

Exploring occupational gender stereotypes of female pilots within selected South African-based aviation companies

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FOR THE READER'S ATTENTION

The reader is reminded of the following:

- The references followed the prescribed format of the Publication Manual (7th edition) of the American Psychological Association (APA). This practice corresponds with the policy requiring that all scientific documents must employ the APA style as from January 1999, as stipulated by the Program in Industrial Psychology of the North-West University (Potchefstroom Campus).
- The study is submitted by using the structure of a research article. The formatting guidelines as set out by the *South African Journal of Industrial Psychology (SAJIP)* was used. Construction of tables was followed in accordance with SAJIP guidelines.
- Each chapter of this mini-dissertation has its own reference list.

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DECLARATION BY RESEARCHER

I, Linda Susan van Wyk, hereby declare that “Exploring occupational gender stereotypes of female pilots within selected South African based aviation companies” is my own work and that the views and opinions expressed in this study are those of the auditor and relevant literature references as portrayed in the reference list.

I further declare that the content of this research will not be submitted for any other qualification at any other tertiary institution.

A handwritten signature in black ink, appearing to read 'L. S. van Wyk', enclosed within a circular scribble.

LINDA SUSAN VAN WYK

DECEMBER 2020

DECLARATION OF LANGUAGE EDITOR



10 December 2020

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SUMMARY

Title: Exploring occupational gender stereotypes of female pilots within selected South African based aviation companies

Keywords: Occupational gender stereotypes, female pilots, stereotypes, stereotype threat, in-group, out-group, work performance, aviation companies, South Africa

Female pilots have since the start of their careers experienced challenges relating to their gender, especially females occupying masculine occupations such as being in aviation. It is important to understand the effect that these stereotypes and challenges have on female pilots and the effect thereof on their perceived work performance. Female pilots are also the minority group when it comes to the pilot occupation and they are underrepresented within the South African aviation industry. Several studies have indicated that this might be due to stereotypes that exist concerning the occupation being masculine and more suitable for men.

This study therefore aimed to explore the existence of occupational gender stereotypes concerning female pilots within South African-based aviation companies. The experiences of female pilots and the effect stereotypes have on their perceived work performance was also explored where after recommendations were made for aviation organisations to help mitigate these effects.

A qualitative research design was employed based on the social constructivism paradigm to reach the objectives of this study. A qualitative descriptive approach was followed using a combination of convenience and purposive sampling. Female pilot employees ($N=15$) from selected South African-based aviation companies were requested to complete an online qualitative survey on the QuestionPro platform.

The results of this study indicated that female pilots within selected South African-based aviation companies do experience occupational gender stereotypes. Stereotypes mentioned by participants included that female pilots are less capable than male pilots, that they are not

readily accepted as pilots, and they lack technical skills. These individuals also shared both positive and negative experiences of these stereotypes. Some of the negative experiences are for example that they are disrespected, they feel underestimated and that there is a higher expectation of them. There were also positive experiences in that female pilots believe that they are better pilots than males, they are more hard-working, and they are treated the same as male pilots. The study also focused on the effect occupational gender stereotypes have on the perceived work performance of female pilots. The results indicated that female pilots tend to work hard to prove themselves or they feel that the stereotypes make them better pilots. Some participants did however mention that their performance is not affected by these stereotypes.

The participants were also asked to list strategies which they or other female pilots could apply to manage the experienced stereotypes. Suggestions such as always being prepared, becoming more resilient and building a good support network were listed. The participants also listed strategies aviation organisations could employ in order to manage stereotypes that exist in their companies. Suggestions from the participants included employing more female pilots, providing opportunities to report negative gender treatment and creating a supportive working environment.

Recommendations were made for future research and practice.

OPSOMMING

Titel: Onderzoek van beroepsgeslag-stereotipes rakende vroulike loodse binne geselekteerde Suid-Afrikaans-gebaseerde lugvaart-maatskappye

Sleutelwoorde: Beroepsgeslag-stereotipes, vroulike loodse, stereotipes, stereotiep-dreigemente, in-groep, uit-groep, lugvaartmaatskappye, Suid-Afrika

Vroulike loodse het sedert die aanvang van hul loopbane reeds uitdagings rakende hul geslag ondervind, veral vroue wat manlike beroepe beoefen, soos om in lugvaart betrokke te wees. Dit is belangrik om die effek wat hierdie stereotipes en uitdagings op vroulike loodse het, te verstaan, asook die effek daarvan op hul waargenome werkverrigting. Vroulike loodse is ook in die minderheid wanneer dit kom by die loods-beroep en hulle is onderverteenvoordig binne die Suid-Afrikaanse lugvaart-industrie. Verskeie studies het aangedui dat dit moontlik die gevolg is van stereotipes rakende die beroep wat manlik en wat beskou word as meer geskik vir mans.

Hierdie huidige studie is dus daarop gemik om die bestaan van beroepsgeslag-stereotipes rakende vroulike loodse binne Suid-Afrikaans-gebaseerde lugvaart-maatskappye te verken. Die ervarings van vroulike loodse en die effek wat stereotipes op hul waargenome werkverrigting het, is ook verken, waarna aanbevelings gemaak is vir lugvaart-maatskappye om hierdie effekte te help temper.

Gebaseer op die sosiaal-konstruktivisme-paradigma is 'n kwalitatiewe navorsingsontwerp aangewend om die doelwitte van die studie te bereik. 'n Kwalitatief-beskrywende benadering is gevolg deur gebruik te maak van 'n kombinasie van gerieflikheids- en doelgerigte steekproefneming. Vroulike loods-werknemers ($N=15$) afkomstig van geselekteerde Suid-Afrikaans-gebaseerde lugvaart-maatskappye is gevra om 'n aanlyn-kwalitatiewe opname op die *QuestionPro platform* in te vul.

Die resultate van hierdie studie het aangedui dat vroulike loodse binne geselekteerde Suid-Afrikaans-gebaseerde lugvaart-maatskappye inderdaad beroepsgeslag-stereotipes ervaar.

Stereotipes wat deur deelnemers genoem is, het ingesluit dat vroulike loodse minder daartoe in staat is om die werk te verrig as wat manlike loodse is, dat hulle nie geredelik as loodse aanvaar word nie en dat hul tegniese vaardighede gebrekkig is. Hierdie individue het ook beide positiewe en negatiewe ervarings rakende hierdie stereotipes genoem. Sommige van die negatiewe ervarings is byvoorbeeld dat hulle nie gerespekteer word nie, hulle onderskat word en dat daar hoër verwagtinge aan hulle gestel word. Positiewe ervarings is ook deur hulle genoem, naamlik dat vroulike loodse glo dat hulle beter loodse is as mans, dat hulle meer hardwerkend is en dat hulle op gelyke voet met manlike loodse behandel word. Die studie het ook ingegaan op die effek wat beroepsgeslag-stereotipes op die self-waargenome werkverrigting van vroulike loodse het. Die resultate het aangedui dat vroulike loodse geneig is om hard te werk om hulleself te bewys of dat hulle voel dat die stereotipes beter loodse van hulle maak. Sommige deelnemers het egter genoem dat hul werkverrigting nie deur hierdie stereotipes geraak word nie.

Die deelnemers is ook versoek om strategieë te lys wat hulle of ander vroulike loodse kan toepas om die stereotipes wat hulle ervaar, te kan hanteer. Voorstelle is gelys soos: deur altyd voorbereid te wees, meer aanpasbaar te raak en 'n goeie ondersteuningsnetwerk op te bou. Die deelnemers het ook strategieë gelys wat lugvaart-organisasies kan toepas om stereotipes wat in hul maatskappye voorkom, te hanteer. Voorstelle wat deur die deelnemers gemaak is, het byvoorbeeld ingesluit om meer vroulike loodse aan te stel, geleenthede te skep vir die rapportering van negatiewe geslagsbehandeling of 'n ondersteunende werkomgewing te skep.

Aanbevelings is vir toekomstige navorsing en die praktyk gemaak.

CHAPTER 1

INTRODUCTION

INTRODUCTION

This mini-dissertation focused on exploring the experiences of occupational gender stereotypes of female pilots within selected South African aviation companies. The first chapter introduces the problem statement and provides an outline of the research objectives as well as the research design followed in this study. Finally a division of chapters is presented.

1.1 Problem statement

Women have always played a significant and important role in the aviation industry. Since the first invention of an aircraft by the Wright brothers, it was their sister, Katherine Wright, who inspired and motivated them to pursue the dream of flight (Wilson, 2004). Since then females have entered the aviation industry and the first licensed female pilot was recognised in 1910. South Africa saw their first Commercial female pilot only in 1988 when Jane Trembath started operating for South African Airways (Trembath, 2020). However, female pilots have since the start of their career experienced challenges relating to their gender. Davey and Davidson (2000) stated that the first female pilots encountered co-workers who were nervous with a female pilot taking charge of the flight, made inappropriate jokes on them, and showed aggressive and sexist behaviour towards them. Even though the before mentioned resource is from the year 2000, the researcher found it useful and valuable during her studies seeing as there is limited information on this study topic. According to Yount (as cited in Wilson, 2004) one of the early female pilots, Harriet Quimby, was killed in 1912 during a flight. Instead of saying it was bad luck as with male pilots, the New York Sun said that this accident pointed out that women had been shown to have less strengths than men, less presence of mind and less courage. Also, in the 1980s females were viewed as being incapable of becoming pilots (Brennan, 2009). Davey and Davidson (2000) stated that due to preconceived ideas concerning female pilots they felt that they had to prove to the other flight crew members that they are capable, which was not the case as with male pilots. They continued by stating that this prejudice experienced by female pilots in part lead to them displaying a high standard of performance because it was noticed that only the most determined female pilots and those with the best abilities became accepted as pilots.

Davey and Davidson (2000) stated that attitudes towards female pilots have become more positive and that female pilots experience an improved and more positive working environment compared to the first female pilots. However, in their research Davey and Davidson (2000) found that some problems still persist in that female pilots have to conform to the masculine aviation industry in order to be accepted. The nature of the position might also pose a problem for female pilots in that they are not allowed to fly for a certain duration while they are pregnant due to safety precautions (Civil Aviation Regulations, 1997). Even after the birth of a child they experience challenges with frequent time away from home on long duration flights. Except for the nature and industry itself that presents challenges for female pilots, female pilots experience perceptions and aggressive behaviour from crew and passengers such as the perceptions that female pilots are less able of being in control of an aircraft or that the pilot occupation is seen as a 'man's job' (Davey & Davidson, 2000; Morris, 2015; Walton & Politano, 2015). Wilson (2004) stated that some of the stereotypes that are believed to be true for females in aviation are that female pilots are not as strong or intelligent as male pilots, they do not possess such a strong innate flying ability, and they are an emotional liability. Because of these stereotypes it is believed that women should not fly recreationally or professionally (Wilson, 2004).

In the study conducted by Davey and Davidson (2000) male pilots reported to assume that the female pilot needed assistance with directions while operating the aircraft simply because she was a female. Houston (2016) who is currently operating as a flight instructor mentioned that she has experienced negative perceptions from others in her career. She stated that ground staff would turn to the male pilot, who is a student and ask him questions about the aircraft instead, assuming that he is in charge of the flight because he is a male. Other challenges that she experienced in her early student days were that others made comments to her stating how difficult it should be in a male-dominated environment and that "you fly pretty good seeing as you are a girl".

These challenges that female pilots experience can be linked to misconceptions about females in a pilot occupation, for example females not being good with direction. These misconceptions are also known as stereotypes. Hilton and Von Hippel (1996, p. 240) defined stereotypes as 'beliefs about the characteristics, attributes, and behaviours of members of certain groups'.

Stereotypes can exist due to aspects such as age, ethnicity, gender and occupation. This study will however focus on gender and occupational stereotypes, but more specifically occupational gender stereotypes. Occupational gender stereotypes are defined by Matheus and Quinn (2017) as people's perceptions of a job and what is more suitable for men or women based on what that job requires. Stereotypically females would be seen as more suitable for nurturing and caring occupations where men would be seen as more suitable for positions that require being tough and good at making decisions (Matheus, 2011). Women are misrepresented in and seen as less suited for occupations such as business owners and leadership positions. Sweida and Woods (2015) stated in their study that female-owned businesses in male dominated industries, such as manufacturing, technologies, utilities and distribution are not commonly found as this is seen as a masculine position. Women are also seen as less suited in leadership positions and also receive additional pressure in their role due to their gender (Gupta et al., 2016). In a study conducted by Bergeron et al. (2006) it was found that females experience stereotypes when placed in a masculine position and that these stereotypes may affect their work performance. Their study also indicated that women in a masculine position, for example a pilot position, experience more stereotype threat than do men.

Carducci (2009, p. 531) explained that stereotype threat can be described as 'a situation where individuals in a group begin to accept the stereotyped beliefs others have about them, and the self-fulfilling impact such beliefs can have on their performance'. In other words, individuals hear stereotypes others have of them, they believe these stereotypes, and therefore start behaving in a manner that confirms those stereotypes. According to Marx and Stapel (2006) and Marx et al. (2005), when one associates oneself with a relevant social category, and when one is aware of a stereotype of that category, it creates a situation in which stereotype threat can be experienced. When a negative stereotype is associated with a social identity (i.e. female pilots are not good with direction) it increases the experience of stereotype threat. Alter et al. (2010) found that when people experience stereotype threat, they perform worse in their tasks because they tend to accept the beliefs that others have of them. Brubaker and Naveh-Benjamin (2018) confirm the above and state that when individuals experience stereotype threat because there are negative perceptions of a group of which they form part and they believe these perceptions, they tend to perform worse at their tasks.

The social identity theory was used for the purpose of this study and also to explain the above-mentioned phenomenon, *stereotype threat*. This theory depicts that people will strive to achieve and maintain a positive self-concept (Rodriquez, 2013). It continues by explaining that people see themselves as part of a certain social group with which they have a shared identity that defines who they are and gives them an idea of how to behave (in-group). The rest of the individuals not belonging to this group are viewed as the out-group. Male pilots can therefore be seen as a group separate from female pilots, based on their gender differences. When looking at how individuals compare groups, it is found that they tend to favour their own group above others, trying to be more distinctive than the other groups (Hogg, 2016).

