TOP OF THE CLASS OR A FAILING GRADE?

WHAT COLLEGE STUDENTS REALLY THINK ABOUT CAMPUS CONNECTIVITY

Student connectivity report

boldyn
NETWORKS

Contents

Connectivity is the lifeblood of the student experience

Air. Water. Wi-Fi. Those are the essentials for today's students. And that doesn't change when they arrive on campus or move into residence halls.

They rely on connectivity to do their schoolwork and attend classes remotely, but they also have other important needs, like video chatting with family and friends, streaming old episodes of their favorite shows, and teaming up with friends for some online gaming. When that connectivity fails, it can really throw a wrench in their lives, affecting both their academic performance and overall well-being.

Of course, this isn't news to college presidents, IT managers, housing directors and other campus leaders. They're doing their best to deliver the connectivity students want. But campuses are large, complex environments, and are often made up of buildings that were built decades or even a hundred years before the internet was even a thing. Every year, new devices and technologies place ever higher demands on campus networks, while budget and resource constraints make it hard for campus leaders to ensure those networks keep up.

At Boldyn Networks for Higher Education (formerly Apogee), we deliver world-class wireless solutions that ensure colleges and universities are set up to thrive in today's digital age. We wanted to get a deeper, more comprehensive understanding of how students use the internet and the impact it has on their life, so we commissioned a survey of more than 1,000 undergraduate students in the U.S. to learn more about their experiences with campus connectivity – and what colleges need to do to better.

We found that students consider reliable connectivity almost as important to the college experience as quality academics and campus safety. Unfortunately, almost all of them had experienced issues with their on-campus connectivity in the past year, from slow speeds to outages, sometimes at the worst possible moments. There's a big gap between students' expectations for connectivity and how satisfied they are with the service they're actually getting – and a lot of students don't think their schools are investing enough to improve that service.

It all comes back to the fact that connectivity is no longer a "nice to have" amenity. Schools need to look at it as a basic utility, like heat or power. Students should be able to pick up their devices and connect. Seamlessly. Quickly. Reliably. Right now, they can't always do that. That means campus leaders have an opportunity (and even a responsibility) to prioritize better connectivity solutions. This report offers some eye-opening insights on the impacts of connectivity on the student experience that campus leaders can use to make a plan to deliver the connectivity students want – while enhancing their well-being, improving satisfaction and driving better academic performance. Let's talk about how we can make that happen at your school.

SCOTT DROSSOS
CHIEF EXECUTIVE OFFICER, BOLDYN NETWORKS FOR HIGHER EDUCATION

Key findings at a glance

84% of students living in residence halls say:

"connectivity is essential – as important as safety and almost as important as quality academics."
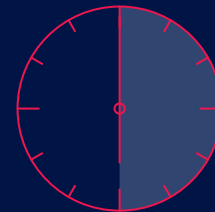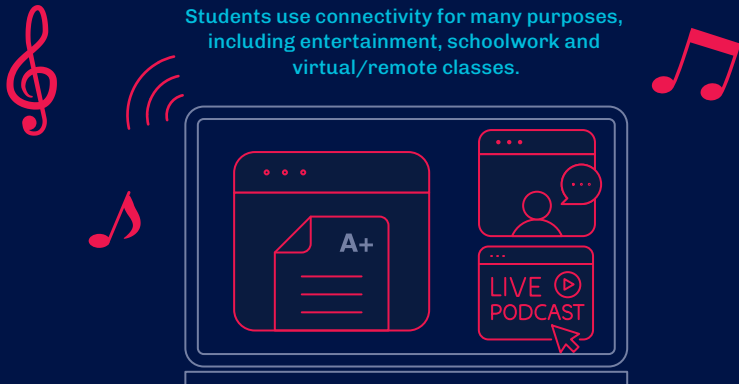
99% of students living in residence halls want:

"to be able to connect at least two devices simultaneously."

ENGAGEMENT

Students use connectivity for many purposes, including entertainment, schoolwork and virtual/remote classes.

A+

LIVE PODCAST

Internet use in residence halls is highest between

midnight and 6 a.m.

and lowest between 8 a.m. and noon*

EXPERIENCE

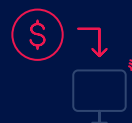**25%** of students overall say campus connectivity is very reliable.

13% of students living in residence halls are satisfied with their connectivity.

85% of students have experienced an issue with campus internet in the past year.

36% of students think their schools are investing too little in connectivity.

86% say those issues have affected their schoolwork.

73% say those issues have affected their well-being.

* Data collected from network usage analytics of the residence halls served by Boldyn Networks for Higher Education (then Apogee). All other data sourced from an online survey of 1,019 undergraduate students conducted by Mantis Research.

The internet touches every part of student life

The days of one desktop computer per student, plugged into the wired internet port in their dorm room, are long gone. Today's students are bringing more connected and mobile devices into their residence halls than ever. And they want to be able to use those devices anytime, anywhere. By understanding student internet use, campus leaders (including college presidents, IT managers and student housing directors) can build and maintain networks that can keep up with how students work and play.

More devices demand more bandwidth

Nearly all students arrive at their residence halls with a mobile phone (99%) and a laptop (94%), and many bring other connected devices as well. On average, each student brings 3.5 internet-ready devices to their residence hall, and 99% expect to be able to connect at least two devices simultaneously. Nearly one-quarter (23%) want to connect four or more devices at the same time.

That quickly adds up to a lot of bandwidth being consumed. In a single room, you could have one student doing homework with a movie streaming in the background, while their roommate plays online multiplayer on their gaming console. Both of them could be getting messages sent to their smartwatches, all while their smart speaker waits on standby. When you multiply that by the number of rooms in the residence hall – and add whatever connected systems the building itself might be running – it's easy to see why many schools are struggling to keep up with increasing bandwidth demands.

And it doesn't stop with the residence halls. Whether in classrooms or other buildings, 90% of students want to simultaneously connect at least two devices wherever they are on campus.

QUESTION: On average, how many devices do you want to connect to the internet simultaneously?

