

Teens in Quarantine:

*Mental Health, Screen Time,
and Family Connection*

2020



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Table of Contents

	Introduction	<i>3</i>
Quarantine's Surprising Effect on Teen Mental Health		<i>4</i>
	Financial Blows Felt by Teens	<i>7</i>
	Teen Media Use	<i>7</i>
Views of the Police, Race Relations, and the Protests		<i>9</i>
	Conclusions	<i>11</i>
	Appendix	<i>12</i>

Introduction

In March 2020, life changed very suddenly for Americans. As the COVID-19 pandemic took hold, work and school moved online, restaurants closed, and unemployment soared. The effects on mental health were immediate: U.S. adults in spring 2020 were three times more likely to experience mental distress, anxiety, or depression than adults in 2018 or 2019.^{1,2}

As spring turned to summer, the arrest of George Floyd by Minneapolis police officers resulted in his death. Soon afterward, racial tensions hit a boiling point and protests gripped the country. According to data collected by the Census Bureau, anxiety and depression rose even further among American adults in June and July 2020.³

How American *teenagers* have fared during this time is more of a mystery. With teens no longer going to school and often not able to see friends, many people worried about how teens would adapt. However, teens' experiences of these events may differ from adult perceptions. Just as children, adolescents, and adults responded differently to the disruptions of the Great Depression in the 1930s,⁴ teens have faced a different set of challenges and opportunities during the months of the pandemic and protests than have adults.

To better understand the experiences of teenagers during this unique time, we fielded our *Teens in Quarantine* survey of 1,523 U.S. teens during May–July 2020, asking about their mental health, family time, sleep, technology use, and views on the race-related protests and the police. We then compared our 2020 teens' responses to responses to identical questions from the 2018 administration of the national Monitoring the Future survey.⁵ Responses from 2018, before COVID-19 existed, served as a useful control for investigating the effects of quarantine on teens. Like Monitoring the Future, our survey gathered responses from 8th, 10th, and 12th graders. (See more about our methods in the appendix.)

To our surprise, we found that teens fared relatively well during quarantine. Depression and loneliness were actually lower among teens in 2020 than in 2018, and unhappiness and dissatisfaction with life were only slightly higher. Trends in teens' time use revealed two possible reasons for the unexpectedly positive outcomes: Teens were sleeping more and spending more time with their families.

Despite worries that they would spend even more time on digital media than before the pandemic, teens in 2020—at least during the school year—spent less time on social media and gaming than had teens in 2018. However, they did increase their consumption of TV and videos.

1. McGinty, E. E., Presskreischer, R., Han, H., & Barry, C. L. (2020). Psychological distress and loneliness reported by U.S. adults in 2018 and April 2020. *Journal of the American Medical Association*, E1–E2.

2. Twenge, J. M., & Joiner, T. E. (in press). U.S. Census Bureau—assessed prevalence of anxiety and depressive symptoms in 2019 and during the 2020 COVID-19 pandemic. *Depression and Anxiety*.

3. National Center for Health Statistics (2020). Mental health: Household Pulse Survey. <https://www.cdc.gov/nchs/covid19/pulse/mental-health.htm> .

4. Elder, G. H. (2018). *Children of the Great Depression*. 25th edition. New York: Routledge.

5. Johnston, L. D., Bachman, J. G., O'Malley, P. M., Schulenberg, J. E., & Miech, R. A. (2019). Monitoring the Future: A continuing study of American youth (12th grade surveys; 8th- and 10th-grade surveys), 2018. Ann Arbor, MI: Inter-university Consortium for Political and Social Research.

While the overall trends for mental health and screen time are encouraging, these patterns were not uniform across all teens. In particular, overall mental health was significantly better for teens in two-parent families, both before and during the pandemic. Teens who spent more time with their families during the pandemic and who felt their families had grown closer were less likely to be depressed. Thus, it appears that one of the primary foundations for teen resilience during the pandemic is family support and connection.

