Licentiate Thesis in Industrial Engineering and Management

Building Safety in Relation to Homosocial Practices

– a Study on Workplace Culture in the Construction Sector

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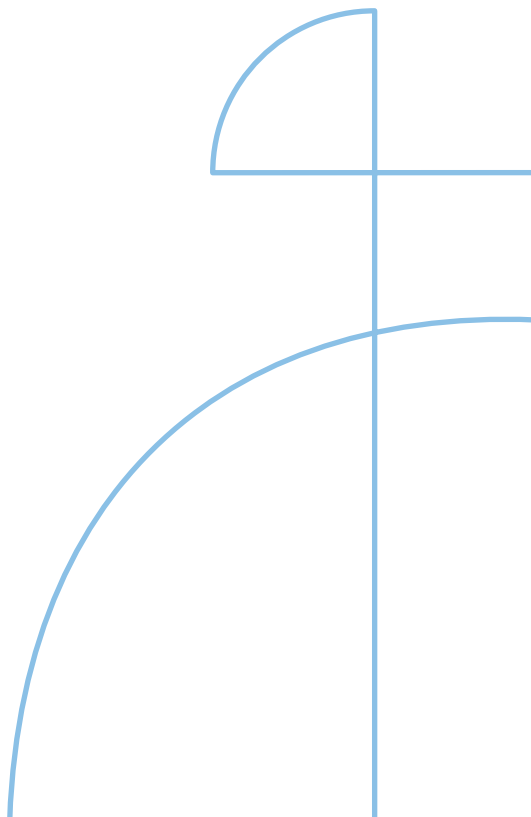

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Abstract

The Swedish construction sector suffers from a high number of accidents and the persistence of a homosocial workplace culture in which masculine attributes are central. Despite growing awareness that these tendencies are interrelated, the circumstances persist.

In response to these two problems, the aim of this licentiate thesis is to explore the dynamics between homosocial practices and safety practices at construction sites, and the implications these might have for workers' and site management's workplace culture.

To facilitate this exploration, a sequential mixed-methods design based on semi-structured interviews and a cross-sectional questionnaire study was deployed. A theoretical framework synthesising theories of safety, homosociality and masculinity was used to analyse recurring practices at four construction sites across two construction organisations.

In brief, the research questions concerned characterising recurring homosocial and safety practices (1 and 2), and what implications the interplay between these have on the workplace culture (3).

The thesis has three main contributions. First, it demonstrates how homosocial practices can persist even as the workplace culture undergoes a transformation towards becoming more accepting of expressions of care. Second, it shows how homosociality and safety intersect with each other through men's efforts to align their safety practices with those of other men. Through these practices, men seek to pursue and demonstrate their own maturity. Finally, the thesis links changing masculine ideals with a changing safety culture through homosocial practices.

For practitioners, a key implication is that efforts to sustain a robust safety culture can shape prevalent homosocial practices through a dialectical relationship, where these practices also influence the safety culture. However, top-down approaches to fostering a culture centred on care and strong safety practices face limitations. These include ambiguities in how care for fellow construction workers is interpreted, as well as the project-based nature of the construction sector. To address these limitations, it is important to emphasise collectiveness alongside self-care. Cultivating such a shared understanding of safety priorities may incentivise homosocial practices that strengthen safety performance.

Keywords:

Construction Sector, Safety, Safety Culture, Gender, Homosociality, Workplace Culture

Sammanfattning

Den svenska byggsektorn kännetecknas av ett stort antal olyckor och en homosocial arbetsplatskultur där byggarbetare bevisar sin manlighet bland annat genom att ta risker. Trots en växande medvetenhet om sambandet mellan olyckorna och kulturen består problemen.

Därför är syftet med denna licentiatavhandling att undersöka dynamiken mellan homosociala praktiker och säkerhetspraktiker på byggarbetsplatser, och vilka konsekvenser dynamiken kan ha för byggarbetarna och platsledningens arbetsplatskultur.

En sequential mixed-methods design som bygger på semi-strukturerade intervjuer och en tvärsnittsstudie användes för att besvara syftet. Ett teoretiskt ramverk som använder bygger på säkerhet, homosocialitet och maskulinitet används för att analysera återkommande praktiker i två byggföretag.

Forskningsfrågorna berörde de återkommande homosociala och säkerhetspraktikernas karaktärer (1 & 2) samt vilken betydelse dessa har för arbetsplatskulturen.

Avhandlingen har tre bidrag till framtida forskning och praktiker. För det första belyser studien hur homosociala praktiker kan bestå samtidigt som arbetsplatskulturen förändras och mer öppet upphöjer uttryck av omsorg som statusbärande praktik. Det andra bidraget är att avhandlingen beskriver samspelet mellan homosocialitet och säkerhet genom att visa hur manliga byggarbetare strävar efter att koordinera sina säkerhetspraktiker med andra män. I denna dynamik, som formas av åldersbaserade förväntningar mellan män, försöker byggarbetare uppnå och visa sin egen mognad. Slutligen visar

avhandlingen att förändringar i säkerhetskultur på byggarbetsplatser kan kopplas till förändrade maskulina ideal genom homosociala praktiker.

En viktig slutsats för praktiker och yrkesutövare är att medvetna försök att förändra homosociala praktiker genom att utveckla en stark säkerhetskultur begränsas av flera organisatoriska och kulturella faktorer. Dessa faktorer är bland annat den tvetydighet som finns i hur omsorg uttrycks bland byggarbetare, samt hur sektorns projektbaserade struktur begränsar långvariga försök. För att bemöta dessa begränsningar i säkerhetsarbetet lyfts vikten av att omsorg och ansvar omfattar både omsorg mot sig själv och sina medarbetare. Om en sådan dubbel förståelse av omsorg skapas kan det möjliggöra homosociala praktiker mellan män som stärker deras gemensamma säkerhetsarbete.

Nyckelord
Byggsektorn, Säkerhet, Säkerhetskultur, Genus, Homosocialitet, Arbetsplatskultur

Tack!

Att skriva en avhandling innebär perioder av ensamhet och hårt arbete. Ändå hade detta arbete aldrig kunnat bli verklighet utan människorna och organisationerna i min omgivning. Det jag har kunnat utforska, tänka och skriva har varit möjligt tack vare er. Oavsett om bidraget har varit att kirurgiskt bryta itu svaga argument i en text eller att dela en fikastund på en trött måndagsmorgon, spelar det ingen roll. Vilket bidrag ni än gav är jag djupt tacksam för ert stöd. Men det finns några jag vill tacka särskilt.

Först vill jag rikta ett stort tack till SBUF, som stått för studiens finansiering. Utan deras stöd för forskning med målet att förstå hur byggarbetsplatsers kultur samspelar med säkerhet hade denna avhandling helt enkelt inte existerat. Jag är mycket tacksam över att jag har kunnat få bidra till något så viktigt.

