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Mastering the new digital life

2022 Connectivity and Mobile Trends, 3rd edition

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Introduction

Consumers are using connected devices to enhance their daily lives and well-being, while fine-tuning the balance between their virtual and physical worlds.

O VER THE PAST two years, the COVID-19 pandemic propelled US households into an unprecedented societal beta test that accelerated emerging trends in technology and connectivity. Almost overnight, lines blurred between consumers' physical and digital worlds, and home became the headquarters for virtual working, learning, fitness, health care, shopping, socializing, and entertaining. In our 2021 Deloitte Connectivity and Mobile Trends study,[1] we explored how consumers adapted to abruptly crowded houses: They added new tech, entertainment, and smart home devices, upgraded their networks to improve connectivity, and settled into the business of managing a wide range of devices and services. Although the virtual experiences sometimes tested bandwidth and patience, people made the situation work.

Almost overnight, lines blurred between consumers' physical and digital worlds, and home became the headquarters for virtual working, learning, fitness, health care, shopping, socializing, and entertaining.

Fast-forward a year, and our 2022 Deloitte Connectivity and Mobile Trends study examines how US households are faring (see "About the survey"). With fewer people working and learning from home, the house is less crowded, there's reduced pressure on people, devices, and networks, and many of the acute challenges have subsided. Consumers are gaining mastery over their digital lives, optimizing the devices they use, and fine-tuning the balance between their virtual and physical worlds. They're being intentional about which activities to do virtually and which in-person. They're reporting that virtual work, school, fitness, and health care—in the right measure—are making their lives better, healthier, and more fulfilling. At least seven in 10 of those with virtual work or school experiences under their belts would like virtual options in the future as well.

There's still room for improvement, however. The plethora of devices—and the work involved in managing them—contribute to ongoing issues of tech fatigue and screen overload. Consumers also have concerns about data security and privacy, including the potential for location data to be monitored. Technology companies, device makers, app developers, and telcos all have an opportunity to help consumers optimize their devices and connectivity and enjoy better virtual experiences. Companies that can do this while giving consumers greater transparency and control over data security and privacy may be able to gain an edge over the competition.

About the survey

TO UNDERSTAND CONSUMER attitudes toward "digital life," Deloitte's Center for Technology, Media & Telecommunications conducted a survey of 2,005 US consumers in Q1 2022. Aspects of digital life that we surveyed include devices (technology, entertainment, smart home, smartphones), connectivity (home internet and mobile), virtual experiences (work, school, and health care), wearables (fitness trackers and 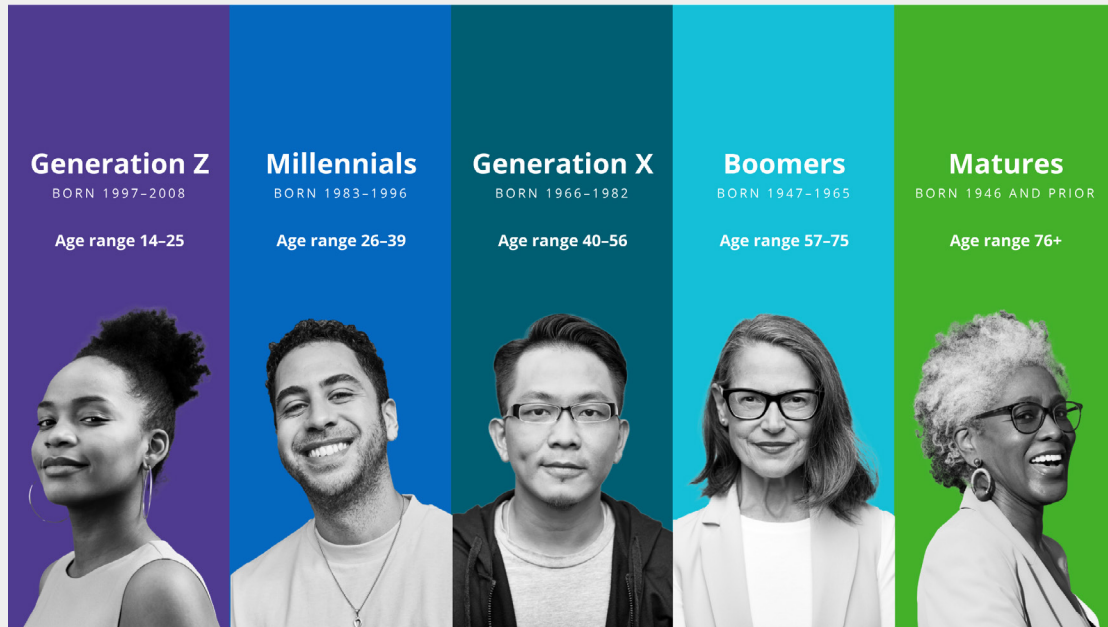smart watches), and challenges of managing one's digital life. All data was weighted to the most recent US Census to arrive at a representative view of US consumers' opinions and behaviors. To gain a more detailed understanding of various consumer groups, we also segmented respondents into the generational groups and tech-adopter cohorts shown in the sidebar "What kind of tech consumer are you?"

Mastering the new digital life
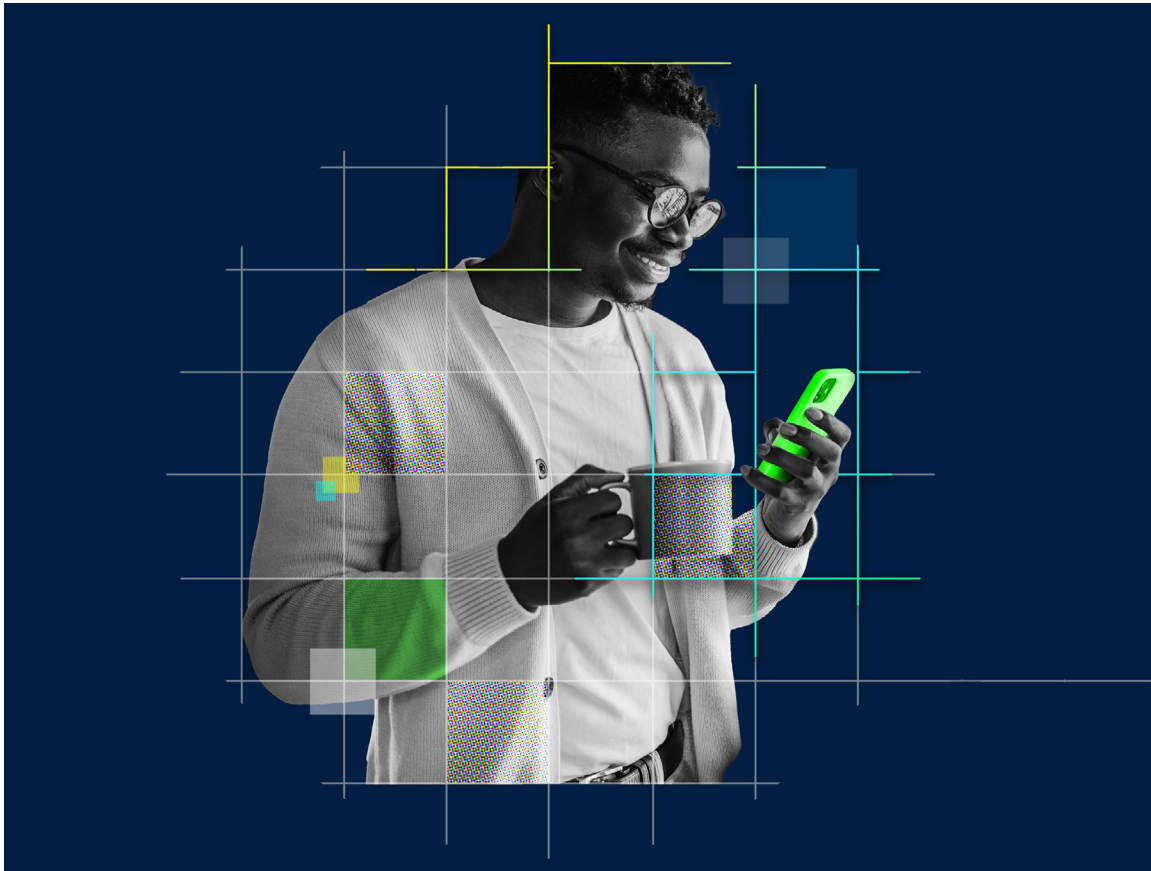
WHAT KIND OF TECH CONSUMER ARE YOU?

While we were most interested in US consumer attitudes overall, we also conducted deeper analysis to better understand the sentiments and behaviors of different consumer groups. Throughout the paper, we highlight some noteworthy differences between generations of consumers and among different kinds of tech adopters.

