

Center on Media and Human Development
School of Communication
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Teens, Health, and Technology

A National Survey

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Introduction

If there is one thing that defines the current generation of teenagers, it is the degree to which they are always “connected”—spending vast amounts of time online and on their gadgets, using social media, surfing the web, watching YouTube videos, Tweeting, and using apps.

The teenage years are also a time when young people grapple with a tangle of health concerns, many uniquely important during these particular years of life. From puberty, hygiene, and childhood obesity in the early years to sexual activity, drugs, and alcohol in the later years, teens must traverse a landscape replete with significant new health challenges—often while coping with substantial amounts of stress and sleep deprivation.

Increasingly, public health organizations that are trying to reach teens with health communications are doing so online, making heavy use of websites, social media platforms, and texting campaigns. This trend is occurring in part because this is where teens are perceived to “be,” and in part because these platforms are usually the only affordable tools most health organizations have at their disposal.

Yet this is the first study we are aware of in nearly 15 years to survey a large, nationally-representative sample of teens to document how they use the Internet for health information. And it is the only national survey we know of to document teens’ use of newer technologies for health, such as mobile apps, social networking sites, electronic gaming, and wearable devices.

The current survey explores how often teens use these tools, how much health information they get from them, what topics they are most concerned with, how satisfied they are with the health information they get through these means, and whether they have ever changed their behavior due to online or other digital health information or tools. The survey also covers details such as how teens look for health information online, the degree to which they use social media for this purpose, how much they trust various types of health information sites, and why some teens are not satisfied with online health information.

Many government agencies and public health organizations are spearheading teen-oriented efforts on topics such as pregnancy prevention, mental health education and treatment, drug and alcohol abuse, obesity, bullying, sexual assault, and tobacco use. It is our hope that the information and insights gathered through this study will be helpful to the design and implementation of those health communication efforts.

Key Findings

Chart 1: Amount of health information teens get from the Internet

Among all 13- to 18-year-olds, amount of health information gotten online:

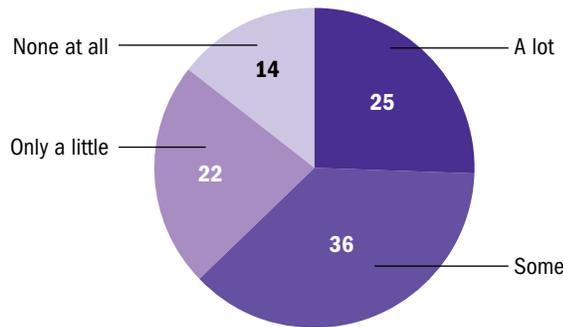


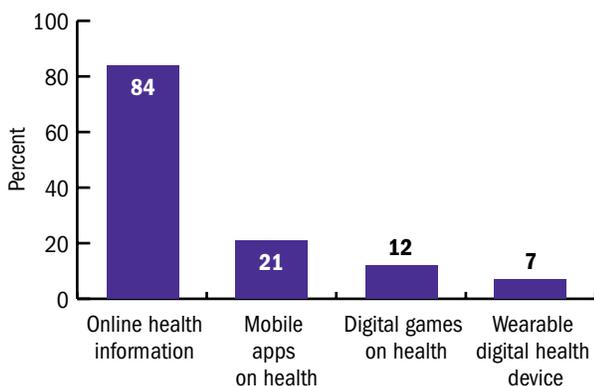
Table 1: Health information sources for teens

Among all 13- to 18-year-olds, percent who say they get “a lot” of health information from:

Parents	55
Health classes in school	32
Doctors/nurses	29
Internet	25
Books	10
TV news	9
Radio	4
Newspaper articles	3
Magazine articles	3

Chart 2: Use of digital health tools by teens

Among all 13- to 18-year-olds, percent who have ever used:



1. Among all media, the Internet is the primary source of health information for teens, far surpassing books, TV, radio, newspapers, or magazines.

Eighty-four percent of teens have gotten health information online. A quarter (25 percent) say they have gotten “a lot” of health information online, compared to 10 percent from books, 9 percent from TV news, 4 percent from radio, 3 percent from newspapers, and 3 percent from magazines. Parents can rest assured that they remain by far the leading source of health information for teens, followed by health classes at school and medical providers. But the Internet is the fourth-largest source of health information for teens, far outpacing all other media, and almost on par with doctors and nurses as a health information source.

2. About a quarter of teens have used digital health tools, such as mobile apps, digital games, and wearable devices.

Among all 13- to 18-year-olds, one in five (21 percent) say they have downloaded health-related mobile apps. Much smaller proportions say they have ever played a health-related digital game (12 percent), such as a computer, video, or mobile game, or used a wearable health device (7 percent), such as a Fitbit or FuelBand.

3. Many teens say they have changed their behavior as a result of online health information or other digital health tools.

A total of nearly one in three teens (32 percent) say they have changed their behavior due to digital health information or tools. Almost all of these (28 percent) report a health-related behavior change due to online health information, in large part because that is the most widely used digital health tool. Seven percent of teens say they’ve changed their behavior as a result of their use of a mobile app; 2 percent say the same about health-related digital games and 1 percent about wearable health devices such as a Fitbit or FuelBand.

4. Teens are most likely to use the Internet for health promotion and preventive health, rather than for diagnoses, treatment, or information for friends and family members.

Besides working on a school assignment (53 percent), the most common reason teens look for health information online is to learn how to take better care

of themselves (45 percent)—a proactive and preventive approach to health care. At the same time, about a third (33 percent) of teens say they turn to the Internet when a health issue crops up, to check out their symptoms and try to figure out what’s wrong with them, 27 percent have looked for information about health conditions affecting family or friends, and about a quarter (24 percent) have looked for information on how to treat an illness or injury. Somewhat surprisingly, only 13 percent said they have turned to the Internet to research topics they were uncomfortable talking with their parents about.

5. Social networking sites are a source of health information for some teens, but most teens are cautious about social media and health information.

One in ten teens (10 percent) say they get “a lot” of health information from social networking sites, and an additional 23 percent say they get at least “some” health information from such sites. It appears that teens may come across health-related information on social networking sites, but most don’t go looking for it there. Nine percent say they have ever sought out health information on Facebook, and 4 percent on Twitter. And nearly nine in ten teens (88 percent) say that if they had a health question or were looking for advice on a health topic, they would not be likely to post their query on a social networking site (2 percent say they are very likely to do so, and 10 percent are somewhat likely).

6. Fitness and nutrition are the top issues teens research online.

Forty-two percent of all teens have researched fitness/exercise online, and 36 percent diet/nutrition, followed by stress and anxiety (19 percent), sexually-transmitted diseases (18 percent), puberty (18 percent), depression and other mental health issues (16 percent), and sleep (16 percent). Similarly, mobile apps related to exercise or nutrition are the most common types of health-related apps downloaded by teens: among those who own a mobile device, 22 percent have downloaded an app on exercise, and 13 percent on nutrition or calories.

Chart 3: Digital health information and behavior change

Among all 13- to 18-year-olds, percent who say they have changed their behavior because of:

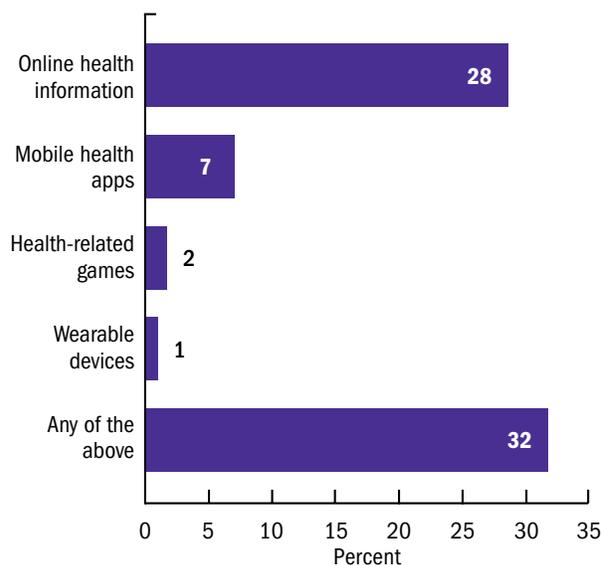


Table 2: Top health topics researched by teens online

Among all 13- to 18-year-olds, percent who have used the Internet to research:

Fitness and exercise	42
Diet and nutrition	36
Stress or anxiety	19
STDs	18
Puberty	18
Depression or other mental health issues	16
Sleep	16
Drug or alcohol abuse	12
Hygiene	12
Colds/flu	12

7. There are substantial digital and health divides among youth. Lower-income youth (those from families earning less than \$25,000 a year) are far more likely to have faced significant health issues in their family, and they are more likely to cite a range of health issues as being very important to them personally, including depression and mental health (44 percent of lower-income teens, compared with 21 percent of those from families earning more than \$75,000 a year), drug and alcohol abuse (42 percent vs. 24 percent), domestic violence or sexual assault (45 percent vs. 22 percent), dental health (48 percent vs. 29 percent), diabetes (38 percent vs. 12 percent), and smoking (37 percent vs. 19 percent). More than half (52 percent) of lower-income teens said a family member had encountered a serious health issue, compared to 27 percent of higher-income teens. But

while they appear to face more health challenges than other teens, they are the least likely to have had a health class at school (44 percent, compared to 60 percent of high-income teens), or to have access to digital tools such as a laptop, smartphone, or tablet (a 17- to 26-percentage-point difference).

8. Teens rely heavily on search engines when looking for health information, and especially on whatever site pops up first in their searches. Among those teens who have looked for health information online (called online health-seekers in this report, 84 percent of all teens), 58 percent say they “often” start their searches by Googling a topic, and another 14 percent say they often start out at a different search engine. Among teens who use search engines to look for health information online,

Table 3: The digital and health divide among teens

Among 13- to 18-year-olds, percent who...	Among all	From low-income families (<\$25,000 a year)	From middle-income families (\$25–75,000 a year)	From high-income families (>\$75,000 a year)
Have a family member who has faced a significant health problem in the past year	35	52 ^a	39 ^b	27 ^c
Say each issue is “very” important to them personally:				
ADHD	19	27 ^a	24 ^a	12 ^b
Cancer	24	40 ^a	28 ^b	17 ^c
Colds/flu	17	28 ^a	21 ^a	10 ^b
Dental health	36	48 ^a	39 ^a	29 ^b
Depression/mental health	28	44 ^a	31 ^b	21 ^c
Diabetes	21	38 ^a	24 ^b	12 ^c
Domestic violence/sexual assault	30	45 ^a	33 ^b	22 ^c
Drug/alcohol abuse	32	42 ^a	37 ^a	24 ^b
Eating disorders	22	31 ^a	27 ^a	14 ^b
Heart disease	19	32 ^a	24 ^a	11 ^b
Pregnancy	27	34 ^a	33 ^a	19 ^b
Smoking	27	37 ^a	33 ^a	19 ^b
Have their own:				
Laptop	51	32 ^a	50 ^b	58 ^b
Tablet	37	26 ^a	38	42 ^b
Smartphone	62	44 ^a	60 ^b	69 ^c
Have taken a health class at school	56	44 ^a	55 ^{ab}	60 ^b

half (50 percent) say they usually just click on the first site that comes up, and only go further if they still have questions. In addition, half of all teens (50 percent) agree with the statement “If I Google something, whatever site comes up at the top of the list is usually the best one.” Very few use sites that are specifically for teens (8 percent), and sites with a “.com” domain extension are the least likely type of site to be trusted for health information (14 percent trust them “a lot,” compared to 37 percent for sites with an “.edu” domain).

9. The vast majority of teens are at least “somewhat” satisfied with the health information they find online, but fewer than one in four are “very” satisfied.

Among online health-seekers, 82 percent are somewhat or very satisfied with the information they’ve found online, while 18 percent are either not too or not at all satisfied. But the 24 percent who say they are “very” satisfied with online health information falls far short of the percent who are very satisfied with information from their parents (57 percent), health providers (54 percent), or health classes at school (38 percent). Among the 18 percent of online health-seekers who are generally not satisfied with what they’ve found, the top reasons for dissatisfaction are that there was too much conflicting information (42 percent), the information didn’t appear reliable (40 percent), or the information found wasn’t relevant to their particular situation (35 percent).

10. At the same time, many teens come across “negative” health information online, such as how to play drinking games (27 percent), how to get tobacco or other nicotine products (25 percent), how to be anorexic or bulimic (17 percent), and how to get or make illegal drugs (14 percent). A total of four in ten teens (41 percent) report ever having viewed such information online, but most do so only infrequently (only 4 percent see such information “often,” 14 percent do so sometimes, and 23 percent have done so just “once or twice.”) In addition, 43 percent of teens say they have ever seen pornography online.