Likaså vill jag rikta ett varmt tack till alla byggarbetare, platsledningar och den organisatoriska ledningen på de byggföretag jag getts tillåtelse att genomföra min studie. Er gästvänlighet, frikostighet och passion för att göra byggarbetsplatser säkrare och mer inkluderande har präglat allt jag gjort och skrivit. Jag är djupt tacksam för ert deltagande, och jag hoppas att resultaten från avhandlingen kan leda till något gott

Därefter får jag tacka KTH och Högskolan Dalarna för att jag har kunnat studera, arbeta och forska som doktorand. Det har varit ett fantastiskt äventyr, vare sig i Borlänge eller Stockholm.

Jag är väldigt tacksam för stödet från mina handledare, Johann Packendorff och Annika Vänje. Era kloka ord och råd har sporrat och utvecklat mig på, så jag till slut har kunnat hitta en väg framåt. Vare sig Annika skött

organiseringen av projektet, granskat mina texter eller med värme noterat en absurd preposition i ett utkast, har hon alltid förstått vad jag behövde som doktorand i just det ögonblicket. Och Johanns kloka kommentarer som belyser problem i texter, samt hur han organiserat det administrativa har varit avgörande för studiens utförande. Det har varit väldigt roligt att vara er doktorand, och jag ska försöka ta till vara era lärdomar framöver.

Sedan måste jag tacka mina kollegor på Arbetsvetenskap i Borlänge samt Industriell ekonomi och organisation (INDEK) i Stockholm för att vid olika delar läst och gett konstruktiv kritik av min studie.

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Sist vill jag tacka min familj för att ni har funnits för mig, vart jag än har varit fysiskt och mentalt. Tinna och Kasper har alltid varit där och trott på mig. Och då har jag ju kunnat tro själv, om två så bra människor gör det. Så tack för att ni är de ni är.

Men mitt djupaste tack vänder jag till dig, Sandra. Du har fått se mig euforisk och moloken, om och om igen, ibland på en och samma dag. Ändå har du varit där och hållit mig över vattnet med skratt och utflykter som rensat skallen. Du är bäst, och jag älskar dig!

List of publications

Article I:

Jörhall, M & Vänje, A. Homosocial communities at construction sites—a workplace culture in transition?

Under review for publication in Nordic Journal of Working Life Studies.

Article II:

Jörhall, M. Constructing maturity: safety and homosociality at construction sites.

Unpublished manuscript, to be submitted.

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1 Introduction

1.1 Background

In the Swedish construction sector the difference between life and death can be down to four bolted joints. In 2023 an elevator installed by subcontractors in Sundbyberg collapsed because four bolted joints were missing. Without them the rails failed after a month of use, causing the elevator to fall to the ground, and five construction workers' deaths (Statens haverikommission, 2024).

Who was responsible for the disaster? While the elevator subcontractors may be directly responsible due to an incorrect assembly, the lack of inspections for a whole month point towards failures across the construction project. In the construction sector multiple causal factors are usually involved concerning accidents, including access to equipment and project management (Haslam et al., 2005; Xu et al., 2024). Accordingly, the fall can be understood as the outcome of a project-wide breakdown in the safety system.

Unfortunately, fatal accidents continue to plague the Swedish construction sector, as according to the Swedish Work Environment Authority ten persons died in 2024. Between 2013 and 2022 the construction sector had one of the largest amounts of fatal accidents, with over 85 deaths (ILOSTAT 2025). Each year we can expect several construction workers to lose their life while working at construction sites.

These accident rates occur in a sector that is heavily gender segregated. In 2018 about 10% of all employees and 2% of all carpenters employed in Sweden were women (Byggföretagen, 2020). Moreover, in male-dominated workplaces the workplace culture tends to be deeply shaped by masculine norms (Cha,

2013; Reid et al., 2018). In male-dominated workplace cultures homosocial interactions, where men primary engages and pursues validation from other men, are influential.

Previous research has identified culture as an important hurdle to overcome when improving safety on construction sites (Han et al., 2021; Iacuone, 2005; Ibáñez Pascual & Narocki, 2012). Construction site workplace cultures have historically celebrated emotional restraint, risk-taking, competition and physical strength as masculine characteristics (Paap, 2006; Stergiou-Kita et al., 2015). These cultures have been described as macho or macho culture in the sector (Byggnads & Byggcheferna, 2024; Hanna et al., 2020).

The origins of the masculine workplace culture at Swedish construction sites likely stems from the guild system. The guild system, with its masculine-connoted master–apprentice structure and exclusion of women, fostered enduring male subcultures that persisted in workplaces long after the decline of the system (Edgren & Olsson, 1989; Johansson, 2006). This was especially true in mobile, physically demanding workplaces such as construction sites. Here, older men sought to perform a quiet but commanding role filled with knowledge, whereas younger men embraced a boisterous and humorous role. Nevertheless, older workers were deeply respected by their younger colleagues due to having substantial practical knowledge (Johansson, 2006). The role of apprentices and the importance of experienced workers remain a part of construction workplace cultures to this day. This is despite increased rationalisation in the construction sector through formalising knowledge and mechanisation (Schexnayder & David, 2002; Åmark, 1990).

As such, the masculine-connoted workplace culture seems to persist. In 2024 the Macho index questionnaire was distributed by the construction sector trade union Byggnads and the industry association Byggcheferna (2024). The questionnaire was based on the validated Masculinity Contest Culture questionnaire, which aims to measure the strength of masculine norms in organisations (Byggnads & Byggcheferna, 2024; Glick et al., 2018). The adapted questionnaire measures the prevalence of macho culture at workplaces, asking workers and site managers questions such as whether they can express emotions at work and whether strength is necessary to gain respect. The questionnaire result shows that 47% of the responders said that macho culture existed at their workplace (Byggnads & Byggcheferna, 2024). The joint questionnaire shows their recognition that the problem persists. It is

noteworthy that nearly half of their members viewed their workplace as dominated by macho.

Hence, the sector faces a situation where the negative consequences of a masculine-connoted workplace are known, including an increased risk of workplace accidents and injuries, yet remains difficult to change under the present circumstances.

A significant obstacle to implementing new policies and organisational values aimed at improving the working environment is that the prevailing workplace culture may lead employees to contest these efforts (Stergiou-Kita et al., 2015; Wright & Conley, 2020). The need to prove one's masculinity and retain status in a homosocial group is an important reason to resist reforms (Abrahamsson, 2009). Employers may also have incentives to informally encourage such a workplace culture, since it allows them to blame individuals over their own safety system and avoid juridical responsibilities (Paap, 2006).

Theories of homosociality are employed in this thesis to explore how men orient themselves towards other men and how the resulting homosocial workplace culture gatekeeps access by rewarding status-bringing practices (Holgersson, 2006; Lindgren, 1996). This frame is used to move beyond static notions of gender and workplace culture to explore what practices promote or constrain behaviours typically categorised as macho.

