

WOMEN IN NEW ZEALAND'S CONSTRUCTION INDUSTRY: BARRIERS AND WELLBEING ENABLERS

Hetaswi Patel and Firas Majthoub Almughrabi

OTAGO POLYTECHNIC AUCKLAND INTERNATIONAL CAMPUS

ABSTRACT

The construction industry is a component of New Zealand's economy playing a role, in boosting the country's gross domestic product and creating numerous job opportunities. Despite its impact and continuous growth, the industry faces a noticeable gender gap, especially in the lack of female representation in the construction-related roles. This study aims to explore the challenges that prevent women from participating in the New Zealand construction sector focusing on semi-skilled and trade positions. While previous research has investigated barriers to women's involvement across industries, there is a need for more comprehensive investigations, specifically addressing the construction industry especially concerning skilled and semi-skilled jobs.

By identifying and examining the obstacles that hinder women from entering and progressing within the construction industry this research aimed to provide an understanding of the complex mix of cultural, structural, and organisational factors that influence women's participation in construction careers. Going beyond simply recognising gender disparities this study seeks to uncover the dynamics of expectations, workplace environments and systemic challenges that restrict women from making full and equal contributions to the construction industry workforce.

Moreover, the goal of this study was to identify and assess the support systems and conditions that can create an atmosphere for women's involvement and welfare in the construction industry. By highlighting these challenges and suggesting solutions to overcome them this study aimed to enhance gender diversity and equality, in the construction industry.

Tackling these barriers and nurturing a more inclusive work environment is crucial for effectively addressing persistent skill shortages and ensuring the long-term sustainability and growth of the construction industry in New Zealand.

This study employs a mixed research methodology, combining qualitative analysis through an extensive literature review with quantitative data collection via a survey questionnaire, thus providing a comprehensive understanding of the study topic from both documented and numerical standpoints.

Keywords: Construction industry, Gender gap, New Zealand, Skill shortages, Women participation

INTRODUCTION

The construction industry has a significant impact on the economic health of New Zealand. The construction industry contributed approximately \$15.8 billion NZD to New Zealand's gross domestic product (GDP) in the fiscal year ending in March 2021 (Statista, 2024). The Ministry of Business, Innovation, and Employment (MBIE) (2021) stated that several key factors have predominantly driven the increased demand for construction workers in New Zealand these factors include the Christchurch rebuild, the high housing demand in Auckland, and the overall upswing in building activity across the country due to the COVID-19 pandemic recovery efforts. As a result of Auckland's high population density, the majority of construction workers are based in this region (Huang & Wilson, 2020). However, the construction industry also plays a crucial role in providing income and employment in other regions, including the Bay of Plenty, Taranaki, Canterbury, and Otago (Ministry of Business, Innovation and Employment, 2021). According to the Building and Construction Industry Training Organisation (2022) although women make up 50.85% (2.53 million) of New Zealand's total population of 5.12 million, less than 3% of construction tradespeople are women. Compared to other Western countries, a very tiny percentage

of New Zealand's construction industry employees are women. They make up barely 13% of the workforce in the construction industry but drop to just 3% when it comes to working on the tools, compared to 47% across all occupations (Qualified Building Solutions Limited, 2024). This illustrates the low participation of women in the New Zealand construction industry and the necessity to address this issue to alter the scenarios.

RESEARCH OBJECTIVES:

Investigating the factors that negatively influence the uptake of women in the New Zealand construction industry and identifying the enhancers that support women's wellbeing in the workplace.

RESEARCH QUESTIONS:

- Investigating the potential factors that are negatively affecting the increased participation of women in New Zealand's construction industry.
- Identifying probable supporting enhancers of women's wellbeing in the construction industry workplace.

RESEARCH GAPS:

Lack of Comprehensive Data on Gender-Specific Barriers:

Existing research on the New Zealand construction industry often lacks detailed data on the specific gender-related barriers women face. Studies tend to be broad, without focusing on the unique challenges that women encounter in this industry (Taffard et al., 2019).

Inadequate Focus on Wellbeing Enablers:

There is a significant gap in the literature regarding the positive factors that contribute to women's wellbeing in the construction industry workplace. Most studies emphasise the negative aspects and barriers without exploring what works well.