Chart 4: Teens’ satisfaction with health information sources

Among 13- to 18-year-olds who have gotten health information from each source, percent who are “very” satisfied:

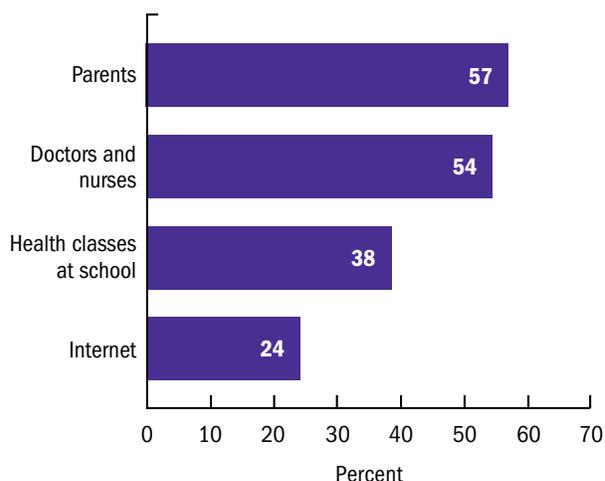
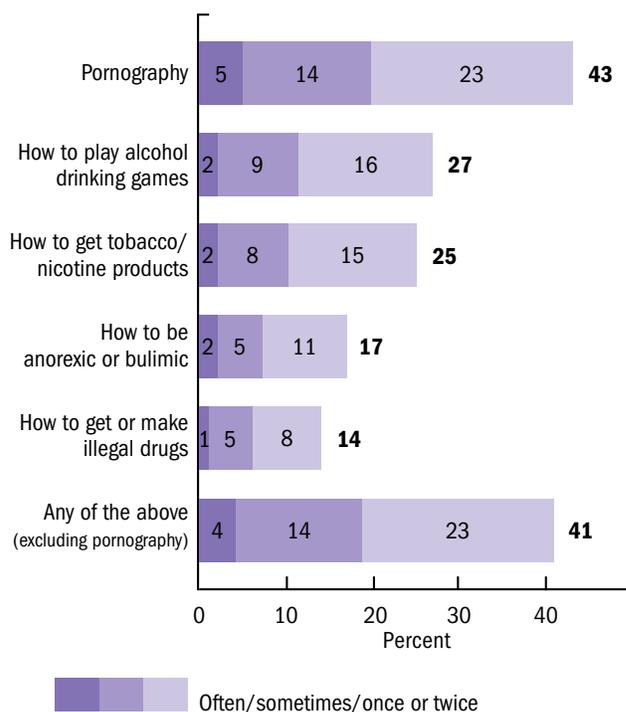


Chart 5: Viewing negative health information online

Among all 13- to 18-year-olds, percent who have seen information about:



Methodology

This report describes the findings from a nationally-representative survey of 1,156 U.S. teens ages 13 to 18 years old, conducted among teens in English-speaking households from October 21 through November 9, 2014, and among teens in Spanish-dominant households in March 2015. The survey was designed and analyzed for Northwestern by Vicky Rideout of VJR Consulting and was administered online by the GfK Group using members of its KnowledgePanel. Parental and teen consent were obtained, and the survey was offered in English or Spanish.

GfK's KnowledgePanel is the first probability-based online research panel. Panel members are randomly recruited through address-based sampling methods (previously GfK relied on random-digit dialing methods). Households that are not already online are provided with notebook computers and access to the Internet if needed. The use of a probability-based sample means that the results are substantially more generalizable to the U.S. population than are results based on so-called convenience panels, which only include participants who are already online, and who volunteer through word-of-mouth or advertising to participate in surveys.

The margin of error for the full sample is +/- 3.5 percent and the completion rate for the survey was 48 percent (the completion rate refers to the number of panelists who

completed the survey out of the total who were invited to participate). Unless otherwise noted, all findings refer to the full sample of 13- to 18-year-old respondents. Where relevant, findings are broken out by age, gender, race/ethnicity, and socio-economic status. Low-income families are those with annual income of less than \$25,000; middle-income is \$25,000–75,000 a year; and high income is over \$75,000 a year.

In tables where statistical significance has been calculated, the results are noted through a series of superscripts (using letters such as a, b, or c). Only those items with different superscripts differ significantly ($p < .05$); those that share a common superscript do not differ. Percentages may not total 100 percent due to rounding, the omission of “refused” or “don't know” responses, or because multiple responses were allowed.

In preparation for the survey, six focus groups were held in the Bay Area in summer 2014. The focus group research was also overseen for Northwestern by VJR Consulting, and the groups were facilitated by Dorrie Paynter of Leapfrog Marketing Research. The purpose of the focus groups was to help inform the development of the survey questionnaire. All statistical findings in the report are from the national survey; however, quotes from the focus group participants are used occasionally to illustrate various national findings. In addition, quotes from responses to open-ended questions in the survey are also included throughout the report.

Results

Extent and Frequency of Teen Use of the Internet for Health Information

Parents can rest assured that they remain by far the leading source of health information for teens, followed by health classes at school, and medical providers. But the Internet is the fourth-largest source of health information for teens, far outpacing all other media, and coming up just behind doctors and nurses.

Proportion of teens who use the Internet for health information. A total of 84 percent of teens have gotten health information online, including a quarter of all teens (25 percent) who say they have gotten “a lot” of health information online, 36 percent who get “some” and 22 percent who get “only a little” health information online (see Chart 1). The 25 percent of teens who get a lot of health information online is less than half the proportion that gets a lot of information from their parents (55 percent), but it is surprisingly close to the proportion that gets “a lot” of health information from doctors and nurses (29 percent). And the Internet far outstrips other “traditional” media as a source of health information for teens: only 10 percent say they get a lot of information from books, 9 percent from TV news, and 3 percent from newspaper articles (see Table 1).

Frequency of online health searches. Looking for health information online is not a very frequent activity for most youth. About a quarter (24 percent) of teens seek health information online at least monthly or more often. The largest group of teens (38 percent) says they go online for health information only a few times a year. Another quarter (22 percent) do so less often than a few times a year, while 16 percent never look for health information on the Internet.

Demographic variations in use of the Internet and other media for health information. The data on health information sources were analyzed by age, gender, family income, and race/ethnicity. The only demographic variation in the proportion of teens who get “a lot” of health information from the Internet is by race/ethnicity: 40 percent of Black teens and 31 percent of Hispanic teens say they get a lot of health information online, compared to 18 percent of Whites

Chart 6: How often teens look up health information online

Among all 13- to 18-year-olds, percent who search online for health information:

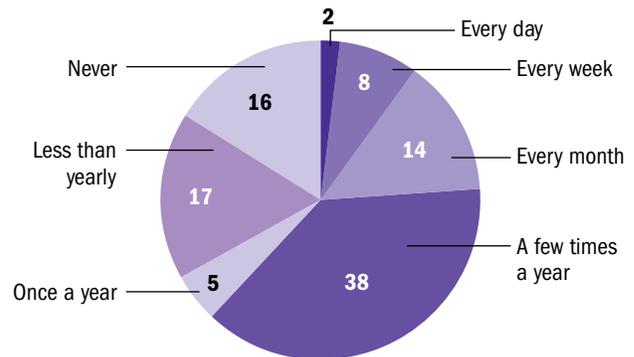


Table 4: Teens’ health information sources

Among all 13- to 18-year-olds, percent who get health information from:	A LOT	SOME	A LITTLE	ANY
Parents	55	33	9	96
Health classes in school	32	41	18	90
Doctors/nurses	29	40	21	90
Internet	25	36	22	84
Friends	11	38	36	84
Books	10	30	30	70
Social networking sites	10	23	28	61
Brothers or sisters	10	25	23	59
TV news	9	29	31	69
Other TV shows	7	22	30	59
Radio	4	11	28	44
Newspaper articles	3	14	26	44
Magazine articles	3	20	31	54

“I was looking for ways to build muscle, foods to eat etc. I Googled many different sites and Pinterest was a big help.”

16-YEAR-OLD HISPANIC MALE

“My grandma has Alzheimers and I wanted to learn about it.”

15-YEAR-OLD WHITE FEMALE

“I’ve seen a lot of YouTube videos on depression. It’s one of the bigger topics that they cover.”

16-YEAR-OLD MALE IN FOCUS GROUP

“I had a muscle that hurt and wanted to know how to stretch it. I googled it, but the sites were not specific to the stretch I wanted. I went to YouTube and found what I wanted.”

13-YEAR-OLD WHITE MALE

“I was researching high blood pressure. I did find foods to help lower blood pressure. The reason I looked it up is because my mom was told she has high blood pressure and I was looking up food and exercise that help lower it.”

17-YEAR-OLD HISPANIC FEMALE

(the results for Black and Hispanic teens differ significantly from Whites but not from each other). African-American and lower-income youth are also more likely than other teens to say they get “a lot” of health information from television news and other TV shows. For example, 22 percent of Black teens and 13 percent of Hispanics versus 5 percent of Whites say they get a lot of health information from TV news; and 18 percent of lower-income teens say the same about other TV shows (such as reality shows, talk shows, or dramas), compared to 3 percent of higher-income youth.

Types of online health information sources. Many teens use search engines such as Google to direct them to health information (49 percent) or visit medical websites (31 percent). But some teens use less traditional types of online platforms to get health information. For example, one in five (20 percent) have gotten health information from YouTube, 9 percent from Facebook, and 4 percent from Twitter. Among those who search for health information online, younger teens (13- to 15-year-olds) are more likely than older ones to have gotten health information from YouTube (28 percent vs. 21 percent) and to have visited a website specifically for teens (12 percent vs. 7 percent of older teens); Hispanic youth are more likely than others to have used Yahoo to search for health information (23 percent vs. 10 percent of Whites and 8 percent of Blacks); and girls are more likely than boys to go to medical websites (42 percent vs. 32 percent).

Chart 7: Online health information use by race/ethnicity

Percent of 13- to 18-year-olds who get “a lot” of health information online:

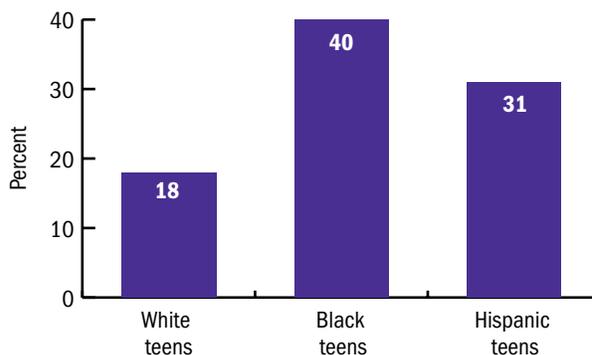


Table 5: Types of online health information sources used by teens

Among all 13- to 18-year-olds, percent who have ever used any of the following for health information:

Google	49
A medical website	31
YouTube	20
Wikipedia	22
Yahoo	11
Facebook	9
Online tracking tools	8
Site for teens	8
Doctor’s website	6
Blog posts	7
Twitter	4
Other social network	4
Online support group	3

“A lot of the posts that were from actual medicine [sic] sites were not helpful. I got most of the helpful information from places like Yahoo and other people on blogs or other sites like that.”

15-YEAR-OLD WHITE FEMALE

“For health things, if you wouldn’t feel comfortable telling your grandma, you shouldn’t post it online.”

7TH GRADE FEMALE IN FOCUS GROUP

Social Networking Sites as a Source of Health Information

Most teens are not turning to social networking sites for health information, but some are. One in ten teens (10 percent) say they get “a lot” of health information from social networking sites, and an additional 23 percent say they get at least “some” from such sites.

The survey included several different measures of teens’ use of social networking sites for health information:

- **One question asked** how much health information they have ever gotten from social networking sites. As mentioned above, 10 percent say they’ve gotten “a lot” of information this way, and 23 percent say “some.”
- **A second question asked** whether teens have “ever used” Facebook, Twitter, or other social media sites (such as Reddit, Instagram, or Tumblr) for information, advice, or tools on a health topic. Nine percent of teens say they have ever looked for health information from Facebook, 4 percent from Twitter, and 4 percent from other social media sites (a total of 13 percent have gotten health information from at least one of those sources).
- **A third question asked** online health-seekers how often they find health information through links from social network sites. Six percent of those asked said they do so “often,” and 22 percent said “sometimes.”
- **Finally, a fourth question asked** all respondents how likely they would be to post to a social networking site if they had a question or needed advice about a health issue. Almost nine in ten teens (88 percent) say they are not likely to post a health question or look for advice on a health-related issue on a social networking site (2 percent say they are very likely to do so, and 10 percent are somewhat likely).

Some teens are more likely than others to get health information from social networking sites (girls, Blacks, low-income youth, and those who have engaged in risky behaviors) but even they are not very likely to do so. For example, 37 percent of teen girls vs. 29 percent of teen boys say they have gotten a lot or some health information from social networking sites. Similarly, 14 percent of Black teens say they've ever used Facebook for health information, compared to 7 percent of Whites (Hispanics fall in between at 10 percent). Lower-income youth are more likely to have found health information online by following links from social networking sites (33 percent say they've "often" or "sometimes" done that, compared to 18 percent of higher-income youth). Black and lower-income youth are also more likely to say that if they had a question about a health topic or needed advice, they would post it on a social networking site: 18 percent of Black vs. 9 percent of White teens are at least "somewhat" likely to do so (Hispanic teens fall in between at 12 percent), as are 15 percent of lower-income teens (compared to 8 percent of high-income ones).