As such, there is need for research which focuses specifically on the relationship between safety, workplace culture and homosocial processes at construction sites. Researchers do examine correlations between sex characteristics and safety outcomes in the construction sector (Biswas et al., 2022; Curtis et al., 2018), and acknowledges the existence of masculine-connoted workplace cultures (Hanna et al., 2020), but most research on safety and the working environment in the construction sector does not analyse the impact that gendered social relations of power have on safety. As such, the notion that gender is socially constructed is generally ignored (Berglund et al., 2017). Likewise, there is also scant research in the construction sector that examines the social construction of gender in relation to safety at construction sites (Johansson et al., 2019).

The impetus of this licentiate comes from examining these two persistent dilemmas in the Swedish construction sector in relation to each other: the problem of making workplaces safer and the persistence of homosocial workplace cultures in the sector. These dilemmas drove SBUF to fund this

study, which was initiated due to a knowledge gap in the relationship between homosocial workplace cultures and safety in the construction sector. Following up on findings from a pre-study funded by SBUF was also funded, again by SBUF.

The pre-study examined a female-dominated construction site. An overall aim was to understand how women could contribute to a more innovative and inclusive sector. A key finding was that gendered construction site norms could be transformed through conscious efforts to improve gender equality (Vänje & Rönnlund, 2022). In addition to SBUF, two construction companies contributed to fund and support this study. Both of these companies pride themselves on having a rigorous safety system, yet found it difficult to understand why their workers continued to violate safety policies. This motivated them to support this project.

Finally, the thesis was written in association with the research programme known as "Men in focus – exploring homosocial cultures in organizations and developing methods to prevent sexual harassment". The programme aims at developing knowledge on the dynamics of sexual harassment in relation to homosocial cultures and how theses homosocial cultures can be changed with the participation of men.

1.2 Aim

The aim of this licentiate thesis is to explore the dynamics between homosocial practices and safety practices at construction sites and the implications these might have for the workplace culture.

Research questions:

1) What characterises identified recurring homosocial practices at the studied construction sites? (Article I)
2) What characterises identified safety practices and the workplace culture at the studied construction sites? (Article II)
3) What implications do the interplay between the identified homosocial and safety practices have on the workplace culture? (Article I & II).

1.3 Delimitations

The study focused on two construction companies in Sweden, specifically examining site managers and trade workers directly employed by these

companies. The focus was on exploring how homosocial practices intersect with local safety culture on-site rather than providing a broad overview at a sectoral level. Furthermore, this licentiate implicitly addresses social class and at times ethnicity, but it was not designed according to an intersectional framework. Moreover, while the licentiate deals with safety and homosocial practices, its primary focus is not on occupational health and safety outcomes.

1.4 The structure of the thesis

The remainder of the thesis is structured accordingly. The next chapter develops the context in which construction sites as workplaces are situated in Sweden. Chapter 3 develops the theoretical framework used in the thesis. Chapter 4 describes the research design, methods and the analytical strategy deployed. The chapter also provides reflections on the research design and the positionality of the researcher. In the following Chapter 5, a summary of apprehended articles is described. Chapter 6 features the discussion, where findings of both articles are integrated and the main contribution of the study is developed. The thesis concludes with Chapter 7, where the main contributions, practical implications and directions for future research are presented.

2 Context

2.1 The Swedish construction sector

Stieger and Form categorise (1991) construction companies according to size into three types: self-employed companies with no management levels; small companies with one or two layers of management; and large companies with at least three managerial levels. Smaller construction companies tend to have less resources for occupational health and safety (Arcury et al., 2014; Kines & Mikkelsen, 2003; Mills & Lin, 2004). Partly to counteract administrative and personnel costs, construction companies use subcontractors (Stieger & Form, 1991). Extensive use of subcontractor chains can lead to difficulties in maintaining oversight over the working environment (Ollus, 2020).

In Sweden numerous small companies operate locally, some mid-sized companies regionally and a few large companies nationally (Simu, 2020). In 2014 88 percent of all construction companies in Sweden had less than four employees and worked as subcontractors for larger projects (Berglund et al., 2017). The central competition is between large and regional-sized companies, where large companies contract small companies to match the competitiveness of the regional companies (Simu, 2020). As a result, the regional construction market may differ in wages and working conditions (Koch, 2020). The two companies featured in this study are regionally situated but with hundreds of employees.

2.2 The managerial structure of construction sites

Construction sites are usually led by site management, where a leading site manager oversees production while supported by foremen, engineers and quality assessors who handle costs and contracts (Thiel, 2012). Management staffing levels vary by project size, but site managers are often overworked with both supervision and administrative tasks regardless of scale (Styhre, 2011b). Full control over a construction site is difficult as the labour process is autonomous, complex and fragmented (Ahlstrand, 2022; Stieger & Form, 1991). Instead, building trust and stronger social relations with subcontractors and the workforce is essential to ensure that they can be trusted to complete their task in time (Hanna et al., 2020; Thiel, 2012).

For example, trust is crucial in managing uncertainty with subcontractor performance, as they may fail to deliver according to the contract. Consequently, the construction sector is rife with informal agreements to facilitate a smoother workflow (Ahlstrand, 2022). When formal contract enforcement is used to compel actors to follow basic instructions, it indicates a lack of trust (Thiel, 2012).

Establishing trust is also useful in the relationship between site managers and the workforce, whether workers are subcontracted or temporarily employed by main contractors. Site management aims to cultivate a working relationship with employees to ensure that the project follows the intended work process and that the goal is achieved (Thiel, 2012).

2.3 The development of the sector

The Swedish construction sector has historically been shaped by conflicts between the trade union movement and employers over wage systems, autonomy and working conditions (Åmark, 1990). An outcome of these struggles was a compromise to standardise working hours and a shift to monthly wages with fixed piecework rates. This maintained incentives for productivity increases while workers and employers could more easily predict wages and costs. As such, calculability became a shared norm amongst the industrial partners and the sector at large (Åmark, 1990).

Following these fights and compromises the social partners continue to support collective agreements and initiatives aimed at promoting fairer competition within the sector and improving the work environment (Larsson &

Ulfsdotter Eriksson, 2019). However, the state plays an important role in shaping the regulatory framework of the sector through the Work Environment Act (1977: 1160). This law mandates employers to ensure safe workplaces and empowers the Swedish Work Environment Authority to issue legally binding provisions and enforce compliance.

Key provisions include *Systematic Work Environment Management – Basic Obligations for Employers* [AFS 2023:1], which outlines how employers must manage and address workplace risks. The provision requires employers to continuously monitor the working environment for potential hazards, evaluate the risks, implement measures to eliminate or ameliorate these risks and evaluate whether the measures were effective. *Planning and Organization of Work Environment Management* [AFS 2023:2] specifies how this should be organised, emphasising both social and organisational work environment factors. *Risks at Certain Types of Work* [AFS 2023:13] identifies especially hazardous tasks, requiring employers to eliminate, ameliorate or reduce the impact of these risks.