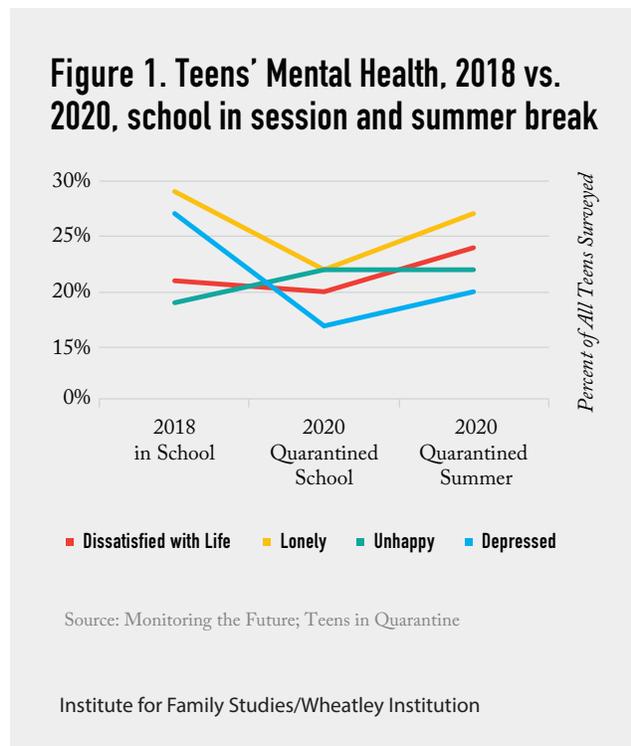
About half of the teens in our sample completed the survey after the protests spurred by the death of George Floyd had spread nationwide, giving us the opportunity to gauge their reactions. Compared to teens in 2018, teens in June/July 2020 were more likely to believe that Black-White race relations had grown worse. Most teens supported the protests, but most also felt anxiety and worry associated with these events.

Overall, our results reveal a nuanced picture of teens during the pandemic quarantine: They were resilient yet worried, isolated yet connected to family, and well-rested yet concerned.

Quarantine’s Surprising Effect on Teen Mental Health

The primary goal of our survey was to understand how teens were faring during the pandemic months of spring and summer 2020. We assessed mental well-being using four measures also included in the 2018 Monitoring the Future survey: life satisfaction, happiness, symptoms of depression, and loneliness (see the appendix for items). For both surveys, we examined how many teens said they were unhappy or dissatisfied with life and/or scored high in depression or loneliness. Because teens completed our survey any time from late May to early July, and the Monitoring the Future survey is done entirely during the school year, we examined teens who were in school and out of school for the summer separately (see appendix for details).

Surprisingly, teens’ mental health did not collectively suffer during the pandemic when the two surveys are compared. The percentage of teens who were depressed or lonely was actually lower than in 2018, and the percentage who were unhappy or dissatisfied with life was only slightly higher (see Figure 1). For example, 27 percent of teens in 2018 were depressed, compared to 17 percent during 2020 with school in session, and 20 percent in 2020 with school out of session.

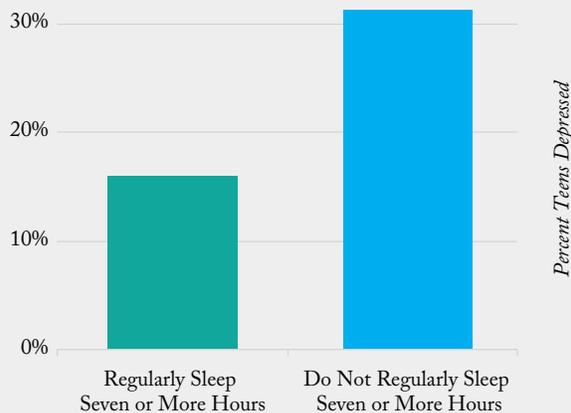


This relatively positive picture for mental health occurred despite many of the challenges faced by the teens in our survey. Nearly one out of three teens (29 percent) knew someone diagnosed with COVID-19. More than one out of four (27 percent) said a parent had lost a job, and one out of four (25 percent) were worried about their families having enough food to eat. Nearly two-thirds (63 percent) were worried about catching the virus, and two-thirds were worried about not being able to see their friends. Nevertheless, 53 percent of teens said they believed they had become a stronger and more resilient person since the beginning of the pandemic.

