

Investigating the challenges that women employees face in the construction industry in Mpumalanga and Limpopo Provinces in South Africa

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Mini-dissertation accepted in partial fulfilment of the requirements for the degree *Master of Business Administration* at the North-West University

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Graduation: August 2021

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ACKNOWLEDGEMENTS

I give all praise to God almighty for giving me the knowledge, hope and strength to undertake this research study and making all this possible.

To the following people, thank you for your overwhelming support throughout this journey:

- My supervisor, Prof Leon Jackson, thank you for your guidance, encouragement, support, patience, and valuable assessment.
- My wife, Kamohelo Malaku, thank you for your unconditional love and support that have given me strength throughout this process. You have been my anchor. I love you.
- Participants who agreed to partake in this study. Thank you for your willingness.
- My colleagues, and study group members, thank you for the support and encouraging words.

ABSTRACT

The construction industry is naturally male-dominated, and this presents significant equal opportunity obstacles for women to enter and prosper within the industry. The South African construction industry has a principally low involvement proportion for women and represents a robust male culture where relationships are characterised by obscenity, quarrels, fights, and crises. The primary objective of this study was to explore and understand the challenges faced by women in the construction industry in the Mpumalanga and Limpopo Provinces. The study population consisted of South African women of different age groups, all races, belonging to different socio-economic statuses, living in various residential areas, and having diverse educational statuses. All the women work or have worked in the construction industry in Mpumalanga and Limpopo Provinces of South Africa. This study used a non-probability sampling technique (snowball sampling) because it has traits that enable the researcher to reach out to rare populations to research.

Snowball sampling enabled the researcher to establish initial contacts with a tiny cluster of individuals and then use these clusters of individuals to expand the reach and contact others. Qualitative data collection instruments, namely a semi-structured questionnaire and protocol, were used as part of the more extensive interviews. Quantitative collection instruments were also used for the survey to validate the findings of the in-depth interviews as a triangulation method. A web-based questionnaire was created, and participants downloaded it using the link they received through email. The qualitative data collection was done using in-depth interviews on Zoom, Skype, Microsoft teams, while the quantitative data were collected via a web-based questionnaire link. Some questionnaires were also personally distributed to the sample. Where possible, face-to-face interviews were used instead of an electronic meeting platform. In this research, the thematic analysis technique was used to analyse the qualitative data (interviews) because this technique employs the gathering and thematising of diverse information sets. It is also not limited to a theoretical or epistemological viewpoint.

Based on the findings of the survey and in-depth interview results, the following conclusions were drawn: construction industry tailored for men's need; women being regarded as less capable than men in the construction industry; there is unfairness of the recruitment processes as women experience discrimination by recruiters because of their gender; there is poor communication which creates a problem between men and women; women are not recognised since they are classified under administration roles most of the time; there is a glass ceiling as most of the opportunities are given to men as they are believed to be physically fit to perform better than women; harassment came out as one of the main challenges faced by women in the construction industry; there is unequal treatment like women being paid less than their male counterparts, and there are fewer leadership opportunities for women in the construction industry.

Keywords: Barrier, construction industry, women, challenge, career, glass ceiling, male-dominated, social influences, culture.

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1 CHAPTER 1

1.1 INTRODUCTION

CIDB (2018:15) says, according to Stats SA, the unemployment rate is higher amongst females (28,8%) compared to males (25.1%). The labour absorption rate is higher for males (49.1%) as compared to females (37.9%). In 2018, the construction industry employed around 1,431 million people, of which 89% are male and 11% female. Compared to other industries, the construction industry has the highest percentage of male employment. Employment of women in the construction industry has increased by around 44% (from 109 000 to 157 000) from 2008Q1 to 2018Q2. On a year-on-year basis, the number of females employed in the industry decreased by 17000, but there was a minor increase of 8000 on a quarter-on-quarter basis for 2018Q2. Male representation in the construction industry is high (89%) compared with the industry average of 56% for all industries.

CIDB (2020:11) says, according to Stats SA, the unemployment rate is higher amongst females (45.7%) compared to males (38.9%). The labour absorption rate is higher for males (41.3%) as compared to females (31.3%). At the end of 2020Q2, the construction industry employed around 1 066 000 people, of which 87% are male and 13% female (138580 in 2018 compared to 157410 in 2018 stated above). In comparison with other industries, the construction industry has the highest proportion of male employment. On a year-on-year basis, the number of females employed in the industry decreased by -9 000 while the number of males employed decreased by -288 000. On a quarter-on-quarter basis the number of females employed in the industry decreased by -6 000 while the number of males employed decreased by 271 000. Male representation in the construction industry is high (87%) compared with the industry average of 56% for all industries. Women's contribution to the construction labour force has remained in same range over the past 10 years.

Few of the barriers as stated in reference studies are indicated below:

The place of work has from time to time been described as unwelcoming for women owing to the various types of gender inequalities that are sometimes present (Stamarski & Hing, 2015:1). Some instances of how place of work discrimination undesirably distress women and hamper their growth prospects are the gender wage gap, the shortage of women in leadership and management positions, and the extended time it takes for women to advance their careers (Stamarski & Hing, 2015:1).

Most women commit their career with expectations about a well-paying job, a secure place of work conditions and a happy employment. The expectations change with actual work dynamics. Consistent with Oo *et al.* (2019:2), this development may well be the result of

impediments encountered by women within the construction industry, the high expectations and women's lack of information of the business.

As indicated in Jamenya (2018:532), companies turn away the potential of women for climbing the ladder by limiting them to perform roles considered the occupation of women. Appointments in companies can be barriers at entry-level jobs, making it problematic for women to get promoted since these barriers are important in making career paths in the company and affecting promotions. Job enrolment employers usually place women in jobs with non-existent job rankings (Jamenya, 2018:532). Abidemi and Ayobami (2015:5) contend that women employees turn to find themselves being exposed to a hostile environment. Women who would like to join the construction industry face stereotypical barriers, with added stereotypes in the construction industry, by nature, of the profession and the professionals themselves in this male-dominated environment.

Though faced with this organisational barrier, some women gain career gratification, confidence, and hopefulness than their male equivalents, as they move into traditionally male positions in industries like construction (Abidemi & Ayobami, 2015:6). The male-dominated culture can be destructive for women who wish to enter the industry, grow their careers, and remain in the construction sector.

Amaratunga *et al.* (2007:8) contends that extra working hours, construction location being far from normal residence, geographical uncertainty and competitive nature of the industry are openly masculine in nature to promote male standards in the construction industry. As indicated Amaratunga *et al.* (2007:10), the findings categorise the image of the industry as a noteworthy factor that discourages women from entering the industry. As already indicated by other authors, Amaratunga *et al.* (2007:10) as states that, the image of construction is that of a male-dominated industry, which needs physical strength and a good tolerance for outdoor conditions, extreme weather, and immoral language. According to Amaratunga *et al.* (2007:10), this is a principal image that discourages women from entering the construction industry.

As indicated in Amaratunga *et al.* (2007:10), one male said: *"My image of construction is...it is dirty, cold, anti-family friendly, very substantially destructive to home lives. The construction site uses discrimination and bad languages at higher levels"*.

According to Abidemi and Ayobami (2015:6), though faced with this organisational barrier, some women gain career gratification, confidence, and hopefulness in construction industries. The male-dominated culture can be destructive for women wanting to enter the industry for career growth and retention in the construction sector. The studies (Abidemi & Ayobami, 2015; Jamenya, 2018; Sangweni, 2015; Rosa *et al.*, 2017; Harris, 2017, Pandiselvi, 2018, Secatore & Scott-Young, 2016; Adogbo *et al.*, 2015; Amaratunga *et al.*, 2007; Aboagye-Nimo *et al.*, 2018; and Akomolafe & Mohammed, 2015) conducted show there are many barriers that women face when joining and continue working in the construction industry, as indicated in some instances above. Thus, it is essential to investigate the difficulties and challenges faced by women entering the industry.

This study focused on the challenges that women face in the construction industry and investigated measures to improve the South African construction sector environment so that the industry can be more accommodating towards women. As such, the industry can look at ways to welcome women and improve their working conditions. This study, specifically, focusses on women in the construction industry in the Mpumalanga and Limpopo Provinces of South Africa.

1.2 PROBLEM STATEMENT

The construction workplace is often viewed as among the most bigoted, with an exceptionally masculine culture that is antagonistic and biased towards women. This culture end in gender discriminated job prospects, and younger women become discouraged with their career choice quicker and decided to quit the construction industry early. According to Rosa *et al.* (2017:29), there is a range of discrimination women face when choosing the construction industry as a career; sexual harassment is a predominant barrier.

Sangweni (2015:29) contends that the construction industry struggles with transformation as few women are represented in the industry. Credentials and employment methods are one of the contributors to this underrepresentation. Apartheid government rules caused difficulties for women to get an education, consequently constraining them from working in numerous segments of the economy (Sangweni, 2015:30). While women are somewhat less likely to have started lower primary school than men (McKeever, 2017:123), the big difference is that women are much less likely to have studied both mathematics and science at primary or secondary school levels. Resultantly, few women follow careers in construction management.

Findings from referenced researchers

Adogbo *et al.* (2015) findings affirm the position from the literature on the wide disparity and female students registered in educational institutions and construction courses. The findings found that there are fewer women than men enrolled in all the Departments they surveyed, as one of the factors influencing the low trend in women participating in the construction industry. Consequently, this trend continued into practice and of the few who do graduate, a smaller number are attracted to pursuing careers in construction and even fewer remain long enough in the industry, confirming the findings that women are under-represented in the Nigerian construction industry.

Aboagye-Nimo *et al.* (2018) found that women had all expressed there were challenges when trying to get into the industry and more importantly rising to their current roles and describing the industry as an aggressive one. The finding referred the industry as a world belonging to the opposite gender, also referred to the industry as ‘a man’s world’. Another finding is one woman believed she was ‘only able obtain a job because she knew somebody there’. She did not believe her educational qualification(s) enabled her to gain the employment opportunity. Another finding indicated that one woman was explicitly told that she was being employed to ‘meet a gender equality quota’. Aboagye-Nimo *et al.* (2018) indicated that from the research findings, it could be deduced that some women had already felt inadequate when entering the workplace.

Harris (2017) findings revealed that that women who do not align themselves to the female stereotypes were favoured less and are less effective. The research findings supported the notion that gender discrimination was still a valid concern, and women continue to encounter a glass ceiling as they navigate career opportunities.

The findings from Rosa (2017) showed that the top three career challenges were stress (Mean = 3.9), difficult family life balance (Mean = 3.91), and negative perceptions (Mean = 3.84). The findings also reveal that misinterpretation and misperceptions of the construction industry are perpetuated by family, friends, teachers, career counsellors and the media regarding the sustainability and suitability of women joining the construction industry.

The shortage of women in the construction industry is influenced by factors like sexual harassment, discrimination, job hazards, and an inhospitable environment. These challenges are painted as mainly predominant factors that affect the employment of women negatively in the construction industry. Although extensive research on challenges women face in the industry has been conducted globally, only a few studies have been performed in South Africa; this results in limited available research material.

1.3 RATIONALE AND SIGNIFICANCE OF THE STUDY

The study pursued establishing ways to close the gap created by existing hostile environments dominated by men and their masculine culture where relationships are characterised by obscenity, quarrels, fights, and crises. The study also sought to find ways to welcome women and improve their working conditions, contribute positively to the betterment of productivity of the companies and creation of a friendly environment.

A better understanding of challenges that women face in the construction sector would enable a better measure that could be put in place and might contribute to eradicating these obstacles and misconception about women's ability on physically challenging jobs.

Rationale and significance of the study included:

- First, having more women in companies would provide collaborative teamwork between women and men.
- Second, more women at senior levels would provide role models for women in the industry and mentoring young women.
- Third, diverse teams would perform better and having more women at all levels is suitable for team performance.
- Finally, gender diversity would advance the image of the industry.

As the construction segment tries to deal with a poor public image, having many women in the construction industry would positively impact construction firms.

1.4 AIM AND OBJECTIVES OF THE STUDY

1.4.1 Primary objective

The primary objective of this study was to explore and understand challenges faced by women in the construction industry in Mpumalanga and Limpopo Provinces.

1.4.2 Secondary objectives

The secondary objectives of this research were to:

- Determine the challenges faced by women in the construction industry in Mpumalanga and Limpopo Provinces.
- Determine the perception of women on how they think men perceive them in the construction industry.
- Determine measures women could take to overcome the challenges faced by women in the construction industry.
- Determine what measures an industry could take to overcome the challenges faced by women in the construction industry.

1.5 RESEARCH QUESTIONS

1.5.1 Primary research question

What are the challenges women face in the construction industry in Mpumalanga and Limpopo Provinces?

1.5.2 Secondary research questions

Based on the main and secondary objectives above, the following research questions were formulated:

- What are the challenges faced by women in the construction industry in Mpumalanga and Limpopo Provinces?
- How do women think men perceive women in the construction industry?
- What measures could women take to overcome or deal with challenges faced by women in the construction industry?
- What measures could the construction industry take and implement to improve the retention of women in the construction industry?

1.6 LITERATURE REVIEW

The workplace is described as an unwelcome place for women due to various forms of gender inequalities (Stamarski & Hing, 2015:1). Some instances of discrimination at the workplace that have unpleasantly effects are the salaries of women and their prospects are gender-based gaps in wages, and the longer time women need to advance in their careers. There are also very few women serving in leadership positions.

1.6.1 Challenges faced by women in the construction industry

Oo *et al.* (2019:2) indicate that the highest barriers include, for example, the issue of reconciling work and family, gender stereotypes within the business, and the lack of skilfulness in the

human resource management of construction companies when coming to what to offer women. Alternative significant obstacles include a poor business image because construction is regarded as dirty and dangerous, sexual harassment, high levels of labour stress, long and inflexible operating hours, and limited informal networks for career prospects for women in the construction industry (Oo *et al.*, 2019:2).

NAWIC (2019:16) further lists the challenges to be:

- Lack of awareness as construction is not a top-of-mind awareness concept for women.
- Women find it difficult to envisage careers in the industry.
- Women are discouraged by the negative views of construction as a male-controlled industry where women are neither respected nor taken seriously.
- Parental influences.
- Job qualities.

Tai *et al.* (2005) (as cited in Jamenya, 2018:535) contend that, there are nine normal barriers that stop women from partaking in male-dominated jobs. These are:

- The women-are-not-good-enough ideology.
- Glass ceiling perspective.
- Negative stereotypical assumptions.
- Low levels of aspiration.
- Formal and informal network forged by men.
- Attributions for successful work performance.
- Training and development opportunities.
- Leadership behaviour; and
- Impact of organisational systems, those within an organisation who believe that females are not as productive as males.

1.6.2 Perception of women on how they think men perceive them in the construction industry

National Women Law Centre (NWLC, 2014:7) attributes the dwindling percentage of women in the construction industry to discrimination that starts at school and continues until the employment chain. Subtly, young women say they are usually encouraged and directed into professions traditionally perceived and aligned to gender stereotypes than being encouraged to join historically male jobs such as construction. The difficulties that women face before and during apprenticeship programs initiates their microscopic share of the field.

Aboagye-Nimo *et al.* (2018:2) contend that, according to women, gender-based challenges in the construction industry become a noteworthy barrier that becomes a hindrance in women navigating their way up to senior sector levels.

1.6.3 Measures women can take to overcome the challenges faced by them in the construction industry

Women ought to look for networking opportunities to increase their social circle into male-controlled networks to achieve insight into marketing opportunities. Harris (2017:153) recommends establishing mentorship relationships to support women in their construction growth pursuits, development of their careers, and increasing their profile in the construction industry.

Successful women leaders used methods for handling and overcoming the career hindrances like endurance, empathetic intelligence, self-efficacy, hope, perseverance, and keenness, as indicated in Harris (2017:154). Women who rose on top of career obstacles enforced methods like defining relationship boundaries, being optimistic, staying silent, committing progress, and making progressive efforts. Powerful women in leadership positions stressed qualities like self-determination, skilled growth, power, intent, trust, self-efficacy, and freedom as a receipt for success in the construction industry (Harris, 2017:154).

1.6.4 Measures an industry can take to overcome the challenges faced by women in the construction industry

According to Tunji-Olayeni *et al.* (2017:427), if the construction industry considers steps to handle the manly environment, many women will maintain their presence within the construction industry. The industry must transform from hard labour and process-orientated industry, to one that offers opportunities to women. Women must also be able to enter managerial activities on construction sites. Such a transformation can persuade a lot of ladies to enter or remain within the construction industry.

A non-violent working atmosphere will produce a safe environment and will eventually draw and preserve more women in the industry (Tunji-Olayeni *et al.*, 2017:427). Organisations must review their working policies to accommodate flexible hours if they want to retain women in the construction industry. Secatore and Scott-Young (2016:3) contend that current research has identified having parents or family members present in the industry, career opportunities awareness, and practicum assignments entice female undergraduates to the construction industry.

1.7 RESEARCH METHODOLOGIES

1.7.1 Paradigm

The three prevalent paradigms are positivism, constructivism (or interpretivism as it is also called), and pragmatism. This study was based on the interpretivism paradigm. The interpretivist approach is based on a naturalistic approach to data collection such as interviews and observations. According to O'Neil and Koekemoer (2016:3), interpretivism (a reaction to the inadequacies of post-positivism) does not focus on falsification or identification of variables. It rather concentrates on finding perceived meaning as ascribed by the participants. Truth is regarded as relative; therefore, multiple realities may exist. O'Neil and Koekemoer (2016:3) state that the outcome of the interpretive research is to describe the realities while

keeping their complexity intact. Subjective interpretations of the informants and their perception of the world are the starting point to understand phenomena (O'Neil & Koekemoer, 2016:3).

The reasons for selecting this paradigm were:

- It has diversifying views to investigate phenomena, human or events that can be described and deeply understood in a social context (Pham, 2018:3).
- Leverages a key interactive interview method, which allowed a researcher to investigate and prompt things that he could not observe. Researchers could probe an interviewee's thoughts, values, prejudices, perceptions, views, feelings, and perspectives. Valuable data collected provided researchers with better insights for further action later.

1.7.2 Research method

The research followed the qualitative research approach. As indicated in Bryman and Bell (2014:31), the qualitative investigation approach:

- emphasises words rather than quantification in the collection and analysis of data, and
- mainly stresses an inductive approach to the connection between research and theory, in which the importance is located on formulating instead of proving a theory.

According to Creswell (2014:32), qualitative research is an approach for discovering and identifying individuals or group meanings to a social or human problem. The investigation process includes developing questions and processes, data collected in the setting of the participant, data analysis inductively building from particulars to general themes, and the researcher making interpretations of the meaning of the data.

Reasons for selecting qualitative research method were (Rahman, 2017:104):

- Firstly, qualitative research methodology generates the detailed explanation of participants' thoughts, feelings, and encounters; and interprets the meanings of their actions.
- Secondly, the qualitative research approach (interpretivism) holistically understands the human experience in specific settings.
- Thirdly, interpretivism research methodology is considered ideographic research, the study of individual events; and it has the capabilities to understand different voices of people, meanings, and events.
- Fourthly, qualitative research allows the researchers to discover participants' inner experience and figure out how meanings are shaped through and in culture.
- Fifthly, qualitative research techniques such as participant-observation, unstructured interviews, direct observation, describing records are most used for collecting data.

- Lastly, qualitative research design has a flexible structure as the design can be built and recreated to a greater extent. Thus, the detailed and proper analyses of an issue can be created by using qualitative research techniques, and therefore, the participants have enough independence to determine what is consistent for them. As a result, complex issues can be understood easily.

The study followed a qualitative approach because investigative research advanced an understanding of underlying reasons and opinions on why women commonly face difficulties in the construction industry. The qualitative approach allowed the researcher to address the objectives by providing elaborate interpretations of the experiences of women working in the construction industry without depending on numerical measurement (Quinlan *et al.*, 2019).

Both quantitative and qualitative methods have advantages and disadvantages as indicate below:

Quantitative Advantages

In quantitative analysis, a drag or question is examined by deductively forming a hypothesis derived from theory. Controlled, objective testing and experimentation ultimately supports or rejects the hypotheses. Every step is standardised to scale back bias once assembling and analysing data. A giant advantage of this approach is that the results are valid, reliable, and generalisable to a bigger population. Quantitative analysis is advantageous for studies that involve numbers, like activity accomplishment gaps between completely different teams of scholars or assessing the effectiveness of a replacement pressure level medication.

Quantitative Disadvantages

While quantitative research strategies work well within the laboratory under tightly controlled conditions, measurement phenomena like human behaviour in natural settings is trickier. Survey instruments are prone to errors like mistakes in measuring and imperfect sampling techniques. Another disadvantage is that quantitative analysis involves numbers, however some topics are too troublesome to quantify in numbers. As an example, constructing a good survey with closed-ended questions on challenges by women in construction industry would be troublesome.

Qualitative Advantages

Qualitative research is often used to conduct social and behavioural studies because human interactions are more complex than molecular reactions in a glass. Subjectivity, non-random sampling, and small sample size as in this case distinguishes qualitative research from quantitative research. A big advantage of qualitative research is the ability to deeply probe and obtain rich descriptive data about social phenomena through structured interviews, cultural involvement, case studies and observation, for instance. Examples include ethnography, narratives, and grounded theory.

Qualitative Disadvantages

Qualitative studies usually take longer to complete because of the painstaking nature of gathering and analysing field notes, transcribing interviews, characteristic themes and learning pictures, for example. Studies are not simply replicable or generalisable to the overall population. Acutely aware or unconscious bias will influence the researcher's conclusions. Lacking rigorous scientific controls and numerical knowledge, qualitative findings could also be discharged by some researchers as subjective information.

In comparison to quantitative, qualitative research was chosen to focus on words rather than numbers, depth rather than breadth. Its methods were exploratory; they sought to unearth the opinions, thoughts, and feelings of respondents. It was most used to help inform new concepts, theories, and products.

1.7.3 Research design

O'Neil and Koekemoer (2016:4), mention that the qualitative research selection of a design is based, firstly, on the stated research question, secondly, on the acceptance of audiences and their familiarity with the design, and thirdly, on the training of researchers and experience with the different available designs.

This research design followed the cross-sectional strategy as it formed part of qualitative research. Bryman and Bell (2014:105) state that the cross-sectional strategy is linked with public investigations and contains numerous other research approaches, such as planned observation, content examination, official statistics, and diaries. The research method was varyingly unstructured or semi-structured methods. The research was comprised of individual interviews.

The research contained individual interviews to advance an understanding of why women face challenges in the construction industry.

The process of creating and using qualitative research interviews was divided into four steps:

- **Defining the research questions:**
A research question is a question that a research project intended to answer. This question addressed an issue or a problem, which, through analysis and interpretation of data, was answered in the study's conclusion. The research question was written so that it outlined various aspects of the study, including the population and variables to be studied and the problem the study addressed.
- **Generating the interview guide:**
First, as a researcher I needed to identify the members of populations who can provide rich, descriptive accounts of the topic of exploration. Interviews were primary method in an investigation, and it was important to identify people who (1) could provide in-depth descriptions about the topic; and (2) were willing to take the time to talk to a researcher about the topics.

- **Recruiting participants:**
Recruitment was the act of enlisting participants for a participation in a research experiment. Participants were limited to women in construction who were willing to be part of the study. Qualitative research was looking for the reasons behind challenges women face in the construction industry.
- **Administering the interviews:**
Interviews were done in qualitative research and occurred when asking one or more participants general open-ended questions. The interviews were administered to:
 1. Make sure the research question was clear.
 2. Developed a check list of the questions to be asked during the interview.
 3. Clearly express the purpose of the interview.
 4. Used open-ended questions so that the respondent can choose his/her answer.
 5. Limited the content of each question with a single idea to avoid confusion.
 6. Reduced questions that give responses of 'yes' or 'no', because they give limited information.
 7. Did not influence the respondent by asking leading questions.
 8. Did not assume answers.
 9. Did not pass judgements.
 10. Avoided irrelevant discussions.
 11. Kept the interview short.
 12. At the end of the interview the points were summarised and reported to the respondent, and then asked the respondent if the summary were correct.

Questionnaires were used and were simple to administer and easy to analyse. With some topics of a personal nature, the anonymity of the self-administered questionnaire encouraged respondents to provide frank, truthful answers.

1.8 RESEARCH METHODOLOGIES/PROCESSES

1.8.1 Population

In this study, the population was South African women of different age groups, all races, different socio-economic status, various residential areas, diverse educational status, and women who work or have worked in the construction industry in Mpumalanga and Limpopo Provinces in South Africa. They all formed a collective of all affiliates that follow a set of study specifications.

1.8.2 Sample method/technique and sample size

This study used snowball sampling. Snowball sampling is outlined as a non-probability sampling technique within which the samples have traits that are rare to search out. According to Babbie (2017:496), the snowball sampling is a non-probability sampling method, often employed in field research whereby each person interviewed may be asked to suggest additional people for interviewing or to refer people of the same characteristics to the interviewer. Consistent with the view of Bryman and Bell (2014:179) on snowball sampling,

the researcher was able to build an initial contact with a tiny cluster of individuals relevant to the research topic and then used these cluster of individuals to determine connections with others.

One of the disadvantages of the snowball sampling method is that people tend to refer their friends and people within their circles. Not to have a group of friends, the researcher identified a couple of people within the industry who have no relation to each other but are in the population, thus forming a tiny cluster of individuals as they refer to other participants.

The reasons for selecting snowball ball sampling were:

- The capability to enrol hidden populations.
- The option to collect primary data cost-effectively.
- Research with snowball sampling could be achieved in a short duration of time.
- Limited organising was required to start the primary data collection process.

The participants were sent an email to participate in a survey. Zoom, Skype and Microsoft Teams sessions were arranged to conduct interviews.

The research was about women in construction. Hence other women in other industries and all men were excluded. The study included women in construction ranging from commissioning engineering, lead engineering, project engineering, project director, project management, construction management, quality management, sourcing management, general management, contract administration, safety management, engineers, and interns.

Eighteen participants from both provinces partook in the in-depth interviews, and 41 participants from both provinces were used to undertake a survey to validate the results. Thus, triangulation was used to confirm the results of the interviews.

1.8.3 Data collection instruments

Qualitative data collection instruments, namely, a semi-structured questionnaire and protocol, were used as part of the more extensive interviews. Quantitative collection instruments were used for the survey to validate the findings of the in-depth interviews. A web-based questionnaire was created, and participants were sent a web-based questionnaire link through email to enable them to participate. A questionnaire is a data collection instrument consisting of a series of questions and other prompts to gather information from respondents. The goal of the questionnaire was to acquire additional information to complement information collected from interviews.

