This teenager is developing a video game that assesses your mental health

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Should you bring your pet pig to a party? A teen's video game inspired by "Minecraft" assesses mental health. Photo: Mojang Photo: Mojang

Last year, high schooler Rasha Alqahtani had a busy schedule. At one point, she had 35 Zoom calls booked and used two calendars to manage her time. The 18-year-old from Riyadh, Saudi Arabia, was laser-focused on an extracurricular project. She wanted to create a video game tool to help diagnose teenagers with generalized anxiety disorder (GAD).

GAD is a condition marked by excessive anxiety and worry about everyday events. It's normal to feel anxious sometimes, but people with GAD have ongoing anxiety that is difficult to control. It interferes with their ability to function.

Alqahtani's project was inspired in part by personal experience with the stressors of the pandemic. The idea won her an award in this year's Regeneron International Science and Engineering Fair, which is a competition for high school students. Alqahtani aims to address problems in mental health care. Treatment can be difficult to access and negative attitudes about treatment are widespread. Psychologists, who study the mind and behavior, say these problems prevent teens from getting mental health care.

Making A Difference For Future Generations

Alqahtani began researching her prizewinning project last year as a participant in Mawhiba. This is a science, technology, engineering and math (STEM) program for gifted-and-talented students in Saudi Arabia. Over Zoom, Alqahtani describes how she wanted to work toward something that would genuinely help people in her generation. She had seen anxiety affect the lives of people around her. To some extent, she struggled with it herself, as "a straight-A student trying to keep perfection."

Alqahtani decided to do something about the anxiety she had noticed around her. She knew that taking the first step of going to a psychologist might daunt some teens. Her observations are backed by research. The World Health Organization reports that anxiety is in the top 10 causes of teen illness and disability. And while at least half of mental health conditions, including anxiety disorders, begin during the teenage years, treatment happens much later. In some cases, it may not happen at all.

Fortunately for people with anxiety disorders, treatments and medication have been scientifically shown to make a difference. But even though effective treatments exist, less than half of young people with mental health conditions will access treatments, said Keith Herman, a professor at the University of Missouri who studies mental health. "That's one of the biggest frustrations and concerns," he said.

Video Game Format Evaluates Teens For Possible Disorder

Alqahtani believes getting a diagnosis, or a doctor's determination of a condition based on its signs and symptoms, is an important step for treating mental health conditions. She also loves playing the video game "Minecraft." So as the pandemic made her and so many others feel anxious, she proposed a research project. She would use the familiar, fun format of a video game to evaluate players for generalized anxiety disorder.

Alqahtani put together a first draft of her test in two weeks. She set her sights on what she calls a feature, which is a module that users would access within a preexisting video game. For the purposes of the prototype, or small-scale solution, she didn't actually create the feature. Instead, she produced a video of what it would look like within the game of "Minecraft." She created a video that looked like "Minecraft: Story Mode," in which players choose their own adventures by selecting how they would like to respond to various scenarios.

In Alqahtani's version, users choose how they would react in different, potentially anxiety-provoking scenarios. In one instance, a friend says, "Don't bring your pet [a pig that's a character in original "Minecraft: Story Mode"] to the party. People will call us losers." The player selects one of two options: "I'm not worried about them, we will have fun!" or "Oh! That will be so embarrassing and terrifying. I'm leaving my pet, but I'm afraid he will hurt himself." In scoring the assessment, the second option would be assigned a value of one point. After completing 13 of these questions, a higher score should signify higher anxiety levels.

Tool Is Solution To Stumbling Blocks

The Regeneron International Science and Engineering Fair had as much as $75,000 on the line, but Alqahtani said she wasn't there for the glory. She just wanted her project to reach and help more people.

Renae Beaumont, an assistant professor of psychology at Cornell University, finds Alqahtani's prototype impressive. Beaumont and other psychologists acknowledge that the typical way of getting a diagnosis today isn't exactly user friendly. Seeing a mental health provider can be expensive. Teens also often have to get the support of a parent, who might have a negative outlook on their child seeking out mental relief.

Alqahtani herself has encountered some of these stumbling blocks. She remembers how, late at night and in the thick of her research project, she felt depressed, anxious and on the edge of tears. She searched for online therapy and found that three virtual sessions would cost $273, which was out of her budget.

Video games, by contrast, offer familiarity and fun, said Kelli Dunlap, a psychologist and a professor of game design at American University. Alqahtani's game may frame personal questions or scenarios in a way that is more relatable and understandable, Dunlap said.

Next Phase Could Be Key To Better Mental Health For Teens

Promising as psychological tools delivered in a video game format might be, there are drawbacks, too. Beaumont and Dunlap questioned whether it's possible to hand down a full-blown diagnosis using only an online test. Mental health providers must gather in-depth information in order to provide a medical diagnosis. They also have to be licensed.

Both Beaumont and Dunlap imagined Alqahtani's assessment as a jumping-off point for teens to access other resources. Alqahtani's test could become part of the field of digital therapeutics, an industry that blends psychology and technology.

Alqahtani will continue to work on her project. This summer, she got special permission to enroll in a game-creation camp, which overlaps with the beginning of her first year of college. Alqahtani is attending King Saud University in Saudi Arabia, where she intends to major in software or biomedical engineering. She plans to add several different measures of anxiety to her game feature to make it more complete.

Alqahtani explains that her Muslim faith holds that every sickness has a cure created by God, even if we haven't found it yet. She wants to help in that healing. The past year of late nights and virtual science fairs, she said, "has been a great, rough, beautiful, happy-sad journey, but I wouldn't do anything to change it."

Quiz

1   Which two sentences from the article include central ideas of the article?

>   *1. She wanted to create a video game tool to help diagnose teenagers with generalized anxiety disorder (GAD).*
>   *2. She also loves playing the video game "Minecraft."*
>   *3. After completing 13 of these questions, a higher score should signify higher anxiety levels.*
>   *4. Alqahtani's game may frame personal questions or scenarios in a way that is more relatable and understandable, Dunlap said.*

>   (A)   1 and 2
>   (B)   1 and 4
>   (C)   2 and 3
>   (D)   3 and 4

2   Which statement would be MOST important to include in a summary of the article?

>   (A)   In Alqahtani's video game users choose how they would react to different scenarios.
>   (B)   The winner of the Regeneron International Science and Engineering Fair received $75,000.
>   (C)   Alqahtani discovered that three virtual therapy sessions would cost her $273.
>   (D)   Mawhiba is a science, technology, engineering and math (STEM) program in Saudi Arabia.

3   Which of these MOST influenced Rasha Alqahtani?

>   (A)   She wanted to win a prestigious science fair for students in Saudi Arabia.
>   (B)   She worked closely with a psychologist and professor of game design.
>   (C)   She experienced anxiety because of stressors from the pandemic.
>   (D)   She received special permission to enroll in a video game-creation camp.

4   According to the article, why did Renae Beaumont find Rasha Alqahtani's prototype promising?

>   (A)   She thinks it will eventually replace traditional diagnosis done by mental health providers.
>   (B)   It could be used to replace licesnisng for psychologists and othe mental health professionals.
>   (C)   She enjoys playing Mindcraft and believes it could inspire people to become psychologists.
>   (D)   The typical way of getting a mental health diagnosis can me intimidating and expensive.