Females can experience a separation between their work identity and their self-identity, further leading them to believe that they cannot express their female identity while in their position (Von Hippel et al., 2011). Stereotypes can also cause females to act in a way that is expected of them by society and are thus inclined to remain dominant within their households, placing pressure on themselves to not only master a successful career, but to also spend unpaid hours tending to house and family matters. This causes them to be unable to put extra hours in to achieve higher manager positions (Milhalcova et al., 2015). Stereotypes and stereotype threat may cause organisations to be more likely to have more male applicants for certain positions than female applicants. This can cause frustrations for organisations who strive to adhere to the Employment Equity Act of South Africa, which motivates equal employment opportunities for females (Government Gazette, 1998). In a study conducted by Barbulescu and Bidwell (2012) it was found that women are less likely to apply for financial advisory and consulting positions and more likely to apply for general management positions since they identify poorly with stereotypically masculine positions and they have a low expectation for a job offer in these positions. Females are therefore misrepresented in certain sectors within the job market. When looking at South Africa, where women make up more than half of the population, they are still misrepresented in masculine positions and positions of power (Statistics South Africa, 2017).

Since stereotypes can influence work performance, it is a concern that needs to be managed also within the aviation industry. This was confirmed by Helmreich and Foushee (as cited in Mitchell et al., 2006) when they indicated that negative perceptions that exist regarding female pilots can influence crew coordination and decision making. Their study also concluded that

these negative perceptions can cause female pilots to experience gender bias, harassment and discrimination. The aviation industry manages crew perception and aims to optimise crew coordination by introducing Crew Resource Management training (Michell et al., 2006). Crew Resource Management training aims at making pilots more attentive to the importance of relationship with other crew members and the impact it has on flight safety (Safety Regulations Group, 2002). The importance of a pilot and co-pilot relationship is therefore recognised, but limited research has been done on how stereotypes concerning female pilots can influence this relationship if a male pilot is scheduled to fly with a female pilot. Hence it is important to give attention to stereotypes between male and female pilots and the influence it may have on their work performance.

Challenges that female pilots experience due to their gender could partly be responsible for them being misrepresented in the aviation industry. Zheng (2016) stated that an imbalance exists regarding male versus female pilots employed in the aviation industry. According to Women in Aviation International (2018) 6.71% of pilots in the aviation industry are females. Women have showed an increase in representation in fields such as education, medicine and law, yet the aviation sector has remained resistant to evolving gender roles in this profession (Germain et al., 2012). Germain et al. (2012) suggested that future researchers should focus on qualitative studies that investigate females' experiences in this male-dominated aviation industry. Recommendations were also made by Wilson (2004) that more research should be undertaken in gender-related attitudes between male and female pilots. This recommendation was made due to the finding that female pilots generally hold a positive perception of their own flying abilities, whereas male pilots do not see their abilities in the same light. Limited research has been conducted on what stereotypes female pilots experience in this male-dominated work environment and how this ultimately affects their performance. Considering all the challenges that female pilots experience due to their gender, a qualitative study was conducted to investigate occupational gender stereotypes and the influence thereof.

1.2 Research questions

The following research questions can be formulated based on the above-mentioned discussion of the research problem:

- How are occupational gender stereotypes conceptualised according to literature?
- What are the experiences of female pilots within selected South African based aviation companies?
- What stereotypes do female pilots experience within selected South African based aviation companies?
- What is the influence of occupational gender stereotypes on the work performance of female pilots within selected South African based aviation companies?
- What recommendations can be made by female pilots to manage occupational gender stereotypes within selected South African based aviation companies?
- What recommendations can be made for future research and practice?

1.3 Expected contribution of the study

For the organisation

Stereotypes can impact the working environment, and by conducting this study insight can be gained into the experiences of female pilots with regards to occupational gender stereotypes and the influence thereof on work performance. South African aviation organisations will therefore be provided with an opportunity to address stereotypes among their pilots. The findings might also aid the organisation to sensitise employees with respect to stereotypes and the effect thereof in this traditional male-dominated industry, hence motivating employees to avoid stereotyped behaviour towards each other. Aviation companies may also decide to implement strategies to better manage these stereotypes that are experienced by female pilots.

For the individual

The study creates awareness amongst stereotyped pilots regarding stereotypes that exists within their working environment. By asking participants (female pilots) to think about strategies to better deal/cope with these stereotypes it may stimulate a thinking process where they actively think of ways in which they themselves can better deal/cope with the situation of being stereotyped. They may choose to implement the strategies they are thinking of. If these

stereotypes are better managed within the organisation, it will have a positive effect on the individual female pilot.

For literature

Currently, there is a scarcity of literature available about occupational gender stereotypes experienced by female pilot within South African based aviation organisations. This study therefore adds to the literature about stereotypes, but more specifically occupational gender stereotypes.

1.4 Research objectives

The research objectives are divided into a general objective and specific objectives.

1.4.1 General objective

The general objective of this study is to explore occupational gender stereotypes of female pilots within South African based aviation companies and the influence thereof on their work performance.

1.4.2 Specific objectives

The specific objectives of the research are:

- To conceptualise occupational gender stereotypes according to literature.
- To explore the experiences of being a female pilot within selected South African based aviation companies.
- To explore the occupational gender stereotypes female pilots experience within selected South African based aviation companies.
- To explore the influence of occupational gender stereotypes on the work performance of female pilots within selected South African based aviation companies.

- To explore what recommendations are made by female pilots to manage occupational gender stereotypes within selected South African based aviation companies.
- To make recommendations for future research and practice.

1.5 Research design

1.5.1 Research approach

This study used a qualitative design. Qualitative research describes an individual's experiences of a certain event. The researcher identified patterns when analysing the data tied to a phenomenon experienced by a group of individuals. This assisted the researcher to better understand the phenomenon as a whole (Levitt et al., 2018). In this study the researcher aimed to explore the phenomenon of occupational gender stereotypes. Qualitative data are derived from less data than quantitative data and is defined as rich, detailed and heavily contextualised in nature (Levitt et al., 2018). For this reason, online written interviews were employed to collect data from female pilots from two South African based aviation companies.

The social constructivism paradigm was used to ground and explain the current study. Social constructivism is described by Cottone (2007) when he stated that what is known comes from communities of understanding and not from an isolated individual. Walker (2015) contributed to this notion by stating that social constructivism is the way in which people socially construct experiences in order for them to make meaning out of these experiences. The researcher was therefore interested in investigating what stereotypes female pilots experience and what meanings are attached to these experiences. The researcher took into account that multiple realities exist, and this will contribute to the manner in which the study results are interpreted. Gupta and Awasthy (2015) stated that multiple realities might co-exist based on different perceptions and can therefore not be defined as a single truth. This implies that perception plays a vital role in the understanding of reality. Therefore individuals may have multiple realities regarding the phenomenon *occupational gender stereotypes*.

1.5.2 Research strategy

For the purpose of this study the researcher employed a qualitative descriptive research strategy. This research strategy aims to gain a comprehensive summarization of a certain event that is or was experienced by an individual or by groups (Lambert & Lambert, 2012). Kim et al. (2017) explain that this strategy can be employed when researchers want to learn more about the experiences of participants regarding a phenomenon that is not well-understood. When information is required from those individuals who are currently experiencing the phenomenon under investigation, a qualitative descriptive approach is the best option to follow (Bradshaw et al., 2017). This is especially true when time and resources are a limiting factor.

1.6 Research method

The research method consisted of the literature review, the research setting, entrée and establishing researcher roles, sampling, data collection methods, recording of data, data analysis, and strategies employed to ensure quality data, reporting style and ethical considerations.

1.6.1 Literature review

A comprehensive and full review regarding occupational gender stereotypes, female pilots, and stereotype threat was conducted. Various resources were utilised for gathering information, more specifically resources such as books and journals from the Ferdinand Postma Library of North West University, articles from Google Scholar and EBSCOhost, and information pages from Federal Aviation Association were consulted. Journals and books were used for this study. The specific journals in mention are the *Journal of Experimental Social Psychology*, *Leadership and Organisational Studies*, *Aviation Psychology and Applied Human Factors*, *Social Behaviour and Personality*, *Human Resources Development International* and *Feminism & Psychology*.

1.6.2 Research setting

Data were collected within the Gauteng province. Two South African aviation companies within this province were selected from which to collect data. Employees (i.e. female pilots) who participated in this study were employed as pilots in the selected aviation companies. Data were collected via online written interviews by using web-based software named QuestionPro. Participants chose the preferred setting to complete the survey. Participants therefore chose to complete the survey in their own time within the privacy of their home, or they chose to complete the survey on the premises of their company. The completion of the survey was not expected to take more than 30 minutes of each participant's time.

1.6.3 Entrée and establishing researcher roles

Before commencing with this research study the researcher had to gain permission from the aviation companies to conduct this study within these specific companies. The researcher also had to gain permission from NWU-EMELTEN-REC before commencing with this study. After having received permission from the NWU-EMELTEN-REC the researcher made use of an independent person who is not associated with the aviation companies to send a request to female pilots via email to participate in this research study. Therefore the researcher herself did not contact (i.e. email) the prospective participants; the independent person was responsible for requesting voluntary participation from them. When emailing the prospective participants, the independent person informed participants of the objectives of this study and also of the role of prospective participants within this research study. Their voluntary participation was requested. The prospective participants were informed that their identities will remain entirely anonymous and confidential and that if they wish to do so, they can withdraw from the study at any time. An <http://link> was included within the email that directed the prospective participants to the QuestionPro survey where participants were requested to complete a demographic profile and five interview questions. When clicking on the <http://link> the participants were directed to an introductory page and informed consent information regarding the research study. The independent person did not benefit from the study and the participants did not feel obligated to partake in the study as they did not know the person sending them the request to participate.

For the purpose of this study, the researcher fulfilled various roles. The researcher fulfilled the roles of planner, data collector, data analyser, and report writer. As planner the researcher planned the data collection process by deciding on the method of data collection and how online written interviews will be designed and which platform will be utilised (in this case QuestionPro). As data collector the researcher collected data by accessing the data on QuestionPro and transferring it to an Excel sheet. When data was transferred to the Excel sheet the researcher acted as data analyser whereby the researcher analysed the data according to themes and sub-themes. As the report writer the researcher reported on the results of the study by utilising a qualitative writing style. The researcher ensured that she remained neutral and objective throughout the entire study.

1.6.4 Research participants and sampling

The population consisted of female pilots employed in a pilot position within South African aviation companies within the Gauteng province. The sample consisted of 15 female pilots ($N=15$). Participants of the study met the following criteria: (1) be a female pilot; (2) be in possession of at least a private pilot licence; (3) have at least 1 year of experience operating as a pilot for an aviation company; and (4) be proficient in at least English. A combination between convenience sampling and purposive sampling was used to reach the objectives of this study. Convenience sampling was used to select whoever was available to participate in the study, taking into account that they should have met the selection criteria set by the researcher (Weiss, 1995). Purposive sampling allowed the researcher to consciously choose information-rich cases which are in line with the purpose of the study (Hogan, 2009). The researcher therefore selected any pilot who met the set criteria as mentioned above.

1.6.5 Data collection methods

The measuring instrument used to gather information for this research topic was online interviews, also known as a qualitative survey. Online interviews are also known as e-interviews and are conducted by making use of computer-mediated communication (CMC) (Salmons, 2015). The author further states that online interviews can be conducted using numerous formats such as written, verbal, casual interchange or carefully planned. For the

purpose of this study written online interviews were utilised. These written online interviews (i.e. qualitative survey) were conducted by utilising the platform QuestionPro. QuestionPro is a web-based survey application that assisted the researchers with data collection – in this instance, qualitative data. An email was sent to female pilots to invite them to participate in this research study. This email was sent by an independent person who has no involvement in this research project. The female pilots who agreed to participate were directed to an <http://link>. This link contained an introductory page to the online QuestionPro survey as well as informed consent information. If they accepted that they understood the information regarding the study given to them, they clicked a button on the informed consent page and they were then directed to the QuestionPro survey. The survey consisted of a demographic profile and five fill-in questions that the participants had to complete. It took approximately 30 minutes to complete the survey.

The participants were requested to answer the following interview questions:

- *How do you experience being a female pilot?*
- *Are you aware of stereotypes regarding female pilots in general? If so, can you please elaborate?*
- *When being aware of these stereotypes, what is the influence thereof on your perceived work performance?*
- *In your opinion, what can female employees themselves do to manage these stereotypes about them?*
- *In your opinion, what can organisations do to manage these stereotypes about female pilots?*

1.6.6 Recording of data

The data collected from the written online interviews were automatically transcribed by the online platform QuestionPro. The information captured on QuestionPro was transferred to an Excel sheet. This Excel sheet is also password protected as well as the computer on which it is saved/stored. The researcher and the supervisor are the only persons who have access to the collected data. For record management purposes the data is safely stored for five years as is

expected by the record management policy of the higher education institution. Both the researcher and her supervisor are responsible for storing and destroying the collected data. The password-protected data stored on password protected computers will be permanently deleted after five years.

1.6.7 Data analysis

The researcher made use of a five-phase cycle to interpret the collected data. Yin (2011) listed the five phases as: compiling, disassembling, reassembling, interpreting and concluding. These five phases as identified by Yin (2011) are described below:

Phase 1: Compiling

The first phase of data analysis was to capture all the data collected from online written interviews on an Excel sheet. The researcher placed a question number and pseudonym next to every data entry. This gave the data order and thereby a data base was compiled.

Phase 2: Disassembling

Disassembling data can be viewed as breaking the data down into more defined segments to group relevant information together to increase the understanding thereof. When data is disassembled, new labels or codes can be assigned to them and this is known as coding. Richard and Morse (2007) identified that the benefits of coding are that it helps the researcher to group together ideas about a related topic and it alerts the researcher to certain patterns that exist within the data. During the coding process, patterns were identified, and data were grouped together to gain meaningful data that could also be interpreted by the researcher.

Phase 3: Reassembling

After codes were assigned to the data; the researcher grouped the data together and recognised certain patterns that accrued from the information. The researcher also used this phase to combine related themes so that by the end of this phase it was clear what themes and sub-

themes had been identified. This process allowed the researcher to gain new insight into the topic thereby enriching the quality of data.

Phase 4: Interpreting

This phase was used to reassemble data that was interpreted by the researcher. Interpreting data can be seen as the researcher giving own meaning to the reassembled data, ultimately leading to a conclusion that is complete, fair, empirically accurate, adds value and is credible. Creswell and Poth (2018) stated that interpretation of qualitative data means looking beyond the codes and themes and seeing the bigger picture of what the data is supporting.

Phase 5: Concluding:

The final step of the data analysis phase was for the data to reach a point of highest development as this is where the themes come together and it is up to the researcher to provide meaning to the study (Gupta & Awasthy, 2015). During this phase it was also described how the findings relate to the discussed literature of the study (Willig, 2013).

1.6.8 Strategies to ensure data quality and integrity

Data quality and integrity is important when completing a qualitative study; therefore the following universal markers for quality were considered: Credibility, Transferability, Dependability and Confirmability (Willig, 2013).

