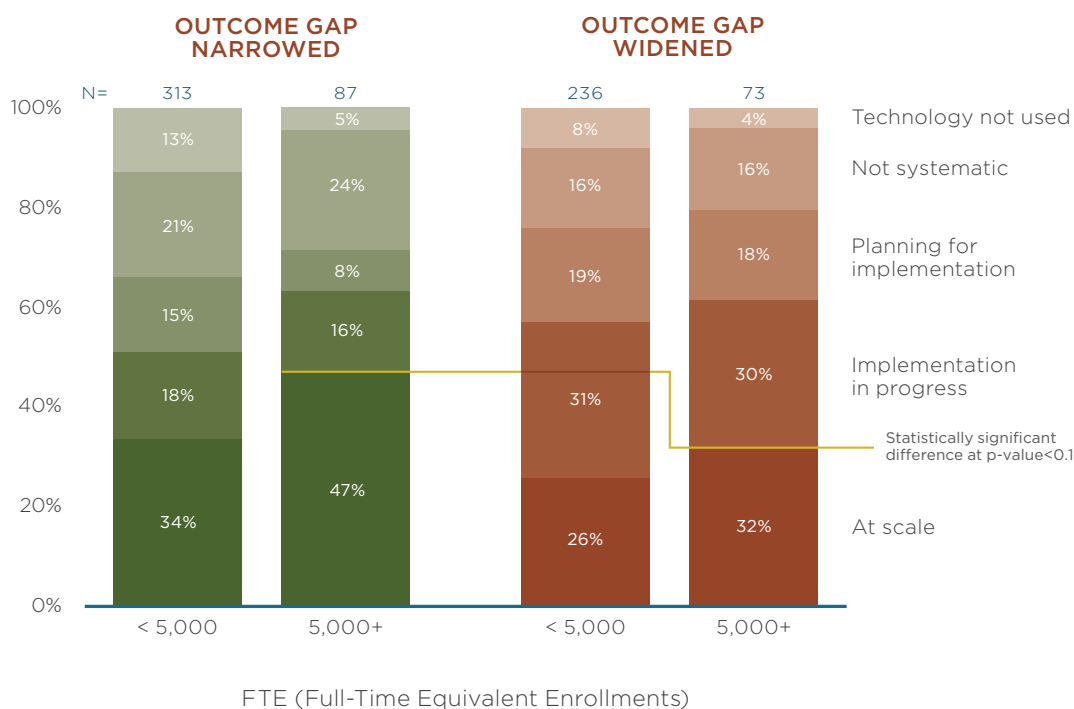
In contrast, **when we look at larger institutions (5,000+ FTE) depicted in the right-hand panel in Figure 10b, we observe that there are four categories of advising technology that are significantly deployed at scale more often for outcome gap narrowing institutions than outcome gap widening institutions: degree audit, caseload management, integration solutions, and solutions that assess the impact of advising initiatives.** This finding suggests that large, outcome gap narrowing institutions are perhaps more likely to rely on technology to help them close graduation rate gaps than their smaller counterparts. We acknowledge that the number of large institutions in our sample for Figure 10b is lower than the number of smaller institutions in the analysis but assert that we should not ignore the statistical significance of differences in scaled adoption of the advising technology categories. Of course, we can also assume there are many characteristics unobserved in our survey that also contribute to graduation gaps narrowing or widening over the past 10 years and suggest more intensive research to further investigate trends identified in this report.

For the balance of this section, we focus on caseload management and integration solutions as caseload and coordination are challenges perennially identified by student support providers as barriers to improving advising.

Caseload management solutions are often deployed by institutions to help advisors and other frontline support providers manage the students they work with and include scheduling, notes logging, and case management systems. **This category of software is effective at helping advisors manage their workload - and narrow academic outcome gaps - but only if implemented for all advisors and tasks, i.e., implemented at scale,** as seen in Figure 11a.

Figure 11a

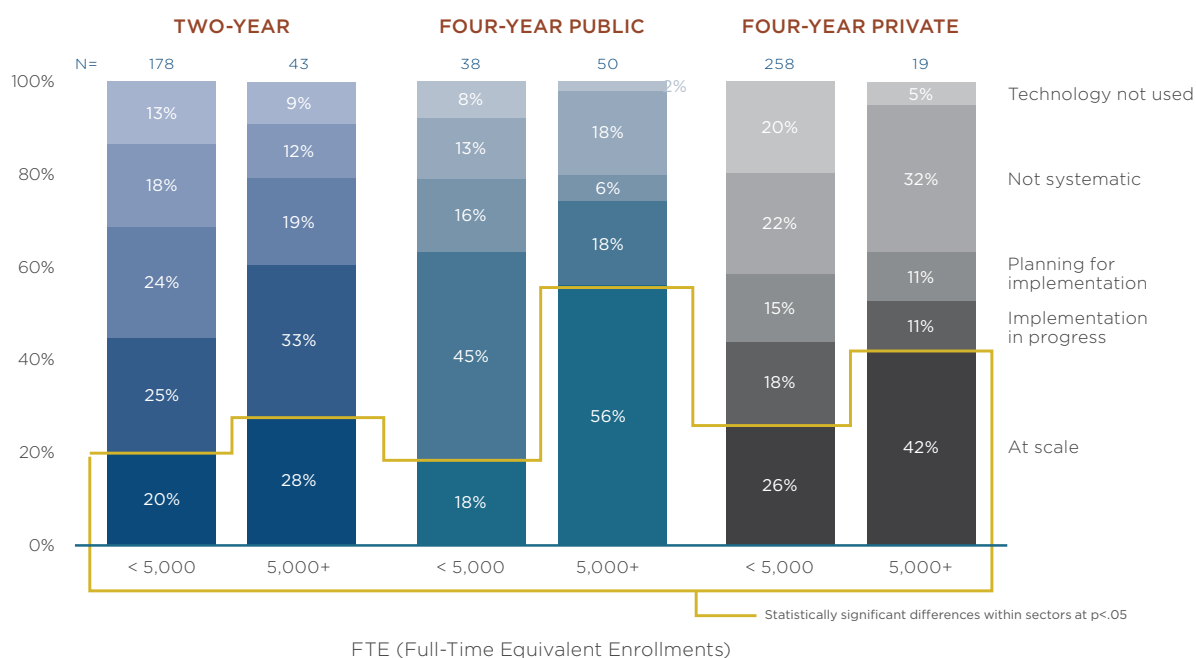
Adoption of Caseload Management solutions, by outcome gap segment and enrollment size, director-level and above



