

## CHAPTER 1

### ORIENTATION AND PROBLEM STATEMENT

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#### 1.1 PROBLEM IDENTIFICATION

Women have contributed to the aviation industry since the Wright brothers made aviation possible. Indeed, it was Katherine Wright who encouraged her bicycle-producing brothers to pursue the dream of flight. It is true that it was a man who first took to the air, but it was a mere five years later that the first woman piloted an aircraft. The concept of female pilots is not new. Almost everyone has heard of aviatrix Amelia Earhart, even if her renown seems to stem not as much from her extraordinary feats in aviation, as from her ill-fated last flight. It is often forgotten, however, that Amelia Earhart's navigator was a man.

Early pioneers included Harriet Quimby (the first woman to fly across the English Channel), Amy Johnson (the first woman to fly from England to Australia) and Jacqueline Cochran (the world's first female test pilot). More recently, Eileen Collins became the first female space shuttle commander.

In the 1920's, women pilots recognised that there was a need to form an association and a group of women pilots established the Ninety-Nines, Inc. Today, the Ninety-Nines, Inc. is an international organisation of women pilots which still makes a valuable contribution to aviation through education and networking.

In the early 1940's, in the Second World War, a shortage of male pilots led to the inclusion of the first groups of female pilots in a military capacity – although for pilots from the United States, female pilots in the military were limited to the role of ferrying flights. The Soviet Union used female pilots successfully in combat roles. After the Second World War, however, the Women's Auxiliary Service Pilots (WASPs) were disbanded, largely due to the belief that when male pilots returned from war, their livelihood would be jeopardised by the 'non-essential' fleet of female pilots. A woman's place, many still believed, was in the home and not in the air. It took many years for the extraordinary women who had operated as WASPs to be recognised and rewarded by the United States, and indeed, it took an equal number of years before the military to see fit once again to allow women to fly in limited military capacities.

South Africa has been one of the last countries in the world to integrate women both into its national airline and into military aviation. Indeed, it has only been in the last ten years that the South African Air Force has permitted women to fly for them, albeit in very limited and non-combat capacities.

## 1.2 RATIONALE AND MOTIVATION

Despite the fact that women have been flying for almost as long as men have, the aviation industry still seems to be a very male-dominated arena. Although women have proven their worth and ability as pilots time and again, prejudices such as 'women should not fly' still exist. Negative attitudes toward female pilots are particularly strong with regard to the issues of women in professional aviation capacities and women in combat aviation roles.

Unfortunately, if attitudes, stereotypes and prejudices, notably those against women, are not addressed in a formal environment, for example, in training, such attitudes, stereotypes and prejudices can often lead to problems in a multi-crew environment. Women are increasingly becoming the Pilots in Command of aircraft, where once they only functioned as air stewardesses. Even though women have proved themselves to be master aviators and have to complete the same instruction courses as their male counterparts, the biggest hindrance to their professional careers may be the misconception that their performance is inadequate.

There are many misconceptions with regard to women in aviation. These include myths that encompass physical, psychological and physiological aspects. Some examples are the allegation that women are not as strong as men and can therefore not pilot as well, or that their anthropometrical dimensions make them less capable.

Research by the Johns Hopkins Bloomberg School of Public Health (2001) has concluded that gender differences in aviation meant that male pilots were more likely to be guilty of poor decision-making, risk-taking and inattentiveness, while female pilots tended to use the rudder incorrectly, tended to respond poorly to a bounce and were generally unable to recover from stalls. In essence, male pilots paid less attention, while female pilots tended to mishandle the aircraft (Johns Hopkins Bloomberg School of Public Health, 2001)

Although Crew Resources Management (CRM) addresses some issues with regard to the management of diversity in the cockpit, its primary concern is to reduce pilot error. Human Factors in Aviation provides some insight into the psychology of human interaction in the cockpit; however, a great deal more research is required to help us understand and appreciate the differences and similarities between the genders. It is only when we understand and appreciate these differences and similarities that we can eradicate unfair and negative attitudes, stereotypes and prejudices.

Mary Anne Turney (1995) states: 'In a cockpit where the focus ought to be on cooperation, not competition, and where decision-making is based on developing agreement, the full participation of EVERY member of the crew is essential to increased situational awareness and reduced risk of calamity. To the extent that CRM training can address the 'styles', characteristics and attitudes of a diverse population, it will fulfil its purpose' (Turney, 1995:266).

The research pertaining to gender differences in aviation is especially important for a number of reasons. Firstly, greater understanding of this topic allows more accurate training material to be developed by airlines and other organisations. This is also applicable to CRM training, where topics such as communication differences and leadership styles should be addressed. Secondly, once they know more about gender differences in aviation, airline companies can develop better recruitment strategies to attract competent female aviators.

In the past, the recruitment of female aviators has often been viewed as an affirmative action effort (an attempt to fill a quota). This approach breeds resentment and creates an unfounded belief that the female pilots who are hired are incompetent. Thirdly, research aimed at achieving a better understanding of the similarities and differences between the genders in aviation will equip militaries around the world better not only to entertain the idea of female aviators, but also to use female aviators in combat roles. Fourthly, gender-related research will do much to eradicate unjust attitudes, stereotypes and prejudices.

Although some research has been done on this topic, no gender-related measurement instrument has been yet developed. This doctoral research proposes to develop such an instrument in order to investigate perceptions with regard to gender issues in the aviation industry more accurately.

### 1.3 RESEARCH GOALS

The goal of this research was to identify and categorise the attitudes, stereotypes and prejudices that may operate with regard to female pilots in the modern aviation industry and to compare these differences/similarities in a cross-cultural study.

The main objectives of the study were

- 1.3.1 To review the relevant literature, historical data about and current world trends in aviation in a comprehensive literature study which formed the conceptual basis for the research.
- 1.3.2 To develop a valid and reliable instrument to assess the attitudes of female and male pilots regarding gender-based issues in aviation. The issues explored included
  - learning ability and learning speed;
  - general piloting skills;
  - leadership; and
  - general prejudices and stereotypes.
- 1.3.3 To obtain empirical data about the gender attitudes held by aviators by means of a cross-cultural survey.
- 1.3.4 To identify areas in which female and male pilots agree (converge) or disagree (diverge) regarding gender attitudes.
- 1.3.5 To determine whether the average gender attitude scores of aviators differ as a function of different pilot-related variables (biographical details, country, areas of flight operation, nature of flight duty, type of license, etc.)
- 1.3.6 To use the research results to increase crew members' understanding of gender-related bias in order to enhance flight safety and efficiency.