

# Constructing Inclusivity: Strategies for Promoting Gender Equality in Developing Countries' Construction Sector

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**Abstract:** The United Nations has included the importance of gender equality in the Sustainable Development Goals (SDGs), particularly Goal No. 5. Malaysia and other developing countries have long taken steps to promote gender equality and women's empowerment. Nevertheless, gender discrimination and gender inequality persist, especially in the construction industry. The lack of representation of women in the construction industry of developing countries appears to be a major challenge hindering the industry's progress towards achieving gender equality. The objectives of this research were to (1) identify the factors that perpetuate gender inequality in the Malaysian construction industry and (2) recommend strategies that can be adopted to improve work policies in Malaysia's construction industry to promote gender equality. Data were collected from companies registered with the Construction Industry Development Board (CIDB) holding G7 status in Kuala Lumpur. Cluster sampling technique and a quantitative method were used in this research. All the data collected were analysed using descriptive analysis with the assistance of the Statistical Package for the Social Sciences (SPSS). The research findings revealed that the main factors that perpetuate gender inequality in the Malaysian construction industry are gender stereotypes and perceptions. This research recommends improving work-life balance and implementing supportive policies as the main strategies to promote gender equality and improve work policies in Malaysia's construction industry. This research has brought a new dimension to the field of gender equality by identifying practical strategies that can be practised by stakeholders of the construction industry in Malaysia and other developing countries.

**Keywords:** SDG 5, Gender equality, Gender stereotypes, Gender discrimination, Work policies

## INTRODUCTION

The United Nations introduced 17 Sustainable Development Goals (SDGs) back in 2015 as part of the 2030 Agenda for Sustainable Development. These goals are framed by providing a comprehensive framework for countries and stakeholders to work together for a sustainable future, taking into account global challenges including poverty, inequality, climate change and social injustice. Thus, it is a universal call for all countries to take part and contribute towards the goal.

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Realising that gender equality is one of the fundamental aspects of ensuring sustainable development, the UN has included gender equality in the SDG agenda through SDG5: Achieve gender equality and empower all women and girls. This goal was formulated with a clear target to achieve gender equality by empowering all women and girls and addressing discrimination and disparities prevalent in various areas of life (United Nations, 2022). This goal has identified the systemic discrimination and inequality faced by women and girls worldwide and promotes the need for participation and equal access to opportunities in all areas of life. Rosa et al. (2017) and Holdsworth et al. (2020) highlight the positive effects of women's empowerment on economic growth, social well-being and environmental sustainability.

Malaysia, a developing country, acknowledges the importance of gender equality and shows its commitment to addressing gender differences and discrimination highlighted in the country's 12th Malaysia Plan. Moorthy et al. (2022) reported that Malaysia is committed to empowering gender equality by increasing the involvement of women in the economic sector and the decision-making process. It reflects that the Malaysian government highly recognises the importance of gender equality to drive sustainable development in Malaysia. However, according to Abdullateef (2021), women's participation is limited in the Malaysian construction industry and is still dominated by men. The lack of effective work policies that promote gender equality in the Malaysian construction industry has been identified as a significant cause for slowing down the SDGs' progress (Navarro-Astor, Román-Onsalo and Infante-Perea, 2017). Valitherm (2021) also reveals the lack of gender-sensitive policies and practices in the Malaysian construction industry.

Most of the existing policies and practices are geared towards men. Adeniji et al. (2022) reported various challenges faced by women in the construction industry, such as gender stereotypes, a lack of support and limited career advancement opportunities. Findings by Navarro-Astor, Román-Onsalo and Infante-Perea (2017) and Valitherm (2021) highlighted the significant barriers, namely discrimination and unequal treatment faced by women and their impacts on the development of women's careers in the industry. Kamaruddeen, Khalid and Wahi (2019) stated that women experience various forms of discrimination, such as unequal pay, lower promotion rates and limited access to training and development opportunities. Smith and Sinkford (2022) added that there has been a lack of meaningful change in the gender equality policy arenas. Dhar (2018) also reported that women have consistently been asking critical questions of how to ensure equality, inclusion and participation in a world structured around grave inequalities and exclusions.

The inequality gap in the construction industry in Malaysia has become a stumbling block that hinders efforts towards SDGs related to gender equality. In the construction industry specifically, gender inequality is not only detrimental to women, but it also constrains the progress and sustainability of the construction industry itself, as these circumstances limit the pool of talent, skills and perspectives required to meet the demands and challenges of the industry in the future. Bertay, Dordevic and Sever (2021) concur, highlighting that gender equality is a vital economic issue. For the global economy to reach its potential, conducive conditions need to be created in which all women can reach their potential.

Accordingly, the objectives of the current research were (1) to identify the factors that perpetuate gender inequality in the Malaysian construction industry and (2) to recommend strategies that can be adopted to improve work policies in Malaysia's construction industry to promote gender equality. The findings of the research provide useful insight that can promote gender equality within the context of SDG5, which can be implemented in Malaysia and other developing countries.

## **LITERATURE REVIEW**

### **Construction Industry**

The construction industry plays a crucial role in shaping economies and societies around the world (Pamidimukkala and Kermanshachi, 2021). However, like most other sectors, the construction industry faced significant challenges due to the COVID-19 pandemic in early 2020. The pandemic brought great disruption and transformed the construction industry. There were various challenges faced by both field and office workers in the construction industry, such as a decrease in productivity and delays in project timelines due to supply chain disruptions, labour shortages and limited access to construction sites (Pamidimukkala and Kermanshachi, 2023; Fateh and Sulaiman, 2021). Many construction projects are halted or delayed, and many companies face financial pressure, which causes workers to experience layoffs and reduced working hours. Musarat, Alaloul and Liew (2021) reported that the pandemic created difficulties for contractors to complete projects on time and within budget. This has a substantial impact on the national and global economy and affects both parties, whether employees or companies.

