TECHsex

youth sexuality and health online

2017

yth

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Youth Sexuality and Health Online

A national study exploring the relationships between technology, youth, and sexual reproductive health and rights

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yth | youth+ tech+health

About the Authors

YTH (Youth+Tech+Health) is a nonprofit organization founded in 2001 and based in Oakland, CA. Using innovative technologies and new media, YTH supports and empowers youth to make informed decisions about their health, thereby enabling them to become powerful self-advocates.

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INTRODUCTION

*"For sexual health, I Google it...
I don't ask family because that's too weird."*

Youth are now more connected than ever. App downloads, smartphone access, Wi-Fi, and social media are now so commonplace that it is rare to find a young person without a Facebook or Snapchat profile. With this saturated access, youth are turning towards websites, blogs, and Google as their main contacts for information on countless topics, including questions about their sexual health.

But what do we really know about the current digital landscape among youth and how it relates to their access to information? If youth are failing to get answers to their sexual health questions, where are they going to ask those questions?

In 2016-2017, YTH received funding from the David and Lucile Packard Foundation to explore the current trends and patterns among youth technology use and sexual health with respect to the changing landscape identified in YTH's [2011 TECHsex USA](#) findings[1]. The main goal of the TECHsex 2017 research was to discover how youth are accessing sexual health information online and what this implies for sexual health and sex education across the US. Similarities and differences of youth technology use and trends are identified between the 2011 and 2017 reports, and highlight how quickly the landscape is changing

(see 2011 vs 2017: An Update). In addition, the US South has been bearing the burden of disproportionate STD and HIV rates among youth, but researchers have failed to take a close look at this region. This report takes a closer look at three Southern states, Louisiana, Alabama, and Mississippi, to understand more about sexual health and digital technology among youth in this region.

Findings include data from a quantitative national survey and qualitative focus groups across seven US cities. Both the survey and focus groups paint a more detailed picture of what it means to be a young person accessing new digital technologies and the implications this has for their sexual health. By describing the heavy technological context that a young person lives, we can further understand their experiences, need for health information, and best practices for program implementation. Lastly, a general overview of technology and social media issues are presented, as well as concrete recommendations for working with youth and improving their health.

TECHNOLOGY AND SEXUAL HEALTH:
The Past Decade

According to a 2015 report from the PEW Research Center, nearly 92% of teens access the Internet daily. At the same time, almost 75% of teens now have smartphones, making the Internet highly accessible and personal[2]. Computer access has also increased in recent years, with 93% of teens owning or having access to a personal computer in 2013[3]. This drastic increase in accessibility and feasibility has paved the way for enhanced technology use among US youth, which has changed the way youth access information, entertainment, and resources. These advances have created an environment in which youth are hardly ever "unplugged".

Nearly 92% of teens access the Internet daily.

Youth turn to the Internet for a multitude of reasons, including peer connection, information access, confidential sexual health information, and entertainment. Social media platforms like Facebook, Tumblr, and Instagram offer ways for youth to facilitate friendships in a manner that is visible, customizable, and personal. Social media has grown significantly in the past decade; 71% of all teens now have a Facebook account[4].

With so much information online and the vast selection of social media platforms, youth have their pick of the litter when it comes to information-seeking behaviors and technological preferences.

While a digital divide across gender, race/ethnicity, socioeconomic status (SES), and age was commonplace in this research, a majority of youth now have access to smartphones and the internet across the board. According to the PEW Research Center, women of color are now some of the highest users of technology[5]. In the past few years, African-American women were some of the most prolific Twitter users, with multiple social justice campaigns started by young African-American women in the Twittersphere. Latina women are also some of the highest users of Pinterest, Facebook, and Twitter.

Social Media

      Social media use has increased dramatically in recent years. In 2015 alone, approximately 71% of teens used Facebook, 52% used Instagram, 41% used Snapchat, and 33% used Twitter[6]. The most popular social media websites among youth in early 2015 were Facebook, Instagram, Snapchat, Twitter, and Vine[7]. In addition, youth are using messaging apps like Kik and WhatsApp, anonymous chat alternatives to text messaging[8]. In 2016, live streaming gained traction through sites like YouNow and Periscope.

Sexual Health Online

      The nature of sexual health can be difficult, and youth frequently use the Internet to access sexual health information without having to ask a parent or guardian. With increasing rates of smartphone and internet access, it makes sense that youth are accessing

this vital resource for their sexual health needs; yet, little has been done to understand how and why youth consult the internet for sexual health information.

Studies show that online sexual health information and tech-based interventions can be especially useful for sexual minority groups[9] and minority communities that are not represented in public sex education[10]. In addition, homeless and unstably housed youth also frequently use the internet in order to find resources and use social media, which has been connected to higher knowledge of HIV and other STIs among homeless youth[11]. Sexual health apps in general have been on the rise; a recent report by Answer illustrates the benefits in reaching youth via smartphone apps for sex education, including topics like consent, condom finders, and birth control adherence[12].

Youth also prefer the safety of technology when interacting with sex partners, with 49% of teens using technology rather than face-to-face conversation to negotiate safer sex[13]. Texting programs have provided safe spaces and often circumvent stigma and embarrassment, making safer sex conversations possible[14].

Social media-based health interventions have been successful in reaching youth and improving sexual health. Numerous studies have shown that health behavior change and information access is possible through online campaigns, especially when they are supplemented with texting[15,16,17,18]. These tech-based interventions hold some of the greatest promise in reaching young people with sex education[19].

Updating the Landscape with TECHsex 2017

Despite these findings, little has been done to understand the relationship between youth sexual health needs and the internet. Why do youth trust certain sites over others? Why is online sexual health information so successful for youth? In order to develop and implement successful sexual health programs, it is vital to understand these nuances within social media trends and the youth community.

This report delves further into the relationship between youth health—particularly sexual and reproductive health and rights (SRHR) —and technology, and what we can learn from this new digital world. These themes, ranging from sexual health information online to use of technology, will be explored in the context of actual youth experience and current national trends. We encourage readers to think critically about these findings as you engage with youth in today's digital world.

II. METHODOLOGY
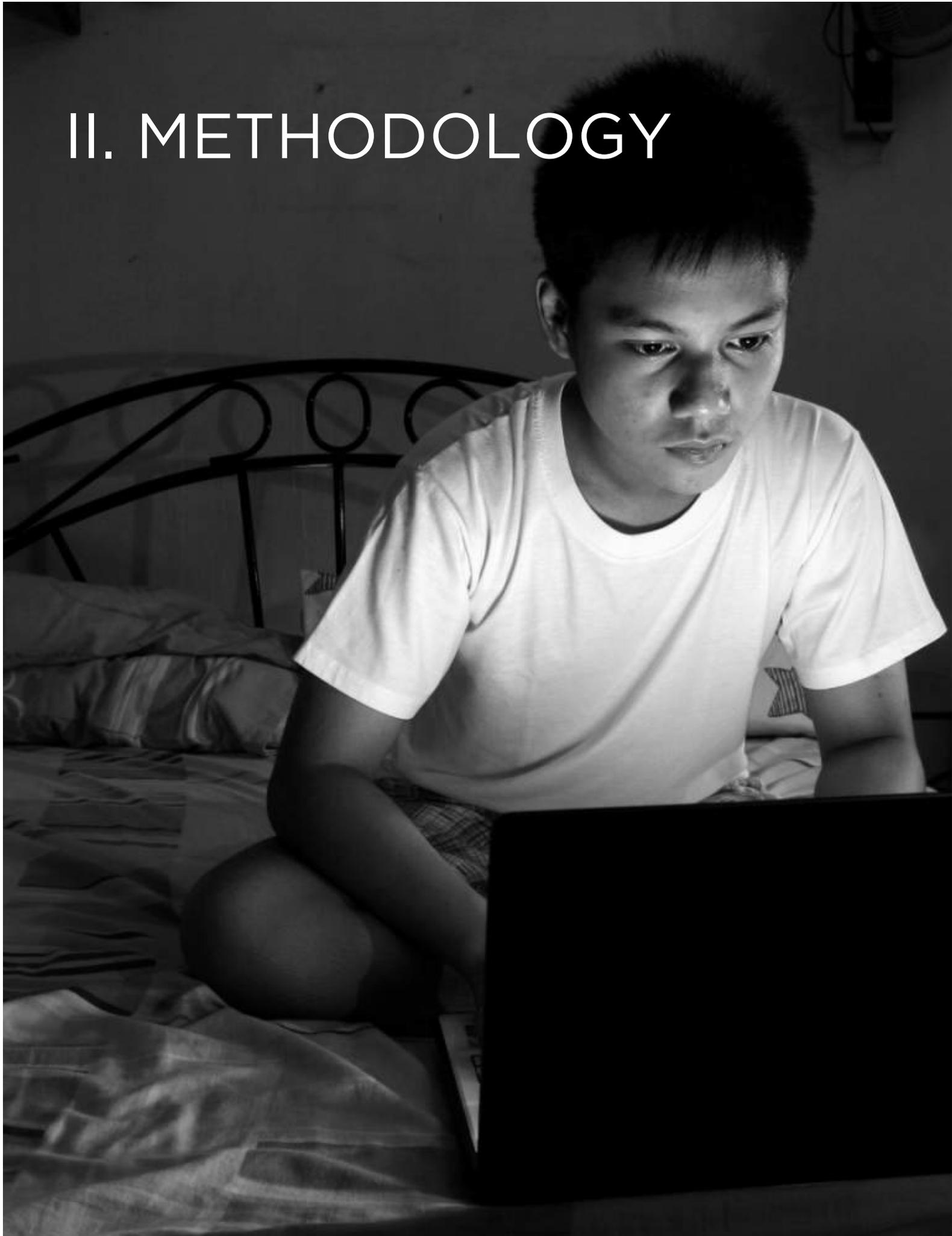
METHODOLOGY

TECHsex was completed in multiple phases:

Literature Review	Stakeholder Insights	National Survey	Focus Groups

1. Literature Review

A systematic literature review was compiled using multiple databases, relying on Google Scholar, selected books, and online databases including PsycINFO (EBSCO), ProQuest, and ERIC. Reference sections of published articles and whitepapers were also searched for prominent studies. Only peer-reviewed journal articles, reports, news articles, or published books were included in the literature review. The following keywords were used in order to locate relevant literature: youth, digital technology, technology access, teens, sexual health, reproductive health, smartphones, Internet, digital behaviors, media, video games, digital divide, social media, mHealth, cyberbullying, texting, and online health information. Keywords were chosen by identifying prominent themes within the recent and exhaustive technology report *Teens, Social Media & Technology Overview* by the PEW Research Center in 2015. Due to the evolving nature of technology, only literature dated from 2011-2016 was included for review.

Two team members reviewed article abstracts to determine if the keywords had produced relevant publications on youth health and technology. Once the systematic literature had been compiled and analyzed, articles were categorized by main themes. Themes included popular technology used by youth, health information-seeking behaviors, sexual health online, cyberbullying, online dating, health interventions, and video game addiction. These themes determined which experts were to be included for the second phase of this project, including building an interview protocol and interviewing main theme experts.

2. Stakeholder Insights

Stakeholders and experts assisted in the structure of the focus groups and online national survey. The national YTH Youth Advisory Board (YAB) were consulted for youth input and advisement throughout the research development, and a Stakeholder Advisory Council was developed to gain professional insights and expertise in the fields of SRHR, sex education, social media, youth health, and mobile health (mHealth). Thirteen interviews were conducted over the telephone, recorded, and transcribed for accuracy.

3. **National Survey**

The national survey was hosted online through Qualtrics and administered to 1,500 youth. Cross tabulations and frequencies were analyzed for patterns in technology use, SRHR issues, and youth health.

100+ online questions

1,500 respondents ages 13-24

National reach across the US

Race, Gender and Ethnicity Breakdown
N=1,500
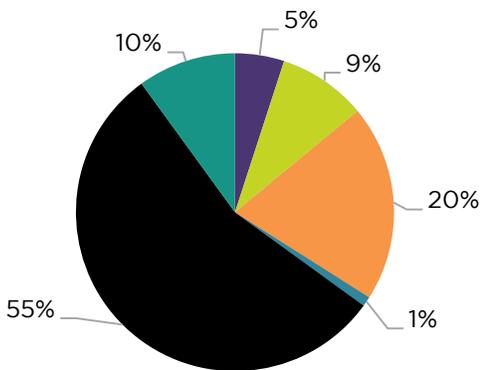
5%
10%
9%
20%
55%
1%

- American Indian or Alaska Native
- Asian
- Black or African-American
- Native Hawaiian or other Pacific Islander
- White
- Another race

24%
76%

- Hispanic/Latino
- Non-Hispanic/Latino

5%
33%
62%
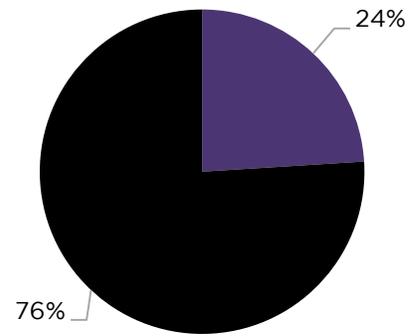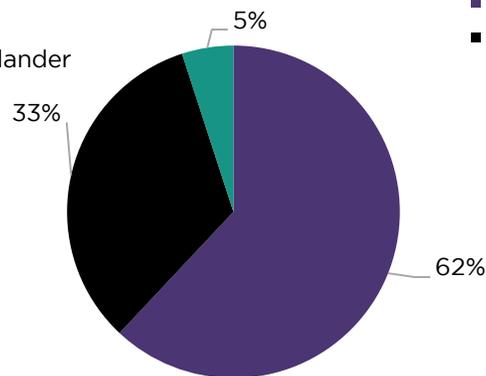
- Women
- Men
- Transgender-spectrum

4. Focus Groups

Focus groups were conducted in 7 US cities, including Berkeley, CA, Oakland, CA, Tunica, MS, Birmingham, AL, Newark, NJ, New Orleans, LA, and Chicago, IL. Two focus groups per site were conducted, one for participants under 18 years and one for over-18. Focus groups were audio recorded, transcribed, and de-identified for confidentiality purposes. Two team members analyzed and coded the transcripts using a thematic analysis approach, which highlighted themes across focus group sites.