Teens who engage in risky behaviors (defined as those who have smoked cigarettes, gotten drunk, used drugs, had unprotected sexual intercourse, or engaged in an eating disorder in the past 30 days) are more likely than their peers to say they get a lot or some health information from social networking sites. They are also more likely to post a request for health-related advice on a social networking site: 19 percent are very or somewhat likely to do so, compared to 9 percent of other teens. Still, the survey does not indicate a heavy or primary reliance on social networking sites for health information, even among those teens who are most likely to use them. In addition, the relationship between a teen's demographic profile or behavior and his/her likelihood of using social networking sites for health information is unclear. With regard to teens who have engaged in recent risky behaviors, for example, we don't know whether their use of these information sources may be contributing to risky behaviors, whether teens who engage in risky behaviors are simply more likely to use social networking in general, or whether the relationship between these two variables is simply due to a third variable, such as age.

Chart 8: Amount of health information teens get from social networking sites

Among all 13- to 18-year-olds, amount of health information gotten from social networking sites:

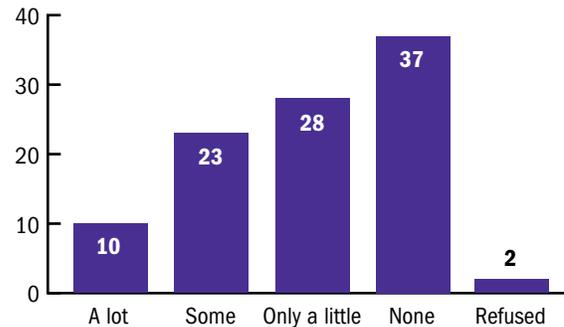


Chart 9: Posting health inquiries to social networking sites

Among all 13- to 18-year-olds, percent who say that if they had a health question or needed advice, they would be likely to post it on a social networking site:

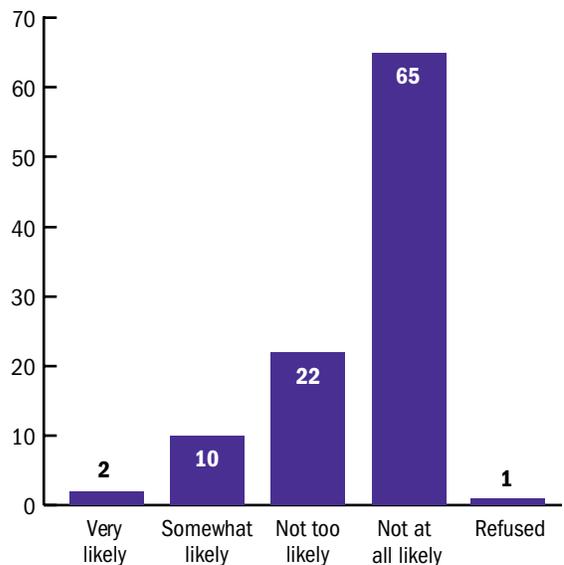


Table 6: Social networking sites and health information

PERCENT WHO...	AMONG....										
	All 13- to 18-year-olds	Those who engaged in risky behaviors recently	Those who did not engage in risky behaviors	Girls	Boys	White	Black	Hispanic	Low income	Middle income	High income
Get lot/some health information from social networking sites	33	46 ^a	30 ^b	37 ^a	29 ^b	26 ^a	41 ^b	43 ^b	42 ^a	35 ^{ab}	28 ^b
Have ever used Facebook for health information	9	14	10	8	10	9 ^a	14 ^b	10 ^{ab}	11 ^a	13 ^a	5 ^b
Have ever used Twitter for health information	4	6	4	4	3	2 ^a	4 ^{ab}	7 ^b	5	4	3
Have ever used another social networking site for health information	4	14	10	7 ^a	2 ^b	4	6	6	8	4	4
Are very/somewhat likely to post a health query to a social networking site	11	19 ^a	10 ^b	11	11	9 ^a	18 ^b	12 ^{ab}	15 ^a	13 ^{ab}	8 ^b
Often/sometimes find health information by following links on social networking sites+	28	39 ^a	25 ^b	31	25	21 ^a	35 ^b	38 ^b	42 ^a	31 ^a	21 ^b

Note: Statistical significance should be read across rows, within each shaded group.

+Among those who have gotten health information online

Health Topics Researched Online

Among the topics asked about in this survey, fitness and nutrition were by far the most likely topics for teens to have researched online. Among all teens, 42 percent have looked for information on fitness and exercise online, and 36 percent have done the same for information about diet and nutrition. Clearly, the Internet has become a key resource for young people concerned about eating well and exercising.

Stress and anxiety seem to be other key concerns for teens, with 19 percent having looked for information about these topics online—the third most-common topic researched online (among those we asked about). Other top-ten topics researched online include sexually-transmitted diseases (STDs), puberty, sleep, depression or other mental health issues, hygiene, colds/flu, and drug or alcohol abuse.

Girls were more likely than boys to have looked up certain topics online: for example, depression (22 percent of girls, compared to 10 percent of boys), diet/nutrition (44 percent of girls vs. 29 percent of boys), stress/anxiety (25 percent vs. 14 percent), and eating disorders (17 percent vs. 5 percent).

Table 7: Health topics researched by teens online

Among all 13- to 18-year-olds, percent who have used the Internet to research:

Fitness and exercise	42
Diet and nutrition	36
Stress or anxiety	19
Sexually transmitted diseases (STDs)	18
Puberty	18
Sleep	16
Depression or other mental health issues	16
Hygiene	12
Colds/flu	12
Drug or alcohol abuse	12
Birth control	12
Cancer	12
Eating disorders	11
Smoking	10
Attention deficit disorder (ADHD)	9
Pregnancy	8
Dental health	8
Diabetes	8
Heart disease	6
Domestic violence or sexual assault	6

“I searched up anxiety, depression and causes of self-harming because last year I was having problems with these things and I didn’t want to speak to my parents about it because they didn’t know. The sites I saw helped until I gained enough confidence and told my Mom and Dad.”

13 YEAR-OLD HISPANIC FEMALE

“I looked up puberty to see when my period should come and signs. I did find what I was looking for and it helped me.”

13 YEAR-OLD HISPANIC FEMALE

“[I looked up] what to do when I get my period. I found my answer. And it helped me know how to care for myself.”

13 YEAR-OLD WHITE FEMALE

Why Young People Look for Health Information Online

Among teens who have looked for health information online (84 percent of all teens, called online health-seekers in this report), the most common reason for doing so is to research an assignment for school (53 percent of online health-seekers site that as a reason). But beyond that, the most common reason teens who have looked for health information online do so is to learn how to take better care of themselves (45 percent)—a proactive and preventive approach to health care.

At the same time, a third (33 percent) of online health-seekers turn to the Internet when a health issue crops up, to check out their symptoms and try to figure out what’s wrong with them, and about a quarter (24 percent) are looking for information on how to treat an illness or injury. Some teens are turning to the Internet for information on sensitive health topics that they are uncomfortable talking with their parents about—but somewhat surprisingly, only 13 percent of online health-seekers cited this as a reason they looked for health information online.

Many teens have family members or friends who have been faced with significant health challenges over the past year—a grandmother with Alzheimer’s, a parent with diabetes, an aunt with cancer. Just under half (44 percent) of all teens have had either a family member (35 percent) or friend (9 percent) deal with a significant health issue in the past year. About a quarter (27 percent) of online health-seekers say they have looked online for information about health conditions affecting family or friends. Teens who say they, a friend, or a family member have faced a serious health challenge in the past year are much more likely than other teens to have gotten “a lot” of health information online (31 percent vs. 21 percent for other teens).

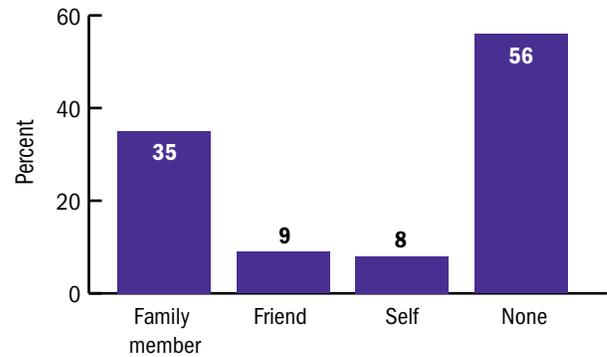
Table 8: Reasons teens seek health information online

Among 13- to 18-year-old online health-seekers, percent who say each of the following is a reason why:

For a school project	53
To learn how to take better care of myself	45
To check symptoms and find out what’s wrong	33
To get information about a condition that affected a friend or family member	27
Learn how to treat an illness, condition, or injury	24
To get information after a doctor visit	19
To get information before a doctor visit	14
Couldn’t talk to their parents about the topic	13
To get information about medications	12

Chart 10: Personal or family health problems among teens

Among all 13- to 18-year-olds, percent who say they, a friend, or family member have faced a significant health challenge in the past year:



“I was trying to find advice on how to deal with my depression and anxiety. I found exercise as a suggestion and it helps when I am able to find the time and motivation to do it.”

15 YEAR-OLD WHITE FEMALE

“When my Grandma had cancer I went online to research it... It helped me to understand what was going on with my Grandma and what was going to happen.”

13 YEAR-OLD WHITE MALE

“I looked up some workout videos. I looked them up on YouTube and sometimes I just went through a place called blogilates and did some workouts from there. I was researching the topic of workouts because of the fact that I love working out.”

16-YEAR-OLD HISPANIC FEMALE

“I have looked [for] information about how to gain weight and muscles [sic]. I am thin and I wanted to change my shape. Yes, it is working. I am eating better, healthier and I have gained a few pounds.”

15-YEAR-OLD HISPANIC MALE

“Dad overdosed...I was looking up drug info. It helped.”

17-YEAR-OLD WHITE MALE

“I looked up diabetes after the doctor told my mom she was in the pre-diabetic stage. I wanted to know what it is she could develop if she didn't take care of herself and what I found started worrying me that maybe I needed to get fit too. I was and still am overweight.”

16-YEAR-OLD HISPANIC MALE

“I was diagnosed with ADHD. I wanted to know more about my diagnoses. So, I decided to Google it. I was then lead to Web MD. I was able to learn more about my diagnoses of my condition and treatment options for my ADHD.”

13 YEAR-OLD BLACK MALE

“My mom suffered from depression. I looked that up.”

16 YEAR-OLD HISPANIC FEMALE

“Just recently found out my older cousin was using heroin so I was looking for information on heroin addicts. I found a lot of good information by using Google.”

18-YEAR-OLD WHITE FEMALE

“[I was] looking up super foods that will boost my immune system and make me healthier.”

18-YEAR-OLD WHITE MALE

Satisfaction with Online and Other Health Information Sources

Among teens who have gotten health information from the Internet (online health-seekers, 84 percent of all teens), 82 percent are at least “somewhat” satisfied with that information, while far fewer—just 18 percent—say they are either “not too” or “not at all” satisfied with the health information they’ve found online. But teens are much more likely to be satisfied with the health information they get from parents, providers, and school health classes than they are with the information they get online. Less than a quarter (24 percent) of those who have looked up health information online say they are “very” satisfied with what they’ve found. They are far likelier to be “very” satisfied with the information from their parents (57 percent) or health providers (54 percent). Interestingly, teens are much more likely to report being “very” satisfied with information from health classes at school (38 percent) than with online health information (24 percent).

On the other hand, teens have a far higher level of satisfaction with online health information than they have with other media sources, such as newspapers (17 percent are very satisfied), television news (14 percent), the radio (14 percent), and magazine articles (13 percent).

Among teens who have looked for health information online but are generally not satisfied with what they’ve found, the top reasons for their dissatisfaction are that there was too much conflicting information (42 percent), the information didn’t appear reliable (40 percent), or that the information they found wasn’t relevant to their particular situation (35 percent).

Not surprisingly, teens who say they get “a lot” of health information online are much more likely to be satisfied with the information than those who get only “some” or “a little” information online: presumably, those who are satisfied keep using the Internet for health information while those who are not drop off. It is also possible that those who keep searching for health information online learn how to do it more effectively and are exposed to more online health content, which then increases the likelihood that they will be satisfied by the information they find. In any case, half (50 percent) of teens who get a lot of health information online are “very satisfied” while only 13 percent of those who get only “some” or “a little” feel the same.

