

DIGITAL TOOLS FOR YOUTH MENTAL HEALTH

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YOUNG REVIEWERS:



JORDAN

AGE: 9



LUCAS,
ATREYU,
SARAH,
KATHERINE,
LENA

AGE: 15

Do you ever feel sad, lonely, anxious, or stressed? Everyone experiences these feelings sometimes, but there are resources that can help. Some people think that technologies like social media and video games are leading to stress and anxiety, but technology can actually support people's mental health. In fact, some technologies are made to help people feel happier and less stressed or anxious. Lots of these technologies exist, maybe too many, which makes finding helpful ones hard. Young people are tech-savvy, which might make these tools especially useful for them. To make sure these technologies are helpful for youth, it is important to involve young people in their development. In this article, we will talk about types of digital mental health tools and how they can help. We will also talk about ways to involve young people in the development and testing of these tools.

Unfortunately, many young people experience mental health challenges. For some, these challenges might be occasional feelings of sadness, anxiety, loneliness, or stress. Others might have more serious and long-lasting mental health challenges, including thoughts

ADOLESCENCE

The phase of life between childhood and adulthood. Different groups use different ages but generally the period between 10 to 19.

DIGITAL TOOLS

Software programs or hardware devices that are made to help people's mental health, including websites, mobile apps, games, wearable devices, and virtual and augmented reality.

THERAPY EXTENDERS

Digital tools that are used along with therapy to support skills and strategies learned in therapy.

COGNITIVE-BEHAVIORAL THERAPY

A type of therapy that is meant to help people feel better by changing how they think and what they do.

of suicide, the desire to hurt themselves, or seeing or hearing things that are not really there. Many mental health challenges start in **adolescence** to early adulthood, around the ages of 13–24. This makes these years an important time to provide mental health support. Although therapy is a common solution, it is only one option and many people cannot get or do not want therapy. So, researchers and companies are developing a growing number of digital tools for mental health and testing whether they can help young people.

WHAT ARE DIGITAL TOOLS FOR YOUTH MENTAL HEALTH?

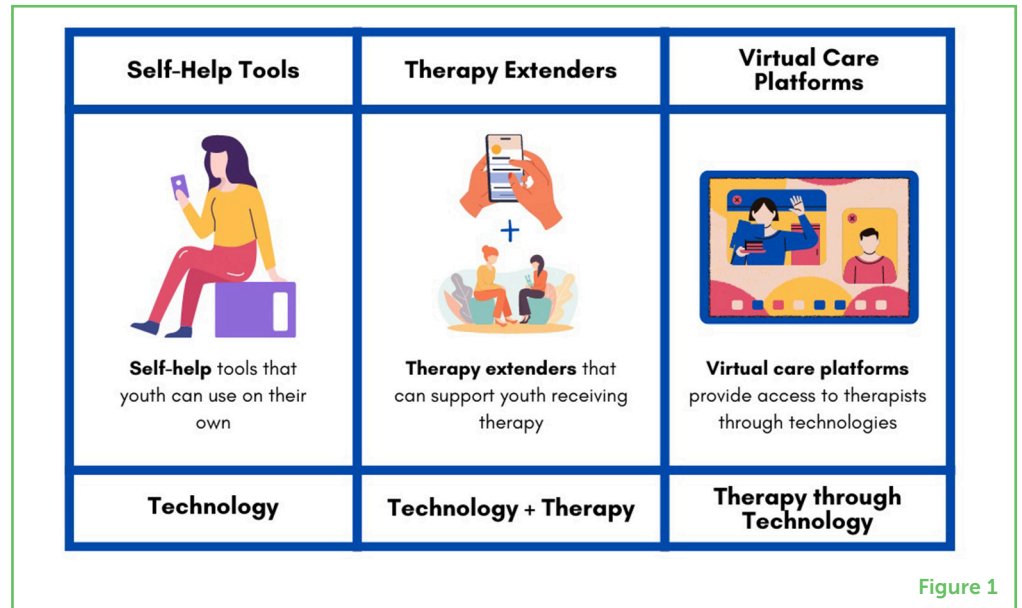
When we talk about technology and youth mental health, many people immediately think about the negative effects that social media and video games can have on young people's mental wellbeing. But when we say **digital tools** for youth mental health, we mean software programs or hardware devices that are made to *help* people's mental health. Most types of digital tools for this purpose are apps that teach young people about the brain and mind, or that keep track of things, like a journal for thoughts or feelings [1]. Some tools are even games meant to help improve the way that young people think and feel. Surveys of young people have shown that over two-thirds have used these tools, usually to sleep better, reduce stress, keep track of how they are feeling, or improve depression [2].

