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***Summary of Presentation for Research on  
Social Structure, Agreement, and Conflict in Groups in  
Extreme and Isolated Environments***

Despite a vast amount of research, little is known concerning the effect of group structure, and individuals' understanding of that structure, on conflict in Antarctic groups. The overall objective of the research discussed is to determine the interrelationships of group structure, social cognition, and group function and conflict in isolated and extreme environments.

In the two decades following WWII, a large body of research focused on the physiological, psychological, and social psychological factors affecting the functioning of individuals and groups in a variety of extreme and isolated environments in both the Arctic and Antarctic. There are two primary reasons for further research of this type. First, Antarctic polar stations are considered to be natural laboratories for the social and behavioral sciences and provide an opportunity to address certain theoretical and empirical questions concerned with agreement and conflict in social groups in general and group behavior in extreme, isolated environments in particular. Recent advances in the analysis of social networks and intracultural variation have improved the methods and have shifted the theoretical questions. The research is motivated by three classes of questions: 1) What are the characteristics of the social relations among individuals working and living together in extreme and isolated environments?, 2) What do individuals understand about their group, how does that understanding develop, and how is it socially distributed?, and 3) What is the relationship between that understanding and the functioning of the social group? Answers to these questions are important if we are to advance our knowledge of how individuals and groups adapt to extreme environments.

Second, although Antarctic winter-over candidates may be evaluated as qualified on the basis of individual characteristics, they may fail to adapt because of certain characteristics of the social group. Consequently, the ability of winter-over groups to adapt to these extreme conditions has varied dramatically from year to year. In the past, differences in personality, background, and social status have led to conflicts between individuals or cliques precipitating, in turn, an overall decline in morale, failure to accomplish work tasks, and increases in insomnia, depression, anxiety, and alcohol abuse. A better understanding of the role of group structure and social cognition in processes of group adaptation and conflict in Antarctica would contribute towards the revision of existing screening methods, potentially leading to a reduction of group conflict and improved performance of scientific research and support activities. An improved screening protocol for the Antarctic would also have applications for other isolated environments such as scientific outposts and the proposed NASA space station.

In sum, this research will (1) contribute significantly to our theoretical understanding of the role of social structure and cognition in the functioning of groups in isolation, (2) complement current work on health and adaptation in polar environments, and (3) provide for models of the formation of group structure that will aid in the development of improved procedures for assembling groups for the Antarctic and other isolated environments (e.g., space stations).



## **Attachment 8**

