Abstract

To examine the relationship between personality, stress coping, and performance of student pilots in a collegiate flight training program.

Method

Participants: 98 students enrolled in the professional Pilot Training Program at the Institute of Aviation, University of Illinois at Urbana-Champaign.

Measures:
- Personality: Cattell’s 16PF test on the first day of ground school and on the following day of flight training.
- Stress coping: COPE scales, administered on the first day of ground school and on the following day of flight training.
- Performance: Students’ grades and other flight performance data were then collected at the end of the semester.

Results

Personality Factors: Five Global Factors and 16 primary personality factors were within the normal range of 4–7 for all factors. Significant differences were statistically significant from the norm on four global and seven primary personality factors.

Stress Coping: The coping strategies adopted by pilots might affect the overall performance. Broadly, our pilots did not report using problem-solving strategies. The most frequently used strategies were emotional support, planning, and active coping.

Discussion

Personality and Stress Coping
- Student pilots have a tendency to be more extraverted, reasonable, vigilant, emotionally stable, and tough-minded yet less self-controlled compared to normal data.
- However, student pilots scored lower on almost all coping strategies, suggesting that they have yet to develop mature ways to deal with the stresses of "real life."
- More extraverted students tended to use seeking social support for instrumental reasons and positive reinterpretation and growth coping strategies. Students with high anxiety tended to utilize behavioral and mental disengagement strategies.
- The significant correlations between personality and coping indicate that personality can be used to predict the type of coping strategies that student pilots use.
- This information may allow interventions to be developed to improve coping strategies for certain pilots that need help dealing with the stressful flight training environment.

Predicting Performance
- Significant correlations between personality and performance variables revealed that different types of personalities may affect student performance.
- Flight performance was influenced most by independence and Extraversion, relative to openness to experience, warmth and dominance. Ground school performance was influenced more by self control and rule consciousness.
- The coping strategies adopted by pilots might affect the overall performance. Broadly, our pilots did not report using problem solving strategies. Rather, they appeared to use less mature approaches such as disengagement and venting.
- These coping strategies may not be as effective in other contexts, such as within a commercial or military aviation environment.

Conclusion

Personality characteristics of the student pilots were significantly correlated with specific coping strategies adopted by the pilots. Also, both personality and stress coping predicted performance variables. While personality is considered a more stable, long-term characteristic, coping styles show greater malleability and thus, opportunities for change. These opportunities mean instructors, supervisors, and counselors have numerous places to make improvements in student pilots’ coping choices via selection, training, and counseling. One should also consider that differences in coping strategies might affect more than performance. For example, coping style may affect self-monitoring and the willingness to admit problems. Such insight could be valuable for teaching both aviation and stress coping skills to students, as well as improving aviation safety programs in general.