Scaled adoption of Caseload Management solutions is higher among larger institutions; Community Colleges lag their peers in implementing at scale.

Figure 11b

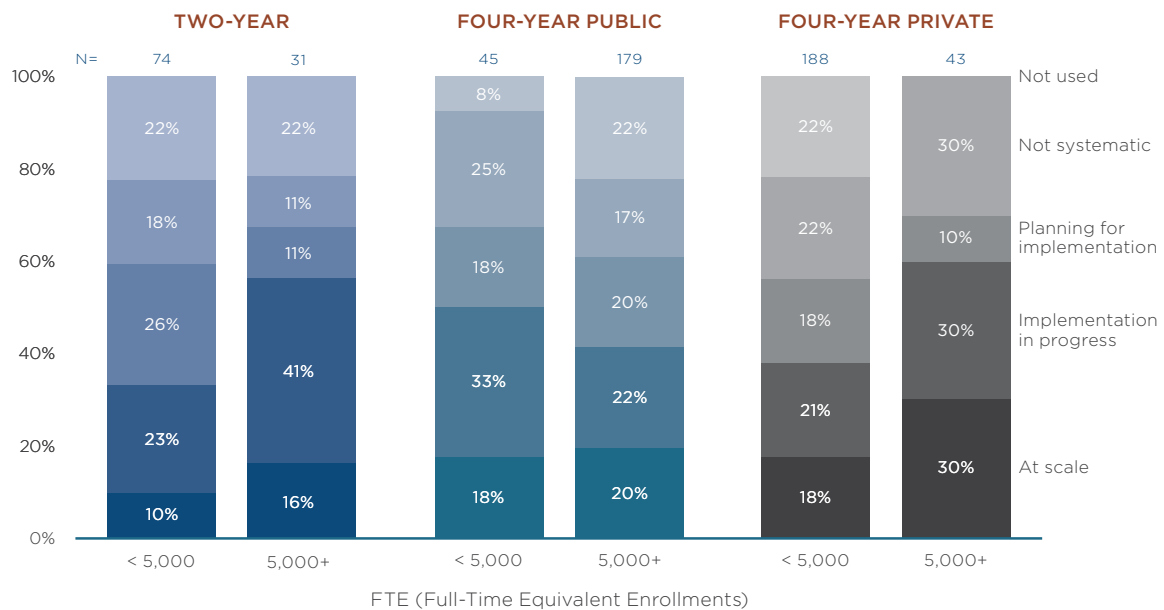
Adoption of Caseload Management solutions, by sector and enrollment size, director-level and above



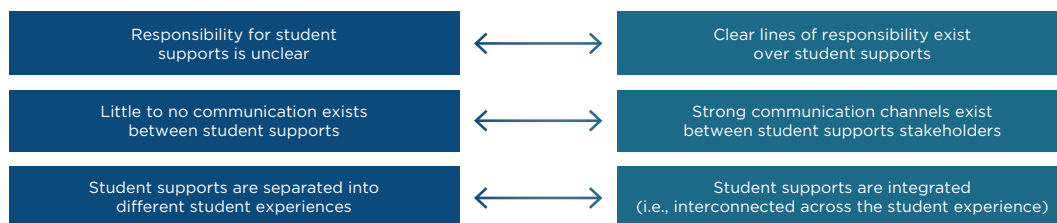
Integration solutions ease data and information sharing across otherwise disparate technology systems or databases. Shared information access on the part of student support providers enables holistic advising practices, facilitates greater collaboration, and is associated with higher retention rates across institution types.⁸ Figure 12a reveals that scaled adoption of integration platforms is higher among larger institutions across institution types.

Figure 12a

Adoption of Integration Solutions, by sector and size, director-level and above



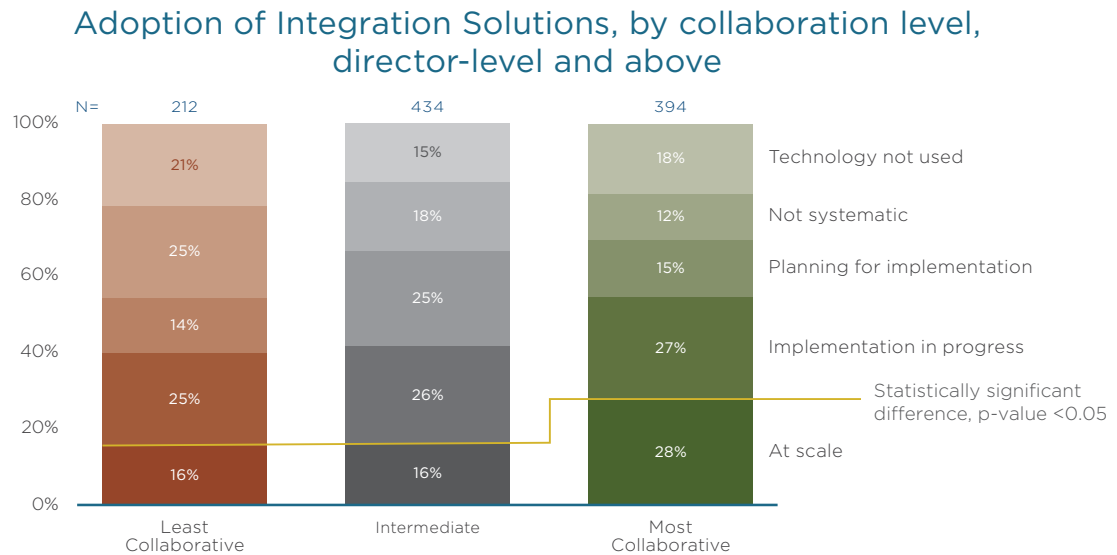
The most collaborative institutions are characterized by having the clearest lines of responsibility, strongest communication, and most integrated student supports. Clusters of collaboration were determined by using three slider questions in which responses lent themselves to the most separation across clusters:



