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Challenges faced by women in construction: A state-of-the-art review and discusion in the Chilean context

Desafíos de las mujeres en la construcción: Revisión del estado del arte y discusión en el contexto Chileno

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Abstract

Occupational segregation remains an essential challenge for women joining the workforce, especially in the construction industry, which is well known by extreme gender segregation. By addressing the challenge of segregation in construction, not only equal opportunities can be achieved for women, but also construction industry challenges can be addressed, such as the lack of skilled workers or reducing the cost of employees' turnover. This paper explores the international literature regarding the challenges and barriers women face in the construction industry to compare with the Chilean construction industry. This study found that the Chilean construction has developed initiatives to encourage women in construction, and it is in better standing compared to other Latin American countries, but when compared with developed nations, more initiatives and programs need to be done. More importantly, the existing literature has identified the challenges and barriers faced by women in different regions of the world; however, limited information exists regarding such challenges and barriers in the Chilean context. The importance of discovering and identifying existing challenges faced by women in the Chilean context is that stakeholders from the construction industry and local authorities can develop programs and initiatives, such as attraction and retention programs, tailored to the specific socio-cultural context of the Chilean construction industry.

Keywords: *Women, construction industry, occupational segregation, Chile*

Resumen

La segregación ocupacional sigue siendo un desafío esencial para las mujeres que se incorporan a la fuerza de trabajo, especialmente en la industria de la construcción, que es conocida por la extrema segregación de género. Al abordar el reto de la segregación en la construcción, no sólo se puede lograr la igualdad de oportunidades para las mujeres, sino que también se pueden abordar los retos de la industria de la construcción, como la falta de trabajadores cualificados o la reducción del coste en la rotación de los empleados. Este trabajo explora la literatura internacional sobre los desafíos y barreras que enfrentan las mujeres en la industria de la construcción mundial para compararla con la industria de la construcción chilena. Este estudio encontró que la construcción chilena ha desarrollado iniciativas para alentar a las mujeres en la construcción, y está en mejor posición en comparación con otros países latinoamericanos, pero cuando se compara con las naciones desarrolladas, se necesitan más iniciativas y programas. Más importante aún, la literatura existente ha identificado los desafíos y barreras que enfrentan las mujeres en diferentes regiones del mundo; sin embargo, existe información limitada respecto a dichos desafíos y barreras en el contexto chileno. La importancia de descubrir e identificar los desafíos existentes que enfrentan las mujeres en el contexto chileno es que las partes interesadas de la industria de la construcción y las autoridades locales pueden desarrollar programas e iniciativas, tales como programas de atracción y retención, adaptados al contexto sociocultural específico de la industria de la construcción chilena.

Palabras clave: Mujeres, industria de la construcción, segregación ocupacional, Chile

1. Introduction

Occupational segregation by gender occurs in organizations and professions where men receive higher financial compensation and a higher position of prestige (Anker, 1997). Unfortunately, the construction industry has been indicated as the leading industry in this regard (Fielden et al., 2000); (French and Strachan, 2017). Multiple studies have highlighted the fact that a disproportion exists between the percentage of women in the workforce, and the percentage of women in the construction industry (Adogbo et al., 2015); (Barreto et al., 2017); (Dabke et al., 2008); (Fielden et al., 2000). For instance, (Fielden et al., 2000) reported that in the United Kingdom, 49.5% of the workforce were women, but only 13% participated in the construction industry. For women in construction, segregation may take the form of a lower salary and lower opportunities for promotion (French and Strachan, 2015), while for the construction industry, segregation represents a significant source of labor rigidity and inefficiencies due to the waste of human resources (French and Strachan, 2015). Consequently, addressing the challenge of occupational segregation in the construction industry can not only be identified as a source of more equality for women in the construction industry but also as an opportunity to solve construction industry problems, such as employee turnover costs and skilled labor shortage (Aboagye-Nimo et al., 2019); (Barreto et al., 2017); (Malone and Issa, 2013); (Menches and Abraham, 2007).