Campus

Residence Hall

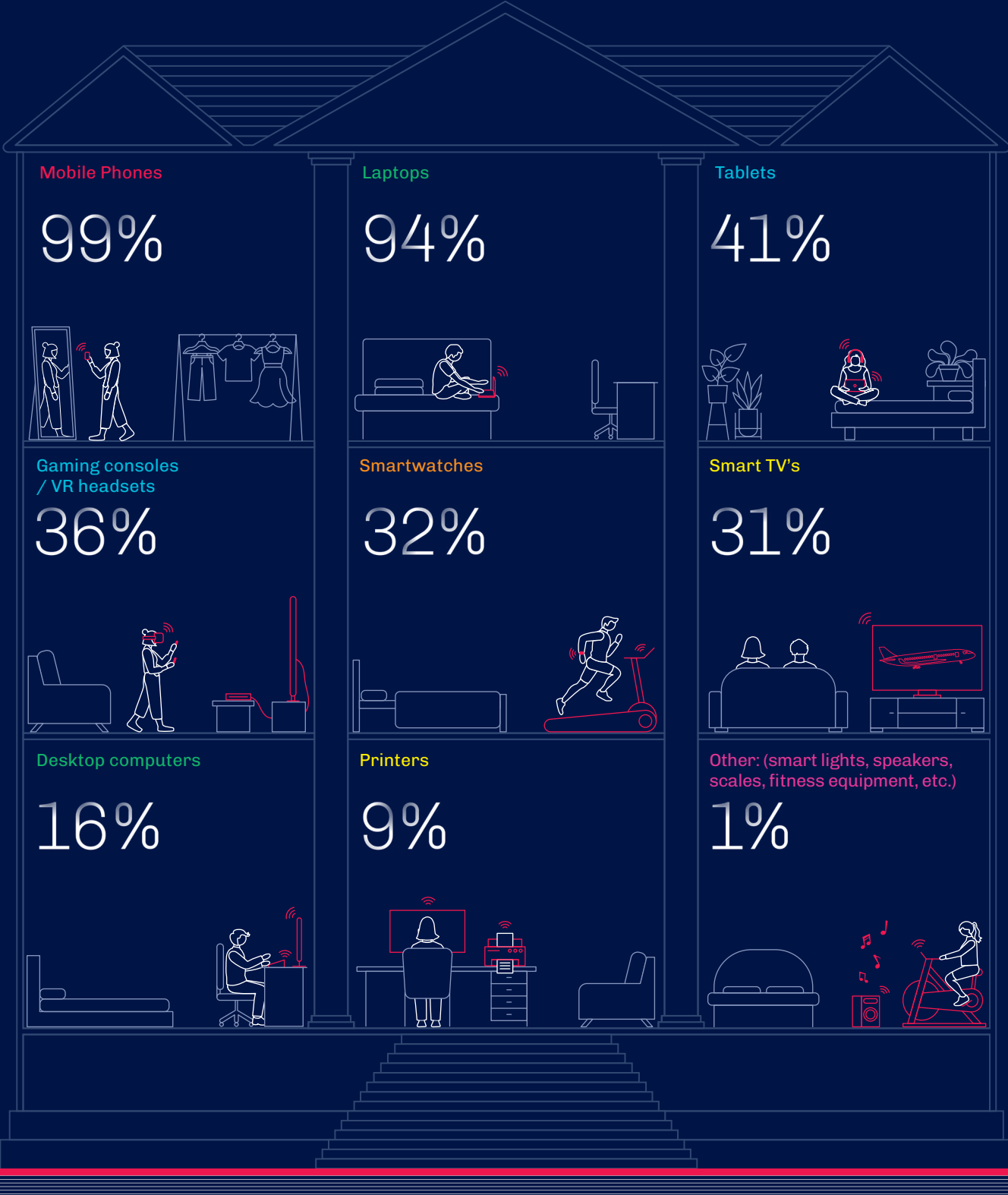■ 1 ■ 2 ■ 3 ■ 4 ■ 5+
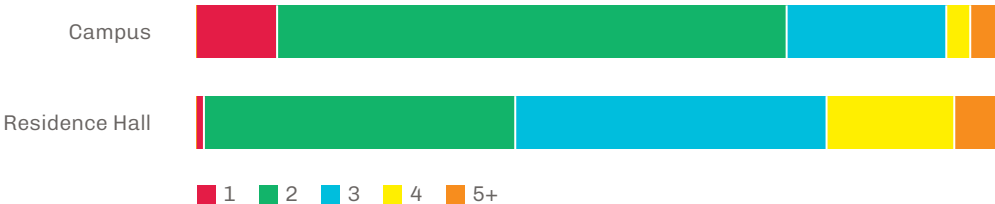
23%
of students who live in residence halls want to connect four or more devices at the same time.

The devices that make a residence hall feel like home

Students bring a wide range of internet-connected devices to residence halls.

Mobile Phones
99%

Laptops
94%

Tablets
41%

Gaming consoles / VR headsets
36%

Smartwatches
32%

Smart TV's
31%

Desktop computers
16%

Printers
9%

Other: (smart lights, speakers, scales, fitness equipment, etc.)
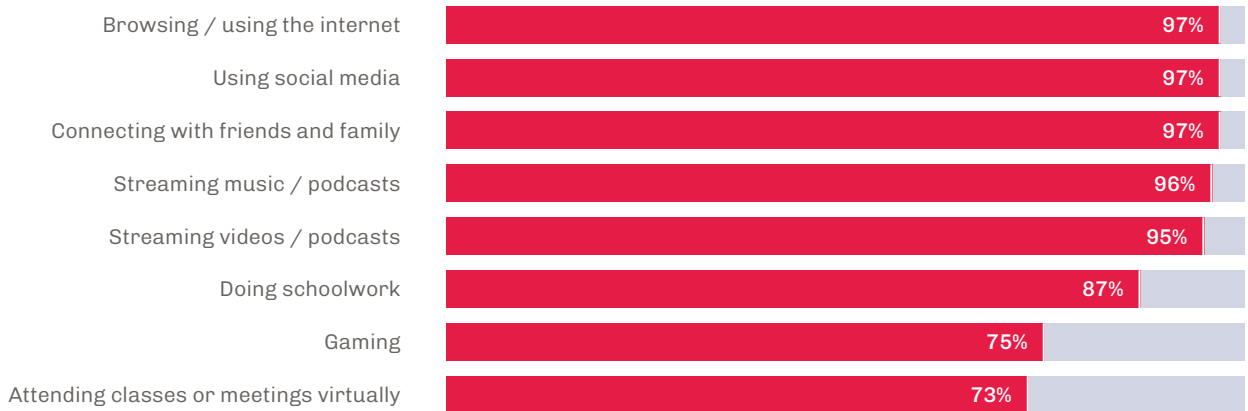## 1%

