Fiscal Year:	FY 2022	Task Last Updated:	FY 08/24/2022
PI Name:	Chaspari, Theodora Ph.D.		
Project Title:	Artificial Intelligence for Tracking Micro-Behaviors in Longitudinal Data and Predicting Their Effect on Well-Being and Team Performance		
Division Name:	Human Research		
Program/Discipline:			
Program/Discipline Element/Subdiscipline:			
Joint Agency Name:		TechPort:	Yes
Human Research Program Elements:	(1) HFBP:Human Factors & Behavi	oral Performance (IRP Rev H	(J
Human Research Program Risks:	(1) 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:	chaspari@tamu.edu	Fax:	FY
PI Organization Type:	UNIVERSITY	Phone:	979-458-2205
Organization Name:	Texas A&M Engineering Experimen	nt Station	
PI Address 1:	3112 Tamu		
PI Address 2:			
PI Web Page:			
City:	College Station	State:	TX
Zip Code:	77843-0001	Congressional District:	17
Comments:			
Project Type:		Solicitation / Funding Source:	2020 HERO 80JSC020N0001-FLAGSHIP, OMNIBUS1 Human Research Program: Crew Health Appendix A; Omnibus1-Appendix B
Start Date:	03/09/2022	End Date:	08/31/2023
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:	Whitmire, Alexandra	Contact Phone:	
Contact Email:	alexandra.m.whitmire@nasa.gov		
Flight Program:			
Flight Assignment:	NOTE: End date changed to 08/31/2023 per A. Beitman/JSC (Ed., 2/22/23) NOTE: End date changed to 03/08/2024 per NSSC information (Ed., 2/15/23)		
Key Personnel Changes/Previous PI:			
COI Name (Institution):	Bell, Suzanne Ph.D. (NASA Johnson Space Center) Roma, Pete Ph.D. (NASA Johnson Space Center) Loerch, Linda M.S. (NASA Johnson Space Center)		
Grant/Contract No.:	80NSSC22K0775		
Performance Goal No.:			
Performance Goal Text:			

Task Description:	Future long-distance space exploration will have a number of challenges that increase the risk of inadequate cooperation, coordination, collaboration, and psychosocial adaptation, and can lead to behavioral health and performance decrements. In NASA-sponsored analogs, the primary methodology for capturing team interaction data is self-report surveys. While this method may provide some insights, it has significant limitations and biases. We hypothesize that micro-behaviors detected by artificial intelligence (AI) can provide unique insights into emotional reactivity and operationally-relevant team performance, beyond self-report team functioning measures commonly used in NASA-funded research. Micro-behaviors are small, often unconscious gestures, words, and tone of voice which can influence how included (or not included) the people around us feel. The most common type of micro-behaviors are micro-aggressions, which refer to subte negative exchanges that may take a concealed form, including communications that negate one's thoughts or feelings, offensive jokes/comments, underestimation of the other's ability, or even rudeness and insensitivity. On the other hand, micro-affirmations reflect inclusion and caring and include behaviors such as active listening, recognizing tothers' achievements, and using friendly expressions and tone of voice. While micro-aggressions chan have detrimental impact to well-being and team performance, micro-affirmations can counter-act micro-aggressions in hard effects. Our research has three primary aims: (1) Leverage advanced multimodal data analytics to detecting micro-behaviors in longitudinal team interactions; (2) Identify emotional reactivity to micro-behaviors; and (3) Incorporate knowledge on micro-behaviors to predict operationally relevant team performance. We will leverage natural language processing analytics and build conversational markers of micro-aggressions that can "read between the lines" by knowledge evaluated on longitudinal data previously collected over 45-day mi
Rationale for HRP Directed Research:	
Research Impact/Earth Benefits:	
Task Progress:	New project for FY2022.
Bibliography Type:	Description: (Last Updated: 03/07/2024)