

A PARTICIPANT OBSERVATION STUDY OF GENDER DYNAMICS ON CONSTRUCTION SITES

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While the working population of women in the UK is 47%, in construction this drops to less than 10%. There are significantly more women working in a professional than operative capacity. This has led to investigations into why women do not enter the industry, and why they leave it. However, too little work has been done to explore the day-to-day experiences of professional women whilst employed in construction, particularly those in site-based roles. This paper details the findings of participant observation on a £16M construction project in Scotland between June 2017 and March 2018. The site employed an average of 30-40 workers per day and the researcher, who was employed as a trainee student engineer, was the only woman in a site-based role at the time of the study. Via Kanter's theory of tokenism, the research considers a number of issues surrounding the presence of women on construction sites. The results highlight the issues of traditional gender role assumption and the objectification of women that need to be addressed and changed to aid the industry in encouraging, welcoming, and retaining more female operatives into the sector whilst gaining a better gender balance in the workplace.

Keywords: careers, ethnography, gender, participant observation, women

INTRODUCTION

There is a lack of female employees within the construction sector and a growing need to gain a better gender balance (Goodrich, 2016). In the UK, females account for 9% of engineers and 2% of construction workers (WES, 2014). An increase of women into the sector can bring many benefits, such as: more innovative problem solving; improved productivity alongside a more cohesive working group; and alleviating skills shortage within the industry (Agapiou, 2002). Current research has led us to understand and appreciate some of the issues that women face entering the construction industry, and why they leave. However, there is still a large research gap when considering the lived experiences of women in construction.

This paper will first introduce and explore current understandings of women within the construction industry, before detailing the ethnographic research approach used. Within the findings and discussions section the data will be presented as three themes: mentoring; traditional roles; and objectification. The conclusion will highlight suggestions for further research and industry.

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Background

Construction currently has a greater ratio of men to women in both professional and operative roles. In a Western European comparison, Byrne *et al.*, (2005) found that countries which focused on qualifications rather than experience had greater levels of female participation. Further, when compared to their male counterparts, they found that women find it harder to enter the industry, and to gain additional qualifications when working due to family commitments. Similarly, Fouad *et al.*, (2017) concluded that women would be more likely to leave the engineering sector if their needs in achievement, status, and comfort are not met. The results noted that a demanding work environment played a crucial factor in their decision to leave the industry.

Respondents felt that workload and travel expectations within engineering impact on family life, particularly for women with young children. Dainty *et al.*, (2010) also found that such work and family conflicts led women to progress at a slower rate than their male counterparts. Further, in a study of work-life experiences, Lingard and Francis (2004) found that long working hours, high levels of conflict and emotional exhaustion resulted in family issues. Women participants reported significantly better home life relationships than their male counterparts. Surprisingly, their findings suggested women who are site based do not experience greater difficulty than office based staff in regards to work-family interference.

Employment conditions are critical to retention, specifically the wage structure. Men are often afraid that women will reduce overall pay rates (Byrne *et al.*, 2005), and women can also be seen as added competition and a threat (Dainty *et al.*, 2010), both of which can result in exclusion and poor retention levels of women in the industry. Worral *et al.*, (2010) found an overarching perception that women are initially seen as being less capable or are assumed to be working in administrative roles. In addition, Agapiou (2002) and Eisenberg (1999) both found the perception that women should not be involved in structural aspects of the construction site, as this is deemed to be “too dirty”. Instead, women should be involved in the finishing trades, which are considered more feminine. It is suggested that to retain women in the industry then, “there are fundamental attitudinal changes towards non-traditional entrants” (Dainty *et al.*, 2010, 11).

Thus, there are barriers to women entering the industry, and limited ideas of the types of work they may carry out. The research presented thus far does not however describe the situations which women are faced with on a day-to-day basis when working in construction.

LITERATURE REVIEW

Assigning Gendered Roles

With an increase of women being attracted into construction (Office for National Statistics, 2017), one of the main obstacles that women must overcome is ‘macho’ attitudes that are found here (Gale, 1994). Agapiou (2002) suggests that men assign gendered roles to women often through the means of smart remarks. In response to this, the women that he interviewed thought that “[women] who cannot take a joke should not be on the site” (9). In her analysis of women in the military, Herbert (1998) found a similar situation, highlighting the presence of a gender ideology which was used to define whether a particular gender is suited/appropriate to complete a job. She also noted that women in male-dominated sectors must develop strategies to cope with the hostile working environment that can be posed by their male colleagues.

