BY RICK DARBY

Fire Away

A survey suggests crewmember skepticism about firefighting training.

Personnel who had experienced an aircraft fire were less convinced about the efficacy of firefighting training than those without similar experience, according to a survey conducted for the U.K. Civil Aviation Authority (CAA).[1]

"The broad objectives of this study were to evaluate current and possible future issues, and identify potential improvements to existing fire training in order to ensure that cabin crew have the most appropriate training and procedures to match current and likely future

fire threats," the CAA report says. An online survey was conducted using a Web page, with cabin crewmembers, flight crewmembers and safety instructors as the majority of respondents. Results were obtained from 66 countries, but because of various factors that made comparisons from different countries problematic, only those from the United Kingdom were analyzed in detail.[2] All data in this article represent U.K. respondents.

The vast majority, 91 percent, had no experience with in-flight fire; 3 percent had witnessed an in-flight fire; and 6 percent had been involved in fighting an in-flight fire. Most, including 84.4 percent of those without in-flight fire experience and 73.3 percent with in-flight fire experience, said in answer to a survey question that they believed the amount of time spent on theoretical training in firefighting was sufficient.

In answer to a question on practical training, 41.4 percent of respondents without in-flight fire experience thought the duration was too short, 56.4 percent thought it was sufficient and 1.5 percent rated it too long. A higher proportion of respondents with in-flight fire experience, 51.4 percent, thought it was too short.

Other questions were based on a rating scale, in which respondents indicated agreement or disagreement with various statements. The scale was from "strongly disagree," assigned a value of –2, to "strongly agree," assigned a value of 2. The responses were averaged for each group — those with fire experience and those with no fire experience. The average reflected the group's overall attitude or perception concerning the statement. For example, an average of 1.5 can be understood as general agreement, although less than strong agreement.

The highest percentages of "agree" responses were for the statement that "the fire training equips cabin crewmembers to extinguish any fire visible in the cabin." More than 50 percent of the respondents with firefighting experience — the experienced group — and more than 60 percent of those who had no firefighting

experience — the inexperienced group — agreed. In both groups, strong agreement was expressed by about 20 percent.
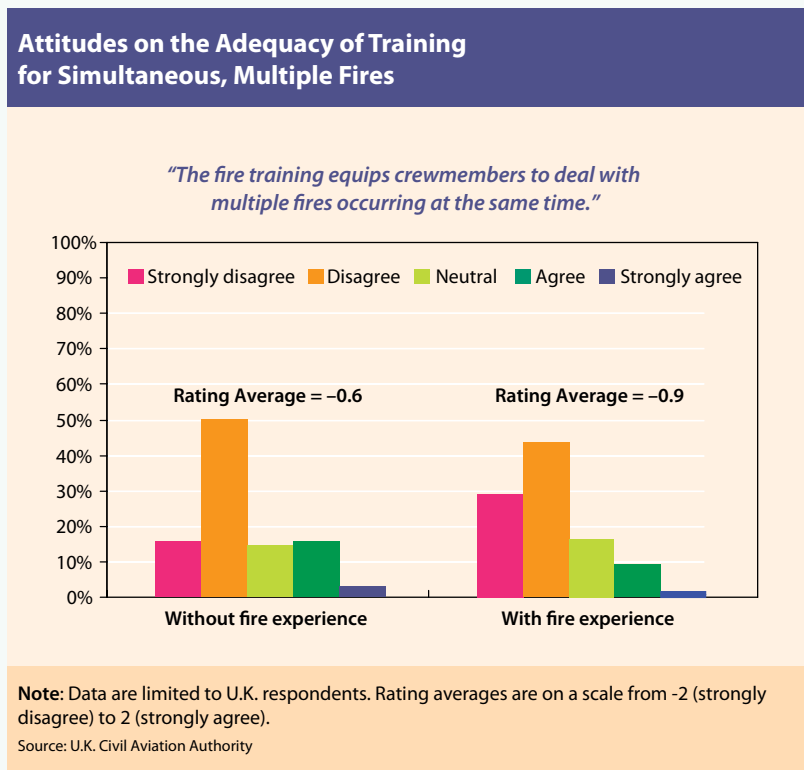
Less confidence was indicated for more-complex scenarios.