The pandemic had a direct impact on workers, including women, as they faced the risk of reduced employment opportunities and income. Van and Quoc (2021) highlighted that the pandemic affected groups involved in the

construction industry, including women, but disproportionately, which led to increased gender inequality. Biswas et al. (2021) also supported the finding, highlighting that the pandemic widened the gender gap in the construction sector, with women experiencing higher unemployment rates and reduced working hours. Nonetheless, even before the pandemic, the issue of gender inequality in the construction industry was an issue. Women are often seen as underrepresented in this sector, with limited access to high-paying and managerial positions. Ogunnusi et al. (2020), Alsharef et al. (2021) and Oo, Lim and Zhang (2021) revealed that female construction workers are more vulnerable to the risk of higher job insecurity and reduced working hours as a result of this pandemic. Harrigan and Koh (2015) and Guo et al. (2020) summarised that women face a higher risk of job insecurity, reduced income and more limited job opportunities, compared to men.

## Gender Equality in Malaysia

Achieving gender equality has been a major goal around the world for quite a while. Moorthy et al. (2022) highlighted that Malaysia has embarked on a significant step towards achieving commendable progress in the aspects of gender equality and women's empowerment. The important role of women in the country's economic development has been highlighted several times in the 11th Malaysian Plan. The second pillar of the plan, Improving the Well-Being of the People, clearly states a need to provide an integrated support system and a conducive environment to increase women's participation in economic and social activities while at the same time ensuring the well-being of the family (Department of Statistics Malaysia, 2020).

Through the efforts formulated by the Malaysian government to strengthen gender equality, the situation of women in Malaysia has improved over time (United Nations, 2022). For example, policies have contributed greatly to increasing women's access to education and women's awareness of their constitutional rights (Moorthy et al., 2022). Amendment and re-enactment of outdated laws and policies to eliminate any discrimination against women has helped Malaysia in promoting gender equality in the country. In addition to Malaysia's commitment to supporting gender equality in the SDGs, a new ministry focusing on women's affairs was established in 2001 under the name Ministry of Women's Affairs. The scope of its duties has been improved over time and is now known as the Ministry of Women, Family and Community Development since 2004.

## **Current Workplace Policies and Practices in the Construction Industry**

Women's participation in the Malaysian construction industry is limited as it is still dominated by men. Usually, only administrative and clerical tasks are given to women instead of technical and managerial positions (Shibani et al., 2021). Department of Statistics Malaysia (2022) reported that the labour force participation rate for women in Malaysia was 55.1% in the third quarter of 2021, but their participation rate in the construction industry was only 5.6%. This proves that hard work needs to be carried out by industry players to increase the participation and representation of women in technical and management positions. Several studies have been conducted to study the challenges and obstacles to women's participation in the Malaysian construction industry. Findings from Masuri et al. (2017) stated that women face challenges such as a lack of recognition, support from male colleagues and opportunities for advancement in their careers. Valitherm (2021) uncovered that the industry needs to improve the workplace environment to attract and maintain the participation of women. This was echoed by Adeniji et al. (2022), who found a lack of career advancement opportunities and harassment for women when looking into gender stereotypes. The results of past studies recommend the promotion of gender equality and a gender-inclusive work environment through the provision of training and education programmes created by the construction industry itself. From the studies carried out, it can be generally concluded that the current policies by the construction industry in Malaysia are still a work in progress in promoting gender equality.

Some developed countries have already started to implement policies and practices to promote gender equality in the construction industry. For example, the United Kingdom implemented initiatives such as the Women in Science, Technology, Engineering and Mathematics programme to encourage women to pursue careers in technical and managerial positions in the construction industry (Abid et al., 2021). Dang and Shane (2020) highlighted that the Women's Business Enterprise National Council certification programme in the United States provides opportunities for women-owned businesses to compete in the construction industry. All policies such as these should be considered by the relevant parties involved in the Malaysian construction industry to promote gender equality.

There have been many studies that show how policy changes that promote gender equality in the construction industry can provide several benefits, including increased productivity, job satisfaction and the overall performance of the industry. Moncaster and Dylan (2019) highlighted that implementing a work policy that is friendly to gender equality can overcome the issue of a

lack of skills in the construction industry and improve the reputation of the industry. Holdsworth et al. (2020) also added that gender diversity in the workplace improves organisational performance and employee well-being.

## **Gender Discrimination and Inequality in the Construction Industry**

Discrimination and gender inequality certainly have a significant impact on the involvement of female workers in the construction industry. Female workers often face various challenges that limit their career advancement and opportunities. Among the factors that significantly affect the experience of female workers in the construction industry are gender stereotypes, discrimination and harassment (Adeniji et al., 2022). These factors often lead to an unpleasant work environment for women and ultimately impact lower job satisfaction, decreased productivity and higher turnover rates (Fateh and Zamri, 2022). Navarro-Astor, Román-Onsalo and Infante-Perea (2017) recorded that lack of support from superiors and colleagues was also identified as another challenge faced by female workers in the construction industry. Female employees have limited access to mentoring and networking opportunities, which are important for career advancement. The construction industry also often makes female workers have to deal with situations where inadequate facilities, such as mixed toilets and no changing rooms, make it difficult for them to work comfortably on construction sites. This was echoed by Valitherm (2021) and Nayak and Pandey (2021). They discovered that inflexible working hours, long working hours and limited access to family-friendly policies and practices also affect the interests of female workers. Kumar (2013) reported that women are often seen in low-paying jobs. In fact, not only salary but also discrimination against women exists at the level of recruitment, selection of skilled jobs and opportunities for self-advancement.

