

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

Author: Mr. Luis Sandoval  
The University of Texas at Austin, United States, sandovlu@gmail.com

Mr. Andrew P. Costigan  
The University of Texas at Austin, United States, apcostigan@yahoo.com

Dr. Ricardo Ainslie  
The University of Texas at Austin, United States, rainslie@austin.utexas.edu

Dr. Martin Orr  
National Institute For Health Innovation Auckland University New Zealand, New Zealand,  
martinorr521@gmail.com

## ASTHENIA: CULTURAL DIFFERENCES CAN AFFECT HOW SPACE AGENCIES TREAT IT

**Abstract**

As humanity reaches further out to space and the duration and demands of missions increase, the international space community must pay closer attention to the physical and mental health of spacecrew members. Furthermore, as the cultural diversity within space teams becomes more common, space communities will need to examine the team members' cultural differences and understand how these differences have an impact on their psychological well-being. Future flight teams, staffed with individuals from different cultures and by different space agencies, will have to cooperate and develop an integrated view on how mental health and related team performance can be optimized and maintained. In order to accomplish this, collaboration amongst the international space programs is imperative. However, reaching this common ground regarding diagnosing and treating team members' behavioural health symptoms remains a challenge today. For instance, the diagnosis and treatment of Asthenia, a controversial mental health condition that some believe can occur during long duration missions, exemplifies some of the current, disparate international perspectives. The literature provides significant evidence that space crews have experienced psychological problems during long-duration space flight, putting themselves and the mission at greater risk. In fact, Russian medical personnel believe that asthenia is one of the greater risks that will affect long-duration crews' optimal psychological functioning. However, NASA and other space agencies typically do not recognize asthenia. This study describes a six-phase systematic literature review of asthenia, in which 13 major databases were examined, and six international experts in related space fields were interviewed. Results indicate that 22 definitions and 62 different symptoms have been associated with asthenia or the related concepts neurasthenia or psycho asthenia. The six most prevalent symptoms were: difficult concentration, fatigue (non-organic related), sleep disturbance, decrease in occupational performance, somatic disease, and irritability. Furthermore, Asthenia was found to have considerable cultural, regional and specialty diagnostic, and treatment variations. When the symptoms of Asthenia were compared with symptoms of other diagnoses, (e.g. depression, dysthymia, general anxiety and chronic fatigue), it was recognized there was significant risk of diagnostic overlap. However, some have concluded that asthenia may exist as an independent psychopathology. This conclusion warrants future research. This research should aim to understand the key symptoms of asthenia, the context in which it develops, the role of cultural variations in the recognition or expression of its core pathology and other rationale for differences in perceived prevalence. This research will facilitate the development of appropriate countermeasures.