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Behaviour, Performance and Psychosocial Issues in Space (1)

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SOCIAL DYNAMICS AND PSYCHOLOGICAL WELLBEING ON ISS.
TECHNOLOGIES, DEVICES, BEHAVIORS.

Abstract

The focal point of this paper is to investigate social dynamics within astronauts on the International Space Station (ISS). Space is unlimited, but inside the ISS astronauts live together, for weeks, sometimes months, closed in a narrow environment, confined in a hostile and dangerous situation, away from home and the loved ones.

From a sociological point of view, the ISS represents an interesting experiment, to understand how individual behavior can change or react to a forced cohabitation with people of different countries and cultures, with different habits. And how living constrained in a limited place, with reduced interaction possibilities, can impact on human psychology on a long time. This matter will be particularly important in future interplanetary missions, where astronaut will stay long time away. In this very particular condition, social dynamics may be intensified and even minor matters can have important psychological effects.

The paper, through interviews to astronauts and the analysis of ISS new devices and technologies, such as the ISSpresso coffee machine, the Veggie system or, in the future, the 3D food printer, will reflect on how astronauts face the unconventional situation of living in space, that entails the lack of many comforts we are used to have on Earth. Furthermore the paper will investigate if they change their habits, ideas, behaviors and what kind of solutions they implement to help themselves psychologically and emotionally.

The hypothesis to validate is that sharing meals, taking regular physical activity, having conversations both with other astronauts and with people on Earth through communication technologies, growing plants or flowers, and other, to all appearances, insignificant actions, can help to reduce the distance from home, can facilitate the integration on board and increase the internal wellbeing.

In this framework, that recognize the importance to include ingredient of sensorial pleasure during space missions, the presence of bonus food chosen from astronauts' tastes, the new coffee machine ISSpresso, that reproduce the same coffee that we drink on Earth, the possibility, in the future, to print its own food or to taste fresh vegetables growth on board, make sense. Food on board, as on Earth, has a double meaning: it implies an appropriate nutrition to allow astronauts to accomplish their mission and stay fit, and it represents a convivial moment to relax and socialize, improving team communication.