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Given the relevance of this challenge for the construction industry, researcher around the globe have understood the magnitude of the problem and have dedicated considerable efforts to understand the challenges faced by women in the construction industry (e.g., (Barreto et al., 2017); (Fielden et al., 2000); (Infante et al., 2012); (Malone and Issa, 2012); (Menches and Abraham, 2007). Majority of the existing literature has been developed in developed nations, more specifically in the United States, the United Kingdom, and Australia (Barreto et al., 2017), and although studies have been done in developing nations (e.g., (English and Le Jeune, 2011); (Giritli and Civan, 2008); (Kehinde and Okoli, 2004), limited studies have taken place in the Latin-American region (e.g., (Barreto et al., 2017). Interesting to notice, researchers have expanded the understanding of occupational segregation in the construction industry beyond the construction field and have also assessed the role of women enrollment in construction engineering and management programs at the college level (e.g., (Bigelow et al., 2016); (Oo et al., 2018); (Sewalk and Nietfeld, 2013). These studies have been motivated by the assumption that if more women enter construction engineering and management programs, then more women should enter the construction workforce. Unfortunately, this assumption has shown to be partially correct, primarily due to existing barriers regarding limited progression for women within the construction industry. As such, an integrated approach integrating the multiple levels associated with the construction sector (e.g., school programs, industry, government) should be pursued to alleviate the segregation of women in construction.

This study is motivated by the limited academic literature regarding the segregation of women in the Chilean construction. As such, this study aims to discuss challenges and barriers faced by women in construction by comparing the international literature with the limited information in the Chilean context. It is expected that discussing and emphasizing the lack of studies in Chile about challenges women face in construction will spark the discussion and incentivize the academic world to work on this topic. Ultimately, identifying and understanding existing challenges and barriers faced by women in construction may help local authorities and construction stakeholders to address the issue of women segregation in the Chilean construction industry.

2. Literature review

The literature review is divided into two sections, challenges faced by women in the construction sector before and after their college graduation. The first section discussed the challenges faced by women regarding enrollment and retention in construction engineering and management programs in college. The second section discussed the challenges related to the entrance and retention of women once working in the construction industry.

2.1 Challenges at the College Level

The challenges regarding women's segregation at the college level can be divided into two groups. First, recruiting women to enter construction engineering and management programs, and second, retaining women to complete such programs. It is acknowledged in the literature the low level of enrollment of women in construction management degree programs. For instance, it has been reported that the average percentage of enrollment ranges between 5.7% and 9.6% (Bigelow et al., 2015). Consequently, the existing literature has explored multiple factors influencing women enrollment on construction management programs, primarily in U.S. institutions (e.g., (Bigelow et al., 2015); (Moore and Gloeckner, 2007); (Sewalk and Nietfeld, 2013), some in the form of barriers and others in the form of factors that support women enrollment.

(Moore and Gloeckner, 2007), proposed to classify the factors into three categories: family background (e.g., parental influence), individual or psychological (e.g., academic skills), and environmental variables (e.g., the educational climate of school). Interestingly, the factor with the highest negative impact was found to be the educational climate faced by women during high school; specifically, the unpopularity of construction management degrees among women. However, it has been found that, in many instances, the unpopularity of construction is due to the lack of knowledge from high school counselors about the construction programs (Wilkes et al., 2015). In a similar attempt to classify factors influencing women entering construction degrees, (Bigelow et al., 2015) summarized previous work from the U.S. and U.K. into 16 different factors (e.g., making internships, field trips to job sites, career opportunities, mentoring program), for a full list of the factors please refer to (Bigelow et al., 2015). Interestingly, it was found that the most influential factors in women deciding to pursue a degree in construction management were making an internship and career opportunities (Bigelow et al., 2015), as well as having a father in the industry, and the father taking the student to work (Bigelow et al., 2018).

When it comes to challenges faced by women to enroll in construction management programs, the literature has found that perceptions and stereotypes of the construction industry discourage women from entering construction programs (Sewalk and Nietfeld, 2013) and that schools had limited information related to women enrollment (Sewalk and Nietfeld, 2013). Acknowledging the presence of limited studies in places other than the United States and the United Kingdom, (Oo et al., 2018) studied the enrollment of women in Australia. Notably,

these authors also made the difference between local and international women students. Interestingly, for local and international students, the most important factors to enroll in a construction engineering and management program were career opportunities and personal interest.

As challenging as recruiting women in construction engineering and management programs, it is the retention of women in such programs. In the existing literature, multiple activities and initiatives have been proposed to increase women's retention in construction engineering and management programs. (Del Puerto et al., 2011) proposed three strategies to retain women in construction programs, namely mentoring, target construction programs to women as their audience, and eliminating negative stereotypes (Del Puerto et al., 2011). In a later study, (Shane et al., 2012) proposed a set of formal and informal activities to retain women enrolled in a construction engineering program. Namely, including activities to integrate women into the construction program as well as activities to develop identity through involvement in extracurricular activities. In quantitative terms, the percentage of enrollment almost doubled after four years—i.e., from 7% to 14%. Thus, supporting the effectiveness of the activities proposed by (Shane et al., 2012).