12 focus groups

66 respondents ages 13-24

7 cities across the US

Race, Gender and Ethnicity Breakdown
N=66

4%   1%   1%

1%

3%

81%

- ■American Indian or Alaska Native
- ■Asian
- ■Black or African-American
- ■Native Hawaiian or other Pacific Islander
- ■White
- ■Another race

7%

42%

51%

- ■Women
- ■Men
- ■Transgender-spectrum

19%

81%

- ■Hispanic/Latino
- ■Non-Hispanic/Latino
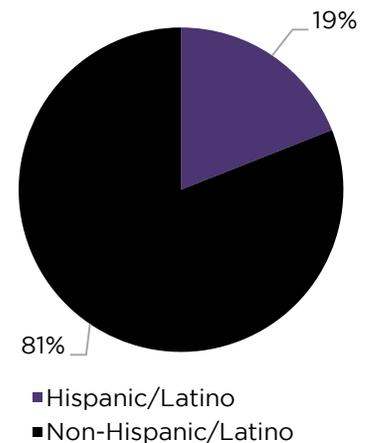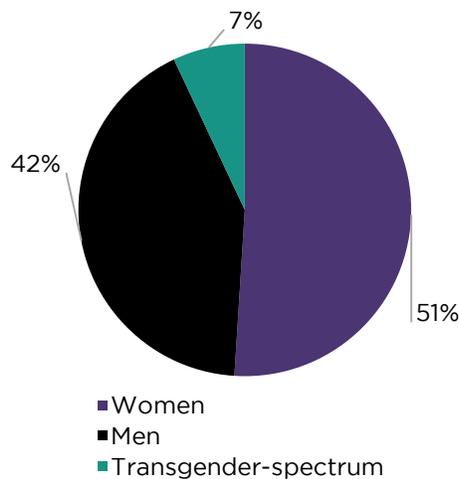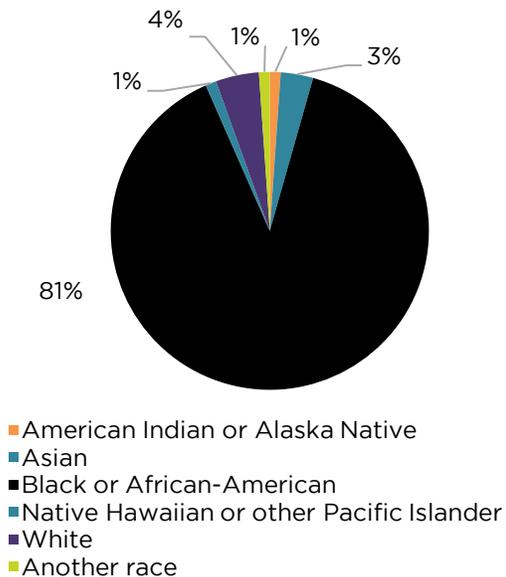
III. FINDINGS

FINDINGS

Results from the national survey and focus groups give us an idea of a young person's experience in the current digital world. Smartphone and laptop access is higher than previous reports in 2011. Social media platform preferences have changed from Facebook to Instagram and Snapchat. While interest in health topics vary, involvement in social media, video games, online entertainment, and Googling for SRHR information are exceptionally commonplace. These findings have implications for future sexual health interventions, particularly in promoting youth interest.

Current Sexual Landscape

Youth are interested in a variety of health topics. The national survey and focus groups provide two contrasting findings; according to the survey, SRHR issues are not one of the highest concerns. Yet, focus group participants cited SRHR issues as some of the most important issues in their communities. For the survey, birth control is the first SRHR topic that arises, but it is only the fifth most interesting health issue to youth. In addition, far more women than men reported that they considered SRHR issues important, including birth control, pregnancy, and sexually transmitted infections. In terms of general topics, youth reported that education was the most important, followed by health, career, dating, and gaming (Figure 1 and Figure 2).

Figure 1. In general, which of the following topics are important to you? Check all that apply.

■Women (n=931) ■Men (n=504) ■Transgender-spectrum (n=65)
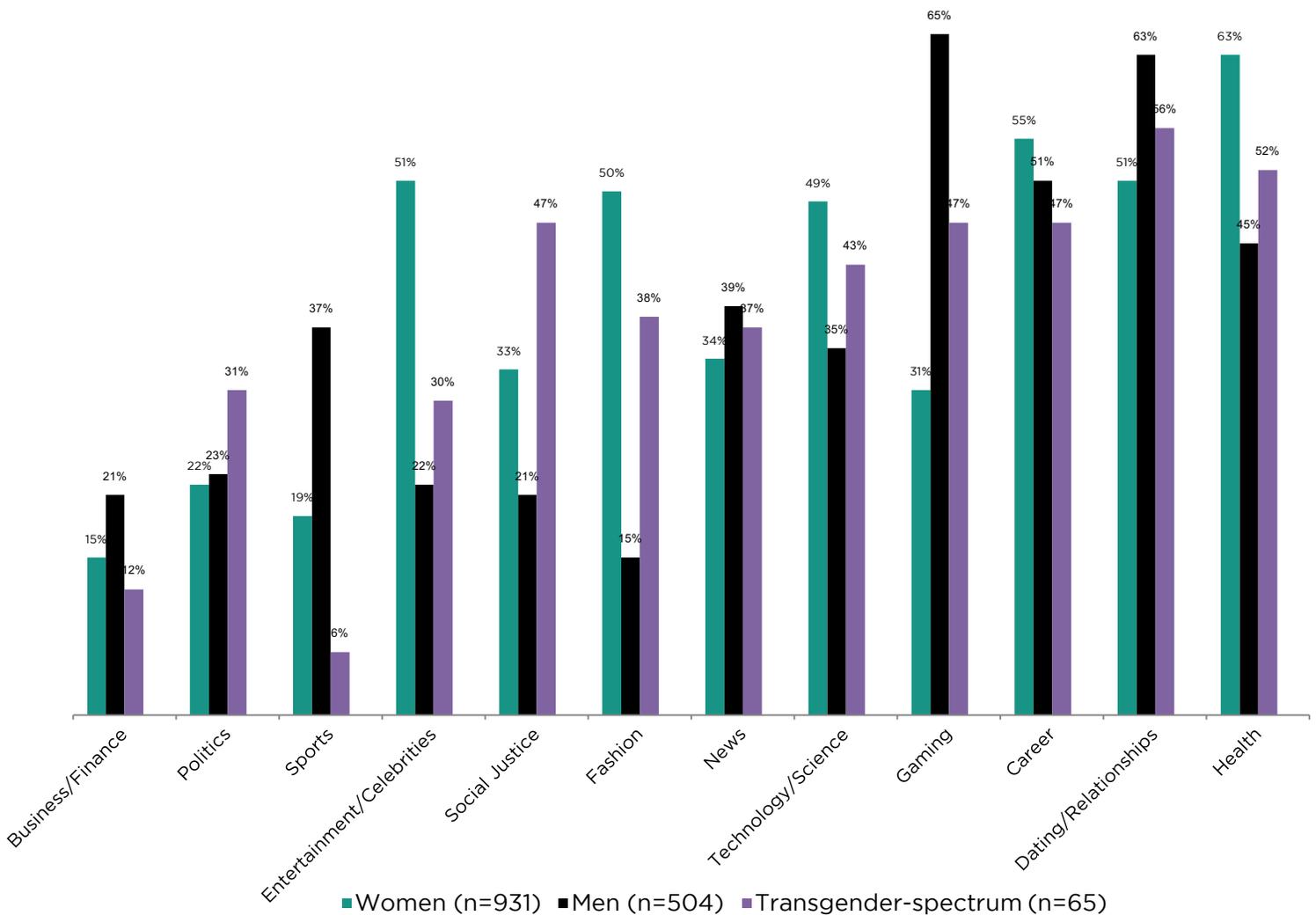
*Tables within this report illustrate survey responses via proportion by gender identity. Please note the differing sample sizes per gender when drawing inferences from graphs.

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Figure 2. Which of the following health topics interest you? Check all that apply.

Figure 2. Which of the following health topics interest you? Check all that apply.

Women (n=931) ■ Men (n=504) ■ Transgender-spectrum (n=65)
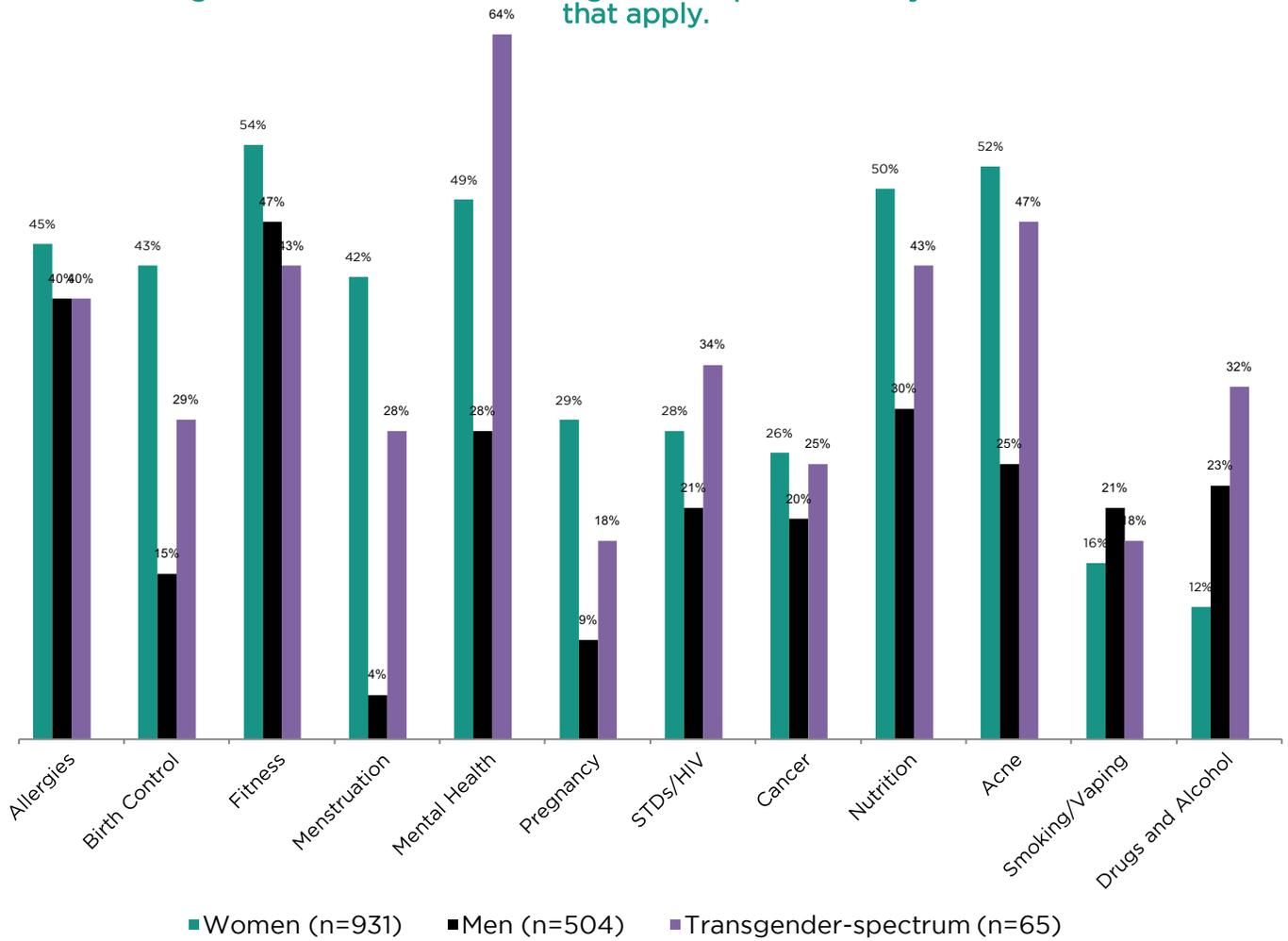
In contrast, the focus group participants noted that SRHR issues are impacting their communities in many ways. Teen pregnancy was cited as a particularly important issue. Focus group participants believed that more progressive SRHR programs could address these concerns.

> **"I would say contraception [is the most important health topic]. Yeah, like birth control stuff. Well, I think it's just like having access and knowing where you can go to get it cheap."**
>
> **Chicago, under 18**

Youth stated that the lack of quality sex education in schools, combined with parents who refuse to talk about sex, led to their peers having a reactive rather than preventive attitude towards STDs. Many participants knew of friends who only cared about their health after they had already contracted an STD or became pregnant. Youth expressed that health education should focus on preventative care in order to give youth tools for navigating their sexual health.
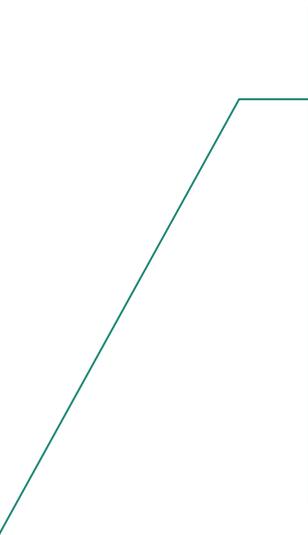
> **"We are aware of STDs, but I think we really want more vaccinations than anything. It's like, 'Oh I have chlamydia, let me just go get it cured.' People are like 'I can just go fix it.' But it's like after a while it's gonna start taking a toll on you. I just feel like, like Plan B: 'Oh, I need a Plan B I'll just go take one after every time I have sex.' It's just like it takes away from responsibility. It becomes a crutch."**
>
> **Birmingham, over 18**

Google for Sexual Health

The majority of respondents answered that they would consult Google if they had questions about their health. This was particularly true for questions related to SRHR.

