

A HISTORICAL OVERVIEW OF AIR CARRIER PILOT SELECTION

UN APERÇU HISTORIQUE DE SÉLECTION PILOTE DE TRANSPORTEUR AÉRIEN

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Introduction: The use of psychological tests in pilot selection emerged toward the end of WWI. Emphasis was on emotional stability and mental alertness. A unique feature involved assessment of changes in respiration following discharge of a pistol. A high level of attrition in the 1940s led to a job task analysis and selection of relevant tests (Otis Test of Mental Maturity, mechanical comprehension, serial reaction time, and two-hand coordination). Given the anticipated increased demand for air carrier pilots, it is important to consider the most efficient selection procedures. This presentation will provide a historical overview of air carrier pilot selection procedures.

Method: The international literature on air carrier pilot selection was reviewed. Information was gathered regarding existing job task analyses, test instruments and procedures, along with supporting validation data.

Results: Traditionally, U.S. carriers have relied on selecting former military pilots, with limited emphasis on the use of psychological tests. Most U.S. carriers focus their attention on a review of flight experience, interviews, and a flight in the simulator. One carrier has conducted a job task analysis and is using CogScreen, another recently introduced the use of an aptitude test battery. Internationally, there are a number of test batteries in use for screening candidates for entry into ab initio or MPL training programs. A review of the test batteries by Broach, Schroeder, & Gildea (2016) revealed a fairly high degree of overlap with respect to the domain/construct used as predictors. Of that group, the DLR pilot aptitude test battery has undergone the most extensive body of research to support its development and validation.

Conclusions: The anticipated growth in hiring of air carrier pilots represents a significant challenge, both in the U.S. and internationally. While there are a number of available test batteries, the validation data that appears in the scientific literature is generally weak. Results point to the need for additional job task analyses and more comprehensive validation efforts.