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Psychologists show new ways to deal with health challenges in space

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As NASA prepares to send humans back to the moon and then on to Mars, psychologists are exploring the challenges astronauts will face on missions that will be much longer and more demanding than previous space flights. Psychologists outlined these mental health challenges Thursday at the American Psychological Association's 116th Annual Convention, and introduced a new interactive computer program that will help address psychosocial challenges in space.

"Lessons learned from the past, research in extreme environments, training, conditioning, and countermeasures for psychological stress are some of the things NASA is in the process of addressing for the upcoming age of exploration," said psychologist Marc Shepanek, PhD, from the Office of the Chief Health and Medical Officer at NASA.

Psychologists said longer missions mean astronauts will be faced with immense psychological pressures as they adjust to being so far away from Earth, which could lead to depression and interpersonal conflicts. The presenters spoke at APA's first symposium to address the psychological challenges of returning to the moon and going to Mars.

Historically, astronauts have been reluctant to admit to mental or behavioral health problems for fear of being grounded. Psychologist James Carter, PhD, and his colleagues are in the process of developing a suite of interactive computer programs, dubbed the Virtual Space Station, using input from 13 veteran long-duration NASA astronauts who have flown on the International Space Station, Mir and Skylab. The

system is being evaluated in a set of randomized controlled clinical trials. This interactive program will help astronauts prevent, detect, assess and manage their own psychosocial problems. They will learn how to cope with depression and how to resolve conflicts with other astronauts.

"Behavioral health problems can interfere with the success of the mission, especially on long-duration space flights like missions to the International Space Station, the moon and Mars. These self-guided software tools will provide private and immediate access to treatments even though the patient may be many miles from Earth," Carter said in prepared remarks. The Virtual Space Station has already been deployed in Antarctica.

However, as astronauts aim to explore a new planet, the one they leave behind could be foremost on their minds. They will have limited contact with their families and radio communications with Mission Control will be delayed, possibly for as long as 40 minutes. In her presentation, family sociologist Phyllis Johnson, PhD, analyzed interviews with astronauts who had spent an extended amount of time in space. The astronauts identified what they felt was the role of NASA, themselves and their families in creating a "home away from home" during their flights. "For example, they emphasized the importance of regular communication regarding work, publicity and education, all of which provide connection to Earth and helped to reduce the perception of isolation," said Johnson.

Psychologists also looked to history for guidance in future space missions. "The closest analogue to Mars exploration is the exploration of Earth," said psychologist Peter Suedfeld, PhD. "Both maritime and terrestrial explorers struck off into the unknown, often for many years at a time." Like space explorers, they had little or no communication with home, and had to devise ways of coping with unforeseen and unfamiliar hardships and dangers. Psychologists are re-examining sea and land

voyagers' diaries, logs and letters for a glimpse into how these explorers dealt with boredom, rebelliousness and dissent. They said it may be best way to predict some aspects of future long-duration missions.

Source: American Psychological Association

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