Far more women than men reported that they considered SRHR issues important, including birth control, pregnancy, and sexually transmitted infections.

Across the survey and focus groups, Google was a popular place to find SRHR information. Youth trusted Google because it offered confidentiality, quick answers, and eliminated the need to ask an adult for SRHR information. Conversely, youth from the survey reported that the single best way to learn about sexual health was from a doctor, nurse, or clinic (Figure 3). This discrepancy points to a contradiction that youth face; while Google is the most popular location for sexual health information, the majority of respondents still believe the best source for sexual health information is a health professional.

A varying amount of trust in Google for sexual health information was reported; of those who used Google for health information, 60% of youth somewhat trusted the information. Most youth are somewhat satisfied with the accuracy of SRHR information online and neutral in regards to the inclusiveness of SRHR information online (Figures 4, 5, and 6).

Figure 3. What do you think is the SINGLE, MOST EFFECTIVE WAY to learn about sex, sexuality, and reproductive health?

Source	Percentage
Doctor, nurse, or clinic	30%
Google or other search engine	21%
Health class	14%
Family	7%
Specific websites (Like Sex, Etc.)	6%
Adult websites/porn	4%
Social media	3%
TV	3%
School health clinic	3%
Friends	2%
Video games	2%
Other	1%
Magazines	1%
Church/place of worship	1%
Online videos	1%
Community center	1%

n = 1,500
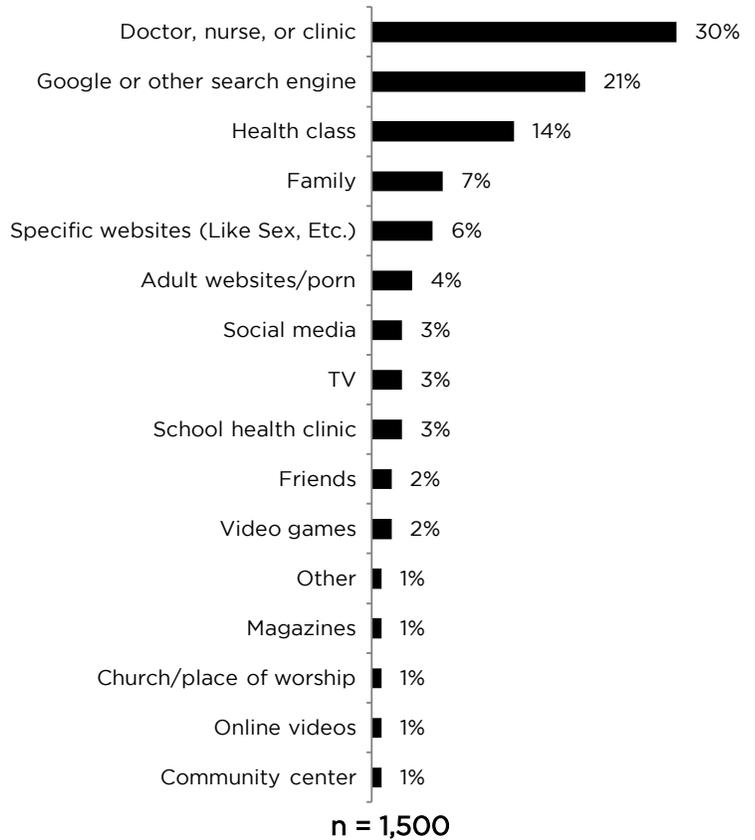
Figure 4. How much do you trust the sexual health information you find on Google?

Response	Percentage
Completely trusted	20%
Somewhat trusted	60%
Neutral	16%
Somewhat distrusted	3%
Completely distrusted	1%

n = 1,500
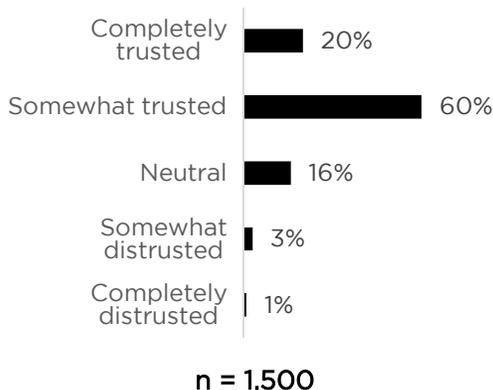
Figure 5. How satisfied are you with the accuracy of sexual health information you find online?

Response	Percentage
Completely satisfied	20%
Somewhat satisfied	60%
Neutral	16%
Somewhat dissatisfied	3%
Completely dissatisfied	1%

n = 1,500
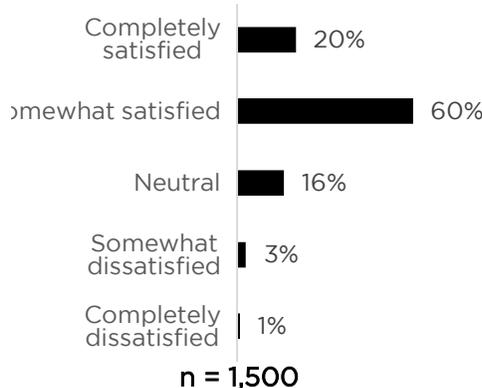
Figure 6. How satisfied are you with the inclusiveness of sexual health information you find online?

Response	Percentage
Completely satisfied	10%
Somewhat satisfied	24%
Neutral	51%
Somewhat dissatisfied	9%
Completely dissatisfied	6%

n = 1,500
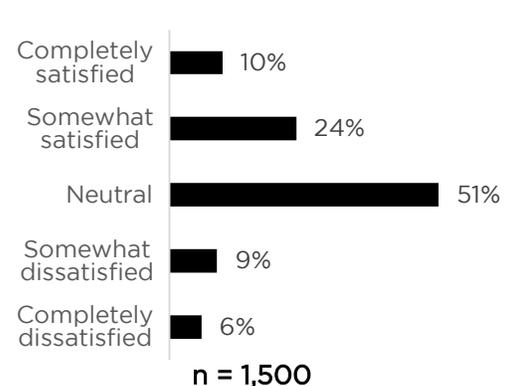
Some shared that Google was typically a primary resource for SRHR and general health issues. This was particularly true for youth who had no one to turn to or trust for SRHR questions. The fear of asking parents often stopped youth from seeking information or care. Other participants shared that they could ask some health questions from parents or guardians, but that asking about sexual health would get them into serious trouble or would be too embarrassing. While participants usually wanted to turn to parents first, they did not think they would be allowed to ask questions and receive honest answers.
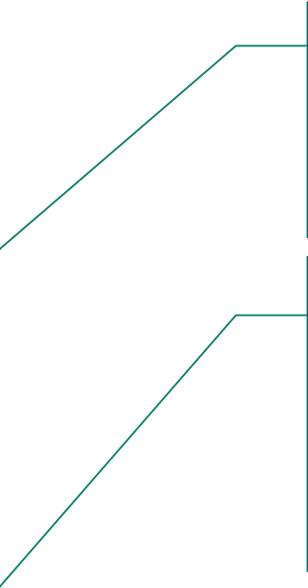
> **"People ask Google about sex facts, yeah, cause sometimes you don't have anyone to ask nobody."**
>
> **Newark, over 18**

> **"I'd say most people go online cause most people are probably scared to ask their parents. You can't tell your parents everything, you know. Sometimes you just can't tell them."**
>
> **Chicago, under 18**

Focus group participants shared that Google was a perfect way to locate services, anonymously ask questions, and assure themselves that they were not pregnant or did not have an STD. Most notably, participants agreed that Google often replaced the need to see a doctor. Similar to the quantitative survey, participants stated Google was their first go-to resource for sexual health information, even though they believed the best way to receive health information was through a doctor. Regardless, going to an actual doctor was often a last resort for most focus group participants.
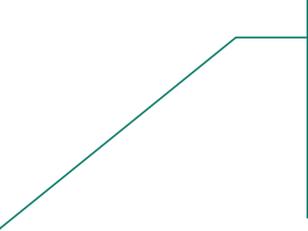
> **"Well like if it's serious, if Google can't tell me the answer, then I'll go to a clinic."**
>
> **Newark, over 18**

Google offers benefits and drawbacks. The anonymity of a Google search allows youth to find information confidentially, but Google and other social media sites have policies that block certain sexual health information from appearing in search results[20,21]. These blocks can often lead to incomplete or inaccurate information. Despite the chance of inaccuracy, participants often went to Google due to its ease of access and confidentiality. For youth, this privacy is tantamount—even simply searching for a sexual health topic without having to ask a person made youth feel more comfortable and informed at the same time. This combination of privacy and quick information makes Google a highly successful and preferred source of SRHR information for youth.
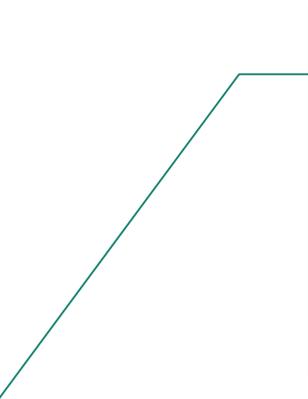
> **"I look it up, but at the same time it's not that I'm scared to ask people… it's that I don't wanna put my business out there, like to the wrong person. So I would either look it up on Google or maybe actually go to the doctor and ask."**
>
> **Chicago, under 18**

Popular Websites for SRHR Issues

Aside from Google, some youth use a combination of social media and other websites to find SRHR information. While Google is the most popular source, SRHR-specific websites and social media are other popular places for youth to find SRHR information (Figure 7). According to the national survey, the most popular SRHR-specific sites include Web MD, Planned Parenthood, Sex, Etc., TeenSource, and Go Ask Alice. Social media sites like YouTube, Facebook, and Tumblr were also popular spaces for SRHR information. Some youth also reported going to pornography websites for information.

According to focus groups, youth believed that sex education from .edu or .gov sites could be informational but only exists to create fear around the negative consequences of sex. Instead of providing sex-positive information, participants complained that sex education from .edu or .gov sites often center around extreme cases of STDs or teen pregnancy as a way to deter youth from engaging in sex.

Wikipedia was another popular source for health information, yet focus group participants did not trust this information as much as other sites. Youth said they were more likely to trust organizations like Planned Parenthood for reliable sexual health information. Overall, government sites and local clinic-based sites were considered the best options for finding accurate information.

Figure 7. Top Places for Sexual Health Information

Source	Percentage
Google	62%
YouTube	38%
WebMD	31%
Facebook	21%
Planned Parenthood	16%
Tumblr	14%
Health Class	13%
Sex, Etc.	8%
Family	7%
TeenSource	6%
Go Ask Alice	6%
Adult websites/porn	4%

n = 1,500
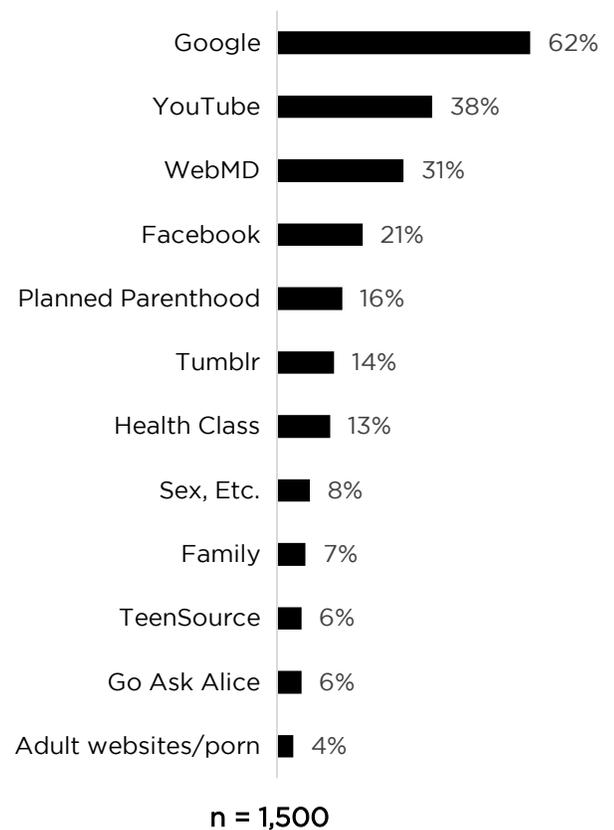
> **"If you look on Wikipedia you're not gonna get as much information as if you go on Planned Parenthood. Or like at least not as accurate."**
>
> **Oakland, under 18**

Some focus group participants also stated that pornography was another space to learn about sex and sexual health. Considering how public and accessible pornography has become online, this is clearly a source that youth are aware of and access. Pornography presents an opportunity for youth to see real sexual experiences—something not typically included in sex education—and is often an intriguing source for information. Some focus group participants stated that they had learned about sex by watching pornography:
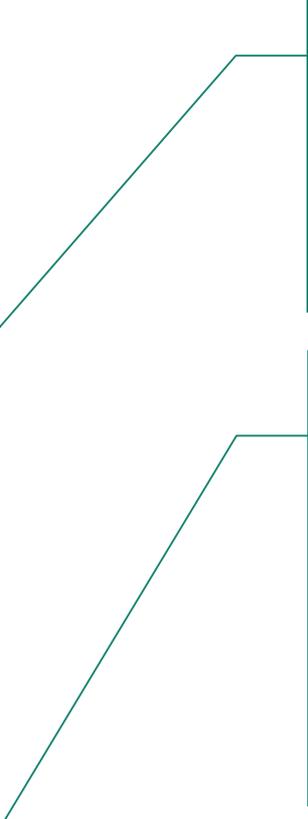
> **"I learned by porn. Like I had bad friends and they were like oh look at this and they just popped it in and it was porn … we just sat there watching it and we didn't know what was going on."**
>
> **Newark, under 18**