Credibility

Credibility was reached during the course of this study by ensuring that the findings are sound and trustworthy, adding to the confidence that can be placed in the research findings. The researcher ensured that she correctly and truthfully analysed and reported the data. A co-coder also assisted the researcher in ensuring that findings are correctly analysed and reported. These sound and trustworthy findings also ensured that the results and interpretations are useful and applicable for others, thereby giving them more insight into the topic and field (Saldana, 2015).

By ensuring that the interpretations are useful to others, this study made a meaningful contribution to literature and to the aviation industry (Saldana, 2015).

Transferability

Transferability refers to whether the findings of a study can be transferred to other settings and contexts with other study participants (Korstjens & Moser, 2018). Transferability in this study was achieved by richly describing the research setting, context, research participants and their characteristics, and sampling procedures and inclusion criteria of the current research study.

Dependability

Dependability refers to the consistency (i.e. stability of findings over time) (Korstjens & Moser, 2018) of the study. The end goal of the study was for the researcher to ensure that the study is transparent, honest and that there is significant data auditing to support the claims made (Saldana, 2015). The researcher ensured dependability by providing a clear and detailed description of the data collection and analysis process and truthfully and consistently reporting the results of this study. All of which will make it possible for this study to be replicated in future and to obtain the same results.

Confirmability

Confirmability refers to objectivity (Korstjens & Moser, 2018). The findings of the study which were based on the viewpoints of the participants were accurately and truthfully portrayed by the researcher (Farghaly, 2018). The report contains ethical thought throughout and it is clear that the researcher respects the opinions and statements of the participants, not allowing her own subjective opinions to influence the data and findings (Saldana, 2015). During the course of the study the researcher ensured the absence of bias and therefore did not approach the data with preconceived ideas (Willig, 2013).

1.6.9 Reporting of data

The data were collected, grouped together, and placed in table format. Themes and sub-themes were listed in the table as well as the original responses from the participants. The original responses from the participants were included in order to support the researcher's themes and sub-themes that were identified through the data analysis phase.

1.6.10 Ethical considerations

The researcher conducted an ethical study which means that the researcher planned for and addressed all ethical issues before and during the study (Creswell & Poth, 2018). Three considerations guide an ethical study: respect for person, concern for welfare and justice (Creswell & Poth, 2018). The following ethical considerations were adhered to:

- The researcher did not coerce any participant to participate in this study. The researcher made use of an independent person who is not associated with the aviation companies to send a request to female pilots to participate in this study. The independent person contacted the prospective participants via email. When the female pilots agreed to participate, they were directed to an <http://link>. This link had an introductory page to the online QuestionPro survey as well as informed consent information. If they accepted that they understood the information about the study given to them, they clicked a button on the informed consent page and they were then directed to the QuestionPro survey. The survey consisted out of a demographic profile and five fill-in questions that the participants had to complete. It took approximately 30 minutes to complete the survey.
- Participants were not coerced to complete the survey, should they have wished to complete the survey, they did so voluntarily. Should participants not have wanted to participate in this research study, they were welcome to ignore the email sent by the independent person by not clicking on the <http://link> which directs them to the QuestionPro survey.
- Should participants have wished to take part in this research study, the survey was completed anonymously by the participants, and the answers cannot be traced back to

the specific participant. Therefore the researcher had no way of knowing who completed the survey or not. However, the researcher did provide the participants with an email address should they have wished to receive a summary of the results of the study.

- Participants who requested feedback regarding the findings of the study will be provided with a summary of the findings. A summary of the findings will be emailed to the participants only after the dissertation has been examined. Also, the summary of the findings provided to participants will not make mention of the names of participants or the aviation companies; therefore confidentiality is adhered to. Only the recommendations emanating from this study will be shared with the South African Civil Aviation Authority and the two aviation companies. When providing feedback to the companies and Civil Aviation Union, no names or any other identifying information of participants will be provided; thereby the identities of the participants will be protected. These recommendations will only be shared once the dissertation has been examined.
- The participants were informed that they are participating in a study and what the purpose and nature of the study is. This was done via the email that was sent to participants by the independent person. The researcher remained true to the nature of the study by only including questions in the survey that relate to the study.
- Participants were allowed to withdraw from the study should they have wished to do so.
- The researcher protected the identity of the participants by ensuring that no identifiable information is asked during the interview questions and that the survey results are treated as confidential. The information captured on QuestionPro was captured on an Excel sheet. This Excel sheet is password protected as well as the computer on which it is saved/stored. The researcher and the supervisor are the only persons who have access to the collected data. For record management purposes the data will be safely stored for five years as is expected by the record management policy of the higher education institution. Both the researcher and her supervisor will be responsible for storing and destroying the collected data. Data that is password protected and that is stored on password-protected computers will be permanently deleted.
- Also, when reporting the data in the dissertation, the researcher did not mention the names of the aviation companies or the individuals who participated in this study.

- The risks in this study are minimal, since the questions that are collected by the online written interviews are not questions of a sensitive nature. However, should it have happened that participants felt uncomfortable to answer certain questions or that a question might have elicited an emotional response due to personal reasons, the researcher was prepared to take the necessary steps in order to assist them in dealing with these emotions. The researcher was prepared to provide the participants with the contact details of a registered health care professional, but this was found to be unnecessary. The consultation fee with the health care professional would have been covered by the researcher. However, it was unlikely that the interview questions would elicit an emotional response seeing that the interview questions focused on female pilots in general.

1.7 Chapter division

This mini-dissertation consists of three chapters:

Chapter 1: Introduction

Chapter 2: Research article

Chapter 3: Conclusions, limitations, and recommendation

1.8 Chapter summary

In this chapter, the problem statement and the research objectives were discussed. Additionally, the research method was explained, followed by a brief overview of the chapters that follow.

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CHAPTER 2

RESEARCH ARTICLE

EXPLORING OCCUPATIONAL GENDER STEREOTYPES OF FEMALE PILOTS WITHIN SELECTED SOUTH AFRICAN BASED AVIATION COMPANIES

Orientation: Female pilots have since the start of their careers experienced challenges relating to their gender. These challenges can be linked to misconceptions about females in a pilot occupation. These misconceptions are also known as stereotypes. This study focused on occupational gender stereotypes that female pilots experience within the aviation industry and the effect thereof on their work performance.

Research purpose: The objective of this study was to explore occupational gender stereotypes of female pilots within selected South African-based aviation companies and the effect thereof on work performance.

Motivation for the study: Stereotypes are experienced by female pilots within the aviation industry and these stereotypes can affect their work performance. This study therefore aimed to provide recommendations as to how occupational gender stereotypes could better be managed within the aviation industry. If these stereotypes are better managed within the aviation industry, it may motivate more females to strive for a career as a pilot and apply at aviation organisations.

Research approach, design, and method: A qualitative research design was utilised based on a qualitative description research strategy. A combination of both convenience sampling and purposive sampling were employed. The sample ($N=15$) consisted of female pilots working within selected South African-based aviation companies. The measuring instrument used for gathering information for this research topic was online interviews, also known as a qualitative survey.

Main findings: The results of the present study signify that female pilots within South African-based aviation companies experience occupational gender stereotypes and that these stereotypes have an influence on their work performance. The occupational gender stereotypes that female pilots experience are mostly negative in nature. However, positive stereotypes are also experienced by these female pilots. These stereotypes have both a positive and negative effect on the work performance of female pilots. Various recommendations were made by female pilots on how they themselves and the aviation industry can better manage the stereotypes they are currently experiencing within the aviation industry.

Contribution / value-add: Within the South African context, limited research has been conducted on the experiences of stereotypes within the aviation industry, more specifically occupational gender stereotypes experienced by female pilots. The present study therefore aimed to make South African-based aviation companies aware of the stereotypes that exist within their organisations. It also aimed to explore the effects of these stereotypes on the work performance of female pilots. The study contributed further by suggesting individual and organisational strategies that could be implemented to better manage these stereotypes.

Keywords: Occupational gender stereotypes, stereotypes, female pilots, stereotype threat, in-group, out-group, aviation companies, South Africa

INTRODUCTION

Females are underrepresented in the aviation industry, even though women have been motivated to enter the area of aviation for almost half a century and despite initiatives from organisations to help increase the number of female pilots they employ (Thatchatham & Peetawan, 2020). The Centre for Aviation (2018) reports that there are only 4.4% and 4.3% female pilots in US and UK airlines respectively. Women make up 47% of the total workforce in the United States, but professional female pilots constitute five percent of the piloting workforce (Perkins, 2020). The situation in South Africa is not looking much different, with the first female pilot only entering the industry in 1964. South African Airways also stated that they have made efforts to increase the number of female pilots who operate for them but they noted that the uptake has been slow since there are not many available female pilots in the market to start with (South African Airways, 2017). The South African Civil Aviation Authority released their Annual report for 2018-2019 stating that only 6.7 % of the Airline Transport Pilot licence holders in South Africa are female (South African Civil Aviation Authority, 2019).

The reasons for this under-representation has been previously debated and one reason might be that the aviation industry has previously been viewed as a muscular industry that has been found to foster muscular beliefs, values and attitudes (Bridges et al., 2014). In general, a pilot is considered to require muscular characteristics such as mental and physical strength, great leadership, a high degree of responsibility for the safety of the flight and also sound technical

knowledge; thus being a woman is regarded as a disadvantage (Thatchatham & Peetawan, 2020). Davey and Davidson (2000) point out that the attitudes towards female pilots have improved compared to those towards the first female pilot; female pilots experience a more positive work environment than did the first female pilots. They nevertheless continued to state that some problems still persist in that female pilots have to conform to a muscular work environment to be accepted. In a study conducted by Thatchatham and Peetawan (2020) they concluded that female pilot participants still believe that gender bias exists in the aviation industry, which results in female pilots having to prove themselves, their knowledge and their skills so as to be accepted by others, even though their male co-workers do not agree on this statement. Perkins (2020) mentioned in her article that female pilots are experiencing gender-unique social pressures, double standards and systematic barriers that cause frustration with them entering the aviation industry. She specifically mentioned that while she was pregnant, her colleagues used to ask how she is going to cope with her pilot career as well as being a parent. She noted that this question was never asked to a male pilot colleague with children the same age as hers. She continued by stating that there is an implicit bias that women are meant to give up their careers in order to become the primary caregivers for children. She continued by stating that aviation remains an all-boys club, which is a network of people that look and think alike, again emphasising that it is male-dominated.

These misconceptions about the occupation and females within this occupation are also known as stereotypes, but more specifically occupational gender stereotypes. Occupational gender stereotypes are defined by Matheus and Quinn (2017) as people's perceptions of a job and what is more suitable for men or women based on what that job requires. Stereotypes could have a negative impact on female pilots if they experience stereotype threat in their occupation. Stereotype threat was defined by Carducci (2009) as situations in which individuals who are part of a group start to believe and accept the stereotyped beliefs others have of them and the impact such beliefs might have on their performance, be it good or bad. This could then mean that female pilots start believing the stereotypes that exists regarding their occupation and that they start behaving in a manner that is in accordance with these stereotypes. Another implication of stereotype threat is that when people experience stereotype threat, they perform worse in their tasks because they tend to accept the beliefs that others have of them (Alter et al., 2010). Stereotype threat may also cause stereotyped individuals to feel disengaged from

their tasks in order to distance their self-esteem from the potential consequences of their work performance (Casad & Bryant, 2016). Employees therefore have the tendency to reduce the amount of care and concern they put into their tasks and work outcomes in order to avoid the negative consequences of their anticipated poor performance due to a stereotype (Casad & Bryant, 2016). Based on the above it is evident that stereotypes have an impact on the work performance of female pilots; hence the need to establish what stereotypes female pilots experience in selected South African-based aviation companies and how these stereotypes affect their work performance.

There are other negative consequences of gender stereotypes. Gender stereotyping is a serious continuous life-trauma for females which has the potential of causing post-traumatic stress disorder, depression, and other mental health disorders (Kira et al., 2015). According to the World Health Organization (2000), mental health disorders can have an effect on work performance in that it reduces productivity, it increases error rates, it increases the amount of accidents, it causes poor decision-making and it deteriorates planning and control of work. These further negative consequences of gender stereotyping could therefore also affect the productivity of female pilots.

Research purpose and objectives

The present study focusses on female pilots and the occupational gender stereotypes they experience in their career. The main purpose of the study therefore was to explore occupational gender stereotypes of female pilots within South African-based aviation companies and the influence thereof on their work performance.

The main research purpose can be subdivided into secondary objectives:

- To conceptualise occupational gender stereotypes in accordance with literature.
- To explore the experiences of being a female pilot within selected South African-based aviation companies.
- To explore the occupational gender stereotypes female pilots experience within selected South African-based aviation companies.

- To explore the influence of occupational gender stereotypes on the work performance of female pilots within selected South African-based aviation companies.
- To explore what recommendations are made by female pilots to manage occupational gender stereotypes within selected South African-based aviation companies.
- To make recommendations for future research and practice.
- To report on the above-mentioned purpose and objectives, this chapter is structured into a literature review, empirical study, discussion, as well as a section explaining limitations and proposing recommendations.

Literature review

Conceptualisation of stereotypes

Stereotypes are defined as broad generalisations made about a group of people and they represent a number of pre-determined expectations that have consequences for the beliefs and behaviours of the person who is being stereotyped as well as the user of the stereotype (Reyna, 2000). These false or misleading generalisations about a group can powerfully shape the stereotyper's perception of the group who is being stereotyped (Blum, 2004).

Stereotypes can be descriptive in that they represent a coherent image of what a social group is like, but they can also be explanatory in that they describe what a group is and does and why group members are the way they are (Hamilton & Allport as cited in Reyna, 2000). These explanations that are formed when a group is stereotyped can guide the way in which group members are treated (Reyna, 2000). Some stereotypes that a group experiences are desirable characteristics (for example being good students or a good athlete) or they can be undesirable attributes that are used to characterise a group (for example not being good at maths or leadership positions) (Blum, 2004).

What adds to the description of a stereotype is that the belief formed by the stereotype is applied broadly to a group of people and is often assumed of an individual solely on the fact that the individual is a member of such a group (Brandt & Reyna, 2011). People rely on stereotypes, be it correct or incorrect, to explain and predict the behaviour of others, unless they receive

information and motivation explaining that the stereotype is not correct (Kunda & Spencer, 2003). Stereotyping also implies the overreaction to information that acknowledges or confirms a set stereotype and under reaction to information that proves the stereotype to be incorrect. However, stereotyping can change if new information changes the group's most distinctive trait (Bordalo et al., 2015), making it changeable and opinionated.

Social identity theory

The researcher applied the social identity theory to understand the act of stereotyping. The social identity theory begins with the notion that individuals define their own identity based on the identity of a social group and that such a social group's identity works to protect an individual's self-identity (Tajfel, 1978; Tajfel & Turner, 1979 as cited in Islam, 2014). The theory also points out that people will strive to achieve and maintain a positive self-concept or self-identity (Rodriquez, 2013).