Through interviews with women engineers, Fouad *et al.*, (2016) found that feelings of being an outsider to the “boys club” contribute to women leaving. Whilst many believe that women are subjected to traditional roles it has been found that there are different communication methods by both genders. Loosemore and Galea (2008) found that the difference in communication stems from childhood and continues on to adulthood. Male communication can be characterised by interruption where there is a focus on orderly conversation and fending off interruptions by speaking over the person. Between women, conflict can be characterised by fewer monologues which symbolises solidarity rather than individualism, and there are lower levels of conflict when a woman was present. Thus, an increase in women could have a positive impact on the communication and leverage aspect of the construction industry.

Objectification and Harassment

Tran (2016), who has the distinct perspective of being a transgender woman, suggests that men are subconsciously taught to objectify women from a young age. She suggests that the media portrays women as a prize or reward to be gained after being "chased", and notes that this characterisation might encourage men to mistreat women. Saguy *et al.*, (2010) explored the consequences of the objectification of women by men and how this can impact on their social behaviours. They note that objectification can lead to women narrowing their social presence which can hinder performance in mixed sex situations such as the workplace. Objectification can also impact on women's mental health. Objectification may be ingrained in some cultures, reinforced by media stereotypes, teaching, and upbringing as experienced by Tran (2016); but, as concluded by Saguy *et al.*, (2010), its effects are quite often real and lead to issues that go further than just workplace dynamics.

Hoffer (2017) identified how two female construction workers were sexually harassed in various forms, including men exposing themselves, stalking, and sexist comments. Meanwhile, Alderson (2017), shows an incident where a client took hold of a female architect and made his sexual intention clear; this led the architect to worry about the repercussions of saying no. However, Powell *et al.*, (2006) found that women were reluctant to admit that they had been discriminated against and further justified the actions of their colleagues. They also found that women were less likely to report sexual harassment due to the perceived impact it may have on their career. In a survey by Opportunity Now it was found that, of women within the construction industry, 22% and 59% have been sexually harassed and bullied; and harassed excluding sexual harassment, respectively (Nawrockyi *et al.*, 2014). Indeed, with a sexual harassment rate of 59% (*ibid*) there is much to improve about the image of construction to be able to gain a better gender balance. Sexual harassment within construction can tarnish the image of the industry, and lead people to leave it completely, contributing to the perception of the construction industry as a male environment.

Supporting Women in Construction

Both Francis (2017) and Parker (2016) researched the effect of mentoring and networking on the progression of women's careers. Their findings are in agreement suggesting that networks and mentoring do retain women within the industry but they do not advance women's careers. They explain that good early experience, further education and a company with a greater gender balance will influence women's career advancement. The studies don't take into account women that have left the industry after having children. Bigelow *et al.*, (2016) however found that mentoring was a

positive influential factor in the retention of female construction management students. Worrall *et al.*, (2010) found that an increase in CPD training and the availability of mentors and networking events would help in the retention of women. However, a lack of mentoring in the workplace can lead to feelings of isolation and marginalisation within the company which leads to a lack of ambition to advance.

RESEARCH QUESTIONS

Whilst previous research has let us understand some of the challenges that women face entering the construction industry, and why they leave, there is still a large gap in the research when considering the lived experiences of women in construction. The identified research questions are as follows:

- Does having a woman on a construction site affect the working relationships?
- In what ways might women be treated differently on a construction site when compared to their male counterparts?
- What might be done to improve the inclusivity of the workplace in construction?

METHODOLOGY AND METHOD

The research here provides an insight into the dynamics and workings of a construction site; as a woman training to be an engineer, the researcher was granted an opportunity to undertake participant observation during which she was both a trainee, and the only woman on site. Participant observation is a method of data collection whereby the researcher immerses themselves within the environment to study the cultures and practices that through observational methods (McKechnie, 2008).

