**Gender Equality in Cockpit: Half is Equal**

**Chaytanya Kumar**

**GOVT-650**

**Gender Equality in Cockpit: Half is Equal**

1. **Introduction**

In the present time of supersonic and hypersonic speed, there is no denying that there is progress in gender equality between men and women worldwide. For example, in the United States between 1970 and 2018, there was a huge rise in women’s employment from 48% in 1970 (aged between 25 to 54) to 73% in 2018 (IPUMS CPS ASEC 2018). The ratio of women’s to men’s pay scale has also increased from 61% to 83%. In the United States, women have already surpassed men obtaining most of the doctoral degrees in Arts (52%), Biology (51%), and Health and Medicine (71%) (AEI 2019). In sum, there has been dramatic progress in the goal towards gender equality in recent decades.

However, men still have prime participation in engineering (71%), math and computer sciences (65%), physical and earth sciences (58%), and business (53%) programs (AEI 2019). It has long been known that women are still significantly under-represented globally in the fields of Science, Technology, Engineering, and Mathematics (STEM). While numerous initiatives have been taken toward more diversity and equal participation, differences across industries remain. One such severely affected industry is the Aviation Industry. For example, as of 2018, female representation for Pilots (holding FAA certificates and including students) is only 6.84% (Pilot Institutes 2020). The numbers become even more striking when pilots who hold student licenses are excluded – only 4.94% of all pilots are women. The data is no different for the women with non-pilot roles (e.g., Mechanics, Repairmen, Dispatcher, Flight Navigator), with only 22.85%. It doesn’t end here as the figures for female representation in airline management is only 3 %. All in all, the overall representation of women in Aviation is not remarkable and has been very disappointing. Despite decades of attempting gender diversity in this industry, it still has a long way to achieve real diversity participation, representation, and contribution.

This paper asks what are the factors helping women to become successful pilots in the Indian Aviation Industry despite all the inherent difficulties they face? The purpose of this study is to explore factors promoting gender equality within the male-dominated aviation industry which will focus predominantly on Pilots in India. To the best of my knowledge, there has not been any studies evaluating which factors are more conducive to gender equality in the aviation industry. In this study, I review previous studies on the role and the statistics representing the status of women pilots in the aviation industry.

Secondly, I introduced my theory which focuses on the support from family and airline employers resulting in female pilots with high morale, confidence with better and safer workplace for female pilots (if given equal opportunities as men based on the right skillset).

Thirdly, I test my hypotheses based on available data.

Finally, I conclude and present the implications of the findings of this paper.

1. **Literature Review**

Women are notably under-represented in the fields that have the commanding influence of men. Women employees are still confronting gender-based challenges in view of gender discrimination and gender stereotype (Sage Journal 2011). Gender discrimination can be termed as unequal treatment based on gender, and it can occur in a variety of forms like the wage gap, restriction on clothes, workplace discrimination, denied promotion, sexual harassment, etc (Genderncomm 2015). While gender stereotype can also be considered as a subset of gender discrimination, it is a preconceived notion or flawed generalization that one gender is superior or better than the other in any of their specific roles or occupations. For instance, occupations in which females are predominant are considered as female jobs while occupations in which males are predominant are considered as male jobs (Eagly and Wood 2013). A perfect example is the lack of female participation in STEM fields and as pilots in the aviation industry.

Since the beginning, flying aircraft has been considered a male dominant occupation because of their inherent physical strength, masculinity thereby they are automatically assumed to be more willing to do high-risk jobs. Therefore, men are hugely considered for such roles. Men are assumed to perform well in that field, while women are viewed with limited ability and confidence to pursue their careers in the Aviation industry (Catalyst research 2005).