When group identities are formed, an individual takes into account the "in-group" and the "out-group" categories that apply to him/her and often favour the "in-group" to which they belong; thus to protect their self-concept or their self-identity. This causes the individual to identify with the collective group and in turn causes the individual to form a depersonalised identity of themselves as their identity is based on that of the group (Islam, 2014). The "out-group" is defined as the group that the individual does not belong to or identifies with. Within this study the female pilots are seen as the "in-group" and the male pilots as the "out-group".

Occupational gender stereotypes

A stereotype can be defined as a generalisation or an exaggerated belief associated with a category. When this category is a gender, it can be defined as a gender stereotype and when an occupational group constitutes this category, a prejudgement concerning the appropriate sex of a job holder could exist (Basfirinci et al., 2019). Occupational gender stereotypes are defined by Matheus and Quinn (2017) as perceptions about a position and whether that position is more suitable for men or women based on the job requirements. Stereotypically women would then be seen as more suited to a nurturing or caring occupation such as nursing or teaching, whereas

men would be seen as more suited to masculine positions such as business owners or functioning in leadership positions (Matheus, 2011).

Even though women currently make less traditional career choices than a few decades ago and the gap between most male and female work participation has been focussed on and reduced, traditional stereotyped differences still exist (Gadassi & Gati, 2009). It seems that men have a preference for more masculine occupations and women a preference for more feminine occupations, with the impact of stereotypes more noticeable in women's career preferences than in those of men (Gadassi & Gati, 2009). These preferences and acceptable behavioural norms for men and women are determined by social roles as well as traditional gender roles and therefore encourages gender differences in activities as well as in the development of career-related gender stereotypes (Eddleston & Veiga, 2006). Beliefs about the stereotyped characteristics of an occupation can have a significant career development impact by creating distorted ideas about the world of work; thus discouraging individuals to pursue a specific career pathway (Eccles, 2011), for instance discouraging females from pursuing a career as a pilot.

Stereotypes about female pilots

That female pilots are misrepresented within the aviation industry might result from them being stereotyped. A stereotype that exists within the aviation industry is that historically, pilots have been viewed as assertive masculine figures and this may discourage women from pursuing a career as a pilot since they might identify with a more feminine career in, for example, healthcare and education (McCarthy et al., 2015). When females decided to enter into the aviation industry, they often felt like they had to conform with the masculine environment, accepting sexist remarks and also being willing to laugh off demeaning stereotypes (Davey & Davidson, 2000). Female pilots entering the aviation industry often indeed do encounter sexist attitudes, remarks and behaviours from their instructors, peers and colleagues (Davey & Davidson, 2000).

These behaviours and perceptions are not limited to other aviation employees. A passenger survey was conducted in 2012 to ask passengers which gender they trusted more to be in control

of the aircraft. 51% of respondents reported that they are less likely to trust a female pilot and 32% believed that men are better skilled as pilots than are women (Anderson, 2013) despite research reporting no difference in flight accident rates between male and female pilots (McCarthy et al., 2015). Some remarks from passengers indicated a positive experience with a female pilot in the cockpit.. However, negative remarks are made based on their gender which they also have to endure. Some comments, as per a study conducted by McCarthy et al. (2015), made by passengers were perceived by the female pilots as negative. These comments included “can you park this?” or “are you qualified to fly this?”

Other stereotypes that have been identified by McCarthy et al. (2015) were made by male participants by mentioning that the role of a women is to be fulfilled in the household, and by suggesting that the pilot lifestyle does not make it comfortable for a woman when raising a family, suggesting that a man in the same situation will not be faced with these challenges. McCarthy et al. (2015) also found that comments such as “women should not be pilots as they belong in the kitchen” were made by older pilots, but the fore mentioned authors also mentioned decline in the occurrence of these attitudes.

Stereotypes and the effect thereof on performance

Stereotype threat has been defined by Steele and Aronson (2015) as the risk of conforming to a negative stereotype about a group to which an individual belongs. They continued by stating that the existence of a stereotype can mean that anything one does or a possible feature that one conforms to, makes the stereotype more realistic as a self-portrayal in the eyes of others as well as possibly in the eyes of the person themselves. Stereotype threat has also been characterised as a psychological predicament in which the performance of an individual is negatively affected because they recognise that a possible failure could confirm a negative stereotype that exists of the in-group to which they belong (Schmader, 2002).

Stereotype threat could negatively affect the person who falls within a stereotyped group, especially if the stereotype that exists is of a negative nature (Steele & Aronson, 2015). When the social identity of a person is under review by means of a negative stereotype, those who identify most with the stereotype should experience the largest number of stereotype threats

and this could impair their performance (Schmader, 2002). Several studies have been done on the effect of stereotype threat on performance. In a study carried out by Sekaquaptewa and Thompson (2003) they aimed to test women's performance in an environment where they were the only women present and where they also experienced stereotype threat. The results indicated that women performed more poorly in an environment where they were the only women present and also where stereotype threat was introduced stating that women are stereotyped as poor performers. They also found that men's performance was the same across all conditions (Sekaquaptewa & Thompson, 2003). Another study conducted by Bergeron et al., (2006) found that females experience stereotypes when placed in masculine positions and that this may also affect their work performance. They also found that females in such positions experience more stereotype threat than do men. Stereotype threat explains how group stereotypes can form the behaviour of individuals in a way that puts their performance in danger and then also further reinforces the stereotype (Pennington et al., 2016).

Another effect that stereotypes can have on performance is in the case of female pilots that feel they have to work harder in order to prove their ability and skills and they also often feel pressured in maintaining this unnecessary high level of performance (Davey & Davidson, 2000). Stereotypes can therefore cause an individual to either perform worse in a task or to work unnecessarily hard in order to prove a stereotype to be wrong.

RESEARCH DESIGN

Research approach

For the purpose of the current study a qualitative design was followed. In qualitative research the role of the researcher is to absorb, sift through and interpret information (Tracy, 2013). Qualitative research is also mainly concerned with the understanding of an individual's experience of a certain event in an interpretive approach (Jackson, 2007). This method of research is an iterative process whereby the researcher aims to increase understanding by drawing new significant distinctions by studying the phenomenon (Aspers & Corte, 2019). By collecting data and looking for patterns in the collected information while studying the phenomenon of occupational gender stereotypes, the researcher will be better able to

understand the phenomenon as a whole. Data were collected by means of online written interviews with female pilots from two South African-based aviation companies.

The social constructivism paradigm was used to ground and explain the current study. This paradigm places the importance on background context when trying to understand what is happening in society and applying this knowledge to draw a conclusion (Derry & McMahon as cited in Beaumie, 2001). The researcher – by studying occupational gender stereotypes experienced by female pilots – took the context of what is taking place in this society so as to come to a conclusion. The researcher also took into account that multiple realities exist due to the different perspectives of the research participants and that they each therefore have a different understanding of reality (Erlingsson & Brysiewicz, 2012). It is therefore important to bear in mind that individuals may have multiple realities regarding the phenomenon being studied, namely *occupational gender stereotypes*.

Research strategy

The researcher employed a qualitative description research strategy. Qualitative description is also a widely used research strategy and form of empirical investigation that is specifically utilised when the researcher intends to determine the who, what, where and why of experiences by participants (Neergaard et al., 2009). Sandelowski (2010) further elaborates by stating that qualitative description is descriptive and not interpretive in focus and the aim is a direct description of the phenomenon in question (Ghorbani & Matourypour, 2020). This research strategy will therefore be applied by the researcher to gain more insight and to describe the phenomenon of occupational gender stereotypes experienced by female pilots.

Research method

The research method consisted of the research setting, entrée and establishing researcher roles, research participant and sampling, data collection methods, recording of data, data analysis, and strategies employed to ensure quality data, reporting style and ethical considerations.

Research setting

The data for this research project were collected within the Gauteng province, and two South African aviation companies gave permission to the researcher to conduct research at their companies. Since the researcher is employed at one of the aviation companies where data were collected, an independent person who is not associated with the aviation companies was used to contact the female pilots within these two aviation companies to participate in the study. The independent person was used in order to adhere to the ethical guidelines required for research and to maintain anonymity. Data were collected via online written interviews by using web-based software named QuestionPro. The participants were able to choose the setting and time where they would complete the written online interview. The interviews were completed within the privacy of their home or they could have chosen to complete the survey on the premises of their company.

Entrée and establishing researcher roles

Prior to commencement of this study, permission was obtained from the aviation companies to conduct this study within their organisations. Permission was also obtained from the NWU-EMELTEN-REC before the research commenced. Once permission was obtained, the researcher made use of an independent person, who is not associated with the aviation companies, to send a request to female pilots via email to participate in the research study. The researcher therefore did not contact the research participants herself but made use of the independent person who requested voluntary participation. When the research participants were contacted, the independent person informed them about the objective of the study and also of the role of the prospective participants within the research study. The prospective participants were also informed that their identities will remain confidential and anonymous and they were also informed of their option to withdraw without suffering any negative consequences. An <http://link> was included in the email that directed the participants to the QuestionPro survey on which participants were requested to complete a demographic profile and answer five interview questions. When the participants clicked on the <http://link> they were directed to an introductory page and informed consent information regarding the study to which

they agreed. The independent person did not benefit from the study and the participants did not know the independent person who emailed the request to them.

The researcher fulfilled various roles for the purpose of this study – that of planner, data collector, data analyser and report writer. As a planner the researcher planned for data to be collected via online surveys through QuestionPro. As data collector the researcher collected the data via QuestionPro and captured this information on an Excel sheet. Thereafter the data were analysed by the researcher in accordance with themes and sub-themes, where the researcher therefore fulfilled the role of data analyser. The researcher thereafter reported on the results of the study by utilising a qualitative writing style. The researcher ensured that she remained neutral and objective throughout the study.

Research participants and sampling

The population consisted of female pilots employed in a pilot position within two South African aviation companies within the Gauteng province. Both convenience sampling and purposive sampling were used to reach the objective of this study. Purposive sampling allows the researcher to concentrate on individuals with certain characteristics and who will, due to these characteristics, be better able to assist with the relevant research topic (Etikan, 2016). The following inclusion criteria were met by all the research participants: (1) be a female pilot; (2) be in possession of at least a private pilot licence; (3) have at least 1 year of experience operating as a pilot for an aviation company; and (4) be proficient in at least English. When a participant is chosen to partake in a study due to the accessibility of such an individual to the researcher which therefore makes it easier for the researcher to access the participant, the researcher is applying convenience sampling (Etikan, 2016). Hence the main objective of convenience sampling is to make it possible for the researcher to easily access participants and easily access research data (Etikan, 2016).

The sample of the study consisted of 15 employees from selected South African-based Aviation companies ($N = 15$). Participants who adhered to the criteria stated above were included in the study. The characteristics of these participants are indicated in Table 1 below.

Table 1

Characteristics of participants (N=15)

Item	Category	Frequency (f)	Percentage (%)
Ethnicity	White	15	100%
Gender	Female	15	100%
Age	25-30 Years	8	53%
	31-35 Years	3	20%
	40-45 Years	4	27%
Years of experience within the aviation industry	5-10 Years	6	40%
	11-15 Years	8	53%
	16-20 Years	1	7%

Of the participants, 40% were found to have between 5 and 10 years of experience as a female pilot; 53% were found to have between 11 to 15 years of experience as a female pilot and 7% were found to have between 16 and 20 years of experience as a female pilot. 53% of the participants were aged between 25 and 30 years; 20% were aged between 31 and 35 years and 27% were aged between 40 and 45 years. All the participants were White and Female.

Data collection methods

Written online interviews, also known as qualitative surveys, were used as a measuring instrument for gathering information for this research topic. These written online interviews were conducted by utilising the platform known as QuestionPro. QuestionPro can be described as a web-based survey application that assisted the researcher with qualitative data collection. An email was sent by an independent person to female pilots requesting their participation in the research study. The researcher did not send the participation request to the participants since she herself is working for one of the companies where data were collected. The independent person had no involvement in the research project. When the female pilots agreed to participate in the study, they were directed to an [http://link](#) where they were provided with an introductory page to the online QuestionPro survey as well as an informed consent information page. Once they had accepted that they understood the information concerning the study given to them,

they clicked on a button on the informed consent page after which they were directed to the QuestionPro survey. The survey consisted of a demographic profile and five fill-in questions which the participants completed. It took them approximately 30 minutes to complete the survey.

The participants were requested to complete the following interview questions:

- *How do you experience being a female pilot?*
- *Are you aware of stereotypes regarding female pilots in general? If so, can you please elaborate?*
- *When being aware of these stereotypes, what is the influence thereof on your perceived work performance?*
- *In your opinion, what can female employees themselves do to manage these stereotypes about them?*
- *In your opinion, what can organisations do to manage these stereotypes about female pilots?*

Recording of data

The data that were collected from the written online interviews were automatically transcribed by the online platform QuestionPro and this information was transferred to Excel. This Excel sheet and the computer on which it was saved was password protected. The researcher and supervisor are the only persons who have access to the collected data. For record management purposes the data are being safely stored for 5 years as per the record management policy of the higher education institution. Both the researcher and the supervisor are responsible for storing and destroying the collected data.

Data analyses

For data interpretation purposes, the researcher made use of a five-phase cycle. The five phases are: compiling, disassembling, reassembling, interpreting, and concluding (Yin, 2011). These five phases identified by Yin (2011) are described below:

Phase 1: Compiling

During the first phase of data analysis the data collected from the online written interviews were transferred to an Excel sheet. The researcher placed a question number and participant number alongside every data entry which ensured that the data were ordered; thereby a data base was compiled.

Phase 2: Disassembling

Once the data had been organised, the researcher separated it in accordance with themes. Disassembling the data means taking the collected data apart in order to create meaningful groupings and the groupings are normally done by making use of coding (Castleberry & Nolen, 2018). The process of coding is described as identifying interesting features of the data systematically across the collected data. As the researcher coded the information she also developed a definition for each code or groups of code where these definitions could be seen as an inclusion or exclusion criteria and they were used to ensure that codes were applied reliably throughout the disassembling process (Castleberry & Nolen, 2018).

Phase 3: Reassembling

After having assigned codes to the data, the researcher grouped the data together and identified certain patterns that were deducted from the data. The grouped data revealed the following codes: influences on perceived work performance, awareness of female stereotypes, experiences of female pilots, individual strategies, and organisational strategies. The researcher also used this phase to combine related themes and by the end of this phase it was clear what the themes were. This process allowed the researcher to gain new insights into the topic which enabled the enrichment and of the data and the quality thereof.

