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PERSONAL VALUES AMONG CREW MEMBERS DURING LONG-DURATION SPACE MISSIONS:
TEMPORAL PATTERNS AND IMPLICATIONS FOR CREW TENSION

Abstract

The ability of crew members to sustain motivation over prolonged durations is paramount for the success of space missions. This study investigates shifts in motivational goals (personal values) and the impact of value diversity on intra-crew tension among crew members stationed at the International Space Station for 4 to 6 months. Twelve crew members participated in the study. They regularly completing the Portrait of Crew Values Questionnaire (PCVQ) to evaluate personal values, perceived value uniformity, and tension arising from value discrepancies. While personal values remained stable from pre- to post-mission periods, hierarchical linear modeling revealed a decrease in benevolence and an increase in power during missions. Temporary fluctuations in other values were observed, with significant individual variability. Perceived differences in values were associated with tension related to values. Adjustments in value priorities during missions may have facilitated the maintenance of motivation among crew member but could have implications for group dynamics. Pre-mission training and in-flight support should address the management of interpersonal tension stemming from value diversity to mitigate negative outcomes and leverage potential advantages.