A recent study by the University of Wisconsin - Creedy et al. (2019) finds that women leave aviation jobs as early as within 5 years of joining due to lack of growth or inability to cope with work-life balance. While many industries have adopted ways to improve working conditions for smaller families such as providing the ability to work from home, providing maternity leave, and offering fixed working hours, the aviation industry remains unchanged. The women find it difficult to manage duties and family responsibilities simultaneously. One more factor is the training cost that can be costly as $15000 in the US which makes females skeptical of their ability whether this large, hefty investment will create and assure long-lasting promising career for them. These problems are not just limited to the US but in many different countries globally (CNN 2019, Ohio State University's Center for Aviation Studies 2019).

Another study in Embry Riddle Aeronautical University (2017), found that when 400 parents were asked if they are willing to send their children to become Pilots, the participants expressed willingness more towards their sons than their daughters. More surprising is the fact that mothers were more willing to send their sons instead of their daughters to become pilots and were ready to provide emotional and financial support.

The environment also plays a vital role to intensify mass participation in the industry. In an article published by Seattle Business, Perkins et al. (2019) state that women in the US still face sexual harassment and bias at their workplace. They have received demoralizing and negative remarks, sometimes subtly, from men on their physical strength, ability, and gender. While there is no special skill or abilities needed based on gender, studies also show that females are negatively judged for their errors during the pilot training/recruitment process and many sexist comments have been widely reported There is also a lack of female mentorship or lack of role models in the aviation industry making it unwelcoming for women and unconsciously making it look like a male-dominating field (CNN 2019).

**3. Theory**

Any pilot in the aviation industry is given Standard operating procedures (SOP) training, which refers to “Standard Operation Procedures” in which each pilot in the aviation industry is given Standard Operating Procedures (SOP) training, which refers to procedures that are set by airlines that guide pilots to follow the practice of the operation of aircraft safely and invariably you must adhere to it to pass the test. The ability to become a Pilot is not based on gender or physical capability or capacity but mental strength and the right attitude. In today’s modern society, Aviation has become a place where women are given equal opportunities as men in most airlines and the selection process is based on skills and knowledge. The Aviation career options are wide and well-advertised -including flight duties to many grounds and airline management duties. It gives equal opportunities to everyone to choose their career path (DW 2019).

Aviation is a well-known profession with high pay, perks, and lifestyle and women have always wanted to be respected as much as men. Having said that, this profession has helped women gain that aspect in their lives and has also made them independent, which in India, is a huge progress. Nowadays, parents understand the value of children’s dreams and the importance of being independent and therefore provide the best possible support to guide and help them in fulfilling their dreams. People who are already in aviation understand how promising and a respectful job it is to fly aircraft, hence they are motivating their children to join this ever-green industry as information is more easily available regarding flying clubs. Parents are no longer scared to send their daughters to become pilots. Thus, these mechanisms are promoting more women to step up and follow their passion. Many airline companies have separate quotas for females during the selection procedure to encourage participation (Times of India 2015, DW 2019). Women are as capable as men and aviation jobs reward them equally too. To support the mass participation of women in the field of aviation the Indian Aviation employers provide Maternity benefits, flexible work hours and allowances, equal pay, and protection during night duty. Such women-friendly inducement, support and remarkable policies from Airline employers are inspiring more and more women to pursue/continue their career in aviation and give them wings to soar high (The better India 2019).

While all these positive changes are taking place at the workplace, especially in the aviation industry, the road ahead is to achieve greater gender diversity. I argue that gender diversity not only has to be promoted at the workplace, but it also starts with the family, school, and society. A solid family and employers support system allows women to work without disruption and progress smoothly in their careers, which allows women to explore new career options. Therefore, I hypothesize that better working conditions combined with a solid family and employers support system make women more likely to participate in the aviation industry.

1. **Methods**

*4.1 Case Study: Women Pilots of India*

The purpose of this study is to evaluate what are the factors that are conducive to gender equality in the aviation industry. I will explore the case of India as women in India are becoming the leading examples of equal rights in the aviation industry worldwide. India has innumerable women pilots flying highly technologically sophisticated fighter Jaguars which requires better than most males’ intelligence, grit, and determination. Indigo, the top airline in the country with a 27% share of the market, has the highest proportion of female pilots in the world i.e., 13 percent. The Airline has only seen the female pilots’ number sloping upward to 330 from 80 in the past 5 years  
 (Aviation India 2021).

