

KENYATTA UNIVERSITY

SCHOOL OF HUMANITIES AND SOCIAL SCIENCES

DEPARTMENT OF PUBLIC POLICY AND ADMINISTRATION

**GENDER DYNAMICS AND ITS EFFECTS ON EMPLOYMENT OF WOMEN PILOTS
IN KENYA AIRLINES**

CHAVERA MILIZA DAVIDSON

C153/CTY/OL/28459/2019

**A RESEARCH PROJECT SUBMITTED TO THE SCHOOL OF HUMANITIES AND
SOCIAL SCIENCES IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR
THE AWARD OF DEGREE IN MASTER OF PUBLIC POLICY AND
ADMINISTRATION OF KENYATTA UNIVERSITY**

AUGUST, 2022

DECLARATION

This project is my original work and has not been presented for a degree in any other university.

Signature_____

Chavera Miliza Davidson

Date_____

C153/CTY/OL/28459/2019

This project has been submitted for review with my approval as Kenyatta University Supervisor:

Signature_____

Dr. Wilson Muna.

Department of Public Policy and Administration.

Kenyatta University.

Date_____

ACKNOWLEDGEMENT

Glory to God for life, skills, wisdom, knowledge and patience. A very special thanks goes to my supervisor, Dr. Wilson Muna who give a tremendous support, guidance, always available with generous resources while carrying out the study. Appreciation to friends, colleagues (Martin Simiyu Nyongesa, Lydia Jemesunde, Robert Khisa, Murunga Kibe and RoseMary Mwikali) and family for their continued support.

Lastly, a thank you to Kenya Airways pilots who took part in the study.

God bless you.

DEDICATION

Project is dedicated to my children; Akosa, Machanga and Mellisa.

ABSTRACT

Although there is a rise in the studies on employment of women pilots globally, there is minimal evidence that attempt to interrogate the effects of gender dynamics related on the same. Women airlines pilots are underrepresented in aviation industry accounting for about 4%. Women have a bigger role they play economically, socially and politically when they are empowered, and this can be done through employment as airlines pilots. Previous researches have indicated women in aviation face discrimination, biasness and prejudice and those in aviation have remained to be resilient, because of role models support and struggle with the masculine dominated industry. International organizations, civil societies, non-governmental organizations, women themselves through various groups and countries have adapted to gender equality promotion through policies, practices, advocacy and awareness while the impact is at a slower rate. Constitution of Kenya 2010 outlines the need for gender equality and human right as a priority by providing for no more than two - thirds representations of any gender; - in a multi crew, aircraft there should be representation of both genders on the flight deck. Besides all this commitments, women airlines pilots are a minority; this brought the need to study and determine some of the causes and effects to why fewer women are employed as pilots at Kenya Airways. The research aims to determine gender dynamics and its effects on employment of women pilots in Kenya and objectives are; to examine the effects of cultural belief, to establish effects of career choice, to explore the effects of job allocation and to determine the effects of skill acquisition on employment of women pilots in Kenyan airlines. Advocacy Coalition Framework, Gender Schema and Self-regulation shift theories were adopted by the researcher. A target population of 402 pilots, the study used descriptive research design, semi structured questionnaire surveys, which were administered online by use of google forms, stratified random sampling, simple random and non-probability quota sampling techniques were adopted in a sample size of 22 pilots. Quantitative, qualitative research techniques were used; data was presented and analyzed by the use of mean use of percentage, bar charts and graphs. Research was carried out after authorization, license number approved and issued, respondents were on voluntary basis, information sourced was confidential and only used as part of the study to determine reasons why women pilots are fewer in Kenyan airlines. The study found cultural beliefs, lack of information and mentors, variable shift patterns and skills acquisition influences employment of women pilots in Kenyan airlines. The study recommends to create awareness to break the bias, have mentors, rosters be published based on laid down procedures and skills and confidence is acquired on individual level.

TABLE OF CONTENT

Contents

DECLARATION.....	ii
ACKNOWLEDGEMENT.....	iii
DEDICATION.....	iv
ABSTRACT.....	v
TABLE OF CONTENT.....	vi
LIST OF TABLES	x
LIST OF FIGURES	xi
ABBREVIATIONS.....	xii
OPERATIONAL DEFINATION OF TERMS	xiii
CHAPTER ONE	1
1.0 Introduction	1
1.1 Background of the study.....	1
1.2 Statement of the problem.....	5
1.3 Objectives of the study	6
1.4 Research Questions.....	7
1.5 Justification and Significance of study	7
1.5.1 Justification of study.....	7
1.5.2 Significance of the study	7
1.6 Scope and Limitation of the study.....	8
1.6.1 Scope of the study.....	8
1.6.2 Limitation of the study	8
CHAPTER TWO	9
LITERATURE REVIEW AND THEORETICAL FRAMEWORK	9
2.0 Literature review.....	9
2.1 Introduction	9
2.2 Employment of women pilots.....	9

2.3 Cultural beliefs and women employment.....	12
2.4 Career choice and women employment.....	14
2.5 Job allocation and women employment	15
2.6 Skills acquisition and women employment.....	17
2.7 Theoretical framework	17
2.7.1 Advocacy Coalition Framework.....	17
2.7.2 Gender Schema Theory	18
2.7.3 Self-regulation shift theory.....	19
2.8 Conceptual Framework.....	20
2.8 Conceptual Framework.....	21
2.9 Summary of literature gaps.....	22
Table 2. 1 Summary of literature gaps.....	22
CHAPTER THREE	27
3.0 RESEARCH METHODOLOGY	27
3.1 Research design	27
3.2 Variables	27
3.3 Site of study.....	27
3.4 Target population.....	27
3.5 Sampling technique and sample size.....	28
3.5.1 Sampling techniques.....	28
3.5.2 Sample size.....	28
3.6 Research instruments.....	28
3.7 Validity and reliability.....	29
3.7.1 Validity.....	29
3.7.2 Reliability	29
3.8 Data collection techniques.....	29
3.9 Data analysis and presentation	29
3.10 Ethical presentations.....	29

CHAPTER FOUR.....	31
4.0 RESEARCH FINDINGS AND DISCUSSIONS	31
4.1 Introduction	31
4.2 Response rate.....	31
4.3 Background information.....	32
4.3.1 Gender	32
4.3.2 Age.....	32
4.3.3 Level of education	32
4.4 Analysis and discussions	33
4.4.1 Cultural beliefs effects on employment of women pilots.....	33
4.4.2 Career choice effects on employment of women pilots	36
4.4.3 Job allocation effects on employment of women pilots	40
4.4.4 Skills acquisition effects of employment of women pilots.....	42
CHAPTER FIVE	46
5.0 SUMMARY, CONCLUSION AND RECOMMENDATIONS	46
5.1 Introduction	46
5.2 Summary.....	46
Cultural beliefs and its effects on employment of women pilots.	46
Career choice and its effects on employment of women pilots.....	46
Job allocation and its effect on employment of women pilots	47
Skills acquisition and its effect on employment of women pilots.....	47
5.3 Conclusions	48
5.4 Recommendations	49
5.5 Recommendations for further reading.....	51
REFERENCES.....	52
APPENDICES.....	58
Appendix 1: Questionnaire for Kenya Airways pilots	58
Appendix 2: Map of Nairobi County.....	63

Appendix 3: Nacosti, County Commissioner and Governor Approvals 64
Appendix 4: Ministry of Education Approval..... 65

LIST OF TABLES

Table 2. 1 Summary of literature gaps.....	22
Table 3. 1 Kenya airways sample size	28

LIST OF FIGURES

Figure 4. 1 Informed Consent	31
Figure 4. 2 Age.....	32
Figure 4. 3 Level of Education	33
Figure 4. 4 Cultural beliefs.....	34
Figure 4. 5 Career choice.....	37
Figure 4. 6 Skills acquisition	42

ABBREVIATIONS

B737	:	Boeing 787
B787	:	Boeing 787
E190	:	Embraer 190
FAA	:	Federal Aviation Authority
GDP	:	Gross Domestic Product
IATA	:	International Air Transport Association
ICAO	:	International Civil Aviation Organization
PIC	:	Pilot in Command
CAA	:	Civil Aviation Authority
FWP	:	Federal Women's Programs
CEO	:	Chief Executive Officer

OPERATIONAL DEFINATION OF TERMS

Culture belief - Believe that women are not as good as men, people are born in a certain caste and can never escape that.

Empowerment – A way of enabling people act and respond to circumstances placed upon them through learning and making them sustainable human beings.

Ergonomics - To the study of human-machine system design issues; examination of how people interact with machines.

Flight time – the times it takes an aircraft to move for the purpose of being airborne, under its own power until it comes to a complete stop.

Fostering - Encourage or promote the development of (something, typically something regarded as good).

Gender Discrimination – being unfair and or unjust because of someone gender that results in unequal resources and/with opportunities.

Gender Equity – Assumes to the act of being fair, just and moral and not discriminating because of ones gender.

Gender roles – Community, society and family duties and responsiveness that is not genetically supported.

Gender stereotyping – Process of issuing instructions on how to complete an assignment or a particular task to certain gender due to macroaggressions.

Patriarchy – refers to a father or the eldest son controlling the society, communities and families and promoting discrimination against women.

CHAPTER ONE

1.0 Introduction

In this chapter, the study discusses background of the study, statement of the problem, objectives of the study, research questions, justifications, significance, scope and limitation of the study.

1.1 Background of the study

The number of women pilots in airlines are still low and women being underrepresented in the aviation industry. The highest research ever conducted indicated a representation of 10% and this included entire women in aviation (pilots, C.E.O, technicians and dispatchers). There been women who rose to occasion and marked milestones in aviation industry; though the pioneers had to persevere, struggle, and remain resilient for the influence of women representation in aviation today. McCarthy, Budd & Ison (2015) state, about 3% of women are commercial airliners pilots and 0.346% are in positions of pilot in command. Women are not employed as pilot because communities and societies believe women place is home (McCarthy, Budd, & Ison, 2015).

FAA (2019) data showed that representation women airline pilot in airlines were as follows; KLM 5.2%, jetBlue5.0%, easyJet5.0%, AIRNEWZEALAND4.7%, DELTA4.5%, American Airlines4.4%, QANTASA4.3%, CATHY PACIFIC3.7%, Southwest3.6%, virginatlantic3.2%, Emirates1.5% and Norwegian 1.0%. As of 1991, out of the commercial licensed pilots - about 6% were women; main cause was attributed to lower enrolment of women in aviation colleges and flying schools. In Durbin, Lopes & Warren (2020) study, it affirmed that less than 6% of airlines pilot are women the number are decreasing due to lack of mentors, role model, advisors and encouragers in the aviation industry.

Assessment by Moiz, Safia, Shahmir & Erum (2020), proved one of the causes for fewer women employed airline pilot in Pakistan was attributed to conflicts arising between balancing work - life and family responsibilities. Keller, Wang, Cooney, Erstad & Lu (2019) in cultural dimensions research - gender inequality between men and women for aviation Chinese students, results showed that the gender inequality starts in children then transferred into adulthood and the same study in United States, 92% responds preferred pilots to be employed based on merit and performance unlike factoring gender issues and matters. In the same report, Keller, Wang,

Cooney, Erstad & Lu (2019) further agreed the communities determine believes, behaviours and gender roles in the society on employment of women airlines pilots at large.

Harvey, Finnier & Greedharry (2019) recognized women have a critical role in aviation industry however they don't hold most of the powerful managerial occupations due to lack of expertness and required skills; most of managerial positions being occupied by men and most women are being employed as customer service agents and cabin crews. Employment in Customer service and cabin crew earn less remuneration compared to aircraft technicians, airlines pilots and flight crew) and the recommendation is that when women are not hired, mentored and retained in the aviation industry, commercial pilots demand will be on increase, (McCarthy, Budd & Ison, 2015).

IATA Annual report 2020, women are underrepresented on the flight deck. In 2019, IATA started an initiative to have 25% of work force in aviation to be women by 2025, main objective being to promote gender diversity and inclusivity and eradicate women minority in aviation sector. The report further examined how the industry had made strides to increase the number women in top management positions before corona virus pandemic outbreak 2019, and at start of 2021, some airlines had put initiatives to achieve gender equality in aviation. In the report as of September, 2021, 76 airlines had committed to the initiative to promote gender parity and inclusion in aviation. IATA introduced IATA annual diversity and inclusion awards, where airlines and individual who contribute in achieving gender inclusion and diversity in the entire world are honoured, awarded and appreciated in three major categories; role model, highflier and diversity and inclusion and 2021 winners were unveiled in Boston during the IATA Annual General meeting. ICAO Secretary General is a woman; Dr. Fang Liu, ICAO in charge of Civil Aviation with a representation of 193 states and national governments and main objectives being enhancement of diplomatic relations, policy, procedures, practices, recommendations and standardizations in the world aviation industry in accordance with ICAO articles and Annexes.

Ferla & Graham (2019) discusses how women talent and skills are put to waste when not given the opportunity to offer piloting services in aviation industry yet there is tremendous growth in aviation as supported by IATA (2017) and Boeing (2017). Amelia Earhart proved to the world that women can be better pilots as well if mentored, funded and supported at an earlier age,

however many faults were imposed on women who tried and were determined to pursue piloting by suggesting women are unfit to fly aero planes. 11th October, 2021 was the first day to celebrate the girl child, United Nations chose this day to celebrating girls, ladies and women yearly; where they are encouraged to pursue their dreams, nature their talent and empowered to enhance gender parity and at the same time challenges facing girl child are addressed and possible positive solutions are offered to young girls problems.

Lores Bonney in a solo flight from Brisbane to London managed to fly a five times mileage of what Amelia Earhart had flown and was not appreciated the way Amelia was recognized, assumption was; women belong to the house. Mary Myers was honoured for having flown many balloons flight in the year of 1880, (David, & Ison, 2010). Mary demonstrates how women have a potential to become successful in aviation. Backbone of aviation referenced to Wright brothers, who were the first people to fly powered machine in the air (aeroplane) which they designed, structured and developed. Katherine Wright, there sister was the donor of the entire project. Katherine involvement and supporting of the brothers has made aviation to where it is (David, & Ison, 2010). At the end Second World War, there was growth in general aviation due to an increase in aircraft availability and demand for air travel and this created room for women to be absorbed as pilots (Bednarek, & Bednarek, 2003) and (Ison, Herron, & Weiland, 2016).

When there is no enough representation of gender, Pawley (2019) described this as a minority. Cline (2018), in 2016 4.3% of commercial pilots were women in the United States of America and this is evidence that commercial piloting is a male dominated industry. Higgins et al. (2014) projected a shortage of thirty-five thousand pilots between 2013 and 2031 in USA and the study agreed with Boeing 2017 on shortage of pilots. Stevenson, Cuevas, Rivera, Kirkpatrick, Aguiar, Albelo (2021) in the question what factors enhance women working longer in aviation industry in the USA showed women were uncomfortable performing their duties in a surrounding dominated by men.