Phase 4: Interpreting

Once having reassembled the data by means of coding as described above, the researcher extracted excerpts from the data and thereafter viewed them in relation to each other. This

allowed the researcher to start describing and interpreting experiences and beliefs within the data and therefore she began to identify patterns across the data (Castleberry & Nolen, 2018). These patterns are seen as themes and they capture an essence of the phenomenon under investigation.

Phase 5: Concluding

The conclusion drawn from this study was enabled by the identification of patterns and relationships in the data. The discovery of connections in data might support a theory, revise one or generate a new theory or topic, depending on the collected data. When exploring data the researcher should be open to new ideas and explanations and she should acknowledge that new questions may evolve from the analysis (Suter, 2012).

Strategies employed to ensure quality of data

Qualitative research speaks to trustworthiness and several aspects are linked to trustworthiness, namely: credibility, transferability, dependability, and confirmability as defined by Lincoln and Guba (1985). The researcher employed each of these aspects as a strategy with a view to ensure the quality of the provided data:

Credibility

Credibility can be defined as the level of confidence one can place in the truth of the research findings. This concept established that the research findings represent plausible information drawn from the original data collected from the research participants. It also established that the findings were a correct interpretation of the participants' original views (Lincoln & Guba, 1985). The researcher ensured credibility by making use of a co-coder and also truthfully reporting the results of the current study.

Transferability

Transferability speaks to the researcher's responsibility to provide enough information on the participants and the research process in order for the reader to assess whether the findings in this research can be transferred to their own setting and study (Korstjens & Moser, 2018). Hence, throughout this study, the researcher provided a rich account of descriptive data, such as the research setting, the sample and participant description (Korstjens & Moser, 2018) in order for the research to be transferable.

Dependability

This strategy speaks to the stability of findings over time (Lincoln & Guba, 1985). Having dependable information will also ensure that the same study could be conducted by a researcher in the future and the same results could be obtained (Shenton, 2004). During this study, the researcher ensured the dependability of the study by making sure that the research methodology is detailed and descriptive. The researcher also did not have to make any changes to the research questions during the course of the study, which also confirms the stability of the data.

Confirmability

Confirmability speaks to the degree to which other researchers could confirm the findings of the research study and it is also concerned with ensuring that the interpretations are clearly derived from the data and not from the researcher's own subjective opinions or values (Lincoln & Guba, 1985). The researcher therefore critically self-reflects on her own biases, preferences and preconceptions (Lincoln & Guba, 1985) to ensure that they do not influence the research findings. Confirmability was also maintained by means of a transparent research method to ensure that other researchers can confirm the findings in future.

Reporting

The data were collected, grouped together, and placed in table format. Themes were listed in the table and the original responses from the participants were also included in the same table.

The original responses were included to support the themes that were extracted during the data analysis process.

Ethical considerations

The researcher conducted an ethical study and therefore planned for and addressed all ethical issues before and during the study (Creswell & Poth, 2018). It should be noted that no ethical concerns arose during the course of this study, even though the researcher was ready to address such concerns. The following ethical considerations were adhered to:

- The researcher did not coerce any participant during the course of this study. The researcher made use of an independent person, who is not associated with the aviation companies, to contact the prospective participants via email. When the female pilots agreed to participate in the study, they were directed to an <http://link>. This link comprised an introductory page to the online QuestionPro survey as well as an informed consent information page. The female pilots who accepted that they understood the information regarding the study then clicked a button on the informed consent page and were then directed to the QuestionPro survey.
- Participants were not coerced to complete the survey and when they completed the survey it was done voluntarily. The participants who did not wish to participate in the study, ignored the email sent by the independent person by not clicking on the <http://link> which would have directed them to the QuestionPro survey.
- The participants who took part in the research study completed the survey anonymously and their answers cannot be traced back to them. Therefore the researcher has no way of knowing who had completed the survey or not.
- The researcher did provide the participants with an email address should they wish to receive a summary of the results. A summary of the findings will be emailed to the participants only after the dissertation has been examined. Also, the summary of the findings will not make mention of the names of participants or the aviation companies. This will ensure confidentiality. After the dissertation has been examined only the recommendations emanating from this study will be shared with the South African Civil Aviation Authority (CAA) and the two aviation companies where the study was

conducted. When providing the CAA and the companies with this info, no names of participants will be provided so as to protect the identities of the participants.

- The participants were informed that they are participating in a study and they were also informed about the purpose and the nature of the study. This was done via email, which was sent to the participants by the independent person. The researcher remained true to the nature of the study and therefore only included questions in the survey that were related to the study.
- The participants were allowed to withdraw from the study if they wished to do so, without suffering any negative consequences.
- The researcher protected the identity of the participants by ensuring that all information provided by the participants are anonymous seeing as no identifying information was asked during the interview questions. . The information captured on QuestionPro was transferred to an Excel sheet. This Excel sheet as well as the computer on which it is saved are password protected. The researcher and her supervisor are the only persons who have access to the collected data. The collected data will be stored for 5 years as is expected by the record management policy of the higher education institution and the password-protected data will be permanently deleted after the fore-mentioned period. Both the researcher and her supervisor are responsible for storing and destroying the collected data.
- The researcher did not make mention of the names of the aviation companies or the individuals who participated in the study when she reported the data in the dissertation.
- The risks in this study are minimal, since the questions collected through the online written interviews are not of a sensitive nature. However, when it happened that participants felt uncomfortable to answer certain questions or a question elicited an emotional response due to personal reasons, the researcher was ready to take the necessary steps in order to assist them in dealing with these emotions. The researcher in such a case was ready to provide the participants with the contact details of a registered health-care professional. It should however be noted that the questions did not elicit an emotional response in any of the participants; therefore there was no need for the researcher to refer the participants to a registered health-care professional.

FINDINGS

The study's research findings are presented as a combination of categories, themes, and quotations to support the results. The findings are outlined in table format. Figure 1 below provides an overview of the categories and themes as collected from the data:

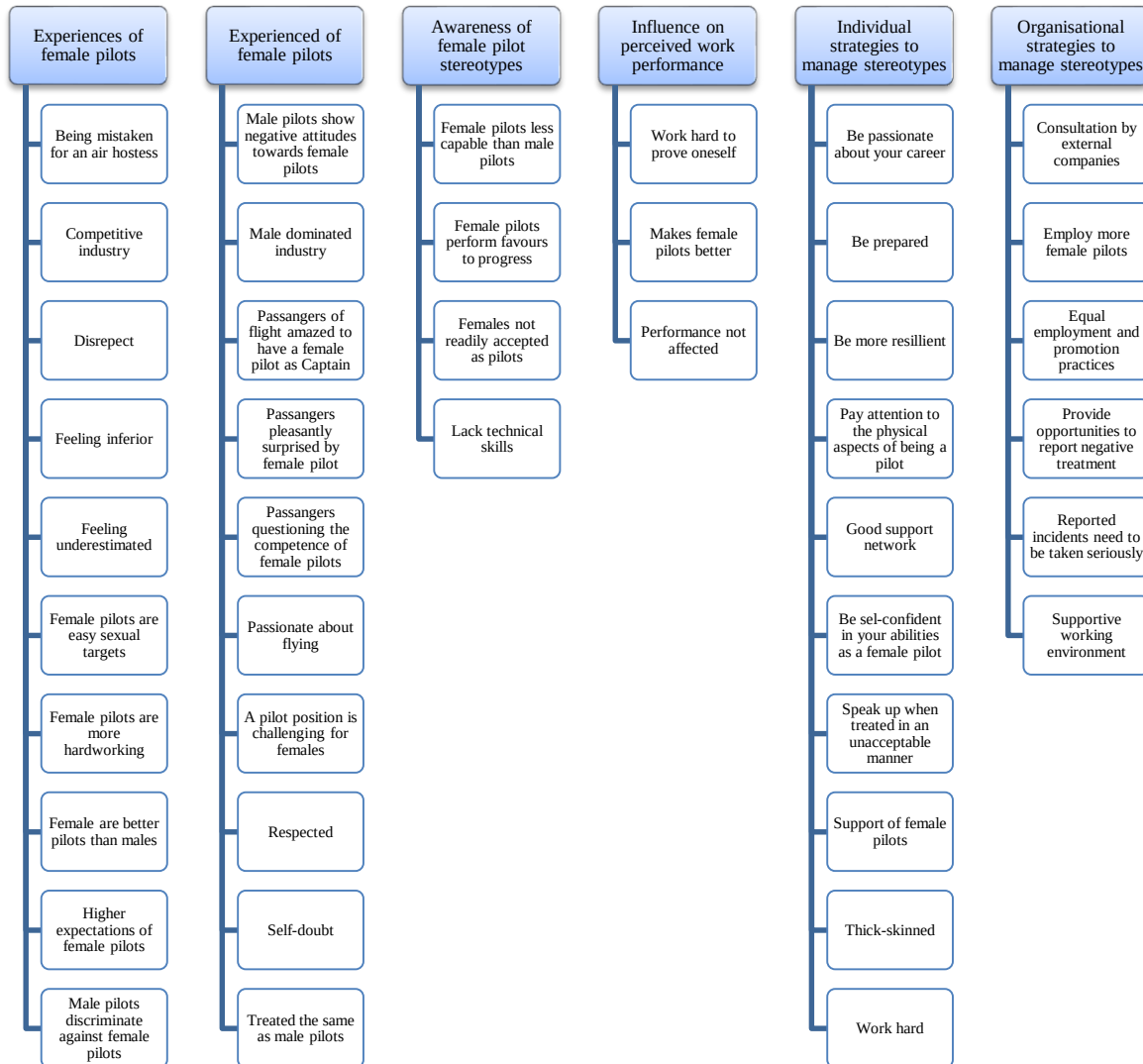


Figure 1: Overview of categories and themes

Category 1: Experiences of female pilots

The participants (female pilots) were asked to describe how they experience being a female pilot. Respondents expressed their experiences as per Table 2 below.

Table 2

Experiences of female pilots

Theme	Response / quote
Being mistaken for an air hostess	<i>"I have often been asked if I am the air hostess when greeting passengers boarding our aircraft, even though I have a pilot uniform on."</i> <i>"I even on several occasion had passengers asking me when the pilot will be coming and if I can bring them water after departure."</i>
Competitive industry	<i>"It's a challenging, male-dominated, competitive industry."</i> <i>"There is an extremely unhealthy culture of competition. It makes you feel isolated and like the struggles are yours alone."</i>
Disrespected	<i>"Often opinions are disrespected or not taken seriously."</i> <i>"It's two different things being hard on someone to improve their skill and knowledge and being disrespectful to someone because you are tired of females thinking they can do what men can do."</i>
Feeling inferior	<i>"It's tough to keep your head up and keep trying your best when you have to overcome the idea that you won't be good enough."</i> <i>"We are often ignored when giving input because we are regarded as "lesser than" - it can create a lack of confidence in your own ability and thus will disrupt a relationship in the flight deck."</i>
Feeling underestimated	<i>"It is tough being a female pilot, because you get underestimated 99% of the time."</i> <i>"Initially very underestimated so it will push you to work a lot harder, but under a lot more personally induced stressed."</i>

Female pilots are easy sexual targets	<i>“Male pilots that see female pilots as an easy target sexually which result in pilots, even when innocent, get bad reputations.”</i> <i>“There are also situations where some males think you are an added benefit of 'helping them out'. If a female crew member has not set the standard and stood her ground, chances are someone will try their luck.”</i>
Female pilots are more hardworking	<i>“I have also found in myself and noticed in many other female pilots that we are a lot more serious about our job, work harder and generally better prepared for a flight than our male counterparts”</i> <i>“I find that most women pilots work far harder and perform far better than some men in the industry.”</i>
Females are better pilots than males	<i>“Younger generation often will say women make better pilots but will never be allowed to succeed because of ego.”</i> <i>“...I find that most women pilots work far harder and perform far better than some men in the industry.”</i>
Higher expectations of female pilots	<i>“But there always seems to be more of an expectation of you to get it right, and I may be wrong, but I feel females feel this expectation more.”</i> <i>“During training you are expected to preform just as well if not better as some men - all that pressures add up, which in reality is unnecessary.”</i>
Male pilots discriminate against female pilots	<i>“Yes, men tend to discriminate against female pilots”</i> <i>“Typical misogynistic dynamic in the older generation.”</i>
Male pilots show a negative attitude towards female pilots	<i>“There will always (unfortunately) be a male pilot that does not want to operate with a female pilot.”</i> <i>“Men tend to be very negative towards female pilots. They sometimes make the flying part very unpleasant”</i>
Male-dominated industry	<i>“I realize on a daily basis that I work in a male-dominant industry as I am surrounded by males 80% of my time...”</i> <i>“It’s still very much a Male-dominated career.”</i>

Passengers of flight amazed to have a female pilot as Captain	<i>"I have also had many surprised and confused passengers when they find out that I am the captain of the aircraft and not my male counterpart."</i> <i>"Most passengers expect the male on a flight deck to be the senior pilot and when told otherwise will raise eyebrows and visibly look uncomfortable."</i>
Passengers pleasantly surprised by female pilot	<i>"Oh, women can fly? Do you have your license? Aren't you afraid? Good for you!"</i> <i>"I often have passengers complementing me after a flight, although some seem to be a bit surprised"</i>
Passengers questioning the competence of female pilots	<i>"The second stereotype is often seen in passengers as well. Passengers questioning a female pilot's ability to fly an aircraft and whether it will be a safe flight. That same passenger will be placed with a junior male pilot and will not question the safety of the flight or experience of the pilot."</i>
Passionate about flying	<i>"I love being a female pilot."</i> <i>"It is fantastic , I love my job."</i>
A pilot position is challenging for females	<i>"As a female pilot there are quite a few additional obstacles to overcome as most aircraft and procedures were developed based on male pilots (size, build and strength) ..."</i> <i>"I have found is that the specific subject "Aircraft technical" as well as the practical takes a lot longer to understand and grasp the workings as I feel we are less technically minded..."</i>
Respected	<i>"However, once you can show that you can work just as hard, you get the sense that you earned their respect and the feeling of being placed in the female box is no longer there."</i> <i>"Being a female pilot at my company does not make me feel any different than the male pilots. I have always been treated with respect and as an equal, both by my employers, managers as well as colleagues."</i>

Self-doubt	<i>“Initially if you make certain errors during the flight etc. when involved with these types of pilots, there is a sense of I am not good enough...”</i> <i>“It’s tough to keep your head up and keep trying your best when you have to overcome the idea that you won’t be good enough.”</i>
Treated the same as male pilots	<i>“I can honestly say that from the very first day I entered the aviation industry, I have not been treated differently to any of my fellow male students and colleagues.”</i> <i>“I am also expected to do heavy labour which in general is only expected to be done by males in society, however I do believe that it is part of the job I have chosen and so I have accepted the challenge and just get on with it.”</i>

Competitive industry: Some participants indicated that the aviation industry is competitive. They mentioned that there is an extremely unhealthy culture of competition which makes them feel isolated and as if the struggles with which they are faced, they have to deal with on their own.

