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Behaviour, Performance and Psychosocial Issues in Space (1)

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NEW APPROACH TO COMMUNICATIVE PATTERNS EFFECTIVENESS ASSESSMENT IN SPACE  
FLIGHT**Abstract**

Anecdotal information from cosmonauts and astronauts testifies about many cases of crew dissatisfaction with the process of their interaction with MCC during ISS flights. According to some experts (Stuster J 2010), Mission Support does not always see things from an astronaut perspective and even ignores the crew's viewpoint when making decisions and taking action. The analysis of communication between the Russian ISS crews and ground services is being held in Content space experiment (2015 – up to date). In the course of experiment, content analysis of open channel dialogues allowed to validate chosen categories and their dynamic changes in crew-MCC communication during space missions. The main analyzed speech categories refer to procedural as well as stress coping strategies (Suedfeld, P et al 2009). Apart from individual communicative styles highlighted in our previous works (Gushin et al., 2016), we made an empirical observation concerning the patterns of effective and ineffective communication when discussing problems emerging in flight, which lead to a development of a new approach to communicative data from Russian segment of ISS. Using problem-focused approach to communication became a usual practice in small groups activity analysis (Stray, 2014), showing that problem-focused communication and knowledge sharing at team meetings are positively linked to team success. Agile projects analysts describe a “positive procedural communication” (Kauffeld, Lehmann-Willenbrock, 2012) and it corresponds to our observations made in flight. We used the content analysis categories from the data collected from 18 Russian astronauts communication with MCC since 2015 and identified patterns, chains of content analysis categories used in cosmonauts' and their interlocutors' speech that corresponds to effective and ineffective communication, helping or disturbing the problem solving process. Our crew-MCC communication effectiveness estimation is based on the analysis of balance between problem-oriented and emotionally oriented coping strategies monitored in the course of flight problems appearance and resolution. We suppose that domination of such problem-oriented coping strategies as planning; initiative; taking responsibility as well as emotionally-oriented positive reassessment, emotional support and trust helps to mitigate stress and provide effective problem solving. At the same time lack of trust, avoidance of responsibility, sometimes demonstrated by MCC specialists could increase tension with the crew. Understanding of these patterns and subsequent training of MCC to utilize effective coping strategies may improve the communicative process between ISS and MCC.