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| **Fiscal Year:** | FY 2018 | **Task Last Updated:** | FY 12/14/2016 |
| **PI Name:** | Tannenbaum, Scott Ph.D. | | |
| **Project Title:** | A Multi-faceted Approach to Examine Team Adaptation & Resilience within Isolated, Confined, and Extreme Environments | | |
| **Division Name:** | Human Research | | |
| **Program/Discipline:** | | | |
| **Program/Discipline--Element/Subdiscipline:** | HUMAN RESEARCH--Behavior and performance | | |
| **Joint Agency Name:** | | **TechPort:** | No |
| **Human Research Program Elements:** | (1) **HFBP**:Human Factors & Behavioral Performance (IRP Rev H) | | |
| **Human Research Program Risks:** | (1) **BMed**:Risk of Adverse Cognitive or Behavioral Conditions and Psychiatric Disorders<br>(2) **Team**:Risk of Performance and Behavioral Health Decrements Due to Inadequate Cooperation, Coordination, Communication, and Psychosocial Adaptation within a Team | | |
| **Space Biology Element:** | None | | |
| **Space Biology Cross-Element Discipline:** | None | | |
| **Space Biology Special Category:** | None | | |
| **PI Email:** | scott.tannenbaum@groupoe.com | **Fax:** | FY |
| **PI Organization Type:** | INDUSTRY | **Phone:** | 518-456-7738 |
| **Organization Name:** | The Group for Organizational Effectiveness, Inc. | | |
| **PI Address 1:** | 727 Waldens Pond Road | | |
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| **PI Web Page:** | | | |
| **City:** | Albany | **State:** | NY |
| **Zip Code:** | 12203-6006 | **Congressional District:** | 20 |
| **Comments:** | | | |
| **Project Type:** | GROUND | **Solicitation / Funding Source:** | 2015-16 HERO NNJ15ZSA001N-Crew Health (FLAGSHIP, NSBRI, OMNIBUS). Appendix A-Crew Health, Appendix B-NSBRI, Appendix C-Omnibus |
| **Start Date:** | 10/23/2017 | **End Date:** | 03/12/2020 |
| **No. of Post Docs:** | | **No. of PhD Degrees:** | |
| **No. of PhD Candidates:** | | **No. of Master' Degrees:** | |
| **No. of Master's Candidates:** | | **No. of Bachelor's Degrees:** | |
| **No. of Bachelor's Candidates:** | | **Monitoring Center:** | NASA JSC |
| **Contact Monitor:** | Williams, Thomas | **Contact Phone:** | 281-483-8773 |
| **Contact Email:** | thomas.j.will1@nasa.gov | | |
| **Flight Program:** | | | |
| **Flight Assignment:** | NOTE: Change in period of performance and grant number per J. Garrett/JSC HRP (previous 10/1/2016-9/30/2019, grant NNX16AM17G)--Ed., 7/5/18 | | |
| **Key Personnel Changes/Previous PI:** | | | |
| **COI Name (Institution):** | Mathieu, John Ph.D. ( The Group for Organizational Effectiveness, Inc. )<br>Maynard, Michael Ph.D. ( Safer Healthcare Partners, LLC ) | | |
| **Grant/Contract No.:** | 80NSSC18K0092 | | |
| **Performance Goal No.:** | | | |

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| **Performance Goal Text:** | |
| **Task Description:** | The success of future long duration exploration missions (LDEM) is likely to be contingent on the crew's ability to adjust in response to environment demands. There has been recent interest in team adaptation and resilience in the scientific community, but researchers have noted the need to clarify those constructs. We propose a program of research to: a) clarify and better understand these constructs, in particular with how they operate in isolated, confined, and extreme (ICE) environments and b) based on that enhanced understanding, develop and test targeted countermeasures designed to boost the adaptability and resilience of LDEM crews.<br>Work conducted by Maynard and colleagues (2015), supplemented by the team resilience work of Alliger et al. (in press) – all members of our research team – provides a "road map" for the proposed research. We will first examine the impact of different environmental triggers on team adaptation, incorporating an event taxonomy and categorization schema with which to assess experiences and trigger events. This will allow us to index the types of challenges that LDEM crews will confront. We will test a series of related hypotheses using archival data we collected in prior research in the Human Exploration Research Analog (HERA) habitat.<br><br>We will then examine antecedents and outcomes of adaptation, gathering data in two analog environments. Finally, based on the theoretical and preliminary empirical work, we will develop team countermeasures designed to promote constructive team adaptation and team resilience, and during Years 2 and 3, test those countermeasures in analog environments.<br><br>One of our test environments will be a field setting that involves teams that work in ICE conditions in the oil and gas industry. The second test environment will be a NASA analog, such as NEEMO (NASA Extreme Environment Mission Operations) or HERA, which will provide the opportunity to test the usability of the countermeasures.<br><br>References<br><br>Maynard, MT, Kennedy, DM, & Sommer, SA. (2015). Team adaptation: A fifteen-year synthesis (1998–2013) and framework for how this literature needs to "adapt" going forward. European Journal of Work and Organizational Psychology, 24, 652-677.<br><br>Maynard, M. T., Kennedy, D. M., Sommer, S. A., & Passos, A. M. (2015). Team Cohesion: A theoretical consideration of its reciprocal relationships within the team adaptation nomological network. In E. Salas, Research on Managing Groups and Teams, 17, 83-111. |
| **Rationale for HRP Directed Research:** | |
| **Research Impact/Earth Benefits:** | |
| **Task Progress:** | New project for FY2018. |
| **Bibliography Type:** | Description: (Last Updated: 02/02/2024) |