> **"Well online, inaccurate sex ed [is an issue], because of lot of people don't get accurate sex ed and they just go in blind to things. And it's mainly like what they learn is pretty much shock value when they get shown STI's and they get scared of everything so they spread their fear to everyone and give inaccurate information."**
>
> **Chicago, over 18**

Crosschecking

Focus group participants were aware of the potential for false information from Google and other websites, and stated that they had to learn the good sources from the bad. Often, this resulted in cross-checking Google's information with other trusted websites. Focus group participants said that they most trusted .gov, .edu, or specific websites from organizations they knew and trusted. These trusted websites included sites of clinics they

had visited or sex education websites like Scarleteen and Answer. Many participants followed social media platforms for sexual health information, most notably on Instagram.
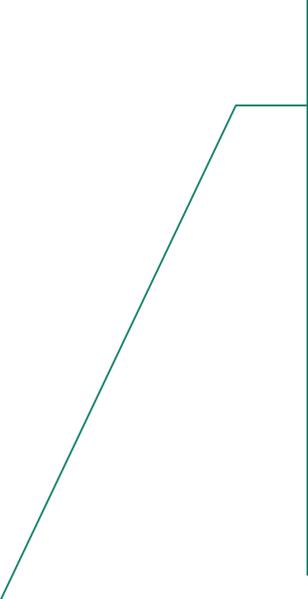
> **"There are people who go on WebMD and [...] they read it all. And they start mentally developing. And then they go to the doctor and they're like 'I have this,' and [the doctor] is like, 'You don't have any of this.' But, [WebMD] also helps out, if we see something that we are unsure about. Like a bump here, we can look at it and then be like 'Okay, I should go get this tested. This could lead to this.' WebMD is a double-edged sword."**
>
> **New Orleans, over 18**

Some focus group participants shared that a danger of searching online for SRHR and general health information is the tendency to diagnose yourself. WebMD's list of symptoms and causes had a tendency to make participants worry that they had an illness far more devastating than what they actually had. Some participants noted that many of their peers use WebMD and completely trust it as a medical resource. Regardless of knowing about the accuracy issues of a WebMD search, youth still had a tendency to self-diagnose and worry over symptoms.
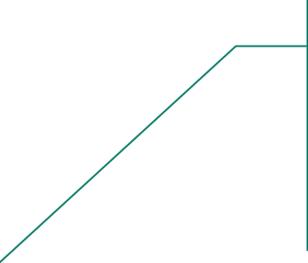
> **"I went on Google for something and it was like, either you just messed up your toe or you got cancer."**
>
> **Birmingham, under 18**

Online Dating and Flirting

Youth are forming romantic relationships online and using dating apps more than ever. About 34% of respondents reported that they use dating sites or have in the past. The most popular dating platforms were Tinder, OkCupid, and Match. Youth reported that they use dating sites to make friends online, go on dates, flirt with people, or "hook up with someone" (Figure 8). This use of online dating has implications for health interventions; some current sexual health education programs on dating apps show initial promise[22].

34% (n=1,500) of youth use or have used online dating sites

70% (n=510) of youth who used online dating sites met up with someone in person

Figure 8. You mentioned that you've used or use a dating app. What was your purpose for using this dating app?

	To make friends	To find a romantic relationship	To go on dates	To flirt with people online	To "hook up" with someone
Women (n=301)	55%	46%	43%	41%	18%
Men (n=174)	42%	48%	41%	32%	30%
Transgender-spectrum (n=30)	37%	43%	30%	47%	27%

■ Women (n=301)　■ Men (n=174)　■ Transgender-spectrum (n=30)
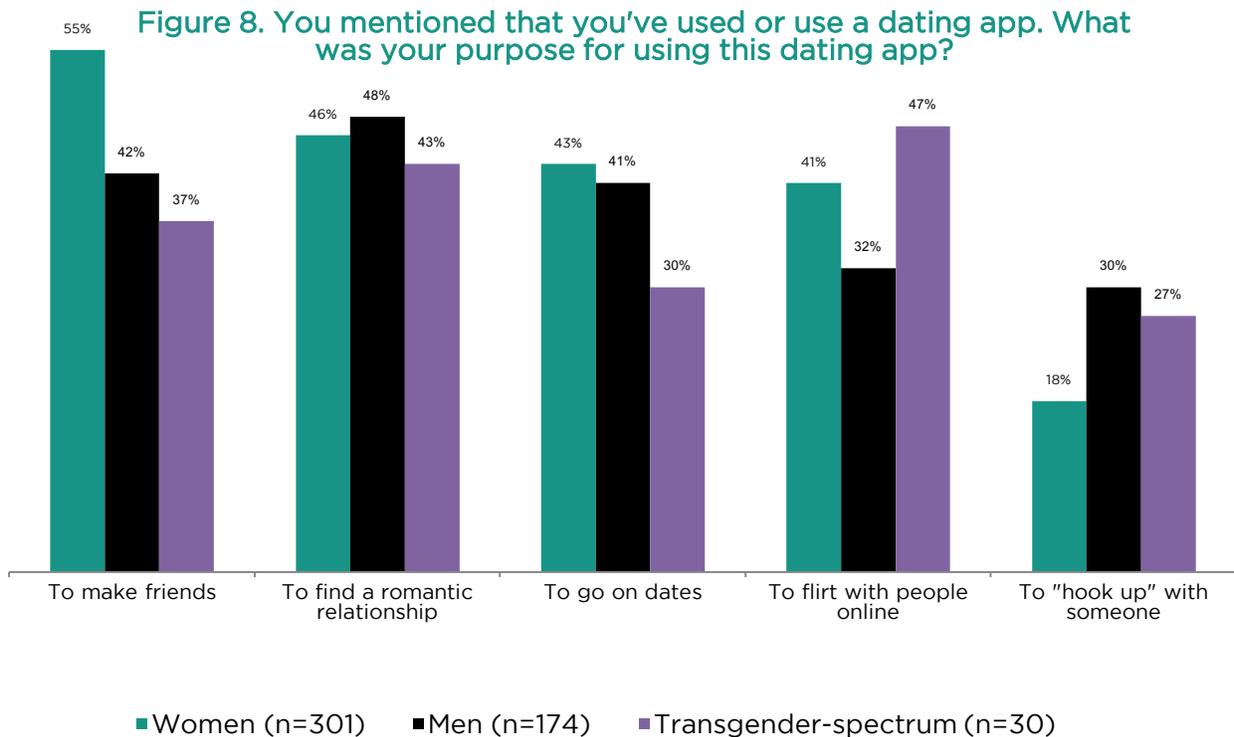
Although the majority of youth do not use online dating websites, social media is another space where online flirting occurs. Nearly 34% of respondents said that they used social media to flirt with others. Young women are most likely to send messages to flirt with someone, young men are likely to like someone's photos, and transgender-spectrum youth are most likely to follow or friend someone (Figure 9). For many youth, romantic relationships are a central part of social life. The internet has emerged as a space where flirting and relationship-building occurs. Digital flirting often takes the form of comments, private messaging, heart-shaped or innuendo emojis (i.e. the eggplant or water squirt emoji), or liking someone's photos on social media. It can also occur in more private areas online, like in direct messaging.

Figure 9. You mentioned that you use social media to flirt with people online. How do you flirt with people online? Check all that apply.
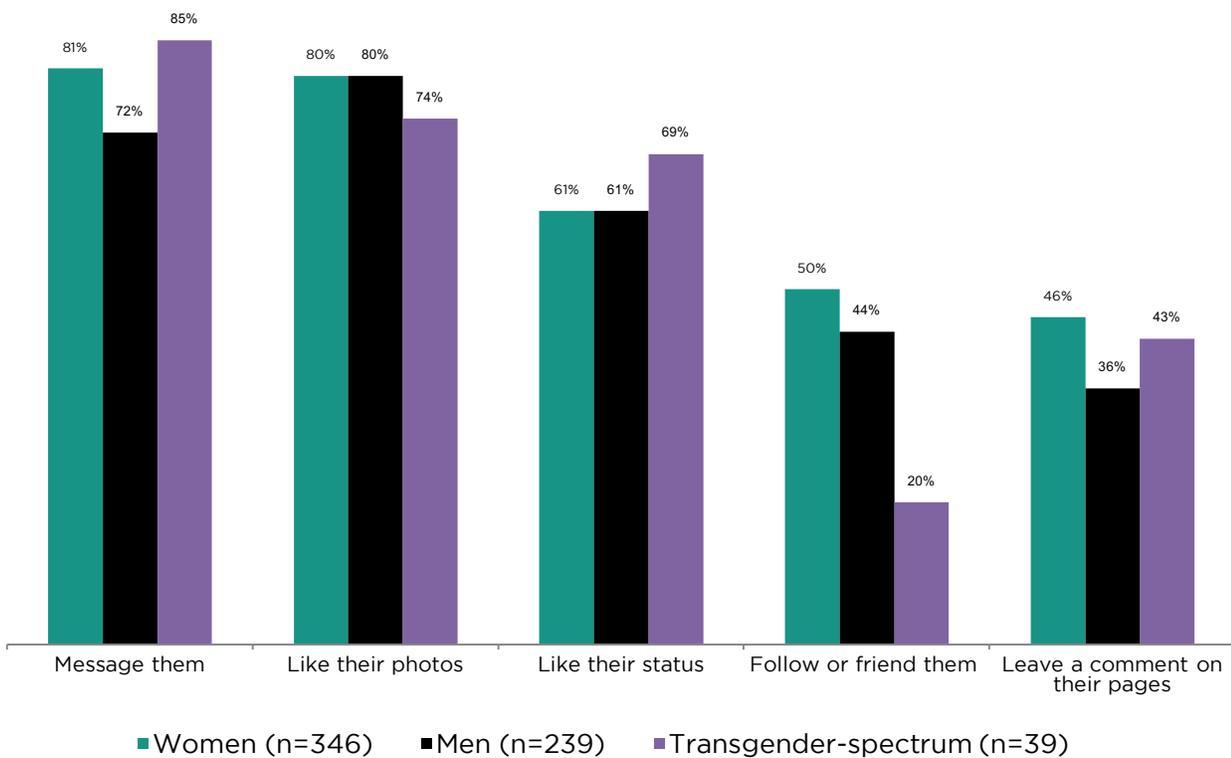
Digital flirting has some level of strategy to it. Youth explained that they flirt online as a way to start a conversation with someone they are interested in. Usually, youth flirt online with friends of friends and can discover other people of interest by looking through the friend lists of people they already know. Because digital flirting happens over social media

29

and behind a screen, it allows youth to more confidently approach someone, perhaps with just a single emoji or liking a few of their photos at once to get their attention.
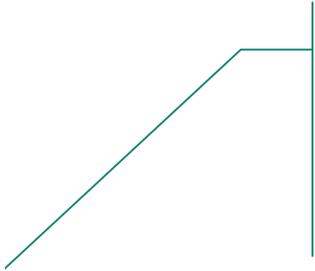
> **"I send an emoji first. Yeah, I send the heart eyes. Who knows what will happen after that?"**
>
> **Tunica, over 18**

Digital flirting was cited as the entry point for hooking up and dating. In many ways, digital flirting or adding a relationship status to your social media account has become an assumed step in the process of meeting and dating someone. Instagram, Facebook, and Snapchat are places where youth can find others that have similar interests and begin conversations with potential partners.
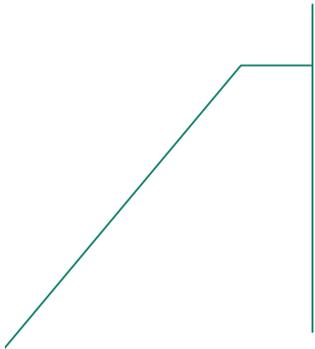
> **"Yeah, the more you talk to them online the more like you gonna get their information like their Facebook, their Snapchat. And y'all start talking. Then y'all will be hooking up, who knows."**
>
> **Tunica, under 18**

Flirting online looks vastly different now than it did when platforms like Facebook first surfaced. As social media platforms introduce more ways for users to engage with others, more flirting strategies have developed. Some participants felt like they could not keep up with these changes:
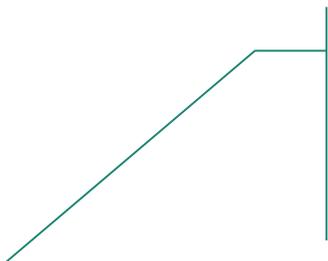
> **"It's kinda dangerous because people can just be putting false information about their self on there."**
>
> **Birmingham, under 18**
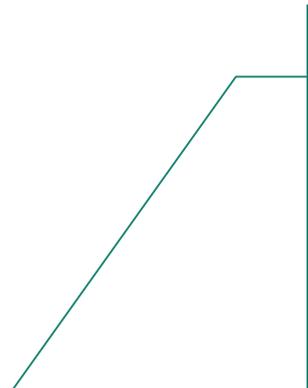
> **"Um okay so, flirting has gone from a simple poke on Facebook to like a blow-up of your DM [direct messages] and Instagram. Like, it has dramatically changed but at the same time I don't understand it all..."**
>
> **Birmingham, over 18**