A New Resilience from Sleep and Family Time

So why was teen mental health stable or even better during the pandemic? Some factors may have offset the more negative influences. *First, teens have been sleeping more during the pandemic*, and teens who are sleep deprived are significantly more likely to suffer from depression.⁶ In 2018, only 55 percent of teens said they usually slept seven or more hours a night. During the pandemic, this jumped to 84 percent among those for whom school was still in session. With teens going to school online during the pandemic, they were likely able to sleep later in the morning than usual. When school is held in person, the vast majority of middle and high schools begin classes before 8:30 a.m.,⁷ and some as early as 7:00 a.m., requiring many students to get up very early to commute to school. This creates a mismatch between school schedules and the shift to a later circadian rhythm that occurs during biological puberty when teens find it difficult to fall asleep earlier.⁸ Thus, with teens able to sleep later, more were able to fulfill their sleep requirements, which may have improved their mental health. In fact, we find that in 2020, only 16 percent of teens who regularly got at least seven hours of sleep were depressed, compared to 31 percent of teens who did not (see Figure 2). Additionally, being out of the normal school setting may have reduced stress for teens; before the pandemic, many teens reported experiencing significant stress during the school year.⁹ Our findings here suggest that high schools should consider moving their start time to 8:30 a.m. or later, as California will begin to implement in 2022.¹⁰

Figure 2. Percent of U.S. Teens Depressed during Pandemic Quarantine, by regularity of seven or more hours sleep



Source: Teens in Quarantine

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6. CDC (2015). Results from the School Health Policies and Practices Study 2014. U.S. Department of Health and Human Services. https://www.cdc.gov/healthyouth/data/shpps/pdf/shpps-508-final_101315.pdf.

7. Kuula, L., Pesonen, A., Merikanto, I., et al. (2018). Development of late circadian preference: sleep timing from childhood to late adolescence. *Journal of Pediatrics* 194, 182e9.

8. Roberts, R. E., & Duong, H. T. (2014). The prospective association between sleep deprivation and depression among adolescents. *Sleep* 37, 239–244.

9. Bethune, S. (2014, April). Teen stress rivals that of adults. *Monitor on Psychology* 45 (no. 4), 20. <https://www.apa.org/monitor/2014/04/teen-stress#>.

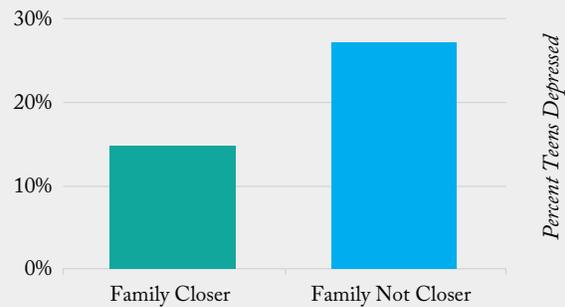
10. Cano, R. (2019, October 28). California just pushed back school start times—you weren't dreaming. Now what? *Cal Matters*. <https://calmatters.org/education/k-12-education/2019/10/how-school-start-time-law-will-work-in-california/>.

Second, teens reported spending more time with their families, and given associations between positive family relationships and mental health,¹¹ more family time may have mitigated the negative effects of the pandemic. With many parents working from home and most outside activities cancelled for both parents and teens, the majority of teens reported increased family time. Fifty-six percent of them said they were spending more time talking to their parents than they had before the pandemic, and 54 percent said their families now ate dinner together more often. Forty-six percent reported spending more time with their siblings. Perhaps most striking, 68 percent of teens said their families had become closer during the pandemic.