The lack of access to opportunities for self-advancement in a career often leads to lower job satisfaction and self-motivation and ultimately allows women to decide to leave the industry to pursue other careers. This was agreed upon by Holdsworth et al. (2020), who stated that the decrease in productivity and profitability is also an impact of the lack of diversity in the industry, limiting creativity, innovation and problem-solving abilities caused by the problems of gender discrimination and inequality. In Malaysia, women also face similar challenges in the construction industry due to gender inequality. Department of Statistics Malaysia (2022) stated that the labour force participation rate for women in Malaysia was 55.1% in 2021, compared to 80.8% for men. This was echoed by Subramaniam (2021) reported that women's participation in the labour force has stagnated over the past 25 years, with women earning 28% less than men. This lack of gender diversity certainly limits the industry's potential for growth and innovation, leading

to lower productivity and profitability. It is therefore important to address gender discrimination and inequality in the Malaysian construction industry to promote the goals of sustainable development and gender equality. Based on these issues highlighted, undoubtedly, the impact of gender discrimination and inequality on the construction industry is significant, as it limits the industry's potential for growth and innovation.

## **Factors that Perpetuate Gender Inequality in the Malaysian Construction Industry**

The issue of gender inequality in the Malaysian construction industry has created a gap in opportunities and treatment between male and female workers. This issue is seen as a complex problem and is influenced by several interrelated factors. Among the factors are gender stereotypes and general perceptions, discriminatory practices, the site environment and current work policies.

### **Gender stereotypes and perceptions**

Gender stereotypes and perceptions can be interpreted as an expectation, impression or general prejudice of a group of people or society about roles, behaviours and traits that are considered appropriate for individuals based on their gender (Tabassum and Nayak, 2021). Ahmed and Moorthy (2021) defined gender stereotypes as a set of notions and prejudices that relate to the roles of men and women in work determined by biological determination, just as the roles of men and women in society are also linked to gender. Some may have opinions with such rigid and stagnant notions, which are always a significant obstacle to the advancement of women's careers in organisations. Nonetheless, the word "gender stereotype" is often used as a basic variable to analyse the biased assessment and discriminatory treatment that occurs to women in the work environment and slows down their career development (Moorthy et al., 2022). These stereotypes have contributed to the formation of a rigid doctrine, forming society's pattern of thinking and view of men and women in various contexts, including in the construction industry.

Society's stereotype that gender is a factor that affects the ability of workers to carry out their roles in the construction industry has resulted in unequal opportunities being given to male and female workers. In the context of the construction industry, gender stereotyping has become an integrated norm, not only among the workers but also integrated into the core of the industry itself, that is, in companies related to construction as well. The stereotype that the construction industry is male-dominated has become the most



dominant gender stereotype. According to Akinlolu and Haupt (2020), the construction industry continues to be a very male-dominated sector with male overrepresentation. Awang and Rahim (2022) added that the construction industry is not a suitable place for women to thrive as a result of the ongoing stereotype that jobs at construction sites are generally dominated by men. In the construction industry, a strong perception that many tasks on a construction site are more suitable, worthier and more effective if given to a certain gender has only led to gender inequality.

Gender stereotypes in the construction industry are influenced by various views, including the belief that gender impacts workers' capabilities in their roles, such as numerous tasks on construction sites are more appropriately assigned to men, and the perception that the construction industry is a dirty, arduous, and hazardous field, deemed more fitting and essential for male dominance. It cannot be denied that the construction industry is a 3D (dirty, difficult and dangerous) industry that the general public sees as a very difficult career branch and not suitable for women to venture into. Thus, careers in the construction sector may maybe less attractive to women to venture into because it is a difficult and risky job and creates several problems, such as cultural problems, health and safety problems and stress. Society in general also might have the perception that the construction industry is a dirty, difficult and dangerous career, which is seen as more appropriate and necessary to be dominated by men.

### **Discriminatory practices**

The Minister of Women, Family and Community Development of Malaysia, Datuk Seri Nancy Shukri, during a press conference after the opening ceremony of the Kiddocare Care Entrepreneurship Ecosystem Forum, Women's Economic Empowerment, in conjunction with the Asia-Pacific Care Economy Forum 2023, mentioned that the total female workforce in Malaysia is one of the lowest in ASEAN at 55.6% and still far from the 59% set by the government by 2025. The Department of Statistics Malaysia (2023) reported that out of a total of 1,159,600 workers in Malaysia involved in the construction industry, only 136,400 of them are female workers, covering about 76% of the workforce in the country's construction sector. The lack of labour resources for women may be driven by the gender discrimination factor practised in the construction industry. Discrimination is a factor that contributes to gender inequality in the Malaysian construction industry. There are three phenomena in the construction industry that reinforce the view that gender discrimination does happen in the construction industry: (1) the hiring process, (2) work methods and (3) company policies (Nalitoleta et al., 2020).