Online flirting seems to require reading "between the lines." The need to understand someone's intention as flirtatious or friendly can be very consuming for youth. Digital flirting requires always having to navigate the rules, what things mean, and what the flirting can lead to.
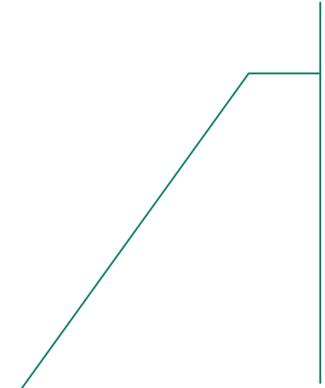
> **"I think people read too deep into stuff like that sometimes too, like just cause I'm smiling it doesn't mean that. Like with emojis I feel like sometimes people read too deep into those. Each emoji should come with a paragraph stating what my emoji means."**
>
> **Birmingham, under 18**

Although the majority of focus group participants had experience with digital flirting or had flirted with others online, online dating sites elicited a more mixed response. Online dating sites were perceived as doors to hook up culture or a place to trick or "catfish" someone (i.e., when someone has a false online dating profile). In rare cases, youth did believe that you could develop romantic and long-term relationships online. However, reactions to online dating were typically negative and couched within general mistrust of using technology to meet someone. Many focus group participants cited the hit TV show "Catfish" on MTV as their source for distrust in online dating.
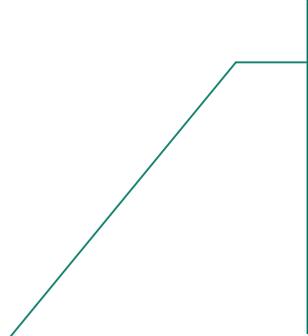
> **"Because the internet is so much, there's so much you can do like you can find someone's profile. You can lie. Like I've seen a couple of episodes of Catfish, these people have so much time."**
>
> **Chicago, over 18**

Focus group participants shared stories of friends being catfished and attacked as a result, sometimes resulting in assault and rape. This was particularly true for participants who identified within sexual and gender minority communities.
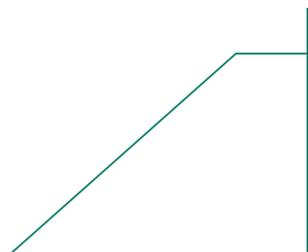
> **"Online dating, it's very easy for you to lie. And they can just find where you live. Just show up where you're at."**
>
> **Tunica, under 18**
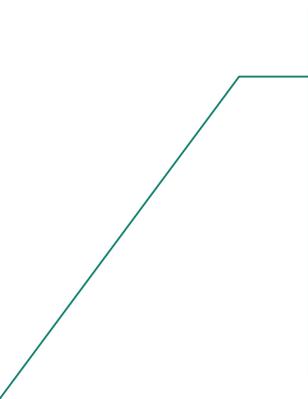
> **"So I know some people, that are, that are transgender. Transgender people that go on apps [...] But you can get killed. Like someone who does that who is transgender or gay, [homophobic people] will come find you."**
>
> **Newark, over 18**

Online dating also has many implications for the sexual health of youth. Participants spoke about how peers use online dating to hook up with others—in some instances, participants knew friends that used online dating apps for transactional sex or sex work.
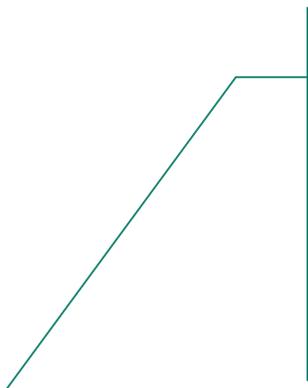
> **"I know like I have friends who do that, they just meet up with dudes [from Tinder] and like get them to buy bottles of stuff in exchange for like sex. And they will like sleep at their house and stuff like that for nights at a time and it's just crazy."**
>
> **Oakland, under 18**
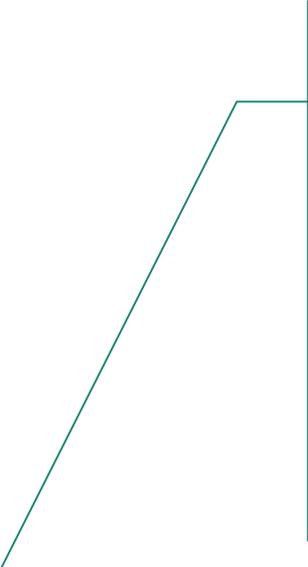
> **"So my two past exes I met through a friend on the internet and that was interesting. And like, I've had at least a year's worth of relationships through people that I've met like that. And it's kinda, it's not safe ever, it's never safe, but like if you can get them on FaceTime and the whole 'Oh, will you take a picture while you're holding a spoon upside down to prove that you're real?' That kinda stuff."**
>
> **Oakland, over 18**

Despite the overall negative reaction to online dating, participants did share positive experiences with online dating. These participants stressed that there are ways to make certain your date is safe and spoke about methods to make sure someone is real.

Some focus group participants were very vocal about the positives of online dating, citing it as another place to potentially find "the one." This was particularly true for over-18 focus groups. These participants were very aware of some of the dangers, but also understood that online dating works for some people and can result in happy relationships. Many felt that if online dating was a better fit for a person's lifestyle or personality, then it was absolutely acceptable.
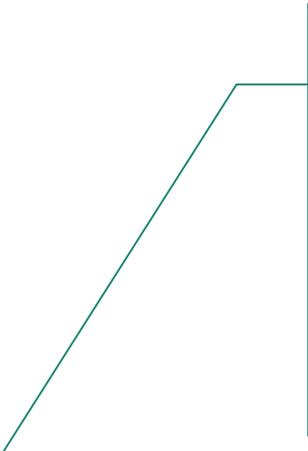
> **"My best friend found his future husband online, on Jack [a dating app]. I was like, aww! That's like so cute. But it's just like, you see, there's a negative and a positive. Both sides to these dating sites. They can be bad and they can be good, but at the end of the day you know, you gotta explore."**
>
> **Newark, over 18**
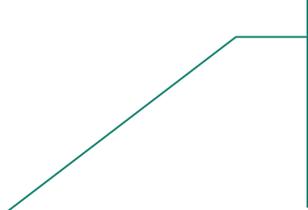
> **"So I've had a great experience with [online dating]. I love meeting people. I love dating."**
>
> **New Orleans, over 18**

Another focus group participant shared that online dating is also positive because it can facilitate introductions between people who may not have met otherwise. By being online, a person has access to anyone else who is online worldwide. For dating, this opens up doors to more potential partners and allows youth to connect with others outside of their local circle. This was cited as particularly helpful for people living in rural areas.
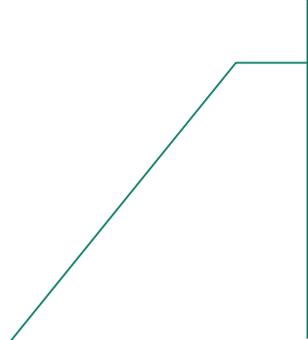
> **"It's pretty easy to find people that don't live near you. So if you wanna find somebody without online dating you have to like go and actually find them. With online dating you can like search everywhere."**
>
> **Oakland, over 18**

Online dating was an exciting topic for the focus groups, and the mixed reactions illustrate the complicated nature of meeting others online. Will it end with deception? Will it end with danger? Or will it be a truly positive experience? Youth are very aware of the intricacies of communicating with someone through a screen. Clearly, communication online can be very complicated, but can have both positive and negative outcomes.

Current Digital Landscape

Youth have increased access to technology, particularly smartphones and laptops. Compared to the 2011 TECHsex report, youth are now far more likely to own a laptop, tablet, and smartphone, but are less likely to own a digital music player or desktop computer (Figure 10).

## Figure 10. Which of the following technology do you own?

iPad/Tablet: 45% (2017), 16% (2011)

Music player (iPod, etc.): 32% (2017), 57% (2011)

Cell phone (not smartphone): 8% (2017), 57% (2011)

Smartphone: 87% (2017), 26% (2011)

■ 2017 (n=1,500) ■ 2011 (n=1,500)
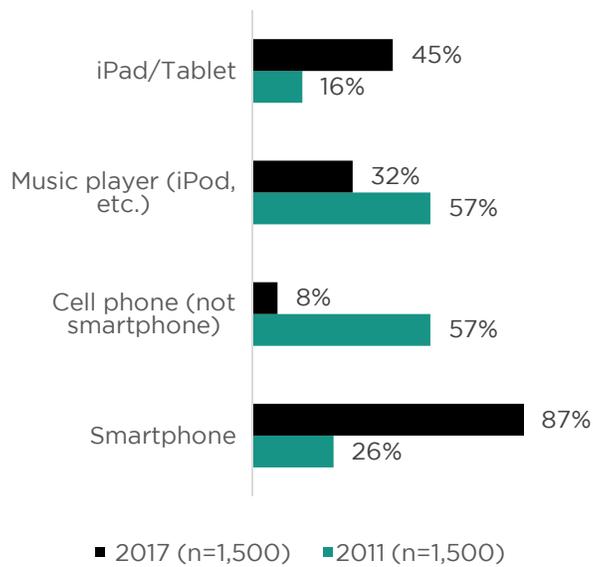
In terms of time spent on technology, nearly 40% of youth spend 30-40 hours a week or more on their phone. Of those that owned a smartphone, 53% owned iPhones.

The most popular activities on phones included texting, pictures, and social media. Phone calls were only the fifth most popular activity, illustrating how text-heavy youth digital communication is (Figure 11).

The most popular social media sites were Snapchat, Instagram, and Facebook. This is in contrast with the 2011 TECHsex report, where Facebook was the most popular social media site[23].

Figure 11. Which of the following do you do on your phone daily?

	Texting	Social Media	Using the internet	Taking pictures	Phone calls
Women (n=931)	83%	71%	68%	55%	48%
Men (n=504)	70%	51%	56%	40%	41%
Transgender-spectrum (n=65)	82%	66%	71%	55%	74%

■ Women (n=931) ■ Men (n=504) ■ Transgender-spectrum (n=65)
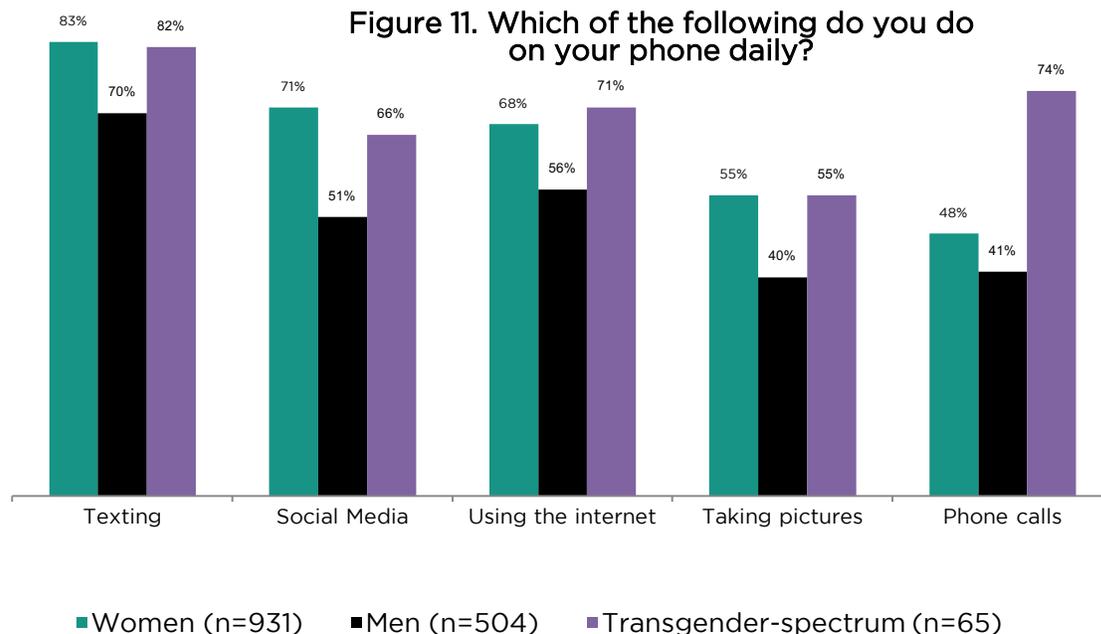
Many focus group participants felt that they could not imagine their lives without social media or technology. Across focus groups, the most popular social media platforms were Instagram and Snapchat. For older participants, Facebook was still relatively popular. Participants under 18 did not like Facebook, and were more interested in anonymous chat apps like Kik or WhatsApp.

There is an expectation that all youth are connected through some sort of social media platform, whether that be Instagram, Facebook, or Snapchat. To not have any of these social media platforms was considered unthinkable to many participants. Some focus group participants felt that they were unable to disconnect from the omnipresence of social media and phones due to that expectation.
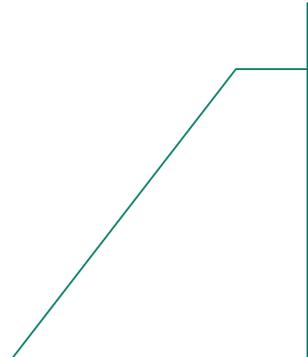
> **"I definitely feel like if you don't have it [social media], it's the question of why don't you have it? You must be a hippie or there must be a very strong reason that you don't, because otherwise why wouldn't you?"**
>
> **New Orleans, over 18**

Despite these feelings, youth are not discouraged from continuing to incorporate technology into their life. Technology and the opportunity to connect with other people at any time of the day are undeniable benefits to the social lives of youth.
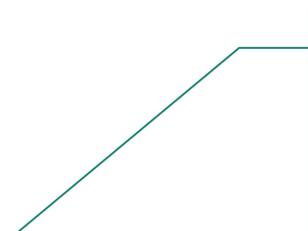
> **"Social media is my life, it's how I stay connected to friends."**
>
> **Newark, under 18**

Social Media and Mental Health

Results from the national survey show that some youth report being "preoccupied" with social media, resulting in distress and mental health issues (Figures 12 and 13). Social media is so important that, if youth delete their accounts, nearly 34% said that this would have a negative impact on their friendships.