8. Shaw, C., Atanasio, R., Bryant, G., Michel, L., Nguyen, A., (2021). Driving Toward a Degree – 2021. Tyton Partners.

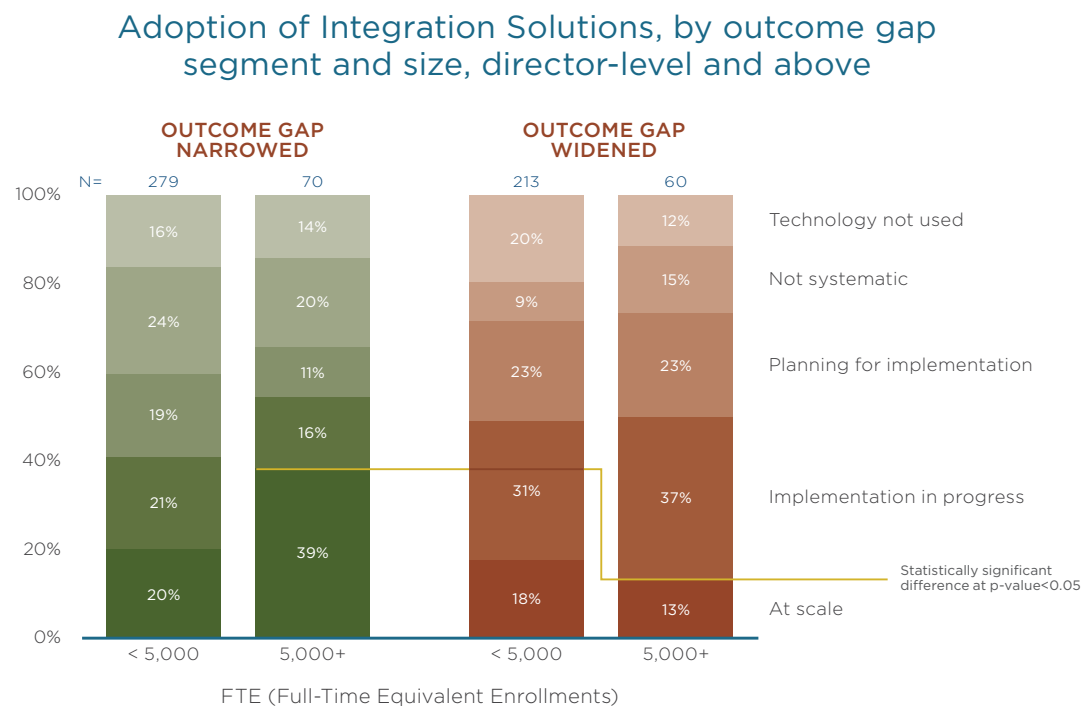
The most collaborative institutions in our survey sample were more likely to deploy integration solutions than their less-collaborative counterparts, as seen in Figure 12b. The difference between the most collaborative institutions and least collaborative institutions is 12 percentage points, statistically significant at $p < 0.05$.

Figure 12b



Finally, we observe in Figure 12c, as we did with Caseload Management technologies, **the larger institutions (5,000+ full-time equivalent students) that narrowed their graduation rate outcome gap over the last decade for Black and Latinx students were statistically significantly more likely to have scaled implementation of Integration Technologies than the institutions that saw those outcome gaps widen.** A potential explanation for these results could be that by implementing integration solutions at scale, large institutions unlock visibility on student identity, which we posit helps refer students to more relevant services on campus and facilitates holistic advising.

Figure 12c



Given the ever-changing landscape of solutions providers across all advising technology categories mentioned in this report, we encourage institutions to carefully research any potential investments in new technology to support their advising needs. Among the parameters, institutions should consider affordability, existing personnel, institutional culture, existing advising practices, incumbent technology solutions, and change management bandwidth. Simply adopting a technology solution without proper planning, diligence, and implementation support will not result in successful uptake and desired outcomes⁹. Here are a few considerations related to supplier landscape health and affordability of the advising technology categories discussed in detail in this report, given their association with narrowing academic outcome gaps:

- Caseload management is a mature advising technology category with a handful of players taking up most of the market share, particularly after EAB's 2021 acquisition of Starfish¹⁰. Large players with a large, entrenched base of institutional clients then build out from a core advising solution like caseload management. There are few truly affordable solutions in this space, and the one solution, AVISO Retention, with significant penetration in the two-year college sector was recently acquired by Watermark¹¹.
- Integration solutions is a newer category with many players, and we observe many out-of-education entities participating in the education market. Less-resourced institutions often are relegated to relying on source systems and select point solutions (e.g., a chat-bot) to create a portfolio of technology solutions that supports their advising practices. These institutions are the ones that will benefit the most from investing in an integration solution to support coordination across student support teams to provide holistic advising.