According to West, Whittaker and Crawford (2019), few companies practice gender discrimination in the process of hiring employees to work on construction sites. Strupp (2023) mentioned that although the demand for labour resources in the construction field is high, the issue of gender discrimination in hiring is still active. The researcher also added that construction companies often require recommendations from others before they are interested in interviewing female workers for a position, which is an unbalanced and disappointing practice for women. Hegewisch and Mefferd (2021) reported that women workers experience different treatment in the hiring process, the allocation of working hours, access to overtime and even in the termination process.

On the other hand, most women who work on construction sites face unequal treatment compared to men in terms of training, promotion and salary increases. Abidin (2018) highlighted that male workers receive higher wage payments than female workers, although both have the same skills and level of education. Women are considered less productive and cause many problems for the organisation at work due to taking leave too often (e.g., maternity leave) and they are also seen as lacking in leadership skills. Azhar and Griffin (2014) also reported that other discrimination experienced by female employees include not having enough organisational support and being required to carry out simple tasks more often than men. They also feel that they are not valued, have limited opportunities for career advancement, face pay differentials, struggle with their safety and health issues and receive unequal training evaluations compared to their male colleagues.

Björklund (2023) highlighted that most of the company policies favour men over women in the construction industry. The negative effects are felt by a certain group as a result of hiring policies that practice discrimination, whether it happens intentionally or unintentionally. Stamarski and Hing (2015) also disclosed similar findings, stating that the issue of gender inequality is a complex phenomenon in organisations that can be seen in human resources practices, especially in company policies, decision-making and its implementation, which intentionally or unintentionally influences the recruitment, training, salary and promotion of women.

### **Site environment and current work policies**

The construction site environment in the construction industry is seen to be more inclusive for men than women. Awang and Rahim (2022) mentioned that the construction industry is seen as a 4D industry that is dull, dirty, dangerous and difficult. In Malaysia, the risk of danger synonymous with the environment at construction sites also has an effect on the comfort of female workers and

leads to stress at work (Latiffi et al., 2014). While Nakabonge (2022) added that macho culture, male superiority and strongly embedded masculine norms and beliefs in the construction industry have generated a gender inequality gap, Afolabi et al. (2019) argued that the attitude and atmosphere that exist in the construction industry should be considered unfriendly to women.

The leadership role in a construction project is usually dominated by men, with too few female representatives. This statement is in line with the opinion of Björklund (2023), who reported that men are more likely to hold higher status roles than women. This has led people to think that men like to display agentic traits, such as being dominant, and women are more likely to display communal traits, like being helpful. Therefore, men are more inclined to fulfil higher positions and greater leadership roles because they are seen as more powerful and prestigious. Afolabi et al. (2019) also highlighted that women's professional development is stunted in the male-dominated construction industry, which results in (1) difficulty for women to be appointed to leadership and management positions, (2) lower role and contribution of women in the industry and (3) the creation of various rigid and discriminatory regulations that narrow women's career paths. Tabassum and Nayak's (2021) findings revealed that women receive the effects of gender stereotypes in an organisation regardless of their position. Thus, the effect is more noticeable when they hold management and leadership positions. This certainly further reduces the involvement of women in leadership positions in organisations.

Most of the current workplace policies in the construction industry are not seen as eager to address gender equality issues. Norberg and Johansson (2021) reported that there are various calls in the form of laws and regulations to prevent gender discrimination. The efforts and initiatives are seen as not so keen to increase the number of women in the industry and make this industry attractive to all individuals, regardless of gender. Kim et al. (2020) highlighted the tendency of women in their twenties and thirties to challenge themselves to learn skills in a sector that is traditionally considered an exclusive occupation for men. Therefore, it may be seen that the current policies related to construction work have not yet recognised this reality and accepted the demands of women construction workers.

In addition, the lack of work policies on construction sites that promote work-life balance and gender equality has a greater negative impact on female workers than on male workers. Awang and Rahim (2022) revealed that one of the factors that makes the number of female workers decrease in the construction industry is the inflexible work environment, policies and long hours. Lekchiri and Eversole (2021) stated that the work policy and culture that have inflexible and long working hours have caused women to experience difficulties in balancing their roles in socio-cultural and work. Nakabonge

(2022) emphasised that there is subtle discrimination practised by company policies, especially during working hours. It is rare for companies to study changes to long working hours that would help women build careers around their responsibilities at home. Valithern (2021) highlighted the obstacles faced by women in the Malaysian construction industry and mentioned that work-family life conflict is the most frequent obstacle. Azhar and Griffin (2014) and Hartmann, Ling and Tan (2009) underlined that the most critical obstacle faced by women in the construction industry, especially for those who are married, is maintaining work-life balance. Navarro-Astor, Román-Onsalo and Infante-Perea (2017) stressed that various conflicts regarding women's roles and the need to balance life and career are still a big problem that is seen exclusively for women. This was echoed by Caven and Astor (2013), who revealed that some women are stuck in the need to choose between career and family. Some women are worried about losing their jobs or being demoted after having children, and they will continue to lag in their career development after returning from maternity leave.

From these findings, it is clear that the construction industry is seen as more inclusive for men than women, resulting in the industry being dominated by men. All these show that the current workplace policies in the construction industry are not seen to be keen on addressing gender equality issues.

## **METHODOLOGY**

The research methodology in this study was quantitative. The quantitative method focuses on the collection of numerical data and its analysis using statistical methods. Ali (2021) states that one of the advantages of using a quantitative approach is that it can help researchers categorise, formulate and describe observations systematically. In this study, the data were collected through a questionnaire survey. The questionnaire was designed mostly of closed-ended questions, where the respondents responded with predefined answer choices. The respondents had to choose only one answer from a list provided to indicate their level of agreement with a given statement by using the 5-point Likert scale. Mezmir (2020) emphasised that closed-ended questions are effective for collecting quantitative data that can be easily analysed and compared across respondents.

