

Study suggests interacting with avatars may reduce depressive symptoms in young adults

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Young adults, in a period of transition, are often reluctant to seek treatment for mental health problems because of the stigma, inadequate insurance coverage and difficulty finding a mental health care provider.

But a new preliminary study by researchers at Case Western Reserve University suggests that depression symptoms may be significantly reduced when 18- to 25-year-olds interact with computerized avatars—virtual 3D images of a healthcare provider like a nurse practitioner or physician —as a way to rehearse office visits ahead of time and learn self-management skills.

Study results were published in the current *Applied Nursing Research* [journal article](#), "Avatar-based depression self-management technology: promising approach to improve [depression symptoms](#) among [young adults](#)."

Melissa Pinto, PhD, RN, a KL2 Clinical Research Scholar and instructor at Case Western Reserve's Frances Payne Bolton School of Nursing, collaborated with developers of the Electronic Self-Management Resource Training (eSMART) team: Ronald Hickman Jr., PhD, ACNP-BC, and John Clochesy, PhD, RN, FAAN (now at University of Southern Florida) from the nursing school, and Marc Buchner, PhD, from the Virtual Gaming Lab at Case Western Reserve's engineering school.

Pinto said the study was the first to her knowledge to use an avatar-based

intervention for this age group to improve [depressive symptoms](#).

The researcher used a Case Western Reserve-designed virtual program, called eSMART-MH. eSMART-MH was adapted from a previous platform (eSMART-HD) designed by the team to help adults with [chronic health problems](#) manage their health.

The interactive avatar program, eSMART-MH, was designed in Buchner's Virtual Gaming Lab and tailored for young adults with depressive symptoms. eSMART-MH walks young adults through healthcare appointments with an avatar healthcare provider in virtual primary care office setting. During these visits, young adults practice talking about depression, ask avatar healthcare providers questions and learn self-managements skills to help manage depressive symptoms.

At this age, a majority of young people do not make contact with [mental health](#) providers until years after they first experience depressive symptoms. And those who do seek professional help may go to their first few appointments, but stop going soon after, said Pinto, who has studied mental health interventions in adolescents and young adults for six years.

The sample of 28 participants between 18 and 25 years old was small—considered a preliminary study to gather data for something more extensive.

Pinto randomly divided the participants, recruited from posters in city buses, into two groups: Half used e-SMART-MH, and the other half used electronic screen-based health information.

Before each of four visits over three months, Pinto tested participants for their depression levels to gauge whether they had incorporated coping strategies from information learned at each session.

Prior research reveals that, without some intervention, depression may resolve temporarily, but usually becomes chronic and reoccurs for many years and worsens over a person's life. In this small pilot study, young adults who received eSMART-MH had a significant reduction in depressive symptoms over the three-month study, and depressive symptoms dropped below level for clinical significance. The young adults who received electronic screen-based information only had no significant change in depressive symptoms during the study. Although the results of this study are promising and exciting, this was the first test of eSMART-MH.

"We are very early in the science. We look forward to assessing the eSMART-MH again in a larger study of young people," Pinto said.

Provided by Case Western Reserve University

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