

PROCHASKA, URI
DHS Coastal Resilience Center
Research Project Work Plan
1/1/2016 – 12/31/2017

1. **Project Title: Communicating risk to motivate individual action**
2. **Principal Investigator:** Dr. James O. Prochaska, Cancer Prevention Research Center (CPRC), URI
3. **Other Research Participants/Partners.**
 - Additional Investigators: Dr. Andrea Paiva, CPRC, URI, Pam Rubinoff, CRC, URI.
 - Significant partner: Pro-Change Behavior Systems, Inc.
4. **Short Project Description.** Communicates risk to motivate action by tailoring communication to diverse populations. Participants receive individualized feedback via online coaching based on their readiness to take action, thereby encouraging them to move forward in the behavior change process to prepare and mitigate impacts of coastal storms.
5. **Abstract.** Efforts to communicate disaster preparedness and risk messages lead to increased public awareness. However, FEMA surveys indicate that the public today is little more prepared to respond to a disaster than it was several years ago. This conundrum reflects the axiom in the science of behavior change that increasing awareness can start the change process, but cannot sustain it; reflecting a disconnect between theory and practice. Behavior change psychology indicates that: 1) the behavior targeted for change must be clearly defined and include specific achievable actions; and that 2) behavior change is a long process where each stage is a small step on the way to permanent behavior change. While efforts at linking behavior change and preparedness have been shown to be successful (Miletti and Darlington, 1995) it is not common place for most emergency managers, communicators and planners to incorporate behavior change psychology when communicating with the public.
 - 1) This intervention will be based on the Transtheoretical Model of Behavior Change (TTM), which has demonstrated with more than 50 risk behaviors that change unfolds over time and involves progress through a series of five stages. 1) Precontemplation (Not Ready): people do not intend to take action in the foreseeable future, usually measured as the next six months. 2) Contemplation (Getting Ready): the stage in which people intend to change in the next six months. 3) Preparation (Ready): people intend to take action in the immediate future, usually measured as the next month. Typically, they have already taken some significant action in the past year. 4) Action: people have made specific overt modifications in their lifestyles within the past six months. 5) Maintenance: the stage in which people have made specific overt modifications in their lifestyles more than 6 months ago.

At each stage, different principles and processes of change need to be applied if populations are to take effective action and maintain that action. This project addresses key questions about what motivates individuals and groups to prepare for disasters before threats exist, when threats exist, and when a crisis is occurring. Our project parallels FEMA's effective application of our TTM Model in the research reported in Preparedness in America.

This project builds upon state-of-the-art approaches to communications designed to reduce risks which most recently was an adapted pilot related to natural hazard preparedness. The primary focus of this project will be on preparedness, which will utilize computer tailored interventions (CTIs) which are online, user-friendly programs that ask a series of questions and provide immediate feedback tailored to the users' responses. The CTI's have the greatest impact across populations and problems. Such communications can produce interventions for entire populations that are fully tailored to each individual and those constructs that drive the most change (e.g. stages of change and pros/cons of changing). Statistical decision-making rules determine the best messages that should be sent and provide feedback on where participants are making their best efforts, where they need to improve, and where they are progressing. The secondary focus will be on mitigation behaviors designed to reduce damage from wind and flooding. These behaviors will be tailored only on the individual's stage of change. Previous research on health risk behaviors has demonstrated that applying CTIs that are fully tailored to a primary behavior (in this case preparedness), and stage tailored to secondary behaviors (in this case wind and flood) has had significant impacts on each behavior.

To evaluate the efficacy of communication interventions, longitudinal studies are necessary over a period of time, including reassessing participants after one and two-year periods to determine how behaviors change by movement through the five stages, and to adjust the individualized coaching accordingly. This is not common practice. This program promotes such an effort and is scalable to large populations to effectively communicate disaster preparedness and risk messages.