Finally, the provision *Planning and Construction Work Environment Coordination – Basic Obligations* [AFS] (2023: 3) clarifies responsibilities for creating and maintaining the conditions for a decent working environment during the planning and designing phase of a construction project.

The Work Environmental Act (1977: 1160) is supported by the European Union Council Directive 89/391/EEC, which sets a minimum regulatory standard for the working environment across construction sites in Europe. These directives, however, provide limited opportunities for construction workers to influence their workplace (Nyström, 2020).

An important Swedish law for the construction sector is the Discrimination Act (2008: 567), which prohibits discriminating against individuals based on sex, transgender identity or expression, ethnicity, religion or other belief, disability, sexual orientation or age. The law does not address how different forms of discrimination intersect each other (Gunnarsson et al., 2023). The Equality Ombudsman (2020) reported that many construction companies conflated initiatives to counteract gender segregation with efforts to combat discrimination at their construction sites. As a result, their anti-harassment policies were often inadequate, as other forms of discrimination such as age tended to be overlooked (Diskrimineringsombudsmannen, 2020).

Such difficulties enforcing legal frameworks in the construction sector are made legible when considering how the sector is organised. Since construction sites are temporary, constantly changing and usually feature multiple subcontractors active at sites, the sector is fragmented between many actors (Simu, 2020).

Despite the fragmented character of the sector, efforts are made to improve the working conditions by companies and sector-specific actors. For example, in 2015 Byggnads and Byggcheferna initiated the project "Stoppa Machokulturen" which provided employers, construction workers and schools with tools aimed at describing macho culture and its social consequences in order to change social norms at sites (Byggcheferna, 2020). They also supported the #MeToo initiative #sistaspikenikistan, and have since backed projects aimed at reducing gender segregation and ending macho culture (Hansson et al., 2024). Another initiative was the Macho index questionnaire, which attempts to quantify and measure the persistence of macho culture at construction sites. It frames macho culture as causing accidents, corruption, gender inequality and recruitment issues. Since quantification of macho was justified – as it "makes it easier to see the problem" for site managers (Byggcheferna, 2025) – it reflects the sectoral tendency to address problems through calculability identified by Åmark (1990).

2.4 Common injuries and work environmental issues in the construction sector

Construction workers face physical, social and organisational working environmental problems that negatively impact their well-being (Berglund et al., 2017; Fang et al., 2006). The Swedish Working Environment Authority stresses that key to reducing working environment problems at construction sites is the maintenance of a systematic working environment management (2023). This involves investigating problems, assessing risks, implementing measures to eliminate or mitigate those risks and following up to ensure that the measures are effective (Arbetsmiljöverket, 2023).

Older construction workers are the most accident-prone group in the sector, followed by young construction workers (Afa Försäkring, 2022). For young construction workers, accidents leading to puncture wounds are the most common type of accidents, followed by machine-related incidents. Among older workers fall accidents are the predominant cause of accidents (Afa

Försäkring, 2017), with Berglund et al. (2017) identifying falls as the most common serious accident in the sector.

Years of hard labour negatively impacts construction workers as they age. Swedish construction workers experience substantial risk of losing work years due to disability retirement, particularly in their late fifties. The most common diagnosis for disability retirement were musculoskeletal diseases (Järvholm et al., 2014). However, construction work can also affect mental health. Long hours, intense job demands and inadequate recovery time increase the risk of burnout, accidents (Du Plessis et al., 2013) and suicide (Tyler et al., 2023).

Previous research shows that the working environment can vary depending on the type of construction project, company size, degree of training the workforce has, project planning and available resources (Arcury et al., 2014; Esmée Sinéad & Markham, 2019). Accidents with serious consequences are likelier to occur in smaller construction companies than larger one (Johansson et al., 2019). Maintaining a systematic work environment has become more complex at construction sites in general due to subcontracting (Berglund et al., 2017).

To be able to maintain a systematic working environment in these conditions, construction companies rely on statistical measures as indicators of site safety (Oswald, 2020). But assessing safety on construction sites is challenging, since companies often use lagging indicators as evidence that accidents do not occur. The problem with lagging indicators is that they are inherently reactive and only indicate problems with safety after something has happened (Oswald et al., 2018). However, explicit zero-death goals can backfire by discouraging construction workers from reporting accidents and near-misses, which otherwise would be useful information for improving safety systems (Oswald et al., 2018).

3 Theoretical framework

This chapter outlines the theoretical framework of this thesis. It features presentations of key concepts such as workplace culture, doing gender, gendered organization, homosociality, masculinities, safety and safety culture.

Workplace cultures dominated by masculinity can be framed as masculine workplace cultures, where practices aligned with masculine ideals are central (Glick et al., 2018; Pöllänen, 2021; Somerville, 2005). When masculine-connoted workplace culture changes, it is not a process of replacement as much as a gradual overlay between new and old (Somerville, 2005).

The analysis of the gendered nature of workplace culture, and of the concept 'culture' in general, as featured in this thesis, is informed by Schein's (2010) framework, which breaks down culture into three levels: intersubjectively shared artifacts; espoused values; and underlying assumptions. Moreover, culture is understood as used and enacted through practices (Alvesson, 2017). As such, recurring practices from interviews are analysed as drawing upon intersubjectively shared elements of the workplace culture. Consequently, the shared values, norms, attitudes, experiences, traditions, jargon and stories that characterise distinctive workplace cultures (Holmes & Marra, 2002; Smircich, 1983) can be examined by analysing these practices to reconstruct underlying assumptions in the culture.

3.1 Organisation and gender in the construction sector

This thesis draws upon studies that explore the relationship between organisational structures and gender processes at construction sites. It also draws upon studies that explore how gender identities are perceived in the construction sector.

Organisations have historically been analysed through a rationalist, cognitivist and functionalist lens, where organisations are structures that organise human activity to maximise output (Gherardi, 2006). An alternative approach stresses organisations as products of practices that generate conditions for further practices, many of which are not conscious or oriented towards output maximalisation. The latter perspective is featured in this thesis, as practices are not assumed to be rational, intentional or aimed at improving efficiency (Alvesson & Spicer, 2012; Gherardi, 2006). Instead, practices are understood to entail actions that are regularly occurring and one-directional, rapidly done and temporally situated (Martin, 2003), but not necessarily done from an instrumental, rational motive. As such, construction sites are a project organisation where "multiple roles, identities, tasks and activities intersect for a time before being dissolved and recombined into new projects" (Olofssdotter & Rasmusson, 2016, p. 6).