For generational insights, we define the five groups shown here:

Generation Z	Millennials	Generation X	Boomers	Matures
BORN 1997–2008	BORN 1983–1996	BORN 1966–1982	BORN 1947–1965	BORN 1946 AND PRIOR
Age range 14–25	Age range 26–39	Age range 40–56	Age range 57–75	Age range 76+

We also asked respondents to select what type of tech adopter they are, based on these descriptions:

Tech personas

Early adopters	Fast followers	Cautious adopters	Late adopters
(15% of surveyed consumers)	**(34% of surveyed consumers)**	**(39% of surveyed consumers)**	**(13% of surveyed consumers)**
Tech enthusiasts who tend to acquire the latest, greatest tech devices as soon as they're launched.	Like new technology but are not first to own. Tend to wait a few weeks to see how new tech devices are working out for others before acquiring.	Practical about new technology. They tend to wait until tech devices are well established before acquiring.	Wary of new technology. They wait as long as possible before switching to new devices.

Source: 2022 Connectivity and Mobile Trends, 3rd edition.

Early adopters represent the leading edge of tech adoption and may serve as a proxy for the direction in which consumer behaviors are headed. They are more likely to be males with high incomes (and therefore the ability to spend generously on technology), and many (42%) are Millennials.[2] On average, early adopters' households have more *kinds of devices* (20) and more *total devices* (31) than others. (Households in general average 14 kinds of devices and 22 total devices.)

Optimizing devices and connectivity

N THE INITIAL wave of pandemic-fueled lockdowns, everyone was forced to adopt a digital-first lifestyle. In 2022, this lifestyle has become more normalized and standardized. Many initial hiccups and challenges have abated, and our survey results indicate a leveling off or even correction as consumers figure out which devices they want to incorporate into their new balance of physical and digital. The total number of devices in use at respondents' homes, on average, is down slightly from 25 last year to 22 this year. While the number of *tech* devices remained unchanged at 11 per household on average, the slight drop came from smart home devices and entertainment devices.

Many initial hiccups and challenges have abated, and our survey results indicate a leveling off or even correction as consumers figure out which devices they want to incorporate into their new balance of physical and digital.

Several factors may be contributing to this dip in the smart home and entertainment categories. As consumers master their digital lives, they're finding some devices to be less critical than others. External streaming devices appear to be losing ground as smart TVs with built-in streaming come down in price. Connected exercise devices, likewise, are experiencing a drop in demand now that in-person gyms have reopened.[3] Voice-enabled smart speakers saw a massive surge in 2020, so their recent decline is seen as more of a correction than a cause for concern.[4]

Smart phones and smart homes

With a houseful of connected devices comes a need for better connectivity: Over the past year, 15% of consumers upgraded their home internet services to achieve higher speeds and 44% purchased "signal boosters" like Wi-Fi extenders and mesh network equipment to increase coverage throughout the house. A vast majority of these (87%) reported that their new equipment improved Wi-Fi performance. Only 8% said that they switched home internet service providers in the past year; this may reflect the time and effort required to arrange a new service and schedule technicians to rewire a home's connection.

One in five switched mobile providers in the last two years, primarily because they wanted better value for the money. Just over one-third got a new smartphone in the last year, and another 32% are planning to get a new smartphone within the next year. This would indicate that most consumers upgrade their phones on a two- to three-year cycle, in line with most traditional mobile carrier contracts.

Smartphones are the "universal remote" of our digital lives, with six in 10 respondents controlling their smart home devices and seven in 10 shopping and paying with their phones. Even more early adopters (nine in 10) say they use their phones for these activities.

Smartphones are the "universal remote" of our digital lives, with six in 10 respondents controlling their smart home devices and seven in 10 shopping and paying with their phones.

When it comes to smart homes, ownership of connected devices is flat, on average, compared with 2021. Thirty-one percent of respondents have smart home security systems; 29% have outdoor security cameras and 28% have doorbells with built-in cameras. One-quarter have smart lighting solutions.

Fifty-three percent of smartphone users with smart locks use their phones to lock and unlock their homes, and 51% of those with security systems or cameras use their phones to manage these systems. Other popular ways smartphones are being used to control the smart home include adjusting the connected thermostat and controlling smart lights and speakers.

Among those who use smart home devices, 68% say the technology helps them feel safer. And among those with a smart thermostat, 69% say their device helps reduce their energy costs. There is, however, still some concern around smart tech and its perceived complexity, which we'll discuss later.

The march of 5G

As smartphone users retire their older phones, many are upgrading to devices with 5G capability. Last year, 56% of our respondents who had upgraded their phones in the prior year said their phones had 5G. In 2022, that portion is up to 68%.

5G ranks as the third most-important feature for consumers who are considering their next phone purchase, behind battery life and data storage. In addition, it's the second-most important motivator for the 24% of respondents who are likely to switch mobile providers in the next year (behind "better value for the money"). As the refresh cycle for smartphones enters 2023, it's likely that most users will have 5G phones and service.[5]

Half of 5G smartphone users agree that the new connectivity standard enhances many capabilities and experiences. Compared to before they had 5G, approximately:

- One-quarter said they're watching more streaming videos

- One in five said they're using their 5G phones more as mobile hotspots and for payments

- One-quarter of Gen Z smartphone users reported an increase in mobile gaming

Although these activities are also available on 4G phones, respondents say they are very satisfied with 5G even as they await new apps and experiences unique to 5G.
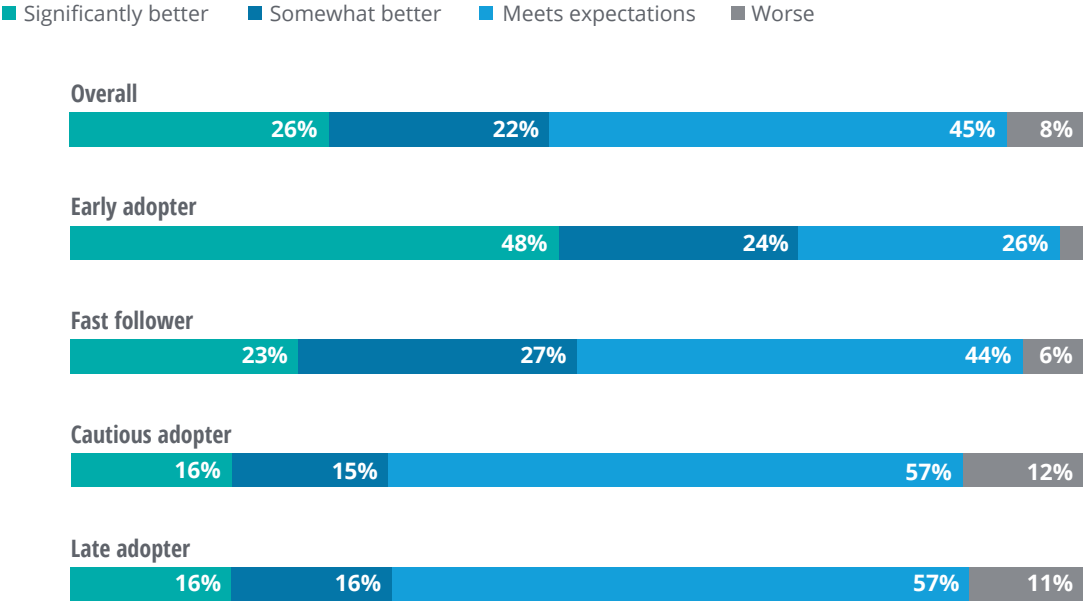
Overall, 48% of respondents said that 5G service is somewhat or significantly *better* than they expected, and another 45% said it meets expectations (figure 1). Only 8% of users were dissatisfied. Early adopters are even more pleased: 48% said 5G exceeds their expectations significantly. This is good news for device manufacturers and service providers, and it bodes well for 5G adoption and innovation.

However, consumers are still not sure what new things 5G enables. Nearly three-quarters of our respondents (73%) want a better understanding of 5G's new capabilities, and 30% are disappointed with a perceived lack of innovative apps and services that leverage 5G. This creates a massive opportunity for mobile providers and tech companies, as 66% of 5G smartphone users (and 83% of early adopters with 5G) said they're interested in premium service bundles that make better use of 5G.

FIGURE 1

Nine in 10 5G smartphone consumers say the service meets or exceeds expectations

How does the 5G service on your smartphone compare to your expectations?

■ Significantly better   ■ Somewhat better   ■ Meets expectations   ■ Worse

Overall

| 26% | 22% | 45% | 8% |

Early adopter

| 48% | 24% | 26% | |

Fast follower

| 23% | 27% | 44% | 6% |

Cautious adopter

| 16% | 15% | 57% | 12% |

**Late adopter**

| 16% | 16% | 57% | 11% |

Note: Respondents represent consumers with 5G smartphones.
Source: 2022 Connectivity and Mobile Trends, 3rd edition.

