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Book Review: Absent Aviators: Gender Issues in Aviation

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Book review

Absent Aviators: Gender Issues in Aviation
Edited by Donna Bridges, Jane Neal-Smith, and Albert J. Mills
Ashgate Publishing Limited
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"Absent Aviators" tackles the difficult and lingering issues surrounding the lack of women in traditionally male-dominated careers, specifically those in aviation and, more specifically, in the role as pilots. Book contents are a collection of research manuscripts, each in its own chapter, and contain rich literature reviews, qualitative interview-based studies, as well as, quantitative survey studies. In line with the book's focus, data were collected and analyzed across gender; organizations and institutions in the aviation industry (military, general aviation, and commercial aviation); and countries (Australia, South Africa, UK, USA, Norway, Austria, and Switzerland). Gender similarities and differences were researched at the individual level from both the physiological and the psychological perspectives. Analyses that concentrated on the organization, institutions, and country levels brought into account gender dynamics, organizational cultures, societal values, and country cultural characteristics.

The editors, Donna Bridges, Albert J. Mills, and Jane Neal-Smith, are well-qualified in assembling and editing the 13-chapter book, each having many years of research experience in gender studies and women's roles in organizations and societies, particularly with respect to aviation. Using their experience and unique backgrounds, they segmented the tome into four main sections: Part I – identifying gender issues in piloting; Part II – barriers in military and civil aviation; Part III – technical issues; and Part IV – taking action.

Part I is comprised of four chapters, each identifying relevant issues through a variety of theoretical and practical lenses. The retrospective on Pan American Airways explores the changing (and, at times, stagnating) attitudes toward diversity in the workplace in terms of gender, race, class, and nationality, tracing these attitudes through the "Pan Am" years from 1929 to 1989. The chapter authors provide insight into examination of employment practices and how these practices change over time in response to external events such as war and in post-war conditions. The remaining chapters in Part I examine the many challenges faced by women pilots today, partially explaining their continued lack in numbers.

The reviewers would like to thank Shaesta Waiz for her insight and perspective as a woman aviator. Waiz is the first certified female pilot from Afghanistan and aspires to fly solo around the world to promote STEM education, specifically to women. She plans to launch her "Dreams Soar" global flight in 2016. She received her Bachelors of Science in Aeronautics, Masters of Science in Aeronautical Science, and is currently pursuing a Master in Business Administration Degree, all from the Embry-Riddle Aeronautical University, Daytona Beach, FL.

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These challenges include: stereotypical attitudes in both males and females, deeply embedded when children are very young; cockpit design for human factors and safety, historically based on the male form; physiological differences that may or may not impact piloting performance; and industry and organizational cultures that are dominated by masculine values and practices and the often inappropriate behaviors ensuing from negative, non-inclusive attitudes.

Part II, also comprised of four chapters, is, in essence, a continuation of Part I, with additional studies on the hypothesized gender differences and stereotypical male attitudes and behaviors toward female pilots.

Unfortunately, the repetitiveness of this section with Part I brings forth less new and interesting findings. Yet, the issues faced by women pilots and differences between the sexes were studied with additional alternate constructs. These include male demographics and barriers for women beyond attitudinal (working arrangements and mobility).

Part III is a refreshing departure from the previous sections and delves into aircraft technologies and gender perceptions. These three chapters reiterate the need for cockpit design and the human-machine interface of advanced flight deck systems to consider key gender differences in their design, test, and evaluation. Female pilots continue to be underrepresented in the evaluation of aviation equipment. New technologies are being introduced to the cockpit and gender differences need to be taken into account for the correct design, training, and use of these instruments in the cockpit.

In Parts I – III, the authors set an appropriate stage for Part IV, "taking action." While recognizing that in many institutions, women must change to survive in highly masculine environments, there is a new way of thinking and understanding. Expecting this change without support for women (mentorship, for example) is unreasonable and may further exacerbate the inequity. Moreover, there is a need to balance conflicting forces, that is, to treat everyone the same while acknowledging and taking into account the obvious differences between men and women that require attention and action, that is, judiciously "leaving gender 'in' " for all to benefit.

Based on the countries represented in the book's studies, this is a global issue. Yet, many challenges identified in "Absent Aviators" can be overcome with education and training for both sexes, regardless of geographical location and organization involved. Aircraft design updates to accommodate the female physique will allow the pool of potential pilots to expand and should be a welcomed change in light of pilot shortages expected worldwide.

According to the study by Hamilton, only six percent of pilots in the USA are women. This is an alarming statistic due to the significant increase of women earning degrees in fields such as law and medicine. In another male-dominated profession, engineering, the numbers are better, but are not improving. While women encompass 23 percent of the US aviation and defense labor force, they account for only 12 percent of the engineering workforce (Anselmo, 2012). Furthermore, while women account for more than 50 percent of today's US university students, they only account for approximately 25 percent of those pursuing engineering degrees. This percentage has been the same for over two decades (Hedden, 2013).

The editors assembled a cohesive set of manuscripts and integrated them into a solid and logical framework. Regardless of the aviation focus, the knowledge imparted in the book can be employed to understand and address the uneven gender ratios in many industries, but, particularly in the science, technology, engineering, and math fields. As such, the book is well-suited for academicians and practitioners alike who not only address gender-based issues in aviation, but also in other traditionally male-dominated occupations and industries.

The editors' objectives are to initiate critique and discussion of the research contained in the book, and, more importantly, to promote change in the industry. Attitudes and behaviors may be the most difficult to transform. The fact that "taking action" is comprised of only two chapters leads one to hypothesize that insufficient change is happening and/or

insufficient research is being undertaken to assess change, the actions that create change, and its long-term impacts for women. Future research should include more longitudinal studies that assess the effectiveness of programs that are implemented with the intent of recruiting and retaining women as pilots, as well as, in other male-dominated careers in aviation and aerospace.

In the opening to their conclusions, the editors highlight that the role of women in aviation is conspicuously absent from the history books, yet their influence was felt and acknowledged by those closest to them. How many more women in history were pilots or engineers or mechanics, but, because of their gender, their accomplishments may never be known and recognized? Perhaps the studies in this book will open eyes to the crucial roles women have played throughout aviation history and the vital and irreplaceable roles they will play in the future.

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About the reviewers

Dr Janet Kay Tinoco, PhD, is an Associate Professor of Management and Marketing at the Embry-Riddle Aeronautical University, Daytona Beach, FL. She holds a Doctorate of Philosophy Degree in Business Administration, a Master of Arts Degree in International Business, and a Bachelor of Science Degree in Electrical Engineering. Prior to entering higher education, Dr Tinoco spent over 18 years in the US Defense Industry as a Systems Engineer, integrating various targeting systems on military aircraft. Her research interests focus on innovation in high technology industries, particularly in the areas of the aviation and aerospace. Her manuscripts have been published in the *Academy of Strategic Management Journal*; *World Review of Intermodal Transportation Research*; *World Review of Science, Technology, and Sustainable Development*; *Journal of Organizational Culture, Communications, and Conflict*, among others. Dr Janet Kay Tinoco is the corresponding author and can be contacted at: tinocoj@erau.edu

Genderie Rivera will be completing her Bachelor of Science in Aviation Business Administration in Fall 2015 from the Embry-Riddle Aeronautical University, Daytona Beach, FL. Highly involved in leadership roles in various student organizations, Rivera is a Student Member of the National Business Aviation Association (NBAA) and is the past Vice President and currently Interim President of the Management Consulting Group, a student organization which helps students network with professionals in the aviation industry.