In closing, there are a plethora of suppliers seeking to support institutions building out their student success technology stack. There is no single silver bullet solution, nor a one-size-fits-all for institutions that serve a diverse student body with diverse needs. However, implementing existing solutions at scale (or making only strategic and well-supported investments in new ones), as well as using them to coordinate across student services can have a positive, measurable impact on student outcomes.

9. <https://er.educause.edu/blogs/2019/10/digital-transformation-signals-is-your-institution-on-the-journey>

10. <https://eab.com/insights/press-release/student-success/eab-finalizes-agreements-to-enhance-how-it-supports-current-and-future-students>

11. <https://www.watermarkinsights.com/press/aviso-retention-joins-watermark>

GRADUATION RATE OUTCOME GAP METHODOLOGY (APPENDIX A)

Investigating the ability of advisement to improve higher education outcomes for racial minority students led to a new set of analyses. We focused on identifying institution-level factors that contribute to closing graduation rate gaps for Black, Latinx, and Indigenous students between 2010 and 2022. We found significant differences in advising mindset, practices, and tools between institutions that had narrowed vs. widened outcome gaps for racial minorities over the last 10 years.

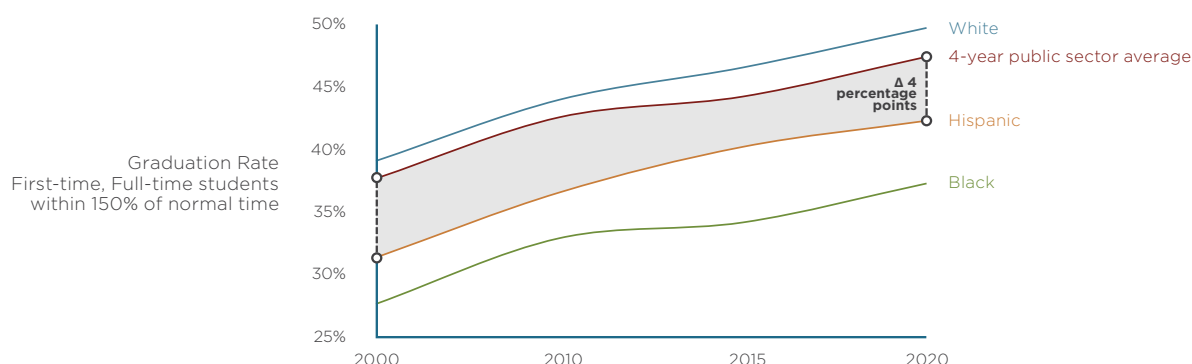
We began by evaluating several potential outcome variables to measure the effects of academic advising. The graduation rate was the most relevant variable with the greatest amount of data available at the institution level that was also parsed by race both currently and historically. Other variables considered but discarded for the availability of detailed data include retention rate, persistence rate, academic outcomes, career outcomes, and debt load.

Next, though it is common in educational research to define racial outcome gaps in relation to the majority group (e.g., White student graduation rates), we decided to use the sector average graduation rate as the comparison point for several reasons. Most importantly, comparing racial minority students to White students' outcomes would remove MSIs (and PWIs) from analysis due to the lack of a large-enough comparison group, and MSIs are crucial to our understanding of equitable outcomes for racial minorities.

Graduation rate data by race over time was available through College Scorecard, a US Department of Education website that compiles data from Integrated Postsecondary Education Data System (IPEDS). Though the data was published in 2022, the data reported by institutions is from 2019-2021 where the COVID-19 pandemic affected reporting and compilation of data. Therefore, analyses are described as being over a period of 10 years, from 2010 to the average year of 2020. In addition, reclassification and changes in IPEDS definitions for Indigenous students over time have led to some minor imprecision in the data. Because the overall results did not change with the exclusion of Indigenous students, they have been included in these analyses but not detailed here.

Figure 13

The gap between graduation rates for Hispanic students at four-year public universities and the four-year public university overall average has narrowed over time



In general, all students, especially those at four-year public universities, graduate at higher rates today than 10 years ago. The college graduation rate gap is closing faster for Hispanic students, especially at four-year public institutions (see Figure 13), compared with the sector average. Black students also have seen gains in graduation rates since 2010. However, it is important to note that graduation rates for White students have also increased during this 10-year period (see Tables 2-4).

Table 2

Two-year college graduation rates over time by race

	GRADUATION RATE 2010	GRADUATION RATE 2020	10-YEAR CHANGE
2-year sector average	30%	37%	+7%
Hispanic	23%	34%	+11%
Black	19%	25%	+6%
White	20%	40%	+10%

Table 3

Four-year public university graduation rates over time by race

	GRADUATION RATE 2010	GRADUATION RATE 2020	10-YEAR CHANGE
4-year public sector average	42%	47%	+5%
Hispanic	36%	42%	+6%
Black	33%	37%	+5%
White	44%	50%	+6%

Table 4

Four-year private university graduation rates over time by race

	GRADUATION RATE 2010	GRADUATION RATE 2020	10-YEAR CHANGE
4-year private sector average	55%	56%	+1%
Hispanic	49%	53%	+4%
Black	45%	45%	No change
White	58%	59%	+1%

Calculating the change in graduation rate gap over time required the following steps for each racial group at each institution (see Table 5). First, we calculated the outcome gap in 2020 data by subtracting the sector average graduation rate for all students from each institution's graduation rate for Black, Latinx, and Indigenous students. We conducted the same calculation for 2010 graduation rates. Finally, we found the change in the outcome gap from 2010 to 2020 by subtracting the 2010 outcome gap from the 2020 outcome gap.