This increased family time was linked to positive mental-health outcomes among teens surveyed. Only 15 percent who said their families had become closer during the pandemic were depressed, compared to 27 percent of those who did not believe their families had become closer (see Figure 3). Similarly, 16 percent of teens who said they were now spending more time talking to their parents were depressed, compared to 23 percent who reported the same or less time spent talking to parents. Finally, 16 percent of teens who reported eating dinner with their family more frequently during the pandemic were depressed, compared to 22 percent who reported a stable or declining frequency of family dinners.

Both before and during the pandemic, teens from two-parent families were least likely to be depressed (see Figure 4). This is consistent with other research on child well-being and suggests that teens in two-parent families are more likely to benefit from the additional attention and financial resources that two parents can invest in adolescents.

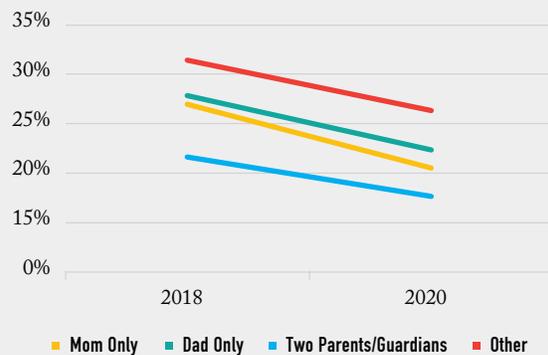
Figure 3. Percent of Teens Depressed, among those agreeing their families had become closer during the pandemic vs. those not agreeing



Source: Teens in Quarantine

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Figure 4. Percent of Teens Depressed, 2018 vs. 2020, by parents/guardians at home



Source: Monitoring the Future; Teens in Quarantine

Institute for Family Studies/Wheatley Institution

11. Chen, P., & Harris, K. M. (2019). Association of positive family relationships with mental health trajectories from adolescence to midlife. *JAMA Pediatrics* 173, e193336.

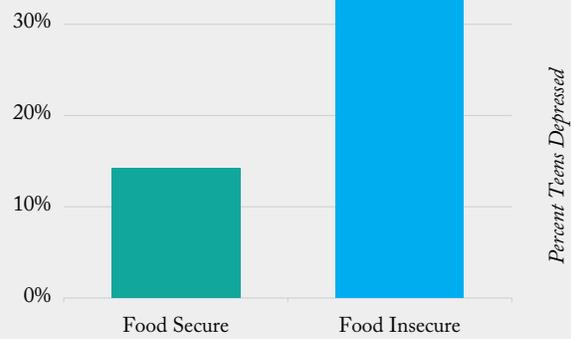
Financial Blows Felt by Teens

Although the teen mental-health outcomes during quarantine were not as bleak as we might have supposed, the financial distress caused by the pandemic still had an impact. The economic consequences for each household made a difference. Twenty-five percent of teens reporting that a parent had lost a job during the pandemic were depressed, compared to only 16 percent of those without parental job loss. Similarly, 26 percent of those worried about their families not having enough money were depressed, versus 13 percent who did not have this concern. Food insecurity was associated with the largest difference: among teens who worried that their families would not have enough to eat, 33 percent were depressed, versus 14 percent of teens who were not worried about having enough food (see Figure 5).

Teen Media Use

When the pandemic hit and quarantine began, teens were unable to spend time with friends or fellow students face-to-face. Thus, life seemingly became even more saturated with technology as electronic communication was the primary way teens could interact with people outside of their families. Given that screen time, especially time spent using social media, has been associated with mental-health issues in the past,¹² we wanted to understand how teens used technology during a global pandemic and how this may relate to their mental health. We again compared responses with the Monitoring the Future data from 2018. Questions specifically focused on media use during leisure time and did not include time spent using media or technology for school or work. As the Monitoring the Future survey is conducted during the school year, we compared only the 2020 students whose schools were still in session.