Figure 12. How often do you feel preoccupied by social media? Meaning, how often can you not stop thinking about social media even if you tried?

Never	21%
Sometimes	28%
About half the time	19%
Most of the time	18%
Always	14%

n = 1,500
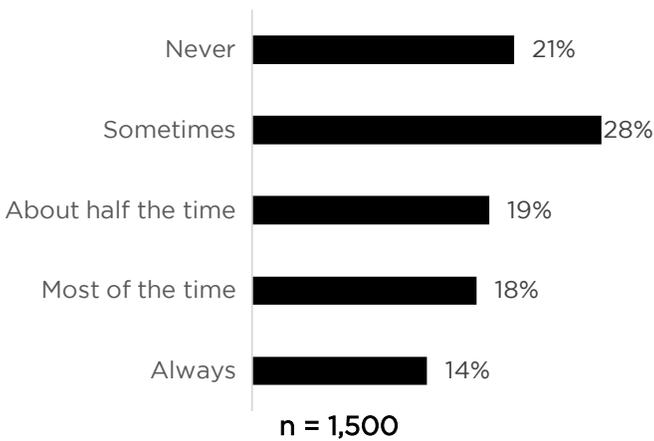
Figure 13. How often do you get upset or anxious if people do not like your photo or status update on social media?

Never	42%
Sometimes	23%
About half the time	13%
Most of the time	13%
Always	9%
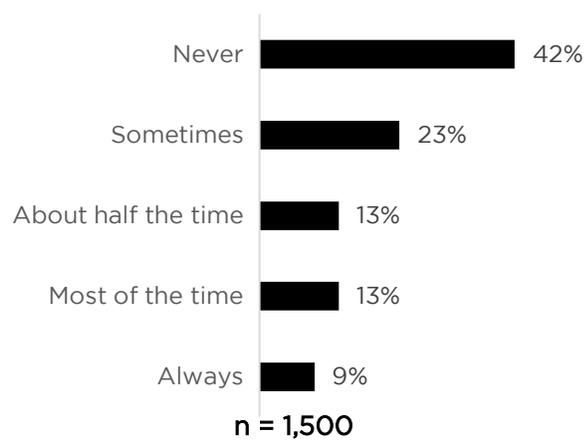
n = 1,500

Youth are invested in social media, and their lives online impact their lives in person. Respondents felt pressured to have a social media presence in order to keep in contact with friends and have their profiles visited.

19% (n=1,500) of youth feel that they have to delete a post if it does not get enough likes or comments

34% (n=1,500) of youth believe that if they deleted their social media accounts it would negatively impact friendships

Focus group participants noted that many of their peers are obsessed with social media to the point of never leaving their homes. Many had concerns about constant access to social media and smartphones. To many participants, this was considered a drawback and a mental health issue in their communities.
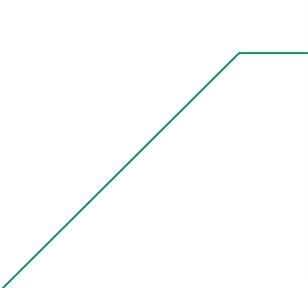
> **"If you walk around today, I don't give a damn where you are, like it can be an armed robbery going on and everybody will still be on their phones."**
>
> **Oakland, over 18**

Other focus group participants noted that constantly comparing yourself to friends online can lead to unhappiness and self-scrutiny. The fear of being judged online was also a factor in social media obsession. This had multiple implications for mental health and wellbeing.
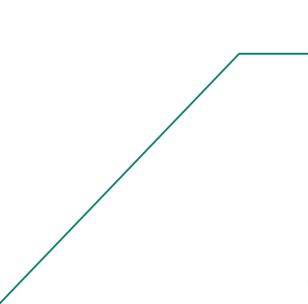
> **"Sometimes I feel that I hate my life and everyone is analyzing me through my Facebook, so I need to delete it."**
>
> **New Orleans, over 18**

Video Games

Video games—particularly massive multiplayer online games (MMOs)—offer an ideal way for youth to interact with peers and build relationships. The most popular video game platforms were computers, Xbox 360, and Nintendo Wii. Nearly half of respondents who played video games played at least 5-7 hours or more per week. For those that played video games, nearly half of respondents said that they used the online chat function at least

some of the time. The majority of gamers said that they had been harassed or cyberbullied online while playing video games, and some have been sexually harassed online.

**57% (n=1,500) of youth have been cyberbullied while playing games online**

24% (n=1,500) of youth have been sexually harassed while playing games online

Cyberbullying

Just over 42% of youth reported experiencing cyberbullying and digital harassment, and nearly 60% of youth have witnessed someone else being harassed or cyberbullied online. Some youth reported the cyberbullying, but even after telling the cyberbully to stop harassing them or deleting/blocking the cyberbully, nearly 50% of the respondents continued to be harassed. The survey results show that social media was the highest reported place for cyberbullying incidences, followed by video game chat and texting (Figure 14).

Figure 14. You mentioned you have experienced cyberbullying. Where did you experience this? Check all that apply.

Category	Percentage
Social media	79%
Video game chat	40%
Texting	28%
Messaging app (i.e. Kik, etc.)	24%
Website	23%
Livestream platform	16%
Email	12%

n=1,500
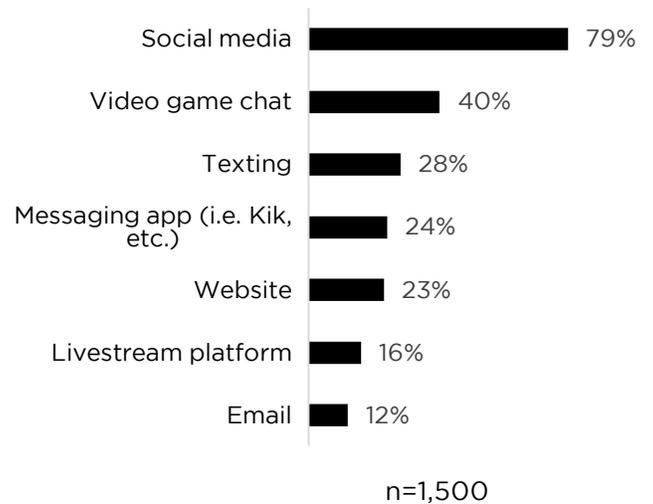
Cyberbullying was also a prevalent issue in the focus groups. Nearly every focus group participant had known someone who had been cyberbullied or had experienced it themselves. The stories that were shared ranged from mild cyberbullying experiences to tragic cyberbullying that resulted in suicide. Regardless of the severity of the story shared, all focus group participants felt that cyberbullying was a seemingly endless issue for their age group and needed to be addressed.
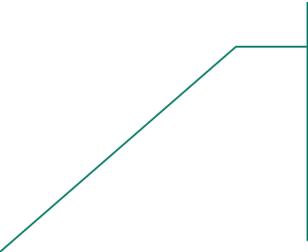
> **"Honestly… I can say… Anybody can get cyberbullied. For real. Wrong place, wrong time."**
>
> **Birmingham, under 18**

Participants recounted experiences of friends being cyberbullied, which gravely affected their body image and self-esteem and sometimes resulted in suicide. Appearance, gender, and sexuality were common targets for cyberbullying. A number of LGBTQ participants had been outed by peers on social media without their consent.

For most participants, being cyberbullied felt more extreme than in-person bullying because youth are particularly fond of their online identities. A great deal of time goes into curating "good selfies" and a "social media presence." In addition, in-person bullying would theoretically stop when a young person arrived at home, but with the ubiquity of technology, cyberbullying is constant and inescapable.
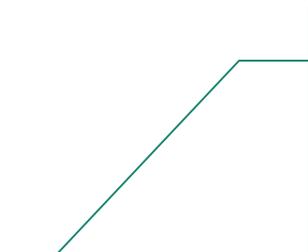
> **"Cyberbullying is more than what happens on social media… it actually comes in your front door, in your house, in the living room with you… It's there. It's everywhere."**
>
> **Birmingham, over 18**

Similar to the quantitative findings, cyberbullying was cited as particularly common in video games. Video games that have a chat platform were places where competitive language would turn ugly. What may be perceived as innocent banter by some was actually quite upsetting or hurtful to others playing the game. Focus group participants shared that the language can be particularly aggressive, including a lot of name-calling.
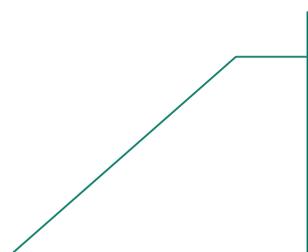
> **"Comments come in from like people when you're playing multiplayer and like you get called some stuff."**
>
> **Birmingham, over 18**

The Southern US

It is important to note some of the substantial differences between the Southern State focus groups (Louisiana, Mississippi, and Alabama) and the other US focus groups. Due to an increase in disproportionate SRHR outcomes from the South, it was important to investigate the digital landscape in this particular region.

Some of the highest STI and teen pregnancy rates are found in the US South, and participants in the three Southern sites were aware of this[24,25]. During discussions, participants stated that these rates may be due to lack of access to information and services. There was intense concern about the lack of education around methods of protection and authentic sex education:
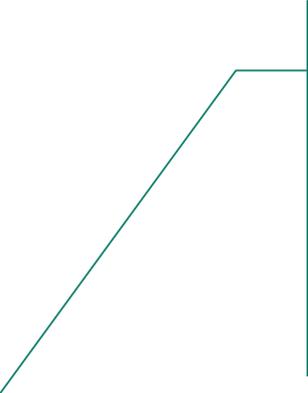
> **"When I think about health I think about teen pregnancy and I think about the STDs and the different things that the younger generation is currently catching and don't too much care about it… or, I'm not going to say don't care about it, they're just not aware of it."**
>
> **Birmingham, under 18**

For participants in these states, the desire to find information online was more nuanced than the general sample. Participants from Alabama, Louisiana, and Mississippi seemed to rely more on their families for sexual health information and placed less trust on internet sources. Some participants in the Southern focus groups did not have access to youth-friendly clinics, and stated that they trusted their families and family doctors to answer questions about sex. If they did have access to youth-friendly organizations, participants often learned about sexual health from those spaces instead of school. They often did not believe that their sexual education at school was comprehensive enough. Outside community organizations where parents enrolled their children offered opportunities to learn more about sexual health.
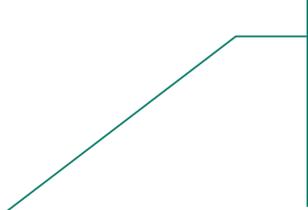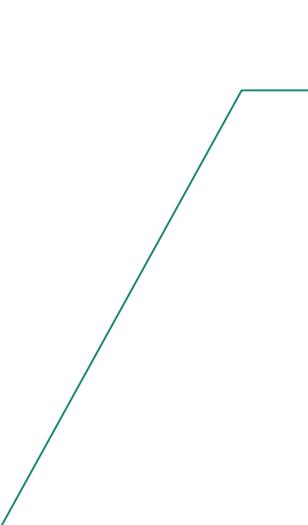
Youth in the South had a very different experience from other youth around the country, particularly related to seeking information about their SRHR. Additionally, the general health issues that were most important to them, and their community, were different than the rest of the cities and regions. In the South, focus groups were most concerned about weight gain, diabetes, police brutality, teen pregnancy, and nutritional health. In other regions, youth were most interested in mental and emotional health, followed by cyberbullying and sexual health topics. These regional differences offer opportunities for more specific interventions that are relevant to the issues that communities in the South may face. Teenage pregnancy, in particular, is a topic of interest for many of the young focus group participants. For those under 18, many had experiences of classmates being pregnant.
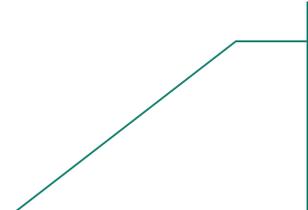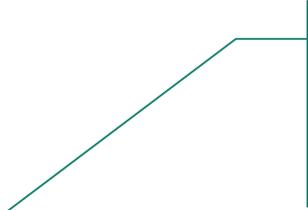
> **"I know not to get pregnant... but my friend got pregnant."**
>
> **Birmingham, under 18**
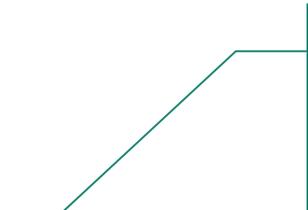
> **"We have go to get kids outside, we're just sitting around on social media. The weight gain, diabetes... it's real."**
>
> **Birmingham, under 18**

One of the most striking differences that emerged in the South was the tendency for youth to immediately turn to parents and families for advice about SRHR issues and questions. Unlike other sites where youth did not feel they could have open conversations about their health and sexuality, focus group participants in the South were much more inclined to speak to a trusted family member than anyone else.
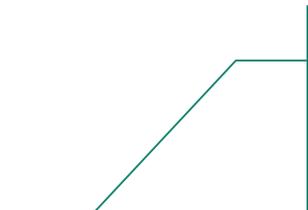
> **"That stuff, I better ask my Auntie for that stuff. I love my friends, but you can't trust your friends. What kind of information they're gonna give you?"**
>
> **Birmingham, over 18**

Speaking to a family member even outweighed going to the internet to search for information independently. Because of the strength of familial relationships in the South, youth felt that family members were a more reliable and safe space to have these conversations. This safe space to talk about sexuality is an asset to many youth in the South. The only question it raises is the accuracy of the information being shared, and whether youth are being connected to appropriate services.

