Douglas A. Wiegmann, Julian Goh, David O’ Hare. The role of situation assessment and flight experience in pilot’s decisions to continue visual flight rules (VFR) flight into adverse weather. Human Factors 2002; 44(2) : 189-197.

Visual flight rules (VFR) flight into instrument meteorological conditions (IMC) is a major safety hazard in general aviation. The purpose of the study was to empirically examine how the location of weather along the flight path affects pilot’s decisions either to continue a flight into adverse weather or to divert. In this study the authors examined pilot’s decisions to continue or divert from a VFR flight into IMC during dynamic simulation of a cross-country flight. Pilots encountered IMC either early or later in the flight, and the amount of time and distance pilots flew into adverse weather prior to diverting was recorded.

The study results revealed that pilots who encountered the deteriorating weather earlier in the flight flew longer into the weather prior to diverting and had more optimistic estimates of weather conditions than did pilots who encountered the deteriorating weather later in the flight. Both the time and distance traveled into the weather prior to diverting were negatively correlated with pilot’s previous flying experience. The findings suggest that under these conditions, VFR flight into IMC may be attributable in part to poor situation assessment and experience rather than to motivational factors and risk taking behaviours that increase with time and effort invested in the flight. Authors suggested, intervention should focus on improving weather evaluation skills in addition to addressing risk taking attitudes. Initial evaluation of weatherwise computer-based training, recently developed for the Federal Aviation Administration by Wiggins and O’ Hare have shown positive effects on aeronaautical decision making.

In conclusion the authors suggested further research in development of such effective interventions and deeper understanding of naturalistic decision-making processes.


Human error remains the largest single cause of accident in aviation. The term pilot error is often misleading because it implies that pilot alone was the sole cause of the accident or incident that occurred. However, there has been increasing awareness of the importance of other factors that have as much, if not more, of a role in contributing to accident onset. Alarmingly, the increase in automation from a technology-centered perspective has actually increased the possibility of human error. Pilots are expected to remain alert even during the boring periods and to assume control skillfully in the event of system failure. In addition, the complacency that may accompany prolonged reliance on automation may impair pilot’s ability to “return to manual” control from the “electronic team members” (automation).

Such a concern has resulted in a number of human-centered automation concepts that have been proposed to improve the pilot-automation interaction. One such concept that has been termed adaptive automation. Adaptive automation refers to automation that is invoked in response to changing...
task demands. Unlike traditional forms of automation, adaptive automation attempts to regulate pilot's situation awareness and the capabilities through real-time task mode changes between the automated system and the pilot. The traditional approaches to training no longer seem adequate to prepare pilots for their new task of supervisory control of highly dynamic, complex system. The article describes how these new forms of automation such as adaptive automation improves the human automation interaction.

Self-regulation may represent another tool for supporting human-centered design. Psycho physiological self-regulation refers to a person’s ability to control affective and cognitive states on the basis of autonomic nervous system and central nervous system functioning. The author describes, how neurofeedback provided during training allowed the participants to better manage their cognitive resources and thereby regulate their engagement state, allowing them to better respond to a change in automation mode.


As airforces all over the world are opening combat aviation to women there is a need for research dealing with gender-specific physiological and psychological variables that might affect women's performance in flight and particularly their acceleration tolerance. The study is also relevant in view of the induction of female pilots in the Indian Air Force since 1995.

The result shows Relaxed ROR tolerance for women was $4.24 \pm 0.38$ G and the GOR tolerance was $5.24 \pm 0.8$ G, revealing no significant gender difference.

The study opens the door for future studies incorporating AGSM for possible induction of women into the fighter fleet. As there are no significant differences between male and female acceleration tolerance, the qualitative requirement for future aircraft induction or development can be based on the data available for males.

Daily doses of multivitamin tablets: Bender DA BMJ 2002; Vol 325: 173-74

Almost 20-30% of the population in developed countries take a daily vitamin supplement. Does it do them any good is the big question. The editorial discusses methodologies to answer this question. The first approach is to identify biomarkers of optimum nutritional status, to identify nutrients associated with a lower incidence of chronic diseases followed by intervention studies.

Based on current data available, the editor concludes that 'unless our intake is inadequate as a result of a poor diet, supplements will probably do us no good'. There is however sound evidence to support the use of folic acid periconceptually and vitamin D by elderly people.