

SPACE LIFE SCIENCES SYMPOSIUM (A1)
Behaviour, Performance and Psychosocial Issues in Space (1)

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A SYSTEMS APPROACH TO ENVIRONMENTAL EVALUATION, PSYCHOLOGICAL RESPONSES
AND ADAPTATION STRATEGIES IN CONFINED AND ISOLATED GROUPS IN MARS500 STUDY.

Abstract

Long stays in Isolated and Confined Environments (ICE) require effortful adaptation. Its outcome conditions the well-being of the individuals as well as crew efficiency and overall success of highly autonomous long term missions. From the environmental psychology perspective, the person-environment relationship reflects the experience of living conditions (perceived peculiarity, constraints and possibilities for adaptation). It was hypothesized that the evaluation of the situation by an individual plays a significant role in the adaptation process. Within Mars500 analog mission variables linked to perception of the situation, emotional experience and adaptive responses were studied as a system. Personal evaluation of environmental qualities was tested as an indicator of crew members well-being. That included the assessment of the lack of privacy as a specific feature of ICE. The data was collected by means of repeated measures in a group of six male participants during the 520 days confinement experiment. For the environmental evaluation a questionnaire tested during the Wise experiment and in Concordia station was employed. It measured: (a) the evaluation of environmental features; (b) the need for privacy and privacy management; and (c) place appropriation. For the psychological responses assessment the data of Mars500 core measures were used (POMS, STAI, GHQ, etc). The results of the study include observation of the individual differences of environmental evaluations and their dynamics. More specifically, different profiles of privacy definition and management were detected. Some particular consistencies of individual psychological responses and environmental evaluations were observed as well. Overall, the results indicate the successful psychological adaptation of the crew during the mission. The discussion is detailed according to the initial hypothesis: role of interaction between personal, social and contextual variables and a need of balance as an indicator for a successful adaptation.