EXPECTED OUTPUTS:

Comprehensive Identification of Barriers:

The study will produce a detailed list of the specific barriers women face in the New Zealand construction industry.

Wellbeing Enablers:

Identification of key factors and practices that positively influence women's wellbeing in the construction industry workplace. This will provide a basis for policy and practice recommendations.

LITERATURE REVIEW

Review of the challenges women face in the construction industry:

The construction industry has long been recognised as a male-dominated field, presenting unique challenges for women who choose to pursue careers in this sector (SpringerLink, 2020). Despite progress in recent years, women continue to face various obstacles that hinder their full participation and advancement (Pamidimukkala & Kermanshachi, 2023). This literature review examined the key challenges women encounter in the construction industry.

Respect and dignity:

In a 2021 survey of 1,001 women in the construction industry, respondents reported significant challenges in garnering respect, particularly from leadership (Levelset, 2021). While 80% of women felt respected by their co-workers, only 65% believed that their company's leadership listened equally to men and women (Levelset, 2021). This disparity highlights a persistent issue in the construction industry: many women are dissatisfied with how difficult it is for them to be heard, believing their experience and knowledge are not accorded the same weight as men's (Dean, 2021). These findings underscore the ongoing struggle for women to achieve equal recognition and influence in the construction industry, especially at higher organisational levels.

Construction is a Male-Dominated Industry:

Despite the construction industry's claimed intention to employ more women, building remains a male-dominated industry (PWC, 2016). When there are so many men present, even the most powerful and self-assured woman may feel uncomfortable. Even while the male-to-female ratio is slowly improving, it may be years before men no longer outnumber women in the construction business (Lekchiri, 2020).

Workplace facilities:

According to Hislop (2021), women working on construction sites often have to leave the site to use a restroom because there usually aren't any restrooms just for women on-site. Since there are fewer women in construction, it's uncommon to find gender-specific restrooms. As a result, women should be ready to use unisex portable toilets which are hardly known for being clean, and sharing one with multiple male coworkers can be an unpleasant experience (Kristina, 2022).

Work-family Balance:

Inter-role conflict develops when the energy, time, and behavioural demands of the work role intersect with those of the family and personal life roles (Smoktunowicz et al., 2017). Work-family conflict constitutes a subset of work-life conflict (Frontiers, 2020). Work-family conflict increasingly influences workplace and personal outcomes such as productivity, turnover, family wellbeing, health, and stress (Obrenovic et al., 2020). Work-family conflict has a direct impact on an individual's career, family, and wellbeing (Kossek & Lee, 2017). Due to the nature of the construction industry, many women are forced to make difficult career and family decisions (Vainikolo, 2017). In some high-risk occupations, women may not be able to lift as much as men. A poor work-life balance discourages women from pursuing jobs in the construction industry (Kumar & Chaturvedi, 2018). In addition to gender discrimination, workplace harassment, and behavioural issues, women in the construction industry confront a variety of additional psychological challenges (Rotimi et al., 2023). In patriarchal countries where women are seen as primary caregivers, mixing work and home responsibilities can be hazardous (Sharma et al., 2016). In addition, the organisational culture of the construction industry will impede any attempts by women to negotiate work-life balance (Kumar & Chaturvedi, 2018).

Wellbeing Enablers in the Construction Industry for Women

- **Trying to alter the construction site.**

Making the construction industry more welcoming to women may involve fostering a more inclusive workplace culture (Construction Sector Accord, 2020). Jo Duffy, the organiser of the Women in Construction Forum, told Radio New Zealand that construction workers may experience feelings of isolation (Scoop Media, 2017). Changing this would need actively including female employees in workplace debates and social dynamics, as well as making practical improvements such as ensuring the cleanliness of on-site restrooms (Tradestaff, 2017).

- **Ensuring compatibility with caring responsibilities**

In predominantly male-oriented industries, motherhood plays a crucial role for women, particularly in sectors where men have traditionally engaged in extended hours away from home (Torres et al., 2024). Instead of focusing on how to maintain women in the workforce, the discussion should be on how to accommodate all parents and those with greater caregiving responsibilities (Center for Creative Leadership, 2024). Balfour Beatty (2022) suggested that to prevent a loss of skilled labour, companies should encourage those with family responsibilities to continue working.

