

HUMAN SPACE ENDEAVOURS SYMPOSIUM (B3)  
Astronauts: Those Who Make It Happen (5)

Author: Dr. Bernadette van Baarsen  
VU medisch centrum, The Netherlands, bernavanbaarsen@gmail.com

PERSON AUTONOMY AND VOLUNTARINESS AS IMPORTANT FACTORS IN MOTIVATION,  
DECISION MAKING, AND ASTRONAUT SAFETY: RESULTS FROM THE MARS-500 LODGEAD  
STUDY

**Abstract**

The present study aims to explore the influence of person autonomy and voluntariness on the level and orientation of motivation and decision making of crew members who live and work in extreme isolated conditions such as occur during long-term space flights. Motivation has been related to positive behavioural (e.g., goal-orientation), cognitive (e.g., attention), and psychological (e.g., well-being) outcomes and is likely to be relevant for safe and favourable extraterrestrial life- and working conditions.

The study has been carried out within the scope of the MARS-500 study which implies a Mars mission simulation of 105 (pilot study) and 520 (main study) days and involves an international crew of 6 men who live(-d) and work(-ed) in hermetically sealed modules in the IBMP facilities in Moscow. The Mars-520 day study is now being executed and ends in November 2011.

Data have been collected by the use of questionnaires that evaluate the Mars experiment in terms of, i.e.,

- information received (“My experiences here are in line with what I was told during the selection and instruction procedure“),
- perceived social pressure (“I don’t feel free to make my own decisions“), and
- personal challenge (“I think that joining the first Mars mission would be a major challenge for me“).

It is hypothesized that adequate information procedures, perceived voluntariness and experienced autonomy will be indicative of lower stress and higher motivation levels. The results will be interpreted in the light of communication, decision processes, and mission safety. Also, moral expectations and ethical considerations regarding future participation in long duration Human missions such as Mars will be discussed.