The proposed research is designed to study the roles of personality, culture, and group influences on behavior, performance, and health outcomes in winter-over Antarctic research stations. These remote and isolated habitations provide an environment analogous to long duration space missions, such as those planned for the International Space Station and eventually a piloted expedition to the planet Mars. The ultimate objectives of this project are to:

1. Increase our understanding of the effects of personality, culture, and group characteristics on both individual and group performance in extreme environments.
2. Identify those elements of leadership that maximize crew functioning in extreme environments.
3. To understand how individual and group factors affect physical health under prolonged stress.

We will examine changes in weekly self-assessment of individual and group adaptation, monthly levels of several neuropeptides, and other health outcomes, as a function of individual (personality, demographic, personal history) and group characteristics (leader traits, culture mix, group tensions) and local events. This study will use Hierarchical Linear Modeling to partition variance in our dependent variables among relevant individual, group, and time factors.