As part of data collection, the interviewer posed the following question as described in the secondary research questions section:

- What are the challenges faced by women in the construction industry in Mpumalanga and Limpopo Provinces?
- How do women think men perceive women in the construction industry?
- What measures can women take to overcome or deal with challenges faced by women in the construction industry?

- What measures can the construction industry take and implement to improve the retention of women in the industries?

1.8.4 Data collection/fieldwork

According to Kabir (2016:202), data collection is the method of assembling and determining information in a recognised methodical style that will allow the researcher to answer research questions, exam theories, and evaluate outcomes, and to capture quality evidence that then translates to data scrutiny and permits the building of credible answers to questions that have been set.

The qualitative data collection was accessed through in-depth interviews on Zoom, Skype, Microsoft Teams. The quantitative data was collected using a web-based questionnaire. An email containing the internet link was sent to the sample, while, where possible, some questionnaires were distributed personally. Questionnaires are the most relevant process of gathering data since they can be conducted via telephone, mail, web-based questionnaire link, email or other methods. The qualitative data were collected by either using Zoom, Skype, Microsoft Teams sessions. Some telephonic interviews and/or face-to-face interviews were also conducted.

Data collection was carried out as follows:

- Necessary permissions were obtained.
- Potential power imbalances were respected.
- The exploitation of participants was avoided.
- Scheduled appointments were arranged with interviewees that were known.
- During the process of the interview, details of those who were interviewees networks were sorted.
- Interviewees were made to feel at ease.
- Appointments were scheduled when they suited participants.
- Interviews were scheduled at venues comfortable to interviewees.
- Collecting harmful information was avoided.

1.8.5 Data coding and analysis

According to O'Neil and Koekemoer (2016:5), there are many ways to conduct qualitative data analysis. Prevalent approaches are characterised as discursive, thematic, structured, or instrumental. Discursive strategies focus on the detail of the text and apply variable types of discourse theory. Thematic analyses procedures define any type of analysis that uses gathering and thematising.

In this research, the thematic analysis technique was used to examine qualitative data (interviews). Unlike several qualitative practices, thematic analysis uses the gathered data and thematise it. Thematic analysis also deals easily with diverse data and is not limited by the theoretical or epistemological viewpoints. As stipulated in Bryman and Bell (2014:350), thematic analysis is an elastic technique, and it is not limited to a specific theoretical alignment.

Bryman and Bell (2014:350) contend that the goal of thematic analysis is to sense, examine and assign themes across the information set. As described in Maguire and Delahunt (2017:3352), thematic analysis spots design or themes inside qualitative data. Peersman (2014:10) designates thematic coding as a material or unearthing way of text or descriptions related to a mutual idea or theme, resulting in the indexation of the transcript into groups.

The data were analysed using Atlas.ti version 9. Tables, quotations, and network diagrams were generated.

1.9 ETHICAL CONSIDERATION

There were important ethical issues considered in this study and are discussed below:

1.9.1 Informed consent and voluntary participation.

According to Arifin and Roshaidai (2018:30):

- Obtaining consent consisted of the following: consent was given freely (voluntary). Participants understood what was being asked of them, and involved persons were competent to consent.
- This meant, to participate in a research study, participants were adequately informed about the research, comprehend the information, and had the power of freedom of choice to allow them to decide whether to participate or decline.
- Participants' agreement to participate in this study was obtained only after a thorough explanation of the research process.

All participants were required to provide written informed consent before an interview starts. The potential participants were approached individually and an explanation for the purpose of the study and data collection process were given. They were given an appropriate time to ask questions and address any concerns.

A clear explanation was given to potential participants that they had a right to withdraw from the study at any time, even after the informed consent had been signed.

1.9.2 Anonymity and confidentiality

The anonymity and confidentiality of the participants were preserved by not revealing their names and identity in the data collection, analysis, and reporting of the study findings. Privacy and confidentiality of the interview environment were managed carefully during telephone communication, interview session, data analysis and dissemination of the findings.

1.9.3 Telephone communication

Proper safeguard was taken for all telephonic interviews by assuring when a phone call is answered by a third party; not any study information exposed.

1.9.4 Interview session

Each interview was conducted individually in a private and quiet room without access by outsiders. I am the only one who can match the identity of the participants.

1.9.5 Written consent

Written consent or any document that contained personal detail of participant was kept locked safe with no access to anyone other than me. This personal information will be destroyed in accordance with the North-West University research governance procedures.

1.9.6 Ethical approval and access to participants

The ethical approval was sought from two main research ethics committees, namely the North-West University Business School's Human Resource Cluster Scientific Committee and the Faculty of Economics and Management Sciences Ethics Committee (FEMS).

The study strived for honesty in all communications, report data, results, methods, and procedures. It avoided any bias in data analysis, data interpretation and other areas where objectivity was required.

1.10 DEMARCATION/DELIMITATION OF STUDY

The study was conducted in Mpumalanga and Limpopo Provinces in South Africa, in the construction industry, focusing on challenges faced by women.

1.11 OUTLINE OF THE DISSERTATION

This mini-dissertation is presented in article format. Chapter 1 contains the introduction and orientation of the study, problem statement, and an outline of research methodology. In Chapter 2 a comprehensive literature review where relevant information concerning the topic is outlined. In this chapter, a detailed research methodology is also presented. The mini-dissertation is concluded in Chapter 3 and entails conclusions and recommendations about this study.

1.12 LIMITATIONS OF THE RESEARCH

Male-dominated industries in South Africa are many, but this study focused only on the construction industry, emphasising women in the construction industry, which constitutes only a fraction of the total number of women in male-dominated industries in South Africa. The study was only limited to women in Mpumalanga and Limpopo Provinces. This limited the generalisability of the results generated since it did not represent a general view of women in the construction industry in South Africa's construction industry. Another limitation was the empirical nature of the research. The extent to which the findings can be generalised was limited, particularly because any study of gender and institutions is socially fluid and not fixed in terms of time and place. The qualitative approach used limited the generalisability of the findings.

Snowball sampling was chosen for data collection by considering the study's objective, time, and budget available. There was a lack of sources on the study of the barriers to women's career advancement in South Africa's context. Most of the literature reviews in this research was based on a foreign context. It was a challenge to find a related journal in South Africa's context to support this study's results.

1.13 SUMMARY

Chapter 1 contains the introduction and orientation of the study and focused on the problem statement, objectives, and research method in this study. This was followed by a division of the chapters that follow.

Chapter 2 focused on the challenges that women face in the construction industry in Mpumalanga and Limpopo Provinces in South Africa; perceptions of women on how they think men perceive them in the construction industry; measures women could take to overcome the challenges they face in the construction industry; and measures an industry could take to overcome the challenges faced by women in the construction industry.

This mini-dissertation is concluded in Chapter 3 and entails conclusions and recommendations pertaining to this study.

2 CHAPTER 2: RESEARCH ARTICLE

Challenges that women face in the construction industry in Mpumalanga and Limpopo Provinces in South Africa

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ABSTRACT

The construction industry is naturally male-dominated and turns to present a major obstacle for equal opportunities for women to enter and prosper in the industry. The South African construction industry has a principally low involvement proportion for women in this industry. The construction industry presents a masculine culture where relationships are characterised by obscenity, quarrels, fights, and crises. The primary objective of this article is to explore and understand challenges faced by women in the construction industry in Mpumalanga and Limpopo Provinces. In this article the population was South African women of different age groups, all races, different socio-economic status, various residential areas, diverse educational status, and women who work or worked in the construction industry in Mpumalanga and Limpopo Provinces in South Africa, which formed a collective of all affiliates that met the requirements and the inclusion criteria.

Qualitative data collection instruments, namely, a semi-structured questionnaire and protocol, were used as part of the more extensive interviews. Quantitative collection instruments were used for the survey with the intention of validating the findings of the in-depth interviews. A web-based questionnaire was created, and participants were sent a web-based questionnaire link through email to enable them to participate. The data collection and the field were accessed through in-depth interviews on Zoom, Skype, Microsoft Teams and a web-based questionnaire link, emails, and personal handing over of questionnaires. Questionnaires are the most relevant process of gathering data since they can be conducted via telephone, mail, web-based questionnaire link, email or other methods. In this research, the thematic analysis technique was used to examine qualitative data (interviews). Unlike several qualitative practices, this technique employs gathering and thematising and is diverse and not limited to the theoretical or epistemological viewpoint.

Based on the findings of the survey and in-depth interview results, the following conclusions were drawn: construction industry tailored for men's needs; women being regarded as less capable than men in the construction industry; there is unfairness of the recruitment processes as women experience discrimination by recruiters because of their gender; there is poor communication which creates a problem between men and women; women are not recognised since they are classified under administration roles most of the time; there is a glass ceiling as most of the opportunities are given to men as they are believed to be physically fit to perform better than women; harassment came out as one of the main challenges faced by women in the construction industry; there is unequal treatment like women being paid less than their male counterparts, and there are fewer leadership opportunities for women in the construction industry.

Recommendations based on the findings of the survey and in-depth interview results are listed as: women must embrace standing out when they do not agree with the treatment or unfair practice; women must develop and maintain a network for supporting and building strong female leaders in the construction industry, create female mentors for newcomers in the industry; and form women forums to articulate on all the challenges that women may face; women must have organisations that cater for women's needs in the construction industry. Further recommendations that were made are measures that the construction industry can implement to improve conditions of women in the construction industry are: construction industry should make progressing more women in leadership roles a priority, and provide role models and training for women upliftment in the industry; employ more females in the management space; ensure a mentoring culture is cultivated across the companies in the construction industry; and senior staff should encourage and invest time in women within the company in the construction industry so women can be brought through to the top ranks.

Key Words: Barrier, construction industry, women, challenge, career, glass ceiling theory, male-dominated social influences, culture.

2.1 INTRODUCTION

Most women commit their careers with expectations about a well-paying job, secure workplace conditions, and happy employment. Sadly, these expectations change with actual work dynamics. Consistent with Oo *et al.* (2019:2), this development may well be the result of impediments encountered by women within the construction industry, the high expectations and women's lack of information of the business. Stamarski and Hing (2015:1) believe that the place of work has been described as unwelcome place for women due to the various types of gender inequalities that are often present. Some instances of how the place of work discrimination undesirably distresses women and hamper their growth prospects are the gender wage gap, the shortage of women in leadership and management positions, and the extended time it takes for women to advance in their careers (Stamarski & Hing, 2015:1).

Few of the barriers as stated in reference studies are indicated below:

As indicated in Jamenya (2018:532), companies turn away the potential of women for climbing the ladder by limiting them to perform roles considered the occupation of women. Appointments in companies can be barriers at entry-level jobs, making it problematic for women to get promoted since these barriers are important in making career paths in the company and affecting promotions. Job enrolment employers usually place women in jobs with non-existent job rankings (Jamenya, 2018:532). Abidemi and Ayobami (2015:5) contend that women employees turn to find themselves being exposed to a hostile environment. Women who would like to join the construction industry face stereotypical barriers, with added stereotypes in the construction industry, by nature, of the profession and the professionals themselves in this male-dominated environment.

Though faced with this organisational barrier, some women gain career gratification, confidence, and hopefulness than their male equivalents, as they move into traditionally male positions in industries like construction (Abidemi & Ayobami, 2015:6). The male-dominated culture can be destructive for women who wish to enter the industry, grow their careers, and remain in the construction sector.

Amaratunga *et al.* (2007:8) contends that extra working hours, construction location being far from normal residence, geographical uncertainty and competitive nature of the industry are openly masculine in nature to promote male standards in the construction industry. As indicated Amaratunga *et al.* (2007:10), the findings categorise the image of the industry as a noteworthy factor that discourages women from entering the industry. As already indicated by other authors, Amaratunga *et al.* (2007:10) as states that, the image of construction is that of a male-dominated industry, which needs physical strength and a good tolerance for outdoor conditions, extreme weather, and immoral language. According to Amaratunga *et al.* (2007:10), this is a principal image that discourages women from entering the construction industry.

As indicated in Amaratunga *et al.* (2007:10), one male said: *"My image of construction is...it is dirty, cold, anti-family friendly, very substantially destructive to home lives. The construction site uses discrimination and bad languages at higher levels"*.

Studies (Abidemi & Ayobami, 2015; Adogbo *et al.*, 2015; Aboagye-Nimo *et al.*, 2018; Akomolafe & Mohammed, 2015; Amaratunga *et al.*, 2007; Harris, 2017; Jamenya, 2018; Rosa *et al.*, 2017; Sangweni, 2015; Pandiselvi, 2018; and Secatore & Scott-Young, 2016) conducted show there are many barriers that women encounter when they move into and work in the construction industry. Therefore, it was important to investigate the problems and challenges faced by women moving into and by women who are already in the construction industry. This article focuses on the challenges women face or encounter in the construction industry, investigated measures to improve the environment in the South African sector to be more accommodating to women, and looks at ways to improve their working conditions. The article specifically focusses on the women in the construction industry in Mpumalanga and Limpopo Provinces in South Africa.

2.2 PROBLEM STATEMENT

The construction workplace is often viewed as among the most bigoted, with an exceptionally masculine culture that is antagonistic and biased towards women. This culture ended in gender discriminated job prospects and younger women becoming discouraged with their career choice quicker and sought to quit the construction industry early. Rosa *et al.* (2017:30) say there is a range of challenges women face in the construction industry, namely, sexist attitudes, behaviours and perceptions, long working hours, competition among staff, autonomy, isolation on job sites, negative perceptions of women capabilities, small representation on job sites, the expectation of mimicking males' aggressive behaviour habits, lack of role models/mentors and unfair assessment of training needs, lack of family and work-life balance, limiting slow career progression or a low potential for career advancement, stress, being undervalued, and institutionalised discrimination (glass ceiling). These are some of the challenges women face when choosing the construction industry as a career. It is noteworthy that sexual harassment is a predominant barrier (Rosa *et al.*, 2017:29).

Sangweni (2015:29) contends that the construction industry struggles with transformation as few women are represented in the industry. Credentials and employment methods are one of the contributors to this underrepresentation. Historically, the Apartheid government rules caused difficulties for women in getting an education which consequently, constrained them from working in numerous segments of the economy (Sangweni, 2015:30). While women are somewhat less likely to have started lower primary school than men (McKeever, 2017:123), the big difference is that women are much less likely to have taken both mathematics and science classes while in primary and secondary schools. As a result, few women follow careers in construction management.

The shortage of women in the construction industry is influenced by factors like, sexual harassment, discrimination, job hazards, and inhospitable environment (Aboagye-Nimo *et al.*,

2018; Abidemi & Ayobami, 2015; Adogbo *et al.*, 2015; Harris, 2017; and Jamenya, 2018). These challenges are painted as mainly predominant factors that affect the employment of women negatively in the construction industry. Extensive research on challenges women face in the industry has been conducted globally by authors (Abidemi & Ayobami, 2015; Adogbo *et al.*, 2015; Amaratunga *et al.*, 2007; Aboagye-Nimo *et al.*, 2018; Akomolafe & Mohammed, 2015; Harris, 2017; Jamenya, 2018; Ler, 2014; Pandiselvi, 2018; Oo *et al.*, 2019; Rosa *et al.*, 2017; and Secatore & Scott-Young, 2016), but minimal research had been performed on the topic in South Africa (Aneke, 2015; Botha, 2016; McKeever, 2017; and Sangweni, 2015).

2.3 LITERATURE REVIEW

The construction industry is historically a male-dominated industry. This presents a major obstacle for women to enter and prosper or to achieve equal opportunities in the industry. The South African construction industry has a principally low involvement proportion for women in this industry. Sangweni (2015:30) contends that the construction industry in South Africa is the third most male-dominated after mining and manufacturing. Still, it appears to exhibit the most significant discrimination concerning the recruitment of women. Evidence demonstrates that the persistence of gender inequality in construction affects women's recruitment, retention, and progress and is largely attributable to cultural and structural barriers (Sangweni, 2015:30). It also appears that most women are employed not in the mainstream of construction jobs but as secretaries, administrators, and safety officers (Sangweni, 2015:30).

Botha (2016:1) says women are now globally a vital part of the mining workforce because of equal opportunity legislation. This legislation has forced mining companies to dynamically change the demographic profile of their workforce to reach the set targets of the Mining Charter. Botha (2016:2) also contends that with all the advancements in the mining environment, women are still exposed to various challenges and risks, including sexual harassment. As indicated in Botha (2016:4), women face many challenges in the mining environment, which includes harassment from male co-workers and bosses and resistance from the community.

Haupt and Harinarain (2016:81) contend that construction is viewed as less prestigious than other industries, where construction workers are viewed as blue-collar workers that are identical with low status. Other factors that discourage young people, especially women, view that any career that involved manual labour is a low-status career due to low salaries compared to other industries and lack of clear career paths. According to Haupt and Harinarain (2016:82), further dent in construction image is a general opinion that construction jobs were paying less than jobs in other industries.

Findings from referenced researchers

Adogbo *et al.* (2015) findings affirm the position from the literature on the wide disparity and female students registered in educational institutions and construction courses. The findings found that there are fewer women than men enrolled in all the Departments they surveyed, as one of the factors influencing the low trend in women participating in the construction industry.

Consequently, this trend continued into practice and of the few who do graduate, a smaller number are attracted to pursuing careers in construction and even fewer remain long enough in the industry, confirming the findings that women are under-represented in the Nigerian construction industry.

Aboagye-Nimo *et al.* (2018) found that women had all expressed there were challenges when trying to get into the industry and more importantly rising to their current roles and describing the industry as an aggressive one. The finding referred the industry as a world belonging to the opposite gender, also referred to the industry as ‘a man’s world’. Another finding is one woman believed she was ‘only able obtain a job because she knew somebody there’. She did not believe her educational qualification(s) enabled her to gain the employment opportunity. Another finding indicated that one woman was explicitly told that she was being employed to ‘*meet a gender equality quota*’. Aboagye-Nimo *et al.* (2018) indicated that from the research findings, it could be deduced that some women had already felt inadequate when entering the workplace.

Harris (2017) findings revealed that that women who do not align themselves to the female stereotypes were favoured less and are less effective. The research findings supported the notion that gender discrimination was still a valid concern, and women continue to encounter a glass ceiling as they navigate career opportunities.

The findings from Rosa (2017) showed that the top three career challenges were stress (Mean = 3.9), difficult family life balance (Mean = 3.91), and negative perceptions (Mean = 3.84). The findings also reveal that misinterpretation and misperceptions of the construction industry are perpetuated by family, friends, teachers, career counsellors and the media regarding the sustainability and suitability of women joining the construction industry.

2.3.1 Challenges faced by women in the construction industry

Challenges faced by women in the construction industry are:

- ***Poor working conditions***

The workplace is described as an unwelcome place for women due to various forms of gender inequalities and unequal treatment (Stamarski & Hing, 2015:1). When many people think of the construction industry, they think of groups of men covered in grime, wearing a hard hat. Alternative significant obstacles include a poor business image as construction is considered dirty and dangerous; and a high level of labour stress (Oo *et al.*, 2019:2). The stereotypical image of a construction worker is of a strong man, covered in dirt and working long hours, and because most of the construction workforce is male, that image is not solely unrealistic. However, the reality is changing (Haupt & Harinarain, 2016:81).

Site-based employees, both professional and manual workers, are usually subjected to changing of bad work locations. This can involve travelling substantial distances and/or extended periods away from home, sometimes in remote rural areas, a situation that can

present serious difficulties in transport and child-care (Akomolafe & Mohammed, 2015:6).

Secatore and Scott-Young (2016:2) say sexist behaviour in the construction workplace is another deterrent to women working in construction. Sexual harassment is a severe problem for women in construction workers. According to Rosa *et al.* (2017:29), there is a range of discrimination women face when choosing the construction industry as a career where sexual harassment is being noted to be a predominant barrier. The challenge posed by sexual harassment can be a serious deterrent and a barrier that discourages women from joining and staying in the construction industry.

- *An unhealthy working environment*

An unhealthy working environment is defined by ineffective or negative communication, unprofessional or dishonest behaviour, vindictive practices, or policies and/or strained relationships between staff and workplace leadership. The construction industry environment is known to have an unhealthy working environment, especially for women. They faced different health hazards, physical problems, and adverse outcomes (Pandiselvi, 2018:163).

- *Gender stereotypes, Gender inequality and Discrimination*

Some instances of discrimination at the workplace that unpleasantly affect women are remuneration, unequal opportunities, few women in leadership, and the longer time needed for women to advance in their careers (Stamarski & Hing, 2015:1). Evidence demonstrates that the persistence of gender inequality in construction affects recruitment of women, retention and progress and is largely attributable to cultural and structural barriers (Sangweni, 2015:30).

Other authors further highlight the discrimination and other unfavourable conditions that women encounter in the construction industry. Harris (2017:42), for example, states that in some cases, gender discrimination is not blatantly apparent because of the regulatory laws and sanctions against gender discrimination. Nevertheless, various forms of gender inequality and discrimination continue to affect the lives of women.

Stamarski and Hing (2015:4) also support the idea that women face a lot of challenges and indicates that institutional discrimination against women also happens in their performance evaluations when determining organisational benefits (e.g. compensation), punishments (e.g. termination), and opportunities (e.g. promotion, role assignments).

Aneke (2015:16) contends that girls and boys are conditioned to behave and play roles pre-determined by society even in educational institutions. Questions arise as to the perceived capabilities and self-image of the girl-child in the performance of carrying out their duties in a society where men are perceived to be dominating. In some cultural groups, the problem of gender inequality starts immediately after a girl-child is born.

Aneke (2015:16) notes, “the oppression of women is fostered in Africa through cultural vehicles such as proverbs”. In patriarchal cultures, male children are given priority and are instilled with a sense of gender superiority. Female children are valued less, and their vocation is perceived as just caregivers.

Women in non-traditional fields struggle with negative stereotypes that impede their performance in science, technology, engineering, mathematics (STEM), and construction (Tunji-Olayeni *et al.*, 2017:427). As stated in National Association of Women in Construction (NAWIC, 2013:8), women's progression is probably inhibited by stereotypes around women's capabilities and become the main social barriers to women's contribution in the construction industry. Oo *et al.* (2019:2) confirm there are gender stereotypes within the business. According to Wangle (2009:27), gender stereotypes are present in many realms, including personality traits and intellectual achievement. In consideration of personality traits, men are regularly seen as more autonomous, assertive, and competitive, whereas women are perceived as more sensitive, communicative, and tender-minded. These gender-based personality traits reflect and replicate the archetypal social positions as the ‘male breadwinner’ and the ‘female caregiver’ (Wangle, 2009:27).

As indicated in Akomolafe and Mohammed (2015:5), women employees turn to find themselves being exposed to an awfully antagonistic environment. Women who would like to join the construction industry face stereotypical barriers, with added stereotypes in the construction industry by nature of the profession and the professional themselves in this male-dominated environment.

- *Inefficient human resources procedures*

Oo *et al.* (2019:2) state that there is a lack of skilfulness in construction companies' human resource management when it comes to what to offer women. Secatore and Scott-Young (2016:2) reason that an unfair recruitment process is another deterrent in the construction industry, which is thought to be one of the contributing causes to limited female participation in the industry. Traditional recruitment practices such as ‘word of mouth’ recruitment, advertisements displaying male images, discriminatory selection criteria and lack of part-time roles are all contributing factors (Secatore & Scott-Young, 2016:2). Rajkumar *et al.* (2016:263) identified attitudes and inflexible working practices as one of top barriers for individual women in the construction industry.

- *Work-life balance*

NAWIC (2013:8) contends that women's advancement is probably inhibited by the requirement to work long hours. Oo *et al.* (2019:2) indicate that the highest challenges women face in the construction industry include long and inflexible operating hours; and issues around reconciling work and family. Akomolafe and Mohammed (2015:6) state; the struggle between work and family responsibilities that many constructions professionals experience is more severe for women than for men. Amaratunga *et al.*

(2007:14) also state that the struggle between work and family commitments and responsibilities that many constructions professionals experience is more severe for women than men. Whereas men and women both need to balance work and home life requirements, women still carry the primary responsibility for domestic duties in most households (Amaratunga *et al.*, 2007:14).

- *Lack of networking*

The advancement of women is probably inhibited by lack of networking (NAWIC, 2013:8). Another big obstacle includes few informal networks for career prospects for women in the construction industry (Oo *et al.*, 2019:2). According to Harris (2017:37), many impediments that women face in leadership stem from lack of mentors and proper networks. Women face employment barriers because of the absence of mentors, networking opportunities, and self-confidence. In addition to the short-sighted mentality, other barriers include minimum effort and a lack of networks for women, which impact the attraction, promotion, and retention of women (Secatore & Scott-Young, 2016:3).

- *Male-dominated industry*

Another challenge that women in construction face are when they apply for positions in the construction industry. Secatore and Scott-Young (2016:2) contend that their male counterparts frequently select women for tasks that are intended to ‘test’ their ability to work in a male environment. Such behaviour can undermine women’s professional status and may even lead to some women leaving the industry. Adogbo *et al.* (2015:101) also state that the male-dominated atmosphere of the construction industry exemplifies a significant barrier to female recruitment, development, and retention. Rosa *et al.* (2017:29) mention male standards and values such as competition amongst colleagues to be dominant in the construction industry. All these factors portray the construction industry as promoting a hostile professional environment and a selfish environment. Rosa *et al.* (2017:29) also paint the industry as male-dominated with male standards and values being entrenched and practised in the construction industry.

As indicated in NAWIC (2013:5), women are left out by some influential men in the construction industry. They are demoralised from joining the construction industry because of excessively long hours, a lack of flexibility in the process, and difficulty affording them proper education required to assume certain roles like engineering and heavy labouring. Another author supports the perception of the construction industry as being of openly masculine by practising working long hours. Amaratunga *et al.* (2007:8) contend that extra working hours, construction location being far from typical residence, geographical uncertainty and competitive nature of the industry are openly masculine in nature to promote male standards in the construction industry. Rosa *et al.* (2017:29) also mention male standards and values such as extensive working hours and competition among colleagues as dominant in the construction industry.

- *Limited career growth opportunities to leadership positions*

Comparatively, as women continue to pursue leadership professions, many women face obstructions in their career paths that men do not encounter. Harris (2017:37) states that barriers may have contributed to the scarcity of women leaders in organisations, and there is a perception of the gendered obstacles that women face as they aspire to navigate forward into leadership occupations. The importance of providing women with resources, opportunities, and business relationships assists them in climbing up the corporate ladder.