Turney (2000) acknowledged that the number of women who had joined aviation had increased whereas women entering technical positions were still low. According to FAA (2011) 1/20 of United States GDP of the country's economy comes from the aviation industry which makes

aviation industry an economic pillar in the United States of America. Lutte (2018) showed how women in aviation at aviation girls club during the aviation day had more than twelve thousand members and main goal creating a network for girls' ages 8 - 17 who are interested in aviation, by providing relevant information, communication and advice on programs and practices for joining aviation industry in the United States of America.. Lutte (2018) further described how association of pilots and owners of aircrafts had school initiative which had a membership of more than four hundred thousand in the United States of America, objective being schooling pilots, providing guidance to members of the group by having activities that enhance flying teenagers. Notice to Airmen abbreviated as NOTAM is notice issued to airlines pilots containing changes, which have significant change in operation of aircrafts. In compliance with Federal Women's Programs (FWP), from 02nd December, 2021, the acronym NOTAM changed from Notice to Airmen to Notice to Air Missions which is inclusive of all Aviators and Missions of people engaged in the aviation industry.

United Kingdom civil aviation hired around 524 women commercial pilots for airlines and overall commercial pilots for airlines were 10,735 in the year 2007, Cockburn (2009), aviation having 3% of airlines pilots were women, CAA (2013) report showed 4.29% of women commercial airliners pilots were women and British airways had 5.7% of the 450 pilots employed by British Airways as women. Dashper (2019) despite United Kingdom government introducing gender discrimination policies and contingent discrimination on women, most of work places had fewer women. The United Kingdom has a charter that promotes gender balance and this is fuelled through appreciating diversity and inclusivity. The charter enhances gender parity in the aviation industry to delight aviation guests, improve economy; enhance conducive work environment and foster investor's investment in aviation industry in the United Kingdom, (women in Aviation & Aerospace Charter, 2021).

Research by British Airways in 2013 confirmed that, children aged 6 – 12, boys preferred to become pilots unlike girls. According to McCarthy, Budd & Ison (2015), diversity should be well managed to enhance women in aviation. During Farnborough Airshow 2018, organizations in United Kingdom, companies and aerospace sectors institutions agreed to work in coalition to

enhance gender equality and equality in the aviation industry where 200 members committed to the course, (women in Aviation & Aerospace Charter, 2021).

Kenya airways - national carrier in Kenya, flying to Europe, United states of America, Asia, Middle East and major cities in Africa and operates through its hub at the JKIA in Nairobi, Mombasa international airport and Accra. It operates the B788, B737 and the E190 with a flight deck crew of 402 pilots for the combined fleets. Out of the 402 pilots, only 22 pilots are women which equals to 5.47%. 6 fly B787, 7 fly B737 and 9 fly the E90. Kenya has a gender policy and the constitution of Kenya 2010 advocates for gender equality, the total number of pilots at Kenya Airways would require 134 pilots be women to meet the two third as required by the constitution of Kenya. Kenya Airways signed IATA 25by2025 initiative on 13/09/2021 which promotes gender parity in aviation industry; this is an initiative by the 19 sky team members which plans to upgrade representation of women in aviation industry to twenty-five percent by 2025 which is agenda 5 of Sustainable development goal. As of June, 2021, Kenya Airways had three thousand, four hundred and eight two workers and 2,112 of the employees were men which correspond to 60.54 %. The airline is committed to upgrade the number of women working as pilots, technical and operations to enhance gender parity at the organization. Kenya Airways has an objective of having half of the work force become women by 2025.

1.2 Statement of the problem

The reality of low numbers of women pilots in airlines is understudied. Report by Boeing (2017) and Higgins et al. (2014) indicated a big shortage of airlines pilots, discrimination against women has been cited to be among the causes. IATA annual report 2020 indicated about 5% of women work as airlines pilots, on average of the many studies on women in aviation, the representation is less than 4.5% women airline pilots on the flight deck (Lutte 2019, FAA, 2019b, Harvey, Finnier & Greedharry, 2019 and Cline, 2018). There is underrepresentation of women in aeronautics and flight associated careers and in the long run hinders the entry of women into aviation sector (Meyer, Cimpian, & Leslie, 2015 and Ison, Herron & Weiland, 2016), moreover, in Kenya there are very few women employed as airlines pilots. According to United Nations 2019 report, there are no laws that hinder discrimination against hiring and women equal rights as men in certain jobs.

This brought the question as to why there are fewer women pilots in Kenyan airlines yet the Kenyan government through the constitution, policies and laws and international organizations have informative action that promote gender parity, gender mainstreaming and gender equality in promoting women empowerment? There was need to carry out research to determine the causes of fewer women pilots in Kenya airlines which focused on Kenya Airways. McCarthy, Budd & Ison (2015), in the research women at the flight deck in the United Kingdom highlighted sexism comments, behaviours from male passengers and pilots, variable shift patterns, lack of support at tender age and inadequate funds hinder women from becoming airliner pilots.

The researcher aimed to determine if cultural beliefs, career choice, job allocation and skills acquisition in women influences employment of women pilots in Kenyan airlines. The last address to the nation in attendance of both houses – the senate and the parliament on 30th November, 2021, Mr Uhuru Kenyatta the president of republic of Kenya described how women should be at the centre of decisions making and proposed to achieve 50% of women presentations in parliament and work places through the BBI. Constitution of Kenya 2010 articles 27, 59, 91, 250, 172 and 197 provides for equality and freedom from discrimination by having programs and policies that disadvantages groups from previous discrimination, fostering gender equality, mainstreaming and parity for national progress, this implies, in a multi-crew flight deck all genders should be represented.

1.3 Objectives of the study

Specific Objectives:-

- i. To examine effects of cultural beliefs on employment of women pilots in Kenyan airlines.
- ii. To establish effects of career choice on employment of women pilots in Kenyan airlines.
- iii. To explore the effects of job allocation on employment of women pilots in Kenyan airlines.
- iv. To determine the effects of skill acquisition on employment of women pilots in Kenyan airlines.

1.4 Research Questions

- i. To what extent does cultural beliefs affect employment of women pilots in Kenya airlines?
- ii. To what extent does career choice affect employment of women pilots in Kenya airlines?
- iii. To what extent does job allocation affect employment of women pilots in Kenya airlines?
- iv. To what extent does skill acquisition affect employment of women pilots in Kenya airlines?

1.5 Justification and Significance of study

1.5.1 Justification of study

Constitution of Kenya 2010 fosters for gender equality, human rights, inclusivity and minority representations. The same is yet to be achieved on the flight deck by the women airlines pilots in Kenya; little is being done to achieve the goal. Sustainable Development goals by the United Nations fosters for gender equality – Agenda 2030, this has not been achieved internationally, regionally and domestically.

1.5.2 Significance of the study

Researcher explored why women pilots are underrepresented in aviation industry in Kenya airlines, which made the study important to the communities and societies, focusing on women pilots' employment in fostering diversity, gender equality and discussion on minority representations. This will enable the ministry of public service, gender, senior citizens and Special programmes create ways of fostering employment of women airliner pilots in Kenya. Kenya Civil Aviation Authority (KCAA) mission is to promote economic air transport in Kenya and can only be achieved if there are more women airlines pilots. Agenda 2030 by the United Nations; goal number five, "gender equality" can be successful when more women airlines pilots are on the flight deck. Academicians will use the research for further studies, Kenyan airlines with support and guidelines from IATA and ICAO will foster for more women pilots on the flight deck and Kenya uppers house – Senate and the lower house – the parliament will innovate polices and laws that foster the two third rule in the aviation sector.

1.6 Scope and Limitation of the study

1.6.1 Scope of the study

Researcher used Advocacy Coalition Framework and Gender Schema and Self-regulation shift theories to study effects of cultural beliefs, career choice, job allocation and skills acquisition effects on employment of women airlines pilots. The study focused on Kenya airways pilots in Nairobi; study was carried out in the month of May 2022. Kenyatta University gave the researcher permission in May 2022, and researcher sought approvals from County Director of Education, County Commissioner, County Governor and Nacosti.

1.6.2 Limitation of the study

Researcher examined information limited to Nairobi County, Kenya. The study targeted pilots at Kenya Airways therefore the views of pilots not employed at Kenya Airways and the general Kenyan citizens were not investigated; hence the investigators results are not considered to be of a diversifying perspective views as to why there are low numbers of women pilots in Kenyan Airlines. Data was obtained from Nairobi County only which is not a representation of the entire country, however, Nairobi being the hub of Kenya Airways, data acquired satisfied the researcher's objectives.

CHAPTER TWO

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.0 Literature review

2.1 Introduction

The chapter reviews literature on employment of women pilots; cultural beliefs; career choice; job allocation and skill acquisition as variables. Advocacy Coalition Framework approach; gender scheme and self-regulation shift theories and conceptual framework.

2.2 Employment of women pilots

Report by Global Gender Gap Report 2020 on women employment and empowerment ranked Kenya number 109 globally and number 20 in Africa in gender equality index ranking, whereas Rwanda was ranked number one in Africa and number 9 globally and South Africa scored number 17 globally and number 3 in Africa and this demonstrates how South Africa has taken initiatives in achieving the Agenda 2030 - gender equality for economic sustainability making it the leading economic country in Africa as reported by France24 news during a live broadcast on 18th November, 2019. ICAO objective is to have 50% representation of gender in aviation industry by 2030 through employment.

During Global Gender Aviation Summit in South Africa on 8th - 10th October 2018 inclusivity, agenda 2030 in fostering gender equality, policies that enhance gender parity in aviation, patriarchy awareness, girls' aviation schooling, effects of stereotyping, attraction and keeping women in airspace and encouragement for researches to scrutinize on culture beliefs impacts on gender and the aviation industry were deliberated and the effects in fostering women airlines pilots employment, (General Aviation Gender Summit, 2018). Attendees in the summit resolved, more women to be encouraged to be become mentors and role models, innovate ways of attracting women to aviation at individual, family, national, internationally and continued support by non-governmental bodies, men to support women in developing and advancing in women airline pilots to eliminate stereotyping, governments and corporate organizations to come up with laws, policies that foster for gender equality and all this is to foster employment of women airlines pilots. Kathryn Creedy (2019) the aviation journalist outlined that Boeing projects that by the year 2036 the world would require about 804,000 pilots and most of the pilots to be employed will be women as supported by (Cline, 2018).

The contradiction is, though women are not same as men (masculine) - they are still to fit in the existing social cultural system that is men dominating. Aviation having 3% of airlines pilots employed as women, stereotyping still dominates. Lutte (2019) study on women employed in aviation industry, women in airline pilots, aircraft engineers and seniors managers in aviation industry account to 10% of the workforce and out of this only 1% woman were in the rank of PIC. FAA (2019b) report in 2019, United States had a total of 633,317 employed pilots; where 46,463 pilots employed were women equivalent to 7.3%, while women employed as PIC were 7,136 pilots equivalent to 4.4%, while women employed as airlines pilots were 13,692 equivalents to 2.16% and number of women employed as pilots had increased by 1.1% from 2009 to 2018. Women airlines pilots employed in aviation are fewer as demonstrated by Cline, in 2016 around 4.3 % of women were employed as airliners pilots in USA, the number increased from 3.3 %, which was the case in the year 2002.

Numbers of airliners pilots employed and trained were not sufficient to meet the demands of aviation industry pilots shortage needs because of fewer women airline pilots and airliners pilots number were in demands, with a projected increase by four percent from 2016 to 2036, Cline (2018). Observation by Cline (2018), aviation industry needs will not be met in the near future because of the current fewer employed airliner pilots, the course can be changed by increasing the number of women the aviation industry. Gender selectivity and fewer women employed at the airlines board is one of the causes as to why women employment in airlines as pilot is a minority which has led to re-thinking ways of promoting gender equality in piloting as a career (Dashper, 2019). Men dominate Jacqueline (2019) aviation industry and strategies around inclusivity should be encouraged because in the long run, the differences in gender will be reduced.

Details by Cranfield school of management website published in June 2021, first woman of an African origin to become a pilot was Bessie Coleman in 1922, she was not allowed to be admitted in United States aviation schools; determined to her ambitions to be closer to skies, she went to France where she was enrolled for flying classes at Caudron Brothers School of Aviation in France. Emma Lilian created and developed her air driven machines in 1906. Women have had remarkable initiatives in aviation for the many years ago, however, women employed as

airlines pilots is still lower at 5.1%. Previous researches have outlined some of the reason for women underrepresentation in aviation particularly women airliner pilots to be lack of mentors, patriarchy, inadequate policies about inclusivity and minority representations, poor implementation of policies on gender equality, lack of women presentations in decisions making as inhibitors to women airline pilots employment. When policies are not implemented, the objective is not met; in Kenya there is a two third rule that has not been effectively implemented though it is on paper as per the supremacy of constitution of Kenya 2010, the rule suggests, a third of gender should be represented and this is not the case.

Globally, there is a big role played by women, Harvey, Finnier & Greedharry (2019) however, women employed in aviation industry hold positions and roles in areas where less skills, no experience and non-technical expertise are required and this has led to women be insecure at the work places. Within organizations and institutions processes and procedures when hiring, men are preferred the candidate to be employed than women which explains the cause of fewer women employed as airliners pilots.

Durbin, Lopes & Warren (2020) acknowledged the lack of skilled women workforce and experience in male dominated industry, and appreciated that when women were supported and mentored, either collectively or at the independent level are able to make strides in aviation. Airline's pilots use up more hours in the workplace at generally 6.2 miles from the ground in unfriendly environment (lower pressure, lower temperature, increased force of gravity and exposure to ultra violet rays, human performance and limitations book CAE Oxford Aviation Academy (2014), besides handling state of the art machines, which is very expensive and require extensive trainings and approvals maintaining safety and security of passengers and consignments, (Venus & Grosse, 2021).

Tehnika (2020) suggested mode of transport by air is one of the most recent ways of transportation and its growing at a faster rate due to heavy infrastructure, technology and safety associated with air travel hence more employment opportunities are available for women which in the long run promotes gender parity based on a study in republic Serbia. Tehnika described, how Captain Tammie Jo Shults managed to land a Boeing 737 after engine blew away and a lot

of people got surprised on learning that this was a super skill by a woman; because of pilots shortage all over the world, women have the chance to become airliners pilots; another contributing factor for women to be attracted to airline piloting is the huge salaries reward and in the research based on a flying schools, the number of women enrolling for pilot had increased from ten percent to fifteen percent, (Tehnika, 2020).

David & Ison (2010) research suggested that, to enhance continuity and promoting gender equality in future, the number of women training in aviation courses should be increased to have more women employed as airlines pilots in the future. This should be done by encouraging more women to enrol in aviation courses, be mentored to complete the course and acquire required technical skills and become commercial airline pilots. David a captain for B737 and a flight instructor recommends having a chain and flow of women pilots in the future as one of the key objectives to meet the industry needs. Aviation industry regulators and stakeholders and international bodies have made strides to increase the number of women employed as airlines pilots in aviation, though women numbers in aviation remains lower (Turney, 2000). McCarthy, Budd & Ison (2015) lower number of women airliners pilots may be because of cultural sexism, behaviour and remarks from male passengers and male cock pit crew.

2.3 Cultural beliefs and women employment

Cockburn (2009), pointed men were perceived to be having better flying characteristics, cultural sexism as the contributing factors. Cultural sexism defines the divergence in gender; this is to assume women encounter different matters due to their gender, this makes it difficult for women to take part in a male dominated industry. Cultural sexism suggests women are different from men hence women have to adapt to the cultural systems and beliefs.

According to Hofstede (1998) gender determines people's roles in the communities and major differences in male and female is bodily elements, which lead to communities' and societies opinions on roles and employment associated with males and females, and this explains why women numbers are fewer in commercial pilots. Digg magazine termed "gender socialization" the toys given to children tend to relate with careers associated with adults when they grow up; the research focused on "stereotypes and chauvinism in the aviation industry." The magazine outlined how commercial airline pilot is a masculine affair; according to Qatar Airways CEO -

Akbar Al Baker; Qatar Airline has to be led by a man since it's a demanding post. Stereotyping hinders women from becoming commercial airline pilot for they believe that is made for men and are better placed when working as a customer care or flight attendant agents. The dress code associated with cabin crew and customer care, "their uniforms included miniskirts" leads to "sexualisation" where their place is to serve male commercial airline pilots.