Disrespect: The feeling of being disrespected was experienced by participants where they mentioned that their opinions are often disrespected or not taken seriously.

Feeling inferior: Participants indicated that they experience the idea of not being good enough or they were ignored when trying to give their inputs because of being regarded as “lesser than” the male pilot. This can cause a lack of confidence and can also disrupt relationships in the flight deck.

Feeling underestimated: Female pilots experienced being underestimated, which causes them to work harder but under much more personally induced stress.

Female pilots are easy sexual targets: Some female pilots experience being easy sexual targets of male pilots. This may cause female pilots to get an unnecessary bad reputation.

Female pilots are more hardworking: Female pilots believe that they are more hardworking than male pilots. They experience for example being more diligent than male pilots when it comes to theoretical knowledge. They also experience working harder and performing better than male pilots because they feel that they are better prepared before a flight.

Females are better pilots than males: The participants commented that the younger pilot generation feel that females work harder, perform better and make better pilots than males.

Higher expectations of female pilots: There is an expectation on the side of the participants (female pilots) that they should perform better than men and this added pressure can unnecessarily add up.

Male pilots discriminate against female pilots: It is experienced by the participants that male pilots discriminate against female pilots, especially discrimination among the older generation.

Male pilots show a negative attitude towards female pilots: Female pilots experience negative attitudes from male pilots in that some male pilots are hesitant to operate with a female pilot; they make the flying experience unpleasant for the female pilot and the mistakes of a female pilot are remembered for longer than are those made by male pilots.

Male-dominated industry: Female pilots stated that aviation is a male-dominated industry in that they are surrounded by a majority of male co-workers on a daily basis; thus females are in the minority.

Being mistaken for an airhostess even when wearing a pilot uniform: Female pilots are mistaken for being the airhostess when passengers board the aircraft, ask for water (because supplying beverages is normally the duty of the airhostess) or when they enquire when the pilot will be coming. This mistaken identity is made by the passengers even if the female pilot is wearing a pilot uniform.

Passengers of flight surprised to have a female pilot as captain: Female pilots experience passengers who are surprised and confused when they learn that the female pilot is the captain

of the aircraft and not the male pilot and they visibly looked uncomfortable in learning this information.

Passengers pleasantly surprised by female pilot: There are passengers that hold a positive attitude towards female pilots. Some passengers for example praised female pilots for their career choice and also complemented them after a flight.

Passengers questioning the competence of female pilots: Female pilots experience that passengers question their competence, experience, training, and the safety of the flight because of their gender.

Passionate about flying: Many of the participants in this study love their career choice and mentioned that it is a rewarding occupation.

A pilot position is challenging for females: The female pilots who participated in this study mentioned that they find the position of pilot difficult for their gender because the aircraft and operating procedures were developed for males when it comes to the size of the aircraft, how it is built and also the strength needed to operate it. They also experience being less technically oriented than men where the technical aircraft knowledge takes longer for them to understand.

Respected: Female pilots reported feeling respected once they have shown that they can work just as hard as male pilots and thereafter they report to not be treated differently because of their gender.

Self-doubt: When female pilots make a mistake during a flight, a certain type of male pilots would make them feel as if they are not good enough. This causes them to struggle to keep performing to the best of their abilities.

Treated the same as male pilots: Females reported that initially the male pilots did not expect them to be able to fly at the same standard as male pilots, but after working hard and proving themselves female pilots reported to have been treated the same as male pilots. Female pilots

are therefore expected to perform the same heavy labour as the male pilots since it forms part of the job requirements.

Category 2: Awareness of female pilot stereotypes

The participants (female pilots) were asked whether they are aware of stereotypes regarding female pilots in general. If they were aware of these stereotypes, they were then asked within the qualitative survey to elaborate on it. The stereotypes that the participants were aware of are presented in Table 3 below.

Table 3

Awareness of female pilot stereotypes

Theme	Response / quote
Female pilots less capable than male pilots	<i>“In the beginning it was difficult being a female pilot in a male-dominated workplace, as some people think you don't have the strength to do certain tasks and you had to prove to yourself that you are capable of doing certain things.”</i> <i>“In the workplace, I tend to see a generalised assumption that we lack aircraft technical aptitude as well as a decreased ability to assertively command the aircraft.”</i>
Female pilots perform favours to progress	<i>“Women become Captains because of what they did for/with who they know.”</i> <i>“...women either shouldn't be in aviation or how some will progress for example sleeping their way to the top”</i>
Females not readily accepted as pilots	<i>“Women don't belong in a flight deck (I've been told this during training by an instructor).”</i> <i>“When I first started flying I was told to go home, it's no place for a little girl.”</i> <i>“...I am often having to explain to people why I chose to be a pilot over a cabin crew (the apparent obvious choice for a</i>

woman) and sometimes it feels as though I have to defend my choice.”

Lack technical skills

“Older generation will state - Technically not up to standard.”

“In the workplace, I tend to see a generalized assumption that we lack aircraft technical aptitude...”

Female pilots less capable than male pilots: The participants believe that a stereotype exists that states that female pilots are less capable than male pilots. This stereotype subscribes to the view that female pilots do not have the strength to do certain tasks, they lack technical aptitude, and they have a decreased ability to assertively command the aircraft. Female pilots feel that they have to prove to themselves that they are capable of doing certain tasks and that they can disregard comments receive such as “it is too higher grade for you, think simpler”.

Female pilots perform favours to progress: The female pilots who participated in the survey believe that a stereotype exists that female pilots perform favours in order to progress (be promoted to a captain position or a bigger fleet).

Females not readily accepted as pilots: As per the responses of the participants, it is evident that a stereotype exists of females that are not readily accepted as pilots. Female pilots have also experienced this stereotype in the training environment where an instructor told the female pilots that “Women don’t belong in the flight deck”. This stereotype in the training environment has caused female pilots to withdraw from the class and not ask important questions to ensure that they understand the information. Female pilots have also experienced this stereotype where they were told that “women are not cut out to fly” or “women belong in the kitchen, not the cockpit”. A participant also mentioned that she often has to defend her career choice of becoming a pilot as the obvious choice for females according to the people who ask her about her career as a cabin crew member.

Lack technical skills: A stereotype exists according to the participants that female pilots lack technical skills. They mentioned a generalised assumption that is prevalent in the workplace that females are technically not up to standard and that they lack technical aircraft aptitude. It was specifically mentioned that this belief is held by the older generation of aviation personnel.

Category 3: Influence on perceived work performance

If the participants (female pilots) were aware of stereotypes that exist, they were asked within the qualitative survey what the influence thereof is on their perceived work performance. The influences that the female pilots experienced on their work performance are indicated in Table 4 below.

Table 4

Influences on perceived work performance

Theme	Response / quote
Work hard to prove oneself	<i>“...there is a feeling of always having to prove yourself, to also make sure you are one step ahead, work harder and also be overly prepared.”</i> <i>“I have noticed that females always feel like they have to prove that they can be a captain and in so doing inaccurately become controlling and bossy rather than just confident in their abilities because they are always being questioned.”</i> <i>“I personally feel like I have to work much harder than my male counterparts just to be considered on the same level as they are. I feel that I have to prove my ability no matter my experience before someone will credit me as a pilot, rather than be judged just on my “experience=this type of a pilot” mind set.”</i>
Makes female pilots better	<i>“...it just makes me a better pilot.”</i> <i>“I can live with it and I enjoy the challenge. Most of us women are generally better pilots just because of that specific fact.”</i>
Performance not affected	<i>“My personal performance is not affected (I have a thick skin) ...”</i> <i>“I perform well even though some men or women may try to unsettle you sometimes.”</i>

Work hard to prove oneself: The participants (female pilots) mentioned that they have to work much harder than their male counterparts and prove themselves in order to no longer be placed in the female box, and even then they are not always acknowledged for work carried out in a good professional manner. They also feel that they have to overly prepare and ensure that they are one step ahead because they are initially underestimated, and this can cause them to work under much more personally induced stress. Because these participants feel that they need to prove themselves to others, they inadvertently become bossy and controlling rather than just confident in their abilities.

Makes female pilots better: The stereotypes that the female pilots who participated in the study were aware of, had a positive effect on their work performance in that, according to them, they are better pilots because of it.

Performance not affected: It was commented by a female pilot that because she is thick-skinned, the stereotypes that exist around female pilots do not affect her personal performance. It was also commented that the female pilot performed well even though others may try and unsettle her.

Category 4: Individual strategies to manage stereotypes

In the table below (Table 5) are listed the responses of the participants (female pilots) to the question as to what they themselves can do to manage the stereotypes held about female pilots.

Table 5

Individual strategies to manage experienced stereotypes

Theme	Response / quote
Be passionate about your career	<i>"I believe that you have to have a passion for aviation to be a successful pilot..."</i> <i>"Work hard and be dedicated and passionate about your career."</i>
Be prepared	<i>"Mentally prepare yourself as you definitely will come across these stereotypes sometime in your career."</i> <i>"Be psychologically prepared, as you cannot afford it to affect your performance during flight when you know deep down you are more than capable to operate on the same level and standard, otherwise you wouldn't have been sitting there in that cockpit."</i>
Become more resilient	<i>"If you make mistakes flying with these stereotypes, take it on the chin and just learn from it."</i> <i>"Believe in yourself, they have probably made worse mistakes in their flying career-that is how we all learn. Be mature about these stereotypes, they don't define you."</i> <i>"STOP criticizing yourself extra hard. Remember you are also human and gaining experience."</i>
Pay attention to the physical aspects of being a pilot	<i>"I have noticed that some of my fellow female pilots expect the male pilots to do certain task i.e. pull aircraft out of hangers and checking oil (getting dirty). I believe that you must complete all the tasks expected of a pilot yourself because how can you expect to be treated as an equal in aviation if you don't see yourself as an equal in all aspects thereof."</i> <i>"I also think physically a female needs to be fitter and work on physical strength as it will make them more confident in all the odd jobs that comes with being a pilot male/female that we are so used to males doing."</i>

Good support network	<i>"It helps to have a good support network and speak to other female pilots."</i> <i>"It helps to have a good support network."</i>
Be self-confident in your abilities as a female pilot	<i>"One really has to be comfortable with yourself and constantly work on your own confidence."</i> <i>"You must be able to be confident enough, believe in yourself and see the situation long before you get in the cockpit with that person..."</i> <i>"...make sure they are confident in their abilities as they will be questioned time and time again and you can't be questioning your own abilities you must know what you are capable of handling."</i>
Speak up when treated in an unacceptable manner	<i>"Females need to feel empowered enough to speak up and not be punished for it or named "bitchy" or "dramatic".</i> <i>"Speak up when colleagues are being derogatory- this can be hard in certain environments where you are crewed with a specific captains / FO for months at a time and live with them."</i>
Support of female pilots	<i>"Women in aviation need to be more supportive of one another."</i> <i>"Stand together and talk about this, so you know that you are not the only one being affected. It always helps to know someone else feels the same as you do."</i> <i>"Make female support available to new/fellow female crew. If on base and there are other females, make a coffee-club and keep it to just ladies."</i>
Thick-skinned	<i>"If you take a knock learn from it, keep going, brush the crap off and smile."</i> <i>"Try not to get emotional or hurt by them, easier said than done but you're doing a job, and that's what you need to do at the end of the day. Keep the emotion out of the job."</i>

“Female pilots should also develop a thick skin and try not to take every situation personal.”

Work hard

“Work hard, always gain knowledge where you can.”

“Work hard and be dedicated and passionate about your career.”

“One can only strive to be the best one can be and make sure you complete your duties to the best of your abilities. Often, seeing is believing and if you show that you are capable and don't allow stereotypes to influence your work, people will soon realize that gender does not determine capability.”

Be passionate about your career: The participants mentioned that when one is passionate about aviation you work hard and you are dedicated to succeed in your role as a female pilot and this will help you overcome negative stereotypes.

Be prepared: The participants mentioned that one has to prepare oneself mentally and psychologically against stereotypes while always being one step ahead to ensure that you do not get caught off-guard. It was also mentioned that female pilots should not fall in the trap of feeling less of a pilot because of stereotypes that exist, and they should assure themselves that they are capable of operating on the same level and standard as male pilots.

Become more resilient: Taking mistakes made in the flight deck on the chin and learning from them was mentioned as a way that female pilots could manage stereotypes. By doing so they become more resilient; a skill that is necessary in order to manage stereotypes. The participants also mentioned that it is important to believe in yourself and not be overly critical, as every pilot makes mistakes.

Give attention to the physical aspect of being a pilot: It was recommended that female pilots should not expect male pilots to do the physical work when flying (pull the aircraft out of the hanger, checking oil etc.), but they should themselves also accept this responsibility as it is part of being a pilot. By doing all the work that male pilots do, it will help to manage the perceptions

that exist regarding female pilots. Female pilots should therefore pay attention to their physical strength as it will give them the confidence to do all the odd jobs that male pilots used to do.

Good support network: Having a good support network and speaking to other female pilots was listed as a way for a female pilot to manage stereotypes.

Be self-confident in your abilities as a female pilot: It was mentioned that it is important for female pilots to work on their self-confidence and know what they are capable of, since they will be questioned time and time again on their abilities.

Speak up when treated in an unacceptable manner: Female pilots are encouraged to speak up when their colleagues are being derogatory. It was however mentioned that they need to feel empowered to do this as it is not an easy task. It is not an easy task because they are often crewed with the individual who they need to address for an extended period, and they can get punished when speaking up and named “bitchy” or “dramatic”.

Support of female pilots: Female pilots could manage stereotypes by being more supportive of one another, talk about the stereotypes that they experience and make support available for new/fellow female crew members, for example a female coffee club.

Thick-skinned: Female pilots could be thick-skinned by brushing off the stereotypes they experience, by not taking situations personal and by not getting emotional or hurt by these stereotypes.

Work hard: Female pilots mentioned that they should always work hard to gain knowledge and strive to be the best pilot that they can be and soon people will realise that gender does not determine capability.

Category 5: Organisational strategies to manage stereotypes

In the table below (Table 6) the respondents (female pilots) were asked what organisations can do to manage the listed stereotypes that are held concerning female pilots.