To the statement, "The fire training equips crewmembers to extinguish a fire behind the cabin panels," the experienced group and the inexperienced group had similar rating averages, 0.41 and 0.4, respectively. That is, both groups agreed to a small extent with the statement.

Similarly, both groups had an overall negative response to the statement, "The fire training equips crewmembers to deal with multiple fires occurring at the same time" (Figure 1). But the experienced group was more dubious.
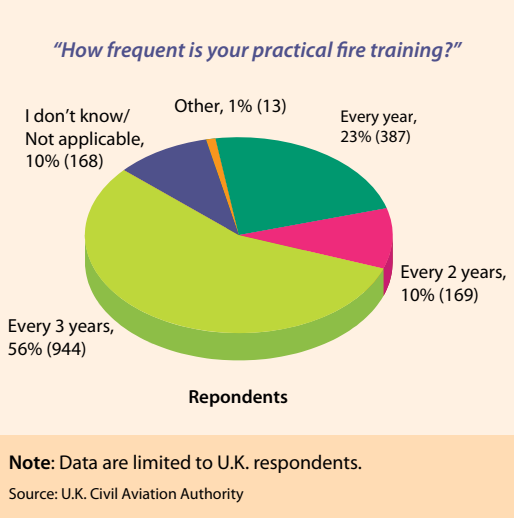
To the statement, "The training for the management of passengers in the event of in-flight fire is adequate," the experienced group mildly disagreed with an average of –0.12, while the inexperienced group agreed weakly, with an average of 0.23.

Less confidence was indicated for more-complex scenarios.

Attitudes on the Adequacy of Training for Simultaneous, Multiple Fires

"The fire training equips crewmembers to deal with multiple fires occurring at the same time."

Legend: ■ Strongly disagree ■ Disagree ■ Neutral ■ Agree ■ Strongly agree

Without fire experience — Rating Average = –0.6
With fire experience — Rating Average = –0.9

Note: Data are limited to U.K. respondents. Rating averages are on a scale from -2 (strongly disagree) to 2 (strongly agree).
Source: U.K. Civil Aviation Authority

Figure 1

Frequency of Practical Fire Training

"How frequent is your practical fire training?"

I don't know/Not applicable, 10% (168)
Other, 1% (13)
Every year, 23% (387)
Every 2 years, 10% (169)
Every 3 years, 56% (944)

Repondents

Note: Data are limited to U.K. respondents.

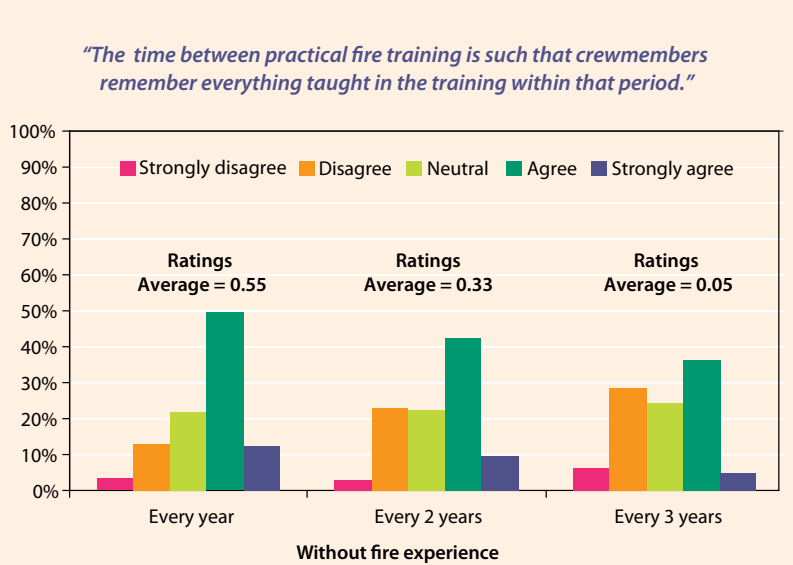Source: U.K. Civil Aviation Authority

Figure 2

The survey asked respondents how frequent their "practical" fire training had been (Figure 2). The largest proportion, 56 percent, reported they had undergone such training every three years. "Every year" was a more common response than "every two years."