Lack of leadership positions for women in the construction industry is further illustrated by NAWIC (2013:7). The author states that there is a small number of women in leadership positions, with a reasonable number in middle and senior management. According to Harris (2017:37), many impediments that women face in leadership stem from negative stereotypes, work and life imbalances, prejudices, the lack of mentors and proper networks, and women facing employment barriers because of the absence of mentors, networking opportunities, and self-confidence.

- *Lack of Women Role Models*

Having few women role models, especially at an executive level, does not give women the right impression of their prospects of succeeding in the construction industry. According to NAWIC (2013:8), the advancement of women is probably inhibited by a lack of women's role model path. As stated in Rosa *et al.* (2017:29), the absence of positive influences such as lack of role models has a negative influence on women's careers success in the construction industry. With the lack of women in senior positions and limited visibility of women on site, few female role models suggest to young women that construction is a viable career opportunity (Secatore & Scott-Young, 2016:3). Lack of other female role models within the construction industry and lack of mentors available to young women in the construction industry could be one of the attributes to hindrances that shorten female site engineers' professional working life on construction sites in South Africa (Sangweni, 2015:3).

- *Lack of experience and insufficient education*

NAWIC (2013:4) states that a typical barrier in joining the construction sector is lack of prerequisite experience women need, and this is cited as a barrier by 42.1% of women respondents, and barriers like 'insufficient education or qualifications' and 'gender related issues' are cited as contributing 16.7%. A lack of practice and education is the biggest barrier for beginners in this sector. This is also supported by Ler (2014). (Ler, 2014:22) indicates that women have a lower education level and are unlikely to be employed since lack of education or lower education level hinder them to progress in their careers. Sangweni (2015:3) contends one of the barriers that curtail the professional working life of woman engineers on construction sites in South Africa is inadequate education aligned with the construction industry. Rajkumar *et al.* (2016:263) identified lack of apprenticeship as the main barrier that affects women's

empowerment in construction. Lack of training opportunities is one of the top barriers for individual women in the construction industry (Rajkumar *et al.*, 2016:263).

- *Menial jobs and job segregation for women*

Women in construction are known to do more menial jobs like administration, personal assistant, security, cleaning, document control, etc. Sangweni (2015:30) contends that most women are employed not in the mainstream of construction jobs but as secretaries, administrators, and safety officers. Aneke (2015:79) argues that generally, there is a wide-ranging perception that women are not a right gender to be conducting the manual labour on construction sites. Therefore, women who are in the construction industry are assigned administrative and clerical duties, which are considered to require very little or no physical strength (Aneke, 2015:79). Rosa *et al.* (2017:29) also contend that women are misjudged on performance compared with male counterparts and are being restricted to clerical/administration roles.

- *Glass ceiling*

Sangweni (2015:33) has indicated that, although the number of women entering the construction industry increases, it does not mean that women are rising to middle management and senior positions. The existence of the glass ceiling suggests that men feel that they are losing their competitive edge, and the author goes further and contends that men feel that they are losing their influence. At the same time, women are promoted to management positions. According to Ler (2014:19), women are overrepresented in the junior level but underrepresented at a senior level in construction because of the glass ceiling. This has led to an antagonistic effect on the confidence of women in this industry. Another author supports the existence of the glass ceiling in the construction industry. Aboagye-Nimo *et al.* (2018:3) identify the glass ceiling as a barrier that prevents women from succeeding in the workplace.

2.3.2 Perception of women on how they think men perceive them in the construction industry

- *Gender stereotypes, Gender inequality and Discrimination*

The difficulties that women face before and during apprenticeship programs initiates their microscopic share of the field. National Women Law Centre (NWLC, 2014:7) attributes the low percentage of women in the construction industry to discrimination that starts at school and continues right up to the employment chain. Women are also seen as disruptive to unity by male workers and considered to cause disharmony by their very presence at the construction site or industry. As stated in Jamenya (2018:535), pastoralists in Eastern Africa channels girls to accept women's role as aides to their mothers. The mothers, in turn, is expected to support their husbands. These cast roles lead to the social acceptance that girls are the weaker sex because they are taught to be submissive and respect men's leadership.

Harris (2017:3) also contends that there is a notion that organisations privilege men over women, which is a growing concern of feminists and researchers. Equally important, there is a perception that men are more competent than women in management and leadership occupations. Galea (2017: 256) indicates that women also find that male managers lack confidence in their ability as females to command authority and discipline from men.

NWLC (2014:7) indicated that subtly, young women are usually encouraged and directed into professions that are traditionally perceived and aligned to gender stereotypes, rather than being encouraged to join historically male jobs such as construction. According to Akomolafe and Mohammed (2015:7), one of the reasons why women are not taken seriously in the construction environment is because they are considered physically incapable to perform specific tasks. As a result, they are expected to play second fiddle to male counterparts. Women are stereotypically deemed substantially lacking the strength required for the construction industry. Only men are strong and able to lift heavy equipment on construction sites.

- *Male-dominated industry*

Many male employers regard women as unsuitable for some conventionally male-dominated jobs. They consider them to require a reasonable level of strength and fitness, stating some job requiring above average upper body strength for lifting and heavy operations (Akomolafe & Mohammed, 2015:7). According to Aneke (2015:35), to understand better the challenges faced by women in male-dominated industries men see women as more helpful, caring, kind, sympathetic, insecure in carrying out their duties – either at the family level or workplace – so that gives the perception that women are the weaker sex while men are perceived as the stronger sex because they tend to be more aggressive, confident, independent, and command respect both from families and colleagues.

Galea (2017:39) states that women are marked by their sex and are vastly visible in the company of male engineers. Still, women are unseen as engineers, with technical proficiency associated with masculinity. For this reason, macho engineering bosses pass judgement on women to be neither naturally fit nor valid engineers.

- *Lack of experience and insufficient education*

Aneke (2015:79) also mentions that men regard experiences of women as inadequate regarding construction site-specific practical experience such as in managing and handling site equipment, construction management, engineering designs, commissioning, among other things. Suggesting that women efficiency and productivity level will be low because they do not have the required site-specific skills in carrying out construction jobs on sites.

2.3.3 Measures that women can take to overcome the challenges they face in the construction industry

- *Development of partnership*

The Construction Industry Federation (CIF, 2018:19) recommends the development of partnerships among women organisations to create a better condition for qualified women to Science, Engineering and Technology (SET) careers through provision of advice, mentoring and networking, training, and flexible work placements. Typical beneficiaries from such initiatives may include young women interested in the construction industry, women already in construction and may benefit from personal development, women who need a career break, or women returning to again work in construction. According to CIF (2018:19), the following may address these challenges:

- Promote mentoring and develop networking among professional women in construction.
- Increase awareness of the purpose of existing initiatives that target women.
- Circulate information about the initiatives to Human Resource (HR) management departments of construction organisations, schools, and career advisors.

- *Networking opportunities and mentorship programmes*

Women ought to look for networking opportunities to increase their social circle into male-controlled networks to achieve insight into marketing opportunities. Harris (2017:153) recommends establishing mentorship relationships to support girls in their construction growth pursuits, development of their careers, and increasing their profile in the organisations.

- *Hard work and upskilling*

Successful women leaders use methods like endurance, empathetic intelligence, self-efficacy, hope, perseverance, and keenness for handling and overcoming career hindrances, as indicated by Harris (2017:154). Women who rise to top of career, obstacles enforced methods like defining relationship boundaries, being optimistic, staying silent, committing progress, and making progressive efforts. Powerful women in leadership positions stressed qualities like self-determination, skilled growth, power, intent, trust, self-efficacy, and freedom as a receipt for success in the construction industry (Harris, 2017:154). Career intervention strategies give growth to self-efficacy and reduce the adverse effects of career barriers and will assist women in navigating through the hindrances.

2.3.4 Measures an industry can take to overcome the challenges faced by women in the construction industry

According to Oo *et al.* (2019:5), there are three statically important factors affecting women career choice and are career prospects, prospects of a better pay, self-efficacy, and confidence to executing construction tasks. Oo *et al.* (2019:5) further contend that educational institutions

and employers could strengthen their efforts on these factors and attract and retain female graduates in the construction industry.

- *Address the effects of male-dominant culture*

According to Tunji-Olayeni *et al.* (2017:427), if the trade takes considerate steps to handle the manly environment of the trade, many women will maintain their presence within the construction industry. Many women should be offered opportunities to manage activities on construction sites. The construction industry has to transform from a hard labour, process-orientated industry towards one that uses a high level of mechanisation. Such a transformation will persuade many women to enter or remain within the industry.

- *Consider what women need to get attracted to the construction industry*

Secatore and Scott-Young (2016:3) say that although substantial research exist that deals with the difficulties women face in the construction industry, little is known about what attracts women to the construction industry in the first place. Secatore and Scott-Young (2016:3) further contend that recent research has identified that having a parent working in the industry, awareness of career opportunities, and internship placements attract female undergraduates to the industry. Besides, the fit between the nature of the construction industry and personal character traits (such as solid communication skills, eagerness to work extremely hard, and the ability to relate to different cultures and temperaments) are another factor which attracts and motivate women to believe they are suitable to work in a tough male-dominated industry (Secatore & Scott-Young, 2016:3). To attract and advance women within the construction industry, companies need to provide more visible, strong female role models to inspire young women that they too can succeed in this exciting and challenging industry.

Amaratunga *et al.* (2007:24) recommend that school students, parents, teachers, industry employers, and career advisors must be targeted to improve awareness and understanding of the industry. The author further recommends advice to parents and teachers on how to encourage and support daughters who choose to have a career in construction.

- *Retention plan and strategy to keep women in the construction industry*

According to Secatore and Scott-Young (2016:3), retention of women in the construction industry has been linked to the behaviours of senior managers through supporting, encouraging, and enabling women to showcase their abilities. Mentoring programs are also known to retain and help women to progress in their careers (Secatore & Scott-Young, 2016:3). Such mentoring programs assist women in tackling the negative barriers, and helping to increase personal and job satisfaction, and make it more likely for them to stay in the construction industry. Further, the development of supportive networks and job shadowing opportunities are important to the retention of women in the construction industry.

Secatore and Scott-Young (2016:3) also reason that companies that provide flexible working hours and locations increase job satisfaction, reduce stress levels, and increase their employees' loyalty to the company and the construction industry. However, despite what is already known, there remains more to be discovered about what initially draws and subsequently holds women in the construction industry.

Adogbo *et al.* (2015:113) offer the following recommendations for the construction industry with their framework and mention that it will be helpful to entice and retain women in the industry. They recommended the following:

- Attracting female students: this will help in women career advancement.
 - Academic institutions: to help the important stakeholders find strengths and weaknesses fundamental in training female students and techniques to alleviate foreseeable problems.
 - Female specialists who can help with training and mentoring women in construction.
-
- *A balance between work and family life*
Amaratunga *et al.* (2007:22) contend the following steps to be taken to enable women to be more successful in achieving a balance between work and family life:
 - Permit flexible working hours based on the scale of the family obligations women have.
 - Develop career arrangements that may include:
 - Providing re-skilling for returning workers.
 - Providing laptop, and other services and tools that will allow women to work from home provides better flexibility in working patterns.
-
- *Adequate career advices*
Tunji-Olayeni *et al.* (2017:426) state that potential and current students need to be adequately advised about a career choice in construction.
-
- *Exposure to female role models*
According to Tunji-Olayeni *et al.* (2017:426), same-gender role models are helpful for women who are in fields like Science, Technology, Engineering, and Mathematics (STEM) and construction. Women in STEM fields struggle with negative stereotypes that hinder their performance in these fields. As a result, female role models can protect women in STEM fields against the depressing effect of negative stereotypes.
-
- *Improving the image of the industry*
Tunji-Olayeni *et al.* (2017:427) indicate that numerous strategies have been provided to encourage female retention in the industry that can improve the image of the industry and improving work-life balance in the industry. Tunji-Olayeni *et al.* (2017:427) reason that if the industry takes thoughtful steps to address the manly nature of the industry, a lot of females will be retained in the construction industry. More females should be given opportunities to manage work on construction sites. The change from process-

orientated manual labour to a work environment which incorporates a high level of mechanisation will also attract and persuade more women to stay in the industry.

Non-violent working environments will create a safe ambiance and will ultimately attract and retain more females in the industry (Tunji-Olayeni *et al.*, 2017:427).

- *Improving work-life balance in the industry*

According to Naismith *et al.* (2017:232), most women in the construction industry worry most about issues concerning the challenges of balancing work and life, mainly if raising children and tend to want to leave to have a family and find transitioning back difficult. According to Tunji-Olayeni *et al.* (2017:427), meeting the demands of work and family for women, particularly those in construction, can be challenging. Organisations must review their working policies to accommodate flexible hours if they want to retain women in the construction industry.

2.4 AIM AND OBJECTIVES OF THE STUDY

This section considers the primary aim and secondary objectives of this study.

2.4.1 Primary objective

The primary objective of this was to explore and understand challenges faced by women in the construction industry in Mpumalanga and Limpopo Provinces.

2.4.2 Secondary objectives

The secondary objectives of this research were to:

- Determine the challenges faced by women in the construction industry in Mpumalanga and Limpopo Provinces.
- Determine the perception of women on how they think men perceive them in the construction industry.
- Determine measures women could take to overcome the challenges faced by women in the construction industry.
- Determine what measures an industry could take to overcome the challenges faced by women in the construction industry.

2.5 RESEARCH QUESTIONS

This section considers the primary and secondary questions of this study.

2.5.1 Primary research question

What are the challenges women face in the construction industry in Mpumalanga and Limpopo Provinces?

2.5.2 Secondary research questions

Based on the primary and secondary objectives above, the following research questions were formulated:

- What are the challenges faced by women in the construction industry in Mpumalanga and Limpopo Provinces?
- How do women think men perceive women in the construction industry?
- What measures could women take to overcome or deal with challenges faced by women in the construction industry?
- What measures could the construction industry take and implement to improve the retention of women in the industries?

2.6 RESEARCH METHODOLOGIES

2.6.1 Paradigm

The three highly popular paradigms are positivism, constructivism or interpretivism, and pragmatism. This article was based on the interpretivism paradigm. The interpretivist approach is based on naturalistic approach to data collection such as interviews and observations.

According to O'Neil and Koekemoer (2016:3), interpretivism (a reaction to the inadequacies of post-positivism) does not focus on falsification or identification of variables. It rather focusses on finding perceived meaning as ascribed by the participants. The truth was regarded as relative; therefore, multiple realities existed. As indicated in O'Neil and Koekemoer (2016:3), the outcome of the interpretive research was to describe the realities while keeping their complexity intact.

Subjective interpretations of the respondents their perception of the world and their perception of the world were the starting point to understand phenomena as indicated in O'Neil and Koekemoer (2016:3).

The reasons for selecting this paradigm were:

- It had to diversify views to investigate phenomena, human or events were described and deeply understood in a social context as in Pham (2018:3).
- Leveraged a key method of interactive interview, which allowed the researcher to investigate and prompt things that could not be observed. Thoughts of interviewees, values, prejudices, perceptions, views, feelings, and perspectives were probed. Valuable data collected provided the researcher with better insights for further action later.

2.6.2 Research method

The research followed the qualitative research approach. As indicated in Bryman and Bell (2014:31), the qualitative investigation approach:

- Emphasised words rather than quantification in the collection and analysis of data.
- Mainly stressed an inductive approach to the connection between research and theory, in which the importance was put on making instead of proving theory.

The study followed a qualitative approach because investigative research advanced an understanding of underlying reasons and opinions on why women commonly face difficulties in the construction industry.

According to Creswell (2014:32), qualitative research is an approach for discovering and identifying individuals or groups' meaning to a social or human problem. The investigation process included developing questions and processes, data collected in the setting of participant or respondents, data analysis inductively built from particulars to general themes, and the researcher made interpretations of the meaning of the data.

Reasons for selecting qualitative research method as indicated in Rahman (2017:104) were:

- Firstly, qualitative research methodology generated a detailed explanation of participants' thoughts, feelings, and encounters; and interpreted the meanings of their actions.
- Secondly, the qualitative research approach (interpretivism) holistically understood the human experience in specific settings.
- Thirdly, interpretivism research methodology was considered as ideographic research, the study of individual events; and it had capabilities to understand different people's voices, meanings, and events.
- Fourthly, the qualitative research allowed the researcher to discover the participants' inner experience and to figure out how meanings were shaped through and in culture.
- Fifthly, qualitative research techniques such as participant-observation, unstructured interviews, direct observation, describing records were most used for collecting data.
- Lastly, qualitative research design had an adaptable structure as the design was built and recreated to a greater extent. Thus, the detailed and proper analysis of an issue was created by using qualitative research techniques, and therefore, the participants had enough independence to determine what was consistent for them. As a result, complex issues are easily understood.

The study followed a qualitative approach because investigative research advanced an understanding of underlying reasons and opinions on why women typically face difficulties in the construction industry. The qualitative approach allowed the researcher to address the objectives by providing elaborate interpretations of the experiences of women working in the construction industry without depending on numerical measurement (Quinlan *et al.*, 2019).

2.6.3 Research design

O'Neil and Koekemoer (2016:4) mention that the qualitative research selection of a design is based firstly on the stated research question, secondly on the acceptance of audiences and their familiarity with the design, and thirdly, on the training of the researcher, and experience with the different available designs.

This research design followed the cross-sectional strategy as it formed part of qualitative research. Bryman and Bell (2014:105) say the cross-sectional strategy is linked with public investigations and contains numerous other research approaches, such as planned observation,

content examination, official statistics, and diaries. The research methods were varyingly unstructured and semi-structured. The research contained individual interviews to advance an understanding of why women face challenges in the construction industry.

The process of creating and using qualitative research interviews were split into four steps:

- defined the research questions.
- generated the interview guide.
- recruited participants.
- carried out the interviews.

2.6.4 Population

In this article, the population consisted of South African women of different age groups, all races, different socio-economic status, various residential areas, and a diverse educational status. All the women who work or have worked in construction industry in the Mpumalanga and Limpopo Provinces of South Africa formed a collective of all affiliates that met the requirements and the population inclusion criteria.

2.6.5 Sample method

This study used snowball sampling. Snowball sampling was outlined as a non-probability sampling technique within which the samples had traits that were rare to search out. According to Babbie (2017:496), the snowball sampling method is a non-probability sampling method, often employed in field research. Each person interviewed may be asked to suggest other people for interviewing or refer people of the same characteristics to the interviewer. Consistent with in Bryman and Bell (2014:179), with snowball sampling, a researcher was able to build an initial contact with a tiny cluster of individuals relevant to the research topic and then used this cluster of individuals to determine contacts with others. One of the disadvantages of the snowball sampling method is that people tend to refer their friends and people within their circles. Not to have a group of friends, the researcher identified a couple of people within the industry who have no relation to each other but are in the population, thus forming a tiny cluster of individuals as they refer to other participants.

The reasons for selecting snowball ball sampling were:

- The capability to enrol hidden populations.
- The option to collect primary data in a cost-effective manner.
- Research with snowball sampling was achieved in a short duration of time.
- A very little organising was required to start primary data collection process.

Eighteen participants from both provinces partook in the in-depth interviews, and 41 participants from both provinces were used to undertake a survey to validate the results. Thus, the triangulation method was used to confirm the results of the interviews. Additional features of the 18 women who work in the construction industry participated in the study, and their profiles are presented in Table 1.

Table 1: Profile of the participants

ID	Gender	Tenure	Career category
P1	Female	5 years	Document controller
P2	Female	15 years	Admin supervision / management
P3	Female	9 years	Quality management
P4	Female	6 years	Project and operations management
P5	Female	3 - 5 years	Electrical engineering technician
P6	Female	11 years	Document controller
P7	Female	8 years	Control and instrumentation technician
P8	Female	3 years	Control and instrumentation technician in training
P9	Female	8 years	Industrial relations
P10	Female	3 years	Engineering electrical
P11	Female	9 years	Business administration
P12	Female	6 years	Commissioning engineering
P13	Female	Over 4 years	Engineering
P14	Female	Over 4 years	Construction supervisor
P15	Female	12 years	Occupational health and safety
P16	Female	9 years	Environmental health
P17	Female	13 years	Contract management
P18	Female	10 years	Construction supervisor

Their job responsibilities ranged from document controller, contract administration, commissioning engineer, project and operations manager, construction project engineer, senior quality manager, to environmental health manager. With this extensive and wide range of experience, each interviewee's response was considered to represent her unique subset within the group of women. The participants have been working in the construction industry for at least 3 years. Some have worked in the industry for more than 10 years.

2.6.6 Data collection procedure

The participants received an email invitation to participate in a survey. Zoom, Skype and Microsoft Teams sessions were arranged to conduct interviews.

The research was about women in construction. Hence other women in other industries and all men were excluded. The data collection targeted women in construction ranging from commissioning engineering, lead engineering, project engineering, project director, project management, construction management, quality management, sourcing management, general management, contract administration, safety management, engineer, and interns.

2.7 RESULTS

The qualitative findings for the eighteen in-depth interviews conducted are presented. In addition, the triangulation method was applied to confirm the in-depth interviews of the results

of a survey conducted. The results of the 41 people who participated in the survey study are presented, and the results compared to those of the in-depth interviews.

2.7.1 Profile of the participants

Eighteen women who work in the construction industry participated in the study, and their profiles are shown in Table 1.

2.7.2 Central themes

The results of this study were arranged in the following categories: (1) the challenges faced by women in the construction industry; (2) perception of women on how men perceive women in construction industry; (3) measures women can take to overcome the challenges faced by women in the construction industry, and (4) measures construction industry can take and implement to improve the retention of women in the industries. These categories were used to form four themes, and a thematic analysis was used to analyse the data using Atlas.Ti version 9. The main themes and subthemes are presented in Table 2 below.

Table 2: Themes and subthemes

Theme	Subtheme
Challenges faced by women in the construction industry	• Challenges faced by women in getting started in the construction industry. • Challenges faced by women in construction industry. • Challenges women personally face in the construction industry.
Perception of women on how men perceive women in the construction industry	• Male perceptions of women in the construction industry. • Negative factors for retention of women. • Positive factors for retention of women.
Measures women can take to overcome challenges faced by women in the construction industry	• Women must embrace standing out when they do not agree with the treatment or unfair practice. • Develop and maintain a network for supporting and building strong female leaders in the construction industry. • Forming women forums to articulate on all the challenges that women may face. • Have organisations that cater for women's needs in the construction industry to voice opinions. • Women to be empowered through training.

Measures an industry can take to overcome the challenges faced by women in the construction industry	• Progressing more women in leadership roles should be a priority in the construction industry. • The construction industry should base remuneration on capabilities and not gender. • Equal access to opportunities and mentorship with the construction industry. • Offering both men and women the same opportunities. • Companies in the construction industry must give women skills on how to handle some issues in the industry. • Companies must teach kids about the construction industry. • Get women mentors, offer training and equal salaries. • Leadership should create an environment that discourages and put an end to any form of sexism. • Provide women mentors with other women's best interest in elevating their skills and progress in the construction industry. • The industry should offer challenging roles for personal growth. • The industry should promote a healthy work-life balance, promote awareness of gender bias and hostile female recruiters. • The industry should support and network through various activities like an apprenticeship for women to obtain hands-on experience. • A diverse workforce that attracts the most talented and forward-looking employees. • Mixed group involved in decisions involving promotion to senior levels. • Procedures to deal with conduct that is derogatory to women. • Companies should identify suitable and interested women who would like to join construction from universities and colleges. • Construction industry needs to do the groundwork and needs analysis. • Procedures to deal with conduct that is derogatory to women. • Provide a safe and inclusive working environment and conditions. • The industry should establish a forum that looks at the challenges women face. • Women to stand up for themselves.
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The central issue was to explore and understand the challenges faced by women in the construction industry in Mpumalanga and Limpopo Provinces. Four research questions had to be addressed to answer the central issue, namely:

- (1) What are the challenges faced by women in the construction industry in Mpumalanga and Limpopo Provinces?

- (2) How do women think men perceive women in the construction industry?
- (3) What measures can women take to overcome the challenges faced by women in the construction industry?
- (4) What measures can an industry take to overcome the challenges faced by women in the construction industry?

The qualitative findings from the eighteen participants are presented in the following subsections.

2.7.3 Challenges faced by women in the construction industry

The theme on challenges faced by women in the construction industry was addressed by answering the questions. The theme was divided into three subthemes which are:

- Challenges faced by women in getting started into the construction industry.
- Challenges faced by women in construction industry.
- Challenges women personally face in the construction industry.

The diagrammatic presentation of the theme and subthemes are shown in Figure 1.

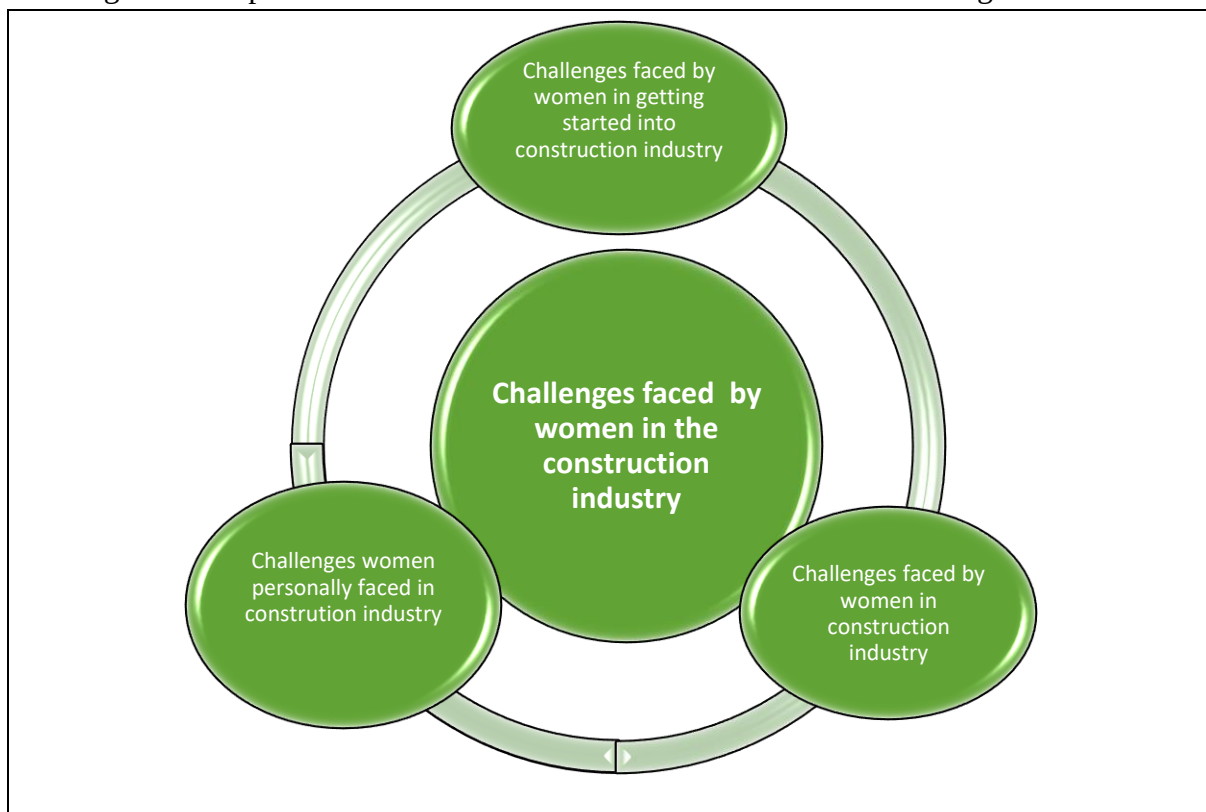


Figure 1: Theme and subthemes for challenges faced by women in the construction industry.