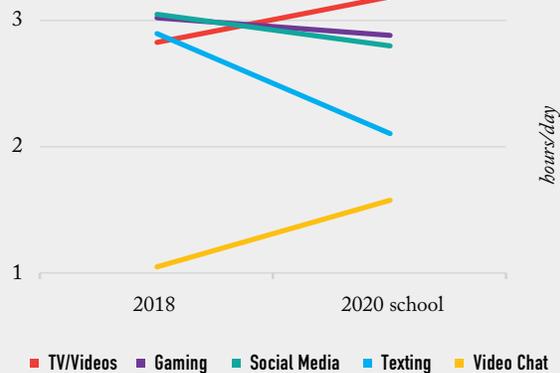
Figure 5. Percent of U.S. Teens Depressed during Quarantine, food secure vs. food insecure



Source: Teens in Quarantine

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Figure 6. Hours Spent on Media Activities per day, 2018 vs. 2020 school in session



Source: Monitoring the Future; Teens in Quarantine

Institute for Family Studies/Wheatley Institution

12. Boers, E., Afzali, M. H., & Newton, N. (2019). Association of screen time and depression in adolescence. *JAMA Pediatrics* 173, 853–859.

Surprisingly, teens' technology use did not appear to increase dramatically during the pandemic when compared to 2018, though certain forms of media use did. Teens in quarantine were spending more time video chatting with friends and watching TV, videos, and movies on an electronic device. But they spent less time gaming, texting, and using social media (Facebook, Instagram, Twitter, etc.) (see Figure 6).

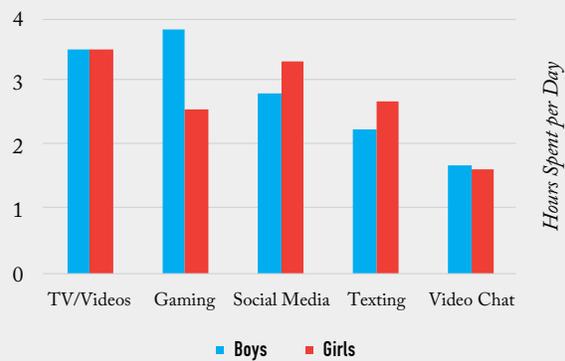
We also examined whether media use during the spring and summer of 2020 differed based on gender or race/ethnicity. Boys and girls spent about the same amount of time watching television or videos. However, boys spent more time on games than girls did; boys spent more time playing video games, in fact, than they did watching television/videos. In contrast, girls spent more time using social media and texting than boys did (see Figure 7). Thus, boys may have turned to video games as a way to connect with peers during quarantine (since many modern games can be played over the internet in real time with friends), while girls primarily used social media or texting to stay connected.

In terms of race/ethnicity, Black teens tended to use all types of media more frequently than did other teens. Asian teens used screen media the least frequently (see Figure 8).

Why the Unexpected Results?

We were surprised that social media (which is more connective) decreased from prepandemic 2018, while watching television and videos (which is more passive) increased during that same time. Teens may have primarily been using media as a form of distraction or to pass the long hours in quarantine, rather than predominantly seeking out more virtual connection with others. Streaming services (like

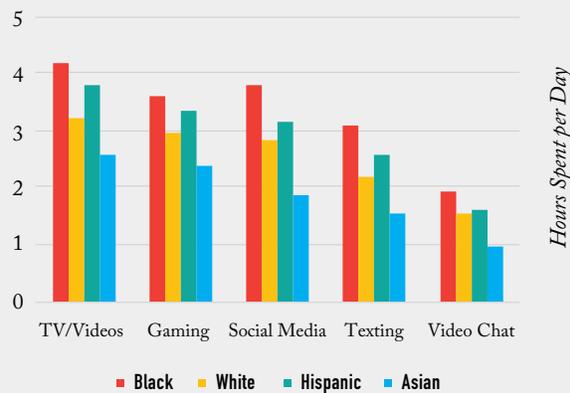
Figure 7. Teen Media Use by Gender, 2020



