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Author: Mrs. Elena Feichtinger
International Astronautical Federation (IAF), France

Dr. Vadim Gushin
Institute of Biomedical Problems (IBMP), Russian Academy of Sciences (RAS), Russian Federation
Dr. Oleg Ryumin
Yu.A. Gagarin Research and Test Cosmonaut Training Center, Russian Federation
Prof. Natalia Kuleshova
Moscow State University, Russian Federation
Dr. Alla Vinokhodova
Institute of Biomedical Problems (IBMP), Russian Academy of Sciences (RAS), Russian Federation

INTERPLANETARY MISSIONS: PSYCHOLOGICAL SUPPORT OF INTERNATIONAL CREWS

Abstract

The current development of international cooperation, assimilation and integration of representatives of different ethnic groups has led to the urgent need to take this factor into account in the planning, organization and implementation of complex scientific and technological projects, such as space exploration missions (Luna or Mars missions). In this regard, it becomes obvious that crew training and in-flight activities of astronauts cannot be planned without considering intercultural relations, including relevant psychological support of international crews, playing a key role for the success of such space missions. The efficiency of the entire range of activities related to space activities in general depends directly on the ability to build cross-cultural relationships between all stakeholders. The main tool of achieving mutual understanding in any kind of activity in general and the work of astronauts, in particular, is communication. Communication among the crew of astronauts and with ground control is strongly impacted by their cultural background and in long-duration space missions this impact is strongly aggravated.

This paper presents a quantitative complex study of the impact of cultural background of members of an international crew on their information and communication needs with the outside world during long-duration isolation and autonomy during the Mars-500 project. The study has led to the development of a scientifically proven approach to the adaptation of psychological crew support in ground-based isolation studies and long-duration space missions considering culturally influenced information and communication needs of the international crew members. It was demonstrated that it is necessary to combine the principle of parity of information support in a long-duration autonomous mission of an international crew with the principle of individualization of psychological support, based on the cultural identity and psychophysiological condition of the crew members.