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The Case for Upgrading Cabin Crew Status

Rising cabin crew stress levels in today's high tech, deregulated environment call for non-traditional solutions.

by

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Airline safety is a major concern worldwide, especially as airlines enter into increasingly active competition. The need for both safety and cost-effectiveness in an environment of strong competition calls for innovative thinking on the part of aviation regulatory agencies.

Since 1978, when the Airline Deregulation Act of 1978 was enacted by the U.S. Congress, many changes have taken place. Along with changes in airline organizational structure there have been changes in aircraft design, navigation systems, aircraft equipment, regulations and other facets of air transportation.

Among the new ways of doing business, the airline industry is entering into new concepts of dealing with crew complements in order to compete in the deregulated environment of aviation safety. One of the major concerns of the airline industry is cost reduction, and one innovative plan was to reduce the number of cockpit crew members in the Boeing 737, Airbus 300 and Boeing 747-400 from a three-man to a two-man cockpit crew. The new generation of aircraft will undoubtedly follow this trend of two-man cockpit crews and perhaps, someday, reduce this to one-crew monitoring the flight.

Prior to 1965, the minimum flight crew requirement for a transport category aircraft having a maximum certificated takeoff weight greater than 80,000 pounds required a flight engineer in addition to a pilot, copilot and, in some cases, a navigator. In 1965, amendments were

made in the U.S. Federal Aviation Regulations (FARs) governing minimum flight crew member requirements for transport category airplanes to allow the minimum flight crew to be determined during aircraft-type certification. The U.S. Federal Aviation Administration (FAA) considers the basic workload functions, workload factors and type of operation authorized for the transport aircraft undergoing certification in determining the minimum flight crew required. FAR-25 Appendix D provides the criteria used in making these determinations.

Many current turbojet transport aircraft require a minimum of three flight crew members to maintain a satisfactory level of safety. However, some of the newer generation aircraft have been type-certificated to allow operation with a minimum flight crew of two.

To reduce the flight crew to two, the FAA considered the basic workload functions of:

1. Flight path control
2. Collision avoidance
3. Navigation.
4. Communications
5. Operation and monitoring of aircraft engines and systems

6. Command decisions

These workload functions were evaluated considering the kinds of operations to be authorized, normally instrument flight rules (IFR), analyzing significant workload factors and demonstrating workload for minimum flight crew during the type certification process.

What About the Cabin Crew ?

But where is that helping hand in the cockpit that the cabin crew always looks to for assistance, and what measures are taken to substitute for that function? The reduced assistance from the shrinking cockpit crew complement will boost the stress on the cabin crew. What is there to relieve the cabin crew of these contextual and task-related stressors?

Definition of Terms

1. Confidence level (stressor). Confidence factors which induce confidence level by developing stressful reactions on the part of individuals exposed to them.
2. Context-related confidence level (stressors). Confidence factors that emanate from the organizational structure, airline policy, adequacy of training and other sources external to the task associated with the performance of the job.
3. Task-related Confidence Level (stressors). Confidence factors that are inseparable from the tasks directly associated with the performance of a job.

A Study Assessment is Needed

An assessment study should be conducted with the following purposes:

1. Identify the confidence level (stressors) perceived by the cabin crew attendants to be present in the contemporary transport aircraft environment.
2. Classify each identified confidence level stressor as either context-related or task-related.
3. Seek an answer to the question: Are various confidence level (stressor) factors rated differently by cabin crew members with regard to feeling of confidence (stress) on the job during the peak periods and during normal conditions of duty time.

Research Questions

The following research questions will be investigated in the proposed study:

1. What confidence level factors (stressors) are perceived by each crew member to be present in the high-tech contemporary transport aircraft?
2. Are context-related or task-related confidence level factors (stressors) rated differently by cabin crew members with respect to induced feelings of stress (less confident) on the job?
3. Of those confidence level factors (stressors) perceived to be a factor on the job, do conditions cause them to be rated differently for peak periods compared with normal periods duty time?

Methodology

The newly implemented concept of two cockpit crew certificated aircraft calls for greater self-reliance from the cabin crew which, heretofore, has depended heavily on an interface with the cockpit crew in the handling of in-flight difficulties. In order to determine how well cabin crews could be expected to function under conditions of reduced cockpit availability, we have conducted a study of 100 cabin crew members working both on short- and long-haul flights.

Information about the differential impact of the two categories of confidence level (stressors) would produce important implications for effective organizational intervention to effect change, while task-related factors are less so. Also, appropriate knowledge of the nature of the confidence level (stressor) in the cabin crew member's working environment can facilitate attribution of appropriate feelings of confidence to appropriate sources, rather than to the generally accepted conclusion that cabin work is inherently perceived with less confidence by the cabin crew members.

Data Collection and Rating

Perceptions of stress were rated under two conditions of workload: (1) normal conditions, and (2) peak conditions. Stress perceptions were rated for two types of factors: (1) task-related factors (fear of accident, fear of legal liability, training received, reporting the mistakes of co-workers); and (2) context-related factors (ability to operate cabin equipment, requiring cockpit crew assistance in terms of equipment needed, the need for cockpit crew assistance on long flights, directing and helping other attendants, and resolving conflict without cockpit

assistance). To insure the validity of perceptions, the ratings were assessed through a questionnaire completed by crew members in their actual working environment — specifically, at an altitude from 31,000 to 49,000 feet.

Data Analysis

Findings of the study varied. They reflected that both the task-related factors and the context-related factors were associated with stress for cabin crew members. However, perceived stress levels tended to be higher during peak workload periods than during normal workload periods (Table 1).