The analysis of workplaces and organisations beyond the rationalist framework is informed by an understanding that they are embedded within broader power relations that extend beyond the workplace, including the gender order. It entails a gendering process of separation of the sexes (dichotomisation) and the dominance of the male norm over femininity (hierarchisation). These patterns reproduce male domination and appear all throughout society as gendered structures (Hirdman, 1988). Female subordination is thus naturalised to the degree that gendering something 'female' is uncritically equated with inferiority and subordination. Thus, everyday practices in organisations are structured by hierarchisation and dichotomisation, reflecting the influence of the gender order (Lindgren & Packendorff, 2006).

Recognising the importance of everyday practices in organisations underscores the need to analyse how meanings of gender are constituted and reconstituted. Theories of doing gender provide a framework where gender is analysed as an activity, not a fixed trait of people (Korvajärvi, 2011; West & Zimmerman, 1987). Through doing gender actors learn to identify, present and adapt their gender expressions based on others' expectations and societal gender norms

(Ely & Meyerson, 2010). Doing gender shows how gender is never a settled matter, but reproduced through social interactions, (Kvande, 2003) practices that may be unreflective and repeated (Andersson et al., 2022) and gendered processes (Acker, 1990; Korvajärvi, 2011).

Doing gender research tends to focus on interactions, practices, negotiations or symbols as expressions of doing gender (Acker, 1990; Andersson, 2003). This partly reflects different strands of research, as doing gender can be analysed through distinct lenses (Vänje, 2005). The ethnomethodological view focuses on social interactions (West & Zimmerman, 1987), the cultural view highlights how doing gender occurs through symbols and are part of the workplace culture (Gherardi, 1994), whereas the processual view focuses on everyday workplace practices and routines (Acker, 1990). Finally, the performative view (Butler, 1988) illustrates how gender is repeatedly enacted through repeated acts aimed at proving one's gender, potentially rendering gender identity as appearing to be immutable by being embodied (see Korvajärvi, 1998, for a more detailed discussion of the variations in doing gender). While all these perspectives inform this thesis, the processual view is particularly significant because of its focus on practices and routines, and the cultural perspective is important for highlighting how symbols at work are gendered.

One benefit of analysing through the doing gender approach is that the perspective highlights how gender can vary in everyday interactions depending on contexts (Vänje, 2021). Applied to organisations, it reveals variations in how gender is done (Jensen et al., 2014). This is useful for this thesis, since it highlights how gender is both stable and unstable through practices at construction project organisations.

Sensitivity towards the importance of analysing gender in everyday organisational practices draws on Joan Acker's theory of gendered organisations, where "gender is a constitutive element in organizational logic underlying assumptions and practices that construct contemporary work organizations" (Acker, 1990, p. 147). As such, organisations have gendered structures consisting of gendered processes and practices (Acker, 2012). Whereas practices in gendered organisations are one-directional and situated (Martin, 2003), processes describe the production and reproduction of hierarchisation and dichotomisation of gender (Korvajärvi, 2011). Gendered processes are thus continually recreated through practices (Acker, 2012).

Analysing through the lens of gendered organisation can reveal how seemingly gender-neutral processes continually produce highly gendered outcomes, such

as managerial evaluations where men reward other men based on their gendered re-enactment of gender roles (Martin, 1996).

A useful analytical strategy gauged from the theory of gendered organisations is the idea that systems, structures and processes can be analysed through studying practices (Kvande, 2003). This provides a way to explore construction of workplace cultures and examine the relationship between safety and homosocial practices.

A key concept related to theories of gendered organisations is the ideal worker norm, where workers are expected to maintain high efficiency and strong job dedication. Time commitment, willingness to work long hours and constant availability are viewed as a proxy for efficiency and dedication (Acker, 1990; Kelly et al., 2010). Both men and women are expected to have a work performance that realises the ideal worker (Acker, 2006). While the ideal worker is often depicted as a disembodied and abstract worker, an able-bodied man with little caregiving responsibilities has historically been viewed as closer to this ideal (Acker, 1990; Williamson et al., 2024). Efforts by men to live up to the ideal worker norm can be understood as a strategy to prove their masculinity and maintain status at workplaces (Kelly et al., 2010).

Previous research on the construction sector has reaffirmed the need to analyse from a perspective of doing gender and gendered organisation, as it has been shown that organisational structure directly influences gender processes at construction sites. For example, McCarthy et al. (2021) found that when construction workers distrust organisational justice, they also reject gender equality policies and defend inequalities by appealing to meritocracy.

Supporting the view that organisational structures interplay with doing gender, Thiel (2012) shows that informal conditions and job insecurity encourages workers to build trust in each other by emphasising shared dimensions such as gender, ethnicity and class in their practices. To reinforce their trustworthiness, men at construction sites sought to embody prevalent masculine traits in their practices such as taking risks and appearing physically imposing (Thiel, 2012).

This emphasis on doing gender and masculinity also resonates with Paap (2006), who shows that job insecurity incentivises male construction workers to prove their masculinity through unsafe practices and sexist or racist behaviour towards colleagues. Attempts to prove one's masculinity cultivates individualism at construction sites and weakens collective efforts to improve

its culture, as those who voice dissent risk being excluded by other men. Such exclusion could damage their reputation and limit future employment opportunities on construction sites. Paap argues that this workplace culture incentivises risk-taking and cutthroat competition.

Contrasting these accounts of construction site workplace cultures as exclusionary, Ness (2012) highlights how construction organisations frame construction work as tough, dangerous and masculine, yet simultaneously promote it as high-tech and open to women. This contradictory framing of the sector as masculine but inclusive is supported by Agapiou (2002), who found that men with experience working alongside women were more likely to see them as equally capable, provided women had access to good tools and machines.

Viewed together, these tendencies show how construction organisations are gendered with a strong masculine-connoted workplace culture manifested by structural insecurity.

3.2 Homosociality and masculinity

Homosociality is used alongside strands of research from masculinity theory in this thesis to explore everyday practices done by construction workers.

There are multiple interpretations of the concept 'homosociality' depending on theoretical tradition (Hammarén & Johansson, 2014). The perspective featured in this thesis follows Lindgren (1996), who uses homosociality to highlight and analyse the social process and practices that drives men to orient themselves towards other men. This preference for men arises from the gendered pursuit of power associated with male superiority (Holgersson, 2013). Central to this process are practices where men co-opt other men into homosocial communities, gatekeeping inclusion by privileging behaviours valued by the group (Holgersson, 2006; Lindgren, 1996). An effect of this gatekeeping is a sense of brotherhood amongst the men who are members of this homosocial community (Lindgren, 1996; Pietilä & Ojala, 2021). Homosociality involves an element of desire, as men who are members of a homosocial community can be motivated to co-opt like-minded individuals to bolster their group and receive further validation. Among the potential members, co-optation can also appear seductive, as it offers belonging and potentially material rewards (Hammarén & Johansson, 2014; Kiesling, 2005; Roper, 1996).