Google Forms was used for the distribution of questionnaires. One of the advantages of using Google Forms is that it can assist researchers in streamlining the data collected by eliminating manual data entry and storing it safely in the cloud. The link invitation was distributed through digital communication mediums such as WhatsApp, Telegram, LinkedIn and email.

Cluster sampling was used for the current research. Acharya et al. (2013) highlight that it requires a larger sample size and is scattered; thus, it is suitable for the research. Based on the report by the Construction Industry Development Board Malaysia (2024), 1,805 main contractor companies with CIDB G7 status registered in Kuala Lumpur were still active. Department of Statistics Malaysia (2022) summarised that the average number of employees for each construction company in Malaysia was approximately ten. Based on the information obtained, it can be concluded that the total population for this study was 18,050 respondents. Based on Krejcie and Morgan (1970), the closest population size to 18,050 is 20,000. Therefore, the sample size for this research was set at 377 respondents.

The questionnaire survey was given to individuals who worked in various roles and levels in the construction industry, specifically those directly involved in site work. Therefore, the selection of respondent criteria needs to be done carefully to ensure that the collected sample is comprehensive and representative. The criteria that have been set in this study include: (1) gender, (2) involvement in construction projects in Malaysia and (3) working level. First, men and women were selected to gain a comprehensive perspective from both sides of gender-related issues in the construction industry. The input from these respondents was to ensure that this study was not biased towards one gender and also to ensure that balanced and fair data could be observed and evaluated. Second, individuals involved with construction projects in Malaysia. This was to ensure that the data obtained from respondents who had direct experience with and knowledge of the local construction industry. Those selected were largely certain to have extensive knowledge of policies, regulations, practices and specific challenges unique to the nation's construction industry, which could provide a more accurate and contextual understanding of the real situation in the construction industry in Malaysia. The last criterion was from any working level. This study sets out to observe data from individuals at all levels of the organisational hierarchy, from top management to clerical workers. This selection was to ensure that a comprehensive and holistic set of data could be harvested to understand the actual situation and the factors that affect gender inequality in the national construction industry.

A questionnaire survey was used to obtain data consistent with the two study objectives. The survey took approximately 5 to 10 minutes to complete. A brief introduction to this study was written to give better context and understanding before answering the questionnaire. This questionnaire is divided into three parts. Part A was on the demographics of the study respondents. This part focused on identifying the demographics of the respondents and whether those who answered can meet the criteria that have been set or not. It

included gender, age, working with G7 contractors, designation and years of experience in the industry. Part B focused on factors that perpetuate gender inequality in the Malaysian construction industry. There were ten factors identified based on the literature review. Using the five-point Likert scale, the respondents decide which factors are more influential. Part C was on the recommended realistic strategies that can be adopted to improve work policies in Malaysia's construction industry to promote gender equality. There were nine recommended strategy statements were presented to the respondents. All the statements were based on the findings of the literature review. A five-point Likert scale was used to determine the most common statements recommended by the respondents.

All data collected was analysed using descriptive analysis, which included frequency, means and percentages. Mishra et al. (2019) state that descriptive analysis is able to provide a clear overview and comprehensive summary of the data collected. Statistical Package for Social Sciences (SPSS) was used to analyse the data collected. SPSS was selected considering its recognised and widely used status in various research works. The findings obtained from SPSS can be visualised in the form of graphs, charts and tables. This not only helps researchers gain insight but also generates informative visual representations of data, helping in the effective communication of research results.

## **FINDINGS AND DISCUSSION**

### **Response Rate and Reliability Analysis**

The questionnaire was distributed to 1,756 respondents. However, only 673 responded. From the 673 responses received, filtering was done to ensure that only respondents who met the criteria were considered. Thus, only 360 respondents made it through the cuts, which translated to 21% of the response rate. Fateh, Mat and Rahman (2024) stated that for a self-administered questionnaire survey, that percentage was acceptable. Even though Krejcie and Morgan (1970) recommended 377 respondents, if the 360 respondents recorded were still representative of the population and selected through appropriate sampling methods, the results could still be generalised to the population, as highlighted by Creswell and Creswell (2017). This was echoed by Fowler Jr (2014). He outlined that missing out on 17 respondents in more homogeneous populations, the impact would be less significant.

Reliability analyses were conducted to assess the internal consistency and correlations between individual items and the total score for each scale. A reliability coefficient over 0.70 signifies strong reliability, as per prior studies.

The reliability coefficients for all variables in this investigation exceeded the specified value. Table 1 displays a Cronbach’s alpha value of 0.79, indicating great reliability for utilising this instrument in the study.

**Table 1.** Reliability analysis of the instrument

	Cronbach’s Alpha	N of Items
All main variables	0.80	30

**Respondents Demographic**

According to Table 2, 205 (56.9%) of the respondents were men. While 155 (43.1%) respondents were women. The gap between the two genders was not wide, indicating that the data collected was relatively balanced on both sides of the genders; thus, the issue of bias in the survey was removed. The highest response was received from the group aged between 31 years old and 40 years old, with a total of 178 (49.4%) respondents. On the other hand, the group of respondents aged between 51 years old and 60 years old was the lowest, bringing about nine (2.5%) respondents to this study. The involvement of many young people in the construction industry indicated that the construction industry was on a good track, since there were still many young people who were interested in venturing into careers in the construction industry.