Table 5

Example calculation for each four-year public institution of the change in the outcome gap for Hispanic students

			INSTITUTIONAL DATA ELEMENT		SECTOR DATA ELEMENT
Step 1	Calculate outcome gap in 2020	=	Mean graduation rate for Hispanic students at each 4-year public university in 2020	-	Mean graduation rate for all students at 4-year public universities in 2020
Step 2	Calculate outcome gap in 2010	=	Mean graduation rate for Hispanic students at each 4-year public university in 2010	-	Mean graduation rate for all students at 4-year public universities in 2010
Step 3	Calculate change in the outcome gap between 2020 and 2010	=	Outcome gap in 2020	-	Outcome gap in 2010

This calculated change in the outcome gap over 10 years (a difference of differences) was conducted for each institution based on their sector, and for Black, Latinx, and Indigenous students at those institutions. As shown in aggregate in Table 6, the gap in graduation rate is narrowing for Hispanic students overall at a higher rate (3.2 percentage points) and slightly widening (0.4 percentage points) for Black students since 2010.

Table 6

Calculated mean change in the outcome gap between 2010 and 2020 across institutions by sector and race; positive numbers indicate narrowing of the gap and improved outcomes while negative numbers indicate widening of the gap and worsening outcomes

	10-YEAR CHANGE IN OUTCOME GAP FOR 2-YEAR COLLEGES	10-YEAR CHANGE IN OUTCOME GAP FOR 4-YEAR PUBLIC INSTITUTIONS	10-YEAR CHANGE IN OUTCOME GAP FOR 4-YEAR PRIVATE INSTITUTIONS	10-YEAR CHANGE IN OUTCOME GAP FOR ALL INSTITUTIONS
Hispanic	2-year colleges	10-year change in outcome gap for	+3.2 percentage points	+3.2 percentage points
Black	4-year public institutions	10-year change in outcome gap for	-1.1 percentage points	-0.4 percentage points
White	4-year private institutions	10-year change in outcome gap for all institutions	+0.8 percentage points	+2.2 percentage points

Each institution was then segmented into one of five groups based on the numeric value of the change in the outcome gap between 2010 and 2020:

- High achieving: Institutions that graduated Black, Hispanic, and/or Indigenous students at the 90th percentile of all institutions in 2010 and 2020.
- Outcome gap narrowed:
 - Two-year institutions that demonstrated a decrease of more than 9 percentage points in the graduation rate gap between Black, Hispanic, and/or indigenous students and the sector average between 2010 and 2020.
 - Four-year public institutions that demonstrated a decrease of more than 8 percentage points in the graduation rate gap between Black, Hispanic, and/or indigenous students and the sector average between 2010 and 2020.
 - Four-year private institutions that demonstrated a decrease of more than 7 percentage points in the graduation rate gap between Black, Hispanic, and/or indigenous students and the sector average between 2010 and 2020.
- Constant: Institutions that demonstrated an increase or decrease of 10% or less in the percent change in graduation rate gap between Black, Hispanic, and/or Indigenous students and the sector average between 2010 and 2020.
- Outcome gap widened:
 - Two-year institutions that demonstrated an *increase* of more than 4 percentage points in the graduation rate gap between Black, Hispanic, and/or indigenous students and the sector average between 2010 and 2020.
 - Four-year public institutions that demonstrated an *increase* of more than 1 percentage point in the graduation rate gap between Black, Hispanic, and/or indigenous students and the sector average between 2010 and 2020.
 - Four-year private institutions that demonstrated an *increase* of more than 5 percentage points in the graduation rate gap between Black, Hispanic, and/or indigenous students and the sector average between 2010 and 2020.
- Unclassified: Institutions that demonstrated neither a substantial increase/decrease (see narrowed and widened cutoffs above) nor a minimal increase/decrease (+/- 10%) in the change in graduation rate gap between Black, Hispanic, and/or Indigenous students and the sector average between 2010 and 2022.

For inclusion in the segmentation, institutions had a minimum of 30 students in one or more racial minority groups in both 2010 and 2020. The resulting institution list also excludes for-profit and less-than-two-year institutions. We excluded for-profits because, while they often serve higher percentages of underrepresented minority students than public, non-profit institutions¹², they also, on average, produce worse outcomes for students than enrolling in a public college or university¹³. Less-than-two-year institutions produce certificates and do not have a degree completion rate associated with them, so are excluded

12. Deming, David J., Claudia Goldin and Lawrence F. Katz. 2012. "The For-Profit Postsecondary School Sector: Nimble Critters or Agile Predators?" *Journal of Economic Perspectives* 26(1): 139-163

13. Student Debt and Default: The Role of For-Profit Colleges. Luis Armona, Rajashri Chakrabarti, and Michael F. Lovenheim Federal Reserve Bank of New York Staff Reports, no. 811 April 2017; revised February 2020

from this analysis. Lastly, the cut-off points for "Outcome gap narrowed" and "Outcome gap widened" segments are based on the 75th and 25th percentile of the change in graduation rate gap between *White* students and the sector average.

Table 7
Institutional characteristics of the comparison segments
within the IPEDS universe of institutions

	Sector & Control	In-state tuition	Endowment	Instructional expenditure per FTE	%Pell Recipients	Admissions rate	% First Gen	% FT Faculty
Outcome gap narrowed (n=275)	Two-year	\$3,920	\$9M	\$6,778	35%	NA	48%	51%
Outcome gap widened (279)	Two-year	\$4,333	\$6M	\$6,613	36%	NA	47%	53%
Outcome gap narrowed (146)	Four-year, Public	\$8,347	\$156M	\$9,075	36%	73%*	37%	69%
Outcome gap widened (172)	Four-year, Public	\$8,280	\$123M	\$9,073	38%	76%*	36%	70%
Outcome gap narrowed (421)	Four-year, Private	\$32,640*	\$160M*	\$10,738*	38%*	67%*	31%*	65%
Outcome gap widened (280)	Four-year, Private	\$30,378*	\$103M*	\$9,218*	41%*	69%*	33%*	63%

Note: Asterisk indicates difference between outcome gap narrowed vs. widened institutions is significant at $p < 0.05$

Table 7 (above) reports the institutional characteristics of the comparison segments, "Outcome gap narrowed" and "Outcome gap widened," within the IPEDS universe of institutions. The table demonstrates that, in general, private institutions, but not publics, that have narrowed the graduation rate gap for racial minorities have significantly more resources and serve fewer students receiving Pell.