Evolving approaches to work and school

THE PANDEMIC CATALYZED a dramatic shift to remote working and learning. Two years into this virtual experiment, advances in combatting the pandemic have allowed many people to shift at least partially back to in-person experiences—but virtual work and school endure. Remote work has decreased but remains significant: 45% of our surveyed consumers said one or more household members were working from home at least some of the time, down from 55% in 2021, and 47% of employed adults reported they have worked from home personally at least some of the time over the past year. Schooling from home has decreased more substantially than remote work, but 23% of consumers reported one or more household members were still attending school from home at least some of the time (down from 43% in 2021).
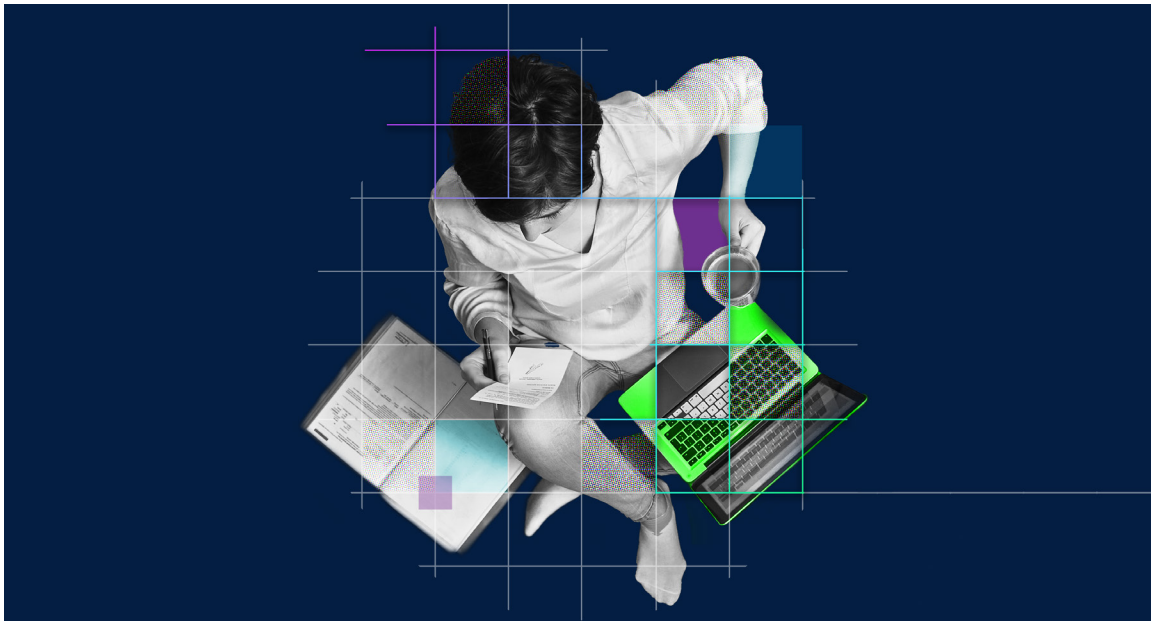
Enduring popularity of remote work

Remote work has shifted from being the *only* option for many workers (during mandated lockdowns) to being a *preferred* option for many. Indeed, 99% of those who have been working from home during the past year said they appreciated aspects of the experience. The benefits they valued most were the lack of commute, enhanced comfort, reduced chance of illness, better focus, and improved family connections (figure 2). When they were asked to rank the challenges of remote working, work/life balance issues, stress, home internet quality, and videoconferencing problems surfaced as the biggest concerns. These problems have abated considerably compared to last year, as workers gained more experience, networks and devices were optimized, and fewer people competed for bandwidth (figure 3).

FIGURE 2

Remote workers appreciate the experience overall, but issues around work-life balance, stress, connectivity, and videoconferencing persist

Experiences with working from home over the past year

	Top benefits		Top challenges
1	No commute to work	**1**	Have family or household responsibilities during working hours
2	Feel more comfortable at home (e.g., casual clothes, right temperature and lighting)	**2**	Feel stressed or burned out
3	Reduce my chances of getting COVID-19 or other illnesses	**3**	Slow or unstable home internet service
4	Focus better on work	**4**	Work longer hours than I would if attending work in person
5	Feel more connected with my family	**5**	Videoconferencing problems (e.g., difficulty joining, staying connected, poor video quality)

Note: Respondents represent employed adults who worked from home for at least some of the time over the past year.
Source: 2022 Connectivity and Mobile Trends, 3rd edition.

FIGURE 3

All 17 remote-working challenges we asked about in 2021 had eased by 2022, with some declining by double digits

Remote-work challenges that diminished most sharply over the past year	Percentage reporting as a challenge	Point change from 2021
Work longer hours than I would if attending work in person	32%	-17
Too many communication methods to track	24%	-17
Videoconferencing problems	25%	-15
Spend too much time in virtual meetings and not enough time getting work done	26%	-14
Systems I access for work don't work well enough	16%	-14
Devices I or household members personally own don't work well enough	14%	-12
Devices provided by my employer don't work well enough	14%	-12

Note: Respondents represent employed adults who worked from home for at least some of the time over the past year.
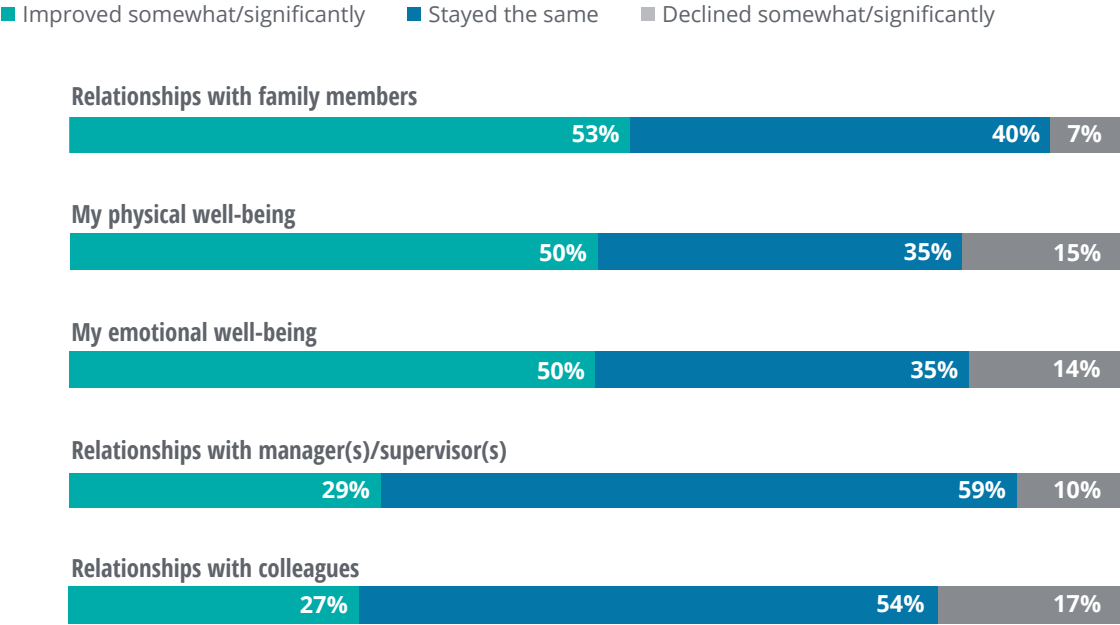Source: 2022 Connectivity and Mobile Trends, 3rd edition.

From the viewpoint of remote workers, working from home has been a highly successful experiment: At least half of those who worked remotely over the past year report that their family relationships, physical well-being, and emotional well-being improved through the experience (figure 4). While they weren't as likely to say that relationships with supervisors and colleagues improved, fewer than two in 10 reported a decline in those professional ties.

FIGURE 4

More than eight in 10 remote workers say their family relationships, professional relationships, and physical and mental well-being have improved or stayed the same

How has working from home affected the following aspects of your health and relationships?

■ Improved somewhat/significantly   ■ Stayed the same   ■ Declined somewhat/significantly

Relationships with family members

| 53% | 40% | 7% |

My physical well-being

| 50% | 35% | 15% |

My emotional well-being

| 50% | 35% | 14% |

Relationships with manager(s)/supervisor(s)

| 29% | 59% | 10% |

Relationships with colleagues

| 27% | 54% | 17% |

Note: Respondents represent employed adults who worked from home for at least some of the time over the past year. Small percentages who preferred not to answer have not been shown.
Source: 2022 Connectivity and Mobile Trends, 3rd edition.