Respondents were presented with the statement, "The time between practical fire training is such that crewmembers remember everything taught in the training within that period" (Figure 3). Among the inexperienced group, those who received training every year averaged a greater agreement than those who were trained every two or every three years, although in no case did the average rise to an unqualified "agree" score of 1.

For the experienced group responding to the same statement, the averages showed less agreement (Figure 4). The annually trained members of the group had the most favorable opinion of their ability to recall all the practical training.
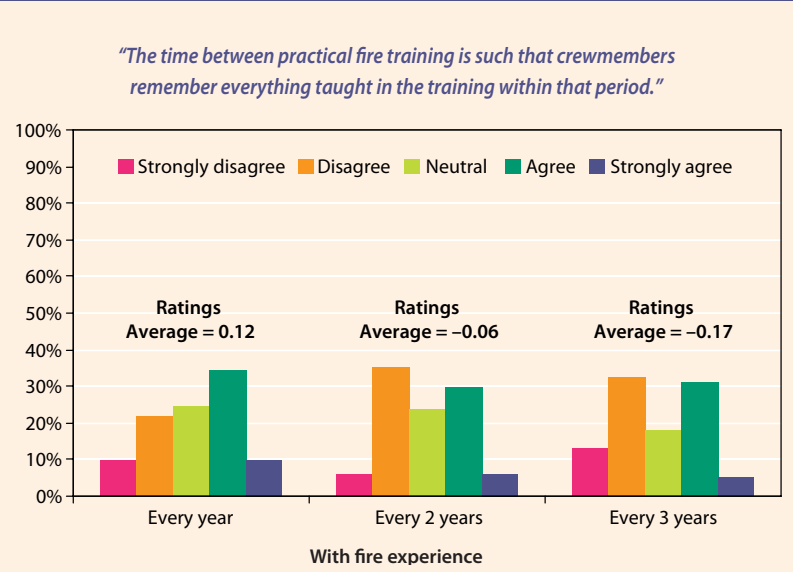
"Respondents were asked about their perception [of] the realism of fire conditions during their practical training," the report says. "This was obviously very dependent on their operator/training provider's training practice and facilities, which might contribute to the polarity of the responses seen in the distributions" (Figure 5).

## Attitudes on the Efficacy of Practical Fire Training, Inexperienced Groups

"The time between practical fire training is such that crewmembers remember everything taught in the training within that period."

Legend: Strongly disagree | Disagree | Neutral | Agree | Strongly agree

Every year: Ratings Average = 0.55
Every 2 years: Ratings Average = 0.33
Every 3 years: Ratings Average = 0.05

Without fire experience

Note: Data are limited to U.K. respondents. Rating averages are on a scale from -2 (strongly disagree) to 2 (strongly agree).

Source: U.K. Civil Aviation Authority

Figure 3

Attitudes on the Efficacy of Practical Fire Training, Experienced Groups

"The time between practical fire training is such that crewmembers remember everything taught in the training within that period."

Legend: Strongly disagree | Disagree | Neutral | Agree | Strongly agree

Every year: Ratings Average = 0.12
Every 2 years: Ratings Average = −0.06
Every 3 years: Ratings Average = −0.17
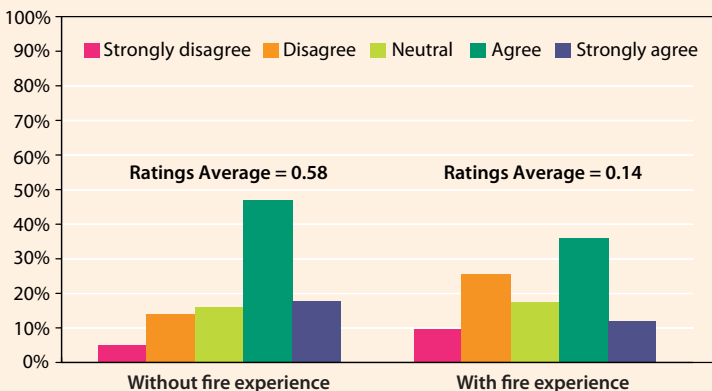
With fire experience