Figure 14

Comparison segments by key designations and overall graduation rate

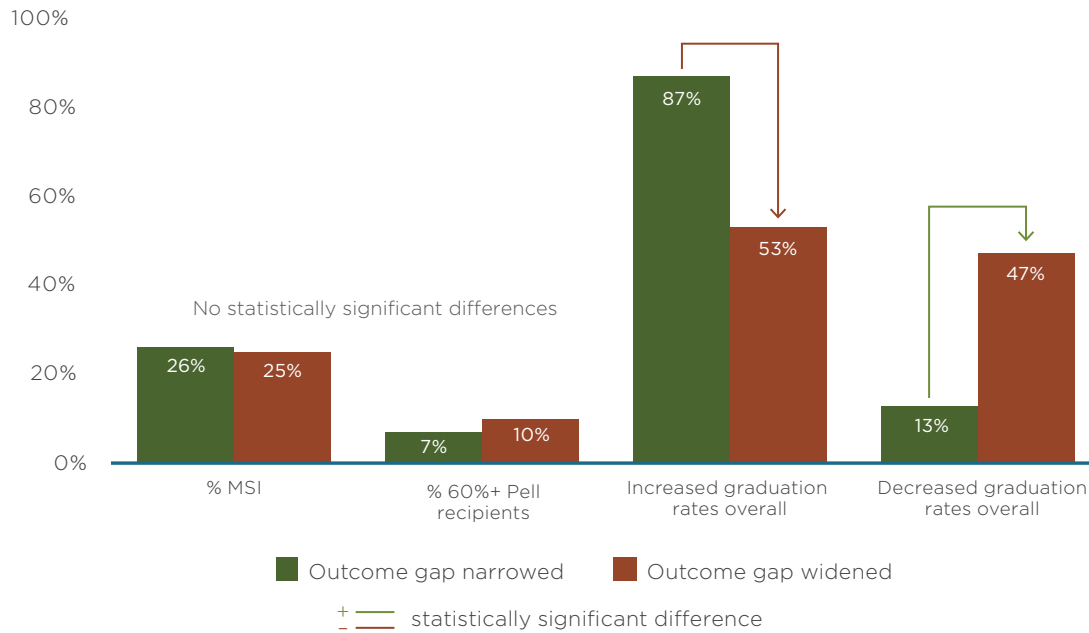


Figure 14 (above) demonstrates that the comparison outcome gap segments are balanced across MSI and non-MSI institutions and high- and low-Pell recipient institutions. In addition, the comparison segments do not present unexpected trends in overall graduation rates. In general, “Outcome gap narrowed” institutions have increased graduation rates overall, and “Outcome gap widened” institutions have decreased graduation rates overall. However, the segments have not uniformly increased or decreased graduation rates for all students over the 10 years, allowing for comparative analysis.

SURVEY QUESTIONS (APPENDIX B)

FIGURE 2

“Racial and socioeconomic equity in student supports is not a strategic priority for my institution” — “My institution prioritizes racial and socioeconomic equity in students supports across all levels and departments”

FIGURE 3A

“Please choose the phrase which best describes your level of agreement with the following statement: I believe that advising technology can advance equity in academic outcomes for Black, Latinx, and Indigenous students.”

FIGURE 3B

“Please choose the phrase which best describes your level of agreement with the following statement: I believe that advising technology can advance equity in academic outcomes for students with financial need.”

FIGURE 4A

“What are the top three barriers to improving advising for ALL students at your institution? (Select up to three)”

FIGURE 4B

“What is the size of your advising student caseload for this spring term?”

FIGURE 4C

“What is the size of your advising student caseload for this spring term?”

“Is your caseload size manageable to effectively meet the needs of your students?”

FIGURE 5A

“How long is a typical student appointment or interaction?”

FIGURE 5B

“Please assess the degree to which your institution implements these student advising policies and practices.”

“What is the size of your advising student caseload for this spring term?”

FIGURE 5C

Impact is defined as a response to the following question: “Please rank your top three practices in order of how impactful they are on student academic outcomes with 1 being the most impactful.”

FIGURE 6

“Thinking of students you meet with and advise, are you aware of whether they identify with or belong to any of the following populations based on data in systems available to you during student meetings?”; Responses of “N/A” are excluded from analysis

FIGURE 7

“For students that you are unable to meet with, can you identify patterns in their demographics?”

FIGURE 8A

“What are the top three barriers to improving advising for ALL students at your institution? (Select up to three)”

FIGURE 8B

“What are the top three barriers to improving advising for [segment] students at your institution? (Select up to three)”

FIGURES 9, 10A, AND 10B

“Which of the following primary advising functions does your institution use technology to support?”

FIGURES 11A AND 11B

“Which of the following primary advising functions does your institution use technology to support? Solutions that facilitate advisor management (e.g., advisor scheduling, advising notes, case management system)”

FIGURE 12A

“Which of the following primary advising functions does your institution use technology to support? Integration platform, data lake, or data warehouse to ease information sharing across several systems”; responses for “N/A” are excluded in analysis

FIGURES 12B & 12C

“Which of the following primary advising functions does your institution use technology to support? Integration platform to ease information sharing across several systems (e.g., SIS, CRM, data lake, data warehousing, etc.)”