Table 6

Organisational strategies to manage stereotypes

Theme	Response / quote
Consultation by external companies	<i>"We work hard enough to prove ourselves - outside companies assisting the empowerment..."</i> <i>"Companies can also get independent companies to evaluate the degree of these stereotypes and to help reduce it using the proper methods."</i>
Employ more female pilots	<i>"Hire more women."</i> <i>"Employ more female pilots. The more there are, the more 'natural' the culture will be towards female pilots."</i>
Equal employment and promotion practices	<i>"Companies must continue to measure all pilots to the same standard and not allow stereotypes to influence their decisions when it comes to employment and promotions."</i> <i>"The biggest change aviation organisations can make to reduce the stereotyping is to work on a merit bases and only use experience and qualifications to fill positions and select upgrade candidates."</i>
Provide opportunities to report negative gender treatment without fear of negative consequences	<i>"I think female pilots and all pilots should be equipped with tools to handle these type of situations and be able to anonymously report situations without any negative consequences towards the reporting pilot or the pilot against which the stereotyping has occurred."</i> <i>"These evaluations should be done by external companies to increase the cooperation of crew to admit any problems and talk openly without being penalised for doing so."</i>
Reported incidents need to be taken seriously	<i>"Reported behaviour goes unchecked because "it's just who they are". It is not taken seriously."</i> <i>"Stop making it taboo. It does happen and it cannot be ignored. They have to pay attention to it when it gets reported, and most importantly they need to take it seriously."</i>

**Supportive working
environment**

“Give proper recognition to when a job is done well, equally to when recognition is given to these stereotypes.”

“Organisations can show that any pilot can have a normal family life as well, regardless of male or female within the industry.”

“Try break out from the old school mentality of aviation is for males.”

“...companies should invest more in the mental and psychological wellbeing of pilots.”

“Organisations can support women by an open-door policy , advice etc.”

Consultation by external companies: The participants (female pilots) mentioned that organisation can appoint external independent service providers to evaluate the degree of stereotypes that exist within the company and to then also recommend empowerment initiatives to help manage these stereotypes.

Employ more female pilots: The participants mentioned that organisations can employ more female pilots to help manage the stereotypes that exist concerning female pilots. The more female pilots there are, the more natural and accepting the culture will be towards them.

Equal employment and promotion practices: It was suggested that companies should continue to measure all pilots to the same standard and merit and not let stereotypes influence their employment and promotion decisions. All pilots should be treated equally.

Provide opportunities to report negative gender treatment without fear of negative consequences: Pilots should be equipped with tools to handle stereotype situations, for example an anonymous reporting platform where pilots can report stereotype behaviour without negative consequences.

Reported incidents need to be taken seriously: The participants (female pilots) mentioned that stereotype behaviour should be acknowledged, taken seriously and given attention when it is reported and not go unchecked by saying “it’s just who they are”.

Supportive working environment: A supportive working environment was characterised by the participants as an environment where recognition is given for a job well done, where there is no old-school mentality that aviation is for males only, where mental and psychological well-being of pilots is given priority and where an open-door policy is introduced. Organisations can also show support by proving that any pilot, no matter their gender, can have a normal family life.

DISCUSSION

Outline of the findings

The first objective of this study was to conceptualise occupational gender stereotypes in accordance with literature. Stereotypes can be defined as preconceptions concerning attributes and characteristics that are believed to be held by different social groups or concerning certain roles that are believed to be played by certain members of a social group (United Nations Human Rights, 2014). Gender stereotyping can therefore be defined as preconceptions that are held concerning the attributes or characteristics that ought to be possessed by either men or women and/or the roles they ought to play in society (United Nations Human Rights, 2014). This study however looked into occupational gender stereotypes, which is more specific and can be defined as the assumption that men and women are more suited for certain occupations based on stereotyped characteristics that they hold (White & White, 2006). For example, female occupations would according to stereotyped beliefs be characterised by caring and nurturing occupations whereas a masculine occupation would be associated with attributes such as decisiveness and toughness (Matheus, 2010). The occupation of female pilots within South African-based aviation companies were therefore investigated to determine whether occupational gender stereotypes are imminent within this occupation.

The second objective of this study was to explore the experiences of female pilots within selected South African-based aviation companies. The participants of this study indicated that they find female pilots to be better pilots than male pilots seeing that they are more hardworking and perform better than their male counterparts. They also indicated that passengers have complemented them after a flight, although they were initially surprised to see a female pilot in the cockpit. This could be confirmed by a study conducted by Baker et al. (2001) who found that the difference between male and female pilots is that inattention and flawed decisions were common errors found in male pilots where mishandling aircraft kinetics were common errors found between female pilots. This study therefore indicated that both male and female pilots make errors when flying; therefore there is no reason for doubting the abilities of only female pilots. It was also evident that female pilots saw themselves in a positive light when indicating that they are better pilots than males. This is consistent with the social identity theory which indicates that a person identifies more with his/her in-group or the group to which they belong and therefore the person will see stereotypes about his/her in-group as more positive (Tajfel, 1978; Tajfel & Turner, 1979 as cited in Islam, 2014).

The participants of this study also experience the aviation industry as being competitive, male-dominated and challenging for females due to the physical and technical aspects of the positions. The aviation industry is not the only industry that is viewed as male dominated. Prescott and Bogg (2011) found the gaming industry for example to be male dominated with female roles focussing more on administration and marketing rather than on core business roles such as coding and developing. The male dominated aviation industry notion is supported by Sule (2017) who indicated that flight-crew roles are mainly perceived to be a male occupation where females seem to adapt to the male culture and conform to the traditionally masculine values and practices in order to be successful (Davey & Davidson, 2000). Davey and Davidson (2000) further stated that many female pilots reported gender-related obstacles such as strong prejudices against and preconceptions regarding their abilities and suitability for a pilot career. The participants of this current study also experienced obstacles such as being disrespected, underestimated and feeling inferior in their occupation. They were not taken seriously or were ignored because they are regarded as “lesser than”, which created a lack of confidence, and self-doubt in their abilities. In a study conducted by Jouini et al. (2018) it was established that higher-status individuals have stronger self-confidence and higher self-esteem. If female pilots

are therefore regarded as “lesser than” it can be confirmed that it will have an impact on their self-confidence.

The participants also had to overcome the idea that they won’t be good enough and felt underestimated, causing them to work harder but under more personally induced stress. Further obstacles that they had to overcome is that there seems to be a higher expectation of them to get things right compared to what is expected from male pilots. Hynes and Puckett (2011) stated that female pilot participants in their study were faced with hardships of having to prove themselves and having to prove that they are able to perform the tasks required of a pilot. Females having to work hard and prove themselves in male dominated industries are not unique to the aviation sector. A study by Martin and Barnard (2013) found that participants in the IT, Mining, Engineering and Energy industry also experienced this negative consequence of stereotypes where they had to work twice as hard as their male counterparts in order to prove that they can do the work. In the current research study the female pilots mentioned that male pilots seem to discriminate against them; that they at times indicated that they do not want to operate with a female pilot, or they were reported to see female pilots as easy sexual targets. Male resistance was also confirmed by Hynes and Puckett (2011) when their participants were faced with male pilots who did not want female pilots in “their” profession. Except for these obstacles experienced by female pilots in the cockpit or at work, they also encountered obstacles from passengers of their flight. Passengers would question the competence of the female pilot or they would mistakenly speak to them as if they were an airhostess even when they were wearing a uniform.

Participants also reported positive experiences. The female pilot participants mentioned that once one shows that one can work just as hard, you gain respect. Others mentioned that they have never been treated differently and are expected to do the same heavy labour as male pilots, since it forms part of their job. It is also evident that the female pilot participants are passionate about their career in aviation. It can be that these individuals indicating these positive responses are applying resilience strategies to cope with stereotypes about their occupation. The resilience strategies causes them to respond to stereotypes with the realisation that stereotype threat will be present and will influence the way others perceives them. They therefore cope by redirecting

their energy towards the goal of changing the context of their work environment with the idea that it will be more inclusive for member of their identity group (Block et al., 2011).

The third objective of this study was to explore the occupational gender stereotypes that female pilots experience within selected South African-based aviation companies. The findings suggest that the female pilots do experience stereotypes and that these stereotypes are mostly negative in nature. This is in line with a study conducted by Tanikoglu et al. (2020) who found that female pilots experience gender prejudice and stereotypes as their occupation is not in line with the roles that women are expected to play in society. Their study found that female pilots are expected to choose easy and feminine jobs and that they should not earn more than their husbands, indicating that the pilot profession is viewed as a male occupation. This finding is in line with the current results where the participants of this study experience not being readily accepted in their occupation as female pilots.

This study also indicated that a stereotype is held by others that female pilots are less capable than male pilots and that they are technically less skilled. This stereotype was researched by Walton and Politano (2016). In their results, they found the stereotype to be unsupported by their data when the female pilot participants with higher experience levels showed significantly lower accident levels compared to those of male pilots with the same experience levels. Another study carried out by Baker et al. (2001) indicated that this might be due to male pilots being more impulsive, more prone to taking risks and less likely to plan a flight than is the case with female pilots.

When it comes to progressing in their career as a female pilot, the participants of this study believe that a stereotype exists that female pilots have to perform favours in order to be promoted. The stereotyped assumptions that females struggle to progress was also evident in a study conducted by Davey and Davidson (2000) when they listed an incident in which a male pilot mentioned to a passenger ‘don’t worry, we will both be retired by the time she (female pilot) reaches the left seat (Captain position).’ The findings of Tanikoglu et al. (2020) have also indicated that female pilots face gender prejudice during times of training for a more senior role, again hinting at the difficulties with which female pilots are faced when working to be promoted.

The fourth objective of this study was to explore what influences occupational gender stereotypes have on the work performance of female pilots within selected South African-based aviation companies. Many of the participants of the study mentioned that they have to work harder as a female pilot to be considered on the same level and be treated with the same level of respect as their male counterparts. They mentioned that they have to make sure that they are one step ahead and that they are overly prepared in order to be accepted for the profession. It was also mentioned that they have to work harder but under more personally induced stress. A study conducted by Mitchell et al. (2006) found that women in the aviation industry believe that they need to work harder and show a better standard of work than their male counterparts in order to be accepted and appreciated. Davey and Davidson (2000) also mentioned in their study that female pilots believe that they don't get offered the same opportunities and are treated less favourably than male pilots, causing them to demonstrate better performance during training and flights. When female pilots work harder to prove themselves, they believe that it makes them better pilots. The participants mentioned that because they are more hardworking than male pilots, they have an advantage when it comes to theoretical aviation knowledge and that they are more diligent when it comes to studying for tests. Even though this might seem like a positive aspect, stereotype threat needs to be taken into account where the risk is relevant that female pilots could start believing negative stereotypes that are held about them and that this might affect their performance while operating or training (Hess, 2016).

Some participants also mentioned that they do not believe that their performance is affected by occupational gender stereotypes and that they are treated the same as the male pilots who operate with them. They mentioned that they are treated equally because they are, for example, expected to do the same heavy labour as male pilots.

The fifth objective of this study was to list recommendations made by female pilots to manage occupational gender stereotypes within selected South African-based aviation companies. The participants mentioned strategies that could be used at an individual level as well as at an organisational level.

The participants suggested that other female pilots should ensure that they have a good support network, and that they should be more supportive of one another. The suggestion was also

made that female pilots should request from the company previous employees who have operated in a country so that they could discuss challenges that might be faced; thereby lending support from one female pilot to another. Female pilot support was also a recommendation by Yanikoglu et al. (2020). They suggested that female pilots should share their knowledge, skills and experience with other female pilots to help in assisting and empowering them. They continued by saying that this guidance from senior female aviators could assist in mentoring the younger generation to help them with their career advancement.

Another individual strategy listed by the participants is to be mentally and physically prepared by being one step ahead of others, by not being caught off-guard and by working hard. The participants also indicated that it would help to be more resilient and thick-skinned by learning from mistakes made and by not being too hard on oneself since you also still have to learn. Other female pilots are therefore encouraged to have confidence in their abilities as a female pilot, since their abilities will be questioned constantly.

In previous years, piloting an aircraft might have been a limiting factor for female pilots, but many of the physical requirements have been removed in the current flying environment due to computers and ‘fly-by-wire’ technologies which should result in females being more capable of flying and not being restricted by possible strength limitations (Michell et al., 2006). It was however noted by the participants of this study that female pilots should perform all the tasks of the occupation and not leave some of the more physical work for male pilots to do. They should therefore ensure that they are physically fit so as to be able to complete these tasks. Yanikoglu et al. (2020) recommended in their study that companies should bring in anonymous reporting systems that could detect gender discrimination reported by employees. They also suggested that female pilots take an active role in the international platforms that are formed to address and discuss gender-based discrimination at work. In the current study the participants encouraged other females to speak up when colleagues are being derogatory. They also mentioned that this might not be easy to do seeing that they might be labelled in a certain way which will make working conditions more difficult.

During this study, the participants also made recommendations for strategies that the organisation could implement to manage occupational gender stereotypes. One of these

strategies is to appoint an external company to assist with the empowerment of female pilots and to evaluate the degree to which stereotypes is a problem within the company. These companies could then also introduce proper methods to help reduce stereotype behaviour. The participants indicated that companies need to provide opportunities to report negative gender treatment without fear of negative consequences and that these filed reports should be taken seriously. Davey and Davidson (2000) mentioned that female pilots who encountered difficult captains felt unable to report their behaviour for fear of getting into trouble. They also indicated in their study that a preference prevailed among female pilots to not report an incident or to downplay the problems or situation. Mutisya (2010) stated that it is important for an organisation to introduce effective systems for addressing crew behaviour and crew grievances which will ensure high female retention as they will feel supported when an unwanted incident occurs. Since female pilots are not always encouraged to report an incident, there is an emphasis on companies firstly to ensure an anonymous reporting line and secondly to take reported incidents seriously, without negative consequences for the reporter.

It was also suggested that companies employ more female pilots so as to ensure a natural culture towards female pilots and to also ensure equal employment and promotion practices. Companies should therefore continue to measure all pilots to the same standards where employment and promotion is done on merit and are not influenced by stereotypes. This might however pose some difficulty seeing that a study carried out by Mitchell et al. (2006) indicated that female pilots had on average fewer flying hours or experience in the cockpit than men, and also lower level licences.

Lastly it was recommended that companies create a supportive working environment. The supportive working environment was characterised by giving proper recognition to employees, breaking out of the mentality that aviation is for males, having an open-door policy, trusting female pilots and by investing in the mental and psychological well-being of their pilots. Mutisya (2010) confirmed the above by stating that there is a need for aviation organisations to create a better supportive environment for the female pilots in their operation. McFadden (1996) stated that Crew Resource Management training could be beneficial in fostering this supportive work environment. Crew Resource Management (CRM) training is aimed at enhancing team performance and safety in the flight deck (Salas et al., 2006). The participants

in their study recommended that CRM training should be used to create awareness and empathy of stereotyped behaviour towards female pilots. A supportive working environment was not only suggested for the aviation industry. Martin and Barnard (2013) suggested a supportive working environment for females in male dominated occupations in the IT, mining, engineering and energy industries by means of introducing female focussed policies, visible career opportunities and recognition for work well done.