- **Rooting out discrimination and sexism**

In the construction and infrastructure industries, numerous women still report suffering sexism on the job, and Every act of sexism, racism, and bullying and harassment must be challenged, and the entire industry must endeavour to establish such a culture (Norberg & Johansson, 2020). Women in the construction business should not face more discrimination, harassment, or intimidation than men. Everyone, regardless of gender, should have equal access to employment opportunities (Perlo Construction, 2023). Employers are obligated to provide employees with essentials, such as safe restroom facilities and properly sized protective equipment (Balfour Beatty, 2022).

Steps initiated in New Zealand to encourage women's participation in New Zealand's construction industry.

The Building and Construction Industry Training Organisation is a division of Te Pūkenga - New Zealand Institute of Skills and Technology. It oversees apprenticeship programmes within the New Zealand construction sector. Renowned for its strong work ethic and dedication to the professional development of its employees, this organisation plays a pivotal role in the industry. However, it is noteworthy that women constitute only 2.6% of the participants in these apprenticeship programmes, a figure that is disproportionately low compared to the overall female population in the country (Climo, 2017). This statistic highlights the significantly low participation rate of women in the construction industry.

The low participation of women in the construction industry can be attributed to several barriers. Based on interviews conducted with approximately 35 successful women in trades, the following reasons were identified:

- The gender pay gap in New Zealand stands at 9.4%.
- The male-dominated culture of the trades.
- Difficulty in finding employers willing to hire women.
- Lack of knowledge about the opportunities within the trades.
- Persistent gender stereotypes (Taffard et al., 2019).

Steps towards diversifying New Zealand's construction industry:

To increase women's participation in the construction industry in New Zealand, it is essential for employers to adopt a collaborative strategy focused on attracting, recruiting, and retaining women in these roles (Hegarty, 2020). To promote gender diversity, the construction industry must become more open and adaptable so that women seek out and keep jobs (OneStaff, 2023). Importantly, this transformation cannot be accomplished by focusing solely on women, but rather by implementing a systemic approach to culture change for all workers across the whole construction industry. In order to bring in this change there have many initiatives undertaken by several organisations within the construction industry and some of them are stated below.

The project goal of BCITO is that women make up to 30% of people in construction trades roles by 2040 and women make up to 10% of BCITO apprentices by 2025 (Scoop Media, 2024)

The National Association of Women in Construction (NAWIC) supports women to explore, establish, and maintain successful professions in the construction industry (Ministry of Education, 2023). Its membership offers the opportunity to be connected to other women in the construction industry, to learn from, be supported by and network with (NAWIC, 2024).

Māori, Pasifika, Trades Training is an institution that provides scholarships to Māori and Pasifika learners who aspire to become part of the trades sector and encourages Māori and Pasifika women to become part of trades and building (Māori & Pasifika Trades Training, 2024). The Skills Organisation provides trades training in New Zealand and actively encourages more women to enter the trades by organizing initiatives such as get-togethers for women from various trades to meet and connect (The Skills Organisation Incorporated, 2021).

METHODOLOGY

In this study, the data were gathered through two distinct sources. Firstly, secondary data were collected by thoroughly reviewing and understanding the existing literature, including but not limited to journal articles, reports, government data analysis, and official websites. Secondly, primary data were acquired through an online survey distributed to multiple construction industry stakeholders such as industrial manufacturers, suppliers, engineers, designers, contractors, and subcontractors. The target was to ensure their active contribution to the study and to acquire insight into their perceptions regarding the barriers and wellbeing enablers for women in New Zealand's construction industry.

RESULTS/FINDINGS

This section provides a comprehensive presentation of data collected from the online survey. The online survey methodology utilized (a) eleven structured closed-ended questions with predetermined answers and (b) an open-ended question to ensure flexibility, and comprehensive data collection.

The demographic profile section revealed insightful details about the participants (see Table 1). Notably, 63% of participants had less than five years of experience in the construction industry.