Connectivity is about more than schoolwork

Residence halls are both a place of living and a place of learning. While 87% of students who live on campus take advantage of connectivity to do schoolwork in their dorm rooms, even more of them connect for other purposes. Almost all of them use the internet (97%), use social media (97%), connect with friends and family (97%), stream music and podcasts (96%), and stream video (95%) in their rooms. (Our own internal data shows that streaming video accounts for the largest share of bandwidth usage in residence halls.) Around three-quarters of students play video games (75%) or attend virtual classes (73%) in their rooms.
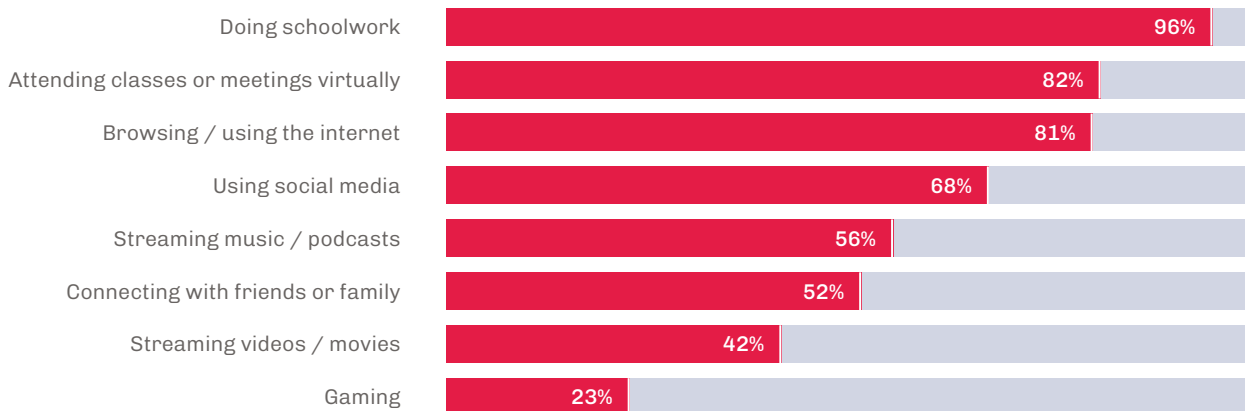
But they're also looking for connectivity outside their residence halls. Most students who live in residence halls expect to be able to browse the internet (92%), use social media (86%) and do schoolwork (78%) anywhere on campus.

QUESTION: Which of these activities, if any, are you doing in your residence hall?

Activity	Percentage
Browsing / using the internet	97%
Using social media	97%
Connecting with friends and family	97%
Streaming music / podcasts	96%
Streaming videos / podcasts	95%
Doing schoolwork	87%
Gaming	75%
Attending classes or meetings virtually	73%

And they're not the only ones. For students who do not live in residence halls, the number one use for connectivity on campus is doing schoolwork (96%). These students also attend virtual classes or meetings (82%), and browse the internet (81%). While these activities are to be expected, it may be more surprising that students who do not live in residence halls also use campus internet for bandwidth-intensive activities typically associated with home life, such as streaming movies (42%) and playing video games (23%). Whether these students are visiting friends in residence halls or killing time between classes, campus leaders need to ensure all of their networks can deliver the needed bandwidth, not just those in the residence halls.

QUESTION: Which of these activities, if any, are you doing while on campus?

Activity	Percentage
Doing schoolwork	96%
Attending classes or meetings virtually	82%
Browsing / using the internet	81%
Using social media	68%
Streaming music / podcasts	56%
Connecting with friends or family	52%
Streaming videos / movies	42%
Gaming	23%

Connecting here, there and everywhere

While the most bandwidth-heavy activities happen mainly in residence halls, plenty of students are using the internet for all kinds of purposes – including streaming and gaming – all over campus. That makes it vital for colleges to deliver good connectivity everywhere.

| In residence halls only	Anywhere on campus	In classrooms only
Browsing the internet		
5%	92%	3%
Using social media		
11%	86%	2%
Doing schoolwork		
9%	78%	13%
Connecting with friends and family		
20%	77%	3%
Streaming music/podcasts		
20%	76%	2%
Attending classes or meetings virtually		
20%	53%	24%
Streaming video/movies		
55%	40%	3%
Gaming		
65%	10%	2%

Note: Percentages may not add up to 100 because responses from students who reported not doing an activity at all have not been included.

Reliable connectivity is a 24/7 requirement

It's commonly assumed that most students are night owls, so it shouldn't be too surprising that internet usage in residence halls is highest between midnight and 6 a.m. And with students attending classes during the day, the lowest usage happens between 8 a.m. and noon. Unfortunately, most colleges' tech support hours are almost completely opposite to these usage trends, often leaving students out of luck until morning if they run into any connectivity issues. While that's inconvenient if they're trying to watch a movie before going to bed, it's a real problem if it keeps them from getting work done.

QUESTION: **When were students online in residence halls?**
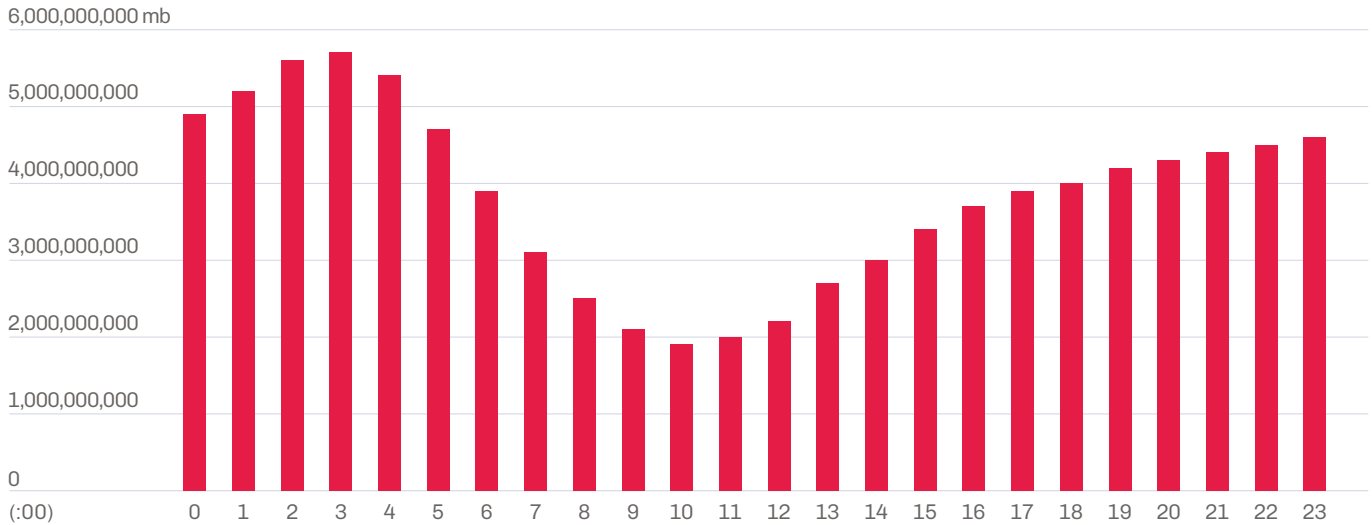
The bottom line for campus leaders

Connectivity is an integral part of life for today's students, and that doesn't change when they arrive on campus. They expect to be able to do everything they did at home, plus all of their schoolwork. And with the rise of remote learning, residence halls are now serving as classrooms as well. Campus leaders need to ensure they're making reliable internet available everywhere on campus so students can do what they need to do to succeed in their studies – as well as what they want to do in their downtime.