Given the benefits and encouraging outcomes, it's not too surprising that remote workers overwhelmingly want to continue having virtual or hybrid options as the pandemic recedes (figure 5). Nearly half (43%) of those who worked from home (including part-time) over the past year would prefer to work c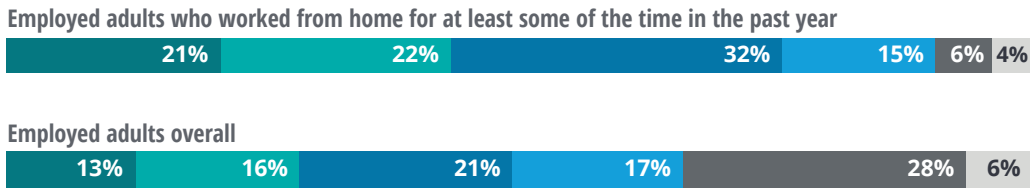ompletely or mostly virtually, and another 32% prefer to have an even blend of virtual and in-person work. Only 15% would like to work mostly in-person, and a mere 6% would like to be completely in-person. Among employed adults overall, 49% would like virtual or hybrid options, and fewer than three in 10 would prefer to work completely in-person.

FIGURE 5

Going forward, three-quarters of employed adults with remote-work experience—and half of employed adults overall—prefer virtual or hybrid working options

When the COVID-19 pandemic eases, what would be your preferred way to work and engage in professional activities?

■ Completely virtual   ■ Mostly virtual   ■ Even blend of virtual and in-person
■ Mostly in-person   ■ Completely in-person   ■ Don't know/Not applicable

Employed adults who worked from home for at least some of the time in the past year

21%	22%	32%	15%	6%	4%

Employed adults overall

13%	16%	21%	17%	28%	6%

Note: Small percentages who preferred not to answer have not been shown.
Source: 2022 Connectivity and Mobile Trends, 3rd edition.

There's still plenty of room to improve virtual work: Remote employees still need better connectivity, improved engagement with colleagues, and techniques for managing distractions and stress. Not all roles lend themselves to remote work, and even in industries where many positions can be performed remotely, there's vigorous debate and negotiation between employers and workers on the best working models for the future.[6] Some have argued that remote work is here to stay and that the pandemic-fueled shift in working arrangements represents the largest societal change in many decades.[7] Employees should be thoughtful and intentional about when they're virtual and when they're in-person, across a range of activities. Employers should be thoughtful and intentional about when and why they bring people together. Companies that simply ignore employee demands for flexible working arrangements may risk losing a competitive edge in attracting and retaining the best workers.[8]

Surprising upsides of remote learning

The abrupt shift to remote learning in 2020 sparked concerns about digital inequality (through lack of access to high-speed internet, computers, and online resources), as well as children's

emotional well-being, social connections, academic engagement, and educational progress.[9] While many students have returned to in-person learning, nearly a quarter of the people we surveyed still had household members learning from home over the past year. This group provided insights into the ongoing virtual learning experiment.

In our survey, 97% of parents and students said they appreciated some elements of remote learning.

The top benefits echo those of remote workers: increased comfort, reduced chance of illness, lack of commute, better focus, and stronger family ties (figure 6). The top challenges include feeling stressed, having family responsibilities, being distracted, and feeling disconnected or left out. Challenges diminished considerably over the past year, however, as technology improved and students and teachers leveled-up their mastery of virtual experiences (figure 7).

FIGURE 6

While remote-learning challenges have eased, issues of stress and distraction, plus a fear of missing out, continue

Experiences with schooling from home over the past year

Top benefits		Top challenges	
1	Feel more comfortable at home (e.g., casual clothes, right temperature and lighting)	1	Feel stressed or burned out
2	Reduce my chances of getting COVID-19 or other illnesses	2 (tie)	• Feel disconnected from the school's culture and social life • Have family or household responsibilities during school hours
3	No commute to school	3 (tie)	• Distracted by nonschool online activities • Not being able to build relationships through face-to-face meetings (e.g., with teachers, classmates) • Missing out on experiences that could enhance learning
4	Focus better on schoolwork		
5	Feel more connected with my family		

Note: Respondents represent people who attended virtual school from home for at least some of the time over the past year, or whose children have done so.
Source: 2022 Connectivity and Mobile Trends, 3rd edition.

FIGURE 7

All 16 remote-learning challenges we surveyed in 2021 had abated by 2022—with some issues dropping by double digits

Remote-learning challenges that diminished most sharply over the past year	Percentage reporting as a challenge	Point change from 2021
Distracted by nonschool online activities	39%	-21
The devices provided by the school don't work well enough	21%	-16
Too many communication methods to track	31%	-15
Spend too much time in virtual meetings or classes and not enough time getting work done	30%	-14
Teachers are often uncertain or unclear about how to use remote technologies	34%	-12
Videoconferencing problems	38%	-11
The systems accessed for school don't work well enough	28%	-11
Poor tech support provided by the school	25%	-10

Note: Respondents represent people who attended virtual school from home for at least some of the time over the past year, or whose children have done so.
Source: 2022 Connectivity and Mobile Trends, 3rd edition.

Researchers found that some teens experienced mental health crises in earlier phases of the pandemic, but they noted that emotional well-being issues were less prevalent in those who were connected to others virtually and felt close to people from school.[10] In our survey, teens and adults who were still learning remotely over the past year—perhaps increasingly by choice rather than necessity—revealed a remarkably positive outlook on virtual learning. A majority (51%) of remote students felt that the experience improved their family relationships, and more than seven in 10 said their emotional and physical well-being and relationships with teachers either improve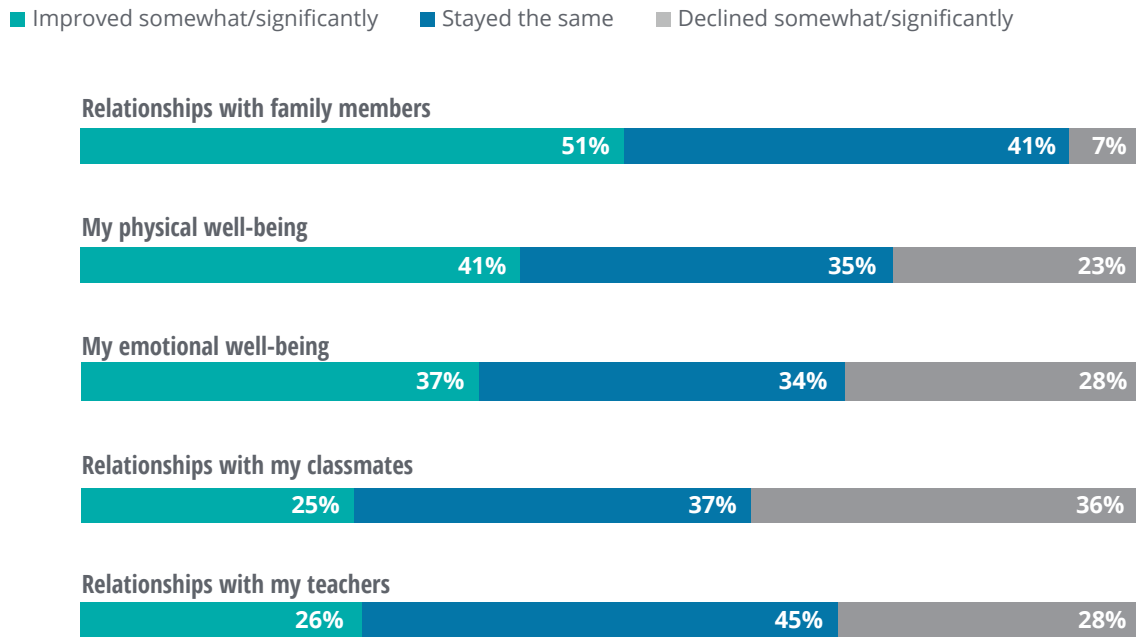d or stayed the same (figure 8). Their biggest area of concern was relationships with classmates, with 36% saying those relationships had suffered. Interestingly, parents whose children engaged in virtual learning over the past year were even more positive about the experience: Two-thirds felt family relationships strengthened, and a majority thought emotional and physical well-being improved. Only 16% of parents thought their children's physical well-being declined, and just 19% said the same for emotional well-being. The higher optimism of parents suggests they may be missing out on ways to better support their children, such as encouraging physical activities, in-person socializing, and better "connectedness" with schoolmates.

FIGURE 8

More than six in 10 virtual learners report that their family relationships, school relationships, and physical and mental well-being have improved or stayed the same while schooling from home

How has attending virtual school from home affected the following aspects of your health and relationships?

■ Improved somewhat/significantly ■ Stayed the same ■ Declined somewhat/significantly

Relationships with family members

| 51% | 41% | 7% |

My physical well-being

| 41% | 35% | 23% |

My emotional well-being

| 37% | 34% | 28% |

Relationships with my classmates

| 25% | 37% | 36% |

Relationships with my teachers

| 26% | 45% | 28% |

Note: Respondents represent students who attended virtual school from home for at least some of the time over the past year. Small percentages who preferred not to answer have not been shown.
Source: 2022 Connectivity and Mobile Trends, 3rd edition.