Source: Teens in Quarantine

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Figure 8. Teen Media Use by Race/Ethnicity, 2020



Source: Teens in Quarantine

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Hulu, Netflix, and Disney+) in particular can often be a welcome distraction from global events and allow the viewer to “zone out” from a stressful situation, binge-watching favorite shows. These trends are consistent with our findings regarding mental health, given that social media use is more strongly associated with mental-health issues than are more passive types of media such as watching television or videos.¹³

However, teens today often use YouTube, for instance, which is primarily a video-sharing site, as social media, creating and posting videos, receiving “response” videos in return, and commenting on videos in an interactive way. In fact, a rising number of social media apps integrate video into their connectivity. Snapchat, Instagram, and Facebook, for instance, were all originally photo- and message-sharing apps that now have video posting and sharing as a main component. These sites/apps are often both passively entertaining *and* connective. So teens may have been specifically using videos as a two-fold way to cope with pandemic-related anxiety.

Another possible reason for the rise in video watching and video chatting online, and the decrease in texting, is that students on school campuses usually can’t stream videos or video chat during the day, as this would be disruptive of the school environment. But they often will text throughout the school day, as this form of connection is quick and silent. In addition, teens in the classroom often don’t have access to wifi on their phones, which is necessary for the data-heavy activities of streaming and video chat. At home, where many have constant wireless connectivity to the internet, teens are able to video chat and stream videos on their devices much more readily.

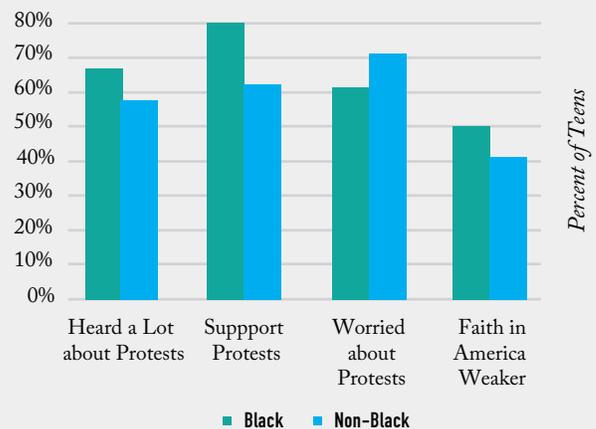
13. Twenge, J. M., & Farley, E. (2020). Not all screen time is created equal: Associations with mental health vary by activity and gender. *Social Psychiatry and Psychiatric Epidemiology*.

Views of the Police, Race Relations, and the Protests

Teens said they were well informed about the protests that swept the United States from late May to June 2020: 60 percent had heard a lot about them, and 31 percent had heard at least some. Two-thirds said they supported the protests, even though 70 percent said that the protests and violence had made them feel anxious and worried. Forty-two percent said their faith in America had weakened.

Compared to teens of other races or ethnicities, Black teens were more likely to have heard a lot about the protests, to support the protests, and to say that their faith in America had grown weaker recently. Non-Black teens (Whites, Hispanics, Asians, and those of other races) were more likely to say they felt anxious and worried about the protests.

Figure 9. Teen Views about the May–June Protests, by race/ethnicity



Source: Teens in Quarantine

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Because the 12th graders in the Monitoring the Future survey were asked about race relations and policing in 2018, we were able to compare older teens’ views in summer 2020 to those from two years prior. Half of 12th graders

Finally, teens often use these video-rich and other apps for *messaging*, shifting somewhat from *texting* as the communication tool of choice. Apps that allow teens to message without revealing their phone numbers are rising in popularity, including GroupMe, WhatsApp, and Facebook Messenger. Many teens surveyed might have reported a low amount of time spent texting while still using social media and messaging apps to keep in contact with friends.