Organisations could also portray a supportive work environment by demonstrating that any pilot could have a normal family life, regardless of their gender. A main difficulty identified by the participants of a study conducted by Yanikoglu et al. (2020), was to maintain a work-life balance, especially after becoming a mother. The working conditions of the pilot occupation with irregular working hours and durations makes this a difficult barrier for females to overcome. Companies could look at introducing policies and procedures which will allow for female pilots to be accommodated within this occupation while maintaining their work and personal life.

Practical implications

By participating in this study, the female pilots became more aware of which occupational gender stereotypes exist about female pilots in the South African-based aviation industry. They were also able to explore their experiences of being in this occupation; with some experiences being negative and some positive. The influence occupational gender stereotypes have on their work performance was also explored and they became aware that some experiences are positive since it causes them to work harder and some are negative, meaning that they have to perform under personally induced stress, for example.

From an organisational perspective, it has become clear that occupational gender stereotypes regarding female pilots do exist. The experiences of female pilots that were described give organisations a clearer indication of the type of experiences and the effect thereof on female pilots. In some instances, the work performance of these employees has improved because they are more determined to prove the stereotypes wrong. But it is also evident that in some instances the stereotypes have affected the work performance of the female pilots negatively.

By knowing this, organisations can look into suggested interventions to manage occupational gender stereotypes within their operation and decrease the negative effect it has on the workforce. The interventions are also recommended by the participants, making the entries extremely relevant and applicable.

Limitations and recommendations

A limiting factor for this study was the number of female pilots who participated. This is a minority group within the aviation industry, and it is challenging to find participants who meet the requirements stipulated by the research. It would be recommended that more female pilots in South Africa be interviewed to add to the richness of the collected data. Female pilots from different ethnic groups can also be interviewed in future research studies, the participants are just a minority group within the aviation sector and therefore could be difficult to include.

Even though the survey did indicate that participants should elaborate on their answers and even though some of the participants did elaborate when completing the QuestionPro survey, it would be a recommendation to also conduct face-to-face interviews. By having face-to-face interviews, the researcher could set the participant at ease, especially if the researcher could be female, which might make it even easier for the female pilots to share their experiences. Face-to-face interviews could also grant the researcher the opportunity of asking the participant to clarify answers if there is a statement that is unclear. None of this was possible with the present study and this will be a recommendation for future research on the topic.

It has become evident when looking at the response rate on QuestionPro that participants logged into the survey and immediately logged out without answering the questions. This might be due to them feeling that completing the survey is effort. Should the data collection have been face-to-face, the participants might have shown more willingness to participate.

The last limitation for this research study is that only two Aviation companies gave permission for the researcher to collect data in their organisation. It would be recommended that the number of companies approached for this research topic be more than two in future to ensure that the richness of data is increased.

Recommendations that became evident when completing this study is that organisations can invest in occupational gender stereotype awareness training within their operation. This training could be presented by an Industrial Psychologist who is trained in the field of personnel psychology. This training could aim to make employees more aware that stereotypes do exist and that they could have a negative effect on fellow employees. A further recommendation could be to introduce a policy within the company that guides and directs against the negative impact of stereotypes and that also stipulates the commitment the organisation makes towards reducing the impact. Since female pilots are the minority group within the aviation industry, it might be difficult to employ majority female pilots. But the organisation could direct recruitment efforts into making sure that more female pilots are encouraged to apply at the organisation. Organisations could further support employed female pilots by ensuring a support network for these employees. This could be achieved by enabling contact sessions during which fellow female aviators could meet, discuss relevant topics, and share their experiences.

Conclusion

This research study found that female pilots within South African-based aviation companies do experience occupational gender stereotypes. These stereotypes are both negative and positive in nature. The study also confirmed that the stereotypes researched have an effect on the work performance of female pilots. Their work performance is both negatively and positively affected, with more emphasis being placed on the negative effect. A number of recommendations were lastly made in order for female pilots to manage occupation gender stereotypes themselves. Participants further mentioned that organisations can also implement certain strategies with a view to manage the occupational gender stereotypes within the aviation industry.

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CHAPTER 3

CONCLUSION, LIMITATIONS AND RECOMMENDATIONS

CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

The final chapter presents the conclusions drawn from the current study and is provided in accordance with the researcher's specific objectives. Furthermore, this chapter outlines the limitations of this study, followed by recommendations for future research, practice and the profession.

3.1 Conclusion

Conceptualising occupational gender stereotypes in accordance with literature

Stereotypes about females exist within the labour market, where they are often not valued for their personal abilities, but rather seen as having poorer abilities than men (Kiausiene et al., 2011). Gender stereotypes are defined as prejudices that people hold about the characteristics and social roles that are expected of men and women (Mihalcova et al., 2015). Occupational gender stereotypes are then the preconceptions people hold about which occupation is suited for a specific gender. These stereotypes are often related to negative connotations, for example females are unable to make quick decisions, they lack logical thinking and they are soft and sensitive (Mihalcova et al., 2015). The current study primarily focused on the occupational gender stereotypes that female pilots experience within the South African-based aviation company.

To explore the experiences of female pilots within selected South African-based aviation companies

The study results listed certain experiences that female pilots experience in their occupation. The findings signified that most experiences were negative where the female pilots are for example disrespected, where they are left feeling inferior or where they feel underestimated. In a study conducted by Joseph (2007) he found that women working in aviation reported feelings of unequal treatment by their co-workers. Negative experiences by female pilots have also been expressed in a study by Yanikoglu et al. (2020) when their participant reported a

male pilot commenting that the female pilot should quit flying, get married and have children like any other women, disrespecting her and making her feel inferior.

Contrary to this, the participants also reported positive experiences when they stated that they have not experienced being treated any different from male pilots and that the company does not make them feel different from their male counterparts.

Exploring the occupational gender stereotypes female pilots experience within selected South African-based aviation companies

During this study, the researcher explored the occupational gender stereotypes female pilots experience within selected South African-based aviation companies. The themes that were prevalent during this study when female pilots were asked about stereotypes regarding their capabilities, their means to progress, their technical skills and the fact that they feel they are not readily accepted within the occupation.

Sule (2017) stated that aviation is still a masculine industry where female pilots have to put in twice the amount of effort compared to their male counterparts to negate the belief and meet the expectation from their society. These expectations from society rise from stereotypical beliefs regarding females in a male-dominated industry. Stereotypical beliefs are not unique to this study and have also been found by Davey and Davidson (2000), namely that female pilots are for example questioned about their knowledge on direction or commenting that aeroplanes are too noisy for 'girls'. A more recent study conducted by Yanikoglu et al., (2020) also indicated stereotypical behaviour against female crew members when the female pilot was instructed to go home and wash dishes when struggling with her seat.

Exploring the influence of occupational gender stereotypes on the work performance of female pilots within selected South African-based aviation companies

The researcher also explored what the influence of occupational gender stereotypes are on the work performance of female pilots within selected South African-based aviation companies. The influences were mostly positive in nature whereby female pilots work harder to prove

themselves, they feel that the stereotypes make them better pilots, or they feel that their performance is not affected. When female pilots are however pressured to work hard, a large amount of emphasis is placed on them to excel in their performance, and they also have to be overly prepared before training or before a flight in order to be considered at the same level as their male counterparts. They also have to work harder under more personally induced stress. In a study carried out by Thatchatham and Peetawan (2020) it was also found that female pilot participants believe that gender bias exists in the industry, which causes female pilots to work harder in order to prove their skills for them to be accepted within the occupation.

Exploring recommendations made by female pilots to manage occupational gender stereotypes within selected South African based aviation companies

During the online QuestionPro survey the participants of this study were also requested to list individual and organisational strategies that could be followed to manage occupational gender-role stereotypes of female pilots. Individual strategies listed by the participants included being prepared for a flight, being passionate about one's career, becoming more resilient, having self-confidence in one's ability as a pilot, working hard and developing a "thick skin". The participants also mentioned that it is important to have a good support network, that females in aviation should support each other and that they should speak up when they are treated unacceptably. Female support was also mentioned by Ferla and Graham (2019) when they indicated in their study that female role-models could be created which will inspire others. They also mentioned that a formal mentoring scheme that is managed by women could be implemented to help female pilots support one another.

The organisational strategies listed by them included contracting external companies to measure and reduce stereotypes, employing more female pilots, creating equal employment and promotion practices, creating opportunities by means of which negative gender treatment can be reported, creating a supportive working environment and taking reported incidents seriously. All of the forementioned factors speak to the support the organisation and management should give female pilots in their career. Ferla and Graham (2019) stated that a supportive and positive work environment should be created within every organisation where female pilots' voices are heard and where they are granted the same career opportunities as

men. Mutisya (2010) also confirmed the need for a supportive environment to assist in addressing gender bias, and continued by stating that support could be given by incorporating gender issues with Crew Resource Management training, which that all crew members are compelled to attend. Effective processes could also be implemented to ensure female pilot retention such as enforcing policies for sexual harassment and improving counselling programs for victims (Mutisya, 2010).

3.2 Limitations

Various limitations were identified in the current study. The first limiting factor of this study is the number of participants who participated. Female pilots are a minority group within the aviation industry (Ferla & Graham, 2019). Due to this, there is only a small number of female pilots that the researcher could have contacted to participate in the study. It would be a recommendation that future research focus on interviewing more female pilot participants.

The interview method, being the QuestionPro survey, was also listed as a limiting factor. Even though the survey indicated that participants should elaborate on their answers and even though the participants did elaborate, it would be a recommendation to conduct face-to-face interviews when collecting data. Face-to-face interviews are characterised by a number of positive features. For example, it improves contact between the researcher and the participant and it assists the researcher in building rapport with the participant (Schober, 2018). Face-to-face interviews can also assist the researcher in viewing the respondent's non-verbal displays, allowing them to adjust as needed when the respondents start feeling uncomfortable. Respondents can therefore be comforted by the researcher's non-threatening and supportive demeanour (Schober, 2018). Another aspect that might assist in creating a supportive demeanour, is when the researcher also is a female. This might assist the participants in feeling comfortable and not feeling threatened when sharing their experiences.

It became evident from the research data that many participants logged into the QuestionPro survey and then logged out again. This might indicate that they felt discouraged to answer the questions as it seems like effort to type their answers. Face-to-face respondents are rated as being more cooperative and more engaged during the questioning phase where they display

less dissatisfaction with the length of the interview and they are also less suspicious about the interview process (Schober, 2018). The foregoing section enunciates why face-to-face interviews would be beneficial when collecting data from female pilots.

The last limitation of this research study is that only two aviation companies gave permission for data to be collected at their premises. It would therefore be recommended that more aviation organisations be contacted for future research studies so as to broaden the data-collection opportunities. This will also lead to more participants being asked to voluntarily participate in the study. Even though data saturation was reached during the study at these two organisations, it might be that more data could have been collected if the study were conducted at more than two aviation organisations. Data saturation is reached when there is enough information so that the study can be repeated without attaining further information and when further coding of the data is no longer feasible (Fusch & Ness, 2015). Data saturation has an impact on the quality of the research study and can hamper content validity (Fusch & Ness, 2015). It would therefore have been beneficial to conduct this study at more aviation organisations to ensure data saturation is reached at those organisations as well and thereby ensuring further validity.

3.3 Recommendations

Recommendations can be made for practice and future research.

3.3.1 Recommendations for the organisation

During the course of this study it became evident that occupational gender stereotypes of female pilots do exist and that they have an effect on these individuals. Some of the effects are positive in nature, causing them to work harder. But some effects are negative causing female pilots to doubt themselves or to feel disrespected. It is therefore imperative for aviation organisations to manage and improve on occupational gender stereotypes of female pilots that might exist within their organisation.

A recommendation on how organisations could manage and improve these stereotypes is for them to implement training interventions for the entire organisation, making all employees

aware of the existence of stereotypes and that it could have a negative effect on those being stereotyped. This training intervention could also focus on proving stereotypes about female pilots being wrong, indicating that they are just as good pilots as male pilots, even if they are a minority group within the industry. Another way in which this training intervention can be incorporated within the organisation is by making it part of the syllabus of Crew Resource Management (CRM) training. All crew members are obligated to attend CRM training regularly and this training opportunity could be used to focus on the relationship within the cockpit if one is flying with a pilot from the opposite gender.

Another recommendation for aviation organisations would be to create a supportive work environment for female pilots employed at the organisation. This could be done by facilitating female pilot contact sessions where they are able to support and encourage one another. It could also be done by asking some of the more senior female pilots to act as mentors and coaches for the younger female pilot generation. These mentors could have regular discussions with other female pilots about difficulties with which they might be faced and how they can overcome these challenges.

The last recommendation would be for aviation organisations to create an anonymous reporting line where female pilots are encouraged to report stereotype incidents. These reports should be treated with confidentiality and should not lead to negative consequences for the reporter. The reported incidents should also be taken seriously where behaviour is addressed, and the female pilots given feedback on the outcome of the report.

3.3.2 Recommendations for future research

When looking at the outcome of this study, it would be a recommendation for future research to include more aviation organisations in their study whereby more female pilot participants are asked to take part in the study. It would also be a recommendation that future data collection be done by means of face-to-face interviews so that the researcher could set the participants at ease and encourage them to participate in the study. By interviewing face-to-face the researcher could also for instance ask participants to elaborate on organisational strategies that could help

the researcher in recommending interventions to aviation organisations in more depth and detail.

Future research could also include male pilots in the study, where male pilots are asked about their perceptions of female pilots and also asked about their experiences when operating with a female pilot. This could identify whether a difference exists in the perceptions that female pilots think others have about their occupation and the perceptions from male pilots, resulting in further organisational interventions to be identified and implemented to manage and improve occupational gender stereotypes.

The current study focussed on female pilots who are in possession of a private pilot licence and who have at least 1 year of experience operating as a pilot for an aviation company. Future research could broaden this scope to also focus on female pilots who are still busy with their flight-school training and who have therefore not yet obtained a private pilot licence. This research could then assist in determining whether female pilots experience challenges during their training years when they study to become a pilot or only when they are employed as a pilot for an aviation organisation.

The last recommendation would be to focus research questions on Crew Resource Management (CRM) training. Since Crew Resource Management training is a compulsory training course that all crew member should attend annually, it can be a recommendation for future research to focus research questions directly on how CRM training could be used to minimize or eliminate the effect occupational gender stereotypes have on female pilots.

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