**Table 2.** The gender and age of respondents

Variable	Levels	Total	
		Frequency (No.)	%
Gender	Male	205	56.9
	Female	155	43.1
Current age (years)	21 years old to 30 years old	87	24.2
	31 years old to 40 years old	178	49.4
	41 years old to 50 years old	86	23.9
	51 years old to 60 years old	9	2.5
	61 years old and above	–	–

Table 3 summarises the respondents’ designations where most of the respondents were engineers, quantity surveyors and mechanical and electrical coordinators, consisting of 125 (34.7%) respondents, followed by the site supervisors and safety site supervisors at the construction site, consisting of

114 (31.7%) respondents. The lowest was the project manager and management level, consisting of 16 (4.4%) respondents. Researchers also reached out to the human resources personnel, even though they were not directly involved in construction site work. Their input was relevant and necessary to obtain an in-depth view of the policies and procedures of the organisation involved. On the other hand, Table 4 summarises the respondents' years of experience which was relatively balanced between males and females. It also shows that there were women who lasted quite a while in the construction industry.

**Table 3.** Respondents' designation

Designations	Gender	Total	
		Frequency (No.)	%
Clerk/admin/storekeeper	Male	9	2.5
	Female	36	10.0
Site supervisor/safety site supervisor	Male	79	21.9
	Female	35	9.7
Engineer/quantity surveyor/coordinator	Male	73	20.3
	Female	52	14.4
Human resources	Male	9	2.5
	Female	21	5.8
Manager/site manager/construction manager/safety and health officer	Male	22	6.1
	Female	8	2.2
Project manager/site agent/management level	Male	13	3.6
	Female	3	0.8

**Table 4.** Respondents' years of experience

Years of Experience	Gender	Total	
		Frequency (No.)	%
1 year to 5 years	Male	68	18.8
	Female	47	13.1
6 years to 10 years	Male	87	24.2
	Female	71	19.7
11 years to 15 years	Male	39	10.8
	Female	33	9.2

(Continued on next page)



Table 4. Continued

Years of Experience	Gender	Total	
		Frequency (No.)	%
16 years to 20 years	Male	3	0.8
	Female	2	0.6
More than 20 years	Male	8	2.2
	Female	2	0.6

Factors that Perpetuate Gender Inequality in the Malaysian Construction Industry

Based on the literature review, ten factors that perpetuated gender inequality in the Malaysian construction industry were presented to the respondents. The factors were classified into three themes, namely, (1) gender stereotypes and perceptions, (2) discriminatory practices and (3) site environment and current work policies. Table 5 summarises the factors that perpetuate gender inequality in the Malaysian construction industry.

Table 5. Factors that perpetuate gender inequality in Malaysian construction (N = 360)

Factors that Perpetuate Gender Inequality in the Malaysian Construction Industry		Mean	Total Mean	Std. Deviation
Gender stereotypes and perceptions	1. Society stereotypes that gender is a factor that affects the ability of workers to carry out their roles in the construction industry have resulted in unequal opportunities being given between male and female workers.	4.32	4.37	0.668
	2. In the construction industry, a strong perception that many tasks on a construction site are more suitable, worthier, and more effective if given to a certain gender only has led to gender inequality.	4.37		0.650
	3. Society in general has a perception that the construction industry is a dirty, difficult and dangerous career, which is seen as more appropriate and more necessary to be dominated by men. This has caused women to be less interested in pursuing a career in this industry.	4.41		0.648

(Continued on next page)

**Table 5. Continued**

<b>Factors that Perpetuate Gender Inequality in the Malaysian Construction Industry</b>		<b>Mean</b>	<b>Total Mean</b>	<b>Std. Deviation</b>
Site environment and current work policies	1. The construction site environment in the construction industry is seen to be more inclusive for men than women.	3.48	3.97	1.170
	2. The leadership role in a construction project is usually dominated by men and there are too few female representatives in this position.	4.25		0.830
	3. Current workplace policies in the construction industry are not seen to be eager to address gender equality issues.	4.00		0.785
	4. The lack of work policies on construction sites that promote work-life balance and promote gender equality has a greater negative impact on female workers than on male workers.	4.16		0.861
Discriminatory practices	1. Most companies practice discrimination based on gender in the process of hiring employees to work on construction sites.	3.40	3.54	1.280
	2. Most women who work on construction sites face unequal treatment compared to men in terms of training, promotion and salary increases.	3.48		1.250
	3. Most of the management, work methods and company policies either intentionally or unintentionally favour men over women in the construction industry.	3.74		1.080

The first factor that perpetuated gender inequality in the Malaysian construction industry was “Gender stereotype and perceptions”, with a 4.37 mean score. The statement with the highest agreement was “Society, in general, has a perception that the construction industry is a dirty, difficult and dangerous career, which is seen as more appropriate and more necessary to be dominated by men. This has caused women to be less interested in pursuing a career in this industry”. This subfactor received the highest mean score compared to other subfactors. The society’s view of the construction industry as dirty, dangerous and difficult. These perceptions cause women to be less interested in working in the construction industry. This statement that the industry is “dirty, difficult and dangerous” coincides with the study carried out by Awang and Rahim (2022), which is also known as a 3D industry. Anuar et al. (2017) also added another element, which is “dull”, and made the construction industry known as a 4D industry. Braddy et al. (2020) described

gender stereotypes as social assumptions made against individuals based on their gender, causing gender inequality to occur in many ways, including through salary and promotion opportunities. This was agreed by Tabassum and Nayak (2021), who highlighted that many women receive negative effects as a result of gender stereotypes in their organisations, regardless of their position. This statement indicated that the work environment on construction sites was risky and challenging in terms of safety, health and emotion. For this reason, women had less interest in participating in construction site work and, at the same time, perpetuated gender inequality in the Malaysian construction industry.

