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THE BASIC COGNITIVE CHARACTERISTICS STUDY OF 2 SUBJECTS IN 30 DAYS SIMULATED
SPACE CONFINED ENVIRONMENT

Abstract

Abstract The emotional and basic cognitive study of 2 subjects were launched in the confined environment with the first 30 days -controlled ecological integration experiments in china, in order to explore cognitive energy variation in a confined environment. The emotional (anxiety, depression, PANS questionnaire survey), prospective memory, time perception, and the biological motion perception tasks were tested. In the experiment there were some useful results, including: Emotional questionnaire results: There are some emotional fluctuations of the two subjects in the experiment, not significantly, and with individual differences. The anxiety questionnaire results showed that the 01 subject with slightly undulating in the early stage of the confined environment, but 02 subject with overall mood fluctuations and with high - low - high trend. And the positive questionnaire results showed that the 01 subject positive emotions states were in the middle level and relatively stable, but 02subject at a high level and undulating.

The Basic cognitive abilities of the two subjects changed a little, overall. The results including: Prospective memory results: the time-based prospective memory of two subjects was a little different trend. The 01 subject's accuracy of prospective memory showed inverted U shape trend, but the 02 subject's of prospective memory with linear downward trend.

Time perception results: the time perception of the two subjects was changed closed about two weeks, with feel that time is more than the actual "long". The trend gradually weakened to subside with the closed end of the experiment time approaching.

In general, the confined environment, especially with long time confined, will lead to the emotional fluctuation and cognitive abilities decline. Some changes were not happened maybe the confined environment was not only for the cognitive experiment, as well as some other experiments, so the subjects' emotional state without big fluctuations.

Overall, although the results were not statistically significant because of the limited number of subjects, but with significance for the further research to explore the human emotional and cognitive abilities variation in space flight environment.

Key words: cognitive characteristics; simulated space; confined environment; 30 days.