Women have been part of aviation from the very earlier days and in fact, are figures of inspiration in the history of aviation. And with time the involvement has steadily increased as women can be found in almost every aviation occupation but Pilots. However, looking at the statistics of Female pilot representation in India doubt arises as the numbers are contradicting.

To know the fact, we are taking the status of women pilots in the USA aviation industry as a benchmark as in USA women participation sums up to 47 percent of the total labor force. But it is appalling to know that female pilots constitute only ~8% of the piloting workforce, a number that has remained unshaken in four decades (If we exclude the student category the numbers look even more discouraging i.e., ~6 percent) (FAA 2020). In the US big three airlines have the highest number of women pilots. However, the overall representation of Female pilots (men to female ratio) in US Airlines is strikingly low.

The surprising fact which may be redefining gender equality globally is, when it comes to equal opportunity in hiring pilots(women), surprisingly India tops the list despite the country's lasting patriarchal society. Even though the country catches the headlines without a good reason when it comes to women: Low literacy level, the Increased crime rate against women, dowry deaths, and poor health. A recent article published by the International Society of Women Airline Pilots (2019) showed that India had the highest proportion of female commercial pilots in the world -- 12 percent – two times as of Western countries. While the global average is just 5 percent –many were greatly surprised (Newstex 2019). Over the first six months of this year, domestic air capacity in India grew 22%, making it the fastest-growing aviation market in the world.

There are limited studies conducted on the challenges faced by female pilots in different nationals’ contexts. Identifying the literature gaps, the study aims to identify if there is gender bias for female pilots in India, where female intake as pilots is increasing exponentially. While several studies suggest that Gender bias and challenges still exist, the study will help to identify if gender-based challenges are common or within the boundaries of any specific country and give recommendations for the areas of improvement.

Therefore, we will use the USA as the benchmark and INDIA as the focus of our study to understand whether career and gender-based challenges exist in the aviation industry globally for females.

*4.2 Analytical Strategy*

To evaluate the factors that have contributed to women’s higher participation in the aviation industry in India, I collected data from available 15 female Pilots and 1 male pilot of different leading Airlines of India. Out of the 15 participants, 12 preferred to answer in written format, while four of them were assessed through semi-structured face-to-face interviews. For this study, the sample was conducted via a snowball technique and the interviews were conducted from 18th to 21st November 2021.

Questions asked involved understanding if women pilots faced any difficulties in the aviation industry, evaluating their performance if they received any negative remarks from male or female counterparts. In addition, I also asked about the support from their families, their employers, etc. Participants were also asked to provide their views on why more and more Indian female pilots are attracted to pursue a career in aviation.

The details of the participants are given below in table 1.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Participant** | **Gender** | **Company** | **Title** | **Years in**  **Service(apx)** |
| Participant 1 | Female | Indigo | First Officer | 2-5 years |
| Participant 2 | Female | Indigo | Trainee First Officer | 0-2 years |
| Participant 3 | Female | SpiceJet | Trainee First Officer | 0-2 years |
| Participant 4 | Female | Indigo | First Officer | 2-5 years |
| Participant 5 | Female | Indigo | First Officer | 2-5 years |
| Participant 6 | Female | Indigo | First Officer | 2-5 years |
| Participant 7 | Female | Indigo | First Officer | 2-5 years |
| Participant 8 | Female | Indigo | First Officer | 2-5 years |
| Participant 9 | Female | Indigo | First Officer | 2-5 years |
| Participant 10 | Female | SpiceJet | Senior First Officer | 5 years or more |
| Participant 11 | Male | Indigo | Senior First Officer | 2-5 years |
| Participant 12 | Female | Go First | First Officer | 2-5 years |
| Participant 13 | Female | Go First | Senior First Officer | 5 years or more |
| Participant 14 | Female | Go First | Captain | 5 years or more |
| Participant 15 | Female | Air India | First Officer | 2-5 years |
| Participant 16 | Female | Indigo | First Officer | 5 years or more |

1. **Findings**

Examples of these questions are: “Have you ever faced Gender discrimination at the time of your pilot recruitment training process or anytime during your flight? “, “Do you think Aviation Industry is a safe workspace for females?”,” Do you think as a female pilot there is work-life balance? “and “What factors best describes your success in the journey of becoming a Pilot? “.