Secondly, the factor that perpetuated gender inequality in the Malaysian construction industry was “Site environment and current work policies”, with a 3.97 mean score. The highest sub-factor in the category was “The leadership role in a construction project is usually dominated by men, and there are too few female representatives in this position”. The findings revealed that the composition and phenomena that occurred in real life at construction sites, where the highest positions in the construction field were dominated by men, compared to women. From the research conducted, it was also found that a total of 35 men were given high positions in the company, compared to women, with only 11. This can also be attributed to the gender stereotypes that are prevalent in society, which say that male workers have better leadership skills and can handle supervisory roles better and more effectively on construction sites compared to women. This statement is supported by Tabassum and Nayak (2021), who stated that successful leaders have characteristics commonly associated with men, such as leadership, competitiveness, self-confidence, clear objectivity, aggressiveness, toughness, ambition and a desire for responsibility. This was echoed by Apurva and Sharareh (2023), who highlighted that the management structure, culture and environment of the construction industry present challenges to women and have resulted in their underrepresented in a male-dominated workforce.

The last factor that perpetuated gender inequality in the Malaysian construction industry was “Discriminatory practices”, with a 3.54 mean score. The highest sub-factor in this category chosen by the respondents was “Most of the management, work methods and company policies either intentionally or unintentionally favour men over women in the construction industry”. This sometimes became a common practice and policy in an organisation to the extent that, intentionally or unintentionally, it led to gender inequality. Björklund (2023) reported that hiring policies that perpetuate gender inequality exist either intentionally or unintentionally and have negative effects on certain gender groups only. Stamarski and Hing (2015) also highlighted that unbalanced and biased company practices and policies can be seen in human resource practices, which intentionally or unintentionally influence the recruitment, training, salary and promotion of women.

## Recommended Realistic Strategies that Can Be Adopted to Improve Work Policies in Malaysia's Construction Industry to Promote Gender Equality

Cambridge University Press (2019) interprets “realistic” as “sensible, appropriate and possible to achieve” while Sarhan and Fox (2013) stated that a strategy becomes realistic when it can be carried out with the available resources and free from obstacles. Researchers have listed three main recommendations that were sensible, appropriate and possible to achieve, while also practical to be carried out with available resources and unencumbered by obstacles by all stakeholders involved in the construction industry. These recommended strategies were selected based on evaluation and observation in the literature review. Table 6 summarises the recommended realistic strategies that could be adopted to improve work policies on gender equality in Malaysia's construction industry.

**Table 6.** Recommended realistic strategies that can be adopted to improve work policies in Malaysia's construction industry to promote gender equality ( $N = 360$ )

Recommended Realistic Strategies that Can Be Adopted to Improve Work Policies in Malaysia's Construction Industry to Promote Gender Equality		Mean	Total Mean	Std. Deviation
Work-life balance and supportive policies	1. The implementation of company policy of flexible work arrangements, such as remote work or flexible hours, that encourage and sustain women's participation in the construction industry.	4.49	4.42	0.578
	2. The implementation of a transparent and standardised performance evaluation process, free from gender bias, will ensure equal growth opportunities for all and increase gender equality.	4.35		0.672
	3. The introduction of policies that offer affordable childcare services close to construction sites will be able to encourage and sustain women's participation in the construction industry.	4.43		0.598

(Continued on next page)

**Table 6.** *Continued*

<b>Recommended Realistic Strategies that Can Be Adopted to Improve Work Policies in Malaysia's Construction Industry to Promote Gender Equality</b>		<b>Mean</b>	<b>Total Mean</b>	<b>Std. Deviation</b>
Gender-neutral policies and career development	1. The implementation of gender-neutral hiring policies by construction companies can improve gender equality in the construction industry.	4.40	4.38	0.656
	2. The introduction of company policies that provide equal access to training opportunities and skill development for both male and female workers can help promote gender equality in the construction industry.	4.31		0.682
	3. The implementation of a company policy of zero tolerance for any form of gender-based discrimination and harassment in the construction industry will create a safer and more inclusive workplace for women.	4.43		0.612
Government and industry initiatives levels	1. The implementation of the company's policy in creating partnerships with educational institutions to encourage women to pursue education and construction-related careers.	3.49	3.75	1.250
	2. The implementation of the company's policy of equal pay, incentives and benefits for equal work and responsibilities, regardless of gender.	4.31		0.614
	3. The introduction by the government of a policy in the form of financial incentives or tax reduction benefits to construction companies that actively promote gender equality and diversity in their workforce.	3.44		1.330

The first strategy recommended by the respondents was to introduce “Work-life balance and supportive policies”, with a 4.42 mean score. The most agreed-upon strategy under this category chosen by the respondents was “The implementation of company policy of flexible work arrangements, such as remote work or flexible hours that encourage and sustain women’s participation in the construction industry”. This finding was in line with Stamarski and Hing (2015), who suggested the organisation introduce family-friendly human resources policies to ease work-family balance, which directly helped women at work. Deepening those recommendations, the organisations might consider implementing a flexible work arrangement that involves flexible schedules, telecommuting, compressed work weeks or job sharing. This is agreed upon by Valitherm (2021), who emphasised that the implementation

of flexible working hours and introducing work from home are important alternatives to attract new employees among women. A childcare programme or flexible working hours is important for women to meet work-family commitments from the perspective of married women. Pamidimukkala and Kermanshachi (2023) also added that an organisation may consider making adjustments to its working culture to make it friendlier to female employees and families. The reforms should include a mutually beneficial shift pattern as well as work sharing and flexible schedules.