Virtual learning experiences over the past two years have underscored that learning is not "one-size-fits-all." While some students were anxious to return to the academic and social structure of in-person school, others thrived.[11] Our survey revealed that 70% of students who had experience with remote learning over the past year would like to have virtual or hybrid options in the future (figure 9). Remarkably, just 12% want to attend

school completely in-person. Parents have a different attitude, however: Despite their positive view of remote learning, only 35% prefer virtual or hybrid options for their children going forward, and 40% want their children to attend school completely in-person. These preferences may be a reaction to the distractions and networking and tech issues that can amplify as more household members work and learn from home simultaneously.

FIGURE 9

Seventy percent of students—but only 35% of parents—prefer virtual or hybrid options for attending school in the future

When the COVID-19 pandemic eases, what would be your preferred way for yourself/your children to attend school?

- Completely virtual
- Mostly virtual
- Even blend of virtual and in-person
- Mostly in-person
- Completely in-person
- Don't know/Not applicable

Preferences of students with virtual-learning experience*

| 22% | 19% | 29% | 16% | 12% | |

Preferences of parents for their children

| 10% | 11% | 14% | 16% | 40% | 8% |

Note: *Respondents represent students who attended virtual school from home for at least some of the time over the past year.
Source: 2022 Connectivity and Mobile Trends, 3rd edition.

Although remote learning was viewed by parents and students as positive overall, there's still room for improvement—and an opportunity for educators and tech companies to collaborate on better virtual learning experiences. Remote students need help managing stress and distractions, and they could use technologies or techniques to feel more connected with classmates, teachers, and school culture. Educators should consider which activities are best done in-class and which may be done virtually, as well as which events are better as real-time, shared experiences and which may be attended asynchronously.
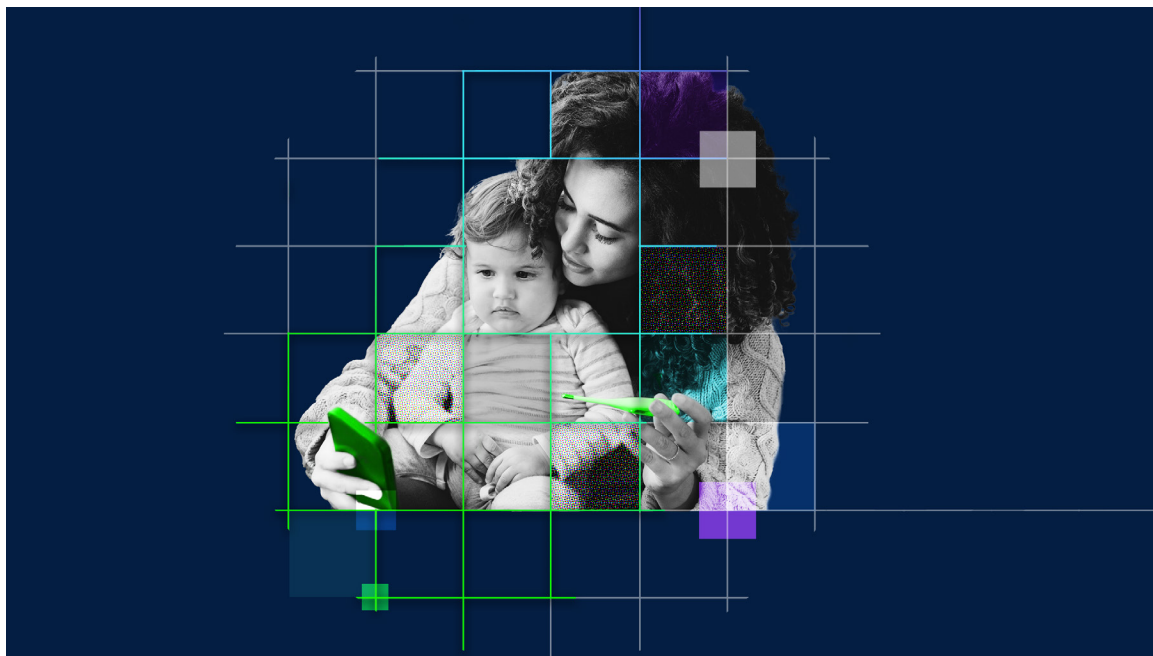
Managing wellness

MANAGING HEALTH AND well-being is another activity that has become increasingly digital over the past couple of years. As the pandemic unfolded, consumers turned swiftly to virtual health care visits to stay safe. In the first year of the crisis, telehealth Medicare visits alone increased 63-fold (from 840,000 in 2019 to 52.7 million in 2020).[12] Consumers have also been using smartphones and wearable devices to help them take charge of their health and fitness.

Virtual health care is here to stay

Forty-nine percent of consumers said they attended at least one virtual medical appointment as a patient in the past year—with Millennials leading the trend at 59%—and 26% attended at least one virtual medical appointment where someone else was the patient.[13] Top benefits of virtual visits include convenience, reduced chances of becoming ill, and ease of finding appointment slots (figure 10). Consumers also cited ongoing challenges, including the lack of face-to-face connection, difficulties collecting vital signs, and technology issues, such as problems with an application or connectivity.

FIGURE 10

Convenience and ease of scheduling and attending are top benefits of virtual health care

Experiences with attending virtual medical appointments over the past year

	Top benefits		Top challenges
1	More convenient	1	Lacks human touch or face-to-face connection
2	Reduces my chances of getting COVID-19 or other illnesses	2	Health care provider couldn't examine me well enough
3	Easier to find appointment times that suit my schedule	3	Connectivity issues
4	Can see a health care professional more often	4	Health care provider couldn't collect vital signs
		5	The appointment service or app was difficult to use

Note: Respondents represent people who attended at least one virtual health care appointment (as a patient or with a patient) in the past year.
Source: 2022 Connectivity and Mobile Trends, 3rd edition.

Satisfaction rose over the past year: 92% of consumers now say they're very or somewhat satisfied with their virtual medical experiences—up 10 points from 2021. Notably, the portion who said they were *very* satisfied has risen from 39% to 48%. Boomers expressed the highest satisfaction levels, with 57% saying they were very satisfied. Consumers intend to use virtual health care even after the pandemic recedes (figure 11), but usage varies based on the kind of care they need. When it comes to checking chronic conditions and new symptoms, more than four in 10 said they would prefer to use virtual or hybrid options for an assessment. For emergency issues and regular checkups, however, seven in 10 would still prefer to visit their providers mostly or completely in-person.
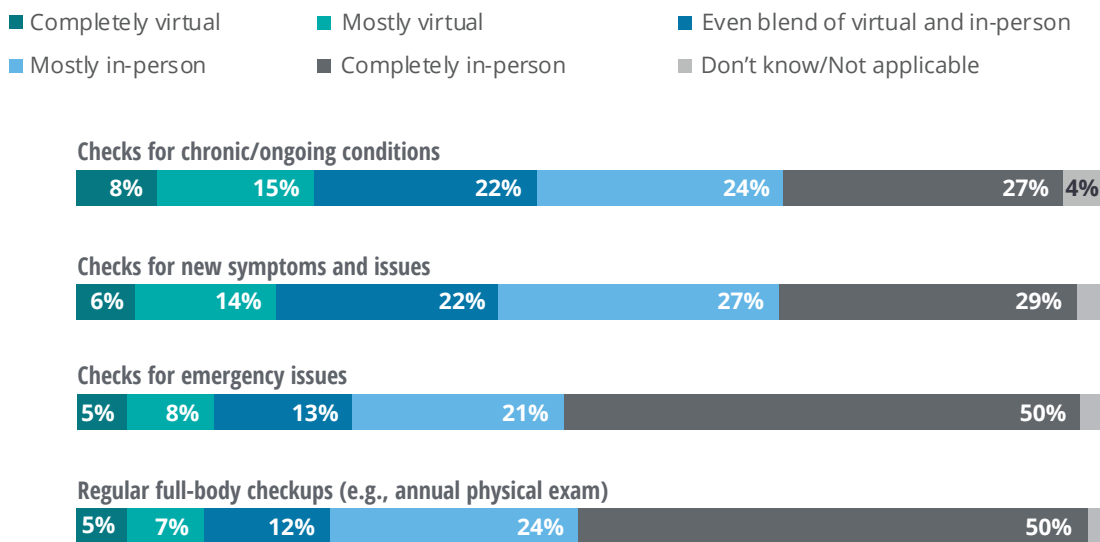
Mobile devices boost health and fitness

Consumers are enlisting their smartphones to help achieve their health and fitness goals. At least one-third of smartphone users said they monitor their health or track their fitness with their phones. Three in 10 use exercise apps, and one in five use meditation or mental wellness apps. Early adopters are showing the way: Six in 10 use their devices for health and fitness monitoring, more than half use exercise apps, and two in five use meditation or mental wellness apps.