The results from the first theme are presented in the following subsections.

2.7.3.1 Challenges faced by women in getting started in construction industry

The participants were asked the question:

1. What challenges do you believe women face in getting started in the construction?

The findings resulted in nine key concepts emerging, as shown in Table 3.

Table 3: Summary of key concepts on challenges faced by women in getting started in the construction industry

Key concepts	Occurrence
Gender stereotypes, Gender Inequality and Discrimination	(10)
Gender discrimination	2
No fair recruitment processes, males are preferred over females	2
Women being hired to address gender inequality	1
Women seen as a distraction	1
Women are undermined in the construction industry	1
Women are thought to be less capable than their male counterparts	2
Social stereotypes	1
Male-dominated environment:	(8)
Construction is tailored for men's needs	3
Male-dominated industry	3
Women are outnumbered	2
An unhealthy working environment	(3)
Poor communication	2
Interpersonal conflict	1
Poor working conditions	(2)
Covered in grime	1
Unhygienic toilets	1
Menial jobs and job segregation for women	(2)
Women classified for administration roles	2
Work-life balance	(1)
Family commitment	1
Glass ceiling	(1)
Difficulties of breaking the ceiling/ stalled career	1
Lack of experience and insufficient education	(1)
Lack of experience	1
Limited career growth opportunities to leadership positions	(1)
No opportunities for leadership for women	1
Totals	(29)

Gender stereotypes, Gender inequality and Discrimination

The view that women are thought of as less capable than their men counterparts was mentioned by three participants. The participants were quoted as saying:

- *P3: Most of the time, men think women cannot make it.*
- *P12: Their capabilities are not trusted.*
- *P15: Women are thought to be less capable than their male counterparts to handle and deal with challenges on construction sites.*

The results revealed that women are not seen as capable of doing the same job as men. Two participants mentioned gender discrimination. Participant 7 indicated that they are given lower pay than their male counterparts for the same level of work, while Participant 16 mentioned that discrimination by recruiters on gender. She further gave the example that recruiters prefer to have male employees than females even though the recruitment processes encourage females to apply for positions within the construction industry. Two participants also mentioned the unfairness of the recruitment process. Participant 12 said that there was no fair recruitment process where males are preferred more than females. In contrast, Participant 5 said that she believes as women, they face the challenge of getting started in the industry because most companies prefer hiring males because of the hard labour that is taking place in this industry.

According to Participant 1 there are social stereotypes like gossiping, while Participant 15 said women are viewed as a distraction. Participant 12 stressed that they are being hired just for pushing the numbers of women in the construction industry and not because of what value they can bring to the company.

Male-dominated environment

The participants gave their views on the challenges they experienced as they get started in the construction industry, with some of the phrases like *“tailored for men’s needs”*, *“male-dominated field”* and *“women being regarded as less capable”* coming up.

Participants mentioned that the challenges they faced when entering the construction industry were that it was tailor-made for men’s needs. Participant 14 said women in construction are going to encounter challenges, and this was also supported by Participant 18, who was quoted as saying, *“The industry has been tailored for men”*. Male-dominated industry was one of the challenges mentioned by three participants. Participant 3 said that it is a male-dominated industry, and this was also supported by Participant 7. Participant 17 was quoted as saying *“It is a boys’ club mentality”*.

In terms of women being outnumbered as a challenge, Participant 12 said that while many women are interested in a career in construction, there is no denying that the industry presents challenges. She added that women are being outnumbered 9 to 1 compared to men and she further stressed that women who work in construction are walking into a world that has long been tailored to men’s needs.

An unhealthy working environment

Poor communication was mentioned by Participant 1 and Participant 6, and they were quoted as saying “*Communication is a problem*”. Participant 6 indicated one of the challenges women face when they enter the construction industry is interpersonal conflict.

Poor working conditions

Participant 12 said that women think that there are groups of men strong covered in grime wearing a hard hat in the construction industry. Participant 13 mentioned that while changes are being made, some aspects of the construction world may surprise some women, from the hard hat to the unhygienic toilets.

Menial jobs and job segregation for women

The participants also indicated the challenge where they are classified as administrators. Participant 11 was quoted as saying that “*not recognised, classified under administration roles most of the time*”. This was supported by Participant 15 who said that women are treated as people who belong in the office doing administration work instead of getting their hands dirty and adding value.

Work-life balance

Participant 18 talked of lack of family commitment. She indicated the problem women face is also compounded by lack of family commitment.

Glass ceiling

Participant 17 indicated that they have difficulties of breaking the ceiling, they have stalled career.

Lack of experience and insufficient education

Lack of experience was mentioned by Participant 4 as one of the major challenges women face in getting into the construction industry.

Limited career growth opportunities to leadership positions

Participant 10 mentioned the lack of opportunities in leadership for women. She was quoted as saying that “*one of the challenges is opportunities are often given to the other gender because it is believed they are physically fit to perform hard labour than females.*”

2.7.3.2 Challenges faced by women in the construction industry

The participants were asked the question:

2. What are the challenges faced by women in the construction industry?

The findings resulted in fifteen key concepts emerging, as shown in Figure 2. Some of the challenges mentioned were harassment, unequal treatment, and discrimination against women.

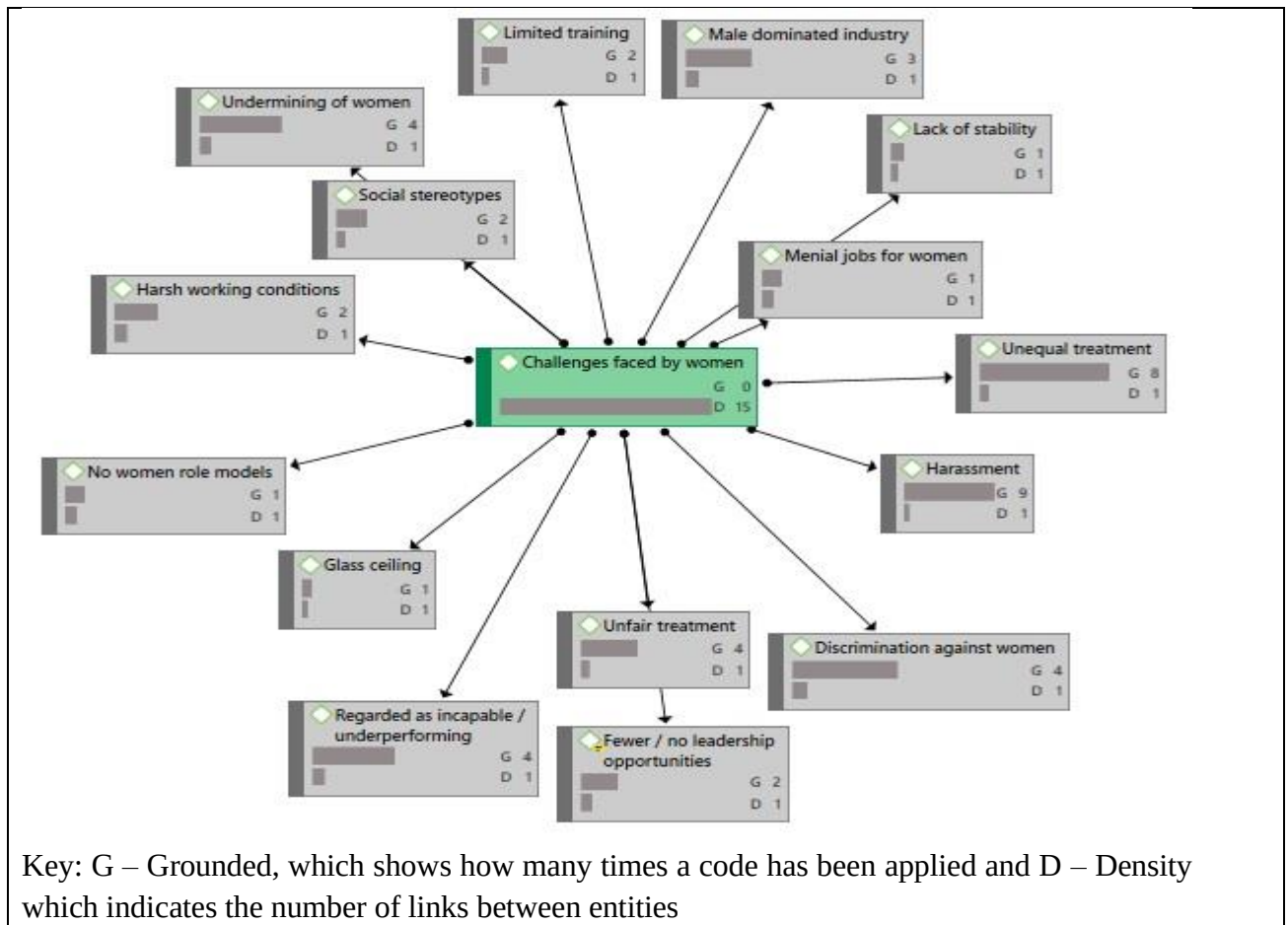


Figure 2: Key concepts on challenges faced by women

To further illustrate women's challenges in the construction industry, participants' views and opinions are highlighted below.

Poor working conditions

Women are also experiencing harsh working conditions. Participant 4 talked about the working conditions and indicated that women must work twice harder than their male counterparts.

Harassment came out as one of the main challenges faced by women in the construction industry. Nine participants indicated that women experience harassment in the construction industry. They were quoted as saying *there is*:

- P1: Harassment and bullying.
- P2: Disrespect.
- P5: Sexual harassment.
- P7: Discrimination, gossip, and harassment.
- P8: Sexual harassment.
- P13: Sexually harassment.
- P15: Still, some believe the only way a woman can get ahead in the construction industry is to be mentored or vetted by a man or even accept the unwanted sexual advances made towards them.

- *P16: Sexual harassment.*
- *P18: Sexual harassment.*

From the responses, it can be noted that women are experiencing sexual harassment at work.

Gender stereotypes, Gender inequality and Discrimination

Eight participants mentioned unequal treatment. Participant 3 indicated that there are not being paid equal salaries as the male counterparts and this was supported by Participants 5 and 8, who were quoted as saying “*women are unfairly paid*” and “*women are paid less than male co-workers*”, respectively. This was reinforced by Participant 13 who said that they are having lower pay than male counterparts for the same level of work, and Participant 14 said they are not being paid what men are paid, and that they are being taken somewhat weak. Men think there is no place for a woman in the construction industry. This was also supported by Participant 15 who said that women are paid less for the same and equal amount of work they put in, and Participant 17 who said that there are unequal remuneration or benefits. Participant 4 said that there are no equal treatment and opportunities.

Four participants mentioned discrimination against women. Participants 7 and 13 indicated that there is discrimination against women. Participant 16 also mentioned gender discrimination, while Participant 17 said that there is an unwarranted bias against women in the industry. Four participants mentioned women regarded as incapable / and underperforming. Participant 8 responded by saying there are unfair performance evaluations by male supervisors which was also supported by Participant 13 and 14 who were quoted as saying “*unfair performance evaluation*”. According to Participant 17 men feel that women need to be mentored or vetted by a man. Undermining of women was also mentioned as one of the challenges with participants quoted as saying:

- *P4: Being undermined.*
- *P9: Being undermined despite their background and experience.*
- *P11: Undermined.*
- *P15: Women are not seen as being capable and deserving of the opportunities given to men.*

The findings reveal that women think that their male counterparts feel that they cannot do the same job as them.

Participants also indicated unfair treatment as a challenge faced by women. Participant 4 said unfairness is a challenge faced by women, while Participant 8 indicated an unfair perception of women performance capabilities.

Participants 7 also mentioned social stereotypes like gossiping, while Participant 10 said that women face challenges to try breaking social stereotypes. Participant 13 mentioned no women role models as a challenge as women are perceived as incapable people who cannot be role models.

Work-life balance

Participant 16 said that working hours are stringent, leading to a lack of family time. Women's construction conditions are excessive long hours and the struggle between work and family responsibilities that many construction professional experiences are more severe for women than for men. Lack of stability due to moving around in projects was mentioned by Participant 16 as a challenge.

Menial jobs and job segregation for women

Participant 13 also mentioned that they received more clerical tasks. Menial jobs for women like secretaries, administrators, and safety officers in construction are regarded as jobs not in the mainstream of the construction industry. Participant 15 explained that women receive more clerical tasks and are thus allocated clerical duties.

Limited career growth opportunities to leadership positions

Participant 13 also mentioned fewer leadership opportunities, while Participant 14 said that women must work twice as hard to be recognised in the workplace or be given a promotion. She explained that women must be bossy for their voice to be heard. According to Participants 5 and 6 there are fewer / no leadership opportunities. Participant 5 said that there are fewer women in management positions, and this was supported by Participant 6, who said that there are fewer leadership opportunities.

Male-dominated environment

Regarding male-dominated industry as a challenge, participants were quoted as saying:

- P5: *The workplace is male-dominated; females still lose out to males in getting better work.*
- P8: *Male-dominated culture and socio-cultural factors.*
- P13: *Male-dominated field.*

Lack of experience and insufficient education

Limited training was indicated by Participants 6 and 13.

Glass ceiling

A glass ceiling is an unacknowledged barrier to advancement in a profession, especially affecting women and members of minorities. It is a metaphor used to represent an invisible barrier that prevents minorities like women in industry construction from rising beyond a certain level in a hierarchy. This was mentioned by Participant 17, who talked about a stalled career.

2.7.3.3 Challenges women personally faced in the construction industry

The participants were asked to indicate the challenges they face personally by answering the question:

3. What challenges have you personally faced?

The findings resulted in 15 key concepts emerging as shown in Figure 3.

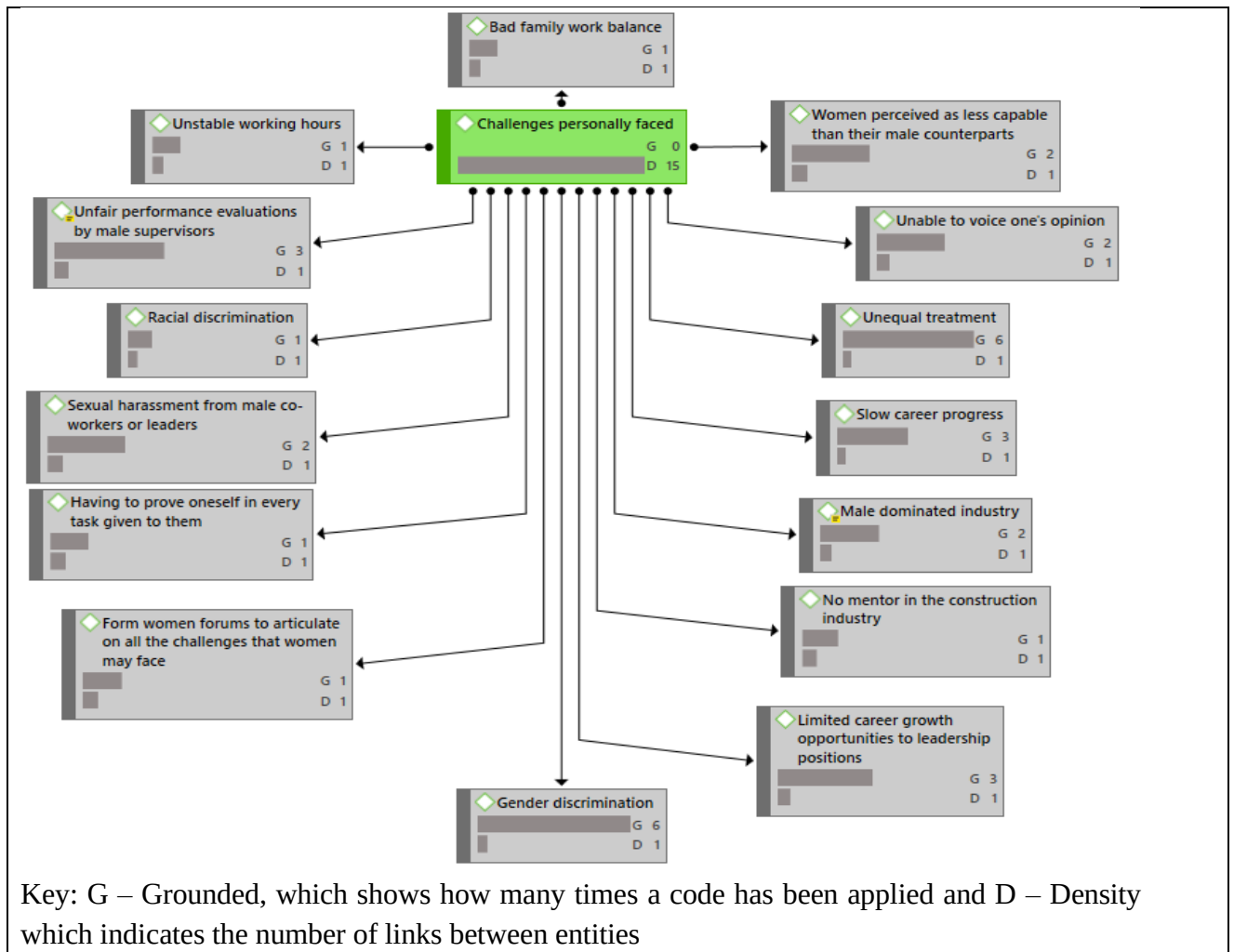


Figure 3: Key concepts on challenges personally faced by women

The participants indicated that they personally suffer many challenges, including gender discrimination, unequal treatment, limited career growth opportunities to leadership positions, slow career progress, unfair performance evaluations by male supervisors, sexual harassment, male-dominated field, unable to voice their own opinion among a few.

Gender stereotypes, Gender inequality and Discrimination

Six participants indicated that they faced gender discrimination as a challenge. There were quoted as saying:

- P2: Discrimination.
- P7: Discrimination.
- P12: For not working in the field or plant after being back from maternity leave.
- P14: Men approaching me to not talk about work but my personal life and only approach my male colleagues to talk about work.
- P15: Discrimination.
- P16: Gender discrimination.

The women feel that they are being discriminated against at work. Participant 14 further explained that their suggestions are not being considered in the workplace. Participant 6 and 8 said that women are perceived as less capable than their male counterparts. They were quoted as using words like “*perceived as incapable*” and “*unfair performance of their performance capabilities*”. According to Participant 3, they are being undermined for being black and people judging them as a woman resulting in racial discrimination. Participant 2 indicated that women are considered weak and cannot perform men’s work, and this was supported by Participant 3, who said that people judge her as a woman and not what she can deliver. Participant 17 also talked of a stalled career.

Six participants also mentioned unequal treatment. Participant 2 explained that it is difficult to be promoted and get a salary increase, and this was supported by Participant 4 who said that there is unequal payment compared to the male counterparts. Participant 9 said that she is regarded as a junior person in her role in terms of remuneration even though she has a vast experience and trusted with the work she does. Participant 13 said that unpleasant comments are made, but she does not allow these comments to change who she is as a leader; a colleague and to ultimately alter what she is trying to accomplish. She said she is basically not being overly sensitive to people’s comments. Participant 17 also talked of unequal remuneration or benefits, and this was supported by Participant 18, who said that men are getting paid more than a woman.

Three participants indicated that unfair performance evaluations by male supervisors was a challenge. The participants were quoted saying.

- *P1: Unfair performance evaluation.*
- *P5: Unfair Performance evaluations by male supervisors.*
- *P7: Unfair performance evaluation.*

The results revealed that performance evaluations are done unfairly as women are underrated during performance appraisals.

Poor working conditions

Participant 8 said that there are no female mentors in the construction industry. *Women are also experiencing harsh working conditions. Participant 4 talked about the working conditions and indicated that women must work twice harder than their male counterparts.*

The participants also indicated that there was sexual harassment from male co-workers or leaders. Participants 7 and 15 said that they are sexually harassed, while Participants 5 and 14 indicated that they cannot voice their own opinion.

Work-life balance

Participant 16 indicated that family setup was affected negatively, and there is no stability due to moving from one construction site to another, thus resulting in bad family balance, while Participant 10 suggested that they need more bodies to represent women and create awareness.

Participant 16 also indicated that the working hours were stringent, leading to a lack of family time.

An unhealthy working environment

Participant 5 indicated that one of the challenges was having to prove oneself in every task given to women.

Limited career growth opportunities to leadership positions

Limited career growth opportunities to leadership positions were mentioned as one of the challenges women are facing. Participant 2 indicated it was difficult for a woman to be promoted, while Participant 11 stressed that women are seen as not good enough for leadership roles. This was supported by Participant 18, who was quoted saying “no opportunities for leadership”. Three participants also indicated slow career progress.

Male-dominated environment

Two participants indicated that it was due to being a male-dominated field. Participant 6 said that they personally face -dominated attitudes. This was supported by Participant 13, who said that as a woman working in a male-dominated field, she encounters comments and questions that will grate on her nerves.

2.7.4 Perception of women on how men perceive them in the construction industry

The theme on the perception of how men perceive women was addressed by answering three questions. The theme was divided into three subthemes which are:

- Male perception of women
- Negative factors for retention of women
- Positive factors for retention of women

The diagrammatic presentation of the theme and subthemes are depicted in Figure 4.

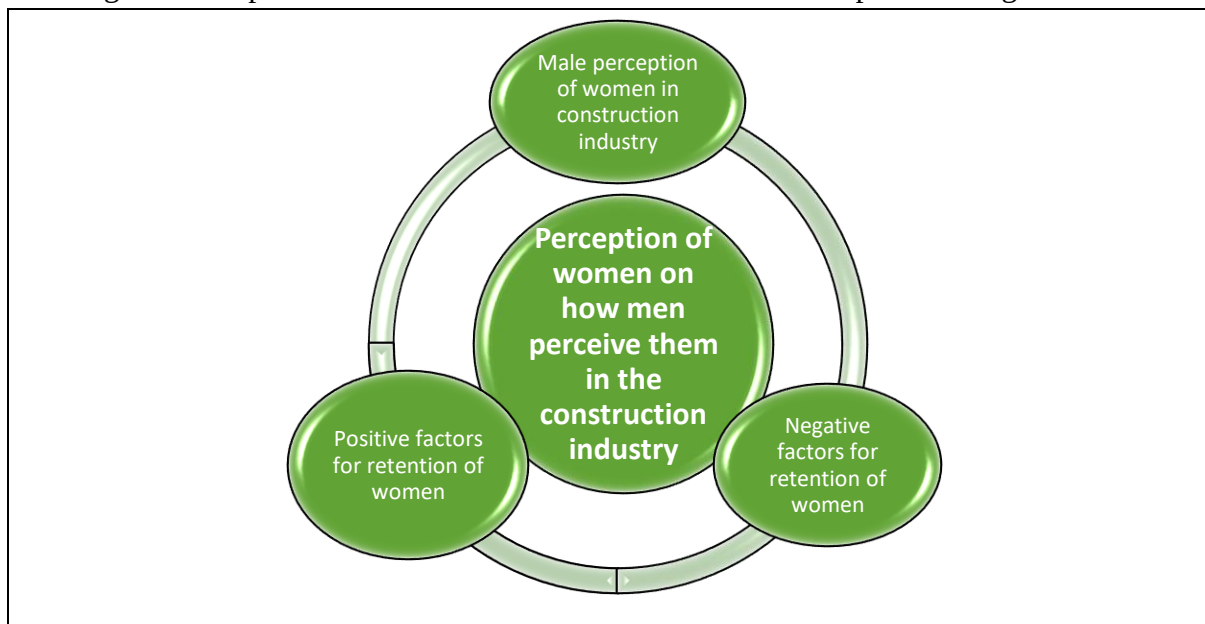


Figure 4: Theme and subthemes for the perception of women on how men perceive them

The findings from the second theme are presented in the next subsections.

