

Why we won't get to Mars without teamwork

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If humanity hopes to make it to Mars anytime soon, we need to understand not just technology, but the psychological dynamic of a small group of astronauts trapped in a confined space for months with no escape, according to a paper published in *American Psychologist*, the flagship journal of the American Psychological Association.

"Teamwork and collaboration are critical components of all space flights and will be even more important for [astronauts](#) during long-duration missions, such as to Mars. The astronauts will be months away from home, confined to a vehicle no larger than a mid-sized RV for two to three years and there will be an up to 45-minute lag on communications to and from Earth," said Lauren Blackwell Landon, Ph.D., lead author of ["Teamwork and Collaboration in Long-Duration Space Missions: Going to Extremes."](#)

Currently, [psychological research](#) on spaceflight is limited, especially regarding teams. Applying best practices in psychology, the authors offered insights into how NASA can assemble the best teams possible to ensure successful long-duration missions.

Astronauts who are highly emotionally stable, agreeable, open to new experiences, conscientious, resilient, adaptable and not too introverted or extroverted are more likely to work well with others. A sense of humor will also help to defuse tense situations, according to the authors.

The long delay in communication to and from Earth will mean that crews will have to be highly autonomous as they will not be able to rely

on immediate help from Mission Control. The authors said this will be an ongoing challenge and having defined goals, building trust, developing communication norms and debriefing will help alleviate potential conflict.

The researchers also advised the use of technology to monitor the physiological health of astronauts to predict points of friction among team members, due to lack of sleep, for example.

"Successfully negotiating conflict, planning together as a team, making decisions as a team and practicing shared leadership should receive extensive attention long before a team launches on a space [mission](#)," said Landon.

The paper is part of a special issue of *American Psychologist*, focusing on the psychology of teams and teamwork. The issue was guest edited by Susan McDaniel, Ph.D., University of Rochester Medical Center, and Eduardo Salas, Ph.D., Rice University.

Provided by American Psychological Association

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