

HOW TO HELP PILOT CADETS TO BE MORE ADAPTIVE AND SUCCESSFUL?

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Military aviation activities are articulated around the management of highly dynamic, complex and risky situations. Adaptation demands are high in such professional environment. Cognitive, behavioural and emotional adaptation mechanisms are based on executive functions (cognitive flexibility, predominant responses inhibition, hypothesis-generation, cognitive change for emotion regulation, etc.).

We hypothesized that pilot cadets will benefit from a training program teaching them how to develop their executive functions to cope with military aeronautical situations and stress. Over 16 weeks, a promotion of 22 trainees was divided into two groups (experimental/trained and control). We monitored in each group the values of in-flight performance (evaluated by flight instructors), mood and anxiety (Mc Nair's Profile of Mood States and Spielberg's STAY-YA questionnaires) and evolution of stress management mode (specific questionnaire).

We observed a significant in-flight performance improvement of the second half of the experimental group – cadets who were experiencing the worst in-flight difficulties. The number of trainees who mentioned having changed their mode of stress management was significantly higher in the experimental group than in the control group. Sixty four percent of the experimental group cadets stated that the training had been useful to gain a better understanding of events and reduce stress. However, the scores of anxiety and mood were not different between the 2 groups, which demonstrates that the comprehension of the source of gain are not simple.

In order to specify and understand deeper the nature and cause of these effects, we are carrying out a replica study with additional measurements: physiological measures of stress, coping strategies questionnaire and performance evaluation in a complex, uncertain and risky simulated flight scenario.

The presentation will give details on these two studies and orientations for potential systematic application to the French Air Force training schools.

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