

Fiscal Year:	FY 2009	Task Last Updated:	FY 07/23/2009
PI Name:	Salas, Eduardo Ph.D.		
Project Title:	Optimizing Crew Performance in Long Duration Space Exploration: Best Practices for Team Training and Cohesion Measurement		
Division Name:	Human Research		
Program/Discipline:	HUMAN RESEARCH		
Program/Discipline--Element/Subdiscipline:	HUMAN RESEARCH--Behavior and performance		
Joint Agency Name:	TechPort:	No	
Human Research Program Elements:	(1) BHP :Behavioral Health & Performance (archival in 2017)		
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:	eduardo.salas@rice.edu	Fax:	FY
PI Organization Type:	UNIVERSITY	Phone:	713-348-3917
Organization Name:	Rice University		
PI Address 1:	Department of Psychology		
PI Address 2:	6100 Main Street MS25		
PI Web Page:			
City:	Houston	State:	TX
Zip Code:	77005	Congressional District:	7
Comments:	NOTE: Previous affiliation was University of Central Florida, until mid-2015		
Project Type:	GROUND	Solicitation / Funding Source:	2008 Crew Health NNJ08ZSA002N
Start Date:	08/15/2009	End Date:	08/14/2012
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:	Shea, Camile	Contact Phone:	281-244-2017
Contact Email:	shea@dsls.usra.edu		
Flight Program:			
Flight Assignment:	NOTE: period of performance changed to 8/15/2009-8/14/2012 (from 5/22/09-5/21/12) per JSC (3/10)		
Key Personnel Changes/Previous PI:			
COI Name (Institution):	Fiore, Stephen (University of Central Florida) Smith-Jentsch, Kimberly (University of Central Florida)		
Grant/Contract No.:	NNX09AK48G		
Performance Goal No.:			
Performance Goal Text:			

Task Description:	<p>Specific aims of this project are threefold: (1) identify evidence-based guidelines/best practices for training to maximize team cohesion, and team performance, (2) design, develop, and validate evidence-based instructional strategies to mitigate performance failures from cohesion decrements among spaceflight crews and coordinating ground crews, and (3) design, develop, and validate an evidence-based index measuring and diagnosing cohesion over the course of a mission. These specific project aims meet NASA goals and objectives by capturing cohesion levels shown to be integral to long duration spaceflight mission success as well as developing countermeasures designed to mitigate the negative impact of cohesion issues.</p> <p>Primary tasks for the first year are the development of evidence-based best practices for training crews to optimize cohesion, mitigate negative impacts of long-duration missions, and measure crew cohesion. We will conduct a thorough literature search. Based on information from the review, corresponding quantitative analysis and qualitative synthesis will be conducted detailing the current state of science for building, maintaining, and facilitating effective cohesion in complex, dynamic environments.</p> <p>Second and third years of the project will focus on applying best practices derived from year one research by developing, implementing, and evaluating instructional strategies to maximize crew cohesion and mitigate negative psychosocial impacts of long-duration missions. Project goals are to: (1) mitigate performance failures due to a lack of cohesion between spaceflight crews and coordinating ground crews, (2) diagnose cohesion decrements during exploration missions, and (3) provide just-in-time training to improve any noted cohesion decrements during spaceflight.</p> <p>Overall, this multi-faceted approach will provide comprehensive, evidence-based guidance to NASA addressing (1) questions regarding methods and technologies for monitoring crew coping with the behavioral conditions of spaceflight (IRP Gap - BHP 2.2.1) and (2) best methods for training crews to maintain cohesion and optimal performance during exploration missions (IRP Gap - BHP 2.3.1.).</p>
Rationale for HRP Directed Research:	
Research Impact/Earth Benefits:	
Task Progress:	New project for FY2009.
Bibliography Type:	Description: (Last Updated: 09/04/2023)