Book Review

Aviation Psychology: Practice and Research.


This book presents an up to date review of the main areas in the field of aviation psychology. It contains current thinking mainly from Europe, Australia and Northern America and from specialists involved in research, training and operational practice. Many of these articles were originally presented at the European Association for Aviation Psychology (EAAP) conferences in Vienna (1998), Crieff (2000) and Warsaw (2002). Other sources for this book are basic research and development reviews and otherwise unpublished material.

The book covers six sections; Human Engineering, Occupational Demands, Selection of Aviation Personnel, Human Factors Training, Clinical Psychology and Accident Investigation and Prevention. In ‘Human Engineering’ there are chapters on human centered automation, human-machine interfaces for co-operative flight guidance, design and development of pilot assistance systems and human factors in the design and certification of new aircraft. These show how far advanced and rigorous, human engineering research has become today.

The next section describes the development of an extended job analysis technique, the results of recent job analysis surveys and discusses the implications for selection and training. In ‘Selection of Aviation Personnel’, computer assisted testing, personality and behaviour oriented evaluation of aviation personnel and the Pan European selection Test Battery for ATC are described. These speak about the latest approaches in the field of selection. Cost benefit analyses in selection present convincing results, enabling organizations to save huge amounts of inappropriate training investment by the application of proper selection tests.

The section on ‘Human Factors Training’ covers the current status of CRM training and it’s regulation in Europe. Six chapters in this section are related to non-technical skills (NOTECHS) assessment of pilots. These comprise of papers on the theory and practice of the NOTECHS method, the system and the experimental plan of the Joint Aviation Requirements: Translation and Elaboration of Legislation (JAR TEL) study used to validate NOTECHS as an assessment tool. The results of these studies, the cultural robustness of the system, practicability in regular airline training and validation of CRM training with this method are elaborated on in much detail.

In the ‘Clinical Psychology’ section, the psychological requirements and examination guidelines in JAR FCL 3 are well outlined. In this section there is also a very informative chapter on prevention and treatment of posttraumatic stress effects including critical incident stress management. The last section contains two chapters on retrospective analysis and prospective integration of human factors in safety management and systemic occurrence analysis methods in accident investigation.

All sections require serious reading into the interesting and novel methods, which have been adopted in present practice and research in aviation psychology. The readership includes aviation psychologists, aviation medicine specialists, training, selection and recruitment specialists, instructor and safety pilots, accident investigators, CRM facilitators, air traffic controllers, flight engineers and all those dealing with human machine interfaces in the aviation environment.

Reviewed by: Dr Catherine Joseph
Sc ‘E’, Professor & Head
Dept. of Aviation Psychology
Institute of Aerospace Medicine, IAF, Bangalore