SURVEY DEMOGRAPHICS (APPENDIX C)

METHODOLOGY

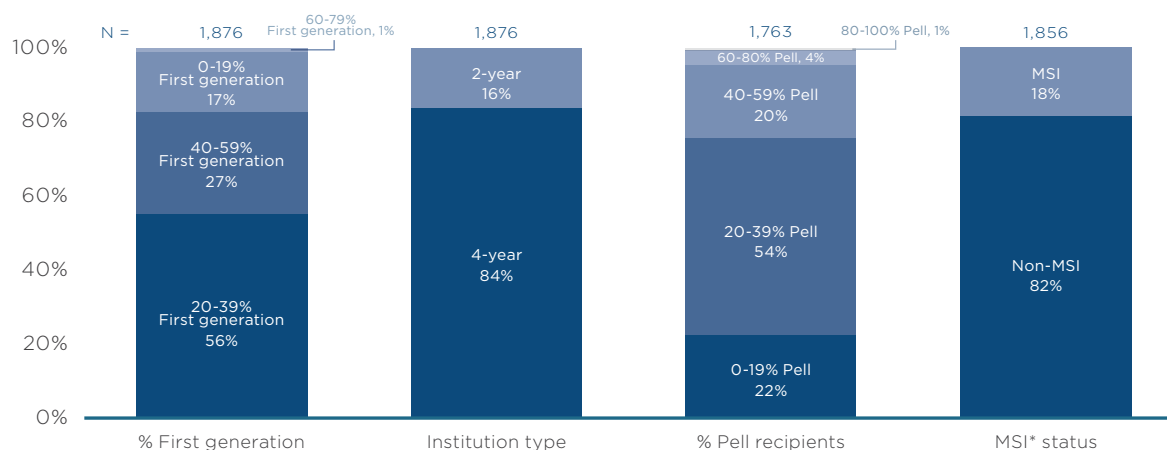
Information for this research brief comes from a national survey of higher education administrators and advisors—including faculty. The survey was distributed through the help of the following partners: Achieving the Dream (ATD), NACADA: The Global Community for Academic Advising, NASPA - Student Affairs Administrators in Higher Education, Complete College America, EDUCAUSE, and the Reinvention Collaborative. The survey was in the field from February 15 through March 11, 2022.

PARTICIPANTS

For the study, 1,876 higher education administrators and advisors representing over 1,000 institutions from across the US higher education landscape participated in the survey. Participant institutional affiliation was matched to the federal Integrated Postsecondary Education Data System (IPEDS) to retrieve institutional characteristic data, allowing for analyses to be conducted by institutional characteristics such as sector, size, and student demographics (see Figure 15).

Figure 15

Selected characteristics of sample respondents' institutions

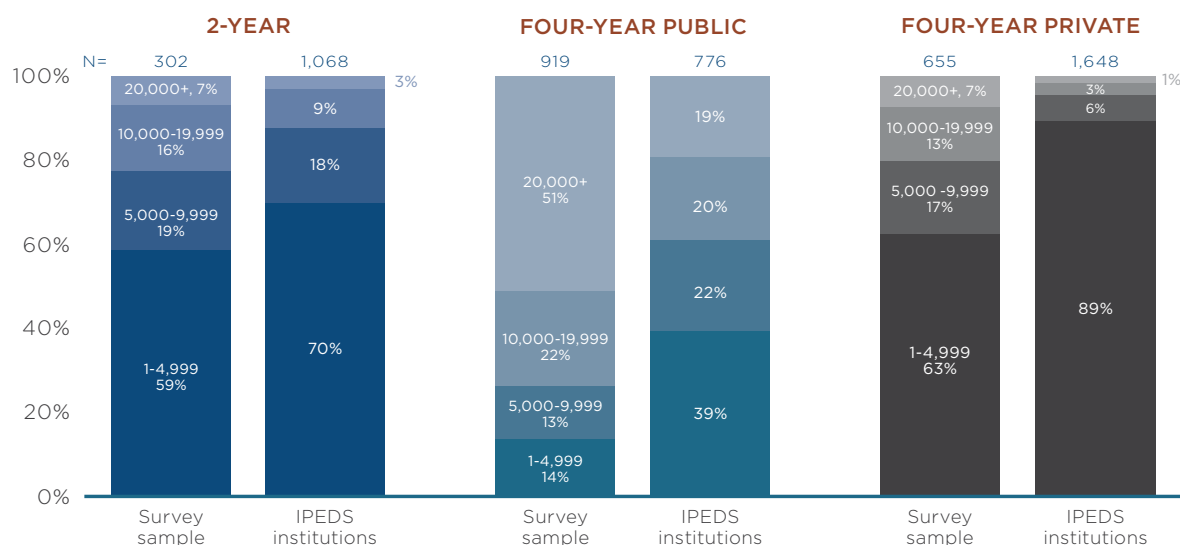


Notes: "MSI" = Minority Serving Institution; Sample sizes differ throughout the deck due to dropouts, partial responses, and availability of IPEDS data

The largest sectoral representation in the sample comes from public four-year institutions (49%), followed by 35% from private four-year institutions and 16% from two-year institutions. The survey sample is reasonably well-aligned to the national sample by sector and size (see Figure 16).