2.7.4.1 Male perception

The participants were asked the question:

4. *How do women think males perceive women in the construction industry?*

The findings resulted in 13 key concepts emerging, as presented in Figure 5:

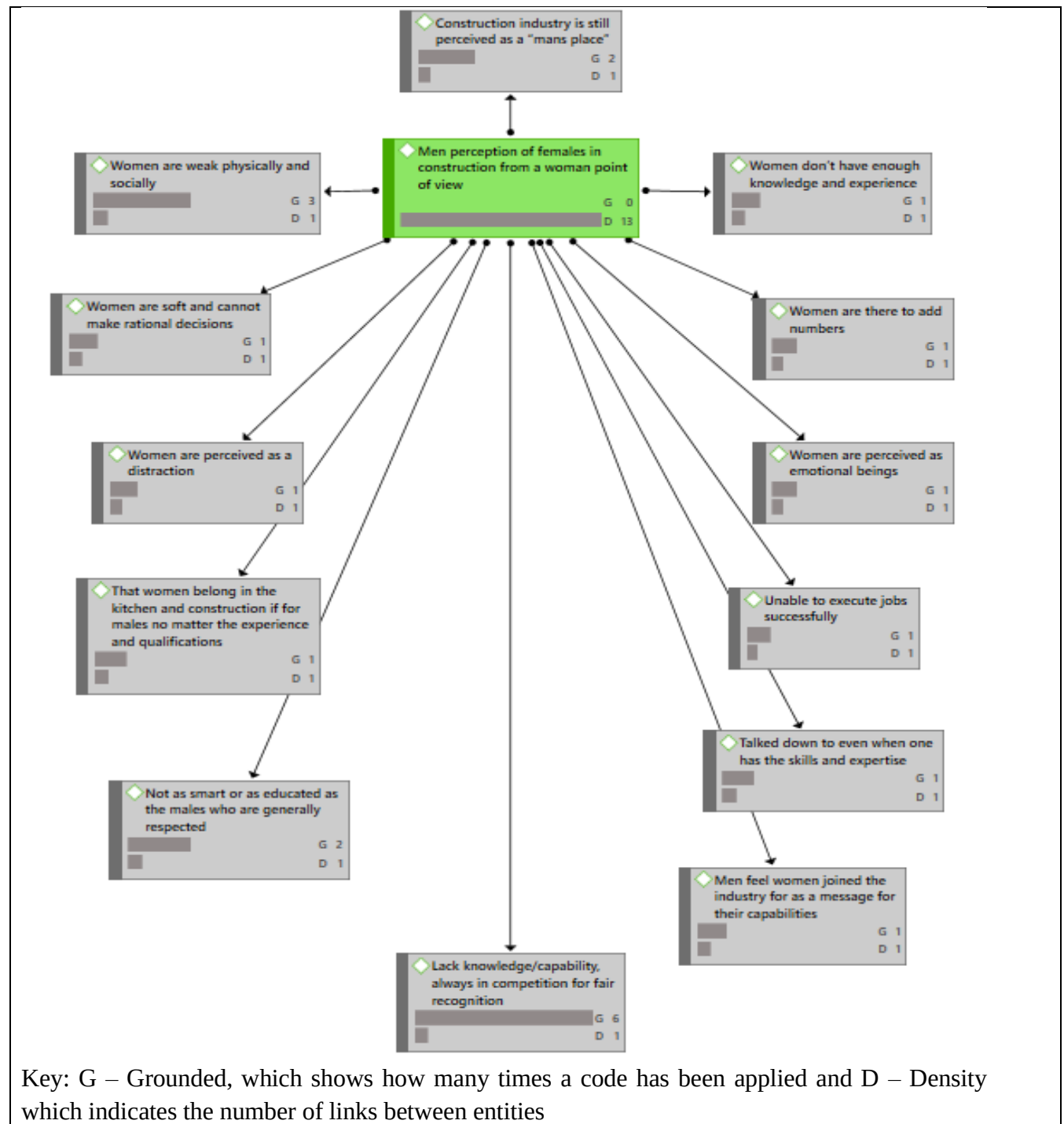


Figure 5: Key concepts on the perception of women on how men perceive them
Gender stereotypes, Gender inequality and Discrimination

Some of the issues mentioned were women shortage of knowledge and expertise, forever in competition for recognition, they are physically and socially weak. Women are not considered as intelligent or as educated as males who are generally respected. Six of the participants said men perceive them as having shortage of knowledge forever in competition for recognition. The participants were quoted saying:

- *P1: Lack of capability.*
- *P5: In most cases male view women in construction industry as if they are not capable of doing job activities on daily bases.*
- *P6: Shortage of knowledge and constantly in competition for recognition.*
- *P7: Despite the initiative to recruit woman, the industry remains one of the most gender-segregated industries in the world.*
- *P8: They sometimes perceive females as people who are not capable of performing and executing jobs successfully.*
- *P13: Shortage of knowledge, constantly in competition for recognition.*

Three participants also indicated that women are perceived as physically and socially weak. Participant 2 said that males feel threatened and that women do not have strength to do the job. Participant 15 said that women are perceived as not strong enough and not competent. Participant 12 believed women think males' perception is that women are weak physically and socially.

Participant 17 further indicated that women are not taken seriously and are talked down even when one has the skills and expertise. Participant 13 also said that women are perceived as smart as the males who are largely valued.

According to Participant 9 one of the perceptions is that women belong in the kitchen and construction is for males no matter the experience and qualifications women have. Participant 8 said that men sometimes perceive females as people who cannot execute jobs successfully. Participant 15 said that women are perceived as a distraction, while Participant 16 indicated that men perceive women as emotional beings. They are "soft" and cannot make rational decisions. Participant 11 said men believe that women are there to add numbers. At the same time, Participant 18 was of the view that men think women do not have enough knowledge and experience.

An unhealthy working environment

Participant 10 said men think women join the industry just to prove to them that they can perform equally, whereas some females join the industry because of passion.

Male-dominated environment

The construction industry is still perceived as a "men's place". Two participants mentioned that the construction industry is still perceived as a "man's place". Participant 14 said they do not belong there since the construction industry is still perceived as a "men's place". Participant 17 said that men think that women do not belong in the industry and that it is hard and man-like.

2.7.4.2 Negative factors for retention of women

The participants were asked to indicate the questions that negatively affect retention of women by asking the following question:

5. *What factors do you believe will negatively affect the retention of women in the construction?*

The findings resulted in seven key concepts emerging, as shown in Table 4.

Table 4: Summary of key concepts on negative factors for retention of women

Key concept	Occurrence
Gender stereotypes, Gender Inequality and Discrimination	(22)
Unequal treatment	10
Lack of respect for women	5
Gender discrimination	4
Unfair treatment	1
Unwillingness to mentor women	1
Construction working conditions not matched with received remuneration	1
Work-life balance	(9)
Having to prove oneself in every task given to them	1
Unstable working hours	6
Bad family-work balance	2
Poor working conditions	(8)
Sexual harassment from male co-workers or leaders	5
Ability to do manual work that may require endurance and stamina	1
Harassment	1
Harsh working conditions	1
Limited career growth opportunities to leadership positions	(5)
Limited career growth opportunities to leadership positions	3
Lack of growth and compensation	1
Slow career progress	1
Menial jobs and job segregation for women	(2)
Menial jobs for women	1
Segregation of women on maternity issues	1
Male-dominated environment	(2)
Small representative of women on construction sites	1
Women failing to keep on pushing, and breaking stereotypes	1
Glass ceiling	(1)
A stalled career	1
Totals	49

Some of the negative factors mentioned were unequal treatment, irregular working hours, lack of respect for women, sexual harassment from male co-workers or leaders, gender discrimination, limited career growth opportunities to leadership positions and bad family-work balance.

Gender stereotypes, Gender inequality and Discrimination

Ten of the participants mentioned unequal treatment will negatively affect women retention in the construction industry. Participant 1 said that unequal pay and not being respected would negatively affect women retention. At the same time, Participant 3 also indicated the salary gap and Participants 7 and 13 said unequal pay would negatively affect women retention. This was also supported by Participants 8 and 10, who said women are being paid less than men in the construction industry, and that will negatively affect women retention in the construction industry. Participant 4 talked of inequality and unfair treatment, while Participant 9 talked about women who are undermined and also that women's remuneration are not equal to men's. This concurred with Participant 16, who said women are underpaid compared to males, while Participant 18 said that if women are not treated the same as men, it will negatively affect women retention in the construction industry.

Participant 9 also indicated that women are undermined. Regarding sexual harassment from male co-workers or leaders, it was mentioned by Participants 7, 8, 13, 14 and 18. Four participants mentioned gender discrimination would negatively affect women retention in the construction industry. Participant 2 said gender discrimination as women are not being deemed fit for positions that are physically demanding. Participants 10 also mentioned gender discrimination, while Participant 11 talked about lack of equality at the workplace will negatively affect women retention in the construction industry. Participant 14 said that women are not being respected. Thus, they are unfairly treated as negative factors that affect the retention of women in the construction industry. Participant 9 indicated that men are unwilling to groom women.

Work-life balance

Six participants mentioned irregular working hours would negatively affect women retention in the construction industry. According to Participants 5, 7, 13, 14 and 16, long working hours will negatively affect women retention in the construction industry. This was supported by Participants 6, who also mentioned irregular working hours. Participant 16 further said that continuous culture that benefits only men, like long working hours would negatively affect women retention in the construction industry. When coming to a poor family-work balance, Participant 5 talked of a lack of family-work-life balance. She was supported by Participant 16, who said there is disconnection from family because of poor family-work balance.

Poor working conditions

Lack of respect for women and sexual harassment from male co-workers or leaders were one of the mentioned negative factors that affect the retention of women in the construction

industry. Participants 1, 6, 7 and 13 said women are not respected.

Limited career growth opportunities to leadership positions

Limited career growth opportunities to leadership positions were mentioned by Participants 3, 4 and 17. Participant 3 indicated that companies are not investing in developing women into a leadership position, Participant 4 indicated limited career growth opportunities to leadership positions, while Participant 17 mentioned lack of continuity and growth in the industry for women as negative factors that affect retention of women in the construction industry.

Participant 12 talked about the hostility segregation of women on maternity issue and the ability to do manual work that may require endurance and stamina. Participant 16 said that construction working conditions not matched with received remuneration and lack of growth and compensation as negative factors that affect the retention of women in the construction industry. Participant 10 indicated social harassment and slow career progress, and Participant 13 talked about the harshness of job conditions.

Male-dominated environment

Participant 5 mentioned a small representative of women on construction sites. Participant 17 says women have to prove themselves in every task given to them as they are not part of the boy's club.

Glass ceiling

According to Participant 17, one of the negative factors that leads to low retention rates of women in the construction industry is the stalled career of women, women failing to keep on pushing, breaking stereotypes, and breaking down barriers.

Menial jobs and job segregation for women

Participant 13 indicated women having to perform menial jobs like clerical duties as negative factors that affect the retention of women in the construction industry.

2.7.4.3 Positive factors for retention of women

Regarding positive factors for the retention of women in the construction industry, the participants were asked the question:

6. *What factors do you believe will positively affect the retention of women in the construction industry?*

The findings resulted in 18 key concepts emerging, as shown in Table 5.

Table 5: Summary of key concepts on positive factors for retention of women

Key concept	Occurrence
• Equal treatment	8
• Career growth	3
• Diversity training	3
• A fair number of women in leadership	3
• Opportunities to grow within the industry	3
• Good working conditions	2
• More women role models	2
• Offering of education / training	2
• Believing women are capable of performing duties as their male counterparts	1
• Catering for women basic needs	1
• Company ethics and procedures that promotes equal opportunities	1
• Develop participation in support networks	1
• Fair play, fair remuneration and fair benefits	1
• Focus on skills development, mentorship and leadership programmes	1
• Hiring more women representative on site	1
• More leadership roles and mentorship	1
• No harassment	1
• Respect for all concerned	1
Totals	36

Some of the positive retention factors mentioned were equal treatment, career growth, diversity training, a fair number of women in leadership, opportunities to grow within the industry, good working conditions, more women as role models and offering of education/training.

Eight participants mentioned equal treatment. Participants 4, 7 and 8 indicated that all employees should be treated equally. This was supported by Participant 9, who said all people must be treated equally and this was supported by Participant 10, who indicated equal treatment in the workplace would positively affect the retention of women in the construction industry. Participant 12 believed there should be gender equality and promotions. Participant 13 said that the industry must install a culture that does not accept sexism, discrimination or bullying, and women must challenge every instance of it. She stressed that women working in construction should be treated equally to their male colleagues, who should not face discrimination, sexism or bullying either. She said equality for all genders should extend to working conditions too. Participant 14 talked of equal salaries will positively affect the retention of women in the construction industry.

Regarding career growth, Participant 1 mentioned diversity training and career mobility, Participant 10 indicated career growth, and Participant 16 mentioned growth opportunities as factors that will positively affect the retention of women in the construction industry.

Participants 7 and 14 also indicated diversity training. Three people mentioned a fair number of women in leadership as a positive factor of retaining women in the construction industry and were quoted saying:

- *P4: Fair number of women in leadership.*
- *P14: Having more women in leadership positions in the construction industry.*
- *P16: More women in leadership positions who will understand and talk from the same point of reference from other women.*

Participant 4 indicated opportunities to grow within the industry as factors that will positively affect the retention of women in the construction industry. This was supported by Participant 9 who said women should be given opportunities they deserve, while Participant 17 talked of fair access to opportunities. According to Participant 13, working conditions should be reviewed from ensuring access to appropriate toilet facilities and providing personal protective equipment that fits properly as employers have a responsibility to make sure their employees' basic needs are catered for. Participant 16 said they should be flexible working hours. Participants 7 and 14 indicated that one of the positive factors that will affect the retention of women in the construction industry was more **women** role models. According to Participants 6 and 18 offerings of education/training is a positive factor for retaining women in the construction industry.

Participant 8 said that believing women can perform duties as their male counterparts and not being treated as objects that are not deserving to be in the industry will positively affect the retention of women in the construction industry. According to Participant 13, ensuring compatibility with caring responsibilities like parenthood is a significant factor for women in any male-dominated profession. Women working in construction should be treated equally to their male colleagues, who should not have to face discrimination, sexism or bullying either, while Participant 2 mentioned company ethics and procedures that promote equal opportunities as factors that will positively affect retention of women in the construction industry.

According to Participant 5, developing participation in support networks can create a positive effect on the retention of women in the construction industry and to hire more women on site. Focus on skills development, mentorship and leadership programmes were mentioned by Participant 3. Participant 11 mentioned more leadership roles and mentorship as factors that will positively affect the retention of women in the construction industry. Participant 2 indicated respect for all concerned as a factor that will positively affect the retention of women in the construction industry.

2.7.5 Measures women can take to overcome the challenges faced by women in the construction industry

The participants were asked to give their opinion in that, despite facing all these challenges, what measures can be put in place to overcome these challenges. There were asked the question:

7. *What measures can women take to overcome or deal with challenges faced by women in the construction industry?*

The findings resulted in 11 key concepts emerging, as shown in Figure 6.

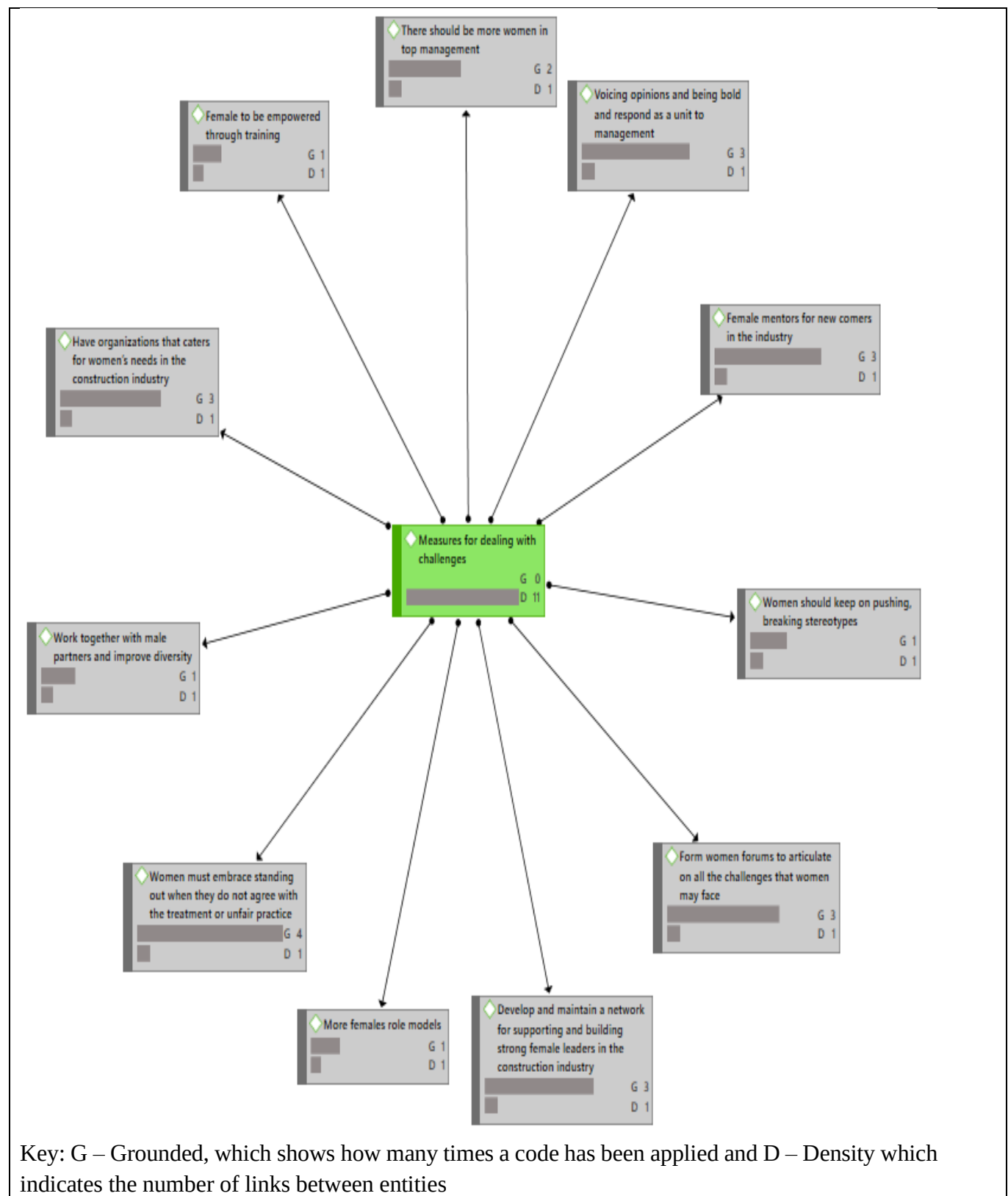


Figure 6: *Key concepts on measures women can take to overcome challenges*

The results identified some measures which women must embrace to stand up against unfair practices or if they do not agree with the treatment they receive. These measures are to develop and maintain a network for supporting and building strong female leaders in the construction industry, female mentors for newcomers in the industry, forming women forums to articulate on all the challenges that women may face, having organisations that cater for women's needs in the construction industry and voicing opinions, and being bold and respond as a unit to management.

Women must embrace standing out when they do not agree with the treatment or unfair practice

Four participants mentioned that women must embrace standing out when they do not agree with the treatment or unfair practice. Participant 1 indicated that women should endure long working hours and ignore bad language from men. This was supported by Participant 6 who also mentioned ignoring bad language and trying to avoid harassment. Participant 7 also mentioned inclement weather and bad language. According to Participant 13, women must embrace standing out. She stressed that it is a fact that women cannot avoid standing out in the construction industry. She further said that with the small presence of women in the current construction workforce, they will inevitably stand out and do so proudly to be remembered for what they did.

Develop and maintain a network for supporting and building strong female leaders in the construction industry

According to Participant 3 they need to develop and maintain a network for supporting and building strong female leaders in the construction industry. This was supported by Participant 15 who said that women should support each other and develop and maintain a network for supporting and building strong female leaders in the construction industry. Participant 16 also said that they need forums or support group for females where they advise each other on how to tackle challenges they face in the sector. Three participants also mentioned that they need female mentors for newcomers in the industry. Participant 13 said that women seek training for the required skills, work hard, and become mentors to the newcomers. Participant 16 suggested that they need female mentors for newcomers in the industry, and this was supported by Participant 18, who said they need mentors.

Forming women forums to articulate all the challenges that women may face

Three participants talked of forming women forums to articulate all the challenges that women may face to overcome challenges. Participant 2 indicated that they need to form forums to articulate all the challenges that they face and respond as a unit to management. This was supported by Participant 4, who said that women issues could only be resolved by women, while Participant 10 said by having more bodies to represent women and create awareness, some of the challenges can be reduced. In line with this, three participants also indicated the need to have organisations that cater for women's needs in the construction industry. Participant 4 said that they need more organisation for women in the workplace to address the issues facing women, while Participant 5 said women could join or start organisations that cater to women's needs in the construction industry. This was stressed by Participant 8, who

indicated they need to have organisations that cater for women's needs in the construction industry.

Have organisations that cater to women's needs in the construction industry to voice opinions
Voicing opinions and being bold and respond as a unit to management was also indicated as a measure to overcome the challenges. Participant 2 indicated that women need to voice opinions and be bold while Participant 4 believed women issues could only be resolved by women and Participant 9 said there are various measures women can take but the progress is very slow, and she further explained that she still felt women are not heard. Two participants indicated that they should be more women in top management. Participant 4 said they should be women representation in leadership roles, support and more equal opportunities and unity, and was supported by Participant 13, who said there should be more women in top management positions.

Women to be empowered through training

Participant 18 said that females need to be trained and Participant 13 talked of more female role models. According to Participant 17 women should keep on pushing, breaking stereotypes, otherwise, no one will give women opportunities if it is felt a man is better for the job. Participant 3 believed they should work together with male partners and improve diversity at the workplace as different ideas are required for organisations to grow and remain competitive.

2.7.6 Measures an industry can take to overcome the challenges faced by women in the construction industry

The participants were asked to indicate the measures the construction industry can take and implement to improve the retention of women in the construction industry. The main question asked was:

8. *What measures can the construction industry take and implement to improve the retention of women in the construction industry?*

The responses resulted in 23 key concepts emerging, and Table 6 outlines the measures the construction industry should address to improve the retention of women in the construction industry.

Table 6: Summary of measures the construction industry should take and implement to improve the retention of women in the construction industry

Key concept	n
Progressing more women in leadership roles should be a priority in the construction industry	6
Construction industry should base remuneration on capabilities and not gender	3
Equal access to opportunities and mentorship with the construction industry	3
Offering both men and women same opportunities	3
Companies in the construction industry must give women skills on how to handle some issues in the industry	2
Companies must teach kids about construction industry	2
Get women mentors, offer training and equal salaries	2
Leadership should create an environment that discourages and put an end to any form of sexism	2
Provide women mentors that have other women best interest in elevating their skills and progress in the construction industry	2
The industry should offer challenging roles for personal growth	2
The industry should promote a healthy work-life balance, promote awareness on gender bias and hostile female recruiters	2
The industry should support and network through various activities like apprenticeship for women to obtain hands-on experience	2
A diverse workforce that attracts the most talented and forward-looking employees	1
Companies should identify suitable and interested women who would like to join construction from universities and colleges, and train them on construction industry and support them with mentorship programs that will allow them to thrive in the workplace	1
Construction industry needs to do groundwork and needs analysis, asking those that are affected i.e., women about how women feel and their daily experiences at work	1
Mixed group involved in decisions involving promotion to senior levels	1
Procedures to deal with conduct that is derogatory to women	1
Provide safe and inclusive working environment and conditions	1
Skills development programs	1
Stop discrimination of women	1
The construction industry should come up with a legislation and implement robust strategies that assist in addressing the salary gap	1
The industry should establish a forum that looks at challenges women face, while improving women participation in influential positions	1
Women to stand up for themselves to prove that they can fight the negative stereotype	1
Totals	42

This section focused on measures the construction industry should take and implement to improve the retention of women in the construction industry.

Progressing more women in leadership roles should be a priority in the construction industry

Six participants indicated progressing more women in leadership roles should be a priority in the construction industry. The participants were quoted as saying:

- *P1: Progressing more women in leadership roles should be a priority in the construction industry.*
- *P5: Provide role models and trainings.*
- *P3: Having the presence of more women in key positions to indicate there is gender equality.*
- *P10: Employ more females in the management space.*
- *P11: Employ more women in leadership roles.*
- *P13: Other steps can also help with supporting career advancement and therefore retaining talented women, for example, ensuring a mentoring culture is cultivated across the company and that senior staff is encouraging and investing time in women within the company so they can be brought through to the top ranks.*

Construction industry should base remuneration on capabilities and not gender

The participants also indicated that remuneration should be based on capabilities and not gender in the construction industry. According to Participant 13, there is a need to tackling pay imbalances because the average women in construction are paid less than their male counterparts carrying out the same role. This was supported by Participant 14, who said that making sure that women's salaries are the same as men's salaries for the same type of job will improve the retention of women in the construction industry. Participant 17 also said remuneration based on capabilities, not gender, having salary brackets and transparency to that regard and equal access to opportunities and mentorship will improve the retention of women in the construction industry.

Equal access to opportunities and mentorship with the construction industry

Participant 13 also said that senior staff should encourage and invest time in women within the company to be guided towards the top ranks. Role models should be visible. Coaching and "buddy" systems could be considered. This was also supported by Participant 8, who said they should be equal access to opportunities and mentorship within the construction industry. According to Participant 4, the industry should offer both men and women the same opportunities. This was supported by Participant 13, who said gender unbiased training could be useful in tackling this, as can mentoring and educating senior staff about possible differences in approach between genders.

Companies in the construction industry must give women skills on how to handle some issues in the industry

Two participants indicated that companies in the construction industry must give women skills to handle some industry issues. Participant 1 indicated that they had given some woman skill on how to handle some issues in the industry, while Participant 7 indicated that she told other women about construction opportunities and skills and how to handle some issues.

Companies must teach kids about the construction industry

According to Participant 5, companies must invest in early attraction by teaching kids about the construction industry, and this was supported by Participant 6, who said she taught her kids about the construction industry.

Get women mentors, offer training and equal salaries

According to Participant 18, the industry should get women mentors, offer training and equal salaries. This was supported by Participant 14, who said that the industry should consider pushing more women into top positions after looking at their skills and abilities and not just doing it for numbers. The industry must also ensure that women's salaries are the same as man's salaries for the same type of job.

Leadership should create an environment that discourages and put an end to any form of sexism

According to Participant 4, leadership should create an environment that discourages and put an end to any form of sexism. This was supported by Participant 13, who said that gender bias training could be useful when coming to educating senior staff about possible differences in approach between genders.

Provide women mentors that have other women best interest in elevating their skills and progress in the construction industry

Participant 2 indicated that they should provide women mentors with other women's best interest in elevating their skills and progress in the construction industry. This was supported by Participant 14, who said that they should consider pushing more women in top positions, looking at their skills and abilities and not just doing it for numbers.

The industry should offer challenging roles for personal growth

Participants 12 and 13 indicated that the industry should provide challenging roles for personal development for women. According to Participant 12, the industry should provide challenging roles for personal growth for women to prove that it can fight the negative stereotype holding women back. These challenging roles will enable women to stand up for themselves.

The industry should promote a healthy work-life balance, promote awareness of gender bias and hostile female recruiters

Participant 12 further said that the industry should promote a healthy work-life balance, promote awareness of gender bias and hostile female recruiters, while Participant 13 said that

senior staff should encourage and invest time in women within the industry so they can be brought through to the top ranks.

The industry should support and network through various activities like an apprenticeship for women to obtain hands-on experience

According to Participant 12, the industry should promote networking through various activities, apprenticeships for women to obtain hands-on experience and offer challenging roles for personal growth. Participant 13 said that role models should be visible where coaching and “buddy” systems could be considered.

A diverse workforce that attracts the most talented and forward-looking employees

According to Participant 5, the industry should provide forms of diverse networking. Participant 13 said that they should ultimately have a diverse workforce that will attract the most talented, forward-looking employees.