Beyond smartphones, consumers are increasingly adopting wearables in their quest for wellness.[14] Forty-one percent of our respondents said they

FIGURE 11

Consumers who have had virtual health care visits over the past year intend to keep using virtual or hybrid options for some future health care needs

When the COVID-19 pandemic eases, what would be your preferred way to attend appointments for the following?

- ■ Completely virtual
- ■ Mostly virtual
- ■ Even blend of virtual and in-person
- ■ Mostly in-person
- ■ Completely in-person
- ■ Don't know/Not applicable

Checks for chronic/ongoing conditions

| 8% | 15% | 22% | 24% | 27% | 4% |

Checks for new symptoms and issues

| 6% | 14% | 22% | 27% | 29% | |

Checks for emergency issues

| 5% | 8% | 13% | 21% | 50% | |

Regular full-body checkups (e.g., annual physical exam)

| 5% | 7% | 12% | 24% | 50% | |

Note: Respondents represent people who attended at least one virtual health care appointment (as a patient or with a patient) in the past year.
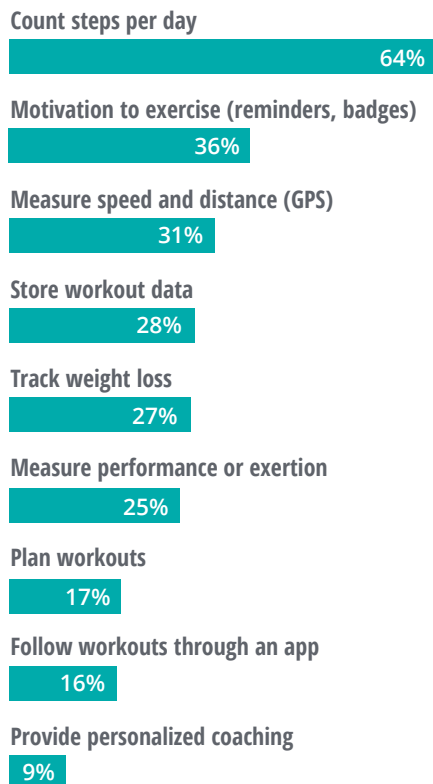Source: 2022 Connectivity and Mobile Trends, 3rd edition.

own a smartwatch or fitness tracker personally—up 2 points from 2021—and six in 10 have them in their households. Nine in 10 consumers who own these devices are using them to track fitness and monitor health metrics. The most common uses are to count daily steps, track pulse rate, count calories/nutrition, monitor heart health, and track sleep (figure 12). More than a third of users get reminders or badges to motivate them to exercise.

Users give wearables a big thumbs up: At least seven in 10 said their smartwatches/fitness trackers have improved their fitness and health—with three in 10 saying their devices have made their fitness and health "significantly better." Device makers have recently made it easier to share health data, and most device owners (55%) said they share the data with their medical providers (for example, through an app, during in-person visits, by text, or via email).[15]
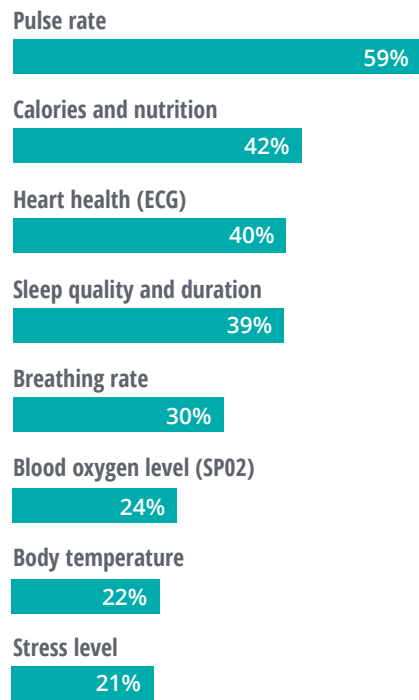
FIGURE 12

Consumers are using their smartwatches/fitness trackers to measure physical activity and health indicators

In which of the following ways do you use your smartwatch/fitness tracker for your fitness?

Count steps per day
64%

Motivation to exercise (reminders, badges)
36%

Measure speed and distance (GPS)
31%

Store workout data
28%

Track weight loss
27%

Measure performance or exertion
25%

Plan workouts
17%

Follow workouts through an app
16%

Provide personalized coaching
9%

Which of the following health metrics do you use your smartwatch/fitness tracker to monitor?

Pulse rate
59%

Calories and nutrition
42%

Heart health (ECG)
40%

Sleep quality and duration
39%

Breathing rate
30%

Blood oxygen level (SP02)
24%

Body temperature
22%

Stress level
21%

Note: Respondents represent consumers who personally own a smartwatch and/or fitness tracker and use it for health and/or fitness monitoring.
Source: 2022 Connectivity and Mobile Trends, 3rd edition.

Despite improvement, challenges linger

A S CONSUMERS AIM to master their digital lives and myriad devices, they still struggle to address privacy concerns, control screen time, and manage tech complexity. Savvy providers—tech and telco companies, device makers, and app developers—may want to consider how to seize the opportunity to help consumers reduce these pain points.

Security and privacy

Among respondents with connected devices, 50% are worried about security breaches (for example, hackers stealing personal data) and 41% are concerned about being spied on. Nearly half (49%) of smart home users are concerned about hackers "taking over" their smart devices (for instance, changing thermostat settings).

When it comes to specific devices, more than half of users are worried about the security vulnerability of their smartphones and smart home devices, and 40% of users are concerned about data security on their smartwatches and fitness trackers.[16] More than four in 10 are concerned about location tracking on these devices.[17]

These fears seem to be warranted: 2021 set new records for breaches.[18] In our survey, one-third of the respondents said they fell victim to some form of hacking or scam in the past year, and 17% were hit twice or more (figure 13). Our analysis revealed the likelihood of a breach increases as households add more devices, and Gen Z consumers were far more likely to fall for scams than older generations. This vulnerability may be attributed to the greater volume of Gen Z users active online, and to their relative lack of knowledge about information security.[19]
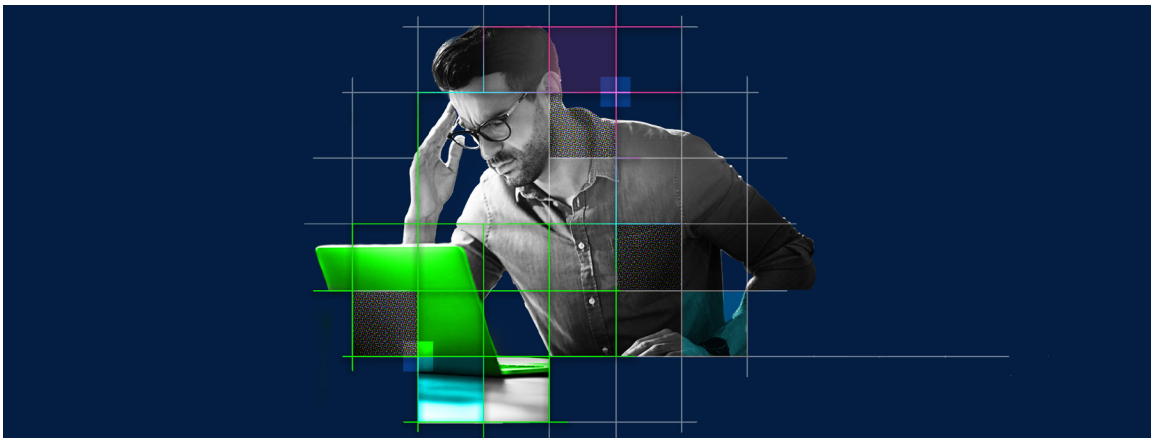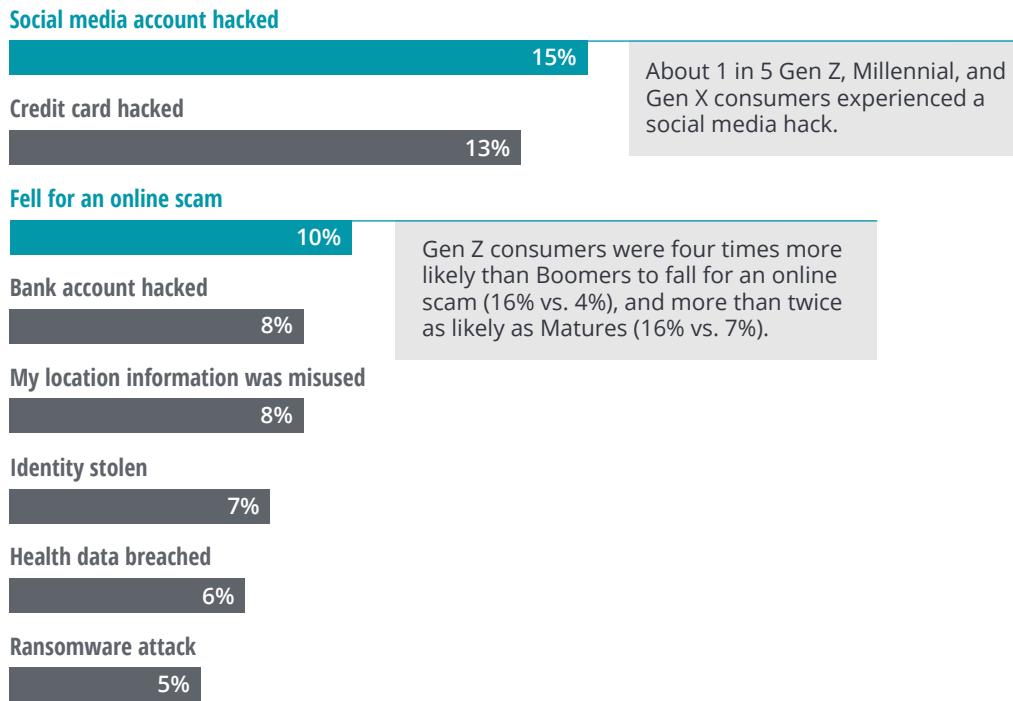
FIGURE 13

