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### **EFFECTS OF SIMULATED VFR FLIGHT INTO IMC ON PILOTS' CONFIDENCE AND PERCEIVED RISK.**

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**Problem.** Visual flight rules (VFR) flight into instrument meteorological conditions (IMC) is a major safety hazard in General Aviation (GA). Overconfidence and lack of appreciation for the risks are often cited as contributing factors to these events. Exposing pilots to hazardous weather (either with an instructor or in a simulator) may be one way to address this problem. However, anecdotal reports suggest that pilots' overconfidence and low risk perceptions are actually due to successful prior attempts to navigate through adverse weather. Interventions that expose pilots to bad weather, therefore, might ultimately prove counterproductive. The present study further examined this issue. **Method.** Non-instrument rated pilots flew simulated VFR flights into IMC and then perform a 180 degree turn to exit the weather. There were three conditions. Pilots in the difficult condition flew VFR into IMC involving high turbulence. Pilots in the easy condition flew the same route with low levels of turbulence. Pilots in the control condition flew the same simulated route without clouds or turbulence. All pilots indicated their level of confidence in performing 180 degree turns before and after the simulations, as well as their perceived risks of VFR flight into IMC. **Results.** A greater proportion of pilots in the difficult condition became less confident after the simulation compared to controls. On the other hand, a greater proportion of pilots in the easy condition became more confident after the simulation compared to controls. Risk perceptions were relatively unaffected by the simulation. **Conclusion.** Simulations may be successful in reducing pilots' confidence in their abilities to fly VFR into IMC, opening the door for the development of intervention strategies. However, simulations need to be sufficiently difficult to have the desired effect. Easy simulations could increase pilots' confidence and be counterproductive. Methods for addressing risk perception also need to be explored.