According to Eiff & Stitt (1993) most of the opportunities and posting in aviation are mostly occupied by men. Women retention in aviation is at a lower level compared to men, Seymour got interested to know why retention of women was lower compared to men and discovered, negative attitudes, behaviours and personalities of male workers discourages women from joining the technical fields, women are not welcomed and discriminated hence fewer airliners pilots globally and in Kenya as well (Seymour & Hewitt, 1997).

Male colleagues and passengers are not easy when women are on controls of an aircraft - case is where a male passenger was uncomfortable during entire flight because entire flight deck was operated by woman airline pilots. Moreover, a women airline pilot complained how she was not respected by fellow male airline pilots. Some male passengers depending on the demographic, do not accept any assistance offered by a crew member who is woman because of the culture sexism. To demonstrate women pilots' confidence is a bit lower when it comes to flying, Stuart (1999) revealed that, most aircrafts were developed and designed to meet the demands of men, a case study on Cessna 152s and 172s is more revealing. Turney (2000) proposed that, an environment that favour women should be developed so that more women may feel comfortable becoming pilots to enhance gender equality in aviation industry. Ferla & Graham (2019) identified that most women pilots are discriminated by majorly male passengers and male airlines pilots. Discussion on four agendas; assumptions by children at a tender age, aware of gender capabilities, employment desires and flying ability are summarized as 'cultural sexism'. Belief and stereotypes by men on flight deck illustrates women face other problems because they are women hence women to adopt to current social aviation system which makes women disadvantaged due to gender, some women had to adopt by changing behaviour to fit the working environment (Cockburn, 2009 and Leonard, 2019).

2.4 Career choice and women employment

Women in Pakistan, Moiz, Safia, Shahmir & Erum (2020), women are empowered to join other careers and not supported to join airlines pilots. In Durbin, Lopes & Warren (2020), an instructor schooled in pilots school where most students were men, the few women present all dropped out of class and it took her 6 sessions it normal classes should be 2 sessions and only able to finish because of motivation and support from the mother, she even suggested how instructors gave up with her and encouraged her to drop out of school. Studies have revealed that, whenever people are cared for, appreciated, supported and mentored, they lead a positive life, become more productive and have better coordination and cooperation with fellow colleagues at works and good relations at home. Kim & Albelo (2020) positive faculty support to women who are thinking of joining aviation as a career and those who have just joined required a lot of support in terms of a mentors, they required a person they can talk to, be given directions and someone to motivate them.

In Kim & Albelo (2020) report, Linda shared how she had no ideas about aviation industry, all she was concerned was to be airborne, and instructors made her feel at home and welcomed which made her trainings manageable and easy going. If women can get someone who is positive, always giving guidance, someone who makes them feel at ease, they are able to achieve their dream and career as women airlines pilots (McCabe, 2016). Kathryn Creedy (2019) observed that, lack of exposure for minors and women is a hindrance to women joining the aviation industry. she explained further, most of women pilots were informed about piloting by the parents, grandparents or even friends who gave guidance and coaching to inexperienced women commercial airline pilot. Kim & Albelo (2020) suggested early exposure and access to aviation to female pilots is a major contributor in boosting the future of women airlines pilot's numbers in aviation. Mentors have a great role they play in sharpening, supporting, advising and guiding a person to achieve the desired goal because of the follow up and concern they make.

Lutte (2018) provided free air travel to children aged 8 - 17 years, after offering membership; sponsorship is given to pursue piloting hence increasing chances of becoming a pilot. This is a clear role of career choice, support, concern and mentorship to the societies and communities. David having more than 23 years' experience as a Captain and flight instructor gave an

experience with Amelia Earhart. Earhart was able to become a pilot because Neta Snook who was her mentor as well, David & Ison (2010), trained her. David recognized that men flight instructors hesitate training women pilots and this motivated women to train fellow women and Amelia Earhart was honoured for training many women pilots (David & Ison, 2010). Seymour & Hewitt (1997) took three years in research to establish women training in technical fields and discovered that women enrolment in mathematics and sciences was less compared to male and retention of women in the same fields was lower compared to men, lack of role models and mentors was observed to be main cause. Games children play have a role in one's career progress, Lever (1994) most girls are not prepared to aviation careers while boys are introduced to aviation at a tender age and encouraged to play games that relate to that.

Ferla & Graham (2019) examined that most women lack support, mentors and role models when a woman plans to start piloting. Women (girl) will be convinced about flying an aeroplane when she sees a fellow woman narrates and shares the experience and or witness a woman flying. Inspiration, mentoring, encouragement and advises go a long way in building confidence in women who wants become pilots. When women are mentored, there is a collaborative connection in employment growth with improved production at work places Dashper (2019) and enables women are promoted to senior positions within a shorter period. Mentored women have skills to handle issues and matters of discrimination, because they are empowered through transformative leadership. However, Dashper (2019) proposed women find it difficult to look out for mentors when compared to men. Durbin, Lopes & Warren (2020) agreed that one of the ways of promoting gender equality in a male dominated fields is by having women work with mentors, mentoring creates concurrence, adaptability and solidarity in male dominated careers like flying aero planes.

2.5 Job allocation and women employment

Ferla, Finnier & Graham (2019) in her interview observed that women pilot would spend more time away from their families and worked variable shifts, working in aviation is more demanding which makes women pilot become less attracted to aviation. Venus & Grosse (2021) described airline pilots have often flights at night and extended duty times, whenever short haul flights are performed, there is increased work load due more take offs and landings. Harvey, Finnier & Greedharry (2019) concluded that most women do not get enough rest due to the shift-changing

pattern and split patterns. In the report, most workers suggested the working hours were not constant and were dependent on the demand at work at the time of operations. Whereby 52% women and 47% men respondents, reported of variable shift for the period they had to work in aviation sector. Most of the women cabin crew employees who responded, said they fly three to five sectors, this means flying shorter and hop circuits, which are more stressful, than a single over haul sector. A cabin crew member would prefer to fly a single sector to Accra which is about eight hours duty time unlike going to Kisumu thrice; which is more tiring because of the three landings and three take offs; whereas enroute to Accra would be a single take off only. On short sectors flights, means meeting more people and having more challenges and problems to solve.

In addition to variable shift patterns, another factor is the rearranging of a shift within a short notice. In the study most of the 44% women respondents agreed they were given a roster change within 24 hours while about 34% women respondents get the roster changes between 24 hours to 48 hours and it was evidence from the roster changes that, no one can make a roster change to suit her plans, (Harvey, Finnier, & Greedharry, 2019). Seasons keeps on varying around the year, (summer, spring, autumn and winter), in Kenya we experience surge of tourist visits between the months of February to May and September to December because the sun is along the equator. Wild beasts immigrations between Kenya and Tanzania and schools closure leads to high demand of people travelling, which affects demand in aviation making women airline pilots work more. More than 70% expressed a concern that, their work does not offer a work life balance pattern i.e working very early mornings or working very late and at night, not having a rest on a holiday to spend time with family, friends and children for married airline pilots and sometimes extending duty up to 15 hours, (Harvey, Finnier & Greedharry, 2019).

Other industries have adopted to work rules that enables women manage work-life balance while aviation women continue to work away from home hence less women working in aviation, (Kathryn Creedy, 2019). In Harvey & Turnbull (2012) study, employees preferred not going home at the end of the shift; sleep at work, in rest rooms or lounges and vehicles was the better choice because of insufficient turnaround time at home to make it in time to work on the subsequent shift; signing off work very late and reporting to work earlier.

2.6 Skills acquisition and women employment

Interactions and discussions amongst women outline that most women believe to be incompetent, inexperience and lack of adequate skills and hence depend on always being given instructions on what should be done, (Turney 2000). Harvey, Finnier & Greedharry (2019) recognized women have a critical part in air transport however they don't hold most powerful managerial occupations due to expertness; most of managerial positions are occupied by men.

Furthermore, women who desire to break into male dominated field like aviation find it difficult to operate because of the stories, activities and food men eat and a situation is given when a woman entered into a briefing room where men airlines pilots were debriefing and they all kept quiet on her arrival. A woman while undergoing here private pilot licence took 6 semesters because she was a girl whereas male students pilots took only 2 semesters, the course and content was designed to take up to 2 semesters (Durbin, Lopes & Warren, 2020). Factors flight instructors considers whenever they train women pilots, Sitler (1998); women are slower acquiring of confidence while flying, women require more hours before a solo flight, women fear dealing with abnormal situations like a spin, stall and emergency descents, once a technique and instrument flying is known, it is retained, women are very careful while flying hence have a record of fewer accidents, whenever they are on the controls and they handle the controls smoothly. Women don't practice a learnt aspect, until they are sure that they have learnt and acquired all the relevant training and skills, Turney (2000) for this makes them more confident. McCarthy, Budd & Ison (2015) study, 51% of respondents were uncomfortable when woman is the pilot and 32% of the interviewed believed men are more skilled and be able to handle an aero plane better than women.

2.7 Theoretical framework

To achieve Agenda 2030, the study examined the Advocacy Coalition Framework approach and three gender dynamics theories namely: Gender Schema and Self-regulation shift.

2.7.1 Advocacy Coalition Framework

Advocacy Coalition Framework is a framework that brings solutions to public policy problems as Frank, Gerald and Mara (2007) demonstrated. Whenever there is need for a policy change can lead to conflicts arises within stakeholders on objective, believe and technicality, Advocacy

Coalition Framework has proved to be the most successful framework to be applied in such circumstances. Advocacy Coalition Framework was introduced in 1988, there is empirical evidence applied in the United States, Canada and Europe on energy and environmental policies; many researchers have applied the Advocacy Coalition Framework in other areas of studies apart from energy and environmental. Advocacy Coalition Framework has several structures which include relatively stable parameters (attributes of the problem, social cultural values and constitutional structure; external events (change in social-economic conditions, change in public opinion and policy decisions); degree of consensus for policy change; constraints and policy subsystem (government decisions).

Less than 5% representations of women airlines pilots, human rights, values, and constitution of Kenya, 2010 forms relative stable parameters. Women numbers in aviation are lower as per previous studies, which is a violation of human rights and constitution of Kenya 2010 fosters for a two – thirds gender rule. Women airlines pilots' employment is set in cultural, economic and social context where the societies and communities have indicated women place is home and flying is for masculine, thus hindering the fostering of gender parity and economic development for sustainable live hood. Advocacy Coalition Framework adopts policy subsystems, mode of individual, advocacy coalitions, advocacy coalitions and policy brokers are the major elements of the framework, (Frank, Gerald, and Mara, 2007).

2.7.2 Gender Schema Theory

According to Bem (1983), the theory suggests boys grow to be well built and girl's become delicate at a very tender age and at four – five years, they associate with activities related to the similar gender group. Acquiring of gender characteristics, liking, knowledge, aptitude, persona allocations, behaviours, beliefs and self-constructions leads to knowing people behaviour and appearance at a very tender age. Canevello (2016), theory was introduced in 1983 by Bem; it gives details on how gender behaviors and characteristics are developed and acquired. The theory explains the choices people make in life based on their gender; how gender dimensions determines employment by certain genders being suitable and preferred candidate for particular employment.

This explains why flying is dominated by male gender; men are introduced and exposure to flying at a tender age, they are confident when in the flight deck. Communities believe men are better pilots than women pilots because of musculature hence they are well aligned and placed gender to manage and handle a sophisticated machine like an aeroplane that makes men working for airlines as pilot's numbers more. Gender schema theory explains believe and characteristics are developed from the time children are born, the environment they relate with and maintain the mind set until adulthood (Bem, 1983).

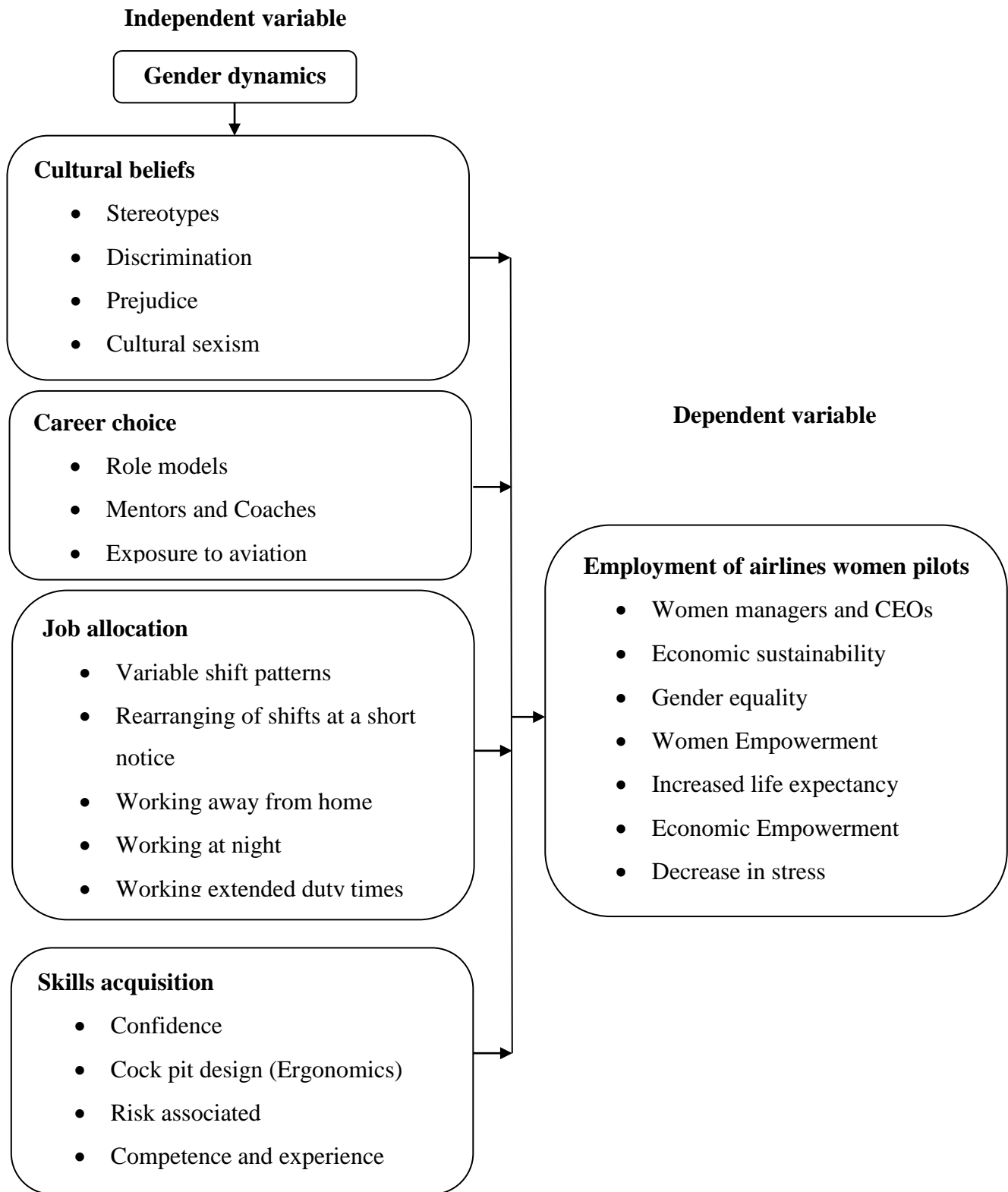
The environment, surroundings, education cultures and believes determine how an individual is able to interpret and analyse a given information. Past studies have indicated women lack believe, potential and capacity to become successful pilots to the level men are and flying careers best suits men. The theory tries to examine in details the shortage of women airlines pilots due to perceived lack of confidence and societies opinions. The theory is best suited to illustrate the origin of stereotyping, prejudice and cultural sexism in societies and effects in aviation industry. Do men and women have same believes and characteristics? This is a good question to ask as to why some careers favour a particular gender. People tend to process and perceive information linked to their gender. Hoffman & Borders (2001) in reassessment of gender schema theory, people should not be categorized based their gender traits and characteristics.