Table 9: Teens’ satisfaction with health information sources

Among 13- to 18-year-olds who have gotten health information from each source, percent who are “very” satisfied with the information they got from:

Parents	57
Doctors/nurses	54
Health classes in school	38
Brothers or sisters	27
Books	25
Internet	24
Newspaper articles	17
Friends	16
Other TV shows	15
Social networking sites	15
TV news	14
Radio	14
Magazine articles	13
Ads	10

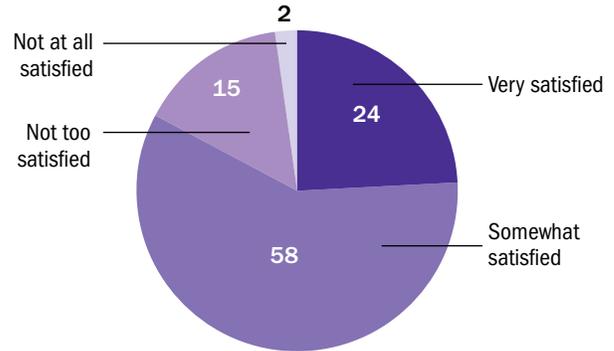
Table 10: Reasons for teens' dissatisfaction with online health information

Among the 18 percent of online health-seekers who were not satisfied, the top reasons for dissatisfaction:

Too much conflicting information	42
Didn't seem reliable	40
Wasn't relevant to their particular situation	35
Took too long to sort through	29
Too vague	27
Couldn't find answer to specific question	26

Chart 11: Teens' satisfaction with online health information

Among 13- to 18-year-old online health-seekers, degree of satisfaction with information they found



“I was searching for medication for a specific problem I am dealing with. The doctor said they may be putting me on medication so I wanted to research...which one to try instead of them just suggesting one. I was looking at how well they work how low/strong the dose was and how many and what the side effects were. I looked at three sites for this.”

16 YEAR-OLD WHITE FEMALE

“I was sick and had problems breathing and it lasted for 5 days. The information I found was scary and wasn't really helpful.”

13 YEAR-OLD WHITE FEMALE

“Sometimes all the sites have everything different and it's like which applies to me?”

11TH-GRADE FEMALE IN FOCUS GROUP

“I had headaches, cramps, had a rash, and felt like throwing up so I went to a diagnosing website to see what that could be. It was kind of helpful but not really.”

18 YEAR-OLD WHITE FEMALE

“I looked up how to control acne. Yes I found what I was looking for, I just needed information on how to care for my skin and what to eat to keep my skin healthy.”

14-YEAR-OLD BLACK MALE

“I looked at healthy recipes to make for my family because I wanted us to eat healthier. I did find some useful recipes.”

13-YEAR-OLD WHITE FEMALE

How Teens Look for Health Information Online

As mentioned above, many teens rely on Google searches to help find health information online. Among all teens, 49 percent have Googled a health topic, while 11 percent have used Yahoo to search for health information.

Search methods. Among the 84 percent of teens who have used the Internet for health information (online health-seekers), 58 percent say they “often” start their searches by Googling a topic. Far fewer use other search engines this often (14 percent) or go directly to a site they are familiar with (23 percent). Some teens simply come across health information online, while browsing (9 percent say this often happens), through links on social network sites (6 percent), or because of seeing something in an ad (3 percent).

Once teens have Googled a health topic, half (50 percent) say they usually click on the first site and only go further if they still have questions after reading the information on that site. A slightly smaller proportion (44 percent) say they generally check several sites so they can compare the information they’re getting.

Preferred devices for accessing health information online. No clear trends emerged from this survey as to which types of devices teens prefer to use when looking up health information online. Just under half (47 percent) of all teens have at least one non-handheld (desktop or laptop computer) and one handheld (smartphone or tablet) device and thus could theoretically choose which type of device to use for health searches. These teens are evenly split as to whether

“I was researching asthma and trying to get other options to help me breathe because the inhaler and breathing machine with steroids wasn't doing enough.”

17 YEAR-OLD BIRACIAL FEMALE

“Usually when you Google something, the first one that pops up will be pretty reliable.”

10TH GRADE MALE IN FOCUS GROUP

“I looked up the symptoms of anxiety and ways to be less anxious. I found multiple sites that were centered completely around the topic and they all helped greatly. Websites that were created for just anxiety were more helpful than websites that were centered around many different health topics.”

16 YEAR-OLD WHITE FEMALE

“I was researching how much nicotine a tobacco cigarette contains in order to compare it to an e-cigarette. I avoided any .gov or .org sites because those too often have an agenda or bias against any kind of drug use, rather than simply presenting facts.”

18-YEAR-OLD WHITE MALE

“University websites are probably the best to look at because they ran experiments and tests on it.”

10TH-GRADE MALE IN FOCUS GROUP

“It’s important that it’s written in a way we can understand. The majority of people reading it aren’t as educated as medical students.”

12TH GRADE FEMALE IN FOCUS GROUP

they'd prefer a handheld (40 percent) or non-handheld (42 percent) device for online health searches (17 percent said "whichever is closest").

Levels of trust in different domain extensions. Some teens look specifically for a website from a government, educational, or non-profit organization and click on those sites first (24 percent say they do this). Teens are much less likely to trust information from a ".com" website (only 14 percent trust information on those sites "a lot") than sites with other domain extensions. Sites from educational organizations are the most trusted (37 percent trust health information from such sites "a lot"), followed by government organizations (29 percent) and non-profits (27 percent say they would trust health information on a ".org" site a lot).

Earlier in this report we mentioned that teens' degree of satisfaction with online health information was related to how much health information they get online: those who use the Internet more are more satisfied with it. Similarly, those who use the Internet more for health information also trust it more: for each type of domain extension, the level of trust is higher among those who get a lot or some health information online. For example, among teens who get a lot of health information online, 86 percent trust .edu sites "a lot" or "somewhat," compared to just 49 percent of those who don't use the Internet for health information. Similar disparities exist among the other domain types as well. Again, the relationship between these variables is unclear: Teens who don't get any online health information may refrain from doing so because they don't trust it; or teens may grow to trust such information more as they access it more frequently.

Interestingly, teens don't seem particularly interested in sites that are designed specifically for people their age. Only 12 percent say they look for a teen-oriented site when conducting online health searches.

Demographic differences. Black and Hispanic youth are more likely than Whites to say they often look for health information online by using search engines other than Google (22 percent of Hispanics and 20 percent of Blacks, compared with 10 percent of Whites).

Table 11: How teens find health information online

Among 13- to 18-year-old online health-seekers, percent who often find information by:

Googling it	58
Going directly to specific health website	23
Using other search engines	14
Coming across it while browsing	9
Following links from social network sites	5
Seeing it in an ad	3

Table 12: How teens decide which health sites to click on

Among 13- to 18-year-old online health-seekers, percent who usually:

Click on the first site, and only go further if still have questions	50
Check several sites to compare	44
See if there's an .edu, .org, or .gov site and go there first	24
Try to see who sponsors site	15
Look for a teen-oriented site	12

Chart 12: Teens' trust in types of Internet domains

Among all 13- to 18-year-olds, percent who say they trust health information from each type of source "a lot":

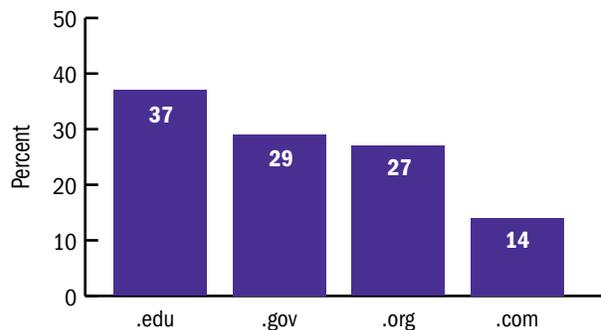


Table 13: Teen views on online data mining, tracking, and ad targeting

Among all 13- to 18-year-olds, percent who agree/disagree with each statement:	STRONGLY AGREE	SOMEWHAT AGREE	SOMEWHAT DISAGREE	STRONGLY DISAGREE
I like it that companies track where I go online and then direct ads to me based on my searches.	2	18	29	49
I don't mind if companies collect data about what I do online because I'm just a number to them, not a specific person.	5	25	33	37
I am concerned that websites might sell or give away information about what I do online.	27	42	20	10

Privacy Concerns

Many teens express concerns about data mining and ad targeting. More than two-thirds (69 percent) say they are concerned that websites might sell or give away information about what they do online, including 27 percent who say they are “strongly” concerned, and 42 percent who say “some-what.” Sixty-nine percent of teens disagree with the notion that it’s okay for companies to collect data because “I’m just a number to them, not a specific person” (including 37 percent who strongly disagree). Similarly, 78 percent disagree with the statement “I like that companies track where I go online and then direct ads to me based on my searches” (including 49 percent who “strongly” disagree).

Accessing Unhealthy Information Online

The Internet is a portal to information of all types, both positive and negative, accurate and inaccurate. Just as teens can use the Internet as a tool for preventive health—learning how to eat well, stay fit, and reduce stress—it can also be a means by which they are connected with information that could contribute to unhealthy behaviors. Teens who are interested in pursuing illegal drugs or who are engaging in eating disorders may seek out information that fuels those unhealthy behaviors. Other teens may simply come across such information when browsing online.

The survey asked teens whether they had ever accessed certain types of information online, whether on purpose or by accident, that could contribute to less healthy behaviors. Forty-three percent of teens say they have seen pornography online. A quarter have seen content about how to play alcohol drinking games (26 percent) and information about how to obtain tobacco or other nicotine products (25 percent). Smaller proportions reported having viewed sites about how to be anorexic or bulimic (17 percent) or how to get or make illegal drugs (14 percent). Excluding pornography, a total of 41 percent of teens have ever encountered “unhealthy” information online, of the types asked about in this survey. Most teens only view such information infrequently: 4 percent do so “often,” 14 percent sometimes, and 23 percent have done so “once or twice” (see Chart 5).

Not surprisingly, teens who get a lot of health information online are more likely than other teens to see negative health information as well. For example, 19 percent of teens who get “a lot” of health information online have “sometimes” or “often” seen alcohol drinking games online, compared to 10 percent of those who get only some or a little health information online and 2 percent of those who get none. This relationship stands to reason: those who are using the Internet more frequently are the most likely to see both positive and negative health information.

Teens who have engaged in risky behaviors in the past 30 days—such as getting drunk, using drugs, smoking, engaging in an eating disorder, or having unprotected sex—are much more likely than other teens to have accessed what we are calling “unhealthy” information online. For example, 51 percent of them say they often or sometimes see online information about alcohol drinking games, compared to 21 percent of other teens; and 34 percent have seen information about how to be anorexic, compared to 13 percent of other teens. It is impossible to tell from this survey whether these teens are seeking out more information online to help enable their risky behaviors, or if somehow the information they come across online is influencing and encouraging such risky behavior; or whether some other factor, such as age, underlies both variables.

Have you ever come across information that would be bad for your health or well-being?

“Different ways to commit suicide”

14-YEAR-OLD WHITE FEMALE

“Cutting”

17-YEAR-OLD WHITE MALE

“Self-harm”

13-YEAR-OLD HISPANIC FEMALE

“Bad rap videos”

13-YEAR-OLD BLACK MALE

“Bullying”

13-YEAR-OLD WHITE FEMALE

“Guns”

17 YEAR-OLD WHITE MALE

“How to smoke weed”

13-YEAR-OLD HISPANIC FEMALE

“How to drink without people knowing it”

15-YEAR-OLD WHITE MALE

“How to get prescription drugs”

14-YEAR-OLD WHITE FEMALE

“Getting dipping tobacco”

15-YEAR-OLD WHITE MALE

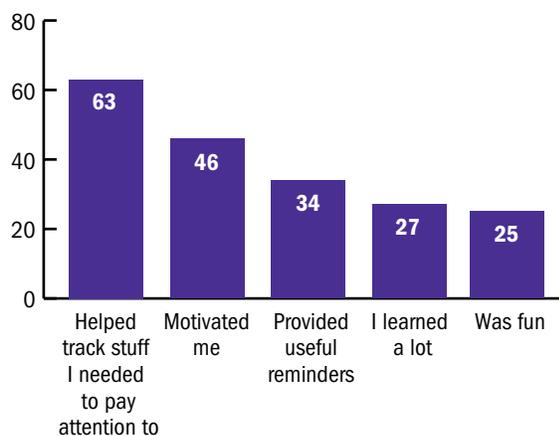
Table 14: Teens' exposure to negative health information online

PERCENT WHO:	AMONG 13-TO 18-YEAR-OLD TEENS WHO:				
Have seen information online about:	Get "a lot" of health information online	Get "some" or "a little" health information online	Don't get health information online	Have engaged in risky health behavior in past 30 days	Have not engaged in risky health behavior
How to get or make illegal drugs	18 ^a	15 ^b	3 ^c	35 ^a	9 ^b
How to be anorexic or bulimic	31 ^a	15 ^b	3 ^c	34 ^a	13 ^b
How to play alcohol drinking games	33 ^a	28 ^b	10 ^c	51 ^a	21 ^b
How to get tobacco or nicotine products	28 ^{ab}	27 ^a	11 ^b	45 ^a	21 ^b
Any of the above	49 ^a	43 ^a	19 ^b	67 ^a	35 ^b
Pornography	52 ^a	43 ^b	19 ^b	69 ^a	37 ^b

Note: Statistical significance should be read by row, within each differently-shaded group.

Chart 13: What teens like about mobile health apps

Among 13- to 18-year-olds who have downloaded mobile apps and are very/somewhat satisfied with them, percent who cite the following reasons:



Digital Health Tools: Mobile Apps, Digital Games, and Wearable Devices

Mobile health apps. Among all 13- to 18-year-olds, 62 percent have a smartphone, 51 percent have a laptop, and 37 percent have their own tablet device. A total of nearly three-quarters (73 percent) have either a tablet or smartphone, which would allow them to download and use mobile health apps, while 27 percent have neither mobile option, and thus are unable to use such apps on a regular basis.