*5.1 No Gender discrimination*

The study results show that a majority of the participants have stated that there is no gender discrimination faced by them as Pilots in the Aviation industry. Participants have remarked that they have never experienced any kind of gender discrimination /gender inequality or negative remarks based on their gender and their male counterparts have always been polite and respectful. interview:

A 27-year-old female pilot (First Officer), with 4 years of experience working with Indigo Airline has stated, “I have never faced gender discrimination on or off the plane, in fact, the male counterparts (Captains) have been very silent until they are made comfortable and asked for advice. They have been extremely supportive and encouraging. Likewise, the participant has expressed: There is no gender discrimination in the cockpit. If you have got the right skills and you know how to apply your knowledge, you can be a pilot irrespective of your gender. “

“During the training process every Pilot student is given a Standard Operating Procedure (SOP) to be followed and simply on that basis is determined if you can be a Pilot or not. They have no pressure to show masculine behavior and another controlling attitude. “, a 24-years-old female Pilot student (Trainee First Officer) remarked.

*5.2 Family and Finance Support, Employers Support and Awareness best describe their success in aviation*

When participants were asked what factor best describes their success in the aviation industry, *all* the participants have agreed that family and Employers are the main factors.

35-years-old serving for Go First Airline as Captain with over 11 years of experience commented, “My family adequately supported me mentally, emotionally, and financially during the entire process of becoming a pilot. My family members who were already a part of this elite Industry encouraged me to join the industry, therefore, causing awareness at a very early age, stating it is a very glamorous and respectful job with good Perks and Job security. They guided me throughout the journey giving me confidence that it is very likely possible for a woman to become a Pilot. Airline employers also feature Family programs’ that help and encourage the female children of the Pilots to join the industry and therefore they have to surpass less competition. “

*5.3 Safe Workspace for Women*

Interestingly, All the participants have agreed (16 participants) that aviation is a safe workspace for Women.

As stated by Participant 12 - First office in SpiceJet Airlines with experience of over 7 years -” It’s a respectable profession, which comes along with dignity. Women in uniform are absolutely inspiring, along with that company provides flexible programs for mother’s so that they can maintain work-life balance.”

While a 27-years-old female pilot working for Indigo Airlines revealed that, “I enjoy flying, at the same time I don’t have to take any work home with me. I am also able to provide for myself and my family. If these needs are met there is no need for me to change my career path.”

Participants have also revealed that their airline company takes extreme precautions for women. They provide them with basic amenities and even security personnel for extra safety on their way heading home.

*5.4 Good Pay, Social Respect, and Promising Career*

THE study on the 16 participants has mentioned that equal opportunity for everyone, promising career, and respect as the factors that attract Women towards the aviation industry.

Participant 10, who underwent the Pilot training in Canada and now working for Indian airlines (SpiceJet) as Senior First Officer has revealed that,

“The early promotion in India is easier in comparison to other western countries. You can become a Senior First Officer within 5 years or more while it will take you 10-12 years to get the same position. You have the same pay scale in comparison to the western countries and while the expenses are way less in India. Therefore, the aviation industry along with a promising career provides a good salary and perks by their employers that attract more and more people to join this industry. “

*5.5 Work-life balance*

When participants were asked if there is a work-life balance, most of the participants agreed, while a couple of participants stated that it depends on personal attitude as each person must take up the responsibility of creating the balance.

Almost all the participants agreed that even though it is challenging but they enjoy it as a challenge and try the extra mile to make it.