Fetterman (2008) states that “participant observation characterises most ethnographic research” (6). Observational research allows the researcher to check for non-verbal interactions and to experience fully the interactions between people that would not necessarily be possible through alternative approaches, such as interviews (Kawulich, 2005). Some of the advantages of this approach include (Kawulich, 2005):

- detailed descriptions of interactions and situations
- unseen viewpoint of the environment that the researcher is interested in
- improves the quality of data collection which can facilitate new research questions

The method has started to gain traction in the construction industry - particular examples being Pink *et al.*, (2013), Best (2012) and Oswald *et al.*, (2018) who have used it to generate fresh insights into the social and cultural aspects of construction sites. It also allows a detailed description of the events which occur, giving the reader a fuller appreciation and understanding. For this project participant observation allows an in depth and first-hand look into the experience of a woman on a construction site. The researcher’s role as a worker makes this approach similar to an autoethnography; however, being also a student engineer meant that she was not an already established member of the study community.

Research Approach

The researcher was employed on a £16M district energy network construction project in Scotland between June 2017 and March 2018. Works included the installation of district heating pipework and the refurbishment of an existing energy centre. The site employed approximately 30-40 workers per day, with a demographic of males aged 18-72. Research was undertaken using overt observations whilst employed as a

female student site engineer, the role consisted of general site management duties, providing permits to work, overseeing sub-contractors and maintaining health and safety on site. The code of ethics that ethnographers must adhere to specifies that no harm is to be caused, neither to the people nor the community under study (Fetterman, 2008). Consequently, access to the site and informed consent was gained from the gate keeper, in this case the project director and research ethics approval was granted by the university; all names have been changed to preserve anonymity.

Data Analysis and Theoretical Framework

Traditionally, data is recorded in the form of field notes, which are written up away from the subjects of the research (McKechnie, 2008). In this project the data was recorded as soon as possible after the event had taken place, either in a notebook or on a mobile phone, which the researcher was seen using on site. At the end of the day, the field notes were expanded on and inputted onto the computer. Kanter's theory of Tokenism (1977) has provided the framework for analysis. Kanter argues that an imbalance of groups creates preconceived perceptions of tokens by dominants; a dominant is someone from the majority group, whilst a token is someone from the minority group. In the case of construction, this is male dominants to female tokens. Kanter's theory is split into three themes: visibility, assimilation, and polarisation.

Visibility is where tokens capture a larger awareness share from dominants, and Kanter found that tokens try to minimise their visibility. Whittock (2002) however, in a study of women in non-traditional roles including construction suggests that some tokens utilise their visibility through performance pressure by either over performing or dropping out.

Kanter (1977) demonstrates assimilation in relation to stereotyping, for example, the use of the stereotype of men as protectors in order to retain dominance. Assimilation within UK engineering culture was explored by Powell *et al.*, (2006) when considering the achievement of critical mass. There is an argument that once a critical mass ratio is achieved there can be a shift in tolerance of difference and a change in women's token status. Powell *et al.*, (2006) question whether this is achievable in terms of women in construction. They conclude that the key to change is the support of persons in structural positions of power, who act as gatekeepers and thus either deter women from entering or encourage conformity to masculine engineering culture.

Finally, polarisation is where there is a tendency to exaggerate the differences between dominant and token groups. Kanter (1977) found that tokens in non-traditional employment may act in accordance with the majority group and thus reinforce rather than challenge the dominance of the majority group. For example, positioning women as outsiders reinforces men as the dominant group. Whittock (2002) utilised this theoretical framework in her analysis of women's involvement in manual trades. She found that women act in accordance with Kanter's ideas and that being thick skinned, having a sense of humour and being 'one of the boys' are key to succeeding in non-traditional employment.

FINDINGS AND DISCUSSION

The following data present early compilations from the participant observations made on site; these are explored according to three themes which have emerged from the analysis: mentoring and visibility, assimilation through traditional gendered roles and objectification as a consequence of polarisation.

Mentoring and Visibility

With mentoring comes the idea of protection by senior figures; this became clearly apparent whilst the researcher was eating dinner with fellow workers:

Dinner had been eaten and the plates taken away when the conversation moved on to how Harry wanted to take me under his wing to mentor me. It was at this point when he turned around to Ron and let him know that he was no longer mentoring him but me instead. This did not go down well with Ron who put up a bit of a tantrum and was not a fan that I was the “new favourite”. (Field note no.3)

Harry in this instance is showing his preference for the female mentee with Ron not being happy about being let go. The following vignette shows how having a mentor to guide and teach enhances the learning of the student.

