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OVERVIEW OF NASA BEHAVIORAL HEALTH & PERFORMANCE STANDARD MEASURES

PROBLEM STATEMENT: Future deep space exploration missions will present challenges to Crew behavioral health and performance greater than those currently faced by astronauts working and living in low Earth Orbit on the International Space Station (ISS), including unprecedented duration and distance, isolation, and confinement under increasingly autonomous operations. Over the years, studies in spaceflight and space analog environments such as remote Antarctic stations have provided valuable insight on the behavioral health and performance risks facing individuals and teams in extended isolation and confinement. However, a limitation of this research and applications to future exploration missions is a lack of standardized measures to enable insights, comparisons, and countermeasure development relative to behavioral health and performance across laboratory, field, operational, and spaceflight settings.

TOPIC: NASA's Human Research Program (HRP) is developing a set of "Standard Measures" for use in spaceflight and spaceflight analog environments to monitor the risks of long-duration missions on human health and performance, including behavioral health, individual and team performance, and social processes. Based on measures selected, developed, and tested under the NASA-funded Behavioral Core Measures project (PI: D.F. Dinges) as well as other projects from NASA's Human Factors & Behavioral Performance research portfolio, NASA's Behavioral Health & Performance (BHP) Laboratory is further evaluating the operational feasibility, acceptability, and validity of a multidisciplinary suite of objective, subjective, behavioral, and biological measures for monitoring monitor behavioral health, individual and team performance, and social processes over time. The inaugural generation of the NASA Behavioral Health & Performance (BHP) Standard Measures includes a neurocognitive test battery, actigraphy, physical proximity sensors, cardiovascular monitors, and subjective self-reports of mood, depression, and various team and social processes and performance outcomes.

APPLICATIONS: The NASA BHP Standard Measures suite and components thereof may be used to inform and monitor behavioral health, individual and team performance, and social processes in research and operations across laboratory, spaceflight, defense, aviation, maritime, energy, business, and other high-performance team and 24/7 operational environments.