2.7.3 Self-regulation shift theory

According to Benight, Shoji, Harwell & Felix (2020) the theory proposes a response a person gets due to circumstances and conditions in the current state, this means that human beings have the ability to access the situation and make necessary adjustments to best suit their circumstances, the world is not static, we expect changes," change is like rest." People have to find ways of coping with the changing times and the situations in our hands. Women airline pilots have variable shift patterns, roster changes that keep on changing within a minimal notice, working at night - the body was designed to be sleeping at night and having extended over long-haul flights. Self-regulation shift theory enables airlines pilots adjust to the demands of the shift by the airlines. The theory supports how women airline pilots cope by focusing on the problem to be solved, (Benight, Shoji, Harwell & Felix, 2020).

2.8 Conceptual Framework

Conceptual Framework designs the steps taken by a researcher in the study to illustrate the researcher questions and objectives. Conceptual framework allowed the researcher to prepare a report based on the problem under study. In the study, the researcher determined how gender dynamics - cultural beliefs, career choice, job allocation and skills acquisition as the independent variable - influences employment of women pilots in Kenya airlines. The dependent variable will be illuminated by women managers and CEOs, economic sustainability, gender equality, women empowerment, increased life expectancy, economic empowerment and decrease in stress.



Source: Research data, 2022 – relation of variables

Conceptual Framework

2.9 Summary of literature gaps

Table 2. 1 Summary of literature gaps

Author	Title	variables	Methodology	Research Gap
Cline, P. E. (2018)	The Role of Mentoring in the in the Careers of Female Airline Transport Pilots	self-reported perceptions of success, amount of career oriented assistance and amount of psychosocial support	cross sectional survey design	The study focused on role of mentors for ATP holders while this study focuses on if there are mentors for Kenyan pilots and those not ATP holders
Lutte, R. K. (2019)	Women in Aviation: A Workforce Report	lower air fares, new airline business models,	Descriptive design	The study focused on the women working in aviation while this study focused on gender dynamics and its effects on employment of women pilots
Dashper, K. (2019).	Challenging the gendered rhetoric of success? The limitations of women-only mentoring for tackling gender inequality in the workplace	gender neutrality, gender fatigue, paradox and fatigue	Descriptive design	The paper studied gender fatigue attributes and mentor generally this study will focused on role of women mentors in aviation

Harvey, G., Finniear, J. & Greedharry, M. (2019)	Women in aviation: A study of insecurity. Research in Transportation Business & Management	income Security, employment Security and Work Security	large scale questionnaire survey	The paper discussed insecurity among women in work places and this study focuses on gender dynamics and its effects on employment of pilots
Moiz.A., Safia., Shahmir. K., Erum.S.N. (2020)	Life of Females in Pakistani Aviation: Assessing the Relationship of Work-Family Conflict with Stress and Job Satisfaction	Work – family conflict, Job-performance and job stress	questionnaire	The study revealed a positive association between work-family conflict with job performance and stress and this study determines the influence of gender dynamics
Keller, J., Wang, Y., Cooney, J., Erstad, A., & Lu, C. (2015)	Cultural Dimensions: A Comparative Analysis of Aviation Students in China and the U.S	Power distance, Masculinity vs femininity, Uncertainty avoidance, Individuality vs collectivism	mixed methods questionnaire	The study provided differences and similarities between China and USA and this study determines gender dynamics
David, C., Ison. (2010)	The Future of Women in Aviation: Trends in Participation in Postsecondary Aviation Education	Diversity in aviation, perspective of women in aviation	Descriptive design	The study evaluated participation of women in post-secondary aviation programs in the

				USA and this study determines gender dynamics and its effects on employment of women pilots
Cockburn. T. S.N, (2009),	Cultural sexism in the UK airline industry	Cultural sexism	Descriptive design	Cultural sexism exists in United Kingdom and the this study establishes if the same is at Kenya Airways
Hofstede, G. (1998)	Masculinity and femininity: The taboo dimension of national cultures	Gender roles	Descriptive design	The revealed how gender determines peoples roles while this study establishes gender dynamics
Turney (1994)	Women's learning and leadership: Impact on CRM	Leadership and crm	Descriptive design	The study looked at role of leadership and crm and this study focuses on gender dynamics
Turney (2000)	Attracting Women to Aviation Careers: What Recent Studies Reveal	Communication, leadership, emotional and social barriers	questionnaire	The study looked at how differences in leadership and learning for women and this study establishes gender dynamics
Ferla &	Women slowly taking	Gender	interpretivist	The study focused

Graham (2019)	off: An investigation into female underrepresentation in commercial aviation	diversity, family and education	approach, Qualitative semi-structured interviews	on creating financial assistance to women to become pilots and this study establishes gender dynamics
Jacqueline Leonard (2019)	Women in Aviation and Space, Culturally Specific Pedagogy in the Mathematics Classroom	culture and mathematics	Exploratory study	The study addressed importance of culture and language and this study determines gender dynamics
Durbin, S., Lopes.A., Warren.S. (2020)	Challenging male dominance through the substantive representation of women	mentorship	Exploratory study	The study establishes mentorship online program and this study determines if there are mentors at Kenyan airlines
Kim, E., & Albelo, J. L. (2020)	Women in Aviation: A Phenomenological Study Exploring the Needs and Wants Necessary for Graduation	Goal sharing, respect, experience and career	qualitative research	The study created awareness for equality of race and gender in aviation and this study determines gender dynamic and its effects on employment of women pilots
Lutte, R. K. (2018)	Aviation outreach model and gap analysis:	Aviation outreach	qualitative in nature	The study outlined youth outreach

	Examining solutions to address workforce shortages	programs		programs through development of a model of aviation outreach programs and this study determines gender dynamics
Venus. M., & Grosse. H. M. (2021)	How Duty Rosters and Stress Relate to Sleep Problems and Fatigue of International Pilots	Roster data, Work related stress, Fatigue, sleep	a cross-sectional online survey	The study showed sleep problems and fatigue among pilots and this study determines gender dynamics and its effects on employment of women pilots in Kenya airlines
McCarthy , F., Budd, L.C.S. and Ison, S. 2015	Gender on the flight deck: experiences of women commercial airline pilots in the UK		10 in-depth semi-structured face-to-face interviews	The study noted improved policies and regulations to improve gender equality and this study establishes gender dynamics and its effects on employment of women pilots

Source: Research data, 2022

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Research design

Research design is the skeleton of the plan, methods, application of techniques the researcher uses in investigating to obtain responses to research questions - it is a blue print, (Mugenda & Mugenda, 2013). Descriptive research design was best-suited design in describing and answering a "what" research questions and precisely described the real situation, (Gowe, 2020). The descriptive research design was employed to describe why women pilots' numbers in Kenyan Airlines were lower for it tested the subject. The study established the effects of gender dynamics on women employment at Kenya Airways. Descriptive research design enabled collect accurate data from respondents in order to determine effects of gender dynamics on women employment in Kenyan airlines. Descriptive research design interrogated cultural, social and economic phenomena in their natural environment and allowed for detailed qualitative or quantitative information or both.

3.2 Variables

Cultural beliefs; women career choice; job allocation and skills acquisition are the independent variables and employment of women airlines pilots as the dependent variable.

3.3 Site of study

Nairobi County was studied; belongs to 47 counties; the Capital city of Kenya; the third smallest county though most populated and the largest city in Kenya. The County was best-suited target areas of study because of the high numbers of people; JKIA being an international airport situated in Nairobi and Kenya Airways hub located along Mombasa Road; bordering Machakos County.

Appendix 2: Map of Nairobi County

3.4 Target population

Target population assumes to be the complete suite, as described in Mugenda & Mugenda (2013), members or groups of human being a researcher selects to investigate and examine. The target of the study included all 402 pilots at Kenya airways.

3.5 Sampling technique and sample size

3.5.1 Sampling techniques

Probability sampling was selected because every member has same opportunity to be part of the sample size and examined, while it minimized biasness and enabled gain better understanding as to why there are fewer women airlines pilots in Kenyan airlines. Stratified random sampling was adopted; samples were classified in two strata: - male and female pilots. Simple random sampling was used on male pilots and non-probability quota sampling was used on women, Mugenda Mugenda (2013) for it purposely selects identified subjects for researcher intended to focus in depth information without generalizations.

3.5.2 Sample size

Three males (**0.75%**) and entire 22 (**5.47%**) females' pilots at Kenya Airways were targeted as respondents; (100% representation of women). Kenya Airways has three fleets B787, B737 and E190, hence a male pilot was randomly selected from every fleet.

Table 3. 1 Kenya airways sample size

Population category	Number of pilots	Targeted Pilots	
		Number	(%)
Male pilots	380	3 out of 380	0.75
Female pilots	22	22 out of 22	5.47
TOTAL	402	25	6.22

Source: KQ data and AIMS systems@2021

3.6 Research instruments

Primary data was acquired by use of semi constructed questionnaire survey as Harvey, Finnier & Greedharry (2019) used the same instruments to obtain responses on women work insecurity in aviation. Closed questions were allowed for quantitative data and open ended for quantitative data inputs by the use of comments in the questionnaire. The survey was posted online to cater for pilots who were not be reachable considering airlines pilots work on shifts and away from home and online survey enabled acquire inputs from the targeted sample size for accurate data that is holistic and inclusive for the researcher intended to eliminate the educational gap of fewer women representations in airlines.

3.7 Validity and reliability

3.7.1 Validity

Validity assigns levels the study determines what is required to gauge, accuracy, Mugenda & Mugenda (2003) and studies done should be able to give and show same results in the given conditions and environment. The study aims to apply constant indicators so that the findings may be valid.

3.7.2 Reliability

Reliability assumes the level the study will give same results regardless of the number of trials to be attempted, (Mugenda & Mugenda, 2003). Reliability tests the preciseness and accuracy of the instruments (Murage, 2018), instruments should be able to show the same outputs when examined in the unchanging conditions and influences the impact of the determined results. Closed questionnaires surveys were used in the study to deliver reliable outcomes.

3.8 Data collection techniques

Qualitative and quantitative research techniques were used, for in-depth understanding of gender dynamics was desired to determine why women airlines pilots are fewer. Researcher used open ended questions and comments in the structured questionnaire surveys to obtain qualitative data while numerical data was obtained from the unstructured questionnaire surveys questions. Quantitative data was be coded, edited, sorted and entered using Microsoft excel from the collected data obtained from the questionnaires surveys. Kim & Albelo (2020) preferred qualitative approach as the ease way of data collection and expressing results to enabled and inform deeper knowledge about underrepresentation of women pilots.

3.9 Data analysis and presentation

Descriptive statistics are properties of a data set; it describes the outlined data. Descriptive statistics falls into two categories, measure of central tendency or measure of dispersion; the study applied measure of central tendency for it gives a summary of the variables in the study, (Mugenda & Mugenda, 2003). Use of bar charts, pie charts and percentage expressions was incorporated in presentation of the collected data.

3.10 Ethical presentations

Researcher requested authority from Nacosti and Kenyatta University before exploiting any activities. Respondents were be given reasons for participating in the study and informed consent obtained. Ethical matters are of need when collecting and publishing research, (Murage, 2018).

Ethics guide morals, behaviour, norms or standards in this study and ethics ensured no harm or suffering from activities associated with the research on the researcher and the respondents. The study focused on activities that enhanced employment of women pilots in Kenya airlines.

CHAPTER FOUR

4.0 RESEARCH FINDINGS AND DISCUSSIONS

4.1 Introduction

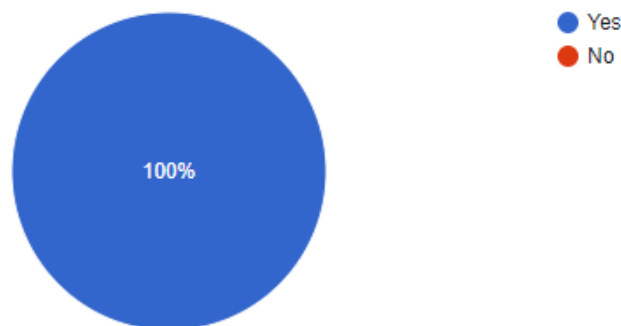
The chapter presents the findings of the study carried to investigate gender dynamics and its effects on employment of women pilots at Kenya airways. The study aimed to examine effects of cultural beliefs, establish effects of career choice, explore the effects of job allocation and determine the effects of skill acquisition on employment of women pilots in Kenyan airlines. Semi structured questionnaires were administered online by the use of google forms.

4.2 Response rate

Targeting a sample size of 25 pilots (3 male and 22 female), 25 pilots were contacted using a phone; link to the survey was sent to all the respondents by use of both WhatsApp and emails. Out of the 25 pilots contacted, 23 pilots (92%) responded whereas only two pilots (8%) did not take part of the study. The researcher made efforts to contact the two other respondents to fill the questionnaires but was not successful. More than 50% response is proposed to be adequate as Mugenda and Mugenda (2003), 60% is good and above 70% is very good. The researcher continued with the study for a response rate of 92% was equivalent to excellent. All the 23 respondents agreed and accepted informed consent and were above 18 years of age as per the attached figure.

The study indicates that, all the respondents agreed and accepted informed consent with a response rate of 92%.

Figure 4. 1 Informed Consent



Source: Research data 2022 – all the respondents consented.

4.3 Background information

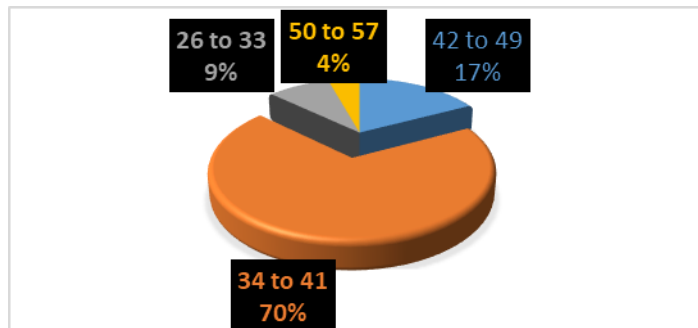
4.3.1 Gender

The researcher aimed to determine the gender of the pilots who responded to the study, three (13.0%) male pilots and 20, (87.0%) female pilots took part of the study. The study had targeted three male (PIC, first officer and management) and 22 female pilots; there was a response rate of 100% representation for male pilots and 91% representation of women pilots who were the majority of the respondents as per the researcher intentions. This indicates that, majority of the pilots who responded were female.