Figure 16

Selected characteristics of sample respondents' institutions compared to IPEDS universe, by sector

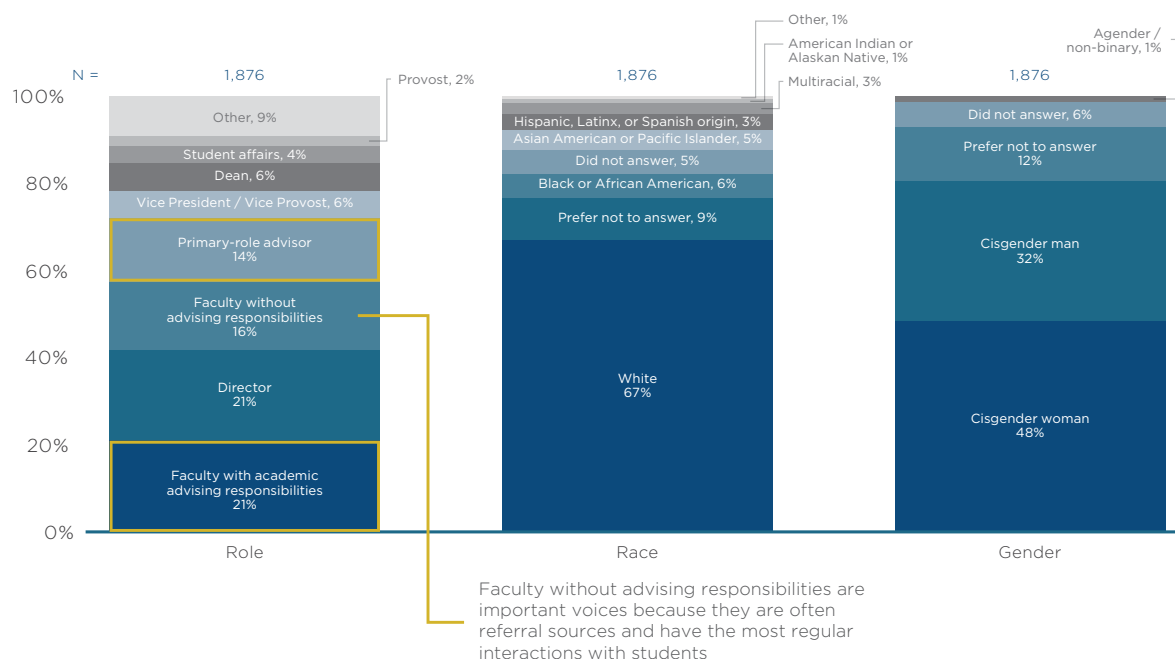


MATERIALS

The survey consisted of questions designed for administrators and advisors with roles in the following student supports: academic advising, career services, financial aid and literacy, student life, counseling and psychological services, academic support/tutoring, and teaching (see Figure 17 for more details).

Figure 17

Selected characteristics of sample respondents



Note: Frontline academic advisors include faculty with academic advising responsibilities and primary-role advisors

PROCEDURES

Data was checked for completeness, missing values, or erroneous codes. All responses entered as “other” were reviewed to determine if they should also be coded as one of the fixed responses. Data weighting was used to adjust the survey sample size to represent the national landscape of postsecondary education institutions more accurately. To ensure confidentiality and anonymity, results are presented in aggregate and summary statistics.

ABOUT THE INITIATIVE

Driving Towards a Degree is a data-driven resource designed to help institutions pursue integrated student supports. Since 2016, data has been collected and analyzed via longitudinal primary research studies by Tyton Partners, with the support of the Bay View Analytics and in partnership with NASPA —Student Affairs Administrators in Higher Education, NACADA: The Global Community for Academic Advising, Achieving the Dream (ATD), EDUCAUSE, Complete College America, and the Association for Undergraduate Education at Research Universities (UERU, formerly the Reinvention Collaborative).

We are also appreciative of the time and support provided by Dr. Ivory Toldson and Dr. Karen Bussey, researchers at Howard University, who provided guidance on survey instrument development, analyses, insights pertaining to equity, and breakdowns of survey results with a focus on identifying and mitigating bias in our process and methodology.

Contact Tyton Partners (drivetodegree@tytonpartners.com) to take advantage of the Driving Toward a Degree initiative as a data-driven resource for improved student success through supports redesign. To learn more about our organization, visit tytonpartners.com.

We welcome the opportunity to help institutions and suppliers alike address the gaps in their policies, practices, and technological products, and to assess current capabilities and identify future needs. To learn more and access other research briefs in this series or prior year studies, visit drivetodegree.org.

We also invite you to share this series and your perspective on holistic student supports via the Twitter hashtag #drivetodegree.

This publication was created with feedback from the Advising Success Network (ASN). The Advising Success Network (ASN) is a dynamic network of five organizations partnering to engage institutions in holistic advising redesign to advance success for Black, Latinx, Indigenous, Asian, and Pacific Islander students and students from low-income backgrounds. The network develops services and resources to guide institutions in implementing evidence-based advising practices to advance a more equitable student experience to achieve our vision of a higher education landscape that has eliminated race and income as predictors of student success. The ASN is coordinated by **NASPA - Student Affairs Administrators** in Higher Education, and includes **Achieving the Dream**, the **American Association of State Colleges and Universities**, **EDUCAUSE**, **NACADA: The Global Community for Academic Advising**, and the **National Resource Center for the First-Year Experience and Students in Transition**.

Driving toward a Degree and the Advising Success Network are made possible thanks to generous support from the Bill & Melinda Gates Foundation.

ABOUT TYTON PARTNERS

Tyton Partners is the leading provider of advisory services to the education market, with a unique dual practice offering in investment banking and strategy consulting services. In the higher education ecosystem, we work with a wide range of colleges and universities to tackle their biggest strategic challenges and develop and execute on plans that enable them to grow, evolve, and thrive. Tyton Partners helps clients drive teaching and learning innovation, scale online operations, diversify and grow revenue, improve student success, better align with workforce outcomes, and realize transformative public/private partnerships, mergers, and affiliations. For more information, visit tytonpartners.com.

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