The mixed group involved in decisions involving promotion to senior levels

Participant 13 further said the mixed group must be involved in decisions involving promotion to senior levels and since the gender pay gap in construction is very high.

Procedures to deal with conduct that is derogatory to women

As stated by Participant 13 there should be legislation that will compel companies to publish bonuses and the difference between the average pay of male and female workers. This legislation should eventually help redress the imbalance, where companies develop and implement robust strategies to narrow any gap.

Companies should identify suitable and interested women who would like to join construction from universities and colleges

Participant 3 said that companies should identify women from universities, colleges to train women on the construction industry and support with mentorship programs to allow women to thrive in the workplace.

Construction industry needs to do the groundwork and needs analysis

Participant 9 said that the construction industry needs to do the groundwork and needs analysis, asking those affected, that is, women, about how women feel and their daily experiences at work.

Procedures to deal with conduct that is derogatory to women

Participant 16 indicated the need for procedures to deal with conduct that is derogatory to women and skills development programs.

Provide a safe and inclusive working environment and conditions

According to Participant 4, the industry should provide a safe and inclusive working environment and conditions and stop discrimination against women.

The industry should establish a forum that looks at challenges women face

Participant 2 said that the industry should establish a forum that looks at challenges women face while improving women participation in influential positions.

Women to stand up for themselves

Participant 12 said that women should stand up for themselves to prove that they can fight the negative stereotype.

2.7.7 Additional characteristics of the sample

A survey of 41 employees was performed whereafter the triangulation method was used to substantiate the findings from the in-depth interviews conducted. The respondents were asked social demographic characteristics like their age, title that describe their career and years of experience. There were also asked to indicate how they became aware of opportunities/careers in the construction industry, barriers/ challenges faced by women in the construction industry, successes made/ gained by women in construction and retention and job satisfaction. These issues will be discussed in the next subsection to support the results of the qualitative analysis.

2.7.7.1 Socio-demographic characteristics of the sample

A total of 41 employees took part in the survey, and the socio-demographic characteristics are presented in Table 7.

Table 7: Characteristics of the respondents

Variable	Category	Frequency	%
Age	18 – 29 years	12	29.3%
	30 – 39 years	19	46.3%
	40 – 49 years	9	22.0%
	50 – 59 years	1	2.4%
Total		41	100.0%
Title	Intern	8	19.5%
	Commissioning Engineering	7	17.1%
	Project Management	7	17.1%
	General Management	4	9.8%
	Quality Management	3	7.3%
	Construction Management	2	4.9%
	Engineer	2	4.9%
	Document Controller	2	4.9%
	Lead Engineering	1	2.4%
	Project Engineering	1	2.4%
	Contract Administration	1	2.4%
	Safety Management	1	2.4%
	Construction Supervisor	1	2.4%
	Technologist	1	2.4%
Total		41	100.0%
Years of experience	0 – 5 years	17	41.5%
	6 – 10 years	11	26.8%
	11 – 15 years	8	19.5%
	16 – 20 years	4	9.8%
	26 – 30 years	1	2.4%
Total		41	100.0%

The respondents were asked to indicate their age, and this information enabled the researcher to establish the age group, which is more active in the construction industry activities. The results showed that 29.3% (n=12) were aged between 18 – 29 years, close to half, that is, 46.3% (n=19) were aged between 30 – 39 years, 22% (n=9) were aged between 40 – 49 years, and only 2.4% (n=1) were aged between 50 – 59 years. Regarding the age distribution, the results show that most of the employees were aged below 40 years. Therefore, it can be concluded that most respondents are found in the youth category group, which signifies that more skills and development programs are being channelled to assist young people in South Africa.

The respondents were then asked to indicate the title that describes their career as employees in this industry. The question is necessary as it enabled the researcher to obtain information on whether the respondents are affiliated in the commissioning engineering, lead engineering, project management, document controller, project engineering, construction management, quality management, construction supervisor, general management, contract administration,

safety management, engineer, or intern. Regarding the evaluation of the workforce of companies, insightful readings were obtained. Of the 41 respondents, it was found that the larger proportion of the employees (n=8) were employed as interns, which correlates to a percentage of 19.5. It was observed that half of the respondents were either interns, commission engineering or in project management.

The respondents were asked to indicate their years of experience as employees in the construction industry. The question was necessary as it enabled the researcher to obtain information on whether the respondents were adequately positioned according to the number of years they have been operating in the business. Regarding the number of years in operation, it was observed that 41.5% of respondents (n=17) had been in business for 0 to 5 years; 26.8% (n=11) had been there for 6 – 10 years, 19.5% (n=8) have been there for 11 – 15 years, and 12.2% (n=5) have been in the industry for more than 15 years. It appears then that the bulk of employees have been working for more than 5 years in the construction industry.

The respondents were asked to indicate how they became aware of opportunities or careers in the construction industry. The question was necessary as it enabled the researcher to obtain information about what influences the respondents in joining the construction industry. Figure 7 indicates carriers influences in the construction industry.

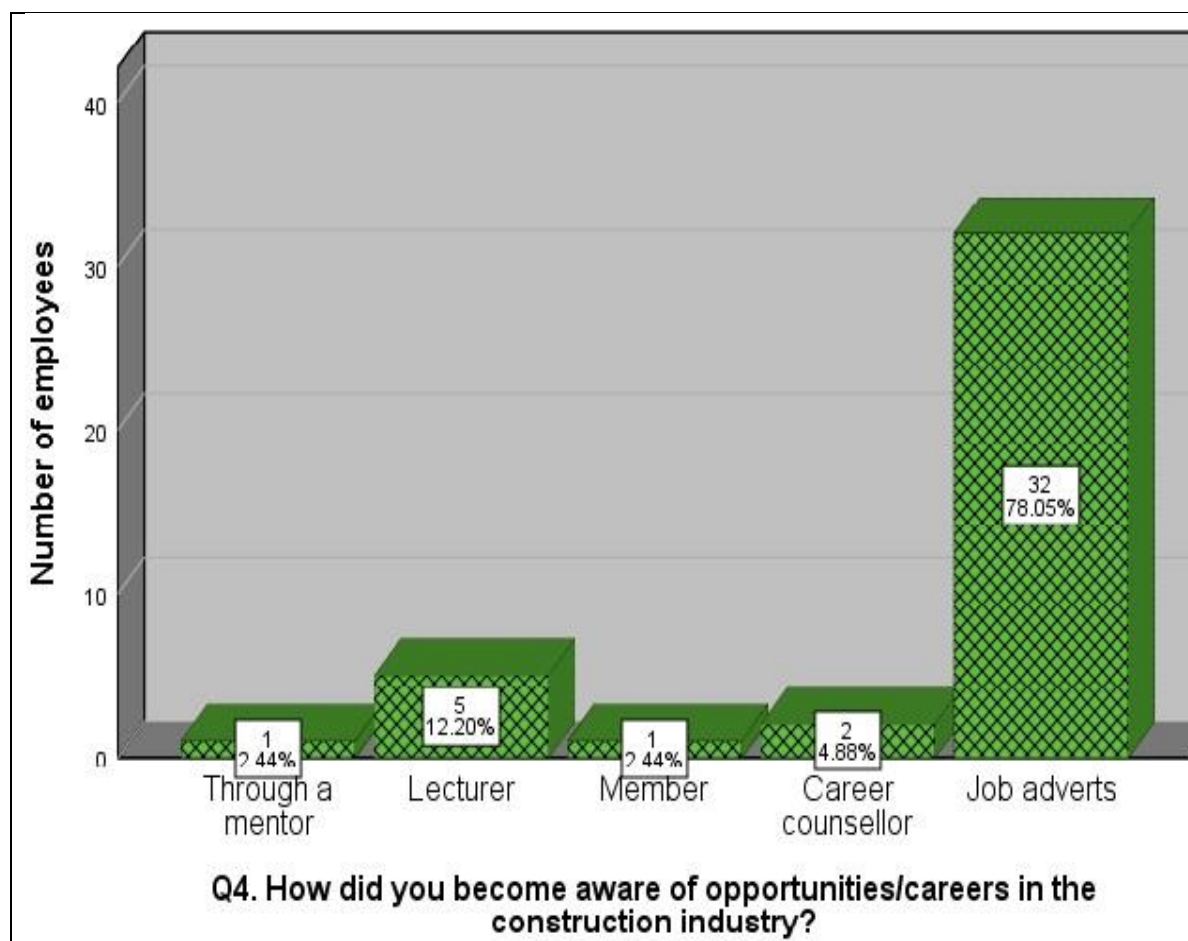


Figure 7: Awareness of opportunities/careers in the construction industry

From the results detailed in Figure 7, it can be concluded that most personnel were influenced to choose the carrier through job adverts (n=32), which corresponds to 78.1% followed by influences obtained from lecturers which constituted 12.20% (n=5).

2.7.7.2 Barriers/challenges faced by women in construction

The respondents were asked to indicate the barriers or challenges faced by women in the construction industry. This was multiple responses where people gave more than one response. All the respondents answered the question, and the challenges indicated by the respondents are shown in Table 8.

Table 8: Survey results on barriers/challenges faced by women in the construction industry (n=41)

Barrier/challenge	Frequency	Percent of cases
Unfair perception of your performance capabilities	27	65.9%
Paid less than male co-workers for the same work	26	63.4%
Slow career progression	23	56.1%
Not enough female representation to make a difference in the industry	23	56.1%
Work/Life balance	19	46.3%
Male-dominated culture	19	46.3%
Socio-cultural factors	19	46.3%
Sexual harassment	17	41.5%
Reverse discrimination	15	36.6%
Unfair Performance evaluations by male supervisors	15	36.6%
No mentor in the construction industry	9	22.0%
Career limited to clerical/administration duties	8	19.5%
Unsatisfied with job	5	12.2%
Limited training	4	9.8%
Social isolation at work	2	4.9%
Long working hours	1	2.4%

The most predominant barrier/challenge mentioned was an unfair perception of their performance capabilities which was indicated by 65.9% of the responses. This was followed by the fact that the female employees are compensated less than men for the same work with a proportion of 63.4%. About 56.1% indicated slow career progression, and the same proportion also indicated not enough female presence to make an impact in the industry. Close to half, that is, 46.3%, talked about the challenges of balancing work and life balances; the same proportion also talked of male-dominated culture and socio-cultural factors as challenges. About 41.5% indicated sexual harassment as a barrier, 36.6% indicated reverse discrimination, and 36.6% mentioned unfair performance evaluations by male supervisors. The respondents further stated the other challenges as no mentors in the construction industry (22%), career limited to

clerical/administration duties (19.5%), unsatisfied with job (12.2%); limited training (9.8%), social isolation at work (4.9%) and long working hours (2.4%).

These results confirm the barriers/challenges obtained from the in-depth interviews conducted.

The respondents were further asked to indicate the barriers or challenges they personally face as women working in the construction industry. This was also multiple responses where people gave more than one response. All the respondents answered the question, and the challenges women personally face are indicated in Table 9.

Table 9: Survey results on barriers/challenges personally faced by women in the construction industry (n=41)

Barrier/challenge	Frequency	Percent of case
Unfair perception of your performance capabilities	22	53.7%
Slow career progression	17	41.5%
Male-dominated culture	15	36.6%
Compensated less than men for the same work	15	36.6%
Not enough female presence to make a difference in the industry	14	34.1%
Lack of mentors in the construction industry	13	31.7%
Work/Life balance	13	31.7%
Career limited to clerical/administration duties	11	26.8%
Limited training	10	24.4%
Unfair performance evaluations by male supervisors	9	22.0%
Reverse discrimination	6	14.6%
Unsatisfied with job	5	12.2%
Socio-cultural factors	5	12.2%
Social isolation at work	3	7.3%
Sexual harassment	2	4.9%

There was a similarity between challenges faced by women in the construction industry in general and the challenges they personally face. More than half, 53.7% of the respondents indicated an unfair perception of their performance capabilities, while 41.5% indicated slow career progression as challenges they personally face. About 36.6% mentioned male-dominated culture, and the same proportion also indicated that they are compensated less than men for the same work. In comparison, 34.1% indicated that they are not enough female representation to make a difference in the industry. Close to 30%, 31.7% spoke on the challenges of balancing work and life balances. The same proportion indicated no female mentors in the construction industry. In comparison, 26.8% said that their career is limited to clerical/administration duties. The respondents further stated the other challenges they personally faced as limited training (24.4%), unfair performance evaluations by male

supervisors (22.0%), reverse discrimination (14.6%), unsatisfied with the job (12.2%); socio-cultural factors (12.2%), social isolation at work (7.3%) and sexual harassment (4.9%).

These results confirm the barriers/challenges obtained from the in-depth interviews conducted. To further illustrate the challenges faced by women in the construction industry, participants' responses are highlighted below.

Poor working conditions

Construction challenging working conditions that women experience are excessive long hours and lack of flexibility in the process, openly masculine, construction location being far from normal residence, the struggle between work and family responsibilities that many construction professional experiences are more severe for women than for men, travelling substantial distances and/ or long periods away from home, major obstacle for equal opportunities for women to enter and prosper in the industry, negative stereotypes, work and life imbalances, prejudices, the lack of mentors and proper networks, institutional discrimination against women, extreme weather, and immoral language.

The following are examples of quotes from the respondents.

Respondent 1 said:

"We are subjected to bad conditions on site. I even do not wish to wake up whenever I am thinking about long working hours, and remote areas most construction work take place".

Responded 2 and 18 responded:

"Some construction sites do not have running water, and we use the toilet to hire, putting women's health at risk as they easily get infections from unhygienic conditions".

Respondents 3 and 41 said:

"Men are paid more as they are given better roles in the construction industry, enabling them to grow fast. Hence they become less reliant on supervision in a shorter space of time".

Responded 16 contended:

"Most men are in high positions and get better benefits than most females. Females are normally at the bottom scale of salary bands; hence their benefits are low since benefits are a percentage of what a person earns".

Respondent 6 says: "There are subtle ways women are harassed in the construction industry. The use of bad language having been made part of the culture and being deemed acceptable because most men use it is always used as an excuse".

Respondent 5 also says: "Sexual harassment from male co-workers or leaders can be subtle in offices. Women would be given gifts and be invited to dinner parties, and in the process, be promised more favours if they accept the invitations. In the field or working sites, sexual harassment is more vivid as women are told they will get many favours if they agree to sexual advances".

Respondent 8 responded:

“Lack of stability due sites being at different places, running for long durations make women life unstable as they cannot start families on time”.

Respondent 13 says:

“As a woman working in a male-dominated field, you will encounter comments and questions that will grate on your nerves. I have thought myself to not allow these comments to change who am I as a leader; a colleague and to ultimately alter what I am trying to accomplish. Basically, not being overly sensitive to people’s comments”.

Respondent 26 responded:

“Having to deal with men in the industry is a very big challenge. I am often reminded that the industry is not for women and that I should go and do another work that is associated with women”.

Lack of women role models

Lack of women role models refers to lack of women in senior positions and limited visibility of women on site, a small number of women in leadership positions, with a reasonable number in middle and senior management, few women role models, especially at the executive level, etc. All this does not give women the right impression in relation to their prospects of succeeding in this industry.

The following is an example of a quote from the respondents.

Respondent 20 and 31 responded:

“There are few women in the construction industry, especially in leadership and senior position. This creates a void in getting role models that can encourage other women to strive and envisage a better future in the construction industry”.

Limited training

Limited training in construction is difficulties in affording women proper education required to assume specific roles like engineering and heavy labouring, lack of practice, insufficient education, or qualifications.

The following is an example of a quote from the respondents.

Respondents 17 and 28 responded:

“Women do not get enough training to allow them to assume a leadership position in most industries, especially in mining and construction”.

Respondents 21 and 35 responded:

“Lack of training and not attending relevant workshops, seminars and courses necessary to upskill women and lead to few women in top management, and few female role models in the industry”.

Menial jobs for women

Menial jobs for women in construction are regarded as jobs not in the mainstream of construction jobs but as secretaries, administrators, and safety officers. Women are overrepresented at the junior level but underrepresented at a senior level in construction.

The following are examples of quotes from the respondents.

Respondents 23 and 37 responded:

“Many women are doing clerical duties as they are not deemed clever enough and strong enough to go to the field and carry the so-called men’s job. Hence you find many women being secretaries, personal assistants, safety officers, and receptionists”.

Respondents 15 and 34 responded:

“We are considered menial jobs when we apply for jobs in the construction industry even if some of us have prior experience from other industries, and we end up performing menial jobs like safety officers and administration work”.

2.7.7.3 Awareness of a member of an organisation that caters to women’s needs in the construction industry and successes and gains of women in the construction industry

The participants were asked to specify whether they are aware of any organisations that provide for women’s needs in the construction industry. Only 34.1% acknowledged that they are aware of such organisations, while 65.9% of the respondents indicated that they do not know organisations that cater for women’s needs or make women’s needs a priority.

The respondents who knew of organisations that provide to women’s requirements in the construction industry were asked to indicate whether they are members. Out of the 14 who were aware, 12 of them belonged to at least one of the organisations. The organisations mentioned were:

- Society of Women Engineers,
- Engineering Women's Network,
- National Association of Professional Women in Constructions, and
- Compliance Tool and Women’s Network.

Women were asked to comment further on the organisations. Only four respondents managed to issue the following comments:

- I am a woman ambassador of the company I work for.
- I do not understand its purpose since nothing is being done.
- I think the internal women's network addresses issues women face in the industry.
- Women network is a tool used in the business and organisation for women.

The respondents were further asked to indicate the successes/gains they think women have created in the construction industry. This was a multiple response question. The responses are shown in Table 10.

Table 10: Survey results on success/gains made by women in the construction industry (n=39)

Success / gain	Frequency	Percent of cases
Heightened consciousness by public and professionals of women's problems in the construction industry	31	79.5%
More organisations that provide to women's requirements in the industry	7	17.9%
Having women in leadership	1	2.6%
Making the industry more accessible	1	2.6%
Form women forum	1	2.6%
Doors have been opened	1	2.6%
As more women enter their impact cannot be ignored	1	2.6%
Women as same capabilities as men	1	2.6%
Public now aware of the kind of work women do in the industry	1	2.6%
People are now aware that women are into construction	1	2.6%
Women bring a different aspect to the workplace and warmth	1	2.6%
Women in leadership positions have given other women opportunities to learn and develop	1	2.6%
Women in leadership position has given support to younger generation	1	2.6%

Close to 80%, that is, 79.5%, said that there was increased consciousness by people and professionals of women's problems in the construction industry. In comparison, 17.9% said that there were now more organisations that provide for women's requirements in the industry. The other gains mentioned were having women in leadership, making the industry more accessible, formation of women forum, doors have been opened for women, as more women say their impact is not ignored, women have same capabilities as men, public now aware of the kind of work women do in the industry, people are now aware that women are into construction, women bring a different aspect to the workplace and warmth, women in leadership positions have given other women opportunities to learn and develop, and women in leadership position have given support to the younger generation.

The participants were asked to share the successes/gains they personally faced. The information is presented in Table 11.

Table 11: Survey results on personal success/gains made by women in the construction industry (n=39)

Success / gain	Frequency	Percent of cases
Encouraged another female to join the construction industry	25	64.1%
Mentored a fellow female	13	33.3%
Exceeded expected career progression	12	30.8%
Started a chapter of an organisation that supports female construction workers	2	5.1%
The narrative that men are only capable is changing	1	2.6%
Guided one of the women on various technical tricks for maintenance	1	2.6%
Encouraged girls to join the industry	1	2.6%
Being independent and not rely on male friends or brothers	1	2.6%
Being able to question the quality of service offered	1	2.6%
Capability same as male counterparts	1	2.6%
Possible to work with men	1	2.6%
Have qualifications same as male counterparts	1	2.6%
Formed a supporting network between women on the same level	1	2.6%
Striving for leadership and not being undermined	1	2.6%
Worked for an organisation that supports women	1	2.6%
Join organisation that supports women and learn different cultures	1	2.6%
Privileged to work with interns in the industry	1	2.6%
Have offered guidance and support	1	2.6%
Encouraged female counterparts to be courageous and take up opportunities presented	1	2.6%
Offering advice and mentorship	1	2.6%

About 64.1% indicated that they encouraged another female to join the construction industry while a third managed to mentor a fellow female. Some 30.8%, indicated that they exceeded expected career progression while 5.8% started a chapter of an organisation that supports female construction workers.

More respondents are:

- The other successes/gains realised by the respondents were the narrative that man is only capable of changing.
- Another woman guided one of the women on various technical tricks for maintenance.
- One woman encouraged girls to join the industry.
- Women were encouraged to be independent and not rely on male friends or brothers by one of the respondents.
- One woman was able to question the quality of service offered to women.

- One woman got prompted to leadership position to prove women are capable as male counterparts.
- Some women worked successfully with men, have qualifications same as male counterparts, formed a supporting network between women on the same level, strive for leadership and not being undermined by men, and worked for an organisation that supports women.

2.7.7.4 Retention / job satisfaction

The respondents asked to indicate how satisfied they are with their career choice and career jobs in the construction industry. Table 12. reports on the level of satisfaction for career choice and current jobs.

Table 12: Career choice satisfaction of respondents

Statement	Level of satisfaction			
	Very satisfied	Satisfied	Somewhat satisfied	Not satisfied
Q11. How satisfied are you with your career choice in the construction industry?	4.9% (2)	41.5% (17)	43.9% (18)	9.8% (4)
Q12. How satisfied are you with your current job?	4.9% (2)	29.3% (12)	43.9% (18)	22.0% (9)

A proportion of 4.9% were very satisfied, while 41.5% were satisfied with their career choice of being in the construction industry, bringing the level of satisfaction to 46.4%. This result reveals that women construction employees are moderately satisfied with their career choice. This is also supported because 43.9% were somewhat satisfied and 9.8% were not satisfied.

Regarding level of satisfaction with the current job, about 4.9% indicated that there were very satisfied, 29.3% were satisfied, 43.9% were somewhat satisfied, and 22% were not satisfied. This shows that only 34.2% are satisfied with their current job. The respondents were asked to indicate the factors that would improve their job satisfaction. The following results in Table 13 were obtained.

Table 13: Factors to improve level of satisfaction (n=41)

Factor	Frequency	Percent of cases
Leadership opportunities	29	70.7%
Improved perception of value of women's work	28	68.3%
More training options	25	61.0%
Fairer pay (equal to men's pay of equal knowledge & experience)	20	48.8%
Increased awareness by public and professional of women's issues in the construction industry	17	41.5%
Having a mentor	17	41.5%
Improved performance rating system	13	31.7%
Better Work/Life balance (breaks in service to take care of family without penalties)	13	31.7%
More work schedule options	11	26.8%
Remote work	4	9.8%
Equal opportunities for males and females	3	7.3%
Having more meaningful entry-level jobs	1	2.4%
Encouragement and motivation to other women	1	2.4%
Equal treatment	1	2.4%
Public service to promote capability and value of women	1	2.4%

Some 70.7% indicated that leadership opportunities may increase the satisfaction levels of women, and 68.3% indicated an improved perception of the value of women's work might improve their level of satisfaction. Some 61% indicated more training opportunities and close to 50% might improve their level of satisfaction, that is, 48.8% talked about fairer pay (equal to men's pay of equal knowledge and experience). About 41.5% said that increased awareness by public and professional of women's issues in the construction industry would boost the satisfaction of women in the industry and the same proportion also indicated having mentors.

Almost 13 out of the 41 respondents (31.7%) said improved performance rating system would assist in encouraging women to stay in the construction industry, and the same proportion also indicated better work/life balance (breaks in service to take care of the family without penalties). Some 26.8% advocated for more work schedule options. This was also observed regarding working hours even during in-depth interviews. Women talked of challenging working hours and are not given chances of scheduling options to choose from. Close to 10% also indicated remote work especially in the days of COVID 19. Some of the factors that were mentioned that may improve the satisfaction of women in the construction environment were equal opportunities for males and females, having more meaningful entry-level jobs, encouragement and motivation to other women, equal treatment, and public service to promote capability and value of women.

The respondents were asked to indicate the positive factors that would affect their retention in the industry. The factors articulated are presented in Table 14.

Table 14: Factors to positively affect retention (n=41)

Factor	Frequency	Percent of cases
More training options	24	58.5%
Leadership opportunities	21	51.2%
Fairer pay (equal to men's pay of equal knowledge & experience)	20	48.8%
Improved perception of value of women's work	17	41.5%
Having a mentor	15	36.6%
Better Work/Life balance (breaks in service to take care of family without penalties)	14	34.1%
More work schedule options	13	31.7%
Improved performance rating system	9	22.0%
Increased awareness by public and professional of women's issues in the construction industry	9	22.0%
Remote work	3	7.3%
Accommodating the requirements of women in the workplace	1	2.4%
Positive direction	1	2.4%
Increase in remuneration	1	2.4%
Need more women in leadership positions in this field	1	2.4%

More training options were given as an influential positive factor by 58.5% of the respondents while 51.2% said leadership opportunities and 48.8% indicated fairer pay (equal to men's pay of equal knowledge & experience) as a positive retention factor. Some 41.5% alluded to improved perception of the value of women's work as a positive factor for reducing intention to leave the organisation. In comparison, 36.6% said having a mentor. About 34.1% said better work/life balance (breaks in service to take care of the family without penalties) could influence the intention to stay in the organisation, 31.7% said more work schedule options. In contrast, 22% indicated improved performance rating system, and the same proportion indicated increased awareness by public and professional women's issues in the construction industry.

The other positive factors for retention were remote work, accommodating women's requirements in the workplace, positive direction, increase in remuneration and need more women in leadership positions in this field. These results show that if women are given leadership opportunities, trained, and given a salary same as their male colleagues and their work is valued, this will reduce the chances of women leaving the industry.

The respondents on the other hand, were asked to indicate the factors that will negatively affect their retention in the organisation. The factors are depicted in Table 15.

Table 15: Factors to negatively affect retention (n=41)

Factor	Frequency	Percent of cases
Negative perception of value women's work	28	68.3%
Stalled career	13	31.7%
Undermining of women	2	4.9%
No career growth	1	2.4%
No increase in salary	1	2.4%

Some 68.3% indicated a negative perception of value women's work and 31.7% indicated a stalled career. Other factors raised were undermining of women, no career growth, and no increase in salary contributes to negative retention of women in the construction industry.

2.8 DISCUSSION OF THE RESULTS

The primary objective of this research was to explore and understand challenges faced by women in the construction industry in Mpumalanga and Limpopo Provinces. This was done in an endeavour to be able also to determine the factors that will assist in the retention of women in the construction industry.