43
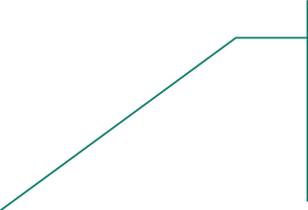
> **"I have an auntie and my mom, they're LNs. I go to them first, always."**
>
> **Tunica, over 18**

In addition, the youth in the South had a wary perspective on online dating and the potential for relationships to emerge from meeting in online spaces. Their reactions to online dating and online relationships were very strongly negative, citing distrust with other people's intentions. Focus group participants were very aware and afraid of the potential to be "catfished", and to be misled by someone online. Additionally, they were much more expressive about the potential physical dangers that can stem from catfishing. Participants believed that trying to find and navigate relationships online could never end positively.
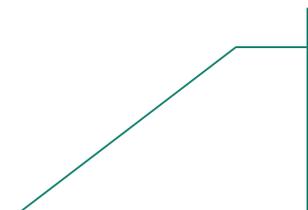
> **"If you're gonna talk to me it better be face to face, I'm not doing no online stuff."**
>
> **Birmingham, under 18**

Youth were particularly concerned with chronic diseases, particularly those related to diet and exercise. Quite a few participants named diabetes and weight gain as issues that were very relevant to their communities. They were also aware of teen pregnancy rates for their region, and thought that was an important issue for their community to tackle as well. Both of these health outcomes or topics are priorities for regional health authorities. This demonstrates how youth are cognizant of the issues that their communities are facing, and identifying areas for improvement.

Stakeholder Insights

Our expert interviews assisted in the creation of the survey and focus group questions, but also provided key insights into the future of online sexual health education, technology, and youth interest in health interventions. Most notably, expert stakeholders highlighted the need for online programs that allow youth to co-create the content. They were aware that this is not always easy, as technology and youth trends seem to be changing constantly. Because of this, they considered it always important to include youth in the conversation so that you know which platforms are popular at the time.
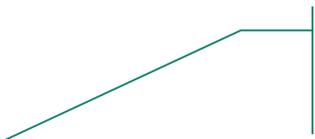
> **"Technology often moves faster than teachers are prepared for."**
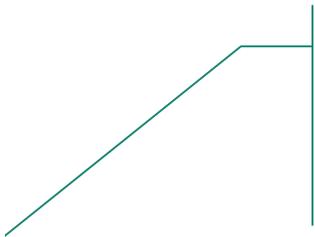
> **"The teacher or information giver is like a dinosaur. Youth have all the information in their hands. Whatever you don't know, they're gonna Google it."**

Stakeholders highlighted that the internet offers the one thing that classrooms and parents cannot: privacy. Similar to the findings from the focus groups, this ability to search for information in private was seen as one of the main reasons why youth aren't turning to experts and parents for information.
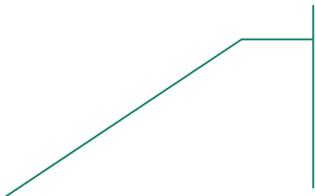
> **"Youth are looking for ways to access information that is both confidential and private. You always have to make it private."**
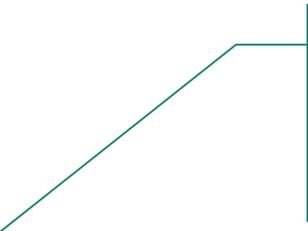
> **"Our school systems or our health systems are not set up to have honest conversations about sexual health and so young people are turning to the internet for information."**

Stakeholders have seen success with programs and content that engage youth on multiple levels, not just sexual health. Fun interactive games and social media pages have the potential to engage youth and enhance wellness.
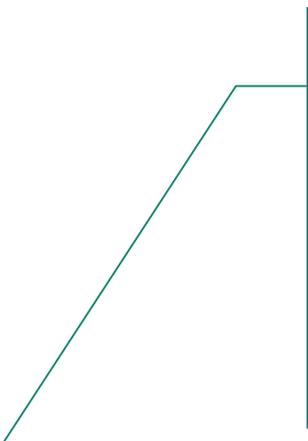
> **"We're really hoping to reach young people before they've engaged in sex to make the commitment to use birth control and condoms. We try to make things fun, because they go online and answer twenty questions about which Disney character they are, and if we can get enough fun into it, then we can reach young people before or on the cusp of needing information."**

Finally, stakeholders touted the effectiveness of peer-to-peer education online. Sexual health sites through social media, where youth can co-create content and share it to their friends, had success with enhancing safer sex and contraception knowledge. This, combined with authentic conversations in a private manner online, were some of the highest recommended functionalities for future health programs.
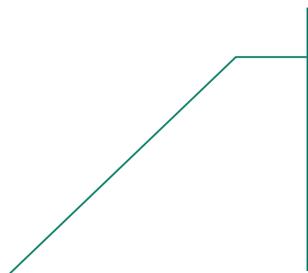
> **"There is a lot of peer knowledge that is happening. There's all this great sharing on unusual platforms that you wouldn't think of for information—like Instagram, WhatsApp, and Snapchat."**

2011 vs. 2017; An Update

The 2017 report expands on YTH's 2011 TECHsex USA report to highlight the changing landscape of youth sexuality information and access online. Illustrated here are similarities and differences between TECHsex reports, focusing on youth technology use and trends. These findings show how quickly technology can change and the importance of carefully considering the platform or technology to use when developing programs.

In 2011 and 2017, the most important health topics to youth were the same; fitness and nutrition. In terms of SRHR issues, women in 2011 were still more likely to state that birth control, pregnancy, and STD/HIV issues were important. These trends continue; fitness is still the most important health topic to youth, and young women are still more likely to find SRHR issues more important than young men.

In 2011, youth reported they were likely to receive SRHR information from the following sources; school, friends, family, health professionals, and online sources. The 2017 report shows that online sources are the first sources utilized for SRHR issues, but youth are still reporting that they ask family and peers for SRHR information. Other popular sites for SRHR information in 2011 and 2017 were the same: Sex, Etc. and Planned Parenthood.

In 2011, youth were more likely to own a laptop and far less likely to own a smartphone. In 2017, smartphone penetration has reached nearly 90% (Figure 15).

Lastly, Facebook is no longer the social media platform of choice for youth. In 2011, Facebook was cited as the preferred social media platform; in 2017, youth were extremely critical of Facebook and made fun of the social media platform because their parents had begun using it. Youth identified Image-heavy social media platforms like Snapchat or Instagram, as the most popular social media sites in 2017.

Figure 15. Which of the following technology do you own?

	2017 (n=1,500)	2011 (n=1,500)
iPad/Tablet	45%	16%
Music player (iPod, etc.)	32%	57%
Cell phone (not smartphone)	8%	57%
Smartphone	87%	26%

■ 2017 (n=1,500) ■ 2011 (n=1,500)
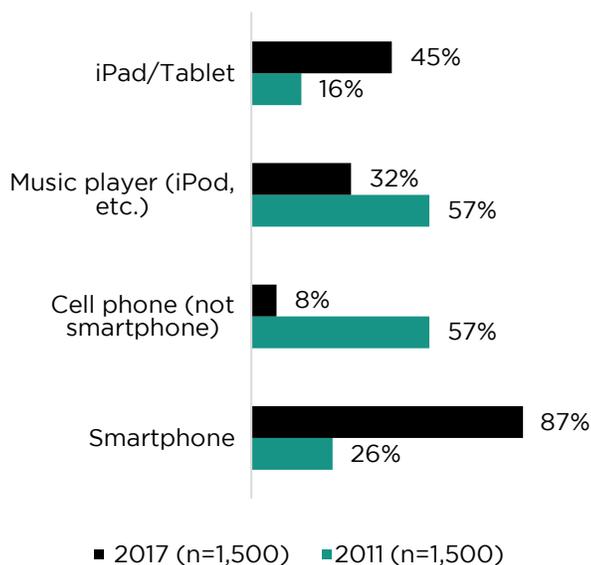
IV. Recommendations
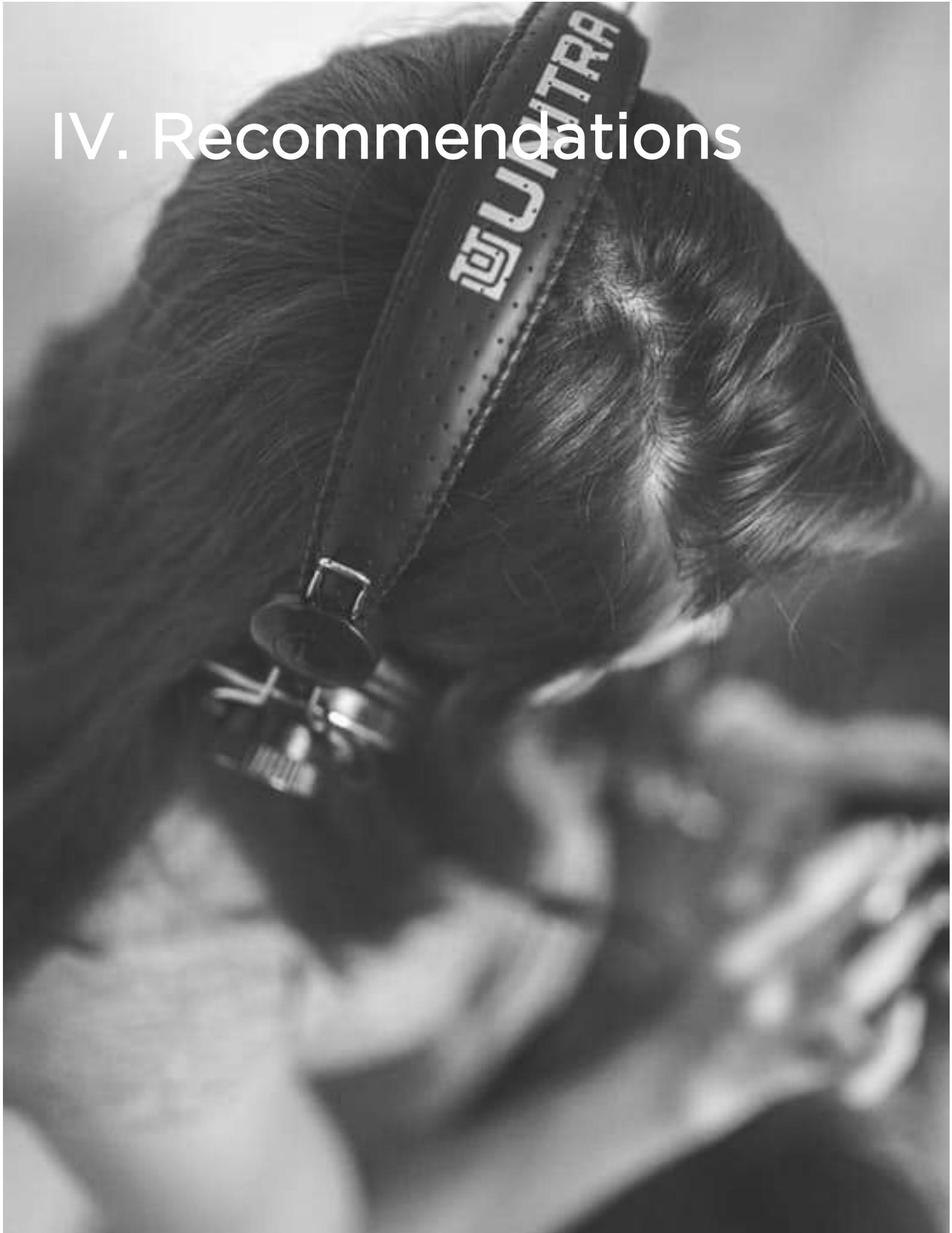
Recommendations

The following recommendations are built upon findings of this report to inform design, innovation, policy, and additional research in the SRHR field. The data provides opportunities for stakeholders, organizations, parents, and advocates to learn from youth experience and take action to reach youth with SRHR information and support.

1. Engage youth in SRHR program design and development.

Youth are the experts of their own experience, particularly in regards to their health. Rather than view youth as issues to be solved, youth should be considered assets to enhancing youth health and wellness. An approach that combines positive youth development and human-centered design can include youth in all aspects of development and give them the control to lead programs, resulting in more authentic experiences and projects. Because youth did not prioritize SRHR as a critical health issue, youth organizations and providers may benefit from these approaches to engage with youth more effectively. By incorporating youth from the beginning, there is a higher likelihood that youth will continue to be involved due to their investment at the ideation phase. Stakeholder insights further supported that youth-driven content and youth-centered programming can have a higher likelihood of success. Some organizations are already using these approaches, including YTH, The Representation Project, GLSEN, and Advocates for Youth.

2. Utilize online dating platforms to enhance SRHR information diffusion.

Dating apps were used to find hook-up partners, not just relationships. Regardless of how online dating is perceived, there is a growing hook-up culture among youth who use online dating apps. With this culture comes the potential for sharing SRHR information and access to services through online dating sites. Consider partnerships with these platforms or use of online ads to expand SRHR information. The opportunity to connect hook-up culture and online dating to SRHR services could lead to open and healthy conversations between partners, as well as an increase in service utilization.

3. Offer medical services and information online to engage youth.

Youth felt very strongly that seeing a medical provider was the best way to get information about their health, particularly for SRHR issues. Despite this belief, Google was the first resource that youth turned to. Providers could easily bridge this gap by integrating technology into their practice. This may look like online Skype appointments (telemedicine) or creating youth-centered videos of STI prevention methods on Instagram. Some organizations are already moving in this direction with success. Planned Parenthood has launched the apps "Planned Parenthood Direct" and "Planned Parenthood Care,"[26] which offer confidential STI testing kits and online consultations with a provider. More recently, the pornography site Pornhub announced the launch of the "Pornhub Sexual Health Center", a site for SRHR information[27]. Lastly, Amaze.org offers animated sex education videos meant for tweens, parents, and educators to make conversations less awkward and more engaging. These successes can be utilized as resources for medical providers to connect their patients to SRHR information online.