4.3.2 Age

The researcher examined the age of the pilots who responded; two, 8.7% 26 to 33 years, sixteen, 69.6% 34 to 41 years, four, 17.4% 42 to 49 years and one pilot, 4.35% was between the ages 50 to 57 years and none of the pilots was above 58 years of age. Kenyan pilots retire at the age of 65 years and majority of the respondents were at the age where they were active and energetic to fly aeroplanes as per the attached diagram. This therefore indicates that, majority of the pilots who responded were between the ages of 34 -41 years.

Figure 4. 2 Age

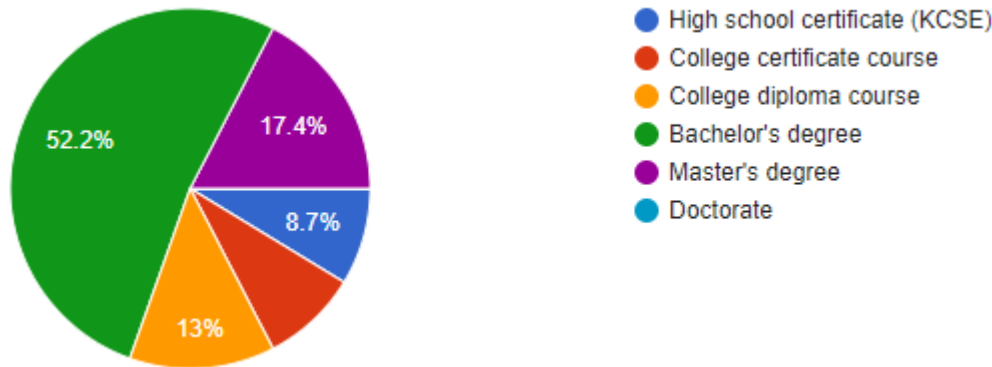


Source: Research data, 2022

4.3.3 Level of education

The researcher studied the level of educational background of the respondents; 2, 8.7% high school certificate, 2, 8.7% college certificate course, 3, 13% college diploma certificate, 12, 52.2% bachelor's degree and 4, 17.4% had master's degree whereas none of the pilots had a doctorate as per the attached figure below.

Figure 4. 3 Level of Education



Source: Research data, 2022

This indicates that, 91.3% of the respondents had gone through a tertiary institution which is to propose, flying an aeroplane requires some form of education. Above tertiary educations made pilots be able to apply, comprehend and analyse the asked questions.

4.4 Analysis and discussions

4.4.1 Cultural beliefs effects on employment of women pilots

Respondents were asked to respond to the extent to which they believed cultural beliefs influences employment of women pilot in Kenyan airlines.

Table 4. 1 Cultural beliefs

Cultural Beliefs	Yes	NO
Is there stereotyping on the flight deck?	17	6
Are women discriminated on the flight deck?	13	10
Is there biasness on women in the flight deck?	16	7
Does prejudice exist on the flight deck?	17	6
Would you say there is cultural sexism on the flight deck?	18	5
Are women pilots sexually harassed on the flight deck?	7	16
Do women pilots face intimidation on the flight deck?	11	12
Are you confident when a woman occupies the flight deck?	21	2
Do you believe men are better pilots?	1	22

Source: Research data 2022

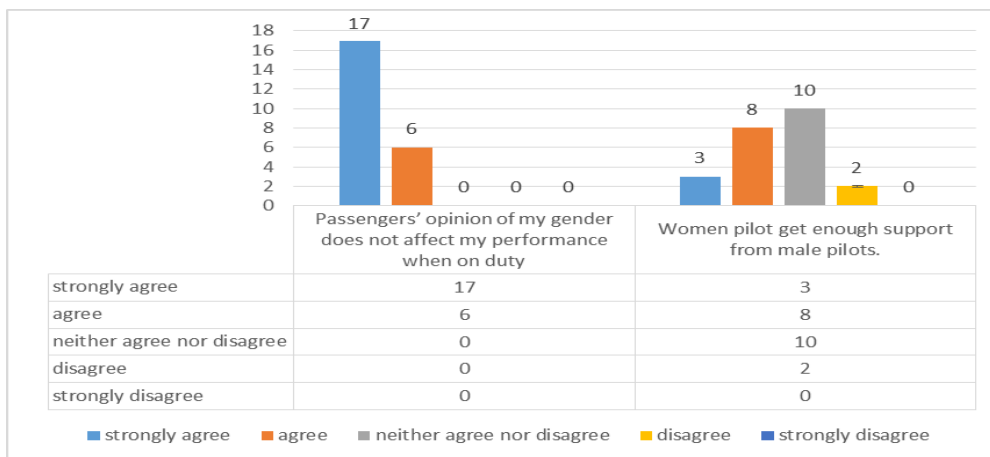
Results in table4.1 above indicates the respondents beliefs on employment of women pilots in Kenyan airlines; 17,73.91%, 13,56.52%, 16,69.57, 17,73.91%), 18,78.26%, 7,30.43, 11,47.83, 21,91.30% and 1,4.35% agreed to stereotyping, discriminated, biasness, prejudice, cultural

sexism exists on flight deck respectively. Women pilots are sexually harassed, face intimidation, passengers were confident when cockpit is occupied by a woman and passengers believe men are better pilots respectively and 6,26.09%, 10,43.48%, 7,30.43%, 6,26.09%, 5,21.74%, 16,69.57%, 12,52.17%, 2,8.70% and 22, 95.65 of the respondents respectively responded no. Results from the study indicated 22, 95.65% did not agree men are better pilots than women pilots. Majority of the passengers were confident when the cockpit was occupied by a woman according to the respondents. Cultural belief influences employment of women pilots in Kenya airlines as suggested by Cockburn (2009), Seymour & Hewitt (1997) Ferla & Graham (2019) for women pilots face discrimination, stereotyping, biasness and prejudice in their line of duty. Cockburn (2009) believed men have better flying characteristics.

This indicated that, majority of the pilots who responded believed women are discriminated and face discrimination, biasness, cultural sexism and prejudice in the line of duty. However, majority of the passengers were confident when a woman occupies the flight deck and proposed women are better pilots as men.

The researcher sought to determine pilot’s beliefs on whether passenger’s opinion of a pilot gender does not affects pilot’s performance and whether women pilots were supported by male.

Figure 4. 4 Cultural beliefs



Source: Research data, 2022

Results in figure 4.4 shows that, the respondents beliefs on passenger’s opinion of a pilot gender does not affects pilot’s performance, 17, 73.91% strongly agreed, 6, 26.09% agreed and

0% neither agrees nor disagrees disagree and strongly disagree. All the respondents agreed passenger's opinion does not affect performance while on duty. Majority of the respondents believed that, passenger's opinion on pilot gender did not affect performance on the flight deck. McCarthy, Budd & Ison (2015) and Ferla & Graham (2019) had suggested male passengers comments are not positive towards female pilots and are discriminated by male travellers. This indicated that, passenger's opinion on pilot's gender did not affect pilot performance.

The researcher determined whether women pilots get support from male pilots; 3, 10.04%, strongly agreed, 8, 34.78% agreed, the majority of respondents, 10, 43.48% neither agreed nor disagreed, 2, 4.35% disagreed and none strongly disagreed. Majority of the respondents neither agreed nor disagreed. Eiff & Stitt (1993) had suggested men occupy most opportunities because they support each other. This is to indicate that, majority of the pilots who responded were not sure if women pilots get the required support from male pilots.

The researcher looked for factors hindering women to become pilots in the societies and communities. Respondents believed woman's place in society was to make a home and belong to the kitchen - cooking, cleaning, raise kids, husband, take care of the family and not command positions of authority or even positions where they can question authority by being assertive and there would be bullying. Women were denied learning because of cultural norms; motherhood - female pilots cannot be good mothers because they will never be home. Woman should not work odd, tough hours like a pilot and are not productive as men; maybe because of maternity leave. Flying is a man's job, women lack of exposure and opportunity, women are not as smart, competent as men, some cultures and religions believe flying is for men. One of the respondents said, "I believe women shy away from aviation for the fear that it will negatively affect their married and/or family life. It is also largely seen as a man's world and there has not been enough information disbursed to debunk this myth."

This confirms to researches by Cockburn (2009) and Hofstede (1998), where communities discriminate women and does not offer opportunities to girls. This is to imply that, some societies and communities believe men are better pilots than women for they are smart, confident, and masculine. Most of the respondents believe women belong to taking care of the

home and are not as productive as men when they proceed on leave. Some women do not want to become pilots because it makes them be away from family hence this women do not become good mothers. Societies and cultural beliefs contribute to underrepresentation of women pilots.

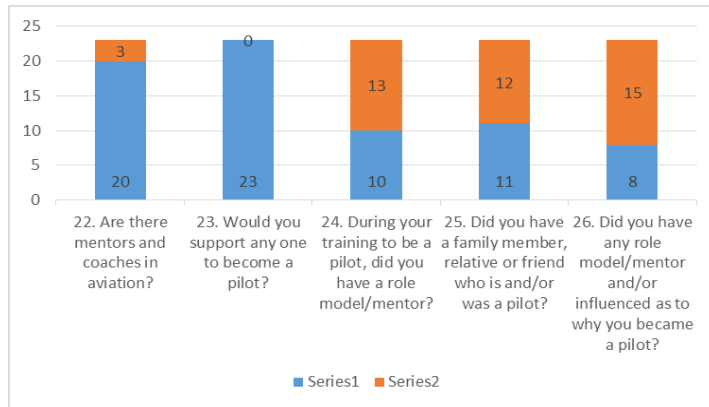
The researcher attempted to investigate what passengers think of female pilots and determine its influence on employment of women pilots. Pilots who responded expressed suggested that some passengers have genuinely concerned that the pilot is a lady, a good number are in awe and happy that women occupy that space. Some have expressly declined travel based on the female gender of the pilot (a long while ago). Some are excited about a female pilot but some are on edge, having the opinion of women being less able and they may doubt their abilities. Most passengers are in awe and express admiration, happy, very receptive and intrigued; believing women pilot to be competent. A lot ask if women pilots are scared when doing our job. Some passengers get surprised and disbelief when a good flight or landing is accomplished by a woman pilot, if it's a bad flight, blame shifts to a woman, implying a man could have probably handled it better. Confirmation bias, they pay more attention on how the flight goes, if it's well accomplished they suggest women pilots work harder. One of the respondents said, "When I started there seemed to be an uncertainty but today more excitement and curiosity, most are inspired but some remain apprehensive, pleasant and proud."

This is to imply that, passengers have different views on who they believe should be a pilot. Some have a view of any gender can be in the cockpit and others have the opinion the cockpit is for men. This demonstrates that some passengers are in admiration of female pilots, proud of them and even appreciate them while some believe that the woman fly because they have worked harder than men for flight to be accomplished, in case of an emergency or a problem they blame the woman pilot and feel a male pilot could have done better. There have been instances where passengers have refused travel because of a woman pilot.

4.4.2 Career choice effects on employment of women pilots

The study strived to determine effect of mentorship, role models and early to exposure and its effects on employment of women pilot as per the attached figure.

Figure 4. 5 Career choice



Source: Research data, 2022

Results in figure 4.5; 20, 86.96% agreed there are mentor and coaches in aviation and 3, 13.04% disagreed, all responded agreed to support someone become a pilot. 10, 43.48% had support during the training period while, 13, 56.52% did not have support. 11, 47.83% had someone who was a pilot and 12, 52.1% did not have and 8, 34.78% had role models as to why they become pilots and 15, 65.2% did not have role models support. 22, 95.7% would prefer to support a woman to become a pilot while only 1, 4.3% would support males to become pilots. From the findings, majority of the respondents agreed there were mentors in aviation whereas all respondents agreed to support someone become a pilot. Majority of the respondents lacked support during training and did not have a person who was a pilot. Majority of the respondents did not have role models. Ferla & Graham (2019), Dashper (2019) and Durbin, Lopes & Warren (2020) had suggested how lack of mentors was a contributing factor women underrepresentation.

This is to indicate that; there no role models and mentors in aviation; students in flying schools do not have supportive instructors and there is will by the pilots to support more women to become pilots. The researcher investigated how long the respondents took to complete pilot training and its effect on women employment.16, 69.6% of the respondents took 2 to 4 years, 5, 21.7% took 0 to 1 years and 2, 8.7% took 5 to 6 years to complete pilot training. From the findings, majority of the respondents took two to four years to complete pilot training. This is to imply lack of funds, coaches, mentors and role models makes pilot training take longer.

The researcher identified the age's pilots were exposed to aviation and its effects on employment of women pilots. 2, 8.7% - 2 to 5 years, 2, 8.7% - 6 to 9 years, 2, 8.7% - 10 to 13 years, 5, 21.7% - 14 to 18 years, 10, 43.5% - 19 to 22 years and 2, 8.7% above 23 years. From the results, about 50% of the respondents were exposed to aviation at the ages of 19 to 22; most people in Kenya choose careers between the ages of 19 – 22 years; mostly after secondary education completion. Below nine years the researchers lacked exposure to aviation hence they did not have information about aviation as was with Kim & Albelo (2020) and Ferla & Graham (2019) studies. This is to imply that, children are not exposed to aviation at an earlier age which makes few women to become pilots.

The researcher examined the role of mentors and coaches in aviation and its effects on employment of women pilots in Kenyan airlines. Respondents outlined mentors as the source of power, mentors and coaches have gone through the steps of attaining the pilot certification so they're in a position to guide anyone before they pursue the career. As the mentee continues in the career the coach/mentor, help along the challenges one can encounter along the way. Mentors shape young eager minds, help look at the bigger picture when it comes to career path. They make the journey easier since they know what to expect by providing motivation, guidance and reduce the number of girls quitting the career. A mentor provides guidance, motivation, increases level of commitment and sacrifice is under stated.” The more we see people who are like us in a certain position, the more we believe that we too can make it”, one of the respondents said.

Mentors exposes the population to how many women actually do this job, and steer the young ladies as they get into it or consider getting into to demystifying the career. The road to being an aviator is not readily apparent and what one needs to focus on at different stages are not obvious which a coach or mentor gives. Mentors highlight the changes and help one manage expectations by for they help you see both sides of the coin. Coaches are needed to give a push and encourage students to believe in themselves, they open one's eyes to see far and provide a shoulder to lean whenever aviation life gives you a stormy and gust conditions. It is important to have a mentor in any career really, aviation being a very challenging industry and without mentors and coaches, a lot of those training do not complete their courses. They provide free resource and encouragement; facilitate the process which can be costly financially if mishandled. A

respondent said this about an instructor she had, “They always told me that I was born with aircraft parked in our yard so not to worry I will get there, that every day is a learning process and always be ready to learn new things every day.”

This is to indicate that, mentors provide guidance, belief, motivation, guidance and a shoulder to lean on. Majority of respondents believed flight instructors to be people who really wanted them to finish training and succeed, passionate, patient, knowledgeable, experienced, and determined, with positive influence, encouraging, supportive, always available and ready to help. Kim & Albelo (2020), McCabe (2016) and Dashper (2019) studies advocated for coaches, mentors and role models who provide guidance, motivation, encouragement and support for women to be successful pilots. Role of mentors in aviation is very important; they provide guidance, motivation and support which can increase the number of women pilots.

Researcher analysed respondent’s beliefs as to why children did not choose pilot at a tender age and its effects on employment of women pilots. The finding to children not choosing piloting was attributed to pilot course being too expensive, lack of information in as far as what it actually entails in terms of course structure the flying, exams, the licensing elements; there's perception that it is out of reach no matter their cadre in life. Socio- cultural influences that females can't be pilots so a girl doesn't consider it as an option/ career choice. Pilot is presented as tough, demanding, limited growth in career progression, glorified driver, takes too much training, lack of exposure to the idea of it being a valid option for a career and it's perceived as a career only few can pursue. It is not considered a serious profession, lifestyle, demands and lack of mentors.