I had finished taking measurements on site so went back to the office to draw the elevations up on CAD. Once I was done I sent them off to Ron who came back saying that they were fantastic and that he would pass them on to Harry. (Field note no.9)

Here the researcher had been left with a task which was completed and sent to Ron for approval who then passed the work on to the mentor. Bigelow *et al.*, (2016) found that mentoring was a positive influential factor in the retention of female construction management students and this was found to be true with positive reinforcement. Nevertheless, during the researcher’s time on site, this positive reinforcement extended to protection:

It started raining and Rob asked if I wanted to stand under the umbrella so I didn’t get wet, I said no as its only rain and that I wouldn’t melt, Peter said I don’t want you catching a cold I could see that he was just protecting me from the rain. (Field note no.1)

Here, the operative is offering the researcher protection from the rain in the form of his umbrella. This demonstrates the heightened visibility of the researcher, who, as the only female on site, receives additional focus. In this case it is a positive reinforcement of heightened visibility through the application of mentorship and protection shown by colleagues. It was felt that having a mentor helped the researcher in understanding the industry and the day to day practices of working on a live construction site. This also meant that the researcher had someone of whom they could ask questions, expand their knowledge and thus could help to progress within the company. This is contradictory to Parker (2016) and Francis (2017) but in keeping with the findings from Bigelow *et al.*, (2016) with the positive influence of mentorship on the progression of female careers. Despite these positive mentoring experiences, there were also elements of assimilation regarding traditional gendered roles.

Assimilation through the Assignment of Traditional Roles

Traditional roles for women in construction often consist of administrative duties. Observations suggest that this idea persists in different aspects of work on site as demonstrated in the following case:

I started to gather cups up one at a time till my hands were full when a guy, who I had met only the day before, placed his cup at the end of his desk and nodded at me. I responded with ‘I’m washing up not making a round’. Muttering under his breath, he replied, ‘but that’s what women do’. (Field note no.3)

Assimilation is evident here as there is the stereotyping of a woman working in the kitchen. This is just one of the attitudes that women working in the industry must overcome to succeed. The assignment of gender roles was not just confined to relaxed

informal exchanges but was experienced in a more formal setting between the researcher and a sub-contractor, for example:

I was sat minding my own business when Dave a subcontractor came into the office. The conversation had started about the work that was going on and then he turned to me. He started asking me questions about why I was here and what I was doing in construction. I turned this around on him by asking if I should be on a construction site as a female, to which he answered that women should not be on construction sites in the first place. (Field note no.19)

This vignette shows how some of the men in the industry still believe that women should retain traditionally observed female roles, away from the construction site. Similar ideas were seen elsewhere, for example, when the mentor suggested that he and his assistant needed a woman on the team to keep them organised. Observations also suggest that ideas of women's roles as administrative duties still persist within construction:

Simon ended up screwing it up and couldn't sort it so Dave said "Don't give a man a woman's job" and proceeded to come over and ask me to print the drawings properly. (Field note no.22)

Similarly every now and then Jack would come out of the meeting room and ask me where specific pieces of paperwork were as he had no idea. (Field note no.26)

In another instance both Simon and Duncan turned around to me and asked if I was the new Linda doing the admin and ordering side of the job. (Field note no.33)

A further example, Harry turns around and says, 'I don't want to treat you like a secretary but can you print this off for me?' 'Well it seems like I'm PA to everyone else so why not you?' (Field note no.34).

The assumption in these cases seems to be that women are most suited to organisational roles, whilst men are more suited to the technical aspects of the job. The notion of women specifically organising men also alludes to women nurturing men and enforcing gender stereotypes. Assimilation is evident here with the stereotyping of the researcher's social type; this can lead to role entrapment. These data are in keeping with Herbert's (1998) finding of gender ideology within the workplace. Whilst there is an increase of women into the industry there are still the traditional thoughts on the jobs that women should be undertaking. Beyond ideas of the roles that women should play, the researcher experienced challenges with objectification whilst on site.