“There is plenty of time available on standby or by taking less hour’s contract (by requesting employers), you can always make a balance. I and My husband both are Pilots, and we have plenty of time together.” ,29-years-old Female Pilot, First officer serving for indigo Airlines remarked.

31-years-old, Senior First Officer in Indigo, stated an interesting fact, “Work-life balance is easier to maintain in India than in western countries because you can easily get a maid/keeper at a reasonable cost while in the western countries hiring a babysitter or maid is expensive because of the concept of minimum wage. In western countries, providing the minimum wage to a worker (say maid, babysitter) is equivalent to more than a quarter of the Pilot’s salary and therefore it is difficult to maintain balance at Home and Work with the same Pay. Therefore, it may get difficult for females to maintain a work-life balance where they also have children and home to look after.”

The participants stated that their airline company provides them with maternity leave and compensation whenever it is needed.

1. **Conclusion**

With respect to limited time and accessibility, the analytical report concludes that there is no gender discrimination against female pilots in the Indian aviation industry. More prominently, the female pilots/pilot trainees have adequate support from the family and employers which empowers them forward to grab the challenging and prestigious aviation industry and create new milestones.

To get in-depth insight to assess the gender discrimination with reference to the global scenario - the scope of future research - a structured questionnaire may be developed to find about female participation, the contribution is proposed for Comparative analysis of India vs Developed countries (say the US) with a larger sample size of 100 female pilot participants from a few countries would be more supportive and generalized to the true population. This will give us more idea on how differences in culture would affect the challenges (if any) experienced by women and therefore would be more significant for landmark contribution to the industry.

*Limitations:*

As it is a snowball sampling, also called non-probabilistic sampling technique, the subject was acquired among their acquaintances and there is no certainty of the true distribution of the population and is dependent mainly on the referrals of already-identified participants therefore not generalized to the true population. The sample size is 16 participants and is not big enough to ensure that the results are accurate and therefore does not have a reliable picture. If it is not possible to find a large enough sample size, the data collected may not be adequate.

It's hard to interpret if the researcher’s questions are quality or not because they are all subjective. Researchers need to ask how and why individuals feel the way they do to receive the most efficient answer.

It is difficult to interpret and coalesce the summary when all participants are coming with different ideas and perspectives referring to the same concept.

For internal qualitative studies, participants answering the questions may be biased. For example, participants may give an answer that colleagues agree with rather than a true opinion. This can influence the outcome in a negative way of the survey study. Also, the semantic loss is unavoidable during translation.

**References:**

Bidwell, Allie. 2014. “The Lack of Women in STEM Is a National Security Issue”. U.S. News. Sept. 9, 2014.https://www.usnews.com/news/stem-solutions/articles/2014/09/09/attracting-more-women-to-stem-fields-is-a-matter-of-national-security

Catalyst .2021. “Women ‘Take Care," Men ‘Take Charge’ – Stereotyping of U.S. Business Leaders Exposed (Report).” June 25, 2021. <https://www.catalyst.org/research/women-take-care-men-take-charge-stereotyping-of-u-s-business-leaders-exposed/>.

Centre for Aviation (CAPA). 2018. "Women airline pilots: A tiny percentage, and only growing slowly. CAPA - Centre for Aviation.” August 8, 2018. [https://centreforaviation.com/analysis/reports/women-airline-pilots-a-tiny-percentage-and-only-growing-slowly-432247](https://urldefense.com/v3/__https:/centreforaviation.com/analysis/reports/women-airline-pilots-a-tiny-percentage-and-only-growing-slowly-432247__;!!IaT_gp1N!my7H7iNRR2iYVU2Lm7AE7IobVleZ9WPYwhFiAHDxGhsPTaXu5TInLZ1QF3JeWeb4$).

Creedy, Kathryn. 2019. “Why Are There So Few Women in Aviation?” CNN. Cable News Network, November 20, 2019. <https://www.cnn.com/travel/article/women-in-aviation/index.html>.