In residence halls, it's also important to recognize that students' connectivity needs are heavily dominated by streaming, often involve a lot of devices connecting at once, and do not follow a Monday–Friday, 9–5 schedule. Building networks with those specific needs in mind and investing in support staff who can keep students online no matter what time it is will go a long way to delivering the connectivity experience students are looking for.
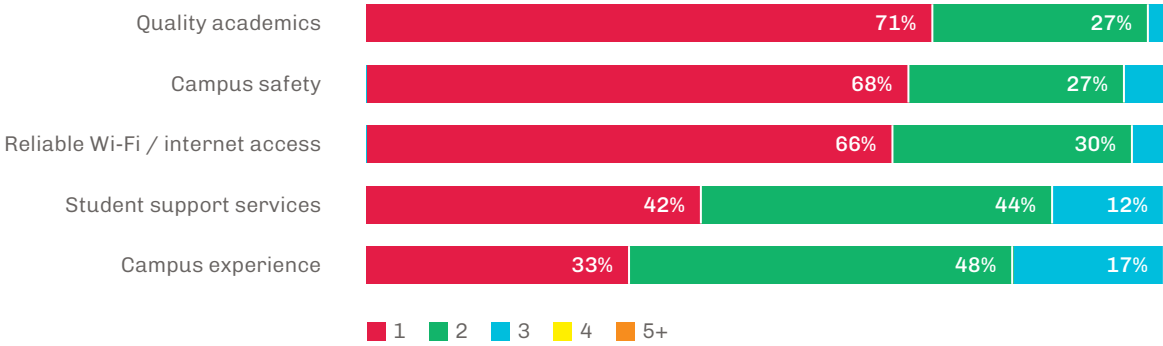
Expectations vs. reality: Campus connectivity is falling short

Nearly all students say connectivity is a vital part of their college experience, especially if they live on campus. But the reality is that the connectivity they're getting isn't quite matching up to those expectations. Most students have experienced connectivity problems, many of which have had real impacts on schoolwork and well-being. While they believe campus leaders understand the importance of the issue, many students feel more could be done to improve campus connectivity.

Students expect a lot from their connectivity

Almost all students who live in residence halls (99%) consider reliable, consistent internet access to be important to their experience, with 84% saying it's essential. Non-resident students agree. Across the entire student population, 96% said reliable internet was either important or essential. That's tied with campus safety (96%) and almost as high as quality academics (98%). Interestingly, students in programs of four years or longer were more likely to say reliable internet was essential than those in shorter programs (70% vs. 55%, respectively). The message here is clear: connectivity is vital for all students, everywhere.

QUESTION: How would you rate the importance of each of these aspects of your college experience?

	1	2	3
Quality academics	71%	27%	
Campus safety	68%	27%	
Reliable Wi-Fi / internet access	66%	30%	
Student support services	42%	44%	12%
Campus experience	33%	48%	17%

Legend: ■ 1 ■ 2 ■ 3 ■ 4 ■ 5+

Student expectations are not being met

Almost half of students living in residence halls (49%) said the connectivity in their residence hall was similar to what they had at home. The rest were fairly evenly split between finding it better (24%) or worse (27%) than what they had at home. This can be a bonus for students coming from areas with limited internet service, but it can be a rude awakening for students used to gigabit speeds or faster at home. And while 72% of students report being satisfied with the connectivity in residence halls and across campus, only one-quarter are very satisfied with the connectivity in their residence halls.

QUESTION: How would you describe the internet connectivity in your residence hall?

Better than what I had at home	24%
Similar to what I had at home	49%
Worse than I had at home	27%
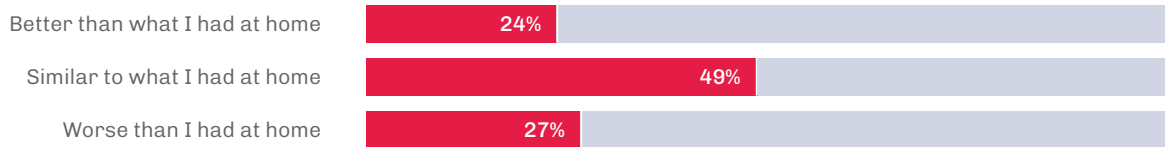
That's a 59 percentage-point gap between those who said good connectivity was essential and those who were very satisfied with the connectivity they were getting in their residence hall. In other words, there's plenty of room for improvement.

The importance vs. satisfaction gap

84%

59% gap

25%

■ Reliable, consistent internet is essential

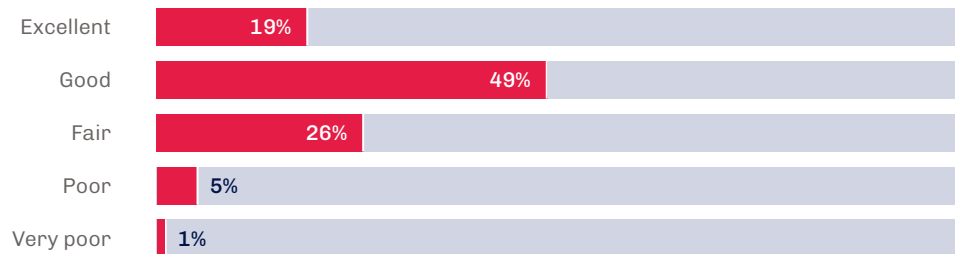■ Very satisfied with the internet connectivity in your residence hall
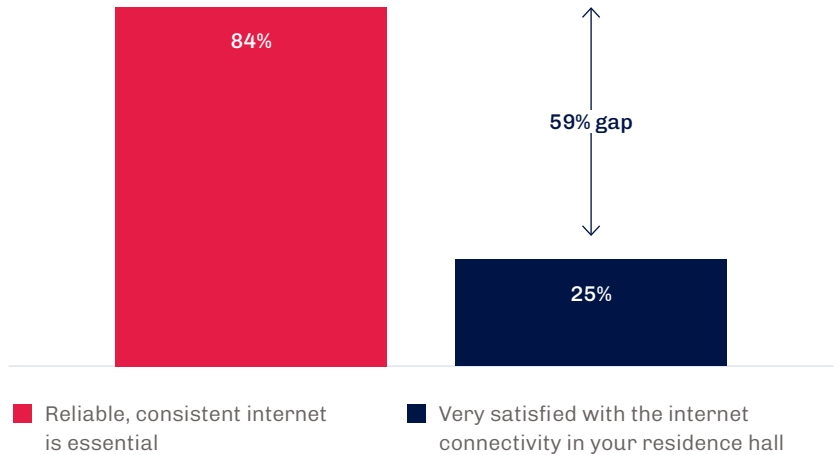
In terms of specific characteristics of campus connectivity, around half (49%) of students said the internet was somewhat, not very or not at all reliable, with only 13% saying it was extremely reliable. They do seem reasonably satisfied with the speed of the internet, with 68% rating it as good or excellent. While only 10% of students said the campus internet was not very or at all secure, more than one-third (38%) said it was only somewhat secure, suggesting around half of students have some concern about the network's security.
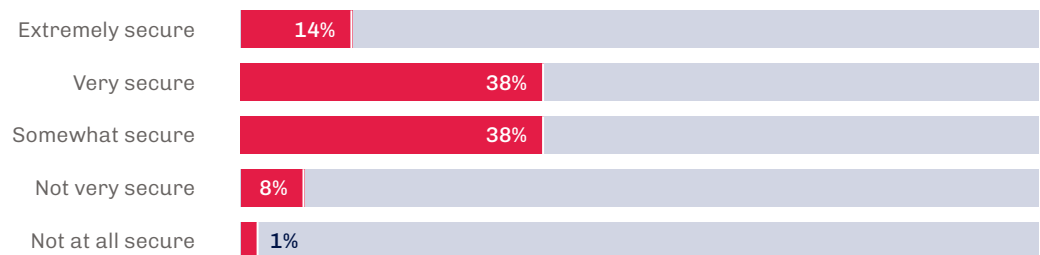
QUESTION: How reliable do you consider the internet to be on your campus?