Within homosocial communities men often compete for status yet unite to mount a joint defence against external challenges (Abrahamsson, 2009). Such groups also serve as safe spaces where men mutually recognise each other's masculinity and engage in masculine identity work (Holgersson, 2006). The resultant homosocial practices can reinforce the local gender order through gatekeeping (Abrahamsson, 2009; Lindgren, 1999) and be done without deliberate reflection (Holgersson, 2013).

Through interactions within the group, a collective phantom image of masculinity can emerge and become internalised (Lindgren, 1996; Wahl et al., 2018). It is a masculinity that no one fully embodies, but where men's performances are measured against each other (Lindgren, 1996). The resulting social networks and groups, based around comparisons to the phantom image, tend to reinforce masculine behaviours (Lindgren, 1996). Galea et al. (2023) has shown how co-optation to homosocial networks and engagement in homosocial practices within the construction sector are important for career advancement.

The emergence of a phantom image of masculinity through homosocial practices indicates that there is a relationship between homosociality and masculinity. Scholars such as Connell (2005), Hearn (2014) and Mellström (2004) have been useful sources of inspiration through their examination of how masculinity is constructed as an ideal, and how men often seek to embody this ideal through their practices. Their conceptualisation of masculinity as an aspirational ideal therefore resonates with Lindgren's (1996) notion that strong homosocial communities may construe an idealised, high-status phantom image of masculinity. Mellström focuses on how men seek to embody masculinity through technological mastery (2004), whereas Connell focuses particularly on masculinity as a social structure that legitimises female subordination and is sustained through practices (2005). Hearn supports this view but distinguishes the study of men from masculinities as a response to Connell (Hearn, 2014). Accordingly, masculinity is here used as an analytical supplement to homosocial practices to highlight the ideals men seek to embody or reject through their practices.

Toughness, mastery and autonomy are characteristics associated with prevalent ideals of masculinity within the construction sector (Gherardi, 2006; Hanna et al., 2020). In construction work masculine ideals can be embodied through showing disregard for pain and lingering injuries, which displays toughness (Paap, 2006). Masculinity is often closely associated with mastery

and the capacity to exert control over machines and people (Mellström, 2004). While some construction workers resist labour-saving machines as deskilling (Ness, 2012), they may find satisfaction in the pleasure of mastering new machines (Gherardi, 2006). This reflects the gendering of tools, where high-status or technically demanding work tasks are construed as masculine, due to a supposedly innate male capacity to master technically advanced tools. This framing thereby renders mastery as inaccessible to women (Agapiou, 2002; Faulkner, 2009).

Likewise, autonomy is celebrated as a masculine ideal of freedom and self-sufficiency at construction sites (Hanna et al., 2020; Thiel, 2012). This conception of autonomy lies close to traditional notions of masculine autonomy where men should avoid dependence and pursue self-sufficiency at any cost (Elliott et al., 2022) to preserve one's capacity for self-determination. An alternative conception to this atomistic masculine ideal is relational autonomy, which understands independence as inherently shaped by and dependent upon relationships with others (Elliott et al., 2022). From this perspective decision-making involves consideration of others' needs and perspectives (Kenny et al., 2020).

These characteristics may be encompassed within multiple masculine ideals. Connell (2005) posits that multiple masculinities exist in a hierarchical structure, with hegemonic masculinity at the top legitimising the gender order and exerting hegemonic influence over other masculinities such as protest masculinity. Lindgren (1999) regards a phantom image as an internalisation of locally hegemonic masculine ideals. Nevertheless, hegemonic masculinity on a societal level differs from a phantom image of masculinity since locally prevalent masculinities do not have to be hegemonic (Messerschmidt & Messner, 2018).

As such, homosocial practices are not axiomatically oriented towards hegemonic masculinity. Two forms of masculinities, protest and hybrid, whose prevalence in the sector has been shown by previous research (Esmée Sinéad & Markham, 2019) are drawn upon in the analysis.

Protest masculinity, prevalent in construction and other physically demanding working-class professions, involves exaggerating behaviours such as aggressiveness and physical toughness as a response to having limited power or influence (Connell, 2005; Hanna et al., 2020). Some theorists understand the term to either express forms of working-class resistance towards employers or a strategy to compensate for subordination by affirming one's worth

regardless of class position (Walker, 2006). Focusing on homosocial practices rather than attempting to reconstruct a local incarnation of protest masculinity offers a way to highlight such ambiguities in their everyday context. It also offers opportunities to explore whether a phantom image of protest masculinity is constructed and maintained through practices in a specific context.

Hybrid masculinity is used to describe a masculinity that adopts traits from subordinated masculinities and femininities to produce a strategic distance towards other masculinities when advantageous, while still maintaining some protest masculine traits in other occasions (Hanna et al., 2020; Messerschmidt & Messner, 2018). As such, hybrid masculinity can incorporate caring practices towards others as well as competitive practices when necessary. In contexts outside of construction, it has been shown that caring practices can operate as a homosocial practice, gatekeeping inclusion to those who reject competitiveness (Pietilä & Ojala, 2021). Hanna et al. (2020) argue that some construction sites are increasingly influenced by hybrid masculinity, combining caring practices such as concern for colleagues' health with competitiveness that reduces care for colleagues.

The increased prominence of hybrid masculinity has coincided with an increased status for youthfulness (Pietilä & Ojala, 2021). This trend highlights how manhood and masculinity is a temporal phenomenon, as certain masculinities become irrelevant as men age (Hearn & Sandberg, 2009; Tjeder, 2003). As such, maturity is ultimately something desired by men of all ages but must be achieved and can be lost (Janssen, 2008; Tjeder, 2003). Older construction workers who perform actions associated with young men, such as displaying overt aggression, can be castigated for immaturity (Paap, 2006). Nevertheless, in construction there are "social imperatives to resist ageing" by working hard and efficiently to sustain a high-status masculine identity (Marchant, 2013 p. 853). Thus, capacity to work defines social age on construction sites (Marchant, 2013). These trends reflect a societal tendency where being old is approximated to weakness and loss of high-status masculinity (Thompson, 2006).

As such, age and time can have an immense influence on homosociality. For example, homosocial groups may gatekeep based on age, as certain age-related expressions of masculinity may be excluded when they do not align with the group's established status norms. (Pietilä & Ojala, 2021). Moreover, homosocial communities with older men can be particularly influential in

determining the overall atmosphere (Wahl et al., 2018). When younger male workers resist adoption of older colleagues' practices, it may indicate a crisis in established homosocial practices, as it signals that co-optation to the group has lost its appeal. New emerging technologies and shifting social norms that make the practices less useful or appealing can ensure such a crisis (Andersson, 2003; Lindgren, 1999).