Note: Data are limited to U.K. respondents. Rating averages are on a scale from -2 (strongly disagree) to 2 (strongly agree).

Source: U.K. Civil Aviation Authority

Figure 4

Attitudes on the Realism of Fire Conditions During Training

"The fire conditions experienced during the training are realistic."
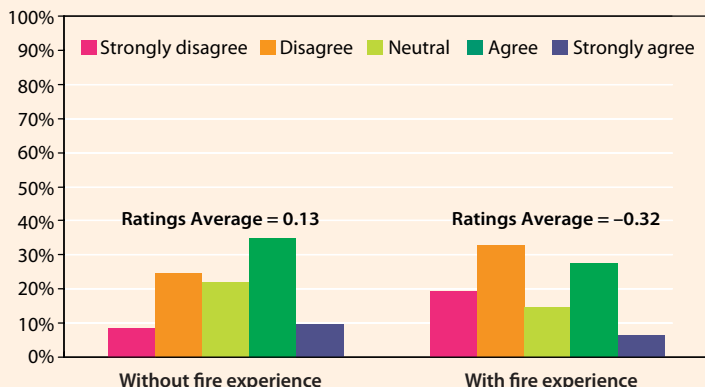
Note: Data are limited to U.K. respondents. Rating averages are on a scale from -2 (strongly disagree) to 2 (strongly agree).
Source: U.K. Civil Aviation Authority

Figure 5

Attitudes on the Realism of Smoke Conditions During Training

"The smoke conditions experienced during the training are realistic."

Note: Data are limited to U.K. respondents. Rating averages are on a scale from -2 (strongly disagree) to 2 (strongly agree).
Source: U.K. Civil Aviation Authority

Figure 6

The respondents' attitudes on the realism of smoke conditions during training were positive overall (Figure 6). Again, the inexperienced group was most in agreement.

Besides the numerical scales, the survey included comments from respondents.

A cabin crewmember said, "It is a little unrealistic to simulate a fire from an overhead locker with red/orange LEDs [light-emitting diodes] and lots of smoke."

"Simulating a fire can only go so far, for various reasons including health and safety and a duty of care," said a training manager.

A flight crewmember said, "Briefly handling an extinguisher once a year, and squirting one every three years is insufficient to retain any practical skill — particularly when such ability is to be used under pressure."

A cabin crewmember said, "Practical [exercises] seem to center around toilet and oven fires. I think our practical training for these types of fires is good, but fires behind panels are covered theoretically only."

"Comments indicated that there was a high variability in the standard of training facilities," the report says. "Some fire training facilities involved open-air constructions bearing very little resemblance to an aircraft cabin."

Some comments suggested that fire training should include more than just firefighting techniques — for example, "the communication/coordination procedures and other aspects such as locating [the] fire, locating and removing firefighting equipment, and passenger management. Respondents also suggested training in firefighting while using the appropriate protective equipment such as fire gloves and [protective breathing equipment]."

Some respondents thought a prescriptive chain of command, such as "Firefighter — Assistant Firefighter or Coordinator — Communicator" was too rigid: "It was suggested that it might dissuade cabin crew from using their common sense and judgment." 🌀

Notes

1. Asmayawati, Saryani; Butcher, Nicholas; Cherry, Ray. "Cabin Crew Fire Training." U.K. CAA Paper 2009/01. April 2009. Available via the Internet at <www.caa.co.uk/docs/33/2009_01.pdf>.

2. The report notes that self-selection bias should be taken into account, because "those having strong views [were] more likely to respond than those who were less concerned."