

Kathryn Keeton, PhD — Industrial and Organizational Psychologist

THE RIGHT STUFF

Since the first astronauts walked on the moon in the 1960s, NASA has earned a reputation for innovation and problem-solving.

As NASA sets its sights on its next frontier — a human mission to Mars — it faces numerous challenges before the first spaceships leave Earth. And while the rocket scientists focus on the mechanics of ensuring a safe vehicle, proper equipment and an appropriate landing site, another kind of professional is helping to ensure the human cargo is prepared for the job.

Enter industrial and organizational (I/O) psychologist Kathryn Keeton, PhD, innovation and strategy manager at Wyle, an engineering and technical services company.

There are many variables to consider for a mission of this magnitude to succeed. Keeton is examining the things that could go wrong on the ground and put the mission in jeopardy.

Earlier in her career, she supported NASA's Human Research Program, which works on various aspects of mission risk. Keeton was responsible for identifying the research needed to mitigate the risks with long-duration spaceflight. For example, long-duration missions require crews to work and live in isolated, confined and extreme environments. Crews face long periods of heavy workload, separation from home and altered day-night/light cycles.

In addition, environmental factors like microgravity, carbon dioxide and radiation may also lead to significant psychological problems and reduced performance.

"I loved this job," Keeton says, "not only because it involved research that was having a real impact on how long-duration missions would be designed, but also because it was a great hybrid of both the operational environment and research."

CROWDSOURCING OUTER SPACE

Today, Keeton is working with NASA to develop the Center of Excellence for Collaborative Innovation. This center is a new approach to solving the complex problems that the staff and scientists at NASA face. Keeton's job is to look for ideas in creative places, crowdsourcing solutions and solving problems in a virtual environment where everyone at NASA can contribute. This virtual platform allows anyone who works for NASA to reach out to other NASA employees when they need help with problems.

The tools that Keeton and her team use to foster collaboration and break down barriers are changing the culture at NASA. This shift is designed to make individuals more aware, more accepting and more willing to try new strategies.

Keeton uses her background in psychology and her understanding of human behavior to guide the project's focus. She works with a team from diverse professional backgrounds such as information technology, marketing and communications, human factors, education, and business management to make sure their approaches are well-rounded.

As NASA sets its sights on completing its missions in space, Keeton is thrilled to be a part of the equation. She credits the opportunities she's had to having been willing to follow her interests, being open to unplanned possibilities, and of course, having a strong background in psychological science.



"Working at NASA, I have a chance to see how psychological concepts are applied in real world settings in ways that have measurable, positive impacts."

I/O PSYCHOLOGY

Industrial and organizational psychologists study and assess individual, group and organizational dynamics in the workplace. They apply that research to identify solutions to problems that improve the well-being and performance of organizations and their employees.

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