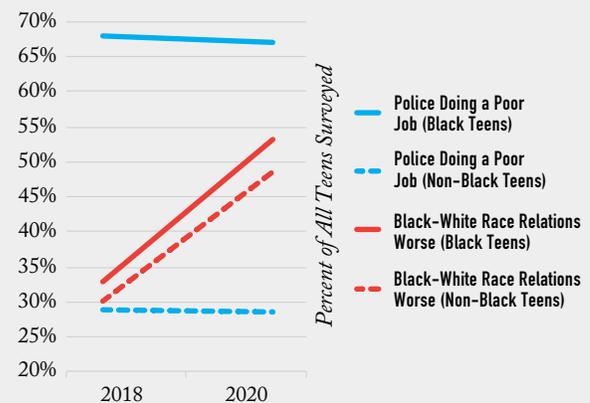
However, none of these interpretations minimizes the happy fact that teens, as we noted earlier, were also sleeping more and spending more time with siblings and parents (including playing family games, going outside more with family, and eating family dinners), which may have displaced some of the time teens would have spent using media.

Furthermore, although social media decreased on the whole, teens may have been using it in more purposeful ways during quarantine. Previous research has found that using social media in more active, connective ways can be protective for mental health. About half of teens (47 percent) in our survey said they avoided using social media in passive ways such as scrolling through posts endlessly. Most strikingly, almost 80 percent of teens agreed that social media allowed them to connect with their friends during quarantine, and nearly 60 percent said they used social media to manage their anxiety surrounding the pandemic.

surveyed in June and July 2020 thought that Black-White race relations were going downhill in the United States, compared to 30 percent who held that opinion in 2018. The percentage who believed that the police were doing a poor job was stable between 2018 and 2020.

In both time periods, the views of Black and Non-Black teens about the police were very different, with twice as many Black teens believing that the police were doing a poor job. Both Black and Non-Black teens were more likely to believe that race relations were getting worse in 2020 compared to 2018; by 2020, the majority of Black teens and nearly half of non-Black teens believed that Black-White race relations were deteriorating.

Figure 10. Views of Black-White Race Relations and the Police, 2018 12th graders vs. June–July 2020 12th graders, by race/ethnicity



Source: Monitoring the Future; Teens in Quarantine

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Thus, although most teens supported the protests, they also expressed anxiety about them and concerns about the state of Black-White race relations in general.

Conclusions

American teens had surprisingly good outcomes during the pandemic, with decreases in depression and loneliness and only small increases in unhappiness and dissatisfaction with life. Indeed, 53 percent of teens said they have become stronger and more resilient during the pandemic. Although teens were worried about health, economic stressors, and the protests, these challenges were seemingly offset by increases in sleep time and family time. Nevertheless, depression, loneliness, and unhappiness are still at unacceptably high levels among American teens. Although the pandemic did not appear to worsen these trends, mental health among teens was suffering before the pandemic, with depression hitting all-time highs.^{14,15} Many teens are still in need of mental-health services, and the pandemic has not changed that reality. These results suggest that once the pandemic has lifted, later school start times and more family time may be helpful in mitigating teen depression.

Surprisingly, teens' use of social media and electronic gaming during their leisure time did not increase. However, they did spend more time watching TV and videos, which in modern life often serve as social connection as well as passive entertainment. Girls spent more time than boys did using social media; for boys, it was gaming they preferred more than girls did.

Although teens are concerned about the current state of race relations in the country, most support the protests around racial justice. Overall, teens during the pandemic appear to have managed the challenges of 2020 with resilience, taking comfort in their families and the slower pace of life.