Extremely reliable	13%
Very reliable	39%
Somewhat reliable	39%
Not very reliable	8%
Not at all reliable	1%
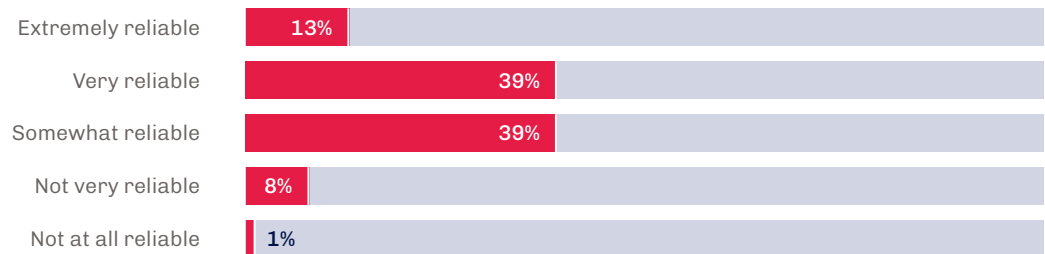
QUESTION: How would you rate the speed of the internet on your campus?

Excellent	19%
Good	49%
Fair	26%
Poor	5%
Very poor	1%

QUESTION: How secure do you consider the internet to be on your campus?

Extremely secure	14%
Very secure	38%
Somewhat secure	38%
Not very secure	8%
Not at all secure	1%

Most students (85%) have experienced some kind of internet-related issues in the past year. The most common issues were slow speeds (57%) and outages or intermittent connectivity (49%). Almost two-thirds (58%) of those who live in residence halls reported experiencing these issues both in residence halls and around the rest of the campus.

In general, students at private colleges placed higher importance on reliable connectivity (72% said it was essential vs. 64% at public colleges), but they were less satisfied (13% said they were very satisfied vs. 20% at public colleges). They also experienced more issues, with 63% reporting slow speeds (vs. 55% at public colleges) and 56% reporting outages (vs. 47% at public colleges). This could be attributed to the fact that private colleges tend to be located in smaller markets, making it harder for them to recruit the kind of IT support required to keep their networks working properly.

QUESTION: Which of the following internet-related issues, if any, have you experienced on your campus during the past year?

Slow speeds	57%
Outages / intermittent connectivity	49%
Inadequate coverage on certain areas of campus	39%
Restricted access to certain websites or services	21%
I haven't experienced any issues	15%
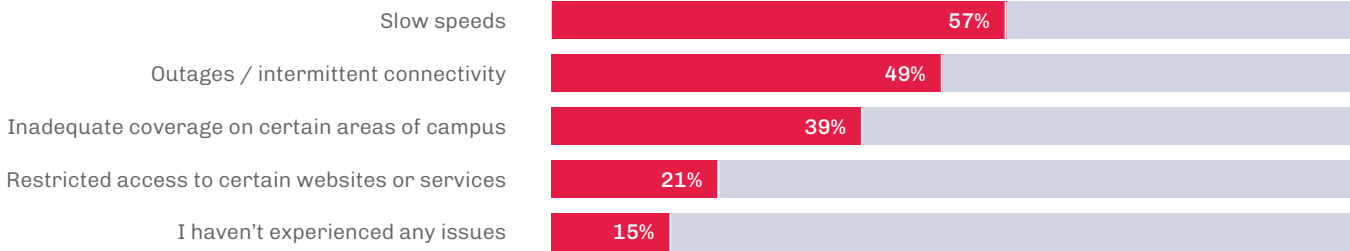
85% of students experienced at least one internet-related issue in the past year.
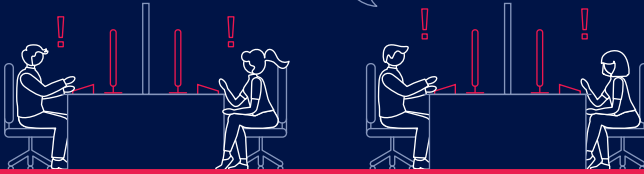
The real impacts of connectivity

Connectivity issues have real consequences for students, from hindering their schoolwork to causing mental health problems.

48% were unable to access resources or reading materials

"Some of my lab work requires me to disconnect and reconnect to the Wi-Fi multiple times, and if I don't get it right, I lose all my data."

67% had schoolwork take longer than expected
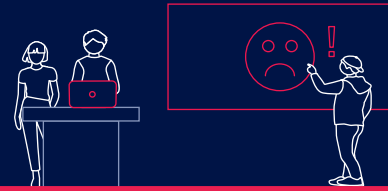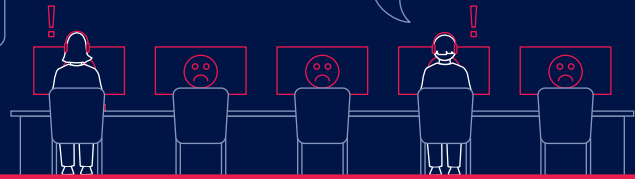
63% were stressed out

"If the internet was more reliable, then school wouldn't be as stressful."

21% missed online instruction or weren't able to complete an assignment

"It would be so slow it could take 20 minutes to answer 1 out of 48 questions."

"One time there was an internet malfunction during a quiz I had, thus the score didn't get documented. I had to retake it."

7% missed an important meeting or interview

"Certain buildings do not get data service, so when Wi-Fi is down, there is no way to access school materials."

27% were unable to unwind or relax

"I can't game, I can't reliably watch TV, I can't video chat. It sucks."

16% said it affected their mental health

20% had to leave campus to complete their tasks

"Sometimes getting my work done is very hard when the internet is slow or not working. If it doesn't work in my residence hall, I need to move to another location, and my residence hall is a 20-minute walk away from main campus."

Students believe their schools could do more

Around two-thirds of students (68%) believe their school administrators understand the importance of reliable, consistent internet for their experience. A similar number (61%) believe administrators are investing appropriately in campus connectivity.

However, one-third of students don't think enough is being invested in connectivity on campus. Given how high tuition fees can be, if the experience isn't what students expect, it's not surprising that they think more could and should be done.