The items in the table under Not Confident/Extremely Stressful during peak workload conditions and only Moderately Confident/Slightly Stressful under normal workload conditions were items #4 — directing/helping other cabin crew members, #7 — resolving conflict without cockpit crew assistance, and #8 — overtime work. Of these factors, the frequency of occurrence of any one of these events is less than 10 percent of the time except for #4 which has a 15 percent frequency of occurrence. In this situation, the cabin crew

member has the option to help or not, and the level of confidence determines the final action of intervention. However, the usual alternative is that the cabin attendant simply observes the occurrences and the confidence level, if anything, is less than fully confident. In any case, all of the context-related factors are seen as only moderately confident (slightly stressful) under normal conditions.

Under all circumstances, peak or normal work load, four of the five factors identified as task (or equipment) related are viewed as slightly confident (moderately stressful) or more; the fifth item, the requirement to report a co-worker's error, has a mean rating of 3.1 (peak) and 2.3 (normal) by all respondents. The conclusion is that under peak work load conditions context related factors as

identified on the present questionnaire tend to be less confident (more stressful) than task-related, while under normal work load conditions, the task-related factors tend to be perceived as less confident (more stressful).

Some factors were viewed as distinctly more stressful than others. Indeed, the highest stress ratings were given to the context-related factors of requiring cockpit crew assistance, operating cabin equipment, directing and helping other attendants, and the task-related factor of fear of accidents. Cockpit crew members have the opportunity to observe the content and flow of cabin crew duties when they fly as deadhead crew, and practice emergency procedures together with cabin crew members during regular training sessions; therefore, they have an informed

Factors	Peak Period		Normal Period			
	Not Confident/ Extremely Stressful	Slightly Confident/ Moderately Stressful	Slightly Confident/ Moderately Stressful	Moderately Confident/ Slightly Stressful		
Task Related	#3	Fear of Accident	3.7*	3.1	2.9	
	#6	Fear of Legal Liability	3.5		3.1	
	#2	Training Received		3.2	3.0	
	#1	Report on Co-worker		3.1	3.1	2.2
	#8	Overtime Work		3.2	2.9	
Context Related	#5	Ability to Operate Cabin Equipment	3.8		3.1	
	#9	Require Cockpit Crew Assistance (Equipment)	4.0		2.5	
	#10	Require Cockpit Crew Assistance (Long Flights)	3.5			2.2
	#4	Directing/Helping other Attendants	3.7			2.3
	#7	Resolve Conflict without Cockpit assistance	3.0			2.2

*On a Scale of 1-4, with 1 - Confident (not stressful) 4-not confident (extremely stressful)

Table 1

idea of what cabin crew preparations are in emergency and normal situations. The cabin crew members, on the other hand, have only partial acquaintance with flow of work handled by flight deck crew.

Summary of the Study

Lack of understanding of the confidence level (stressors) in the cabin crew of high-tech transport aircraft leads to inadequate assessment of the need for change on the part of management and inappropriate attribution of undue low confidence level (stress) to the task-related work environment of the cabin crew of the airline. That condition is viewed in this study as contributing to a no-change

situation although, in fact, context-related factors are amenable to analysis, intervention and change, and some task-related confidence level (stressors) can be alleviated.

The major conclusion of the study was that the present environment has not been effective in maintaining cabin crew members' aspirations, stability and maximization of their potential. In an effort to rectify this situation, several recommendations were considered:

1. Improve and refine the existing regulatory framework covering cabin crew standards and training in order to improve that crew's maximum utilization of knowledge and abilities;
2. Elevate the cabin crew to the same status level as the cockpit crew, under the auspices of licensing and safety requirements;
3. Improve the cabin crew certification program.
4. Adopt a new concern for CRM (cockpit resource management) to include cabin crew and afford them the opportunity to observe cockpit procedures to increase their knowledge of all aspects of flying. This would further foster communication and enhance safety.

The response of cabin crew personnel to these recommendations was generally that they wish to receive further training to meet the requirements of high tech aircraft. Further, they wish to be certificated and to receive periodic validations to minimum standards. The position of the Saudi Arabian Presidency of Civil Aviation (PCA) is to support the study by certificating cabin crew members to certain standards and to evaluate them periodically to ensure compliance with them.

There could not be a better time to begin to tap the reservoir of safety potential in human factors. We should

focus on cabin crew member training in relation to the working environment (stress related conditions during both normal and peak periods) that they are subjected to.

Training is a process aimed at developing specific skills, knowledge or an attitude, which in turn control the coefficient of stress perception in relation to task- and context-related functions in either normal or peak condition. The greater part of maintaining flight safety remains with the awareness and the significance of human performance both on the flight deck and in the cabin.

Research has shown the levels of performance and attentiveness are directly influenced by the amount of stress one is exposed to at any one time. In the interest of flight safety, we must all try to recognize, monitor and manage the stressors that affect the individual working environment in which a crew member performs. ♦

About the Author

Omar S. Barayan is vice president of the Aviation Standards and Safety Department in the Saudi Arabian Presidency of Civil Aviation (PCA).

Barayan began his aviation career as an air traffic controller. He later became a senior instructor and participated in management training and development. After completing flight training in fixed-wing aircraft with a commercial certificate and instrument rating, he became a helicopter pilot in search and rescue operations.

Entering airline service, Barayan became a DC-3 first officer for Saudi Arabian Airlines. He assisted his government on a temporary assignment as a flight inspector for an airways project, after which he flew various aircraft as a line pilot, becoming an instructor and check captain on Boeing 737s and captain on Lockheed L-1011 TriStar and Boeing 747 aircraft.

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