One-third of our respondents fell victim to at least one type of security breach in the past year, and 17% reported experiencing two or more

Consumers who reported experiencing the following kinds of data breaches or security failures in the past year

Social media account hacked

15%

About 1 in 5 Gen Z, Millennial, and Gen X consumers experienced a social media hack.

Credit card hacked

13%

Fell for an online scam

10%

Gen Z consumers were four times more likely than Boomers to fall for an online scam (16% vs. 4%), and more than twice as likely as Matures (16% vs. 7%).

Bank account hacked

8%

My location information was misused

8%

Identity stolen

7%

Health data breached

6%

Ransomware attack

5%

Note: Respondents represent US consumers.
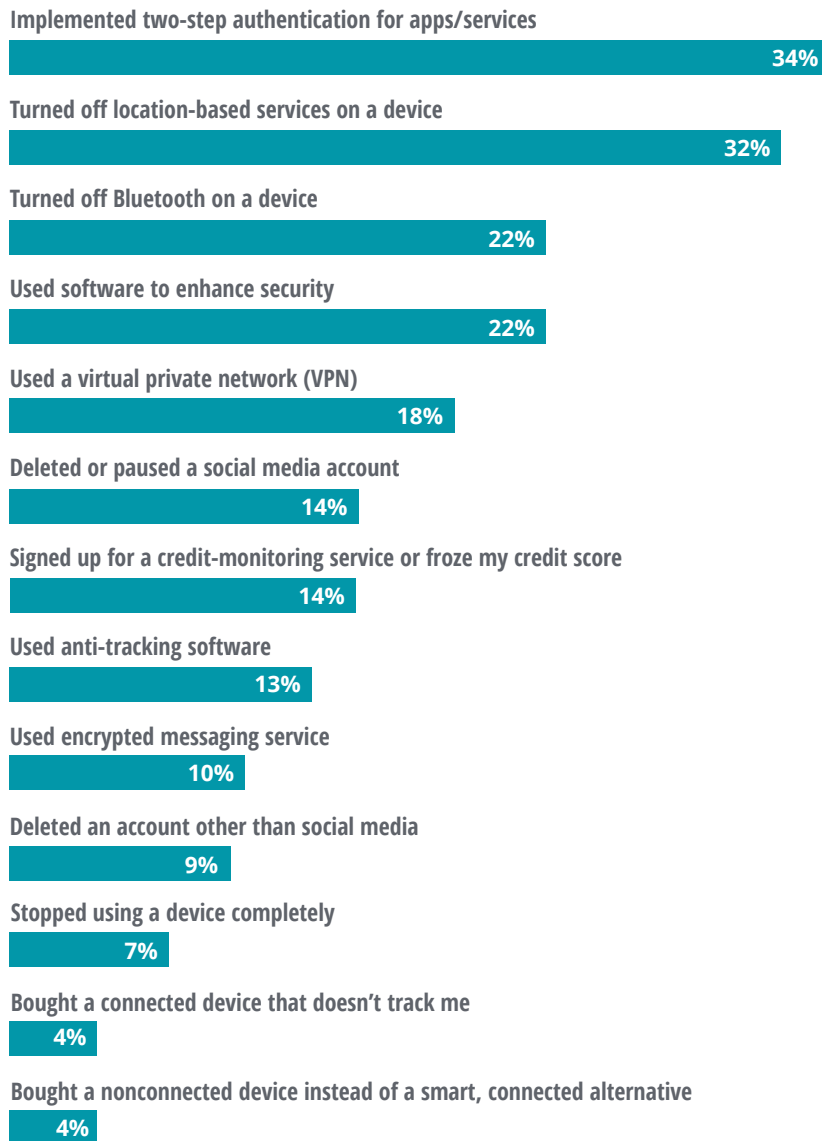Source: 2022 Connectivity and Mobile Trends, 3rd edition.

The prevalence of these attacks ought to spur increased adoption of security measures, but our survey does not bear this out. We identified 13 steps consumers could take to protect their data, from using two-step authentication to turning off location and Bluetooth connections, to installing security software (figure 14). Although 71% took at least one step (usually measures that are prompted by mobile operating systems), only 21% have taken four or more. Even those who had experienced two or more breaches took only three measures on average to protect their data.

FIGURE 14

Despite concerns, consumers take only two proactive security measures on average

Consumers who have taken each action in the past year to address data privacy and security concerns

Implemented two-step authentication for apps/services
34%

Turned off location-based services on a device
32%

Turned off Bluetooth on a device
22%

Used software to enhance security
22%

Used a virtual private network (VPN)
18%

Deleted or paused a social media account
14%

Signed up for a credit-monitoring service or froze my credit score
14%

Used anti-tracking software
13%

Used encrypted messaging service
10%

Deleted an account other than social media
9%

Stopped using a device completely
7%

Bought a connected device that doesn't track me
4%

Bought a nonconnected device instead of a smart, connected alternative
4%

Note: Respondents represent US consumers.

Source: 2022 Connectivity and Mobile Trends, 3rd edition.

If consumers are so concerned about data security, why aren't they doing more? Our survey revealed a sense of fatalism and futility. Three-quarters of our respondents felt they *should* be doing more but don't feel empowered. The top three reasons they gave for not doing more are: feeling that companies will track them no matter what they do, feeling that hackers will hack them no matter what they do, and simply not knowing what to do. Money could be an issue, too: The number-four reason is not wanting to pay for additional security solutions.

Device makers and service providers may take different approaches to consumers' attitudes that their actions won't matter. Some may double down on monetizing user data, while others may find ways to give consumers more control.

Screen overload

The mainstream media has been highlighting the potentially detrimental effects of too much screen time and the importance of taking "device breaks."[20] Half of the parents we surveyed told us that they struggle to limit their children's screen time, and 38% of adults aged 18+ said they have a hard time regulating their own use of devices. There was even greater acknowledgement of the screen time conundrum from respondents aged 14–17: Nearly six in 10 (59%) admit they have difficulty limiting their screen time to a comfortable level.

One phenomenon that may be contributing to this struggle is the growing prevalence of bite-sized, often user-generated video content on social media platforms. Our companion Digital Media Trends study raised this issue, asking respondents whether

they agree with the statement: "I always end up spending more time watching user-generated content online than I planned to."[21] Nearly seven in 10 (68%) teens aged 14–17—and 49% of adults 18 and over—agreed with that sentiment.

Some intervention, whether in the form of easier user controls or limitations provided by tech companies, is likely needed to help consumers manage their screen time more effectively.

Tech fatigue

Frustration with the complexity of managing devices remains a challenge, albeit less so than in 2021. As we mentioned, the average respondent household is home to 22 devices. Overall, 24% of consumers say they're overwhelmed by the devices and subscriptions they need to manage—down from 32% last year (figure 15). For smart home technology, 27% of users reported that these devices add too much complexity to their lives.