Table 1: Experience in the Construction Industry

EXPERIENCE IN THE CONSTRUCTION INDUSTRY	PERCENTAGE
Less than 5 years	63%
6 -10 years	26%
11 - 15 years	7%
16 - 20 years	4%
21 - 25 years	0%
More than 25 years	0%
Duration	6

The main contractor category was the most represented at 41% (see Table 2). This information established a foundational understanding of the online survey participants, allowing for a contextualised analysis of the subsequent findings. Knowing that a significant portion of the participants are main contractors helped in interpreting trends and patterns in the data.

Table 2: Business Category of Participants

BUSINESS CATEGORY	PERCENTAGE
Contractor	41%
Architect	4%
Engineer	7%
Manufacturer	7%
Consultant	0%
Sub - Contractor	26%
Other	15%

Data analysis involved a thorough examination of the obstacles and enhancers impacting women’s participation in the construction industry. The structured close-ended questions were assessed using mathematical formulas such as mean and standard deviation. These statistical analyses provided valuable insights into the prevailing trends and perceptions within the construction industry.

The main goals of this study were twofold:

1. To analyse obstacles faced by women in the construction industry: Participants were asked to rate various obstacles they encounter using a Likert scale ranging from 1 to 5. This provided a thorough assessment of the challenges they face.
2. To identify wellbeing enablers for women in the industry: After addressing the obstacles, participants moved on to evaluate wellbeing enablers.

In this study, the responses from the online survey were analysed using statistical methods, specifically the mean and standard deviation. The frequency used in these calculations represents the number of responses for each option in the survey. To calculate the mean, the sum of all observed values (i.e., the outcomes for each survey question) was divided by the total number of responses. Thus, the formula for the mean (\bar{x}) is:

$$\text{Mean } (\bar{x}) = \frac{\text{Sum of all data points}}{\text{Number of data points}}$$

The range is an essential measurement, as the figures at the top and bottom of it represent the most extreme deviations from the mean (\bar{x}). However, they provide little insight into the variation of observations around the mean. The standard deviation (SD) comes into play here (Hargrave et al., 2024). As the square root of the variance, standard deviation is a statistic that represents the dispersion of a dataset relative to its mean (\bar{x}). The standard deviation is computed as the square root of variance by calculating the relative deviation of each data point from the mean (\bar{x}) (Hargrave et al., 2024).

Investigating the potential factors that are negatively affecting the increased participation of women in New Zealand’s construction industry.

This section of the online survey identifies numerous factors that have a detrimental impact on the uptake of women in the New Zealand construction sector, either directly or indirectly. The analysis made it easier to spot obstacles and understand the full scope of issues relating to future work implementation.

Table 3 below provides an examination of the factors that negatively impact women’s participation in the construction industry in New Zealand, based on research and online survey results.

Table 3: Reasons Negatively Influencing the Healthier Uptake of Women in the New Zealand Construction Industry

CHALLENGE	FREQUENCY	MEAN	STANDARD DEVIATION
Difficulty to reach a senior position	27	3.44	1.03
Leaving the construction industry due to gender imbalance	27	3.41	0.87
Lack of support from superiors at the workplace	27	3.11	0.92

Analysis and Context

- Difficulty to reach senior positions (M=3.44, S=1.03): Men tend to attribute women's lack of career advancement to their perceived lack of relevant experience. In contrast, women were more likely to attribute their slower progress to male stereotypes, biased assumptions, and being excluded from informal networks.
- Leaving the construction industry due to gender imbalance (M=3.41, S=0.87): This statistically significant concern indicates that participants agree gender disparity is a factor in women leaving the profession.
- Lack of support from senior managers in the workplace (M=3.11, S=0.92): The mean score suggests that senior managers' support for women in the organisation is a statistically significant factor.

Identifying probable supporting enhancers of women's wellbeing in the construction industry workplace

The second objective of this study was to identify probable supporting enhancers of women's wellbeing in the construction industry workplace. Table 4 below for the four major wellbeing enablers which can help to improve the uptake of women in the construction industry.

The most statistically significant factor for improving women's wellbeing in the construction industry workplace was providing specialist advice for women entering the industry (Mean = 4.26, SD = 0.77). The second most impactful factor for increasing women's participation in the construction industry was maintaining better workplace policies and ensuring a thorough understanding of existing ones (Mean = 4.15, SD = 0.65).