Among teens with a mobile device, 29 percent have downloaded a health-related app (21 percent of all teens). Fitness and nutrition-related apps are by far the most common among the topics asked about in this survey. Nearly a quarter (23 percent) of teens with mobile access have downloaded an app related to exercise or fitness, while 14 percent have downloaded a calorie-counter or other nutritional app.

Although 21 percent of all teens have downloaded a health-related mobile app, far fewer actually use them. Among those who have downloaded a health-related app, almost half (47 percent) hardly ever or never use them, another 45 percent

sometimes use them, and 8 percent often use them. (Among all teens, 10 percent hardly ever or never use their health-related mobile apps, 10 percent sometimes use them, and 2 percent often use them.)

Among those who have downloaded a health-related app, 25 percent say they are “very” satisfied with the health apps they’ve used, while 57 percent say they are “somewhat” satisfied. Only 17 percent are not too or not at all satisfied.

Among those who have downloaded a health-related mobile app, 36 percent say they have changed a health behavior because of it (7 percent of all teens), while 64 percent say they have not. Five percent of all teens say they have changed their fitness routine because of a mobile app, and the same percentage says they have changed their diet because of an app; 3 percent report an actual weight change due to use of a mobile app. There were no demographic differences in teens’ likelihood of changing a health-related behavior in response to an app, except that girls were more likely than boys to report changing their diet in response to an app (7 percent vs. 3 percent).

Wearable health devices. The vast majority of teens (91 percent) have never used a wearable health tracker such as a Fitbit or Fuel Band. Indeed, the conversation in focus groups indicated that many teens consider such devices an “adult” thing. According to the survey, only 2 percent of teens are current users of such devices, while 5 percent say they’ve used one in the past. The sample size of wearable device users was too small for further analysis.

Games for health. A total of 12 percent of teens say they have ever played a health-related video, computer, or mobile game. This includes 6 percent who played a health-related video game, 5 percent who played a health-related computer game, and 3 percent who have played a mobile game on a health topic. Among those who have played such games, 19 percent say they have changed their behavior as a result, while 78 percent say they have not (2 percent of all teens have changed their behavior due to a health-related game). The sample size of teens who have participated in health gaming was too small for further analysis.

“I got the FitBit for Christmas and wore it for a while and the bracelet fit my wrist weird and hurt. I was like forget it and then I stopped using it. Also it’s not cute and it’s just kind of weird and mostly males use it. All my friends’ dads have it and I’m like thank God I don’t wear that anymore.”

11TH-GRADE FEMALE IN FOCUS GROUP

Table 15: Top health-related mobile app categories

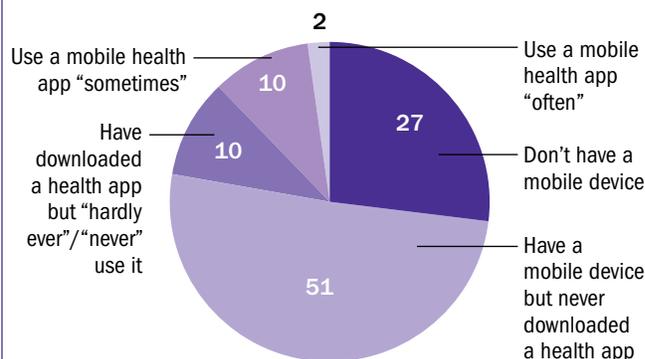
Among 13- to 18-year-olds with a mobile device, percent who have downloaded mobile apps on:

Exercise/fitness	22
Period tracker+	18
Nutrition/calories	13
Medication	3
Depression	3
Smoking reduction	1
Alcohol/drug abuse	2
Birth control	2
Other	1

+Among females with a mobile device

Chart 14: Use of mobile health apps among teens

Among all 13- to 18-year-olds, percent who:



Behavior Change

As reported above, 84 percent of teens have gotten health information online, 21 percent have ever downloaded a mobile health app, 12 percent have played a health-related video, computer, or mobile game, and 7 percent have used a wearable health device such as a Fitbit or FuelBand. Also as noted above, actual use of these health tools varies, from those who look for online health information every week, to those who downloaded a health app but never use it. In addition to understanding how many teens are availing themselves of these tools, what topics they are using them for, and how satisfied they are with them, the survey also asked teens whether they had ever changed a health-related behavior due to online health information or digital health tools.

Extent of reported behavior change related to online health information and digital health tools. Among those who have looked for health information online (84 percent of all teens), 34 percent say they have changed their behavior because of what they found. Among those who have used a mobile health app (21 percent of all teens), 36 percent say they have changed their behavior because of the app. Among those who have played a health-related digital game (12 percent of all teens), 19 percent report having changed their behavior because of it. And among those who have used a wearable digital health device (7 percent of all teens), 17 percent say they changed their behavior because of it. From the base of “all teens,” this means that 28 percent say they have changed a health-related behavior due to online information, 7 percent due to a mobile app, 2 percent due to digital games, and 1 percent due to wearable devices.

Many teens use the Internet and digital health tools to advance their fitness and nutrition. Because this became clear in the focus groups, and because of the national concern with obesity, the survey asked specifically whether teens had changed their fitness routines or diets due to online health information or digital health tools, and also asked whether their weight had changed as a result. Among the base of all teens, 18 percent report having changed their diet or nutrition due to online health information, and 15 percent report having changed their fitness routine; 8 percent said their weight had also changed. Among all teens, 5 percent reported having changed their diet/nutrition due to a mobile app, and the same percent reported changing their fitness routine; 3 percent reported a change in their weight. Too few teens had used health games or wearable devices for reliable results.

Demographic differences in behavior change. In trying to explore whether some youth are more likely than others to change a health behavior in response to online information, the survey data on this issue were analyzed by age, gender, parent education, family income, and race/ethnicity. No differences were located by age, gender or family income. However, children with more highly-educated parents and Black or Hispanic teens were more likely than other teens to report having changed a health behavior in response to online health information. For example, among online health-seekers, 43 percent of those with a parent with a college degree and 35 percent of those whose parent has only “some college,” say they have changed a health behavior, compared to 25 percent of those whose parent has only a high school degree or less. Similarly, 40 percent of Black and 42 percent of Hispanic teens who get health information online report a behavior change in response to it, compared with 29 percent of White youth.

Table 16: Behavior change due to online health information or digital health tools

Type of digital health tool	Among all teens, percent who used this digital health tool	Among those who used, percent who reported any health-related behavior change	Among all teens, percent who reported any health-related behavior change due to this tool
Online health information	84	34	28
Mobile health app	21	36	7
Health-related digital games	12	19	2
Wearable digital health device	7	17	1

“I researched the topic of dental hygiene to find out tips on brushing and flossing your teeth and changed my habits because of it.”

14 YEAR-OLD WHITE MALE

“[I] was worried about the kind of unhealthy foods mom was having. It really helped, I could talk to mom about substituting foods.”

13-YEAR-OLD BLACK MALE

“[I looked up] drinking soda and how it impacted my health. I found a few sites that talked about it and I decided to drink less soda after seeing what it did to my body.”

16-YEAR-OLD WHITE FEMALE

“I looked up how to lose weight. I need to lose around 25 pounds, and yes I found some pretty good information and no it hasn’t worked yet because I have not tried it.”

17 YEAR-OLD BLACK FEMALE

“I was researching how different foods/ vitamins affect mood. I did find information that I found useful and cut out certain things from my diet (and added others).”

17-YEAR-OLD WHITE MALE

“I was looking up information on STDS. I did find what I was looking for and it was helpful in making the decision to have to go to the doctor.”

14 YEAR-OLD HISPANIC MALE

“[I looked up] alcohol drinking because my Dad asked me not to drink alcohol. Kinda helped verify what he told me.”

14 YEAR-OLD HISPANIC MALE

“I looked up info on smoking ‘cause my mom told me it was a bad habit. Yes it helped me choose not to smoke.”

17 YEAR-OLD WHITE MALE

Health Classes at School

Just over half (56 percent) of all 13- to 18-year-olds say they have had a full health class at school (a class that was devoted specifically to health topics, and that lasted for at least a semester). A third (35 percent) of teens say health was covered as part of another class such as biology, 16 percent have had special assemblies on health topics, and 8 percent have had some other type of health class. Only 8 percent say they have had no type of health class at all (some have had more than one type).

Since the survey includes 13- to 18-year-olds, it is possible some younger students will be getting health classes in the future. Among 16- to 18-year-olds, 60 percent have had a full health class (52 percent among 13- to -15-year-olds).

The types of topics covered in health classes vary. For example, among the 56 percent of teens who have taken a full health class in school, almost half (49 percent) say depression or other mental health issues were covered. About two-thirds (62 percent) say birth control was covered. Not surprisingly, for those teens who say health was covered as part of another class (such as biology), coverage of all topics was more limited than it was for those taking a full health class.

Lower-income teens (in families earning less than \$25,000 a year) are less likely than middle- or higher-income teens to have had a class specifically devoted to health at school: 44 percent, compared to 60 percent of youth from higher-income families (over \$75,000 a year). (Middle-income teens fall in between, with 55 percent having a class specifically devoted to health.)

Table 17: Topics covered in school health classes

Among 13- to 18-year-olds who have taken health at school, percent who say each topic was covered	Took semester-long health class	Health covered as part of another class or in special assembly
Fitness and exercise	83 ^a	70 ^b
Drug or alcohol abuse	82 ^a	66 ^b
Sexually transmitted diseases	79 ^a	62 ^b
Diet and nutrition	78 ^a	62 ^b
Smoking	76 ^a	62 ^b
Puberty	76 ^a	59 ^b
Hygiene	69 ^a	59 ^b
Pregnancy	69 ^a	53 ^b
Birth control	62 ^a	49 ^b
Eating disorders	57 ^a	34 ^b
Depression or other mental health issues	49 ^a	31 ^b
Stress or anxiety	49 ^a	28 ^b
Domestic violence or sexual assault	43 ^a	28 ^b
Sleep	42 ^a	29 ^b
Heart disease	35 ^a	21 ^b
Dental health	31	31
Colds/flu	26	26
Diabetes	24	19
Cancer	23	17
Attention deficit disorder	17	15

Health Topics That are Most Important to Teens

In a previous section, we reported which topics teens were most likely to have researched online; this is one indication of which issues are most important to them. But we also asked teens which health issues are most important to kids their age in general, and to them personally. According to teens, the most important health topics for people their age are drug and alcohol abuse (named by 59 percent as “very” important), STDs (57 percent), pregnancy (56 percent), and hygiene (56 percent). Substantial numbers consider stress or anxiety (44 percent), depression or other mental health issues (43 percent), domestic violence or sexual assault (42 percent), and sleep (39 percent) to be “very” important issues for teens their age.

When asked which issues are “very” important to them personally, hygiene and fitness rise to the top of the list, followed by diet and nutrition, sleep, and dental health. Three in ten teens say the issues of sexually-transmitted diseases, stress or anxiety, and drug or alcohol abuse are “very” important to them personally.

Health “activism.” Many teens have become involved with advocating or expressing their support for health-related causes. Nearly two-thirds of all teens (61 percent) say they have displayed their support for a health-related cause by wearing a symbol such as a ribbon or bracelet (40 percent); participating in a walk, run, or ride for a health cause

(33 percent); or some other activity, such as the ice-bucket challenge (25 percent).

Demographic differences in importance of health issues to teens. Survey data were analyzed to explore whether there were demographic differences in terms of which issues were “very” important to teens personally. Data were analyzed by age, gender, family income, and race/ethnicity.

We expected significant differences by age and gender. In fact, responses varied by age for only three issues. Puberty was very important to 34 percent of younger and 24 percent of older teens, while birth control and STDs exhibited the opposite pattern. Birth control was very important to 34 percent of older and 24 percent of younger teens, and STDs were important to 35 percent of older and 28 percent of younger teens. There were no differences by age in terms of how important other health issues were personally to teens, including depression, smoking, drug/alcohol abuse, STDs, domestic violence and sexual assault, stress, and sleep.

Boys and girls ranked health issues differently in terms of their personal importance for 8 of the 20 issues in the survey: depression, eating disorders, pregnancy, birth control, hygiene, puberty, stress, and domestic violence/sexual assault. For example, girls (34 percent) were more likely than boys (23 percent) to say depression is a very important issue to them personally. Eating disorders are very important personally to 25 percent of teen girls, compared to 18 percent of teen boys.

Table 18: Significant health challenges among teens, friends, and family members, by socio-economic status

Among 13- to 18-year-olds who are:	Percent who say each of the following have faced a significant health challenge in the past year			
	SELF	FAMILY MEMBER	FRIEND	ANY
White	10	36 ^a	8	45
Black	6	49 ^b	8	53
Hispanic	7	32 ^a	12	40
Low income	6	52 ^a	10	56 ^a
Middle income	10	39 ^b	10	46 ^b
High income	8	27 ^c	9	38 ^c

Statistical significance should be read vertically within shaded groups.

