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Economic factors contribute to pilot commuting time and stress.

The Pilot Diaspora

BY SIMON BENNETT

Concerned about developing a fuller understanding of pilot fatigue, stress and other factors, in 2010 the British Air Line Pilots' Association (BALPA) funded our project to investigate the pilot lifestyle. BALPA intended to use the study to inform the European Aviation Safety Agency's deliberations on a new Europe-wide flight time limitation (FTL) scheme. BALPA knew that an FTL developed without reference to an *accurate* model of pilots' physical and psychological capacities and general behavior patterns might increase operational risk.

While there has been some research into the pilot lifestyle over the years, the BALPA-funded study was notable for its scale. Three research instruments were used: a sleep log (SLOG), an on-line questionnaire and interviews (*ASW*, 9/11, p. 58). Pilots kept SLOGs, ranging in length from 2,000 to 9,000 words, for three weeks. By the end of the research period (summer 2010–spring 2011) over 130 SLOGs and 433 questionnaires had been analyzed.[1]

Of the many findings suggested by the research, we will discuss here several that have received relatively little attention in discussions of pilot schedules, duty time and fitness.

Roster Instability

Most pilots in our survey understood that rosters could be changed at short notice. To anticipate the worst-case scenario, most went to bed when they could. Few, however, were able to "sleep to order," resulting in long periods of wakefulness and sleep debt. It was concluded that roster instability creates a latent risk.

Crewing and rostering officers are either assuming that pilots can sleep to order, or are ignoring evidence that pilots can't. By overturning pilots' plans for rest and recreation, roster changes upset the work-life balance.

More than 73 percent of respondents said they had felt unduly stressed at work. Nearly 80 percent of respondents said the same about home life. More than 40 percent of respondents said that relationships with partners and/or offspring had affected their working life. Nearly 20 percent said they had sought advice or help for a domestic relationship issue.

Researcher J.A. Young noted, "Even for the most expert or skilled

performers, it is likely that cognitive processes, at one time or another, will be affected by life stress in a way that impairs performance."[2]

A Pilot Diaspora

Escalating training costs and downward pressure on salaries affected pilots' finances and domiciles. As one remarked, "Total training costs £118,000 ($185,000; ab initio and two conversion courses). One conversion course of £23,000 [$36,000], paid back by airline over five years. Current debt left after repaying for just under 10 years: £62,000 [$97,000]. Monthly payments to the bank of £1,050 [$1,650]. About five years to go."

Pilots on low incomes could not afford to live close to major airports. Aviation is a volatile industry. Obliged to "follow the work," pilots could find themselves commuting long distances. Over 30 percent of respondents took between 60 and 120 minutes to commute. Nearly 23 percent of respondents lived between 51 and 100 mi (82 and 161 km) from base, meaning a car journey of at least one hour. Nearly 7 percent of respondents lived between 101 and 150 miles [163 and 241 km] from base. About 30 percent of respondents used temporary accommodation. Over 83 percent said that their airline would not subsidize hotel accommodation for fatigued crew returning to base.

The FRMS "Trap"

A fatigue risk management system (FRMS) enables operators to develop an FTL that balances the rest and recreational needs of flight crew with the company's operational requirements. Operators use qualitative data, like fatigue reports, and quantitative data, like Actiwatch[3] printouts, to run their FRMS. Data are the lifeblood of the system. Without data, rosters cannot be validated.

A nonvalidated roster creates a risk because, without management knowledge, the roster may induce pilot fatigue. Pilots won't file fatigue reports if they believe they will be ignored or if they fear victimization. An FRMS cannot function properly without a just culture and pilot buy-in. There was some evidence of pilots reporting sick when they were, in fact, fatigued. "Masking" undermines an FRMS because it inhibits feedback.

Relationship and Trust

The data suggest deterioration in relations, both between pilots and management and, at one airline in particular, between pilots and cabin crew. Several pilots talked about a "bonus culture" among managers. One wrote, "There is a downward trend in terms and conditions. Who is going to borrow £120,000 [$188,000] to become a pilot when they can only expect £15,000 [$23,500] per year on a temporary contract? Directors are bonus-driven, and don't care if the airline exists in five years' time." More than 73 percent of pilots said their relationship with cabin crew had changed. Nearly 16 percent of respondents described their relationship with cabin crew when on duty as "poor."

Locus of Control

Flight operations are characterized by multiple centers of control. Pilots shoulder great responsibility, for the safety of their passengers, aircraft and crew and, to some degree, for the economic performance of the airline. Pilots' authority is largely situated on the flight deck.

Most pilots have no control over their rosters. In roster planning, the locus of control rests firmly with back office staff, most of whom have no first-hand knowledge of the lived reality of flight operations. Such "remote control" is problematic for two reasons.

First, it ignores a useful source of information on roster planning — the pilots. Second, some pilots perceive remote control as an affront.

Preferential rostering — involving pilots in roster planning — provides a way of shifting the locus of control more towards flight crew. It addresses the physiological capacities of individual pilots. Some pilots are "day people" while others are "night people." Of course, individuation costs money. It is cheaper for rostering departments to stereotype pilots than to acknowledge differences.

Because preferential rostering involves pilots in the management of fatigue — and, to some degree, management of the company — it breaks down the "us versus them" mentality that has become so much a feature of commercial aviation in recent years.

The survey strongly suggests that the factors we have described, as well as others, affect pilot well-being and performance. Currently, pilot morale is low. Only 19.2 percent of pilots said they would recommend a career in aviation to their offspring.

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Notes

1. The full report can be purchased from the University of Leicester, <www2.le.ac.uk/departments/lifelong-learning/research/publications-1/vaughan-papers>.
2. Young, J.A. *The Effects of Life-Stress on Pilot Performance*. Moffett Field, California, U.S.: National Aeronautics and Space Administration Ames Research Center, 2008.
3. The Actiwatch is a wristwatch-like device that can measure activity, sleep and waking data.