When asked what internet-related enhancements would improve their experience, many said they would simply like faster, more reliable connectivity throughout the entire campus – especially in outdoor areas. They want to be able to connect and move around seamlessly without having to log in repeatedly. They said more bandwidth was needed to accommodate the size of the student and staff population, noting that poor connectivity and insufficient bandwidth had interrupted or delayed their classes. They said they would like to see dedicated, 24-hour tech support teams instead of relying on student associations or school staff without the needed expertise, and several suggested installing backup systems for when problems do occur.

QUESTION: Do you believe university administrators are investing appropriately in internet connectivity on campus?

They are investing too little	36%
They are investing the right amount	61%
They are investing too much	3%
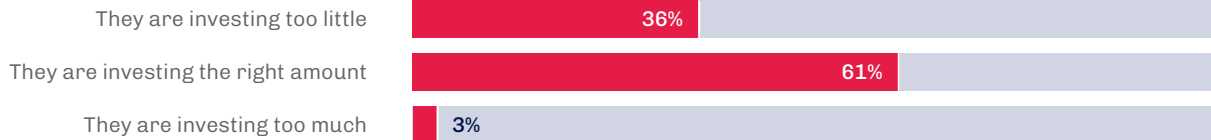
What additional internet-related features or improvements, if any, would improve your experience on your campus?

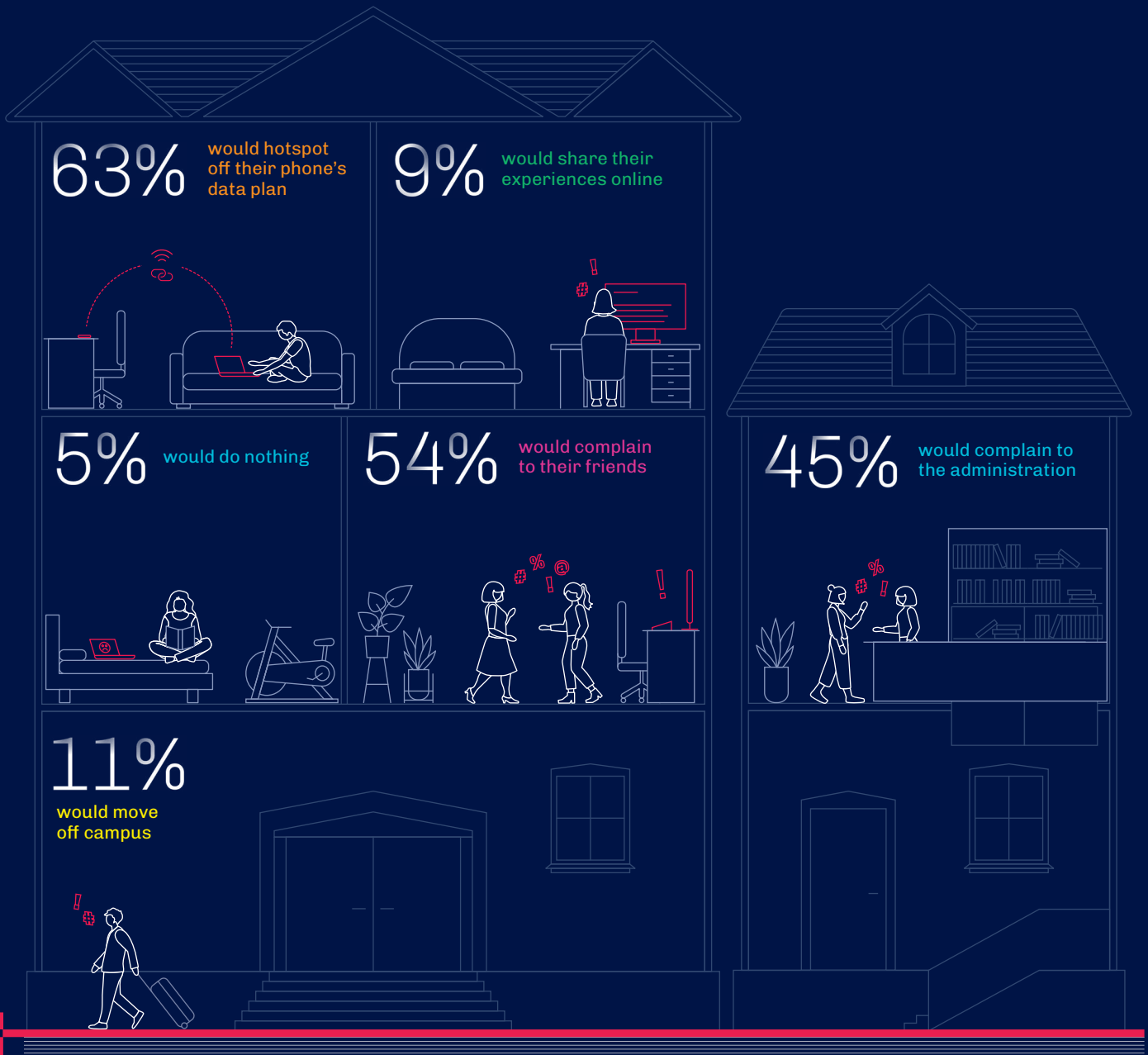"Wider coverage on campus – not just inside the buildings, but the common areas outside – especially in summer."