Table 19: Health issues important to teens

Among all 13- to 18-year-olds, percent who say each topic is very important for teens their age:		Among all 13- to 18-year-olds, percent who say each issue is very important to them personally:	
Drug or alcohol abuse	59	Hygiene	48
STDs	57	Fitness and exercise	45
Hygiene	56	Diet and nutrition	38
Pregnancy	56	Sleep	37
Birth control	53	Dental health	36
Smoking	51	STDs	32
Fitness and exercise	51	Stress or anxiety	32
Puberty	47	Drug or alcohol abuse	32
Diet and nutrition	46	Domestic violence or sexual assault	30
Stress or anxiety	44	Puberty	29
Depression or other mental health issues	43	Birth control	29
Domestic violence or sexual assault	42	Depression or other mental health issues	28
Sleep	39	Smoking	27
Eating disorders (such as anorexia/bulimia)	39	Pregnancy	27
Dental health	38	Cancer	24
Cancer	29	Eating disorders (such as anorexia/bulimia)	22
Diabetes	24	Diabetes	21
Attention deficit disorder (ADHD)	23	Heart disease	19
Heart disease	23	Attention deficit disorder (ADHD)	19
Colds/flu	21	Colds/flu	17

And birth control is very important to 35 percent of girls, compared to 23 percent of boys. In all cases with differences by gender, girls ranked the health issue more personally important than boys did.

But the most frequent variations came when analyzing which issues were personally most important to teens based on their family income or race/ethnicity. Responses varied in 16 of the 20 categories by income and in 19 of 20 by race/ethnicity. The only issues whose importance to teens didn't vary by income were diet/nutrition, fitness/exercise, puberty, and sleep. The only issue that didn't vary in importance to teens by race/ethnicity was sleep. In all cases, the remaining health topics were more important personally to teens from lower-income and Black or Hispanic families.

For example, depression and other mental health issues were considered "very" important personally to 44 percent of low-income teens, compared to 31 percent of middle-income and 21 percent of higher income teens. Similarly, drug and alcohol abuse was "very" important personally to 42 percent of low-income teens and 24 percent of high-income ones. One of the largest variations by income was for dental health, which was considered "very" important personally by 48 percent of lower-income and 39 percent of middle-income teens, compared to 29 percent of higher-income teens. For diabetes, 38 percent of low-income youth said the disease was personally very important to them, compared with just 12 percent of high-income teens. And for smoking, 37 percent of low-income teens said it was very important to them, compared to just 19 percent of high-income teens.

Table 20: Health issues important to teens, by demographics

Percent saying each issue is “very” important to them personally, by age, gender, race, and income

Issue	All	Ages 13 to 15	Ages 16 to 18	Boys	Girls	White	Black	Hispanic	Low-income	Middle-income	High-income
Hygiene	48	46	50	43 ^a	53 ^b	43 ^a	62 ^b	57 ^b	56 ^a	53 ^a	42 ^b
Fitness and exercise	45	47	44	44	46	38 ^a	63 ^b	55 ^b	50	44	45
Diet and nutrition	38	38	39	36	41	33 ^a	53 ^b	44 ^a	40	38	38
Sleep	37	35	39	34	40	37	38	38	44	36	36
Dental health	36	36	36	33	39	31 ^a	49 ^b	45 ^b	48 ^a	39 ^a	29 ^b
STDs	32	28 ^a	35 ^b	31	33	20 ^a	47 ^b	53 ^b	49 ^a	38 ^b	21 ^c
Drug or alcohol abuse	32	31	32	32	32	23 ^a	44 ^b	51 ^b	42 ^a	37 ^a	24 ^b
Stress or anxiety	32	29	35	25 ^a	39 ^b	28 ^a	36 ^{ab}	37 ^b	38	34	28
Domestic violence or sexual assault	30	28	32	25 ^a	34 ^b	20 ^a	41 ^b	48 ^b	45 ^a	33 ^b	22 ^c
Puberty	29	34 ^a	24 ^b	20 ^a	39 ^b	21 ^a	49 ^b	38 ^b	37 ^a	32 ^a	25 ^b
Birth control	29	24 ^a	34 ^b	23 ^a	35 ^b	20 ^a	44 ^b	42 ^b	36 ^a	35 ^a	21 ^b
Depression or other mental health issues	28	25	31	23 ^a	34 ^b	24 ^a	33 ^a	36 ^b	44 ^a	31 ^b	21 ^c
Smoking	27	27	28	29	25	20 ^a	41 ^b	38 ^b	37 ^a	33 ^a	19 ^b
Pregnancy	27	24	30	22 ^a	32 ^b	17 ^a	41 ^b	42 ^b	34 ^a	33 ^a	19 ^b
Cancer	24	24	25	23	26	17 ^a	38 ^b	38 ^b	40 ^a	28 ^b	17 ^c
Eating disorders	22	22	21	18 ^a	25 ^b	15 ^a	26 ^b	35 ^b	31 ^a	27 ^a	14 ^b
Diabetes	21	20	21	19	23	12 ^a	39 ^b	33 ^b	38 ^a	24 ^b	12 ^c
Heart disease	19	19	19	19	19	12 ^a	32 ^b	30 ^b	32 ^a	24 ^a	11 ^b
Attention deficit disorder	19	17	20	20	17	13 ^a	33 ^b	24 ^b	27 ^a	24 ^a	12 ^b
Colds/flu	17	17	17	17	17	14 ^a	29 ^b	20 ^{ab}	28 ^a	21 ^a	10 ^b

Statistical significance should be read across rows within each shaded group.

In some cases, differences by race were larger than those by income. For example, smoking was considered “very” important personally to 20 percent of White teens, but 41 percent of Black teens. And while there were no differences by income in terms of how important fitness and exercise are to teens, there was a significant difference by race: 38 percent of White teens consider fitness “very” important to them personally, compared to 63 percent of Black teens.

Lower-income and Black youth were also significantly more likely than other teens to have a family member who experienced a significant health problem during the past year. About half of lower-income (52 percent) and Black (49 percent) teens said a family member had encountered a serious health issue, compared to 27 percent of higher-income and 36 percent of White teens.

Digital Divide

The survey indicates there is still a substantial divide in personal ownership of digital devices. Data were analyzed by family income, parent education, and race/ethnicity. The largest and most consistent differences in digital device ownership occurred by income. There was no significant difference in the percent of teens who have their own desktop computer (24 percent among all), but there were substantial differences in the percent who have their own tablet (a 17 percentage point gap by income), laptop, or smartphone (25 percentage point gaps).

The most widely available mobile digital device is the smartphone, which 62 percent of all 13- to 18-year-olds have. However, access varies substantially, from 44 percent of low-income to 69 percent of higher-income teens. Half of all teens (51 percent) report having their own laptop, but again, this varies from 32 percent of low-income youth to 58 percent of higher-income teens. Overall, 37 percent of teens report having their own tablet device, ranging from 26 percent of low-income teens to 42 percent of higher income ones.

Chart 15: Ownership of digital devices

Among all 13- to 18-year-olds, percent who have their own:

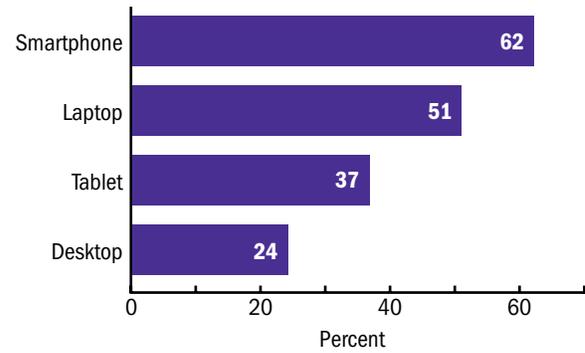
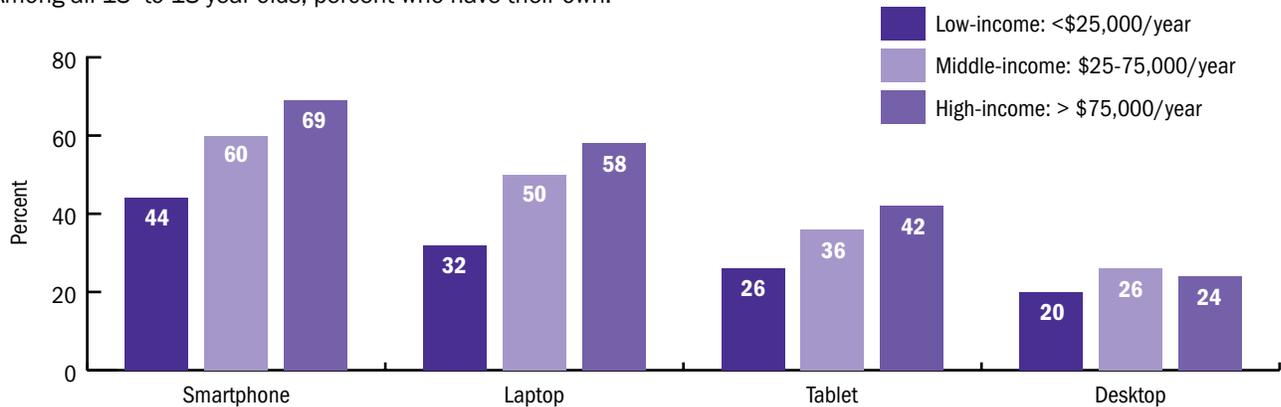


Chart 16: Divide in ownership of digital devices

Among all 13- to 18-year-olds, percent who have their own:



Conclusion

Despite the fact that the Internet offers teens anonymous access to an abundance of information on virtually any health topic they could think of, it is perhaps heartening that young people still rely primarily on interpersonal sources of health information, including their parents, teachers, and medical providers. Even when it comes to sensitive health topics, teens are just as likely to want to speak with their parents as they are to want to look information up online. The Internet is not replacing parents, teachers, and doctors; it is supplementing them.

Health classes at school are a critical piece of young people's health information networks, second only to parents in terms of the amount of information teens say they have gotten from them. In focus groups, it was clear that teens who had taken health class at school felt that most of their questions about key topics had been addressed in class. As school systems grapple with funding challenges and demands for more standardized tests, it is important that health education is not caught in the cross-fire.

But the vast majority of teens—84 percent—also turn to the Internet for health information, and one in four say they get “a lot” of their health information online. The Internet has far eclipsed other media as a source of health information and has empowered young people to arm themselves with information and tools to address their own health concerns and to help those around them.

In essence, the study indicates that when it comes to teens and health information, the Internet is essentially functioning the way one would hope it would. Young people are using online health information to help them eat healthier, sleep better, cope with stress, and stay fit. When they have everyday health issues such as colds or sprains, they use the Internet for advice or to prepare for or follow-up on doctor's visits. When they face more serious challenges such as depression, attention deficit disorder, or self-harm, they are looking for and using tools to care for themselves. And when family members face significant problems such as diabetes, cancer, or Alzheimers, teens are using the Internet to learn more and find out how they can help.

This study underscores the importance of making sure there is accurate, appropriate, and easily accessible health information available to teens online—the information is used, and acted upon, so it had better be good. Most teens don't seem to explore much beyond the first couple of items that appear when they conduct an online search, and they don't seem drawn to sites specifically designed for teens. But at the same time, they often complain that the information they find doesn't seem to be directly applicable to their own situation. So the top information websites—be they WebMD, HealthFinder, or the Mayo Clinic—should be sure they are inclusive of teens' concerns, and are offering information that is appropriate for teens as well as for adults. These sites can serve in essence as online curators for teens, helping direct them toward the best possible information.

Public health groups that are trying to use online media as an affordable way of reaching teens with health information may find some helpful guidance here. Teens are particularly drawn to .gov or .edu sites, and are less trusting of those with a .com domain. Some teens do turn to less conventional types of sites for health information, going beyond purely medical websites to make use of YouTube and Twitter. But most teens are deeply cautious about social media when it comes to health information. Many have turned to digital tools beyond online health information—such as mobile apps—but use of those tools has not become widespread yet. Wearable devices in particular have not taken hold among teens.

The survey also highlights the importance of helping teens develop digital health literacy skills. Given that half of teens who use search engines to look for health information say they usually just click on the first site that comes up, there seems to be plenty of room for improvement in terms of helping them hone their search skills. We do have to be aware that just as teens are using the Internet as a source of information and advice for health promotion, it is also a pathway for accessing information that could have a negative impact on their health, helping them access tobacco, drugs, and alcohol and promoting eating disorders. This fact is another reason for making sure

teens have strong digital health literacy—they need the judgment and skills to know how to assess and deal with the abundance of information they come across online. Teaching digital literacy skills would seem to be an appropriate part of health class, so that teens are empowered to search effectively for information on their own, and evaluate it appropriately, for the rest of their lives. Health teachers can also function as online guides, helping direct teens to the best sources of online information.

While the study paints a generally positive picture about teens and online health information, the disparities uncovered in it are disturbing. The survey paints a stark portrait of the health challenges facing lower-income teens—so many of their family members have faced a serious health issue, and so many health issues are of personal concern to them. These teens also have less access to health classes at school. Yet these are the very teens whose access to computers and mobile devices at home—and therefore to health information that could benefit them—is more limited. Public policy must continue to address the digital divide, and health agencies should make special efforts to ensure that their communications campaigns reach those young people who can least afford to be left behind.