Digital tools can be used in several ways to help support young people (Figure 1). Some can be used on their own, others while seeing a therapist, and still others might help young people to connect with therapists through a technology platform. Self-help tools might be especially helpful when someone is not able to see a therapist, or if someone has to wait a long time to be seen after making an appointment. These tools might also be an ongoing form of support after therapy is complete. Digital tools can teach young people about mental health challenges and provide training in the skills or exercises needed to help them manage their own conditions. An example would be a mindfulness app, like **Headspace**, that has various audio tracks or videos for people who feel stressed, or to help distract and calm people's minds before they go to sleep. Using self-help tools requires a lot of motivation and effort.

Tools called **therapy extenders** can support the skills and strategies learned in therapy, and they can offer young people relief when a therapist is not available—like after office hours or late at night. These tools give therapists more ways to teach mental health skills or ways for their young patients to take the lessons and skills home with them. Many therapy extenders are based on a type of therapy called **cognitive-behavioral therapy**, which is meant to help people feel better by changing how they think and what they do. Therapy extenders can shorten the time needed for therapy and make that time

Figure 1

Self-help tools, therapy extenders, and virtual care platforms are three ways that digital tools are used for youth mental health care.



more helpful. An example would be a cognitive-behavioral therapy app with interactive exercises and a journal for thoughts, feelings, and behaviors, which a patient can bring into sessions to discuss.

VIRTUAL CARE PLATFORMS

Digital tools that connect people to therapists for remote sessions. Virtual care platforms are also sometimes called telebehavioral health.

Virtual care platforms, also called telebehavioral health, are technology tools that connect people to therapists for remote sessions. Virtual care platforms are useful in places where therapists are not available. For example, over half of the counties in the United States do not have therapists available for young people [3]. Virtual care platforms also reduce the need to travel for therapy, as they allow young people to receive services from their own homes. One example is an app called **Brightline**, which young people can log onto and make an online appointment with a therapist. Many self-help apps and therapy extenders are free, but virtual care platforms usually cost money or people's health insurance must pay for them.

Some digital tools may combine the best of self-help tools, therapy extenders, and virtual care platforms. A self-help tool might help people to find a therapist, or a virtual care platform might have lessons, videos, or homework to use between therapy sessions.

DO DIGITAL TOOLS FOR MENTAL HEALTH HELP YOUNG PEOPLE?

Many research studies have shown digital tools for youth mental health work to help young people feel less anxious, stressed, or depressed [4]. Although more than 10,000 of these tools exist, only a small percentage have research studies showing that they work. Tools that involve a human, like a therapist or a coach who supports the use of the tool, are more effective than self-help tools. Digital tools with human

support tend to be just as helpful as our best treatments for mental health challenges.

Young people report liking these tools. Youth are skilled and comfortable using technologies, and digital tools are a convenient way to receive mental health support. But many of these tools do not match the technologies young people like [5]. Many tools use text, rather than audio tracks or videos. Most tools do not have settings that can be changed to fit the user's preferences and interests. Another problem is that some digital tools that are advertised as helpful for young people have only been tested with adults or young adults [6]. More well-designed research needs to be done with young people.