Diem, Carpe. 2019. “Women earned majority of doctoral degrees in 2019 for 11th straight year and outnumber men in grad school 141 to 100”. AEI, October 12, 2020. <https://www.aei.org/carpe-diem/women-earned-majority-of-doctoral-degrees-in-2019-for-11th-straight-year-and-outnumber-men-in-grad-school-141-to-100/>

England, Paula. Levine, Andrew. Mishel, Emma. 2020.“Progress toward gender equality in the United States has slowed or stalled”. PNAS IPUM CPS,  March 31, 2020. <https://www.pnas.org/content/117/13/6990>.

Heil, Chelsea. 2015.” [Gender Stereotypes and Discrimination in the Workplace](https://genderncomm.weebly.com/)”. Genderncomm. November 16, 2015. https://genderncomm.weebly.com/stereotypes--discrimination.html.2015

Kimberly, Perkins. 2021. “Chances are your pilot isn't a woman. here's why”. Seattle Business Magazine. March 18, 2018. <https://www.seattlebusinessmag.com/chances-are-your-pilot-isnt-woman-heres-why>.

Lekshmi, Priya. 2019.”

[Women In The Sky: 4 Reasons Why India is a Trailblazer For Gender Equality in Aviation”. The Better India. June 11, 2019.]( Women In The Sky: 4 Reasons Why India is a Trailblazer For Gender Equality in Aviation\”. The Better India. June 11, 2019.https://www.thebetterindia.com/185634/india-highest-women-pilots-in-world-gender-equality-aviation/)

[https://www.thebetterindia.com/185634/india-highest-women-pilots-in-world-gender-equality-aviation/]( Women In The Sky: 4 Reasons Why India is a Trailblazer For Gender Equality in Aviation\”. The Better India. June 11, 2019.https://www.thebetterindia.com/185634/india-highest-women-pilots-in-world-gender-equality-aviation/)

[Özge, Yanıkoğlu](https://www.sciencedirect.com/science/article/abs/pii/S0969699720300132" \l "!).[Sena, Kılıç](https://www.sciencedirect.com/science/article/abs/pii/S0969699720300132#!). [Hatice, Küçükönal](https://www.sciencedirect.com/science/article/abs/pii/S0969699720300132#!). (2020). “Gender in the cockpit: Challenges faced by female airline pilots.”. Journal of Air Transport Management. July 2020. https://www.sciencedirect.com/science/article/abs/pii/S0969699720300132

Pandey, Ashutosh. “Deutsche Welle Business - Deutsche Welle: India – the 'unlikely' poster girl of gender equality in aviation”. Newstex Global Business Blogs, Chatham: Newstex. Mar 15, 2019. <https://www.dw.com/en/india-the-unlikely-poster-girl-of-gender-equality-in-aviation/a-47919822>

Pilot Institute. 2019.”Women Pilot Statistics: Female Representation in Aviation.” February 13, 2020.https://pilotinstitute.com/women-aviation-statistics/

[Raghavan](https://timesofindia.indiatimes.com/blogs/author/pyaralalraghavan/), Pyaralal.2015.“Indian parents have very high expectations about their children’s education and careers”.Times of India. July 18, 2015. <https://timesofindia.indiatimes.com/blogs/minorityview/indian-parents-have-very-high-expectations-about-their-childrens-education-and-careers/>

Rice, Stephen. 2019. “Aviation Needs More Women on the Flight Deck - and in All Roles.” Forbes Magazine, March 12, 2019.<https://www.forbes.com/sites/stephenrice1/2019/03/11/aviation-needs-more-women-on-the-flight-deck-and-in-all-roles/?sh=236a38bbcc80>.

Zeher,Bobbit. 2011. “Gender Discrimination at Work: Connecting Gender Stereotypes, Institutional Policies, and Gender Composition of Workplace.” Sage journals. December 5, 2011. https://journals.sagepub.com/doi/10.1177/0891243211424741