In summary, the existing literature has identified the most recurrent factors that influence the recruitment and retention of women in construction management college programs. However, most of these factors have been identified in the context of developed nations, more specifically the United States with limited understanding of challenges and barriers that women face in other regions in the world.

2.2 Challenges at the job level

Multiple studies have investigated the challenges faced by women not only to enter the construction industry but also to develop professionally in this industry (Arenas-Molina et al., 2017); (Barreto et al., 2017); (Fielden et al., 2000); (Malone and Issa, 2012); Malone and Issa 2013). Furthermore, it has been pointed out that addressing these challenges not only may help to decrease occupational gender barriers in the industry but also may alleviate industry challenges, such as the limited availability of skilled labor in a growing construction industry (Bigelow et al., 2018); (Moore and Gloeckner, 2007). Multiple reasons have been indicated in the literature as why the construction industry does not attract and retain women, such as poor industry image, slow career progression, difficult work-life balance, and the presence of a masculine culture and work environment leading to conflicts (Fielden et al., 2000); (Menches and Abraham, 2007); (Barreto et al., 2017).

The work done by (Fielden et al., 2000) was one of the first studies bringing attention to academia regarding the underrepresentation of women in the construction industry. The authors found seven barriers for women on their entry and progression in the industry in the U.K.—e.g., poor image of the construction industry, recruitment practices and procedures, and male-dominated culture and environment. Moreover, these barriers are developed in the early stages of education and the social interaction of women and continue throughout the training and recruitment practices of the industry (Fielden et al., 2000). Later, a similar study was done in the United States but also expanding the impact of existing challenges to the education and research positions as well as proposing solutions to the challenges (Menches and Abraham, 2007). (Menches and Abraham, 2007) summarized the most frequent problems faced by women in construction—i.e., barrier to succeed—including slow career progression, work-life balance, male-dominant attitudes, inflexible work structure, and masculine culture. The primary challenge for women to remain in the construction industry was identified as the culture. The proposed solutions by the authors included support programs, recruitment, retention, and training programs, partner with the construction industry and local agencies, role models and mentoring to enhance industry image, and create flexibility and changing the existing culture (Menches and Abraham, 2007).

Regarding the challenges faced by women in construction in developing countries, a few studies exist in the literature (Barreto et al., 2017); (English and Le Jeune, 2011); interestingly, one of these studies was done in Latin America. (Barreto et al., 2017) deployed a survey to construction workers in Peru to assess whether barriers previously identified in the literature were applicable to women to enter and advance in the context of the Peruvian construction industry (Barreto et al., 2017). Notably, it was found that men and women perceived existing barriers differently, while women acknowledged the presence of a male-dominated culture; men did not. Furthermore, aligned with the findings in studies done in developed countries, it was found that the key barrier to address is the existence of a male-dominated culture that translates into the absence of flexible work shifts, childcare support programs, and work-life balance (Barreto et al., 2017). The existing literature has been successful in identifying the primary challenges and barriers faced by women to enter and progress in the construction industry. Notably, one of these factors is the culture of the construction industry, which is unique for each country.

3. The case of women in chilean construction

According to the INE 2018, 41,4% of women participated in the workforce; in the construction industry, women represented 6.0% of the workforce (Instituto Nacional de Estadísticas. INE, 2019). Although the participation of women in Chilean construction is higher than other Latin American Countries (e.g., Peru with 4.1%), the percentage is still low when compared to developed countries, such as 8.9% in the United States; 12% in Spain (CChC, 2018). When looking at the progression of women in the construction industry see (Figure 1), a tendency to an increase in the percentage of women participating in the construction industry is observed, which is a positive sign of the evolution of the Chilean industry. Similar trends have been reported in developed nations. For example, in the United Kingdom, the percentage of women entering the construction industry increased from 16% in 2010 to approximately 26% in 2018 (Aboagye-Nimo et al., 2019). Of note, the main increase in the participation of women in the Chilean construction occurred between 2010 and 2013; however, between 2013 and 2018 the participation of women in construction has remained almost constant.

When it comes to factors to explain the higher percentages of women in construction, it has been suggested that the income needs from families, and an increased in the number of households with women as the primary source of income (CChC, 2016). Nonetheless, to the best knowledge of the author, no scientific study exists exploring challenges and barriers faced by Chilean women in the construction industry.