The findings indicate girls do not choose pilot as a career because they lack information, flying is expensive, its only men who should be pilots, flying is a tough career not meant for women. As suggested by Moiz, Safia, Shahmir & Erum (2020), Lutte (2018) and Lever (1994), ladies are not encouraged, supported and prepared to become pilots. Whenever girls are exposed and given relevant information about flying, women pilot’s employment on the flight deck will increase.

The researcher sought to determine if there is a person who was interested in a pilot's life to determine its effects on employment of women pilots. 21, 91.30% of the respondents have at least one person who is interested in their career life, 1, 4.35% have none and 1, 4.35% neither agreed nor disagree. From the results, majority of the respondents have at least one person who was interested in the pilot's life. This is to imply that, the current pilots at Kenya airways have at least one person that looks unto them. This indicates children choose to become pilots when one of the parents is/was a pilot.

The researcher attempted to determine if the respondents become pilots because they have a close person who is a pilot and its effects on employment of women pilots. The respondents suggested the following to have been the persons who influenced them become pilots; 7, 30.43% did not have anyone, 6, 26.09% had a friend, 5, 21.74% had their father, 2, 8.70% had their mothers, one, 4.35% had a brother, one, 4.35% had a cousin and one, 4.35% was influenced by watching an actor through a movie. Form the findings, majority of the respondents have become pilots because there is/was someone who influenced them become pilots – father, mother, brother or friend who is/and or was a pilot as supported by Kathryn Creedy (2019), however a few have become pilots by themselves. This implies that, having someone who is a pilot close to a girl can influence the girl to become a pilot when they become of age.

4.4.3 Job allocation effects on employment of women pilots

The study aspired to determine shift patterns, roster changes, work allocation and working away from home influences employment of women pilots; 17, 73.91% of pilots were happy with the shift patters while 6, 26.09% were not happy, all the respondents suggested that rosters keeps on changing and will never be permanent for a pilot. Only one, 4.35% agreed roster changes does not have effect on pilot life while 22, 95.65% agreed roster affects pilots' life. 7, 30.43% worked not away from home and the majority, 16, 69.57% suggested to be always working away from home, while 5, 21.74% preferred to work away from home, 18, 78.26% would like not to be working away from home. 22, 95.65% works on night shifts while only 1, 4.35% never worked on night shift, 20, 86.96% had combined a day and night shift while on duty while 3, 13.04% had not. 4, 17.39% were okay working on night shifts and 19, 82.6% were not happy with night shifts, 21, 91.30% would except a roster change and another roster change and 2, 8.7% of the respondents did not expect a roster change.

From the results, majority of the pilots who responded were happy with the roster changes, all the respondents agreed to get roster changes once the duty roster was out. Majority of the respondents suggested shift patterns affects pilot life because majority of the pilots worked away from home, however majority of the pilots would prefer not to work away from home. Majority of the respondents work on night shift, sometimes combined with a day shift, however majority would prefer not to work on night shifts and most of the respondents suggested to get a roster change once another roster change had been issued. This implies that, pilots are happy with the roster changes, being a pilot you must work on shift at Kenya airways for pilots work away from home and on night shift as well. Women would turn down pilots offer because of crazy shifts and working away from home.

The researcher strived to know the extent to which respondent's beliefs on their shift pattern and its effect on employment of women pilots. Respondents described their shift patterns as shifts that are all over, one morning, one night, one afternoon , - anytime any day, long haul night flights; there is no set pattern, dynamic, irregular, random varies on a day to day basis, unpredictable depends on the availability of flights as long as minimum rest is achieved. Shift patterns include many days outstation, with about 3 days at home and mixed because there's a distribution pattern to ensure sufficient rest per regulation. This is to imply that pilots work at any time of the day, be it night or day, they also work away from home. To become a pilot one must be ready to work away from home, working at night and expect roster changes for this makes them to be away with family members and friends.

The researcher aimed to seek respondents' opinions on the roster changes they get and the effects on employment of women pilots. Respondents had the following opinions and beliefs about the roster changes they get; roster changes could be better managed, when communicated in good time, generally amenable to roster changes. Roster changes are part of the job, manageable and expected in the aviation industry. Other respondents had the opinion of the roster changes working in favor (back home weekend, get joint days off etc.) and were okay with the roster changes if they don't affect planned out activities. A rosters change can be dismissed on ones reasons communicated to the scheduler, a respondent preferred to follow published and steady roster, as there is predictability and plan social life around it. With the roster changes, there was

no ability to plan one’s life outside of work. A respondent had this to say, “the joke amongst female pilots is that we're allocated 'mama flights'- short flights close to home that don't earn as much which honestly end up more exhausting than ever, one works more with earn less..(Feels like a punishment for choosing to start a family).”

The findings on roster changes to pilots at Kenya airways suggest that, being a pilot; roster changes are expected. This roster changes creates imbalance in work and life affecting family, friends and social life. Majority of the respondents were okay with the roster changes because aviation is dynamic and its part of the job. Ferla & Graham (2019), Venus & Grosse (2021) and Harvey, Finnier & Greedharry (2019) suggested how women pilots had difficult in work life balance and they mostly do work away from home. Harvey, Finnier & Greedharry (2019) proposed that women pilots do not get enough rest periods, however from the study, there are policies, guidelines and regulations that pilots at Kenya airways follow to manage their rest period hence they always have rest period within the changing shift patterns. Harvey, Finnier & Greedharry, and (2019) study had revealed how pilots work on shift and effects on work life balance. This is to indicate that, a pilot has to find ways of balancing work and life for roster changes are part of the job. Roster changes given can be dismissed on ones planned activities. Job allocation and shift patterns influences employment of women pilot in Kenya airlines.

4.4.4 Skills acquisition effects of employment of women pilots

The study examined skills acquisition and its effects on employment of women pilots in Kenyan airlines.

Figure 4. 6 Skills acquisition

	Yes	NO
Does becoming a pilot require confidence?	22	1
Have you ever been less confidence while on the flight deck?	12	11
Does the design of the cockpit affect you as a pilot?	12	11
Does skill acquisition influence one on becoming a pilot?	22	1
Are there some risks associated with becoming a pilot?	21	2
Is the cockpit design considered to accommodate women?	18	5

Source: Research data, 2022

From the results in table 4.2, 22, 95.65% agreed to the need for a pilot be confident and 1, 4.35% said no. 12, 52.17% agreed to have been less confident while on duty and 11, 47.83% disagreed on being less confident. Cockpit design affects a pilot as 12, 52.17% agreed and 11, 47.83% disagreed. 22, 95.65% pilots agreed to skills acquisition effect one becoming a pilot and 1, 4.35% said no. Risks are associated with one becoming a pilot, 21, 91.30% agreed and, 2, 8.70% said no and 18, 78.26% said cockpit design accommodates women while 5, 21.74% stated otherwise. The finding on skills acquisitions suggest that, majority of the respondents were confident while on the flight deck for its part of the requirement for a pilot.

Majority of the respondents suggested how cockpit design affects a pilot. Majority of the respondents believed skills acquisition and risks influences one to become a pilot and majority of the respondents agreed women are considered during the design of the cockpit. McCarthy, Budd & Ison (2015) believed men are more confidence than women while on the flight deck. Turney (2000) showed how women took longer to acquire confidence to become pilots. This implies that, confidence is essential for one who aspires to become a pilot. Confidence enables one handle risks while on duty. The design of the cockpit influences on how a pilot will perform his/her duties and women are considered aeroplanes are designed. Skills acquisitions, risks associated, cockpit design influences one becoming a pilot.

The researcher studied the outcome of the respondents when confronted with a difficult situation if they find a way out, are competent with high self-esteem and confident. 11, 47.83% strongly agreed, 10, 43.48% agreed and 2, 8.70% neither agreed nor disagreed. From the results, majority of the respondents believed to have found a solution out of a difficult situation because they were competent, confident with high self-esteem. The findings suggest that, confidence and competence enables a pilot deal with any difficult situations. Pilots have to be confident and competent.

The researcher explored if respondents were reliable during an emergency and its effects on employment of women pilots. 16, 69.57% strongly agreed and 7, 30.43% had agreed with no pilot disagreeing and this proves pilots to very reliable resources when confronted with an emergency. Respondents agreed to be reliable during an emergency. This implies that, the level

of confidence, competence and skills associated with a pilot are sufficient to enable them be reliable during an emergency. Confidence, self-esteem, competent and skills acquisition influences women pilot employment in Kenyan airlines. The study analysed whether respondents had more problems than positive experiences, with pilot's skills status in the past twelve months and its effect on employment of women pilot. None strongly agreed, 1, 4.35% agreed, 4, 17.39% neither agreed nor disagreed, 9, 39.13% disagreed and 9, 39.13% strongly disagreed. From the study, majority of the respondents did not experience problems in the past twelve months. This indicates that, skills pilots acquire during training make them solve problems while on duty.

The researcher determined respondents' beliefs on their skills being enough to execute their duties and its effects on employment of women pilots in Kenyan airlines. 15, 65.22% strongly agreed, 6, 26.09% agreed and 2, 8.70% neither agreed nor disagreed. Majority of the pilots have enough skills to perform their duties. This implies that, skills acquisition is a requirement to one becoming a pilot for it enables execute duties as expected.

The researcher sought to evaluate the time it takes to become confidence and its effects on employment of women pilots. Respondents presented their views on period it takes to become confident as follows; 4 said 1 year, 3 said 2 years, 2 said 3 years, 1 said a year and 2 said 5 years. "Confidence is journey, it's like Dunning- Kruger effect, You're confident but don't realize you don't have the knowledge until you get an experience that shatters your confidence but increases your experience," one of the respondent said. Confidence is a never- ending cycle, it keeps on evolving and growing; work in progress, it's acquired anytime you fly.

The finding as to the time it takes to become confident, keeps on varying. Some of the respondents suggested one year whereas others suggested confidence is a work in progress and grows each day. Durbin, Lopes & Warren (2020) examined how women took longer to complete their studies. As much as confidence is a requirement to become a pilot, it takes time to be acquired and women take longer periods to acquire it compared to men. Confidence influences employment of women pilots in Kenyan airlines.

The researcher determined the period it took respondents to acquire flying skills and its effects on employment of women pilots. Respondents outlined their beliefs on period it takes to acquire flying skills; 4 took a year, 4 took 1.5 years, 5 took 2 years, and 1 took 7 years. A respondent said, “Acquiring flying skills takes time, however it’s a continuous process.” Findings from the results, majority of the respondents took one to two years to acquire flying skills. This is to indicate that, flying skills takes some time to be acquired and is a continues process because of the career growth and technology advancements.

The researcher assessed respondent’s beliefs on the best ways of handling risks on the flight deck and its effects on employment of women pilots. Respondents beliefs on handling skills were as outlined; respondents described how they relied on experiences and training, threat and error management, taking time to analyse risks and the repercussions then delegate as appropriate. Others suggested following Standards, being confidence, preparedness, skills and knowledge of aircraft and systems; teamwork, communication, studying the changes, well rested, analysis of options available and possible outcomes. Respondents believed decision making with all factors or resources considered, situational awareness, CRM, use of checklist, having a contingency plan, be open-minded, identify them early and militate against them, and involve the other crewmembers.

The findings suggest that, there are a number of many ways to deal with risks on the flight deck. Majority outlined risks can be mitigated by following the published procedures, adequate training being prepared and Crew resource management. Turney (2000) had suggested women lack confidence and skills and it takes longer to acquire confidence and skills. This is to indicate that, risks will always be there on the flight deck. Risks can be managed by training, use of checklist and application of crew resource management. Risks on the flight deck influence a woman to become a pilot.

CHAPTER FIVE

5.0 SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The chapter discusses summary of chapter four, conclusions, recommendations and proposals for further study.

5.2 Summary

Cultural beliefs and its effects on employment of women pilots.

Great number believed stereotyping, discrimination, biasness, prejudice and intimidations are what female pilots have to endure and go through in the line of duty. Great number agreed women pilots do not get the support they require from the male pilots while on duty. Great numbers suggested women pilots do not get the same opportunity as men pilots, most societies and communities' belief flight deck belongs to men and this is a man's affair, because women are not as smart as men and they lack exposure and women belong home taking care of the homes, husband and raising children. Outcome of passengers believe of female pilots is that, passengers are in admiration of a woman pilot, and get excited and inspired, some become totally surprised while others total doubt women activities on the flight deck and some passengers have had to refuse travel because of the woman pilot handling the flight deck. Some passengers blame women pilot if something goes wrong during the flight and suggest that could be better for a man. Great numbers were okay when flown by a female pilot.

Career choice and its effects on employment of women pilots

86.96% of the respondents agreed that pilots need mentors, coaches and role models. 95.7% would support a women and girls to become pilots. Great number submitted having role models, mentors and coaches in the flight deck and would support someone to become a pilot. 43.5% were exposed to flying between the ages of 19 – 22 years and majority below 9 years had not been exposed to aviation. Most children do not choose pilot as career because they lack exposure, mentors and information on course structure, the flying experience, exams and licensing elements, - lack of the full picture concerning life as an aviator. 91.30% of the respondents had at least one person who supported/ or a person who looked unto them. Great number had a father, mother, cousin and/or a friend who was a pilot and encouraged them to become pilots and 69.6% completed flying in 2 years because of supportive instructors, mentors

and role models they had. Coaches provide guidance, direction, morale, strength, information, resources and experience to the mentee. 91.30% have someone who they mentor and/ are seen as role models. Course being expensive, lack of information and exposure, social-cultural factors and lack of mentors are reasons for children not choosing aviation.

Job allocation and its effect on employment of women pilots

All pilots suggested to be receiving roster changes once rosters have been published and they all worked on night shifts, 73.91% were happy with the shift pattern. Majority of the pilots do not like working on night shift and were not okay with that, however a night shift is part of pilot's life. 95.65% agreed to shift pattern impacts pilots' life and were working during the night and 69.57% were working from home. 78.26% preferred not to be working from home and 82.61 were not happy with night shifts. Pilot work away from home and can only be home for 3 days in a month; majority preferred working earlier hours of the day (mornings). Roster changes inconveniences pilot's plans and mostly miss family and social life, which makes it difficult to maintain work life balance. Pilots work any time of the day and described their shift as dynamic, irregular, varies on a day-to-day basis, unpredictable, mostly night and roster based.

Respondents suggested shift patterns and job allocation influences on one becoming a pilot; shift pattern is not apparent at the training phase, or rather the actual effect of shift patterns is not felt until one is in the airline. However the element of travel may pull one into being a pilot, one has to be flexible, if one does not mind last minute changes, then they should be 'good to go' with this profession. One must be ready to work a random shift and must plan their rest period to include daytime sleeping. As far as job allocation goes on a daily basis, one must be prepared to adhere to laid down procedures in order to effectively work as part of a trained crew set regardless of whom they are.

Skills acquisition and its effect on employment of women pilots

95.65% suggested flying requires confidence and 52.17% had been less confident while on the flight deck. 95.65% outlined how skills acquisition was a key factor to one becoming a pilot. Risks are part of flying career as 91.30% agree to this and 78.26% said cockpit design accommodates women. 47.83% agreed to be able to handle a difficult situation because they are competent and confident with self-esteem. 69.57% suggested being very reliable during emergency because of the confidence, knowledge, skills and training acquired. 65.22% agreed to

have enough skills to execute the required duties and tasks. The period one takes to acquire flying skills varies because it's a continuous process by acquiring the skill whenever you fly. Risks can be managed by training, following standard operating procedures, confidence, communication, teamwork, being prepared and crew resource management application.