Objectification as a Consequence of Polarisation

Objectification was a regular occurrence for the researcher within the construction environment:

I was just heading up to the site to put up banners and posters for an impending inspection. There were lots of people milling about but there was one man that caught my eye. He must have been in his 50's and 6ft tall. He had been staring at me from when I had been about 50m away till after I passed him. It was a creepy feeling that I could not shake and made me feel like I shouldn't be there. (Field note no.1)

Another example of this was on the way back from site when the researcher walked past another construction site where two men in their mid-20s were on scaffolding. As the researcher walked towards them and then past they both stopped their work and watched. The researcher avoided eye contact and kept her head down (Field note no.8). Here the researcher was stared at whilst walking along the street by two operatives from another construction site. In another instance, on the way into work the researcher noticed a sub-contractor staring at her as she hurried into the office.

These were not isolated incidents but rather an accumulation. These events fit with the notion of polarisation and could perhaps be brushed off as the type of actions that just require a sense of humour or 'thick skin' to manage. Although these events might be perceived as insignificant, the problem can shift into harassment:

Me and Pete were stood in the living room looking out of the windows at the snow when he turned to me and said, "You could get me into a lot of trouble you could" with a smirk on his face while he put his arm round my waist. It was at this point that I froze. I couldn't move and just awkwardly stared out of the window. When we sat back down at our laptops he apologised for making me feel uncomfortable. (Field note no.47)

However, Pete reiterated his desires later in the evening:

We were stood at the lift waiting for it to arrive when Pete put his hands on my hips, turned me towards him more, and drew me in. He looked at me and as he said, "you know you're hot, really hot" I looked away. I froze. I couldn't move, I couldn't do or say anything. He said "you are. Slap me if I'm being bad. Go on." (Field note no.47)

This is another example of unwarranted attention and physical contact with the severity of the incident increased. In both of these instances there was unwanted physical contact with inappropriate comments. Saguy *et al.*, (2010) explored the consequences of when women are objectified by men and how this can impact on their social behaviours. Objectification can lead to women narrowing their social presence which can hinder performance in mixed sex situations such as the workplace, and objectification can negatively impact on women's mental health. Both of the incidents documented here happened in a cohabitation environment and they highlight that sexual harassment is still apparent between co-workers even if not on site. They show that inappropriate behaviour can manifest when people simultaneously work, socialise, and live together. The construction industry creates this unique environment for its workers due to the nature of the jobs whereby the working environment is temporary until the completion of the projects. Cohabitation is common practice within the industry, and these examples raise concerns about what happens when men and women who work together also live together.

CONCLUSION

This study has highlighted that there are issues on site which need to be addressed before the gender balance of the construction industry can improve. The data analysed highlight the themes of mentoring and visibility, assimilation of traditional roles, and objectification. It has been identified that when women are present on construction sites there is a change in behaviour and treatment, whether this be staring or making inappropriate comments. If these issues are not addressed then the gender imbalance will continue and the industry will suffer due to not being inclusive of 50% of the population. As a non-executive director has said "It's this kind of culture on site that make many people say, 'I wouldn't want my daughter working there'," (Alderson, 2017). To address this, further awareness of the issue is required and implementation of appropriate training for all in the industry to understand what is and is not acceptable.

In her analysis of Kanter's theory, Zimmer (1988) suggests the major failing is that there is no acknowledgement to the degree in which organisational structures are embedded in a broader social construct. Zimmer also concluded that for women, the reality of sexism is a larger issue than that of tokenism and policies which do not address both are bound to fail, and that the consequences for women as a minority group are different than those for men as a minority group. Clearly sexism is a much

larger and broader issue and warrants a much more systematic analysis than provided here. Such an analysis could incorporate an understanding of the distinction between institutional, individual or on-site sexism and whether this is formally or informally sanctioned.

This research has set the foundations for further study into what happens within the industry for women. While this study was restricted to the Scottish construction industry; future work should include a further in-depth investigation on construction sites in different contexts, and with varying levels of female representation. It may be beneficial for future research to use participant observation through the position of a construction worker rather than a member of site management. It is also vital that any research conducted should be done so by a woman as only then can the issues faced be fully understood.

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