Toplines

Survey Questionnaire and Toplines

The survey was fielded to teens in English-speaking households in October and November 2014 and to those in Spanish-dominant households in March 2015. The numbers of respondents for subgroups (n's) shown here are unweighted. Unless otherwise noted, the number of respondents is the full sample (N = 1,156).

Q1a. Please mark the statement that best applies to you.

I attend a charter school	3%
I attend a public school	80%
I attend a private school	8%
I am home-schooled	5%
I am not currently enrolled in school	4%

Q1. Have you ever taken any of the following types of health classes at school?

Health was covered as part of another class, such as biology	35%
We had one or more special assemblies about health issues	16%
I had a class that was just about health for at least a whole semester	56%
Any other type of health class	8%
None of these	8%

[IF Q1=1-4] [RANDOMIZE, KEEP 4-5 AND 7-9 TOGETHER]

Q2. Which of the following topics were covered in health class?

	Among those who took some type of health class at school (n=1057)	Among all (N=1156)
Depression or other mental health issues	42%	38%
Smoking	71%	65%
Drug or alcohol abuse	76%	69%
Diet and nutrition	72%	66%
Fitness and exercise	78%	71%
Eating disorders (such as anorexia or bulimia)	48%	44%
Pregnancy	63%	57%
Birth control	57%	52%
STDs (sexually transmitted diseases, such as herpes or HIV/AIDS)	72%	66%
Hygiene	65%	60%
Puberty	69%	63%
Stress or anxiety	41%	38%
Sleep	37%	34%
Dental health	31%	29%
Colds/flu	26%	24%
Attention deficit disorder	16%	15%
Cancer	21%	19%
Diabetes	22%	21%
Heart disease	30%	27%
Domestic violence or sexual assault	37%	34%

[KEEP ORDER OF ITEMS IN Q2]

Q3. Now please mark how important you think each topic is for TEENS YOUR AGE:

	Very important	Somewhat important	Not too important	Not at all important
Depression or other mental health issues	43%	33%	17%	5%
Smoking	51%	31%	12%	5%
Drug or alcohol abuse	59%	29%	8%	4%
Diet and nutrition	46%	37%	12%	3%
Fitness and exercise	51%	37%	10%	2%
Eating disorders (such as anorexia or bulimia)	39%	36%	18%	6%
Pregnancy	56%	28%	10%	5%
Birth control	53%	29%	12%	5%
STDs (sexually transmitted diseases, such as herpes or HIV/AIDS)	57%	28%	9%	5%
Hygiene	56%	33%	8%	2%
Puberty	47%	35%	13%	4%
Stress or anxiety	44%	36%	15%	4%
Sleep	39%	37%	18%	5%
Dental health	38%	41%	17%	3%
Colds/flu	21%	39%	30%	9%
Attention deficit disorder	23%	36%	30%	10%
Cancer	29%	32%	27%	11%
Diabetes	24%	32%	31%	12%
Heart disease	23%	28%	33%	14%
Domestic violence or sexual assault	42%	33%	17%	7%

[KEEP ORDER OF ITEMS IN Q2]

Q4. Now let us know how important each topic is to YOU PERSONALLY:

	Very important	Somewhat important	Not too important	Not at all important
Depression or other mental health issues	28%	27%	26%	18%
Smoking	27%	20%	22%	29%
Drug or alcohol abuse	32%	24%	21%	22%
Diet and nutrition	38%	38%	17%	6%
Fitness and exercise	45%	35%	13%	6%
Eating disorders (such as anorexia or bulimia)	22%	21%	26%	31%
Pregnancy	27%	23%	22%	28%
Birth control	29%	24%	21%	25%
STDs (sexually transmitted diseases, such as herpes or HIV/AIDS)	32%	24%	20%	23%
Hygiene	48%	32%	13%	6%
Puberty	29%	31%	22%	17%
Stress or anxiety	32%	35%	21%	11%
Sleep	37%	33%	20%	9%
Dental health	36%	37%	18%	8%
Colds/flu	17%	34%	30%	17%
Attention deficit disorder	19%	21%	29%	29%
Cancer	24%	24%	28%	23%
Diabetes	21%	22%	29%	27%
Heart disease	19%	24%	30%	26%
Domestic violence or sexual assault	30%	20%	25%	24%

Q5. Have you, your family, or your friends had to deal with any significant health problems in the past year?

Me personally	8%
Family member	35%
Friend	9%
None of the above	56%

Q6. In general, how is your health:

Excellent	52%
Good	43%
Fair	4%
Poor	1%

[RANDOMIZE– KEEP D/E AND I/J TOGETHER AND IN ORDER, ANCHOR O LAST]

Q7. People get information about health from many different sources. Please mark how much information about health topics you have gotten from each of the following:

	A lot	Some	Only a little	None
Your parents	55%	33%	9%	3%
Health classes in school	32%	41%	18%	8%
Doctors/nurses	29%	40%	21%	9%
Internet	25%	36%	22%	14%
Social networking sites (such as Facebook, Twitter, or Instagram)	10%	23%	28%	37%
Friends	11%	38%	36%	14%
Brothers or sisters	10%	25%	23%	39%
Ads	4%	17%	34%	42%
TV news	9%	29%	31%	29%
Other TV shows (such as talk shows, reality shows, medical or other dramas)	7%	22%	30%	39%
Newspaper articles	3%	14%	26%	55%
Magazine articles	3%	20%	31%	45%
Radio	4%	11%	28%	54%
Books	10%	30%	30%	28%
Other	2%	3%	5%	46%

[IF Q7A-N=2-4] [SHOW ITEMS FOR WHICH Q7A-N=2-4] [SHOW IN SAME ORDER AS Q7]

Q8. How satisfied are you with the health information you've gotten from:

Among those who got health information from each source:

	Very	Somewhat	Not too satisfied	Not at all satisfied
Your parents (n=1107)	57%	38%	4%	1%
Health classes in school (n=1049)	38%	51%	9%	1%
Doctors/nurses (n=1046)	54%	39%	6%	1%
Internet (n=983)	24%	58%	15%	2%
Social networking sites (such as Facebook, Twitter, or Instagram) (n=718)	15%	50%	28%	7%
Friends (n=980)	16%	57%	24%	3%
Brothers or sisters (n=667)	27%	54%	17%	3%
Ads (n=645)	10%	45%	36%	9%
TV news (n=796)	14%	53%	26%	6%
Other TV shows (such as talk shows, reality shows, medical or other dramas) (n=678)	15%	48%	28%	8%
Newspaper articles (n=501)	17%	52%	26%	5%
Magazine articles (n=614)	13%	53%	28%	6%
Radio (n=509)	14%	45%	35%	6%
Books (n=819)	25%	56%	15%	5%

[IFQ8_D= 1-2] [RANDOMIZE, ANCHOR 9 LAST]

Q9. What are the reasons you aren't satisfied with the health information you've gotten on the Internet?

Among the 15% of all respondents who got health information online but were not satisfied with it (n=171):

Couldn't find the answer to my specific question	26%
Wasn't relevant to me or my situation	35%
Too much conflicting or contradictory information from different sources	42%
Didn't seem reliable	40%
Turned out to be wrong	16%
Too vague	27%
Internet service was too slow	6%
Took too long to look through all the information	29%
Other [textbox]	3%

[IF MORE THAN ONE RESPONSE SELECTED AT Q9] [SHOW ONLY ITEMS SELECTED AT Q9]

Q9A. What is the MAIN reason you aren't more satisfied with the health information you got online?

COMBINATION TABLE:

Couldn't find the answer to my specific question	10%
Wasn't relevant to me or my situation	13%
Too much conflicting or contradictory information from different sources	27%
Didn't seem reliable	17%
Turned out to be wrong	4%
Too vague	8%
Internet service was too slow	2%
Took too long to look through all the information	14%
Other	3%

[IF Q7D=2-4] [SHOW ITEMS IN THE ORDER OF Q4, ANCHOR 21]

Q10. Which health topics have you looked for information about on the Internet?

	Among online health-seekers (n=983)	Among all (N=1156)
Depression or other mental health issues	19%	16%
Smoking	12%	10%
Drug or alcohol abuse	14%	12%
Diet and nutrition	43%	36%
Fitness and exercise	50%	42%
Eating disorders (such as anorexia or bulimia)	13%	11%
Pregnancy	10%	8%
Birth control	15%	12%
STDs (sexually transmitted diseases, such as herpes or HIV/AIDS)	22%	18%
Hygiene	15%	12%
Puberty	21%	18%
Stress or anxiety	23%	19%
Sleep	19%	16%
Dental health	10%	9%
Colds/flu	15%	12%
Attention deficit disorder	10%	9%
Cancer	14%	12%
Diabetes	9%	8%
Heart disease	7%	6%
Domestic violence or sexual assault	7%	6%
Other health topic [Textbox]	6%	5%

[IF Q7D=2-4]

Q11. How often do you look for health information online:

	Among online health-seekers (n=983)	Among all (N=1156)
Every day	2%	2%
Every week	10%	8%
Every month	17%	14%
A few times a year	45%	38%
Once a year	6%	5%
Less than once a year	20%	17%
Never/DK/R	1%	1%

[IF Q7d=2-4]

Q12. Have you ever changed your behavior because of any of the health related information you’ve found online?

	Among online health-seekers (n=983)	Among all (N=1156)
Yes	34%	28%
No	66%	55%
Don’t use	—	16%

[IF Q12=1] [RANDOMIZE]

Q12A. Did you change any of the following because of health information you found online:

	Among those who changed a behavior (n=344)	Among all (N=1156)
Your weight	29%	8%
Your fitness routine	53%	15%
Your diet or nutrition	62%	18%
None of these	12%	4%
Didn’t change	—	72%

[IF Q7D=2-4] [RANDOMIZE—KEEP C/D TOGETHER, ANCHOR J]

Q13. Which of the following are reasons why you have ever gone online to look for health information?

	Among online health-seekers (n=983)	Among all (N=1156)
For a school project	53%	44%
To learn more about a condition that affected a friend or family member	27%	23%
To get information before I go to a doctor’s visit	13%	11%
To get more information about something after a doctor’s visit	19%	16%
To check my symptoms or find out what was wrong with me	33%	28%
To learn how to take better care of myself	45%	38%
To learn how to treat an illness, condition, or injury I had	24%	20%
To get information about medications	12%	10%
Because I couldn’t talk to my parents about it	13%	11%
Other [textbox]	3%	3%

[IF Q7d=2-4] [randomize—keep f/g together and in order]

Q14. Have you ever used any of the following for information, advice, or tools ON A HEALTH TOPIC:

	Among online health-seekers (n=983)	Among all (N=1156)
Google	58%	49%
YouTube	24%	20%
Wikipedia	26%	22%
Twitter	4%	4%
Yahoo	13%	11%
Facebook	11%	9%
Any other social networking site (Reddit, Instagram, Tumblr, other)	5%	4%
A website specifically for teens	9%	8%
A medical website	37%	31%
Your doctor's website	7%	6%
An online support group or community	4%	3%
Online tools to track your health (such as calorie counter, exercise companion, running tool)	10%	8%
Blog posts about a health topic	9%	7%
None of these	17%	14%

[IF Q7D=2-4] [RANDOMIZE—KEEP A & B TOGETHER IN ORDER]

Q15. When you look for health information online, how often do you find it by:

Among online health-seekers (n=983):

	Often	Sometimes	Hardly ever	Never
Googling it	58%	31%	6%	4%
Searching for it on a different search engine such as Yahoo or Bing	14%	33%	21%	30%
Coming across the information while browsing	9%	37%	28%	23%
Seeing it in an ad online	3%	19%	33%	43%
Going directly to a specific health website	23%	36%	19%	20%
Links from social network sites (Facebook, Twitter, etc)	6%	22%	31%	39%

[IF Q14=1 OR Q15A OR Q15B=3-4 (OFTEN OR SOMETIMES)] [RANDOMIZE]

Q16. When you look up a health topic online, how do you decide which sites to click on?

Among online health-seekers who use Google or other search engines (n=908):

I usually click on the first site and if it doesn't answer my question, then I check more sites	50%
I look to see if there is a .org, .edu, or .gov site and click on that.	24%
I usually check several sites to compare information	44%
I look for a teen-oriented site	12%
I try to see who created the sites and then decide which to read	15%
None of the above	6%

[IF MORE THAN ONE RESPONSE TO Q16] [INSERT ITEMS SELECTED IN Q16]

16A. What is the MAIN way you decide which sites to click on or read?

COMBINATION TABLE:

I usually click on the first site and if it doesn't answer my question, then I check more sites	39%
I look to see if there is a .org, .edu, or .gov site and click on that	14%
I usually check several sites to compare information	27%
I look for a teen-oriented site	6%
I try to see who created the sites and then decide which to read	7%
None of the above	6%

[IF Q7D=2-4]

Q17. Please give an example of a time when you used the Internet to look for health information, and tell us a little about it. What topic were you researching, and why? Did you find what you were looking for? Did it help, and if so, how? If not, why not? Remember that your answers are anonymous, and that you can skip this question if you prefer.