3.3 Safety

The concept of safety is usually used to describe a phenomenon situated either as purely mind-dependent or mind-independent (Boholm et al., 2016). For example, Sundström (2025) teases this tendency out, defining feeling safe, being protected from harm or being healthy (2025). Rather than treating safety as a mind-independent phenomenon, safety is analysed as a socially embedded practice in this study. As a result, the focus lies on exploring potential connections to homosociality rather than substantively measuring safety outcomes.

One tension with mind-dependent concepts of safety is that people may be in danger without knowing it, and that the causal events leading to observable harm are subject to different interpretations (Simpson, 1996). Feeling unsafe does not require empirical evidence of danger, since awareness of potential harm may trigger feelings of danger (Simpson, 1996).

This is the case in the construction sector where enduring pain and strain discomfort is normalised and not taken as a sign of danger (Ajslev et al., 2013). Construction workers legitimise this behaviour to themselves and others through performing masculine ideals which promote fatalistic attitudes and practices towards their own health and safety (Stergiou-Kita et al., 2015).

This highlights safety as practiced and relationally constructed. As Gherardi (2006) posits, safety is a situated social practice in which practical and theoretical knowledge are intertwined through everyday activities. Safety practices therefore connect the local workplace with practices beyond it, as safety practices "range from the normative practices of the European Union and the member states to the individual one of the builders who does or does not put on a hard hat when entering a building site" (Gherardi, 2006, p. 48). For example, safety practices concerning heavy lifts, and the delineation of what constitutes a heavy lift, are mediated through a complex dynamic

involving regulatory discourse, organisational policy frameworks and localised interpretations.

By highlighting that safety is a relational and context-dependent practice, it can be analysed as a cultural phenomenon through the concept of safety culture (Dyreborg et al., 2022). There are many different definitions of safety culture (Guldenmund, 2000). The Swedish Work Environment Authority defines safety culture as "the shared attitudes, values and opinions that managers and employees have regarding the relationship between safety and working environment" (Arbetsmiljöverket, 2025). As such, safety culture is often used to explore shared assumptions, values and norms on safety at workplaces (DeJoy et al., 2017). These assumptions may be held as unconsciously accepted by organisational members (Guldenmund, 2000).

Edwards et al. (2013) argue that safety culture can be described from a normative, anthropological and pragmatic perspective. The normative view conceptualises safety culture as management-driven through policies and methods, while the anthropological view focuses on shared group attitudes and the pragmatic view highlights how safety culture is related to work practices. This licentiate primary uses the anthropological and pragmatic view of safety culture to explore construction workers' views on their safety priorities.

The pragmatic perspective stresses that power imbalances impact safety practices (Edwards et al., 2013), as workers and management can have different views on safety (Berglund, 2011; Sundström, 2025). Local safety cultures may arise that substantially diverges from how management desires safety culture to be (Sundström, 2025). Managerial attempts to control safety culture from a normative view can have inadvertent consequences on safety practice due to these divergences. For example, Berglund (2011) shows how manager-driven formalisation at nuclear plants undermined safety culture by reducing worker autonomy and opportunities to learn from mistakes.

Since this licentiate focuses on culture in relation to safety, it does not primarily address the safety climate research tradition which examines shared perceptions of safety procedures, policies and practices (Kines et al., 2011). However, the theoretical foundation of the Nordic Safety Climate Questionnaire remains relevant for this study. By focusing on workers' shared safety perceptions over individual safety attitudes (Kines et al., 2011), it offers a useful tool for analysing safety culture, as it provides insight into how various safety phenomena tied to a larger safety culture are perceived. As such, it can be used to highlight relational characteristics of occupational safety at

construction sites, encompassing the seven dimensions in the questionnaire: (i) management safety priority and commitment to safety; (ii) management safety empowerment; (iii) management safety empowerment; (iv) workers' safety commitment; (v) workers' safety priority; (vi) trust in co-worker safety competence; and (vii) trust in the general efficacy of safety system. The first three management-centric dimensions are designed to capture views of whether managers prioritise safety over productivity, empowers workers to report safety concerns and are fair concerning safety issues. The remaining dimensions are worker-centric. They reflect views on workers' willingness to take responsibility over safety issues, prioritise safety over production, abidance of safety rules and belief in the efficacy of the safety system.

The relationship between hybrid masculinity and safety in the construction sector also aligns with previous research on the relationship between safety and masculinity in general. Here, previous research (Nielsen et al., 2015) has indicated a dialectical relationship between safety and masculinity in dangerous professions, as changes in safety practices can correspond to changing ways for men to display their manliness at work. For example, Ely and Meyerson (2010) demonstrate that the implementation of strict safety standards on an oil rig ultimately caused risk-taking practices to lose social status among men, since such actions were inefficient and detrimental to the entire workforce. Conversely, in strong homosocial communities, men may take risks to prove their worth to other men (Kimmel, 1997).

4 Methods

4.1 Scientific perspectives

To address the aim of exploring the dynamics between homosocial practices and safety, a mixed-methods case study research design was employed, grounded in a feminist epistemological framework. Grounded in feminist epistemology, the thesis acknowledges everyday, subjective experience as trustworthy sources of scientific knowledge and stresses the situated nature of knowledge (Harding, 2004). As a result, the researcher and participant share the same social world (Sprague & Zimmerman, 1989). Recognising the trustworthiness of subjective knowledge, including women's voices, and reflecting on the researcher's relationship with participants helps mitigate the reproduction of implicit gendered assumptions that shape research design and finding (Messerschmidt & Messner, 2018).

Accordingly, the thesis seeks to both critically examine the gendered social relations that reproduce hierarchies while also reinforcing the voice of research participants (Acker et al., 1983). The mixed-methods case study design was selected to address these epistemological concerns and enable an exploration of homosociality, safety and the organisational contexts that shape workplace cultures. In addition, the mixed-methods approach was combined with a case study design aimed at highlighting commonalities in homosocial practices in different contexts and how they related to safety practices. Integrating case study design with mixed-methods can enhance the richness of the analysis by generating a deeper understanding of the case (Yin, 2014). This integration resulted in a sequential mixed-methods design containing a multi-case study

consisting of two cases (the construction organisations) alongside four embedded units (construction sites).

4.2 Research design

The research occurred in three phases. Interviews were conducted in two phases with two case companies, Safe Solution Builders and Central Construction Co. First, interviews at Safe Solution Builders were held and analysed, followed by interviews at Central Construction Co. After completing the analysis of the interviews, the third phase entailed a cross-sectional study through the distribution of the NOSACQ-50 questionnaire. Since this is a licentiate thesis with a limited time frame the decision was made was to perform the questionnaire study in one of the case organisations, Safe Solution Builders.

4.2.1 Case selection

The two participating construction companies presented themselves as sharing similar conditions as having a strong safety culture, with the aim of decent working conditions and maintaining directly employed carpenters. Scholars have identified direct employment and a rigorous safety system as ideal conditions for a strong safety culture (Berglund et al., 2025; Fang et al., 2006; Kim et al., 2017).