Additional characteristics of the sample were carried out as part of a survey and as a triangulation method to substantiate the in-depth interviews conducted. The respondents were asked social demographic characteristics like their age, title that describe their career and years of experience.

The survey and interview results highlight different categories as the main challenges faced by women in the construction industry. The findings from the survey and interview results then highlight perceptions of women on how men perceive women in the construction industry. The findings then highlight measures women can take to overcome challenges women face in the construction industry. Finally, findings from survey and interview results conclude by highlighting the measures an industry can take to overcome the challenges faced by women in the construction industry.

The secondary objectives of this research were related to:

- Determining the challenges faced by women in the construction industry in Mpumalanga and Limpopo Provinces.
- Determining the perception of women on how they think men perceive them in the construction industry.
- Determining measures women could take to overcome the challenges faced by women in the construction industry.
- Determining what measures an industry could take to overcome the challenges faced by women in the construction industry.

The survey and interview results are discussed below:

2.8.1 Challenges faced by women in the construction industry in Mpumalanga and Limpopo Provinces

The first secondary objective of this study was to determine the challenges faced by women in the construction industry in Mpumalanga and Limpopo Provinces. All the respondents (100%) who participated in this study provided descriptions of challenges faced by women in the construction industry. The researcher identified three subthemes from the provided descriptions: (1) challenges faced by women in getting started into the construction industry; (2) challenges faced by women in the construction industry; and (3) challenges women personally faced in the construction industry.

These results from the survey and detail interview are in line with the previous findings from studies that also highlighted challenges faced by women in the construction industry. The following are the previous studies that highlighted challenges faced by women in the construction industry: Akomolafe and Mohammed (2015:); Adogbo *et al.* (2015); Amaratunga *et al.* (2007); Harris (2017); Ler (2014:19); NAWIC (2013); Oo *et al.* (2019); Pandiselvi (2018); Rosa *et al.* (2017); Sangweni (2015); Stamarski and Hing (2015); and Secatore and Scott-Young (2016).

The key terms that were evident in each subtheme are:

(1) Challenges faced by women in getting started into construction industry.

The key terms that were evident in challenges faced by women in getting started into the construction industry were: construction is tailored for men's needs; construction is a male-dominated industry; women are thought to be less capable than their male counterparts; gender discrimination; no fair recruitment processes, males are preferred over females; and there is poor communication. This is supported by Rosa *et al.* (2017), who made mention of male standards and values such as extended hours and promotion of a hostile environment that suit men's needs. Secatore and Scott-Young (2016) align with the results, indicating that their male counterparts frequently select women for tasks that are intended to 'test' their ability to work in a male environment. The results are further supported by literature, and Akomolafe and Mohammed (2015) indicated that one of the reasons women are not taken seriously in construction environment is because they are considered incapable of performing certain tasks because of their physique, and many male employers still consider women unsuitable for some traditionally male-dominated jobs. Gender discrimination is also highlighted in Stamarski and Hing (2015). It supports the idea that women face a lot of challenges and indicates that institutional discrimination against women happens in their performance evaluations when determining organisational benefits (e.g., compensation), punishments (e.g., termination), and opportunities (e.g., promotion, role assignments).

(2) Challenges faced by women in construction industry.

The key terms that were evident in challenges faced by women in the construction industry

were: harassment, unequal treatment, and discrimination against women. The results are in line with the findings by Secatore and Scott-Young (2016), who indicated that sexist behaviour in the construction workplace was another challenge many women faced. Stamarski and Hing (2015) described the construction industry workplace as an unwelcome place for women due to gender inequalities and unequal treatment, less remuneration, unequal opportunities, few women in leadership, and the longer time needed for women to advance in their careers.

(3) Challenges women personally faced in the construction industry.

The key terms that were evident in challenges women personally faced in the construction industry were: gender discrimination; unequal treatment; limited career growth opportunities to leadership positions; slow career progress; unfair performance evaluations by male supervisors; sexual harassment; male-dominated field; and unable to voice their own opinion, among a few. The results are in line with the findings by Harris (2017), who indicated that many women face obstructions in their career paths that men do not encounter, which further contributed to the shortage of women leaders in the construction industry. Rosa *et al.* (2017) said women are misjudged on performance compared with male counterparts and experience limiting slow career progression /low potential for career advancement barriers. Rosa *et al.* (2017) agree with the findings from the results and regards sexual harassment as a predominant barrier for women's progression in the construction industry. Pandiselvi's (2018) findings support the finding from the results and noted that sexual harassment is another serious problem for women in construction workers.

2.8.2 Perceptions of women on how men perceive women in the construction industry

The second secondary objective of this study was to look at the perceptions of women on how men perceive them in the construction industry. The following subthemes were identified: (1) male perceptions of women in the construction industry; (2) negative factors for retention of women; and (3) positive factors for retention of women.

The results from respondents are in line with previous findings from the literature review. The results are in line with the earlier findings that also highlighted perceptions of women on how men perceive them in the construction industry. The following are the previous studies that highlighted perceptions of women on how men perceive them in the construction industry: NWLC (2014), Galea (2017) Akomolafe and Mohammed (2015), Jamenya (2018), Secatore and Scott-Young (2016), Aneke (2015), Harris (2017), and Wangle (2009).

The key terms that were evident in each subtheme are:

(1) Male perceptions of women in the construction industry

The key terms that were evident in male perception of women in the construction industry were: lack of capability; in most cases, male view women in the construction industry as if they are not capable of doing job activities on daily bases; women lack knowledge /capability and always in competition for fair recognition; despite an initiative to recruit women, the industry remains one of the most gender-segregated industries in the world; and men sometimes

perceive females as people who are not capable of performing and executing jobs successfully. The responses from the participants concur with the findings from literature as NWLC (2014) indicated that young women, when recruited into construction industry, are usually encouraged, and directed into professions that aligned to gender stereotypes and are traditionally not considered female jobs such as construction as they are regarded to lack knowledge /capability. Akomolafe and Mohammed (2015) is aligned with the participants' responses and indicated that women are considered incapable of performing specific tasks because of their physique. As a result, they are expected to play second fiddle to their male counterparts.

(2) Negative factors for retention of women.

The key terms that were evident in negative factors for retention of women in construction industry were: unequal treatment, unstable working hours, lack of respect for women, sexual harassment from male co-workers or leaders, gender discrimination, limited career growth opportunities to leadership positions, and a poor family-work balance. Negative factors affecting women's retention are also supported by Rosa *et al.* (2017) and paint the construction industry as male-dominated and makes male standards and values entrenched and practised in the industry. The irregular working hours are also mentioned Rosa *et al.* (2017) as male standards and values that promotes a male-dominant culture in the construction industry. Akomolafe and Mohammed (2015) further support the results and states the struggle between work and family responsibilities are more severe for women than for men. The results are in line with the findings by Aneke (2015), where it is indicated that women are disrespected and undermined men in the male-dominated industries as they regarded as more helpful, caring, kind, sympathetic, insecure in carrying out their duties, giving the perception that women are the weaker sex while men are perceived as the stronger in the process.

(3) Positive factors for retention of women.

The key terms that were evident in positive factors for retention of women in the construction industry were: equal treatment; career growth; diversity training; fair number of women in leadership; opportunities to grow within the industry; good working conditions; more women as role models in the industry; and offering of education/training. The results from the participants are in line with the findings from Oo *et al.* (2019), indicating that there are three important factors affecting women career choice and are: career prospects, prospects of a better pay, and self-efficacy and confidence of executing construction tasks. Secatore and Scott-Young (2016:3) support the results from the participants and indicate that to attract and advance women within the construction industry, companies need to provide more visible, strong female role models to inspire young women. The results from the participants are again supported by the findings as Tunji-Olayeni *et al.* (2017:427) indicate that numerous strategies have been provided to encourage female retention in the industry, including improving work-life balance in the industry to improve good working conditions.

2.8.3 Measures that women can take to overcome challenges faced by women in the construction industry

The third secondary objective of this study was to look at measures women can take to overcome the challenges women face in the construction industry. The following subtheme was identified and the key terms that were evident in each subtheme are:

- Women must embrace standing out when they do not agree with the treatment or unfair practice.
- Develop and maintain a network for supporting and building strong female leaders in the construction industry.
- Forming women forums to articulate on all the challenges that women may face.
- Have organisations that cater for women's needs in the construction industry to voice opinions.
- Women to be empowered through training.

The study results from respondents are in line with the previous finding that also highlighted measures women can take to overcome the challenges women face in the construction industry. The following is the previous study that highlighted measures women can take to overcome the challenges women face in the construction industry: Harris (2017).

Measures that women can take to overcome challenges

The key terms that were evident in measures women can take to overcome challenges faced by women in the construction industry were: women must embrace standing out when they do not agree with the treatment or unfair practice; women must develop and maintain a network for supporting and building strong female leaders in the construction industry; there should be female mentors for newcomers in the industry; women should form women forums to articulate on all the challenges that women may face; and women should have organisations that cater for women's needs in the construction industry that voice their opinions, and women should be bold and respond as a unit to management, among a few. This is in line with findings by Harris (2017), who indicates women must look for networking opportunities to increase their social circle into male-controlled networks.

Harris (2017) also indicated the establishment of mentorship relationships to support girls in their construction growth pursuits, develop their careers, and increase their profile in the construction industry. CIF (2018) supports participants responses and indicated the promotion of mentoring and networking among professional women to benefit women in the construction industry.

2.8.4 Measures an industry can take to overcome the challenges faced by women in the construction industry

The fourth objective of this study was to look at the measures the construction industry can take and implement to improve the retention of women in the construction industry. The following subthemes were identified and the key terms that were evident in each subtheme are:

- Progressing more women in leadership roles should be a priority in the construction industry.
- The construction industry should base remuneration on capabilities and not gender.
- Equal access to opportunities and mentorship with the construction industry.
- Offering both men and women the same opportunities.
- Companies in the construction industry must give women skills on how to handle some issues in the industry.
- Companies must teach kids about the construction industry.
- Get women mentors, offer training and equal salaries.
- Leadership should create an environment that discourages and put an end to any form of sexism.
- Provide women mentors with other women's best interest in elevating their skills and progress in the construction industry.
- The industry should offer challenging roles for personal growth.
- The industry should promote a healthy work-life balance, promote awareness of gender bias and hostile female recruiters.
- The industry should support and network through various activities like an apprenticeship for women to obtain hands-on experience.
- A diverse workforce that attracts the most talented and forward-looking employees.
- Mixed group involved in decisions involving promotion to senior levels.
- Procedures to deal with conduct that is derogatory to women.
- Companies should identify suitable and interested women who would like to join construction from universities and colleges.
- Construction industry needs to do the groundwork and needs analysis.
- Procedures to deal with conduct that is derogatory to women.
- Provide a safe and inclusive working environment and conditions.
- The industry should establish a forum that looks at the challenges women face.
- Women to stand up for themselves.

The results from respondents are in line with previous findings from the literature review. The study is in line with the previous findings that also highlighted measures an industry can take to overcome the challenges women face in the construction industry. The following are the previous studies that highlighted measures an industry can take to overcome the challenges faced by women in the construction industry: Adogbo *et al.* (2015); Amaratunga *et al.* (2007); CIF (2018); Harris (2017); Jamenya (2018); NAWIC (2013); Oo *et al.* (2019:5); Pandiselvi (2018); Secatore and Scott-Young (2016); and Tunji-Olayeni *et al.* (2017).

Measures an industry can take to improve the retention of women

The key terms that were evident in the measures construction industry can take and implement to improve the retention of women in the construction industry were: progressing more women in leadership roles should be a priority in the construction industry; provide role models and training; having the presence of more women in key positions to indicate there is gender equality; employ more females in the management space; employ more women in leadership

roles; other steps can also help with supporting career advancement and therefore retaining talented women, for example, ensuring a mentoring culture should be cultivated across the company, and that senior staff members are encouraging and investing time in women within the company so women can be brought through to the top ranks.

The retention of women is supported by the findings from Tunji-Olayeni *et al.* (2017), indicating more women must be given opportunities to lead. Secatore and Scott-Young (2016:3) also supported the responses from the participants and indicated to attract and advance women within the construction industry, the construction industry needs to provide more visible, strong female role models to inspire young women that they too can succeed in this exciting and challenging industry. This is supported by Tunji-Olayeni *et al.* (2017), which indicated same-gender role models are helpful for women who are in fields like Science, Technology, Engineering, and Mathematics (STEM) and construction.

2.9 LIMITATIONS OF THE RESEARCH

Male-dominated industries in South Africa are many, but this study focused only on the construction industry, emphasising women in the construction industry, which constitutes only a fraction of the total number of women in male-dominated industries in South Africa. The study was limited to women in Mpumalanga and Limpopo Provinces. This limited the generalisability of the results generated since it does not represent a general view of women in South Africa's construction industry as a whole. Another limitation was the empirical nature of the research. The extent to which the findings were generalised is limited, mainly because any study of gender and institutions is by nature socially fluid and not fixed in terms of time and place.

There are limitations to this research that affected the results of the study. An audience of 82 women who worked and worked in Mpumalanga and Limpopo Provinces of South Africa and are from various career fields, age groups, and years of experience were given a planned or semi-structured interview containing eight questions. The small sample size of 59 is improbable to be representative of the whole population of working construction women in South Africa.

Snowball sampling was chosen for data collection by considering the objective of the study, time, and budget available. There was a lack of sources on studying the barriers to women's career advancement in South Africa's context. Most of the literature reviews in this research are based on a foreign context. It was a challenge to find a related journal in South Africa's context to support this study's results.

2.10 SUMMARY

This chapter focused on the challenges that women face in the construction industry in Mpumalanga and Limpopo Provinces in South Africa, perception of women on how they think men perceive them in the construction industry, measures women can take to overcome the challenges they face in the construction industry and measures an industry can take to overcome the challenges faced by women in the construction industry.

The chapter presented the factual elements that were discussed in the methodology section. The methodology section comprised the sampling techniques, questionnaire design, data analysis procedures, and the ethical considerations of the study.

The aim of the chapter was to present and interpret the findings of the study. The analysis of qualitative data was conducted using content and thematic analyses.

The chapter presented a literature review that supported the aim of the research, which was to support the following objectives:

- Determination of the challenges faced by women in the construction industry in Mpumalanga and Limpopo Provinces.
- Determination of perception of women on how they think men perceive them in the construction industry.
- Determination of measures women can take to overcome the challenges faced by women in the construction industry.
- Determination of what measures an industry can take to overcome the challenges faced by women in the construction industry.

Since the study is qualitative analysis, the reporting of the results is based on qualitative analysis.

The results on this chapter focused on the demographic factors with special attention being directed to the overview of the respondents' responses on challenges faced by women in the construction industry; perception of women on how men perceive them in the construction industry; measures women can take to overcome challenges faced by women in the construction industry; and measures an industry can take to overcome the challenges faced by women in the construction industry.

Additional characteristics of the sample were carried out as part of a survey and as a triangulation method to substantiate the in-depth interviews conducted. The respondents were asked social demographic characteristics like their age, title that describe their career and years of experience.

The research design followed the cross-sectional strategy as part of qualitative research. The research applied a semi-structured method which comprised of individual interviews. The research contained individual interviews to advance an understanding on why women face challenges in the construction industry.

The respondents indicated how they became aware of opportunities/careers in the construction industry, barriers/ challenges faced by women in the construction industry, successes made/ gained by women in construction and retention and job satisfaction.

The findings from the interview results were then highlighted in the different categories as follows:

- main challenges faced by women in the construction industry;
- perceptions of women on how men perceive them in the construction industry;
- measures women can take to overcome challenges faced by women in construction industry; and
- measures an industry can take to overcome the challenges faced by women in the construction industry.

The chapter then discusses the results. The results are in line with many previous studies that highlighted similar challenges women face in the construction industry.

Limitations of the study are also highlighted in the chapter.

The mini-dissertation is concluded in Chapter 3 and entails conclusions and recommendations pertaining to this study.

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3 CHAPTER 3: CONCLUSIONS AND RECOMMENDATIONS

3.1 DISCUSSION OF THE RESULTS

The primary objective of this research was to explore and understand challenges faced by women in the construction industry in Mpumalanga and Limpopo Provinces. This was done in an endeavour to be able also to determine the factors that will assist in the retention of women in the construction industry.

Additional characteristics of the sample were carried out as part of a survey and as a triangulation method to substantiate the in-depth interviews conducted. The respondents were asked social demographic characteristics like their age, title that describe their career and years of experience.

The survey and interview results highlight different categories as the main challenges faced by women in the construction industry. The findings from the survey and interview results then highlight perceptions of women on how men perceive women in the construction industry. The findings then highlight measures women can take to overcome challenges women face in the construction industry, and finally, findings from survey and interview results concludes by highlighting measures an industry can take to overcome challenges faced by women in the construction industry.

The secondary objectives of this research were related to:

- Determining the challenges faced by women in the construction industry in Mpumalanga and Limpopo Provinces.
- Determining the perception of women on how they think men perceive them in the construction industry.
- Determining measures women could take to overcome the challenges faced by women in the construction industry.
- Determining what measures an industry could take to overcome the challenges faced by women in the construction industry.

The survey and interview results are discussed below:

3.1.1 Challenges faced by women in the construction industry in Mpumalanga and Limpopo Provinces

The first secondary objective of this study was to determine the challenges faced by women in the construction industry in Mpumalanga and Limpopo Provinces. All the respondents (100%) who participated in this study provided descriptions of challenges faced by women in the construction industry. The researcher identified three subthemes from the provided descriptions: (1) challenges faced by women in getting started into the construction industry; (2) challenges faced by women in the construction industry; and (3) challenges women personally faced in the construction industry.

These results from the survey and detail interview are in line with the previous findings from studies that also highlighted challenges faced by women in the construction industry. The following are the previous studies that highlighted challenges faced by women in the construction industry: Adogbo *et al.* (2015); Akomolafe and Mohammed (2015); Amaratunga *et al.* (2007); Harris (2017); Ler (2014); NAWIC (2013); Oo *et al.* (2019); Pandiselvi (2018); Rosa *et al.* (2017); Sangweni (2015); Stamarski and Hing (2015); and Secatore and Scott-Young (2016).

The key terms that were evident in each subtheme are:

(1) Challenges faced by women in getting started in the construction industry.

The key terms that were evident in challenges faced by women in getting started into the construction industry were: construction is tailored for men's needs; construction is a male-dominated industry; women are thought to be less capable than their male counterparts; gender discrimination; no fair recruitment processes, males are preferred over females; and there is poor communication. This is supported by Rosa *et al.* (2017) who mentioned male standards and values such as extended hours and promotion of hostile environment that suit men's needs. Secatore and Scott-Young (2016) align with the results, indicating that their male counterparts frequently select women for tasks intended to 'test' their ability to work in a male environment.

The results are further supported by literature, Akomolafe and Mohammed (2015) indicated that one of the reasons women are not taken seriously in a construction environment is because they are considered incapable of performing certain tasks because of their physique, and many male employers still consider women unsuitable for some traditionally male-dominated jobs. Gender discrimination is also highlighted in Stamarski and Hing (2015). It supports the idea that women face a lot of challenges and indicates that institutional discrimination against women happens in their performance evaluations when determining organisational benefits (e.g., compensation), punishments (e.g. termination), and opportunities (e.g. promotion, role assignments).

(2) Challenges faced by women in construction industry.

The key terms that were evident in challenges faced by women in the construction industry were harassment, unequal treatment, and discrimination against women. The results are in line with the findings by Secatore and Scott-Young (2016) who indicated that sexist behaviour in the construction workplace was another challenge many women faced. Stamarski and Hing (2015) described the construction industry workplace as an unwelcome place for women due to gender inequalities and unequal treatment, less remuneration, unequal opportunities, few women in leadership, and the longer time needed for women to advance in their careers.

(3) Challenges women personally faced in the construction industry.

The key terms that were evident in challenges women personally faced in the construction industry were: gender discrimination; unequal treatment; limited career growth opportunities to leadership positions; slow career progress; unfair performance evaluations by male

supervisors; sexual harassment; male-dominated field; and unable to voice their own opinion, among a few. The results are in line with the findings by Harris (2017), who indicated that many women face obstructions in their career paths that men do not encounter, which further contributed to the shortage of women leaders in the construction industry. Rosa *et al.* (2017) said women are misjudged on performance compared with male counterparts and experience limiting slow career progression /low potential for career advancement barriers. Rosa *et al.* (2017) agree with the findings from the results and regards sexual harassment as being a predominant barrier for women progression in the construction industry. Pandiselvi's (2018) findings support the findings and noted that sexual harassment is another serious problem for women in construction workers.

3.1.2 Perceptions of women on how men perceive women in the construction industry

The second secondary objective of this study was to look at the perceptions of women on how men perceive them in the construction industry. The following subthemes were identified: (1) male perceptions of women in the construction industry; (2) negative factors for retention of women; and (3) positive factors for retention of women.

The results from respondents are in line with previous findings from the literature review. The results are in line with the earlier findings that also highlighted perceptions of women on how men perceive them in the construction industry. The following are the previous studies that highlighted perceptions of women on how men perceive them in the construction industry: NWLC (2014), Galea (2017), Galea (2017), Akomolafe and Mohammed (2015), Jamenya (2018), Secatore and Scott-Young (2016), Aneke (2015), Harris (2017), Harris (2017), and Wangle (2009:27).

The key terms that were evident in each subtheme are:

(1) Male perceptions of women in the construction industry

The key terms that were evident in male perception of women in the construction industry were: lack of capability; in most cases, male view women in the construction industry as if they are not capable of doing job activities on daily bases; women lack knowledge/capability and always in competition for fair recognition, despite an initiative to recruit women, the industry remains one of the most gender-segregated industries in the world; and men sometimes perceive females as people who are not capable of performing and executing jobs successfully.

The responses from the participants concur with the findings from literature as NWLC (2014) indicated that young women, when recruited into the construction industry, are usually encouraged and directed into professions that aligned to gender stereotypes and are traditionally not considered female jobs such as construction as they are regarded to lack knowledge/capability. Akomolafe *et al.* (2015) is aligned with the participants' responses and indicated that women are considered incapable of performing certain tasks because of their physique. As a result, they are expected to play second fiddle to male counterparts.

(2) Negative factors for retention of women.

The key terms that were evident in negative factors for retention of women in the construction industry were: unequal treatment; irregular working hours; lack of respect for women; sexual harassment from male co-workers or leaders; gender discrimination; limited career growth opportunities to leadership positions; and poor family-work balance. Negative factors affecting the retention of women are also supported by Rosa *et al.* (2017) and paint the construction industry as male-dominated and makes male standards and values entrenched and practised in the industry. The irregular working hours are also mentioned Rosa *et al.* (2017) as male standards and values that promote a male-dominant culture in the construction industry.

Akomolafe and Mohammed (2015) further supports the results and states the struggle between work and family responsibilities are more severe for women than for men. The results are gain in line with the findings by Aneke (2015), where it is indicated that women are disrespected and undermined men in the male-dominated industries as they regarded as more helpful, caring, kind, sympathetic, insecure in carrying out their duties, giving the perception that women are the weaker sex while men are perceived as the stronger in the process.

(3) Positive factors for retention of women.

The key terms that were evident in positive factors for retention of women in the construction industry were equal treatment; career growth; diversity training, a fair number of women in leadership, opportunities to grow within the industry, good working conditions, more women as role models in the industry, and offering of education/training. The results from the participants are in line with the findings from Oo *et al.* (2019), indicating that there are three critical factors affecting women career choice and are: career prospects, prospects of a better pay, and self-efficacy and confidence in executing construction tasks. Secatore and Scott-Young (2016:3) support the results from the participants and indicate that to attract and advance women within the construction industry, companies need to provide more visible, strong female role models to inspire young women. The results from the participants are again supported by the findings as Tunji-Olayeni *et al.* (2017:427) indicate that numerous strategies have been provided to encourage female retention in the industry, including improving work-life balance in the industry to improve good working conditions.

3.1.3 Measures that women can take to overcome challenges faced by women in construction industry

The third secondary objective of this study was to look at measures women can take to overcome the challenges women face in the construction industry. The following subtheme was identified and the key terms that were evident in each subtheme are:

- Women must embrace standing out when they do not agree with the treatment or unfair practice.
- Develop and maintain a network for supporting and building strong female leaders in the construction industry.
- Forming women forums to articulate on all the challenges that women may face.

- Have organisations that cater for women's needs in the construction industry to voice opinions.
- Women to be empowered through training.

The study results from respondents are in line with the previous finding that also highlighted measures women can take to overcome the challenges women face in the construction industry. The following is the previous study that highlighted measures women can take to overcome the challenges women face in the construction industry: Harris (2017).

Measures that women can take to overcome challenges

The key terms that were evident in measures women can take to overcome challenges faced by women in the construction industry were: women must embrace standing out when they do not agree with the treatment or unfair practice; women must develop and maintain a network for supporting and building strong female leaders in the construction industry; there should be female mentors for newcomers in the industry; women should form women forums to articulate on all the challenges that women may face; and women should have organisations that cater for women's needs in the construction industry that voice their opinions, and women should be bold and respond as a unit to management, among a few. This is in line with findings by Harris (2017), who indicates women must look for networking opportunities to increase their social circle into male-controlled networks.

Harris (2017) also indicated the establishment of mentorship relationships to support girls in their construction growth pursuits, develop their careers, and increase their profile in the construction industry. CIF (2018) supports participants responses and indicated the promotion of mentoring and networking among professional women to benefit women in the construction industry.

3.1.4 Measures an industry can take to overcome the challenges faced by women in the construction industry

The fourth objective of this study was to look at the measures the construction industry can take and implement to improve the retention of women in the construction industry. The following subthemes were identified and the key terms that were evident in each subtheme are:

- Progressing more women in leadership roles should be a priority in the construction industry.
- The construction industry should base remuneration on capabilities and not gender.
- Equal access to opportunities and mentorship with the construction industry.
- Offering both men and women the same opportunities.
- Companies in the construction industry must give women skills on how to handle some issues in the industry.
- Companies must teach kids about the construction industry.
- Get women mentors, offer training and equal salaries.