The next recommendation, with a score of 4.38, was to launch “Gender-neutral policies and career development”. Most respondents stressed that “The implementation of a company policy of zero tolerance to any form of gender-based discrimination and harassment in the construction industry will create a safer and more inclusive workplace for women”. Baruah and Biskupski-Mujanovic (2021) reported that 88% of female construction workers surveyed had experienced sexual harassment at work. The construction site is often carried out autonomously or with minimal supervision and often in dark corners, trenches and small or isolated spaces, raising safety concerns, especially for female workers. The findings suggested that the security risk for these women workers should be reduced by certain actions and practices, such as creating an atmosphere of a bright workplace or creating a policy of working in pairs.

Eliminating violence against women requires deeper and more proactive involvement from all social structures and relevant stakeholders. Furthermore, Hegewisch and Mefferd (2021) stated the necessity of addressing the unequal treatment, harassment and discrimination experienced by women. This was echoed by Kalidasan and Geetha (2023), who suggested that a review needs to be done on the organisation’s fair employment practices and policies. Any policies related to sexual harassment and gender discrimination need to be updated based on the labour act in the respective country. The policies need to be in line with other federal, state and local employment laws. Hing et al. (2023) believed that when an organisation tries to prevent sexual harassment, it must provide support and trust to male employees who may be afraid of false accusations, causing them to avoid mentoring women, which further contributes to gender inequality. This is to ensure that all genders believe that the sexual harassment policies and practices implemented are fair to reduce sexual harassment, prevent backlash and ultimately facilitate gender equality.

The last recommendation highlighted by the respondents was “Government and industry initiatives levels”, with a 3.75 mean score. “Implementation of the company’s policy of equal pay, incentives and benefits for equal work and

responsibilities, regardless of gender”, was the highest statement recorded in this category. This finding is in line with SDG8: Decent Work and Economic Growth. Under this goal, there is a call to all stakeholders to create equal opportunities and treatment in the workforce, including fair wages and good working conditions for all regardless of gender, age and ability. Smith and Sinkford (2022) highlighted that a lack of uniforms and support for childcare, eldercare and caregiving serve as major barriers to gender parity in leadership and the career advancement of women. Kim et al. (2020) reported that the first clause of Article 8 (Wage) in the Act to Support Gender Equality in Employment and Work and Family Balance in Korea stipulates that employers must provide equal pay for work of equal value in business. The key performance index of the workers must be determined by task performance, such as skill, effort, level of responsibility, operational conditions and so on. This regulation needs to be enforced to prevent women working in the construction industry from experiencing wage discrimination. Based on these findings, it is indeed a thoughtful recommendation to foster awareness for construction companies in Malaysia to implement the company’s policy of equal pay, incentives and benefits for equal work and responsibilities, regardless of gender.

The government is instrumental in the formulation and implementation of gender-sensitive policies seeking to promote equality in the workforce. At national levels, many governments have ministries or departments responsible for women’s issues, which take a lead role in formulating policies related to promoting gender equality. The Malaysian Ministry of Women, Family and Community Development has been indispensable in taking initiatives and formulating policies for the advancement of the cause of gender equality (Ministry of Women, Family and Community Development, 2009).

Non-governmental organisations played a key role in advocating for gender-sensitive policies and supporting women through various sectors. These organisations work at the grassroots level with resources, training and advocacy aimed at empowering women and addressing systemic gender inequalities. According to All Women’s Action Society (2019), the society is one of the leading NGOs in Malaysia that advocates for women’s rights and gender equality. The main concerns of the All Women’s Action Society are violence against women, gender discrimination and promotion of women’s participation in decision-making processes. The group cooperates with government bodies and other NGOs in a drive for legislative changes and raising public awareness about gender issues.



## CONCLUSIONS

In conclusion, the current research holds significant value as it provides useful insights and practical strategies that can contribute to the enhancement of gender equality. This research reveals that gender stereotypes and perceptions are the main factors that become barriers and obstacles to gender equality. “Society, in general, has a perception that the construction industry is a dirty, difficult and dangerous career, which is seen as more appropriate and more necessary to be dominated by men. This has caused women to be less interested in pursuing a career in this industry”, was identified as the main factor. In addition, this research recommends a realistic strategy for developing or improving work-life balance and supportive policies in the construction industry, as in Malaysia, to ensure the SDG5 goal for gender equality can be achieved. The research findings highlighted that the strategy under the theme of “Gender-neutral policies and career development”, namely “The implementation of a company policy of zero tolerance to any form of gender-based discrimination and harassment in the construction industry will create a safer and more inclusive workplace for women”. This research proposed practical strategies that can be implemented within Malaysia and other developing countries’ construction industries by drawing upon previous studies on women’s career development. Building upon the findings of this study, future researchers are encouraged to perform a comparative analysis on a comparison between the Malaysian construction industry and other countries, which certainly have differences in the socio-cultural context, understanding, practices, policies and so on. This will certainly give the study a broader scale of analysis and data discovery, resulting in a more interesting study.

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