Q18. Do you follow any health-related groups or causes on Facebook, Twitter, or some other social networking site (such as breast cancer, prostate cancer, or other)?

Yes [textbox] 4%
 No 95%

Q19. If you had a question about a sensitive health topic (like birth control or depression), how likely would you be to do each of the following:

	Very likely	Somewhat likely	Not too likely	Not at all likely
Look up the information online	39%	39%	11%	9%
Talk to someone about it on a hotline	3%	10%	26%	58%
Talk to your doctor or nurse about it in person	19%	35%	25%	19%
Talk with your parents about it	37%	40%	12%	9%

Q20. If you had a question about a general health topic (like cancer or heart attacks), how likely would you be to do each of the following:

	Very likely	Somewhat likely	Not too likely	Not at all likely
Look up the information online	46%	35%	10%	9%
Talk to someone about it on a hotline	3%	11%	25%	58%
Talk to your doctor or nurse about it in person	30%	35%	20%	13%
Talk with your parents about it	56%	32%	7%	4%

[RANDOMIZE]

Q21. How much would you trust health information from each of the following types of websites?

	A lot	Somewhat	A little	Not at all
.com	14%	42%	34%	9%
.edu	37%	40%	14%	7%
.gov	29%	40%	18%	11%
.org	27%	47%	17%	7%
Wikipedia	13%	32%	31%	23%

Q22. If you have a health-related question or need advice about a health issue, how likely are you to post about it on a social networking site (such as Facebook, Twitter, Reddit, or Instagram)?

Not at all likely	65%
Not too likely	22%
Somewhat likely	10%
Very likely	2%

[RANDOMIZE]

Q23. Please mark whether you agree or disagree with each of the following statements:

	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree
I like it that companies track where I go online and then direct ads to me based on my searches	2%	18%	29%	49%
I don't mind if companies collect data about what I do online because I'm just a number to them, not a specific person.	5%	25%	33%	37%
I am concerned that websites might sell or give away information about what I do online	27%	42%	20%	10%
If I Google something, whatever site comes up at the top of the list is usually the best one	9%	41%	33%	15%

Q24. Do you have your own:

Desktop computer	24%
Laptop computer	51%
Smartphone that can connect to the Internet	62%
Tablet device	37%
None of the above	11%

[IF (Q24 = 2-4) AND (Q7D=2-4)] [RANDOMIZE, KEEP 5 LAST]

Q25. When you are looking up health information online, do you prefer to use a:

Among those who own a laptop, smartphone, or tablet AND seek health information online (n=874):

Desktop	13%
[IF Q24=2] Laptop	25%
[IF Q24=c] Smartphone	25%
[IF Q24=d] Tablet	12%
Whichever is closer	25%

[IF Q25=3 OR 4] [RANDOMIZE 1 & 2]

Q26. Which is the MAIN reason you prefer to use your [if Q25 = 3: smartphone][if Q25 = 4: tablet]?

Among those who prefer to use a mobile device (n=317):

More convenient	69%
More private	29%
Some other reason [textbox]	2%

[IFQ24 = 3 OR 4] [RANDOMIZE, ANCHOR 9/10]

Q27. Have you ever downloaded or used a mobile app related to any of the following?

	Among those who have a mobile device (n=876)	Among all (N=1156)
Exercise/fitness	22%	16%
Period/menstruation+	18%	13%
Nutrition/calories	13%	9%
Depression	3%	2%
Medication	3%	2%
Smoking reduction	1%	1%
Alcohol or drug abuse	2%	1%
Birth control	2%	2%
Any other health-related topic [textbox]	1%	*
No, haven't downloaded any health-related apps	69%	51%
Total have downloaded any health-related apps	29%	21%

+Among females only

*Fewer than 0.5% of respondents

[IF Q24 NE 3 OR 4]

Q28. If you had access to a tablet or smartphone, how likely would you be to download or use a mobile app related to any of the following?

Among those who do not have a mobile device (n=280):

	Not at all likely	Not too likely	Somewhat likely	Very likely
Exercise/fitness	29%	20%	30%	18%
Nutrition/calories	31%	24%	29%	13%

[IF Q27= 1-9]

Q29. What are the names of some of the health-related apps you've downloaded or used?

[IF Q27=1-9]

Q30. How often do you use a health-related mobile app?

	Among those who have downloaded a health-related mobile app (n=245)	Among all (N=1156)
Often	8%	2%
Sometimes	45%	10%
Hardly ever	33%	7%
Never	14%	3%
Don't have mobile app	—	79%

[IF Q30=2-4]

Q31. Have you ever changed your behavior because of any of the health-related mobile apps you've used?

	Among those who have downloaded and used a health-related mobile app (n=216)	Among all (N=1156)
Yes	36%	7%
No	64%	12%
Don't use /DK/R	—	82%

[If Q31=1] [Match response option order in Q12a]

31A. Did you change any of the following because of an app:

	Among those who changed a behavior (n=77)	Among all (N=1156)
Your weight	38%	3%
Your fitness routine	68%	5%
Your diet or nutrition	76%	5%
None of these	3%	*
Didn't change	—	93%

*Fewer than 0.5% of respondents

[IF ANY ITEM IN Q30 = 2-4]

Q32. How satisfied are you with the health-related mobile apps you've used?

Among those who've used a health-related mobile app (n=216):

Not at all	1%
Not too	16%
Somewhat	57%
Very	25%

[IF Q32=1-2] [randomize, anchor 8]

Q33. Why weren't you satisfied with the health-related mobile apps you've used?

NOTE: Sample size too small for reliable results (n=29).

[IF Q32= 3-4] [RANDOMIZE, ANCHOR 6]

Q34. Why are you satisfied with the health-related mobile apps you've used?

Among those who are satisfied with the health-related mobile apps they've used (n=184)

Helped me track stuff I needed to pay attention to	63%
Motivated me	46%
Was fun	25%
Useful reminders	34%
Learned a lot	27%
Other [textbox]	

Q35. Have you ever used any kind of wearable health tracker, such as a FitBit, FuelBand, or similar item?

Yes, use one now	2%
Yes, used one in the past but not anymore	5%
No, never used	91%

[IF Q35= 1 OR 2]

Q36. Have you ever changed your behavior because of a wearable health tracker?

	Among those who used (n=79)	Among all (N=1156)
Yes	17%	1%
No	81%	6%
Never used/DK/R	—	93%

[IF Q36=1] [show response options in same order as Q12a]

36A. Did you change any of the following because of a wearable health tracker:

Among all:

Your weight	1%
Your fitness routine	1%
Your diet or nutrition	1%
None of the above	*

*Fewer than 0.5% of respondents

[IF Q35=1 OR 2]

Q37. How helpful were the wearable health trackers you've used?

Among the 7% of respondents who have ever used one (n=79):

Not at all	18%
Not too	23%
Somewhat	41%
Very	19%

[IF Q37=1-2] [RANDOMIZE, ANCHOR 8]

Q38. Why weren't the wearable health trackers you used helpful?

NOTE: Sample size too small for reliable results (n=25)

[IF Q37= 3-4] [RANDOMIZE, ANCHOR 6]

Q39. How were the wearable health trackers you used helpful?

NOTE: Sample size too small for reliable results (n=54)

[RANDOMIZE, ANCHOR 4]

Q40. Have you ever played a video game, computer game, or mobile game that was related to a health topic?

Video game on a health topic	6%
Computer game on a health topic	5%
Mobile game on a health topic	3%
No, haven't played any digital games on a health topic	86%
Refused	2%

[IF Q40 = 1-3]

Q41. What health topic or topics were the games you played about? [Open-end]

[IF Q40 = 1-3]

Q42. How helpful or informative were the health-related games you played:

Among those who played (n=130):

Not at all	9%
Not too	26%
Somewhat	49%
Very	16%

[If Q40= 1-3]

Q43. Have you ever changed your behavior because of a health-related video, computer or mobile game you played?

	Among those who played (n=130)	Among all (N=1156)
Yes	19%	2%
No	78%	9%
Didn't play/DK/R	—	89%

[IF Q43=1] [SHOW RESPONSE OPTION IN THE SAME ORDER AS Q12A]

Q43A. Did you change any of the following because of a health-related video, computer, or mobile game:

Among all:

Your weight	1%
Your fitness routine	2%
Your diet or nutrition	1%
None of these	*

*Fewer than 0.5% of respondents

[RANDOMIZE]

Q44. How much do your friends care about the following?

	Not at all	Only a little	Somewhat	A lot
Fitness and exercise	9%	19%	48%	23%
Having an attractive body	7%	13%	39%	40%
Healthy eating	14%	30%	41%	13%
Dieting	25%	30%	33%	10%

[RANDOMIZE]

Q45. How confident are you in the following statements?

	Not at all confident	Not too confident	Somewhat confident	Very confident
I believe I can regularly maintain a healthy diet	6%	18%	50%	26%
I believe I can get at least 60 minutes of exercise most days	9%	23%	36%	31%
I believe I can maintain a healthy weight	3%	10%	47%	38%
I believe I can get the recommended amount of fruits and vegetables in my diet daily	6%	25%	43%	24%

[RANDOMIZE]

Q46. Have you ever done any of the following:

Worn a health-related symbol such as a LiveStrong bracelet, AIDS ribbon, pink breast-cancer item, or other similar type of item	40%
Participated in a walk, run, ride, or similar activity that supports a health cause	33%
Participated in any other charitable health activity such as the ice bucket challenge or no-shave November	25%
I have never done any of these	37%

[RANDOMIZE]

Q47. This question is about how you communicate as a family. Please mark whether you agree or disagree with the following statements:

	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree
My parents encourage me to challenge their ideas and beliefs	20%	39%	27%	11%
I usually tell my parents what I am thinking about things	25%	46%	21%	7%
If my parents don't approve of it, they don't want to know about it	6%	21%	35%	36%
My parents encourage me to express my feelings	50%	37%	9%	3%
In our family, we often talk about our plans and hopes for the future	42%	41%	11%	5%

Q48. How tall are you?

_____ feet _____ inches

Q49. How much do you weigh?

_____ pounds

[RANDOMIZE]

Q50. Please mark whether you agree or disagree with each of the following statements:

	Strongly disagree	Somewhat disagree	Somewhat agree	Strongly agree
I am satisfied with the shape of my body	6%	18%	42%	32%
I like what I look like in pictures	7%	15%	47%	29%
My weight makes me unhappy	40%	28%	21%	9%
On the whole, I am satisfied with myself	3%	11%	46%	38%

Q51. When is the last time you saw a dentist:

Within the past six months	72%
Between six months and a year ago	16%
One to three years ago	7%
Three to five years ago	2%
Never	1%

Q52. In the past 30 days, how often have you participated in physical activities, such as playing sports, running, working out, taking a dance class, or doing yoga?

Never	10%
Only once or twice	11%
Sometimes	21%
Often	56%

[IF Q52= 3-4] [RANDOMIZE]

Q53. What is the main reason you were physically active in the past 30 days?

Among those who were physically active (n=905):

To lose weight	7%
Because I was part of a sports team	34%
For fun	29%
To bulk up	2%
To get stronger	7%
To be healthy	20%

[RANDOMIZE]

Q54. In the past 30 days, how often have you:

	Never	Only once or twice	Sometimes	Often
Felt that you were unable to control the important things in your life	37%	28%	22%	11%
Felt confident about your ability to handle your personal problems	5%	8%	42%	42%
Felt that things were going your way	5%	10%	52%	31%
Felt difficulties were piling up so high that you could not overcome them	41%	28%	20%	9%

The final two questions are sensitive. Please remember that your responses are anonymous and confidential. You can skip these questions if you prefer, but your answers will be helpful to us.

[RANDOMIZE, ANCHOR E AND F]

Q55. Sometimes when people go online, they come across information or websites they weren't necessarily looking for. How often, if ever, have you come across any of the following types of information online, whether you were looking for it on purpose or not?

Note: 5% of respondents declined to answer this question

	Never	Only once or twice	Sometimes	Often
How to get or make illegal drugs	82%	8%	5%	1%
How to be anorexic or bulimic—that is, how to eat so little you stay extremely thin, or how to throw up so you don't gain weight	78%	11%	5%	2%
How to play alcohol drinking games	69%	16%	9%	2%
How to get tobacco or nicotine products	71%	15%	8%	2%
Porn sites	53%	23%	14%	5%
Any other types of information that would be bad for your health or well-being? [textbox]	70%	7%	3%	3%

[RANDOMIZE—KEEP C/D AND E/F TOGETHER AND IN ORDER]

Q56. In the past 30 days, how often have you:

Note: 4% of respondents declined to answer this question

	Never	Only once or twice	Sometimes	Often
Smoked cigarettes	88%	4%	3%	2%
Gotten drunk	86%	6%	3%	*
Used illegal drugs	91%	3%	2%	1%
Taken prescription drugs to get high	95%	1%	1%	*
Had sexual intercourse using a condom	85%	5%	4%	1%
Had sexual intercourse without using a condom	91%	2%	1%	2%
Had oral sex	88%	4%	4%	*
Been anorexic or vomited to lose weight	94%	1%	1%	*

*Fewer than 0.5% of respondents

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