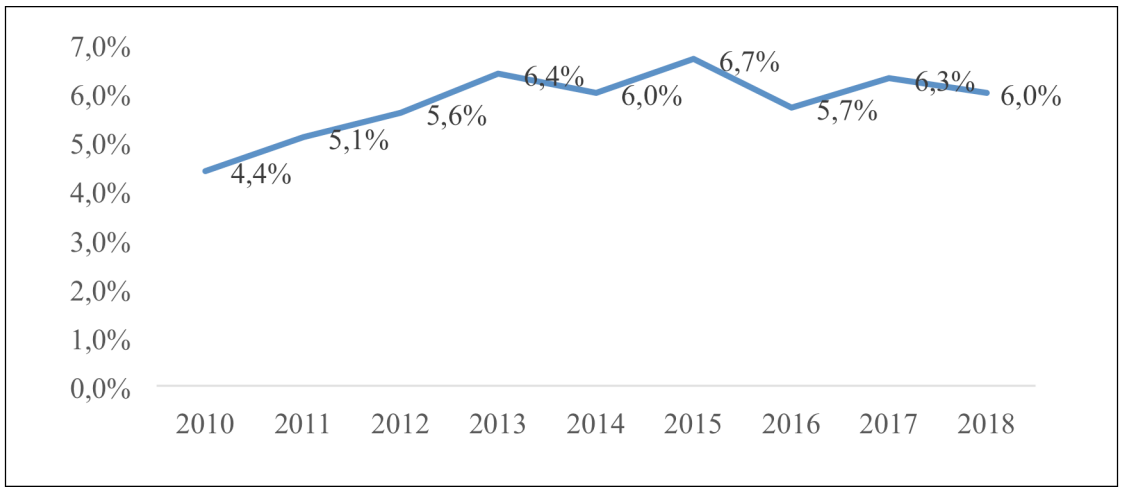

Figure 1. Percentage of women in the Chilean construction industry between 2010-2018 (source: Instituto Nacional de Estadistica de Chile)

4. Discussion

4.1 Where is Chile Compared to the Existing Literature

The purpose of this study is to benchmark where the Chilean construction industry stands regarding challenges and barriers faced by women to enter and progress compared to other countries based on the existing literature. Although compared with some countries of the region (e.g., Peru), more Chilean women participate in the construction industry, but when compared to developed nations (e.g., the United States), the Chilean industry remains behind.

First, the primary source of information concerning the participation of women in the Chilean construction industry relates to the percentage of women within the industry, which is an essential indicator for understanding women's participation in the construction industry. Nonetheless, when compared with the existing academic literature, limited information still exists regarding challenges and barriers faced by women in the construction industry. One of the main lessons learned from benchmarking the Chilean industry with the international literature is that we, as a research community, need to develop more studies to identify and assess existing challenges and barriers faced by women in the Chilean construction industry. An idea to follow up on this recommendation may be to deploy surveys to construction companies asking them about barriers and challenges women face. As such, the results that are obtained might be statistically representative of the Chilean industry.

Second, based on the existing literature, the challenges women face in the construction industry can be separated into two areas, recruiting and retaining women in construction engineering management programs at schools (1), and recruiting and retaining women in construction jobs (2). Furthermore, the existing literature already offers recommendations about how to address existing challenges at each level; interestingly, alternatives are culture-dependent; thus, implementing such alternatives is going to be highly influenced by the local context of the construction industry e.g., (Galea et al., 2015). Consequently, it is recommended to study the feasibility of existing recommendations to be implemented in the Chilean industry. Interesting to notice, it has been emphasized that during the implementation of new programs and changes to the construction industry, the cooperation, and involvement of significant stakeholders in the industry is key, such as the government, construction clients, construction organizations, and industry associations (Sunindijo and Kamardeen 2017). Furthermore, limiting the implementation of programs and changes to a few organizations is likely to generate problems for these organizations, as these few institutions may have to go against the status quo of the construction industry (Sunindijo and Kamardeen, 2017).

It is also recognized that some initiatives to encourage the participation of more women in the Chilean industry have been developed during the last years, especially by the Chilean Chamber of Construction e.g., (CChC, 2019). However, the author of this study suggests that first the existing challenges in the Chilean construction should be identified, so programs can be tailored to the needs of the Chilean industry as regional differences may play a role in the implementation of programs as the level of participation of women drastically differ by region in Chile. For instance, although the national average of women in construction in 2018 was 6.0%, in the case of the region of Arica y Parinacota, the percentage of women was 0.48% (CChC, 2018).

