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Behavior, Performance and Psychosocial Issues in Space (1)

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# DIGGING INTO SPACE PSYCHOLOGY AND ISOLATION: THE MARS520 LODGEAD STUDY

**Abstract**

Our study aims to identify the relationship between physical (e.g., confinement) and social-psychological (e.g. loneliness,) stress factors and the modification of cognitive control processes. Although psychological effects of extended isolation have been investigated, the relationship between control processes and adaptation to an isolated environment, and the effects of the environmental and social-psychological stress on such a relationship have never been studied. Our project, titled 'The effects of group dynamics and loneliness on cognitive and emotional adaptation to extreme, confined environments', was accepted by ESA for inclusion in the Mars520 isolation study carried out by IBMP. Before the Mars520 study is carried out, a Mars-105 pilot study is executed. A first group of 6 volunteers will enter the isolation facility in March 2009 and will leave in July after a 105-day stay. Core data will be gathered by means of own questionnaires, standard psychological instruments experimental tasks, and written log. We hypothesise that through the mission, (1) loneliness will increase, particularly at the end, (2) the expected negative relationships between loneliness (increase) and personal relationships and social support (decrease) will enhance, and (3) increased experiences of stress, e.g., stronger feelings of loneliness, will lead to a decreasing memory for future events, time perception distortions, and less efficient control. In our paper we will present a first impression of the outcome of our research questions.