5.3 Conclusions

Cultural beliefs rooted in patriarchy - stereotyping, discrimination, biasness, prejudice and intimidations all influences employment of women pilots. Societies and communities believe women place is to make a home, belong to the kitchen - cooking, cleaning, raise kids, husband, take care of the family and not command positions of authority or even positions where they can question authority by being assertive and there would be bullying. Women pilots can't be good mothers because they are not always available to take care of the family, women cannot work odd jobs like pilots because they are risky and require a lot of learning, flight deck belongs to men, women don't have exposure and are not given the same opportunity as men. Previous researchers had outlined that due to muscularity and posture of men, men are believed to be better pilots, and the study revealed that women pilots are as better pilots as male. Passenger's opinion on pilots gender does not affect pilots' performance while on duty and passengers are okay when either gender is on the flight deck. Communities and societies belief that pilots should be men, it's a man job, however for a person to be a pilot, they must be smart, competent, qualified, trained, and proficient and its costly training fee.

Mentors, role models and coaches have a big impact on pilot training and career choice in employment of women pilots. If younger women are able to get mentors in aviation, there is a tendency of women numbers increasing on the flight deck. Motivation, encouragements and sharing experiences with people who have gone through the same makes people have a sense of belonging and willing to live better lives. Mentors and role models suggest were possible and support to the mentee whenever there is a challenge or a problem and makes people achieve their goals and live positive lives. With more numbers of mentors on the flight deck, number of women who quite flying will decrease. The road to being an aviator is not readily apparent and what one needs to focus on different stages which are not obvious, a coach or a mentor would help give sort of direction and enable see both sides of the coin, they highlight the changes and help one manage expectations, they are needed to give a push and encourage students to believe

in themselves. Pilots who had instructors who were mentors and coaches had an easy time in training schools.

Roster changes and shift patterns inconveniences pilot's plans and mostly miss out on family and social life which makes it difficult to maintain work life balance hence influencing employment of women pilots. Pilots work any time of the day and described their shift as dynamic, irregular, varies on a day to day basis and unpredictable. Working away from home and at night is part pilot's life, one must be ready to work a random shift and must plan their rest period to include daytime sleeping which disrupts one cardiac rhythm especially the jetlag's. Pilot time is not your own, no privilege of predictability therefore one is unable to plan their lives, miss out on important life events, end up losing friends; family regard you as unreliable and are therefore unable to depend on you, the body clock is all over the place and this disrupts life and sleep patterns.

For anyone to become a pilot they must be confident and have skills, knowledge and training to fly, and this influences employment of women pilots. Pilots are confident people, the design of the cockpit influences pilot performance and women are considered when cockpit is being designed. Pilots are very skilled, competent with high self-esteem; skills make them reliable to handle any situation while on the flight deck. Confidence is acquired with time and experience and when confronted with different, difficult situations and circumstances, experience determines the level of confidence. It takes one to five years acquiring flying skills and confidence increases with time.

5.4 Recommendations

Break the biasness, create more awareness, come with initiatives of supporting women pilots sensitizing in communities and societies to change their belief on women becoming pilots for it's a job like any other, women can be better pilots as men. Eliminate socio-cultural beliefs, prejudice, biasness, discrimination, stereotypes, support and African cultures against women. Create awareness on importance of male pilots and male passengers supporting women pilots. Women to be given same opportunity as men; hired on merit, women not to be seen as home makers and taking care of homes. Inform general public women are better pilots as men; to eliminate situations where passenger decline travel because of a woman pilot. Airlines to have a

channel to address women related issues. Develop policies that promote gender equality to promote and encourage women become pilots.

Develop programs, activities, clubs and societies in schools, civil organizations and airlines that encourage formation and creation of pilot's mentors, role models and coaches. Encourage women pilots to become mentors, coaches or role models by taking courses in mentorship and coaches programs. Flight instructors have a big role on one finishing flying especial a woman, therefore instructors need be the coaches, mentors, adopting, welcoming and role models. Pilot training schools, civil aviation organizations and airlines to provide mechanism of sharing exposure and information to children at an earlier age about aviation.

Shift patterns, roster changes and roster allocations to be communicated early enough. Roster planners to consider the following when publishing rosters; better longer flights where one can actually rest while earning more, rosters to be done by the laid down rostering rules - a balance of night vs day duty, long vs short haul, start with a morning duty, next should be afternoon then night, more day flights, not to give a very early morning flight after a night shift flight which leads to a complete disruption of circadian rhythm. Rosters to be planned in ways that allows one reset their body clock, with better fatigue management. Publish rosters and maintain its integrity for pilots to plan their lives, 2 weekends off duty in a roster period, (Work-life balance) and good balance of routes in the roster and pilots to be dynamic, flexible and work life balance, be prepared and take roster changes and shift patterns positively. Women joining flight deck to know that, flying is a tough career, which keeps you away from home, demanding hours, unpredictability of the job, hostile work environment and be ready to work in a male dominated field.

Confidence and skills acquisition is a life time process, it progress and grow with time and experience though it's a requirement for pilot. Women pilot are slower at acquiring confidence and skills; this can be evaluated and handled on individual level case and needs and not by generalizations. Risks can be handled better through team dynamics, crew resource management, standard operating procedures, situational awareness, communications, better decision making,

adequate preparations, use of all available resources, threat and error management, being open minded and being able to delegate when required.

5.5 Recommendations for further reading

Determine if men pilots are more confident than women pilots.

Evaluate if men pilots take shorter period in training compared to women pilots.

Explore the same title and engage people not in aviation.

Investigate government, airlines and international organizations policies, procedures and practices that hinder discrimination against women in aviation industry and the hiring process.

Explore whether pilot trainings requirements i.e. simulator, hours and recurrences influence women pilots employment.

Determine the cost of training as determinant for employment of women pilot.

Investigate children to determine their awareness in pilot careers and determine which gender prefers to become pilots.

REFERENCES

- Aerospace Growth Partnership (2019), *Women in Aviation & Aerospace Charter*, WIIA, <https://www.wiaa charter.com/wp-content/uploads/2019/10/Women-in-Aviation-and-Aerospace-Charter-w.-signatories-Oct-19.pdf>
- An Investigation of the United States Airline Pilot Supply UAA posted copy.pdf
- Aims ASP data center - Kenya Airways System
- Bednarek, J. D., & Bednarek, M. H. (2003). *Dreams of flight: General aviation in the United States*. Texas A&M University Press
- Bem, S. (1983). *Dimensions schema theory and its implications for child development: Raising gender-aschematic children in a gender-schematic society*. *Signs*, 8, 598–616. doi:10.1086/493998. <https://www.journals.uchicago.edu/doi/pdf/10.1086/493998>
- Benight, C. C., Shoji, K., Harwell, A., Felix, E. (2020). *Non-linear Dynamic Shifts in Distress after Wildfires: Further Tests of the Self-Regulation Shift Theory*. Felix E. *Frontiers in Psychology*
- Boeing. (2017). *Pilot and technician outlook 2017 - 2036*. Retrieved from <http://www.boeing.com/commercial/market/pilot-technician-outlook/> - /pilot technician-outlook
- British Airways. (2013) *Disney's Planes inspires a generation of pilots*. http://www.britishairways.com/en1gb/bamediacentre/newsarticles?articleID=20140115090828&articleType=LatestNews#.UwYd-Pl_vTo). Accessed February 2, 2014
- CAE Oxford Aviation Academy (UK) Limited (2014). *Human Performance and Limitations ATPL ground training series*
- Canevello, A. (2016). Gender Schema Theory. *Encyclopaedia of Personality and Individual Differences*.
- Cockburn, T. S.N, (2009). *Cultural sexism in the UK airline industry*. *Gender in Management: An International Journal*, Vol. 24 Iss 1 pp. 32 – 45 Neal-SmithCockburn2009.pdf
- Constitution of Kenya 2010, <https://www.museums.or.ke/wp-content/uploads/2020/04/ConstitutionofKenya-2010.pdf> retrieved on 21st October, 2021

- Cline, P. E. (2018). *The Role of Mentoring in the Careers of Female Airline Transport Pilots*. International Journal of Aviation, Aeronautics, and Aerospace, 5(1). <https://doi.org/10.15394/ijaaa.2018.1206>
- Dashper, K. (2019). *Challenging the gendered rhetoric of success? The limitations of women only mentoring for tackling gender inequality in the workplace*. Gender, Work, and Organization, 26(4), 541-557. <https://doi.org/10.1111/gwao.12262>
- David, C., Ison. (2010). *The Future of Women in Aviation: Trends in Participation in Postsecondary Aviation Education* <https://commons.erau.edu/cgi/viewcontent.cgi?article=1368&context=jaaer>
- Diggit magazine <https://www.diggitmagazine.com/articles/stereotypes-sexism-aviation> visited on 23rd October 2021
- Durbin, S., Lopes.A., Warren.S. (2020). *Challenging male dominance through the substantive representation of women: the case of an online women's mentoring platform*, New Technology, Work and Employment
- Eiff, G. & Stitt, B. (1993). *Some serious questions about women in aviation careers*. St. Louis, MO: Fourth Annual Women in Aviation Conference.
- Federal Aviation Administration (August, 2011). The Economic Impact of Civil Aviation on the U.S. Economy. Retrieved February 24, 2013, from http://www.faa.gov/air_traffic/publications/media/FAA_Economic_Impact_Rpt_2011.pdf.
- Federal Aviation Administration. (2019b). *U.S. civil airmen statistics*. [Fact sheet]. Retrieved from https://www.faa.gov/data_research/aviation_data_statistics/civil_airmen_statistics/
- Ferla, M., Graham, A. (2019) *Women slowly taking off: An investigation into female underrepresentation in commercial aviation*, <https://westminsterresearch.westminster.ac.uk/download/1da93843ade24006face7a6018d601e47c73726d239e524c178bccd493ce6f9e/141942/Woman%20slowly%20taking%20off%20Revised%20paper.pdf>
- Frank, F., Gerald, J. M., and Mara, S.S. (2007). *Handbook of public policy analysis: theory, politics, and methods* / edited by Frank Fischer, Gerald J. Miller, and Mara S. Sidney. p. cm. -- (Public administration and public policy; 125) Includes bibliographical references and index. ISBN-13: 978-1-57444-561-9 (alk. paper) ISBN-10: 1-57444-561-8 (alk. paper) 1. Policy sciences--Handbooks, manuals, etc. 2. Public administration--

Handbooks, manuals, etc. I. Fischer, Frank, 1942- II. Miller, Gerald. III. Sidney, Mara S., 1964- IV. Title. V. Series

- General Aviation Gender Summit (2018), <https://www.icao.int/Meetings/AviationGenderSummit/Presentations%20in%20pdf/Highlight%20and%20Roadmap-%20Final.pdf> retrieved on 23rd October 2021 at 0320 hrs.
- Global Gender Gap Report 2020 https://www3.weforum.org/docs/WEF_GGGR_2020.pdf
- Gowe, .K.J.D. (2020), *Effects of county bursary on completion rates among university students in Kwale County, Kenya between academic years 2014/15 to 2017/18*
- Harvey, G., and Turnbull, P. (2012) *The Development of the Low-Cost Model in the European Civil Aviation Industry*, European Transport Workers' Federation, Brussels (August).
- Harvey, G., Finniear, J. & Greedharry, M. (2019). *Women in aviation: A study of insecurity. Research in Transportation Business & Management* <http://dx.doi.org/10.1016/j.rtbm.2019.05.001>
- Higgins, J., Lovelace, K., Bjerke, E., Lounsberry, N., Lutte, R., Friedenzohn, D., Pavel, S., Chase, B., & Craig, P. (2014). *An investigation of the United States airline pilot labour supply*. *Journal of Air Transport Studies*, 5(2), 53-83.
- Hoffman, R. M., & Borders, L. D. (2001). *Twenty-five years after the Bem Sex-Role Inventory: A reassessment and new issues regarding classification variability*. *Measurement and Evaluation in Counselling and Development*, 34, 39-55.
- Hofstede, G. (1998). *Masculinity and femininity: The taboo dimension of national cultures*. New York, NY: Sage Publications. <http://dx.doi.org/10.1023/b:aseb.0000014612.89031.e3>
- Jacqueline Leonard (2019). *Women in Aviation and Space, Culturally Specific Pedagogy in the Mathematics Classroom*. <https://commons.erau.edu/cgi/viewcontent.cgi?article=1102&context=jaaer> retrieved on 16th October, 2021
- <https://www.icao.int/about-icao/women-in-aviation/Pages/default.aspx> retrieved on 21st October, 2021
- <https://westminsterresearch.westminster.ac.uk/download/1da93843ade24006face7a6018d601e47c73726d239e524c178bccd493ce6f9e/141942/Woman%20slowly%20taking%20off%20Revised%20paper.pdf>

[https://www.bing.com/search?q=Attracting+Women+to+Aviation+Careers%3A+What+Recent+Studies+Reveal+Mary+Ann+Turney+Collegiate+Aviation+Review+International+\(2000\)&cvid=8abaa61fa1a24f3c8870e8e31311eb8d&aqs=edge..69i57.514j0j9&FORM=ANA B01&PC=U531](https://www.bing.com/search?q=Attracting+Women+to+Aviation+Careers%3A+What+Recent+Studies+Reveal+Mary+Ann+Turney+Collegiate+Aviation+Review+International+(2000)&cvid=8abaa61fa1a24f3c8870e8e31311eb8d&aqs=edge..69i57.514j0j9&FORM=ANA B01&PC=U531)

IATA's *Annual Review* 2020

<https://www.iata.org/contentassets/c81222d96c9a4e0bb4ff6ced0126f0bb/iata-annual-review-2021.pdf>

IATA. (2017). *2036 forecast reveals air passengers will nearly double to 7.8 billion* [Press release]. Retrieved from <http://www.iata.org/pressroom/pr/Pages/2017-10-24-01.aspx>

Ison, D. C., Herron, R., & Weiland, L. (2016). *Two decades of progress for minorities in aviation*. *Journal of Aviation Technology and Engineering*, 6(1), 25-33.

Kamarudin, M. B., Kamarudin, A. Y. B, Darmi, R. B, & Saad, N. S. B. M. (2020). *A Review of Coaching and Mentoring Theories and Models*. *International Journal of Academic Research in Progressive Education and Development*, 9(2), 289–298.

Kathryn Creedy, CNN • Published 20th November 2019. *Why are there so few women in aviation?* <https://edition.cnn.com/travel/article/women-in-aviation/index.html> retrieved on 10th October, 2021

Keller, J., Wang, Y., Cooney, J., Erstad, A., & Lu, C. (2015). *Cultural Dimensions: A Comparative Analysis of Aviation Students in China and the U.S...* *International Journal of Aviation, Aeronautics, and Aerospace*, 2(3). Retrieved from <https://commons.erau.edu/ijaaa/vol2/iss3/3>

Kim, E., & Albelo, J. L. (2020). *Women in Aviation: A Phenomenological Study Exploring the Needs and Wants Necessary for Graduation*. *Collegiate Aviation Review International*, 38(2). Retrieved from <https://commons.erau.edu/student-works/16>

Lever, J. (1994). *Games children play: Sex differences and the development of role skills*. Doctoral dissertation, Yale University, New Haven, CT

Lutte, R. K. (2018). *Aviation outreach model and gap analysis: Examining solutions to address workforce shortages*. *Collegiate Aviation Review*.