The feeling of being overwhelmed by devices and subscriptions rises with both the number of devices and the number of people working and schooling from home (figure 15). Over the past year, as households gained experience and workers and students returned to the office and classroom, management became a bit easier.
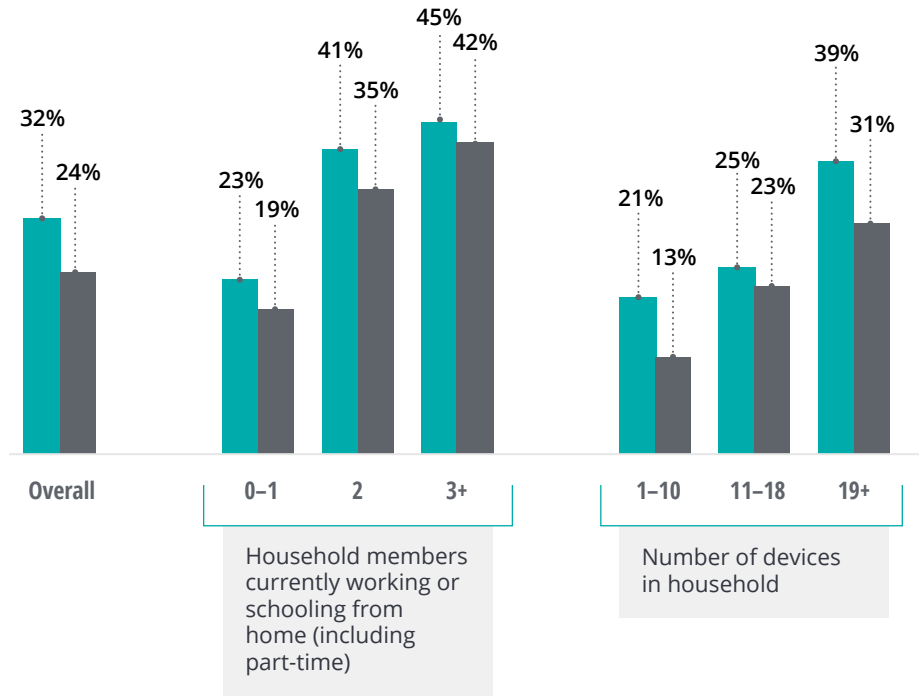
Notably, early adopters (with 31 devices on average) felt tech fatigue most acutely: 36% said they're overwhelmed by devices and subscriptions. Tech companies should heed the pain point of their biggest fans and continue making devices easier to manage and secure.

FIGURE 15

Tech fatigue correlates with the number of household members working and schooling from home as well as the total number of household devices

Consumers who feel overwhelmed by the number of devices and subscriptions they need to manage (somewhat/strongly agree)

■ 2021 ■ 2022

	Household members currently working or schooling from home (including part-time)			Number of devices in household		
Overall	0–1	2	3+	1–10	11–18	19+
32% / 24%	23% / 19%	41% / 35%	45% / 42%	21% / 13%	25% / 23%	39% / 31%

Note: Respondents represent US consumers.

Source: 2022 Connectivity and Mobile Trends, 3rd edition.

Considerations for the future

N 2022, CONSUMERS feel their devices and virtual experiences are having a positive effect on their lives, but they're seeking to balance their digital and physical worlds with more intention. As they survey their "digital domains," they're looking for experiences that enhance their well-being and productivity while reducing complexity.

5G: Companies should consider new ways to communicate the benefits of 5G and build novel experiences that take better advantage of its increased speed. New immersive experiences, for example, will likely require 5G to work; they will also generate much more data from user interactions and evolve to require additional connected hardware such as virtual reality, augmented reality, wearable, and haptic interfaces. Whether it's a desire for virtual reality gaming, real-time augmented reality apps, or mobile access to the metaverse, consumers have shown that they're ready for the 5G future.[22]

Hacking and tracking: Mobile security can be a quagmire of competing standards and stakeholders, leaving consumers feeling frustrated and uncertain. This creates an opportunity for device makers and software publishers to unite on a standard security framework and to add transparency to their data collection and usage practices. Companies should consider giving consumers a chance to manage their settings more easily, and look into solutions (such as synthetic data analysis and homomorphic encryption) that empower data mining without compromising privacy.[23] Data security (and validity) are particularly critical when it comes to wearables that collect sensitive health and fitness data.[24] In establishing portability and interoperability across metaverse experiences, Web3 solutions could give users much greater control over their digital identities and data.[25]

Tech fatigue: Even though frustration levels are trending downward, there are many consumers who reported being overwhelmed with their devices and subscriptions—especially among early adopters. The proliferation of smart home devices has led to increasing levels of frustration when products don't work together as expected.[26] Emerging standards aim to ensure that smart home devices interoperate seamlessly under one management interface, and this should help reduce complexity and frustration.[27]

Screen overload: Our respondents were candid about their struggles to manage screen time for themselves and their children. Although device- and app-level controls are often available, they may be buried two or three levels deep in settings menus and not necessarily intuitive. It may be worthwhile for tech companies to consult with health professionals to create recommended guidelines, and then build those into device firmware by default. When users see this kind of proactive innovation, they'll likely vote with their wallets for technology that aims to improve the virtual/physical balance.

Hybrid activities: Employers and workers are exploring the right balance between in-person and remote work, bringing thoughtful consideration to which activities are best done in-person and which can be conducted just as well virtually. The same deliberations are taking place in education. Institutions can support remote employees and students by improving connectivity and online tools, fostering closer engagement and collaboration with peers, and providing techniques or policies that help manage stress. They should also confront challenges raised by hybrid work, including motivation, trust, team cohesion, and equitable experiences.[28]

Our study insights have implications for a wide range of companies and leaders, including tech companies, telecoms, device makers, app developers, health care providers, human resources and talent, education, and service providers. The companies that are likely to be successful are those that not only deliver great experiences, but also embrace business models and revenue streams that help consumers mitigate frustrations around managing devices, data security, tech fatigue, and screen time.

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Acknowledgments

About the authors

Jana Arbanas | jarbanas@deloitte.com

Jana Arbanas is vice chair and Deloitte's US Telecom, Media and Entertainment (TM&E) Sector leader. She is also a principal in Deloitte and Touche's Risk and Financial Advisory practice. Arbanas has more than 20 years of experience in serving large, multinational technology companies to help them address enterprise risk. She has leveraged her risk advisory capabilities to lead engagements for digital platform companies, helping them navigate evolving regulatory requirements and business transformation.

Paul Silverglate | psilverglate@deloitte.com

Paul Silverglate is a partner with Deloitte & Touche LLP and leads Deloitte's US Executive Accelerators (XA) in Client & Market Growth (CMG). He also serves as vice chair and Deloitte US Technology Sector leader. Previously, he led Deloitte's Technology, Media & Telecommunications (TMT) industry practice in Risk & Financial Advisory and worked as an auditor in the Audit & Assurance business. With more than 30 years of professional services experience, Silverglate also serves as a lead client service partner for a select number of Deloitte's most strategic global technology clients. Additionally, he is the Deloitte US executive sponsor of the Catalyst Tel Aviv program, which helps US clients interested in innovation to engage with the 6,000+ Israeli start-up community.

Susanne Hupfer | shupfer@deloitte.com

Susanne Hupfer is a research manager in Deloitte's Center for Technology, Media & Telecommunications, Deloitte Services LP, specializing in the technology sector. She conducts research to understand the impact of technology trends on enterprises and to deliver actionable insights to business and IT leaders. Prior to joining Deloitte, Hupfer worked for more than 20 years in the technology industry in roles that included software research and development, strategy consulting, and thought leadership. She has a PhD in computer science from Yale University.

Jeff Loucks | jloucks@deloitte.com

Jeff Loucks is the executive director of Deloitte's Center for Technology, Media & Telecommunications, Deloitte Services LP. In his role, he conducts research and writes on topics that help companies capitalize on technological change. An award-winning thought leader in digital business model transformation, Loucks is especially interested in the strategies organizations use to adapt to accelerating change. His academic background complements his technology expertise, with a BA in political science from the Ohio State University, and an MA and PhD in political science from the University of Toronto.

Michael Steinhart | msteinhart@deloitte.com

Michael Steinhart is a research manager with Deloitte's Center for Technology, Media & Telecommunications. His work focuses on enterprise and consumer technology. Prior to joining Deloitte, he spent 22 years in the technology media industry.

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Industry leadership

Jana Arbanas
Vice chair | US Telecom, Media & Entertainment Sector leader | Deloitte & Touche LLP
+1 415 783 4523 | jarbanas@deloitte.com

Jana Arbanas is vice chair and Deloitte's US Telecom, Media and Entertainment (TM&E) Sector leader. She is also a principal in Deloitte and Touche's Risk and Financial Advisory practice.

Paul Silverglate
Vice chair | US Technology Sector leader | Deloitte & Touche LLP
+1 408 704 2475 | psilverglate@deloitte.com

Paul Silverglate is vice chair and Deloitte's US Technology Sector leader. Silverglate also serves as a lead client service partner for a select number of Deloitte's most strategic global technology clients.

The Deloitte Center for Technology, Media & Telecommunications

Jeff Loucks
Executive director | Deloitte Center for Technology, Media & Telecommunications | Deloitte Services LP
+1 614 477 0407 | jloucks@deloitte.com

Jeff Loucks is the executive director of Deloitte's Center for Technology, Media & Telecommunications, Deloitte Services LP.

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