The third factor that can help enhance women's uptake in the construction industry is ensuring that women receive equal pay for work of equal value (M=3.93, S=0.77). In the past, the gender pay gap was perpetuated by differences in education, the kind of professions men and women undertake, and the industries in which they work, as well as the fact that women are more likely to work part-time (Ministry for Women, 2023). The fourth factor considered whether government mentoring programs could support women's wellbeing in the construction industry, thereby enhancing their participation in the future (M=3.89, S=0.99).

To make the construction industry more welcoming to women, a reform in culture is required; eliminating the persistent culture of bullying and harassment will benefit everyone (Hurd & Dyer, 2024). The last factor with the lowest mean (M=2.96, S=1.07) was related to the question if New Zealand's construction industry has failed to provide a safe environment to attract more women. This is a strong statement supported by data, indicating that the New Zealand construction industry is actively encouraging women to enter and remain in the industry, thereby contributing to its diversity.

Table 4: Supporting enablers in the construction industry workplace for women.

STRATEG	FREQUENCY	MEAN	STANDARD DEVIATION
Providing specialist advice for women seeking to enter the industry	27	4.26	0.75
Maintaining better workplace policies and understanding existing ones	27	4.15	0.65
Ensuring women receive equal pay for work of equal value	27	3.93	0.77
Government mentoring programmes to support women	27	3.89	0.99
New Zealand's construction industry has failed to provide safe environment to attract more women	27	2.96	1.07

Online survey related statistics:

A significant portion of this study was devoted to examining the major challenges women experience in the construction industry. To explain this and determine the negative elements contributing to the low number of women in the construction industry, a set of three closed-ended questions (part of the eleven closed-ended questions of the survey) were developed and included within the online survey, with the following results:

There is a lack of support for women from their managers in the construction workplace: 37.04% neither agree nor disagree, 26.63% disagree, 25.93% agree, 7.41% of the participants strongly agree and 0% strongly disagree.

Women leave the construction industry due to the gender imbalance: 44.44% agree, 29.63% neither agree nor disagree, 18.52% disagree and 7.41% of the participants strongly agree.

It is more difficult for women to reach a senior position in the construction industry: 40.74% agree, 25.93% disagree, 18.52% neither agree nor disagree and 14.81% of the participants strongly agree.

Overall, the different barriers and reasons stated under the literature review were significant reasons for the lower uptake of women in the construction industry in New Zealand.

CONCLUSION:

The conclusions drawn from the study findings, recommendations for addressing barriers faced by women in the construction industry in New Zealand, and workplace strategies promoting wellbeing are presented. Additionally, the primary contributions of the study are discussed, and avenues for further investigation are suggested. The recommendations were derived from input solicited from the construction industry participants via open-ended questions in the online survey.

The historically low participation of women in the construction industry globally has been attributed to its male-dominated nature (Khattar, 2024). This study aimed to identify specific barriers and enhancers for women's participation in the New Zealand construction industry. It commenced with an extensive literature review to establish a knowledge foundation and identify research gaps.

The primary objectives were twofold: firstly, to investigate barriers inhibiting women's participation, and secondly, to identify workplace factors promoting positive wellbeing. A mixed-methods approach was employed, combining a literature review with an online survey of the construction industry experts.

Objective one focused on understanding the reasons hindering women's uptake in the construction industry. The online survey data highlighted significant issues, including the gender pay gap, underrepresentation of women in senior positions, and challenges in creating a more inclusive environment for future female workers.

Objective two aimed to identify supportive enhancers for women's wellbeing in the construction industry workplace. Both the literature review and online survey responses underscored key factors, such as providing tailored guidance, implementing better workplace practices, ensuring equitable pay, and leveraging government initiatives.

Based on the findings, recommendations were proposed to address the construction industry's skilled labour shortage and promote diversity. These include advocating for strict policies against bullying and harassment, expanding support programmes for women apprentices, urging government intervention to implement flexible workplace policies, and fostering a more inclusive construction site culture.

In essence, there is a critical need to address barriers and enhance workplace support specifically to increase women's participation in the construction industry in New Zealand. By implementing the recommendations, the construction industry in New Zealand can overcome challenges and foster a more inclusive and diverse working environment for women.

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