4. Develop SRHR technology solutions for parents and youth in the US South.

In the Southern states, focus group participants were more likely to turn to their family for information about SRHR. Parents were often prioritized over medical providers. At the same time, technology and social media use was still very high among Southern participants. This creates an opportunity to build a technology platform for Southern parents and youth to have access to SRHR information online. Of course, conversations with parents are not standardized. Some participants said they could not receive accurate, or inclusive information from their families. A trusted online source may assist parents in providing accurate, inclusive, and community-vetted SRHR information. Such a tool could increase the power of a family member who is asked questions about SRHR issues.

5. Invest in policy and innovations to improve access of SRHR information through popular search engines like Google.

Most participants named Google as the first place they go to for SRHR information. Nearly 20% of survey respondents completely trusted the information they found on Google. Because of the trust that youth place in Google, there are two opportunities that connect youth to an even better experience. First, working with Google to lift the ban on certain results from appearing in the search window because of "sexually explicit" terms

may lead to more accurate SRHR searches. Second, creating a digital tool with a search feature that is much like Google but for SRHR information may lead to high uptake among youth due to its familiarity, confidentiality, and accessibility.

6. Harness the tools and reach of social media platforms to build a safer space for youth and their identity.

Youth spend a lot of their time on Facebook, Instagram, Twitter, and Snapchat. In both the survey and focus groups, youth shared feelings of cyberbullying and online harassment on these platforms. There is an opportunity to create anti-cyberbullying plugins and apps that combat these issues on social media, as well as utilize existing and expanding tools within many social media platforms today. For instance, Instagram is already working to offer options to connect people to mental health services, while Twitter is trying to block accounts that are harassing others. In 2016, Instagram added new features around online harassment, including disabling comments, flagging comments that may contain abuse, and offering connections to mental health support based on key words found in posts. These platforms reach millions of youth on a daily basis, and offer an expanding opportunity to provide supportive tools to support a safer space.

7. Utilize technology to increase youth interest in SRHR.

As seen in the national survey, SRHR was not a topic that youth were incredibly interested in. When asked what topics were most important to them, the only SRHR-related topic ranked highly was birth control (33%), and that was still sixth in the list. Additionally, female respondents were far more likely to report interest in SRHR health topics than their male counterparts. To increase interest and conversation, SRHR programs can seek to engage with youth in a more technology-based way, such as gamifying content or producing online videos. For example, gamification is an innovative approach that utilizes gaming techniques and technology to engage youth in their health. The use of poll-like posts, contests, or funny content like internet memes can gamify content. SRHR organizations can use interactive social media content to gain more followers and tailor their content to multiple genders—not just young women. Additionally, organizations that are working to empower young men could incorporate more directed SRHR conversations, both in person and online. Much of the SRHR "burden" falls on young women, particularly for contraceptive methods. By encouraging young men to invest in these decisions, there may be more interest.

8. Invest in and disseminate research similar to TECHsex 2017.

Research in this sphere is an investment that can ultimately be heard in a language that a young person speaks. Understanding the current and national trends of online access of youth sexuality and health is vital to informing policy change, interventions, and reaching young people today. The dissemination of similar data and research through online access, national conferences, social media, and peer reviewed journals, informs and benefits the SRHR field, and ultimately, our youth.

9. Work with the gaming industry to combat video game-based cyberbullying and sexual harassment.

Young women shared that online gaming brings with it inevitable online harassment. Often, this online and gender-based violence in the gaming community results in doxing, stalking, and further harassment. While some gaming companies have made steps to combat these issues, it is critical that we work with game developers and programmers to insure that these issues stop. By including gender empowerment messaging, reporting tools, and documentation settings in games that allow players to record incidences, we can empower young people to take control of the situation and stop cyberbullying.

10. Foster peer support in online spaces.

Young people often turned to peers for support for a number of reasons, most often to cope or simply to connect. It is widely known that youth are greatly influenced by their peers, and this influence presents an opportunity for support, particularly with SRHR. If future youth programming can incorporate "online peer circles" as a way to capitalize on supportive relationships, and the ease of online spaces, youth may find more supportive connections. Some potential outcomes of "online peer circles" might be linkages and referrals that are more youth-friendly, strategies that are working for peers who are coping with a health issue, or strengthening relationships and friendships. By adopting "online peer circles" as a critical part of youth programming, we can capitalize on their use of social media and technology to facilitate information sharing in a supportive manner.

V. Conclusion

Conclusion

As social media becomes more rampant and youth turn to Google and online peers for information, it is vital to begin revamping our programs and health interventions to meet the needs of youth. As seen in this report, the majority of youth turn to Google and away from more accurate forms of health information access (i.e., doctors or clinics) due to stigma, embarrassment, or lack of supportive networks. The ease in which social media and online search engines produce health information on demand are more enticing than suffering the embarrassment of asking a parent.

These documented drawbacks to such social media and Google use—finding inaccurate information, becoming preoccupied with social media, and experiencing cyberbullying—make our mission clear. Future programs must integrate the spaces most familiar to youth and alleviate the cons of such spaces.

Health professionals, parents, stakeholders, organizational leaders, and teachers can use this report to understand the complicated relationships that youth have with technology, sexual health, health information, social media, and the internet. We can no longer afford to ignore these spaces as possible avenues of learning and health information dissemination.

By incorporating the data and lessons learned in this report, we are better equipped to create programs authentically, alongside youth, to ensure that their health and wellness is addressed in this new digital space.

References

1. Boyar, R, Levine, D, Zensius, N. TECHsex USA: Youth Sexuality and Reproductive Health in the Digital Age. Oakland, CA: ISIS, Inc. April, 2011.

2. Lenhart, A., Duggan, M., Perrin, A., Stepler, R., Rainie, H., & Parker, K. (2015). *Teens, Social Media & Technology Overview 2015*. PEW Research Center.

3. Madden, M., Lenhart, A., Duggan, M., Cortesi, S., & Gasser, U. (2013). *Teens and technology 2013*. Washington, DC: PEW Internet & American Life Project.

4-7. Lenhart, A., Duggan, M., Perrin, A., Stepler, R., Rainie, H., & Parker, K. (2015). *Teens, Social Media, & Technology Overview 2015*. PEW Research Center.

8. Social media and networking sites used by US teenagers. Statista, 2016. http://www.statista.com/statistics/199242/social-media-and-networking-sites-used-by-us-teenagers/

9. 16 Apps and websites kids are heading to after Facebook. Common Sense Media, 2016. https://www.commonsensemedia.org/blog/15-apps-and-websites-kids-are-heading-to-after-facebook

10. Mitchell, K. J., Ybarra, M. L., Korchmaros, J. D., & Kosciw, J. G. (2014). Accessing sexual health information online: Use, motivations and consequences for youth with different sexual orientations. *Health Education Research*, *29*(1), 147-157.

11. Shegog, R., Rushing, S. C., Gorman, G., Jessen, C., Torres, J., Lane, T. L., ... & D'Cruz, J. (2016). NATIVE-It's Your Game: Adapting a Technology-Based Sexual Health Curriculum for American Indian and Alaska Native youth. *The Journal of Primary Prevention*, 1-22.

12. Young, S. D., & Rice, E. (2011). Online social networking technologies, HIV knowledge, and sexual risk and testing behaviors among homeless youth. AIDS and Behavior, 15(2), 253-260.

13. Reaching Teens Where They Are: A Review of Sexual Health Apps and Digital Tools for Teens," Piscataway, NJ, 2017

14. Widman, L., Nesi, J., Choukas-Bradley, S., & Prinstein, M. J. (2014). Safe sext: Adolescents' use of technology to communicate about sexual health with dating partners. *Journal of Adolescent Health*, *54*(5), 612-614.

15. Wei, J., Hollin, I., & Kachnowski, S. (2011). A review of the use of mobile phone text messaging in clinical and healthy behaviour interventions. *Journal of Telemedicine and Telecare*, *17*(1), 41-48.

16. Bull, S. S., Levine, D. K., Black, S. R., Schmiege, S. J., & Santelli, J. (2012). Social media-delivered sexual health intervention: A cluster randomized controlled trial. *American Journal of Preventive Medicine*, *43*(5), 467-474.

17. Buhi, E. R., Klinkenberger, N., Hughes, S., Blunt, H. D., & Rietmeijer, C. (2013). Teens' use of digital technologies and preferences for receiving STD prevention and sexual health promotion messages: Implications for the next generation of intervention initiatives. *Sexually Transmitted Diseases*, *40*(1), 52-54.

18. Hightow-Weidman, L., Muessig, K., Bauermeister, J., Zhang, C., & LeGrand, S. (2015). Youth, technology, and HIV: Recent advances and future directions. *Current HIV/AIDS Reports, 12*(4), 500-15.

19. Leanza, F., & Hauser, D. (2014). Teens, technology, and health care. *Primary Care: Clinics in Office Practice*, *41*(3), 559-566.

20. Jones, K., Eathington, P., Baldwin, K., & Sipsma, H. (2014). The impact of health education transmitted via social media or text messaging on adolescent and young adult risky sexual behavior: a systematic review of the literature. *Sexually transmitted diseases*, *41*(7), 413-419.

21. MSMGF and Hornet launch Blue Ribbon Boys, an HIV viral suppression campaign. Global Forum on MSM & HIV, 2015. https://msmgf.org/msmgf-and-hornet-launch-blue-ribbon-boys-hiv-viral-suppression-campaign/

22. Boyar, R, Levine, D, Zensius, N. TECHsex USA: Youth Sexuality and Reproductive Health in the Digital Age. Oakland, CA: ISIS, Inc. April, 2011.

23. Djamba, Y. K., Davidson, T. C., & Aga, M. G. (2012). The state of sexual health in the US south: Opportunities and challenges. *Advances in Applied Sociology*, *2*(04), 303.

24. When social media censors sex education. The Atlantic, 2015. https://www.theatlantic.com/health/archive/2015/03/when-social-media-censors-sex-education/385576/

25. How internet filters block sexuality info from teens. Sex, Etc., 2013. https://sexetc.org/info-center/post/how-internet-filters-block-sexuality-info-from-teens/

26. Planned Parenthood's new mobile app brings confidential and convenient STD testing and treatment to your doorstep. Planned Parenthood, ND. https://www.plannedparenthood.org/about-us/newsroom/press-releases/planned-parenthoods-new-mobile-app-brings-confidential-and-convenient-std-testing-and-treatment-to-your-doorstep

27. Pornhub wants to be the hottest destination for sex ed. Mashable, 2017. http://mashable.com/2017/02/01/porn-hub-sex-ed/?utm_cid=mash-com-fb-main-link#BKLOdy9rxSqI

Glossary

Ask.fm: An anonymous question and answer website used by many youth. It is usually used to post anonymous comments and questions, and has been connected to highly abusive comments and cyberbullying instances.

Catfish: The act of creating a fake online dating profile or online identity.

Facebook: A popular social networking site across all ages, but is becoming less popular among youth. Clinics or service sites are using Facebook to advertise services as well as allow for users to rate them. Facebook also allows for users to go live, which means they can livestream video and share what is happening in real-time.

Google: A popular search engine among youth participating in surveys and focus groups, Google is used to locate SRHR and general health information.

Google+: Google+ was created by Google to be a social networking component of the greater Google platform. Google+ did not have a strong uptake among youth compared to other networking sites. It allows users to create profiles for individuals and organizations to connect and follow each other.

ICAH: Illinois Caucus of Adolescent Health.

Instagram: One of the most popular social networking apps youth are using today, particularly for those 18 and under. Because a post is comprised of a photo or video with a caption, content can be exciting and interactive than a solely textual. Instagram recently introduced Instagram Stories, a real-time video streaming activity that rivals Snapchat.

Kik: A chat platform that allows users to connect with friends and groups around the world. Kik is popular among youth because it can function without SMS data. As long as a user has access to Wi-Fi or data, they can connect with other Kik users. Youth use this frequently as an alternative to texting.

Meme: A key element of today's internet culture that is comprised of a viral image or video, usually attached to a humorous message that is shared widely across the internet. Memes have been called the "inside joke" of the internet.

NIMH: National Institute of Mental Health.

Periscope: A livestreaming app created by Twitter. Periscope specifically creates a platform where users share real-time video of their experiences as well as their surroundings. Periscope can be used to document everything from day-to-day experiences to larger scale events, like conferences or protests.

PHI: The Public Health Institute.

PPFA: Planned Parenthood Federation of America.

SRHR: Sexual and reproductive health and rights.

Snapchat: Snapchat is gaining popularity among youth, not only as a new social media app, but as a way to receive information or engage with youth organizations. For purely networking, youth send each other videos and photos that disappear after they are viewed.

Twitter: A social media platform based on news sharing, slightly less common among youth. Twitter is a powerful platform for organizations and professionals to share information and news. With conversations and chats that occur over Twitter, users can engage with each other to share and network.

UCSF: University of California, San Francisco.

WebMD: A popular medical website that has a variety of resources, including a symptom finder, recommendations for when to seek services with a provider, and many more items specific to health.

WhatsApp: A chat app that allows users to chat with friends and groups around the world. It also has the ability to make in-app phone calls, which makes for easy and inexpensive calls, especially internationally. Similar to Kik, it allows users to avoid cutting into SMS limits.

Whisper: A social media platform that allows a user to share personal stories or secrets on their platform. It also allows users to anonymously talk about experiences that may otherwise be hard to share in person.

YAB: Youth Advisory Board, the national group of youth that advises YTH's program development and implementation.