Fiscal Year:	FY 2015	**Task Last Updated:**	FY 09/24/2015
PI Name:	Rose, Raphael Ph.D.		
Project Title:	Asynchronous Behavioral Health Treatment Techniques		
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		
Space Biology Element:	None		
Space Biology Cross-Element Discipline:	None		
Space Biology Special Category:	None		
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Zip Code:	90095-1563	**Congressional District:**	33
Comments:			
Project Type:	Ground	**Solicitation / Funding Source:**	2014-15 HERO NNJ14ZSA001N-Crew Health (FLAGSHIP & NSBRI)
Start Date:	07/20/2015	**End Date:**	07/19/2018
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
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Flight Program:			
Flight Assignment:			
Key Personnel Changes/Previous PI:			
COI Name (Institution):	Craske, Michelle Ph.D. (University of California Los Angeles) Wu, Peggy M.S. (Smart Information Flow Technologies, LLC) Barger, Laura Ph.D. (Brigham And Women's Hospital, Inc.)		
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Performance Goal No.:			
Performance Goal Text:			

Task Description:	There are many potential challenges and dangers in carrying out human spaceflight. From a behavioral health standpoint, stress and anxiety-related problems, fatigue/sleep disturbance, and interpersonal conflict, are common problems that can arise for those working in operational environments. Such problems, if not addressed in advance via training, can potentially escalate into significant problems (i.e., anxiety disorder, depressive episode, severe sleep disturbance or conflict) that can seriously impact performance, safety, and well-being. Furthermore, exploration missions present unique challenges to addressing behavioral health issues due to communication delays where real-time communication limitations could hamper the delivery of behavioral health support. The NASA Human Research Roadmap (HRR) identifies the following risks involved with human spaceflight relevant to Behavioral Health and Performance: “Risk of Adverse Behavioral Conditions and Psychiatric Disorders; Risk of Performance Decrements due to Inadequate Cooperation, Coordination, Communication, and Psychosocial Adaptation within a Team; and Risk of Performance Errors Due to Fatigue Resulting from Sleep Loss, Circadian Desynchronization, Extended Wakefulness, and Work Overload.” The NASA Human Research Program Integrated Research Plan (IRP) also identified the following potential gaps in training; “BMed1: We need to identify and validate countermeasures that promote individual behavioral health and performance during exploration class missions. “BMed6: We need to identify and validate effective treatments for adverse behavioral conditions and psychiatric disorders during exploration class missions.” This proposal addresses these risks and gaps by examining and evaluating existing behavioral health techniques and determining the best practices for addressing behavioral health concerns that could arise on exploration missions. Our final research product will comprise several components. The main deliverable will be data from a randomized controlled trial (RCT) examining the efficacy, feasibility, and acceptability of asynchronous behavioral techniques in comparison to traditionally delivered psychotherapy (i.e., in-person) focusing on a behavioral health condition of relevance to spaceflight (e.g., stress, sleep/fatigue, conflict). The behavioral health techniques examined will be evidence-based (e.g., cognitive-behavioral therapy--CBT) and will not consist of new or unvalidated treatments. The RCT will be conducted at the UCLA Psychology Clinic with high functioning and healthy (i.e., no psychiatric or medical disorders) participants who report current symptomatology (e.g., stress, low-level anxiety, or depressive symptoms). The techniques examined in the RCT will be selected, in part, by conducting a comprehensive review of current standards of behavioral health practice for spaceflight, including consultation with behavioral health clinicians at NASA Johnson Space Center (JSC) and subject matter experts. We will also conduct a systematic review of the literature of behavioral health approaches, (e.g., computer-guided, bibliotherapy, smart phone apps) suitable for use in an asynchronous communication environment, in comparison to traditional psychotherapy. Based on information from our reviews and data from the RCT, we will formulate a “best practice guidelines” for addressing behavioral health issues of relevance to exploration missions where communication delays are a concern. The best practice guidelines will comprise behavioral health training and treatment that address pre-mission, mission, and post-mission phases of exploration class missions.
Rationale for HRP Directed Research:	
Research Impact/Earth Benefits:	
Task Progress:	New project for FY2015.
Bibliography Type:	Description: (Last Updated: 02/11/2021)