Lutte, R. K. (2019). *Women in Aviation: A Workforce Report*. Aviation Institute Faculty Publications. 6. <https://digitalcommons.unomaha.edu/aviationfacpub/6>

- McCabe, J. M. (2016). *Connecting in college: How friendship networks matter for academic and social success*. Chicago: The University of Chicago Press.
- McCarthy, F., Budd, L.C.S. and Ison, S. 2015. *Gender on the flight deck: experiences of women commercial airline pilots in the UK*. Journal of Air Transport Management, 47, pp. 32 – 38 188375569.pdf (core.ac.uk)
- Meyer, M., Cimpian, A., & Leslie, S. J. (2015). *Women are underrepresented in fields where success is believed to require brilliance*. Frontiers in Psychology, 6. <https://doi.org/10.3389/fpsyg.2015.00235>
- Moiz.A., Safia., Shahmir.K., Erum.S.N. (2020) *Life of Females in Pakistani Aviation: Assessing the Relationship of Work-Family Conflict with Stress and Job Satisfaction*, International Journal of Business and Economic Affairs.
- Mugenda, A & Mugenda,O., (2013) *Research Methods, Qualitative and quantitative approaches*. Nairobi: Acts press.
- Murage, W. (2018). *Assessing citizens' perception of service quality at Huduma centres in Nairobi County, Kenya*. (Thesis). Strathmore University. Retrieved from <http://su.plus.strathmore.edu/handle/11071/6072>
- Pawley, A. L. (2019). *Learning from small numbers: Studying ruling relations that gender and race the structure of U.S. engineering education*. Journal of Engineering Education, 108 (1), 13-31.
- Turnbull, P. (2013) *Promoting the employment women in the transport sector – obstacles and policy options International Labour Office Geneva 484339.pdf* (ilo.org)
- Press release Kenya Airways *Spearheads IATA's Gender Equality Pledge*, https://corporate.kenya-airways.com/uploadedFiles/Content/Press_Room/Press_Releases/IATA-25BY2025-Final.pdf retrieved on 13th October, 2021.
- Seymour, E. & Hewitt, N.M. (1997). *Talking about leaving*. Boulder, CO: Westview Press
- Sitler, R. L. (1998). *The cockpit classroom: Women's perceptions of learning to fly and implications for flight curriculum and instruction*. Doctoral Dissertation, Kent State University, Kent, Ohio.
- Lutte, R. K. (2018). *Aviation outreach model and gap analysis: Examining solutions to address workforce shortages*. Collegiate Aviation Review,

- Stevenson, L., Cuevas, H., Rivera, K. K., Kirkpatrick, K., Aguiar, M., & Albelo, J. L. (2021). *Women's Perceptions of the Aviation Workplace: An Exploratory Study*. *Collegiate Aviation Review International*, 39(1). Retrieved from <https://commons.erau.edu/publication/1590>
<https://commons.erau.edu/cgi/viewcontent.cgi?article=2733&context=publication>
- Stuart, R. (1999). Gender differences in the cockpit. *New Zealand Wings Magazine*
- Tehnika (2020). *Women in aviation: The first 100 years* Olja Čokorilo <https://scindeks-clanci.ceon.rs/data/pdf/0040-2176/2020/0040-21762003375Q.pdf>
- Turney, M. A. (2000) *Attracting Women To Aviation Careers: What Recent Studies Reveal* Arizona State University East <https://ojs.library.okstate.edu/osu/index.php/CARI/article/view/7652/7051>
- United Nations 2019 report https://www.un.org/sustainabledevelopment/wp-content/uploads/2016/08/5_Why-It-Matters-2020.pdf accessed on 21st October, 2021
- Venus, M., & Grosse, H. M. (2021). *How Duty Rosters and Stress Relate to Sleep Problems and Fatigue of International Pilots*. *International Journal of Aviation, Aeronautics, and Aerospace*, 8(3). Retrieved from <https://commons.erau.edu/ijaaa/vol8/iss3/5>
- Why are there so few women in aviation*, <https://edition.cnn.com/travel/article/women-in-aviation/index.html/> <https://www.redboxtools.com/news/why-are-there-so-few-women-in-aviation/#:~:text=An%20insightful%20article%20has%20recently%20appeared%20on%20the,10%25%20of%20pilots%2C%20maintenance%20technicians%20and%20airline%20executives.> Retrieved on 22nd October 2021
- Women in Aviation & Aerospace Charter, 2021. <https://www.wiaa charter.com/> © 2018-2021 Women in Aviation and Aerospace Charter.

APPENDICES

Appendix 1: Questionnaire for Kenya Airways pilots

Greetings; My names are Chavera Miliza, a graduate student M.A. Public Policy and Administration in the school of Humanities and Social Sciences at Kenyatta University. Am conducting a study on gender dynamics and employment of women pilots in Kenya Airlines LICENSE NO: NACOSTI/P/22/17784; I am seeking volunteers to take part in this study which asks you to identify your feelings and beliefs about certain statements.

The study has six sections; Introduction and Consent, Section A, Section B Section C, Section D and Section E. It will take about 10 minutes to fill in and submit the survey. Kindly fill all the questions as accurately as possible, participation in this study is on voluntary basis and by selecting “YES” you do not waiver any legal rights. If you refuse to participate, there are no penalties or loss of benefits to which you will otherwise have entitled. You are free to discontinue participation at any given time and no penalties or loss of benefits will occur to which you will otherwise have been entitled. Any further guidance, areas of concern and comments about the study, please email the investigator at dchavs@gmail.com.

The investigator takes this opportunity to thank you for taking part in this research. **Thank you.** You confirm that you are 18 years and above, have read and understood the purpose, procedures and possible benefits and risks of this study. By selecting “Yes”, you voluntarily agree to take part.

I have read and understood all the information provided above. I confirm that I am 18 years and above and willing to participate in this study.

Yes

No

Part A: Respondent Background Information.

Background information that best describes you.

1. What is your gender? Male Female

2. Select you age group (in years)

18 to 25 26 to 33 34 to 41 42 to 49 50 to 57 Above 58

3. Level of education

- Primary school certificate (KCPE)High school certificate (KCSE)
- College certificate course
- College diploma course
- Bachelor's degree
- Master's degree
- Doctorate

Part B: Cultural beliefs, i.

Please read the following statements and tick **YES** or **NO** according to you believes. It is advisable not to tick both YES and NO boxes of the same statement.

	Yes	NO
4. Is there stereotyping on the flight deck?		
5. Are women discriminated on the flight deck?		
6. Is there biasness on women in the flight deck?		
7. Does prejudice exist on the flight deck?		
8. Would you say there is cultural sexism on the flight deck?		
9. Are women pilots sexually harassed on the flight deck?		
10. Do women pilots face intimidation on the flight deck?		
11. Are you confident when a woman occupies the flight deck?		
12. Do you believe men are better pilots?		

Part B: Cultural beliefs, ii.

Please indicate by a tick the degree to which you agree or disagree with the following statements by marking strongly agree, agree, neither agree nor disagree, disagree or strongly disagree for each of them.

	strongly agree	agree	neither agree nor disagree	disagree	strongly disagree
13. Passengers' opinion of my gender does not affect my performance when on duty					
14. Women pilot get enough support from male pilots.					

Part B: Cultural beliefs, iii.

Give a small comment and/or statements and/or description that best describes your belief(s) to the given statement.

15. Briefly give any belief(s) by communities and societies that could be the hindering factor to women becoming pilots....

16. Explain what passengers think of a women pilot?

Part C: Career Choice, i.

Please read the following statements and tick **YES** or **NO** according to you believes. It is advisable not to tick both YES and NO boxes of the same statement.

	Yes	NO
17. Are there mentors and coaches in aviation?		
18. Would you support any one to become a pilot?		
19. During your training to be a pilot, did you have a role model/mentor?		
25. Did you have a family member, relative or friend who is and/or was a pilot?		
26. Did you have any role model/mentor and/or influenced as to why you became a pilot?		

27. Which gender would you prefer to support to become a pilot? Male Female

28. How long did it take you to complete your pilot career in years?

0 to 1 2 to 4 5 to 6 7 to 8 > 10

29. At what age were you exposed to aviation industry in years?

2 to 5 6 to 9 10 to 13 14 to 18 19 to 22 > 23

Part C: Career Choice, ii.

Please indicate by a tick the degree to which you agree or disagree with the following statements by marking strongly agree, agree, neither agree nor disagree, disagree or strongly disagree for each of them.

	strongly agree	agree	neither agree nor	disagree	strongly disagree
30. I have at least one person who is interested in my career life (whether in					

Part C: Career Choice, iii.

Give a small comment and/or statements and/or description that best describes your belief(s) to the given statement.

31. Highlight importance of mentors, the school, flight instructor and coaches interactions helped you persist and complete your pilot career?

32. Determine some of the reasons as to why many children do not choose pilot as a career.

33. Name the person who influenced you to become a pilot.i.e., (father, mother, brother, sister, grandparents, cousins, friends, family friend, role model, mentor, guardian, etc).

Part D: Job allocation, i.

Please read the following statements and tick YES or NO according to you believes. It is advisable not to tick both YES and NO boxes of the same statement.

	Yes	NO
34. Are you happy about the shift pattern?		
35. Does the shift pattern remain as rostered?		
36. Does shift pattern have an effect on pilot life?		
37. Do you work away from home?		
38. Do you prefer working away from home?		
39. Do you work on night shift?		
40. Have you ever worked a combined day and night shift?		
41. Do you prefer working on night shifts?		

Part D: Job allocation, ii.

Give a small comment and/or statements and/or description that best describes your belief(s) to the given statement.

42. Describe your shift pattern...

43. Explain your opinions and/or feelings about the roster changes you get?

Part E: Skills acquisition, i.

Please read the following statements and tick YES or NO according to you believes. It is advisable not to tick both YES and NO boxes of the same statement.

	Yes	NO
44. Does becoming a pilot require confidence?		
45. Have you ever been less confidence while on the flight deck?		
46. Does the design of the cockpit affect you as a pilot?		
47. Does skill acquisition influence on one becoming a pilot?		
48. Are there some risks associated with becoming a pilot?		
49. Is the cockpit design considered to accommodate women?		

Part E: Skills acquisition, ii.

Please indicate by a tick the degree to which you agree or disagree with the following statements by marking strongly agree, agree, neither agree nor disagree, disagree or strongly disagree for each of them.

	strongly agree	agree	neither agree nor	disagree	strongly disagree
I can get through difficult times because I've experienced difficulty before while in the cockpit, because am competent with high					
In an emergency, I am someone people can generally rely on while in the flight deck					
There have been more problems than positive experiences with my skills status in the past					
I have enough skills to do what I do					

Part E: Skills acquisition, iii.

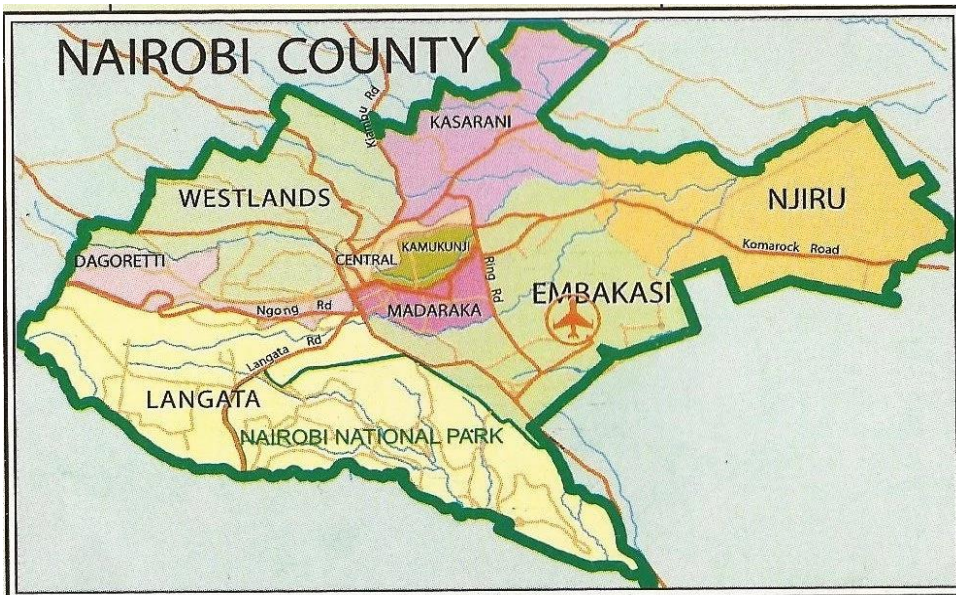
Give a small comment and/or statements and/or description that best describes your belief(s) to the given statement.

50. How many years did it take you to become a confident pilot?


51. How long did it take you to acquire piloting skills?


52. Determine the best way to handle risks in the cockpit?

Appendix 2: Map of Nairobi County




Appendix 3: Nacosti, County Commissioner and Governor Approvals

 **REPUBLIC OF KENYA**

 **NATIONAL COMMISSION FOR
SCIENCE, TECHNOLOGY & INNOVATION**

Ref No: 960729 Date of Issue: 25/May/2022

RESEARCH LICENSE



This is to Certify that Mr.. Davidson Chavera Miliza of Kenyatta University, has been licensed to conduct research in Nairobi on the topic: Gender dynamics and its effects on employment of women pilots in Kenyan airlines for the period ending : 25/May/2023.

License No: NACOSTI/P/22/17784

960729
Applicant Identification Number

26/5/2022

**COUNTY COMMISSIONER
NAIROBI COUNTY
P. O. Box 30124-00100, N.G.
TEL: 341866**


**GOVERNOR'S OFFICE
NAIROBI CITY COUNTY**

26 MAY 2022

RECEIVED

W. M. Mwangi
Director General
NATIONAL COMMISSION FOR
SCIENCE, TECHNOLOGY &
INNOVATION

Verification QR Code



NOTE: This is a computer generated License. To verify the authenticity of this document,
Scan the QR Code using QR scanner application.

Appendix 4: Ministry of Education Approval



Republic of Kenya
MINISTRY OF EDUCATION
STATE DEPARTMENT OF EARLY LEARNING AND BASIC EDUCATION

Telegrams: "SCHOOLING", Nairobi
Telephone: Nairobi 020 2453699
Email: rcenairobi@gmail.com
cdenairobi@gmail.com

REGIONAL DIRECTOR OF EDUCATION
NAIROBI REGION
NYAYO HOUSE
P.O. Box 74629 – 00200
NAIROBI

When replying please quote

Ref: RDE/NRB/RESEARCH/1/65 Vol.1

Date: 26th May, 2022

Mr. Davidson Chavera Miliza
Kenyatta University

RE: RESEARCH AUTHORIZATION

We are in receipt of a letter from the National Commission for Science, Technology and Innovation regarding research authorization in Nairobi County on the topic: "**Gender Dynamics and its Effects on Employment of Women Pilots in Kenyan Airlines.**"

This office has no objection and authority is hereby granted for a period, ending **25th May, 2023** as indicated in the request letter.

SAMUEL KARIITHI
FOR: REGIONAL DIRECTOR OF EDUCATION
NAIROBI.



Copy to: Director General/CEO
National Commission for Science, Technology and Innovation
NAIROBI.