- Leadership should create an environment that discourages and put an end to any form of sexism.
- Provide women mentors with other women's best interest in elevating their skills and progress in the construction industry.
- The industry should offer challenging roles for personal growth.
- The industry should promote a healthy work-life balance, promote awareness of gender bias and hostile female recruiters.
- The industry should support and network through various activities like an apprenticeship for women to obtain hands-on experience.
- A diverse workforce that attracts the most talented and forward-looking employees.
- Mixed group involved in decisions involving promotion to senior levels.
- Procedures to deal with conduct that is derogatory to women.
- Companies should identify suitable and interested women who would like to join construction from universities and colleges.
- Construction industry needs to do the groundwork and needs analysis.
- Procedures to deal with conduct that is derogatory to women.
- Provide a safe and inclusive working environment and conditions.
- The industry should establish a forum that looks at the challenges women face.
- Women to stand up for themselves.

The results from respondents are in line with previous findings from the literature review. The study is in line with the previous findings that also highlighted measures an industry can take to overcome the challenges women face in the construction industry. The following are the previous studies that highlighted measures an industry can take to overcome the challenges faced by women in the construction industry: Adogbo *et al.* (2015); Amaratunga *et al.* (2007); CIF (2018); Harris (2017); Jamenya (2018); NAWIC (2013); Oo *et al.* (2019); Pandiselvi (2018); Secatore and Scott-Young (2016); and Tunji-Olayeni *et al.* (2017).

Measures an industry can take to improve the retention of women

The key terms that were evident in the measures construction industry can take and implement to improve the retention of women in the construction industry were: progressing more women in leadership roles should be a priority in the construction industry; provide role models and training; having the presence of more women in key positions to indicate there is gender equality; employ more females in the management space; employ more women in leadership roles; other steps can also help with supporting career advancement and therefore retaining talented women, for example, ensuring a mentoring culture should be cultivated across the company, and that senior staff members are encouraging and investing time in women within the company so women can be brought through to the top ranks.

The retention of women is supported by the findings from Tunji-Olayeni *et al.* (2017), indicating more women must be given opportunities to lead. Secatore and Scott-Young (2016:3) also supported the responses from the participants and indicated to attract and advance women within the construction industry, the construction industry needs to provide more visible, strong female role models to inspire young women that they too can succeed in this

exciting and challenging industry. This is supported by Tunji-Olayeni *et al.* (2017), which indicated same-gender role models are helpful for women who are in fields like Science, Technology, Engineering, and Mathematics (STEM) and construction.

3.2 LIMITATIONS OF THE RESEARCH

Male-dominated industries in South Africa are many, but this study focused only on the construction industry, emphasising women in the construction industry, which constitutes only a fraction of the total number of women in male-dominated industries in South Africa. The study was limited to women in Mpumalanga and Limpopo Provinces. This limited the generalisability of the results generated since it does not represent a general view of women in the construction industry in South Africa as a whole. Another limitation was the empirical nature of the research. The extent to which the findings were generalised is limited, mainly because any study of gender and institutions is by nature socially fluid and not fixed in terms of time and place.

There are limitations on this research that affected the results of the study. An audience of 82 women who worked and have worked in Mpumalanga and Limpopo Provinces of South Africa and are from various career fields, age groups, and years of experience were given a planned or semi-structured interview containing eight questions. The small sample size of 59 is improbable to be representative of the whole population of working construction women in South Africa.

Snowball sampling was chosen for data collection by considering the objective of the study, time, and budget available. There was a lack of sources on the study of the barriers to women's career advancement in South Africa's context. Most of the literature reviews in this research are based on a foreign context. It was a challenge to find a related journal in South Africa's context to support the results of this study.

3.3 CONCLUSIONS AND RECOMMENDATIONS

The primary objective of this research was to explore and understand challenges faced by women in the construction industry in Mpumalanga and Limpopo Provinces. This was done in an endeavour to be able also to determine the factors that will assist in the retention of women in the construction industry.

The study was also conducted to provide a better understanding of how the construction industry can attract and retain women professionals within the construction industry and ensure gender diversity within senior leadership teams. The results of this exploratory qualitative study suggest that women remain to be underrepresented within the industry.

The difficult workplace culture and stereotyping still exist and undermines women in the workplace. Their long working hours creates difficulties when trying to balance family and career.

Additional characteristics of the sample were carried out as part of a survey and as a triangulation method to substantiate the in-depth interviews conducted. The respondents were asked social demographic characteristics like their age, title that describe their career and years of experience.

The survey and interview results highlight different categories as the main challenges faced by women in the construction industry. The findings from the survey and interview results then highlight perceptions of women on how men perceive women in the construction industry. The findings then highlight measures women can take to overcome challenges women face in the construction industry. Finally, findings from survey and interview results conclude by highlighting measures an industry can take to overcome challenges faced by women in the construction industry.

The secondary objectives of this research were related to:

- Determining the challenges faced by women in the construction industry in Mpumalanga and Limpopo Provinces.
- Determining perception of women on how they think men perceive them in the construction industry.
- Determining measures women could take to overcome the challenges faced by women in the construction industry.
- Determining what measures an industry could take to overcome the challenges faced by women in the construction industry.

The intent of this chapter is to provide conclusions and recommendations on the results of the experimental studies of the research study. Conclusions are taken on objectives 1 and objective 2, and recommendations are made on objectives 3 and objective 3.

Limitations of the study are discussed, and recommendations are made, and research further prospects that emanate from this research are stipulated.

3.4 CONCLUSIONS

The main objective of this research was to determine the challenges women face in the construction industry in Mpumalanga and Limpopo Provinces. The following conclusions can be made from this study:

The experience of women working in the construction industry is seen as a huge challenge. The majority of participants felt that they had to prove themselves to their fellow male employees but that the men on the job held an innate mindset that women do not belong in the construction industry.

The findings highlight the following categories as the main challenges faced by women in the construction industry.

3.4.1 Challenges faced by women in the construction industry in Mpumalanga and Limpopo Provinces.

The challenges that women face from the responses obtained from the participants were:

3.4.1.1 Poor working conditions, Gender stereotypes, Gender Inequality and Discrimination

The results from respondents indicate that the workplace is hostile to women as women are considered less capable than men, women are given less pay, recruiters prefer male employees. There is a range of discrimination women face when choosing the construction industry as a career, sexual harassment being noted a predominant barrier. Women feel there is subtle and blatant forms of harassment, mainly sexually. Other forms of harassment are in the form of disrespect, women being bullied, disrespected, and the belief that women can only get ahead in the construction industry if mentored by men. Stamarski and Hing (2015) indicated some instances of bad working conditions and discriminations at the workplace that unpleasantly affect women in the construction industry. This range of discriminations and poor working conditions that women face when choosing construction industry are also highlighted in Rosa *et al.* (2017), indicating sexual harassment is a deterrent and a barrier for women progression in the construction industry and being noted a predominant barrier. This is also highlighted predominantly by many respondents.

The respondents find the construction industry an unwelcoming place for women because of various forms of gender inequalities and unequal treatment. Many women in the construction industry experienced harsh conditions that resulted in unequal or unfair treatment, where men are preferred over women. Unequal treatment that women faced ranges from unequal salaries for the same level of work, women are considered weak, and they do not have space in the construction industry. These responses from the participants are echoed by Stamarski and Hing (2015) who indicated gender inequalities and unequal treatment as some form of gender discrimination experience. The respondents indicated that they face a lot of challenges and indicated that discrimination against women also happens in their performance evaluations when determining logistic benefits, showing signs of inefficient human resources procedures. Evidence of gender discrimination is also mentioned by Sangweni (2015), indicating there is the persistence of gender inequality construction. Tunji-Olayeni *et al.* (2017) supported the existence of poor working conditions is a form negative stereotypes that obstruct women's performance in STEM and construction.

According to feedback from respondents, another challenge women experience is unfair recruitment processes as males are preferred more than women in the construction industry. This is a big hindrance that women experience when they want to get started in the construction industry because most companies prefer hiring males as they are perceived as strong to handle hard labour in the construction industry. As indicated in Sangweni (2015), and in line with the study results, there is the greatest discrimination about recruitment in the construction industry. The extend of how big the discrimination concerning recruitment is further highlighted by Secatore and Scott-Young (2016), who indicated it one of the contributing reasons that limit women participation in the construction industry.

3.4.1.2 Work-life balance

Another challenge pointed out by the respondents is excessive working hours. Working extensive hours further highlighted challenges that many women must deal with as some are mothers and wives who need to balance work and family life. Many women are demoralised from joining the construction industry because of excessively long hours and lack of flexibility. These long and unstable working hours negatively affect women retention in the construction industry because of the inability to reconcile work and family. The results from the respondents are supported by the findings from Oo *et al.* (2019), who indicated that the highest challenges women face in the construction industry include reconciling work and family. Another finding by Akomolafe and Mohammed (2015) stated that women responsibilities are disturbed and worse for women than men as they are mothers cannot afford long periods away from home.

3.4.1.3 Male-dominated industry

The male-dominated culture is destructive for women wanting to enter the industry and have career growth in the construction industry. The results from the respondents indicate that women are faced with a lot of stereotypes in the construction industry by nature of the profession in this male-dominated environment. This male-dominated culture can be destructive for women wanting to enter the industry, grow their career and remain in the construction sector. This male-dominated atmosphere creates a significant barrier to women recruitment, development, and their retention in the construction industry. The findings by Secatore and Scott-Young (2016) align with the research results, indicating more often, women selected by their male counterparts for tasks that ‘test’ their ability to work in a male environment. Adogbo *et al.* (2015) stated that male-dominated atmosphere is exemplified a significant barrier to female development, recruitment, and retention.

3.4.1.4 Menial jobs and job segregation for women

Women in construction do more menial jobs like administration, personal assistant, security, cleaning, and document control instead of mainstream construction jobs like engineering and heavy labouring. There is an overrepresentation of women in junior levels but few in senior levels in the construction industry. This is in line with the findings by Sangweni (2015), who contended that most women are not employed in the core of construction jobs but mainly as administrators, secretaries, and safety officers. To further support a wrong perception that women are not the right gender to carry out manual jobs, Aneke (2015) concludes that women assign administrative and clerical duties, which requires little or no physical strength. Rosa *et al.* (2017) also contended that women a underestimated performance compared to men and are limited to administrative and clerical tasks.

Women not being recognised and classified under administration roles most of the time leads to an antagonistic effect on the confidence of women in this industry.

3.4.1.5 Glass ceiling

A glass ceiling is an unacknowledged barrier to advancement in a profession, especially affecting women in the construction industry. There is an existence of glass as indicated by feedback from the results, and women have difficulties breaking the ceiling. They have stalled career. To further elaborate on the existence of a glass ceiling, Sangweni (2015) indicated that, although a big number of women is increasing in the construction industry, it does not result in many women moving into middle management and senior positions. The existence of a glass ceiling is because of men feeling the loss of their competitive edge. Ler (2014) further illustrated the existence of a glass ceiling by indicating that women are overrepresented at the junior level and few at the senior level in the construction industry because of a glass ceiling.

3.4.1.6 Lack of experience and insufficient education

Lack of essential experience is one of the challenges or barriers in joining the construction industry, as mentioned by respondents. Most women lack qualifications, experience, and adequate training to start a career and assume leadership positions in the construction industry. The findings by NAWIC (2013) stated that a common barrier in joining the construction industry amongst many women is attributed to a lack of required experience women need and insufficient education or qualifications. Ler (2014) reckoned women have lower education level as this hinders them from progressing further in the construction industry. Sangweni (2015) cited a lack of education aligned with the construction industry curtail the professional working life of women engineers in the industry.

3.4.1.7 Limited career growth opportunities to leadership positions

Most women have experienced limited career growth opportunities to leadership positions, slow career progress, and unfair performance evaluations by male supervisors, as indicated by responses from respondents. Women find it difficult to get promoted in the construction industry as they are considered weak to perform men's duties in this industry and are seen not good enough for leadership roles in the construction industry. The results are in line with Harries (2017), who attributed the scarcity of women leaders in the construction industry to impediments like negative stereotypes, work and life imbalances, discriminations, and the lack of mentors and proper networks. NAWIC (2013) also indicated a lack of leadership positions for women in the construction industry.

3.4.1.8 Lack of women role models

The results from the respondents indicated that there are few women in leadership positions in the construction industry. This creates a challenge for other women as they find themselves with few or no role models, and this gives the wrong impression as it suggests the prospects of women succeeding in the construction industry are slim. Women are also inhibited by a lack of networking and the requirement of working long hours to pave a good career in the construction industry. The findings from Rosa *et al.* (2017) also stated that the absence of women role models has a negative influence on women's careers success in the construction industry. This is made worse by the lack of women in senior positions and limited visibility of women on site, creating a few female role models (Secatore and Scott-Young, 2016:3). The short lifespan of female site engineers' professional working life on construction sites in South

Africa is caused by a lack of other female role models and lack of mentors available to young women in the construction industry (Sangweni, 2015:3).

3.4.2 Perceptions of women on how men perceive them in the construction industry

From a young age, women are encouraged to join professions that are aligned to gender stereotypes because men and society at large regard them as weak to survive in a tough environment like construction. The National Women Law Centre (2014) attributes the low percentage of women in the construction industry to discrimination starting at school and continuing right up to the employment chain. Aneke (2015) stated that men are seen by men as more helpful, caring, kind, sympathetic, insecure in carrying out their duties, and wrong gender to be conducting manual labour on site.

The respondents stated that men see women as disruptive and cause distraction and disharmony by their presence at the construction site. Men are considered more competent than women in management and leadership occupations. Harris (2017) indicated that organisations privilege men over women. Equally important, there is a perception that men are more competent than women in management and leadership occupations.

Women are regarded as lacking the knowledge and capabilities to survive in the construction industry. They are also considered not as smart or as educated as to the males' counterparts who are generally respected, and men feel women joined the industry to prove to them that they can perform equally, whereas some females join the industry because of passion they have for the industry.

Some men feel women belong in the kitchen, and construction is for males irrespective of the experience and qualifications women have, and men sometimes perceive females as people who cannot execute jobs successfully.

3.5 RECOMMENDATIONS

Despite the limitations of this study, the present findings may have significant implications for future research. Potential research should still focus on the obstacles that women encounter in the construction industry with a focus on the construction industry in the whole of South Africa with the following aspects needing to be considered in future research:

After reviewing literature relating to the barriers faced by women in construction, and after analysing the responses from the participants in the study, lessening or removing most of these barriers is an imperative step that will lead to recruitment and to retain more women in the construction industry.

Several barriers that discourage women from joining and remain working in the construction industry were identified. To enable increased recruitment, retention and progression of women in the construction industry, the research made recommendations and highlighted certain good practices that employers may wish to implement to promote or protect females in their organisation.

The following recommendations were drawn from the literature review, the survey and in-depth interview results and are:

The study found that industry barriers influence women's contribution and participation in the construction industry. Therefore, there is a need to detect and identify problems associated with sexual harassment on construction sites and take and implement appropriate remedial action. This could be done through an engagement of all the affected parties. Sexual harassment prevention training should be introduced and form part of industry routine training. Communication should be gender-neutral and include women.

3.5.1 Flexible organisational culture

The struggle between work and family responsibilities that many constructions professionals experience is more severe for women than for men since most women still carry the primary responsibility for domestic duties in most households.

Recommendation

Construction organisations and employers should observe the importance of the work-life balance. Family needs should be considered and 'either or' construction working schedule and approach ought to be modified. The following recommendations are made to enable a better and more successful balance between work and family life for women:

- Allow flexible working hours where necessary based on individual needs.
- Providing laptops and other facilities will enable women to work from home or provide more flexibility in working models.

3.5.2 Promote women's achievements in construction

Most women interviewed felt that they must work harder than their male counterparts to achieve the same recognition. Many claimed achieving recognition is a gender issue. One of the main reasons women have such a feeling is the psychology of their superiors and male counterparts in the construction industry. There is a frequent perception in the construction industry that male professionals perform better than their female counterparts.

Therefore, women may have to work harder than their male counterparts to prove they are equally capable.

Recommendations

The construction industry must:

- Promote role models – identify appropriate role models to encourage women to believe in themselves.
- Promote women's successes through achievement stories about projects managed and supported by women employees and professionals. This will help to change the attitude of men and industry as a whole towards women's performance.

3.5.3 Alter the image of the construction professions

Women respondents and the literature review indicates a perception among women is that of no equal opportunities for both men and women in the construction industry. Men are preferred to women, and it becomes it can get practically impossible for women to get jobs in the construction industry other than menial jobs like secretaries and administrative roles. In this context, it is evident that the ‘image problem’ has more impact on women’s career aspirations than those of men.

Recommendations

It is vital to appreciate the difference between the ‘negative image of the industry’ and an ‘incorrect perception of the industry’. The construction industry is portrayed as offering low pay for women compared to men, promoting antagonistic business relationships and poor working practices, and a reputation for undermining. Solving some of these problems will require time and require significant change. An accurate picture must be portrayed, including positive and negative characteristics.

This could be achieved by:

- Organising image campaigns where the companies within the industry can educate women and society about professional roles and career opportunities available in the construction industry.
- Setting up workshops and engage with women with the aim to advise and here from them on how to work successfully in a male-dominated industry.

3.5.4 Improve the working environment for women

The construction sector's actual physical environment has been found to be a barrier to the smooth career progression of women in construction. The structural factors within the site environment should be changed to make it more female-friendly.

Recommendations

The culture of the industry partly contributes to the actual environment and facilities provided on site. Changing culture is not an easy task and is improbable to be a quick process. Changing only in the physical and environmental structural factors will not address all cultural problems, since culture includes, among other things, the way people talk and the way people conduct themselves. Nevertheless, by first changing the physical and environmental structural factors, the construction industry can become more accommodating to women. This can be accomplished by implementing the following as a minimum:

- Monitor the conduct and behaviours of co-workers towards women.
- Allocate more woman for site-based jobs so that women do not feel isolated.

3.5.5 Develop networking and promote existing initiatives

Women may not remain in the industry due to its unfair treatment directed to them and by unfriendly recruitment processes. Their research found that women who had entered the industry do not like the culture of the industry and the inherent difficulties of working in such

a male-dominated environment. Women are found to lack networking platform and avenues to advance in this male-dominated industry.

Recommendations

Partnerships must be developed to create better conditions for qualified women to return to STEM and SET careers by providing advice, mentoring and networking, training, flexible work placements, and recruitment. Training for women which offers IT, construction, and personal development training to women with little training and qualifications should be provided to upskill them.

The following initiatives are recommended to address the challenges:

- Promote mentoring and develop networking among professional women in construction.
- Increase awareness of the purpose of existing initiatives that target the development of women.

3.5.6 Determination of measures women could take to overcome the challenges faced by women in the construction industry

Measures that women should take to overcome the challenges faced by women in the construction industry:

- Women are to stand up for themselves to prove that they can fight the negative stereotypes.
- Women must embrace standing out when they do not agree with the treatment or unfair practice.
- Women must develop and maintain a network for supporting and building strong female leaders in the construction industry, female mentors for newcomers in the industry.
- Women must have organisations that cater for women's needs in the construction industry.
- Women should keep on pushing and break negative stereotypes.
- Women develop more women associations in the construction industry.
- Women should work together with male partners in improving diversity in the workplace since different ideas are required for organisations to grow and remain competitive.
- Women must embrace standing out when they do not agree with the treatment or unfair practice.
- Women should keep on pushing, breaking stereotypes.
- Women should voice opinions and be bold, and form women forums that will articulate on all the challenges that women may face and respond as a unit to management.

3.5.7 Determination of what measures an industry could take to overcome the challenges faced by women in the construction industry

Factors that attract and retain women in the construction industry

To attract and advance women within the construction industry, companies within the construction industry need to provide more visible, strong women role models to inspire other women to succeed in this exciting and challenging industry. Attracting gender-inclusive learning environment will require exposure to women role models. Mentoring programs are also known to help women to progress in their careers. Such mentoring programs assist women in tackling the negative barriers, helping them to increase personal and job satisfaction, and making it more likely for them to stay in the construction industry.

Retention of women in the construction industry is linked to the conducts of senior managers through supporting, encouraging, and enabling women to showcase their abilities. Retaining women in construction-related activities and programs necessitate that the image of the construction industry be improved mainly in three areas: first, the male-dominated industry should be changed into inclusive and diverse where women are well represented in all areas of the industry. Second, the industry's controversial culture must be improved so that it can become less antagonistic to create a peaceful and safe atmosphere. Finally, the industry should implement flexible working hours, care about workers' personal issues, and give women opportunities to display and demonstrate their skill and ability. Companies that provide flexible working hours and locations increase job satisfaction, reduce stress levels and increase their employees' loyalty to the company and the construction industry.

Measures an industry can take to overcome the challenges faced by women in the construction industry:

- The construction industry should make sure there are more women in top management, middle management that will be role models and mentor other women in the industry.
- The construction industry should make progressing more women in leadership roles a priority.
- Provide role models and training.
- Employ more females in the management space.
- Ensure a mentoring culture is cultivated across the companies in the construction industry.
- Senior staff should encourage and invest time in women within the company in the construction industry so women can be brought through to the top ranks.
- Companies in the construction industry must give women skills on how to handle dynamic issues in the industry.
- Companies must provide skills development programs that will cultivate women interest to join and stay in the construction industry.
- The construction industry should base remuneration on capabilities and not gender.
- The construction industry should develop legislation and implement robust strategies that assist in addressing the salary gap.

- There should be equal access to opportunities and mentorship within the construction industry, offering both men and women same opportunities.
- Leadership should create an environment that discourages and put an end to any form of sexism.
- The construction industry should have both men and women mentors that have women's best interest in elevating their skills and progress in the construction industry.
- The industry should support and network through various activities like an apprenticeship for women to obtain hands-on experience.
- Companies must teach kids about the construction industry.
- The industry should offer women challenging roles for their personal growth.
- There should be a diverse workforce that attracts the most talented and forward-looking employee.
- The industry should promote a healthy work-life balance, promote awareness of gender bias and hostile female recruiters.
- Companies should identify suitable and interested women who would like to join construction from universities and colleges, and train them on the construction industry and support them with mentorship programs that will allow them to thrive in the workplace.
- The construction industry needs to do the groundwork and needs analysis, asking those that are affected i.e., women about how women feel and their daily experiences at work.
- The construction industry must develop procedures to deal with conduct that is derogatory to women and stop discrimination against women.
- The industry should provide a safe and inclusive working environment and palatable conditions for all.
- The industry should establish a forum that looks at challenges women face while improving women participation in influential positions.

3.6 AREAS FOR FUTURE RESEARCH

Future studies ought to explore women's challenges in construction in South Africa as a whole, and an alternative male-dominated area like engineering, production, technology, and high-tech industries.

3.7 SUMMARY

The study pursued to establish ways to close the gap that is created by existing hostile environment dominated by men and their masculine culture where relationships are characterised by obscenity, quarrels, fights, and crises. The study also sought to find ways to welcome women and improve their working conditions and contribute positively to the betterment of the company's productivity and friendly environment.

The primary objective of exploring and understanding challenges faced by women in the construction industry in Mpumalanga and Limpopo Provinces was achieved and indicated in the report.

The following secondary objectives were determined:

- The challenges faced by women in the construction industry in Mpumalanga and Limpopo Provinces.
- Perception of women on how they think men perceive them in the construction industry.
- Measures that women could take to overcome the challenges faced by women in the construction industry.
- Measures an industry could take to overcome the challenges faced by women in the construction industry.

A better understanding of challenges that women face in construction sector enabled a better measure that can be put in place and may contribute to eradicate these obstacles and misconception about their ability on physically challenging jobs.

The rationale and significance of the study conclude that:

- Having more women in companies will provide a greater range of perspectives and insights, as well as improving collaborative teamwork.
- Having women at senior levels will provide role models and mentoring and a more positive working environment.
- Diverse teams show better performing and more innovative, and so having more women at all levels is also suitable for team performance.
- Better gender diversity improves the image of companies, with both the public and with investors.

As the construction sector suffers from a bad public image, having many women in the construction industry will positively impact construction firms.

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APPENDICES

APPENDIX 1: STRUCTURED INTERVIEW QUESTIONS

1. How long have you been in the construction industry?
2. What is your career category?
3. What challenges do you believe women face in getting started in the construction?
4. What are the challenges faced by women in the construction industry?
5. And what challenges have you personally faced?
6. What measures can women take to overcome or deal with challenges faced by women in the construction industry?
7. How do women think males perceive females in the construction industry?
8. What factors do you believe will negatively affect retention of women in the construction?
9. What factors do you believe will positively affect retention of women in the construction industry?
10. What measures can the construction industry take and implement to improve the retention of women in the industries?

APPENDIX 2: QUESTIONNAIRE

Background Information

1. Age: 18-29; 30-39; 40-49; 50-59; Over 60
2. Please choose the title that best describes your Career Classification: Commissioning Engineering; Lead Engineering; Project Engineering; Project Director; Project Management; Construction Management; Quality Management; Sourcing Management; General Management; Contract Administration; Safety Management; Engineer; Intern
3. Years of Experience: 0-5; 6-10; 11-15; 16-20; 21-25; 26-30; 30-35; over 35
4. How did you become aware of opportunities/careers in the construction industry?
(Check all that apply)
• Through a Mentor;
• Lecturer;
• Family
• Member;
• Career Counsellor
• Job Adverts

Successes made/gained by Women in Construction

5. Are you aware of organisations that cater to women's needs in the construction industry?
Yes;
No
6. Are you a member of an organisation that caters to women's needs in the construction industry?
(Check all that apply)
• Society of Women Engineers;
• National Association of Professional Women in Constructions;
• Other
7. What successes/gains do you believe women have made in the construction industry
(Check all that apply):
• More Organisations that cater to women's needs in the industry;

Increased awareness by public and professionals of women's issues in the construction industry;
Other
8. What successes have you personally experienced in the construction Industry?
Mentored a fellow female;
Encouraged Another Female to join the construction industry;
Started a chapter of an organisation that supports female construction workers;
Exceeded expected career progression;
Other

Retention/Job Satisfaction

9. How satisfied are you with your career choice in the construction industry?
Not Satisfied;
Somewhat Satisfied;
Satisfied;
Very Satisfied
10. How satisfied are you with your current job?
Not Satisfied;
Somewhat Satisfied;
Satisfied;
Very Satisfied

APPENDIX 3: LANGUAGE EDITOR'S LETTER



Dynamic Language &
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Sunday, 28 March 2021

To whom it may concern

Re: Confirmation of language edit, typography and technical precision

The MBA dissertation 'Investigating the challenges that women employees face in the construction industry in Mpumalanga and Limpopo Provinces in South Africa' by LB Malaku (29770069) was edited for language and technical precision. The referencing and sources were checked and comply with the APA guidelines as specified by the 2020 NWU Reference guide.

Final, last minute corrections remain the responsibility of the author.



Antoinette Bisschoff
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Precision ... to the last letter