"Faster internet in the academic buildings because that's where most of the students are doing their work, especially in quiet room areas."
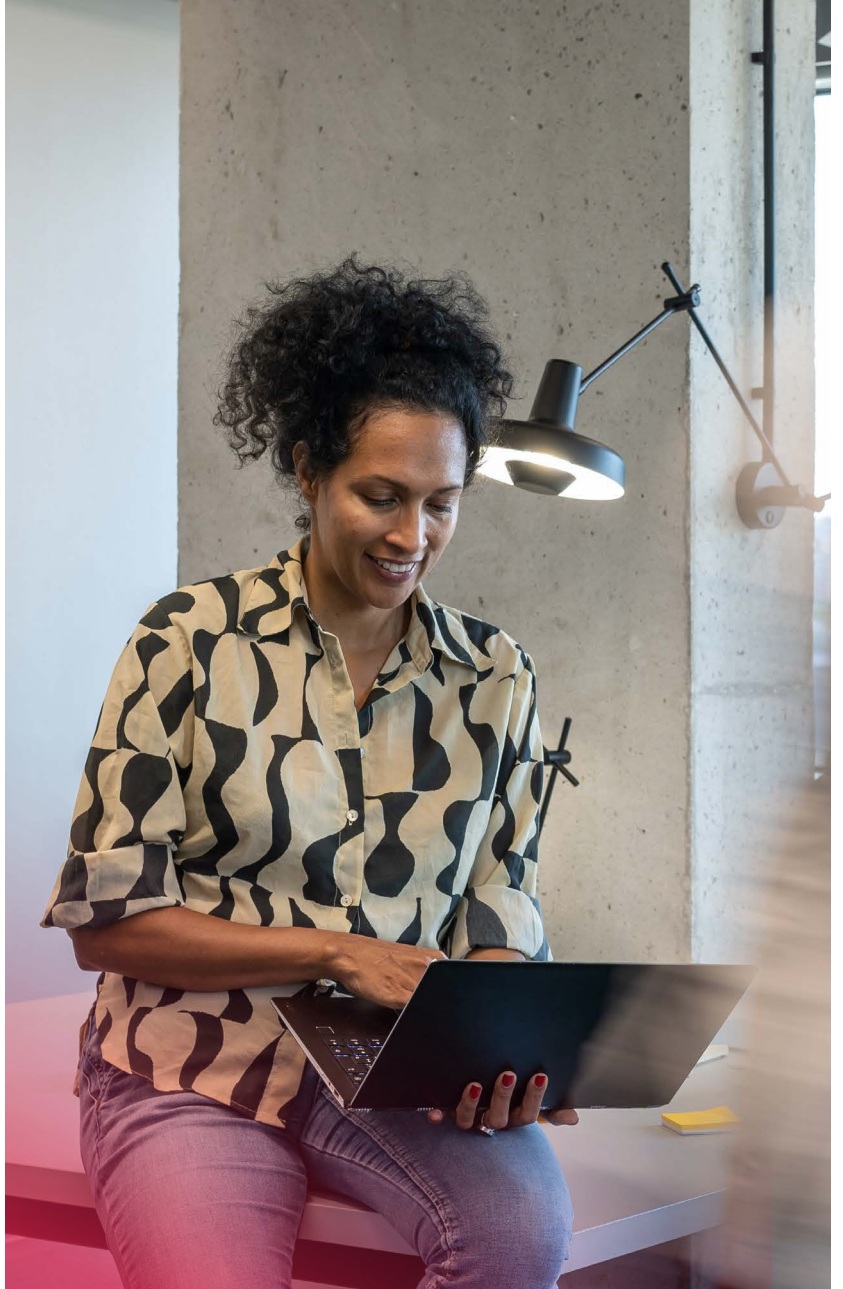
"Faster internet, better internet support team, ability to add more devices."

"Being able to connect to the internet in a big lecture hall where others need Wi-Fi as well."

The internet's out. What's next?

When the internet goes down too often, some students cope quietly. Others make their opinions known
– and that could have financial implications for schools.

63% would hotspot off their phone's data plan

9% would share their experiences online

5% would do nothing

54% would complain to their friends

45% would complain to the administration

11% would move off campus

The bottom line for campus leaders

Many schools think they deliver great connectivity, but student experiences tell a different story. A large majority of students have dealt with connectivity issues in the past year. Those issues have prevented them from getting schoolwork done and from using the internet to unwind, with negative consequences for their studies and their well-being. This disparity should be a wake-up call for campus leaders. Because perception is reality.

These issues can have real impact on both the students and the school. Students can either accept bad connectivity as status quo and simply live with the consequences, or they (and their parents) can make a lot of noise about it. Neither is ideal. In extreme cases, some students may choose to abandon on-campus living altogether. That isn't a good result either, given that other studies have found that students who live in residence halls tend to form deeper connections with their schools.

Campus environments present many challenges to delivering the kind of fast, reliable connectivity students want in every corner of the campus. Still, campus leaders would be well advised to prioritize finding ways to overcome these challenges. Better connectivity has the potential to improve student outcomes and satisfaction – both of which can have long-term benefits for a school's bottom line.

Conclusion

It's time to prioritize connectivity on campus

For college campuses, digital transformation is about more than just adopting new technology. It's about creating an environment where students can thrive academically and socially. But on a lot of campuses, that's not happening.

Even though connectivity is almost as important to students as the quality of the classes they take, they're too often faced with slow speeds. Poor connections that drop out at inopportune moments. Spotty coverage that doesn't reach all the places they want to go. At best, it's annoying. At worst, it forces them to redo work and miss deadlines. With real consequences for their academic performance and their well-being.

This report underscores the importance of recognizing this reality and investing in connectivity infrastructure that will enhance internet speed, reliability and coverage – in residence halls and across the entire campus. For many schools, one of the biggest roadblocks is staffing the right IT team who can design, build and support a network students can rely on.

That's where Boldyn Networks can help. We have expertise in bringing connectivity to some of the world's most challenging environments, and we have the resources to provide the kind of support campus networks need. We can take care of residence hall connectivity with solutions tailored specifically for student needs, so a college's in-house IT team can focus on delivering a great experience across the rest of campus. Or we can take on the whole campus, with solutions to handle stadiums, libraries, academic buildings, outdoor spaces and more.

With the right support and a roadmap for moving forward, schools can provide the connectivity students need. And that's the key to improving the student experience, enhancing academic success, and maintaining a competitive edge in attracting and retaining students.
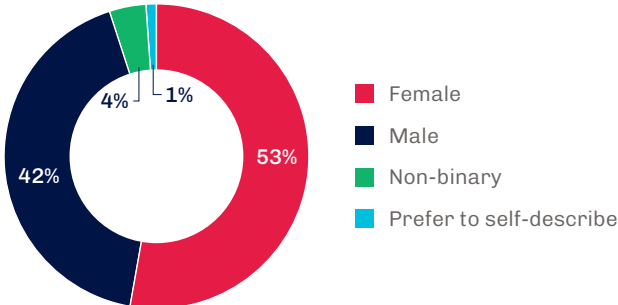
Appendix:
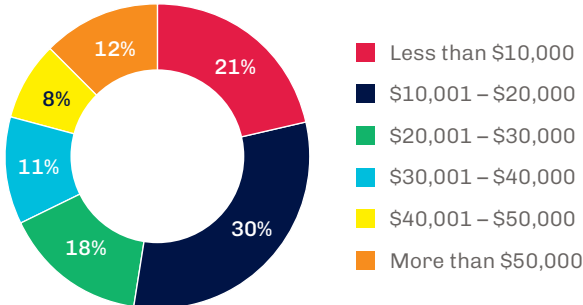# How we conducted this survey

This survey was designed to explore college students' experiences with and opinions about internet connectivity in their residence halls and across their campuses. We asked about how they use connectivity, how they feel about the connectivity they get, what kinds of issues they've experienced, and how those issues have affected their academic success and personal well-being.

The research was commissioned by Boldyn Networks for Higher Education (formerly Apogee) and conducted by Mantis Research. An online survey was conducted between May 20 and June 2, 2024, among 1,019 undergraduate college students in the U.S. The sample can be broken down as follows:
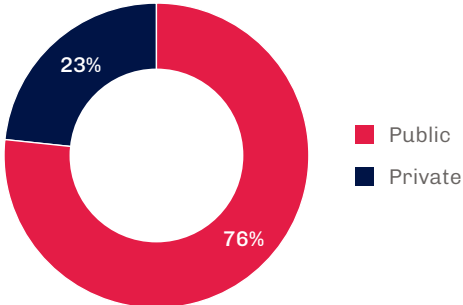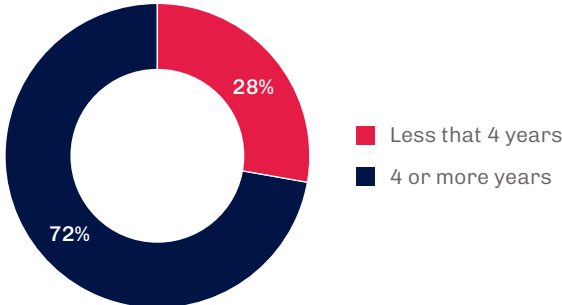
How do you identify?

