

*Comprehension of Safety Briefing Card Pictorials and Pictograms:
Presentation Factors and Passenger Attributes*

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Federal regulations require airlines to provide safety briefings and briefing cards to inform passengers of routine and emergency safety procedures onboard transport airplanes. The exact content and presentation media used for safety briefings and cards are the responsibility of the airlines to implement, as long as the required minimum safety information is delivered. Consequently, passenger safety briefings and briefing cards vary greatly, and passenger attention to such briefings has been poor at best. Studies have shown that typical passengers, even those who report that they pay attention to passenger safety briefings and briefing cards, have little personal knowledge and understanding of the information they've been given to improve their chances of survival. One strategy to increase safety knowledge among passengers is to improve the comprehensibility and appeal of safety briefings and briefing cards.

The present study was intended to address the current state of the art for airline safety briefing cards and was motivated, in part, by National Transportation Safety Board recommendations and research results demonstrating that passenger attention to safety information is waning. Pictorials and pictograms, selected from safety briefing cards currently used by airlines, and graphical symbols, approved by the American National Standards Institute (ANSI) and commonly found in buildings or other modes of transportation, were presented in open-ended-question format. The 785 participants were recruited from high schools, public and federal offices, cabin safety workshops at the FAA Civil Aerospace Medical Institute, and the SAE International Cabin Safety Provisions Committee, S-9.

Responses were categorized, based on correctness, and then transformed, using a weighting algorithm, to yield comprehension scores for each pictorial/pictogram. The scores ranged from 28.8% to 96.3%, with a mean comprehension of 65%. Only 29% of the scores exceeded the International Organization for Standards (67%) acceptance criterion, and only 8.3% exceeded ANSI (85%) acceptance criterion. Comprehension scores for the ANSI symbols ranged from 40.5% to 97.6%, for an average "symbol literacy index" of 75%. Comprehension of pictorials/pictograms was related to the familiarity that cabin safety professionals and high flight-time passengers have with safety briefings and briefing cards.

Results indicate that safety briefing card pictorials/pictograms need to be designed and implemented with respect to novice passengers who do not have a prepotent understanding of the design and operation of transport aircraft, emergency equipment, and/or aircraft emergency procedures. Furthermore, textual clarifications to make safety information more meaningful could be expected to improve poor passenger attention to briefing cards that is prevalent throughout commercial aviation.