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## AGE AS A FACTOR IN DAMAGE OR INJURY AMONG GENERAL AVIATION PILOTS

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**T**his research utilized the U.S. National Transportation Safety Board (NTSB) aviation accident/incident database from 1982-2016 to examine differences in severity of accidents by age for general aviation. The NTSB data set uses strict coding for each accident (damage to plane/injury to individuals) and incident (all other events). Of particular interest in for this study were number of flight hours for pilots, degree of damage to the plane (none, minimal, substantial, destroyed), and degree of bodily injury (none, minor, serious, fatal). There were 74,686 entries in the database. For this study, commercial (14 CFR part 121 and 135) operations were excluded as were home-built aircraft, helicopters, and gliders, leaving 61,363 events. Males were 91.8% with females at 3.7% (4.5% missing). The average age for pilots was 45.29 (SD=14.63). The mean number of flight hours for pilots was 2822.55 (SD=4980.61, SK=3.58). An ANOVA by age across damage levels was significant,  $F(3,60302)=4.06, p=.007$ . Post-hoc test indicated there were significant differences between no damage and substantial ( $p=.001$ ) and destroyed ( $p=.005$ ) but no other levels. An ANOVA by age across highest injury levels was also significant,  $F(3, 61312)=110.94, p<.001$ . Again, post-hoc analysis indicated significant differences between all levels of injury. This study indicated that there are differences in the degree of damage and injury related to aviation accidents based on age. While the cause of this increase has not yet been identified, pending examination of NTSB codes related to physical and psychological factors, currently underway, this preliminary examination begins to identify age ranges that become problematic with air flight operation.

### Biography

Michael Politano completed a doctorate and post-doctorate in clinical child psychology. He also holds a master's degree in religion. He has held the post of Head of Psychology at the Citadel and is currently a Professor of Psychology. He has published and/or presented over one hundred referred papers. He is co-author of *Statistics and research methodology: A gentle conversation*, and *Introduction to the process of research: Methodology considerations*. He is also author and illustrator of *A pig in a tree* and author of the novel, *Tag and Chubs*.

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