14. Keyes, K. M., Gary, D., O'Malley, P. M., Hamilton, A., & Schulenberg, J. (2019). Recent increases in depressive symptoms among U.S. adolescents: Trends from 1991 to 2018. *Social Psychiatry and Psychiatric Epidemiology* 54, 987–996.

15. Twenge, J. M., Cooper, A. B., Joiner, T. E., Duffy, M. E., & Binau, S. G. (2019). Age, period, and cohort trends in mood disorder indicators and suicide-related outcomes in a nationally representative dataset, 2005–2017. *Journal of Abnormal Psychology* 128, 185–199.

Appendix: Methods

Sample Selection and Weighting

We partnered with international survey sample provider Ipsos, which collected a sample of 1,523 teens between May 29, 2020 and July 3, 2020. Data collection was paused between June 2 and June 8 as the protests around the death of George Floyd reached their peak. The items about the protests and related issues were asked between June 8 and July 3 of 863 respondents.

The sampling strategy aimed to match the demographic profile of the 2018 Monitoring the Future survey. First, screening questions restricted participation to teens enrolled in 8th, 10th, or 12th grade (the grades included in Monitoring the Future) as of March 1, 2020. Second, sampling aimed to fill quotas for gender, race/ethnicity, urban/rural location, and region of the country, based on the composition of the 2018 Monitoring the Future respondents. The final data were weighted to make the 2020 sample demographically representative of the 2018 Monitoring the Future sample.

Parents gave consent for their minor children to participate. The study was reviewed and approved by the Institutional Review Board of Brigham Young University.

Comparison with Monitoring the Future

The Monitoring the Future survey has been conducted annually since 1975 by the University of Michigan and is funded by the National Institute on Drug Abuse, a division of the National Institutes of Health. It has grown to survey over 40,000 students each year from around the country, through both public and private schools. Though the survey's principal focus is on drug use among 8th, 10th, and 12th graders, questions are also asked about life satisfaction, loneliness, and depression, as well as family structure, media use, race relations, and police effectiveness. Many of the questions on our 2020 survey were identical to those asked in the Monitoring the Future 2018 survey, allowing for effective comparisons.

Coding of School Session vs. Summer

As data collection spanned from late May to early July, some students were in school during data collection, and some were on summer break. As we had not anticipated that data collection would last until July, we did not include a question about whether school was currently in session. However, we recognized that being in school, compared to being on summer break, might influence both mood and time use. Therefore, trained research assistants used the real-estate website Zillow.com to obtain the name of the school district for each respondent (based on the student's zip code) and then determined whether school had been in session on the date the respondent completed the survey. As most surveys were completed in the evening, surveys completed on the day school ended were coded as summer break.

Cutoffs for High Depression and High Loneliness

The measures of depressive symptoms and loneliness both used a scale of five answers from “disagree” to “agree,” which were then coded from 1 to 5.

Responses indicating more negative emotions were coded as 4 or 5; responses describing positive affect were coded as 1 or 2. “Neither” was coded as 3.

For loneliness and depression, an average score of 3 or above was considered a high score, as 3 is the midpoint of the scale and, for both measures, is approximately one standard deviation above the mean, a common cutoff for mental-health screening measures.

Possible Answers

- A. Disagree
- B. Mostly disagree
- C. Neither
- D. Mostly agree
- E. Agree

Survey Items Measuring Depression and Loneliness¹⁶

Items to Measure Teen Depression

- 16. I enjoy life as much as anyone.
- 17. Life often seems meaningless.
- 18. It feels good to be alive.
- 19. The future often seems hopeless.

Items to Measure Teen Loneliness

- 10. A lot of times I feel lonely.
- 11. There is always someone I can turn to if I need help.
- 12. I often feel left out of things.
- 13. There is usually someone I can talk to, if I need to.
- 14. I often wish I had more good friends.
- 15. I usually have a few friends around that I can get together with.

16. Full questionnaire is available upon request.

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