- Female — 53%
- Male — 42%
- Non-binary — 4%
- Prefer to self-describe — 1%

How much is annual tuition at your university?

- Less than $10,000 — 21%
- $10,001 – $20,000 — 30%
- $20,001 – $30,000 — 18%
- $30,001 – $40,000 — 11%
- $40,001 – $50,000 — 8%
- More than $50,000 — 12%

Do you attend a public or private university?

- Public — 76%
- Private — 23%

What level is your institution?

- Less that 4 years — 28%
- 4 or more years — 72%

Where is your college/university located?

- City/Urban — 49%
- Suburban — 30%
- Town — 15%
- Rural — 6%
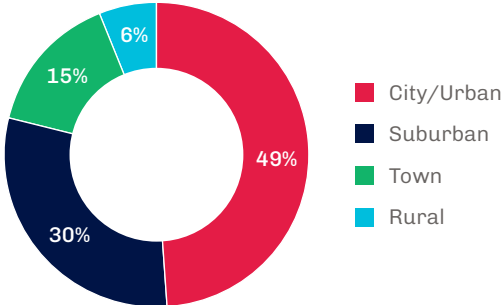
How many undergraduate students attend your university?

- Fewer than 1,500 students — 7%
- 1,500 – 5,000 students — 38%
- More than 5,000 students — 55%
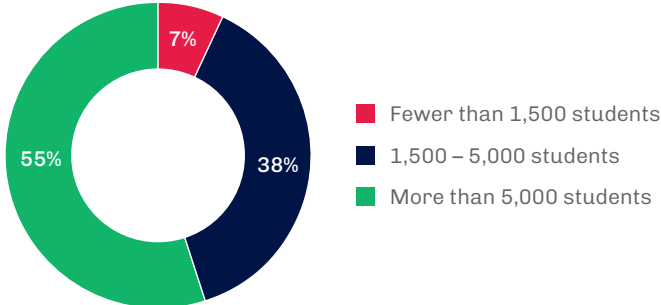
Additional data was collected from network usage analytics of the residence halls served by Boldyn Networks for Higher Education (then Apogee) from February to April 2024.
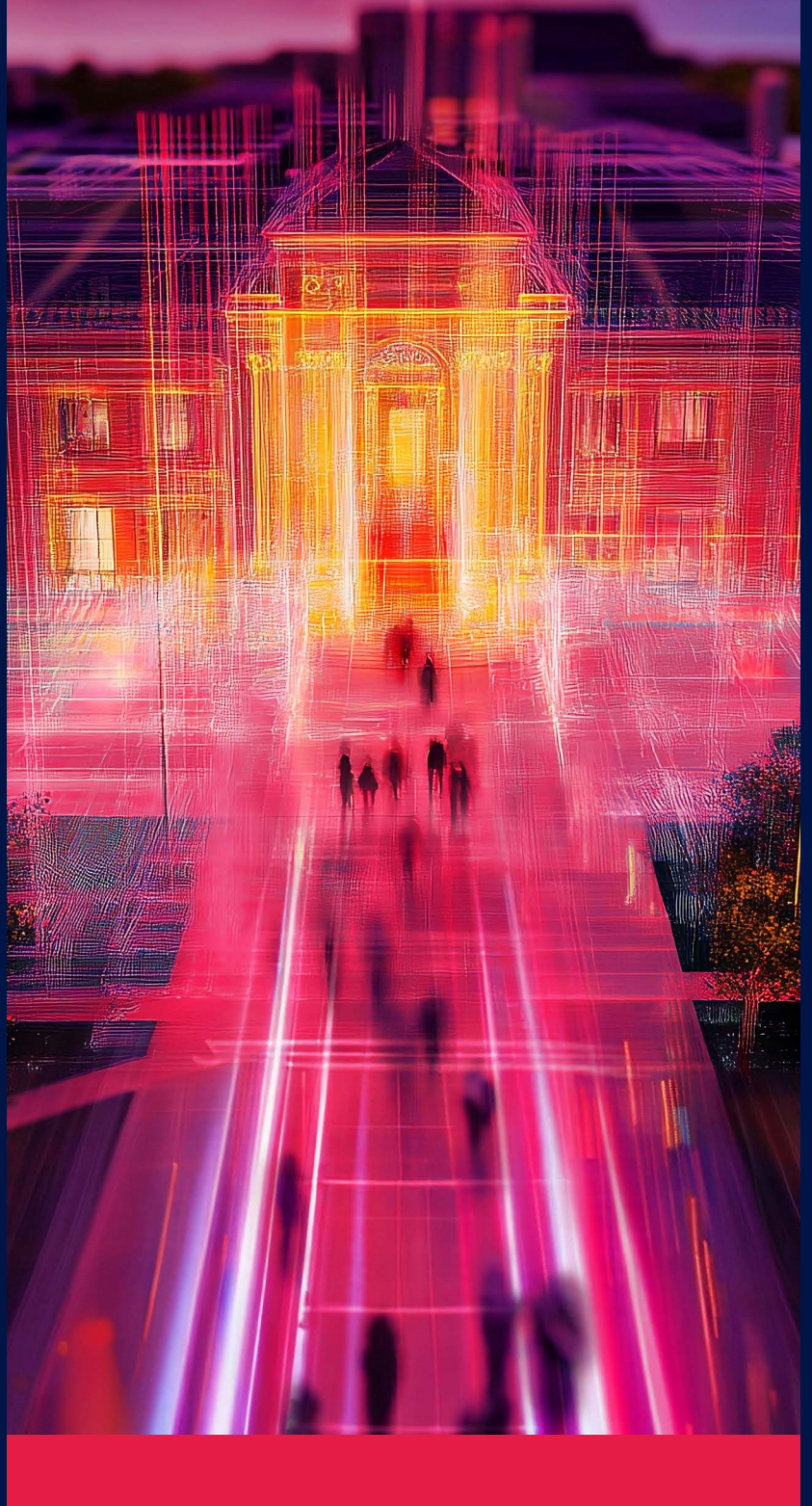
boldyn NETWORKS

Boldyn Networks for Higher Education delivers the advanced shared network infrastructure needed for a smart, inclusive and sustainable future. From private mobile networks to Wi-Fi to distributed antenna systems, we have the technologies and experience to connect your campus from one end to the other. Delivering a better experience for students, faculty and staff.

To learn more visit **boldyn.com/us**