Although limited progress has been made in helping women to manage existing challenges and barriers in the construction industry, it must be recognized that the Chilean industry and local authorities have identified the issue of low participation and retention of women in the construction industry, and some initiatives have been undertaken. Similarly, it is also important that as a research community, we recognize and work toward having a deeper understanding of existing challenges and barriers faced by women in Chilean construction, so that we can work toward a more equitable construction industry.

4.2 Existing Recommendations as a Point of Departure

In the literature, different studies have provided multiple recommendations to address existing occupational segregation in the construction industry e.g., (French and Strachan, 2015); (Galea et al., 2015); (Menches and Abraham, 2007). These recommendations are discussed here, so these can be understood as a departure point for the challenges existing in the Chilean construction industry.

One of the first studies to emphasize the importance of providing recommendations to overcome existing gender segregation in the construction industry in the United States was written by (Menches and Abraham, 2007). These authors provided multiple recommendations to encourage women's attraction and retention in the construction industry. For instance, to explore how feasible it is to apply support programs, recruitment, and retention programs, partner with the construction industry and local agencies, find role models, and mentors, pay attention to the role of internships in construction. Ultimately, it was emphasized that creating flexibility, changing the existing culture, and the image associated with the construction industry are required to attract and retain more women into the multiple levels of the construction industry. Similarly, in the United Kingdom, (Aboagye-Nimo et al., 2019) after studying large construction firms proposed the following recommendations to accommodate more women in the construction industry: More work flexibility, providing caregiving support, maintaining a connection with past employees, recruiting and rehiring ex-employees, and implement a supportive organizational culture. Notably, the authors discussed that such recommendations primarily focus on the entrance and retention of women at the initial stages of their careers in construction and that new challenges appear when women gain seniority in the industry (e.g., not being taken seriously for their contributions). Therefore, future studies and recommendations will be needed in this regard.

Interestingly, existing studies have pointed out that it is also necessary to assess the outcomes and effectiveness of gender equality policies in the construction industry (French and Strachan, 2015); (Galea et al., 2015). They studied the robustness and revisability of rules and policies concerning gender equality in two Australian construction companies. In terms of the robustness of the policies, it was found that policies that emphasize gender equality purely as a women's issue rather than involve both genders had a negative impact on policies' robustness. Additionally, the lack of consistency in implementing and enforcing gender policies contributes to the limited effectiveness of these policies (Galea et al., 2015). When it comes to the revisability of policies, little work has been done to manage and adapt to changes in policy implementation; so far, construction companies expect 'one size fits all' policies being able to face the complex challenge of gender equality (Galea et al., 2015).

Similarly, (French and Strachan, 2015) studied equal employment policies implemented in 83 organizations in Australia. The authors found that there is a range of alternatives to implement equal gender policies in the

Australian construction industry. Interestingly, most of the alternatives implemented are limited to meet the equal opportunities requirement by law; however, few organizations implemented alternatives to treat women as a group of workers to address existing disadvantages (French and Strachan, 2015).

5. Conclusions

This study contributes by benchmarking the international literature regarding the occupational segregation of women with the case of the Chilean construction industry. Although the Chilean construction industry showed a higher level of women participating in the construction industry when compared with other Latin American countries (e.g., Peru), when compared with developed nations (e.g., the United States), the Chilean industry stays behind in women's participation. In this study, the author found that the international literature has identified multiple challenges and barriers, and recommendations have been proposed to tackle such barriers; however, in the Chilean construction industry challenges and barriers have not been identified yet. This study aims to bring to the attention of the Chilean construction research community the need to pursue a deeper understanding of the problems women face to enter and progress within the construction industry. Giving attention to these problems is not only relevant from the perspective to alleviate unnecessary challenges and barriers faced by women in the construction industry but also in understanding women as an untapped resource to meet industry challenges, such as higher demands for skilled workers and reduce employee turnover costs.

Finally, as with any study, this one has limitations. The recommendations presented in this study are based on the existing literature, which has been primarily developed in developed nations, as such, future studies should identify whether challenges discussed in the international literature are applicable to the Chilean construction industry as well to explore potential additional challenges and barriers specifics to the culture of the Chilean construction. Moreover, the recommendations existing in the literature should also be tested for their effectiveness in the Chilean context. As discussed in this paper, the different conditions faced by each Chilean region may play a role in influencing how effective programs might be.

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