BETTER DIGITAL TOOLS FOR YOUTH MENTAL HEALTH

So, digital tools are a useful option to support youth mental health—but we can still do better. Developers of digital tools must work with young people to design solutions that fit better with the ways youth use technologies and what they want technologies to help them with. Digital tools for youth should also be youth focused—it is often not enough to provide young people with an adult version. Adult versions might have language or examples that do not make sense to young people or may address problems that young people do not have, like the stress of work or managing a family.

One way to make better digital tools for youth is to involve young people in the development process. We call this **co-design**. Co-design includes incorporating young people's opinions early in development, to make sure that all aspects of the digital tools align with what youth want. Many companies creating youth-focused digital tools get ongoing guidance from a youth council or youth advisory group as the tools develop. It is also important to consider what skills are most useful for young people. A recent report identified some of these desired skills, which include aspects of cognitive-behavioral therapy, creative activities, art, and expressing thoughts and feelings through music, written word, or dance [7].

Co-design includes various ways of working with youth, like interviews and focus groups. It also includes sharing prototypes (early versions) with young people to allow them to try the tool and provide feedback before the final version is created. Our own co-design work has focused on understanding what youth want to use in digital tools. We held focus groups with young people ages 15–21 and asked them to use a different tool each week and report back. After trying a few tools, we had the participants create an idea for their own tool. We found that young people want digital tools that are simple and that talk about issues that they struggle with [8]. They want free digital tools and dislike tools that have only a little free content before making people pay for the full version.

CO-DESIGN

A process of actively involving those who will use a product in that product's development. The goal is to ensure user voices and experiences are incorporated into the design.

There is a saying in mental health: “nothing about us without us,” which means if you want to help people, you must include them in making the solutions. Having young people help create digital tools is important for building the best tools in the future.

CONCLUSION

There are many digital tools to support mental health, and young people are using them. We know that some of these tools work, but many have never been tested. Because young people are very familiar with technology, making digital mental health tools for youth makes sense—and young people have shown an interest in these tools. Now that more digital tools are designed for young people, we must test them to make sure they work well. We must also make sure young people are helping to make these tools. If you are dealing with a mental health challenge, it is possible that there is a digital tool that could help you. Young people should know that these tools exist, but also appreciate they are only one choice among the various options available to support their mental health.

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CONFLICT OF INTEREST: SS is on the Scientific Advisory Board for Headspace, for which he receives compensation. SS has also received consulting payments from Boehringer Ingelheim and Otsuka Pharmaceuticals. TH is now an employee at Woebot.

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YOUNG REVIEWERS



JORDAN, AGE: 9

I am in third grade. I enjoy different kinds of science. I like to explore things like different rocks, snails, worms, and I really like to look at different birds. I like to learn about animal habitats. I like to play video games and watch TV, and I like to play many sports such as soccer, baseball, and pickleball. I also like to rollerskate. When I am older, I want to be a scientist that explores space. My favorite animal is a dog because it is furry, cute, and fun to play with.



LUCAS, ATREYU, SARAH, KATHERINE, LENA, AGE: 15

We are a group of students from all over Nashville, who come together once per week to learn more about science, technology, engineering, and mathematics as part of the School for Science and Math at Vanderbilt. We conduct experiments in our classroom and in labs on campus!

AUTHORS



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I am a clinical psychologist and work to use technology to improve the scale and impact of mental health services. In this work, I have developed, evaluated, and deployed digital tools to support people's mental health. I work at the University of California, Irvine in the Departments of Psychological Science and Informatics. I like to spend my free time running, playing basketball, cheering on the Lakers, and hanging out with my kids, who are triplets and super fun. *s.schueller@uci.edu



TRINA HISTON

Trina Histon is a health psychologist whose expertise is in embedding and deploying digital health solutions in care delivery spans more than two decades. Histon was a Senior Principal Consultant in Kaiser Permanente's Care Management Institute (CMI). In that position, Histon helped shape the strategic direction, management and performance of wellness and prevention activities and also led efforts to build, test and scale a digital mental health ecosystem across all Kaiser Permanente markets. Trina Histon is now retired from Kaiser Permanente but can now be found at [Woebot](#).