

SPACE LIFE SCIENCES SYMPOSIUM (A1)

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NEGATIVE THINKING AND COMMUNICATION IN ISOLATION, CONFINEMENT, SLEEP DEPRIVATION

Abstract

Objective: Investigating the change of negative thinking and inter-group communication in isolation, confinement, and sleep deprivation. To observe the validity of sentence completed task in detecting negative emotion and thinking. Methods: Twelve healthy young men were randomly assigned to four teams, each of which was held in a confined ten sq.m. room for three days without sleep or communication with outsiders. Inside the room, the teams performed psychological and performance tasks, including sentence completion task once a day, state anxiety inventory Beck depress inventory twice a day, according to a schedule. Completed sentences were coded by valence (negative, positive, and neutral) and stress-related content (sleep, isolation, confinement, and other). Videos taken of the teams were sampled every 10 minutes and coded for non-communication and communication. Results: The subjects' emotions and thoughts were more negative on the second day, while their neutral thoughts and emotions decreased with the three experiment days. On the second day, sleep deprivation was the more dominant stressor, but the confinement became members' greatest concern in third day. According to the inventories, there is not obvious change in their anxiety emotion, but the depress score showed a trend of low-high-medium. The average rate of communication between the subjects decreased significantly over the three days. Conclusions: Under conditions of sleep deprivation, isolation, and confinement, people's emotions and thoughts become more and more unstable, their depression showed a special fluctuant pattern, and communication within group decreases. The sentence completion tasks offers an idiographic assessment of negative thinking and depression that is complementary to questionnaire measures. This information may be able to help improve the psychological countermeasures and schedule designing that are used in spaceflight, submarine missions, polar explorations, and other activities that involve confinement, isolation, and sleep deprivation.