Safe Solution Builders participated in the study to continue their involvement from the pre-study and to further research on work environment issues related to their production processes. Central Construction was recruited through snowball sampling, where interest in having an additional case to facilitate deeper exploration of homosocial practices led to their invitation to participate.

Each construction site was in the research process treated as having a distinct workplace culture, whereas each construction company was analysed on the basis that they attempted to maintain a shared organisational culture. Key differences amongst the construction sites within each company were based on project scale, objects being built, region/place and wage system. How the construction sites differed on these aspects is presented in Table 1.

Table 1. Construction site contexts. Based on tables featured in Article II (see Table 3 in Article II).

Site	1	2	3	4
Led by company	Safe Solution Builders	Safe Solution Builders	Central Construction Co.	Central Construction Co.
Location	Small city, rural area	Small city, rural area	Large metropolitan area	Satellite city in a large metropolitan area
Completed building	Residential building	Industrial building	Residential building	Residential building
Wage structure	Piecework wages	Monthly renumeration	Piecework wages	Piecework wages

The first company, given the pseudonym Safe Solution Builders, is a middle-sized regional construction company in the process of expanding to new regions through acquiring smaller companies. Founded by former construction workers as a small organisation, it has gained a reputation for relatively fair labour practices and investing in their working environment. Safe Solution Builders stress their values such as prioritising safety, decent work and collaboration in public.

Safe Solution Builders retained directly employed construction workers, which is increasingly rare in Sweden (Ahlstrand, 2022). In recent years the company has expanded to several regions and grown to employ hundreds of employees. Around half of the employees were 40 years or younger, while only 1 in 20 construction worker positions were women.

Central Constructors Co. is a middle-sized regional construction company active in central Sweden and part of a larger industrial group active in northern Europe. The company stresses that the importance of economic growth should never come at the expense of safety and health as well as encouraging sustainable development in the construction sector.

A few years ago, Central Constructors Co. was acquired by a larger foreign firm active in sectors such as energy, recycling and construction. According to the

men this entailed a shift in culture towards stricter safety systems. Less than 10% of all employees are women in the new corporate entity.

4.3 Methodological tools

Data collection for this thesis was conducted through qualitative semi-structured interviews and distribution of the NOSACQ-50 questionnaire.

4.3.1 Qualitative data collection

Two researchers led information meetings with the workforce at the construction sites to introduce and explain the project, its aims, the ethical guidelines protecting participants and any sensitive information as well as highlighting our independence from the construction companies. Following this introduction, members of the workforce were invited to pose questions regarding the project and their potential participation, which the researchers addressed.

Interviewees were recruited according to the following criteria: having an operating role at site and being directly employed by one of the two case companies. These criteria were chosen since such employees could be expected to work for the employer over an extended period and hence could provide detailed reflections about safety and the workplace culture at the company's construction sites. Based on these criteria, site managers and HR directors distributed information formulated by the researchers about the project and suggested potential interviewees. A large majority of those recommended agreed to participate. In total 38 semi-structured interviews (36 with men, two with women) were conducted at the four sites, usually with a length of one hour. Site managers, safety officers, construction workers and apprentices were the recruited positions. To protect the anonymity of the female participants and due to an inability to find more female construction workers to interview at the construction sites, these two interviews were excluded from the analysis. As a result, the study became centred on men.

The interviews were held at their construction site, and the interviewees were permitted to participate during their working hours. Minor adjustments to the interview guide were made after analysing the first set of construction company interviews at Safe Solution Builders, before starting the second round of interviews at Central Construction Co. The semi-structured interviews were used to steer the conversation towards discussions on safety and gender

equality, while providing interviewees the opportunity to freely articulate their perspectives on their work environment.

As such, the interview guide was structured into three themes: views on daily work tasks, opinions on gender equality at work and perceptions of their work environment. These domains and the overall structure were retained from a previous study (Vänje, 2019). A modified version was used in the pre-study, where questions on gender equality at work offered interviewees the opportunity to describe social relations at their construction site (Vänje & Rönnlund, 2022). The modified version was used in this study.

4.3.2 Quantitative data collection

The Nordic Safety Climate Questionnaire (NOSACQ-50) was used to explore how employees in the organisation perceived their safety. It was chosen to provide an assessment of overall views on safety at Safe Solution Builders. One major advantage with NOSAQ-50 is that the questionnaire is validated (Kines et al., 2011) and has been used in many different occupations across the world. In addition, it was originally designed for the construction sector (Kines et al., 2011).

The questionnaire consists of 50 items on safety perceptions, organised into seven dimensions. These dimensions were developed through empirical testing and a literature review (Kines et al., 2011). Responses are measured on a 4-point Likert scale: (1) Strongly disagree, (2) Disagree, (3) Agree and finally (4) Strongly agree.

In February 2025 the questionnaire was distributed to all employees (including all directly employed construction workers, site management, company staff and company management) in the main organisation of Safe Solution Builders (N=327). A secure server platform at Dalarna University was used for questionnaire distribution and response collection. Through this platform an email which contained a link to the digital questionnaire was sent out to the responders. This process ensured that only the researchers, and not the employer, had access to the incoming data.

The questionnaire was distributed beyond the interviewee categories to provide a richer organisational context and contrast them with interview findings. The choice to use a digital questionnaire was based on the idea of facilitating participation and the researchers' analytical work. However, this

approach limited my ability as a researcher to respond to questions about the items.

To spread information about the questionnaire I, site managers, the HR director and most importantly work environment engineers at the organisation promoted the questionnaire through digital and in-person outreach. The outreach included information concerning the questionnaire and how distribution was handled. The construction companies had no access to the data or any ability to control the questionnaire site, only a link to the questionnaire which they distributed. Informing the responders of this independence was deemed essential to ensure they felt comfortable sharing their genuine views on safety, to reduce concerns about potential managerial retaliation. Of 327 invited employees 210 answered (55% response rate). One respondent's answer being discarded due to containing almost no answers. Moreover, four responders provided incomplete information regarding their year of birth, leading these responses to be discarded from the age cohort analysis. Detailed demographic information is provided in Table 2.

Table 2. Demographic information about the questionnaire responders.

Demography	N (%)
Position	
Management	75 (36%)
Workers	134 (64%)
Age	
20-35 Years	65 (31%)
≥36 Years	140 (67%)
Gender	
Female	18 (9%)
Male	191 (91%)

The questionnaire was open for eleven weeks, from February to April. Four reminders were sent out through the Safe Solutions Builders email list after one, three, eight and ten weeks. Each reminder included information about the study. Around the final reminder work environment engineers working for

Safe Solutions Builders who were informed about the project also reminded employees in person at several construction sites.

4.4 Analytical process

Abduction was used to analyse both qualitative and quantitative data through an iterative movement between theory and empirical material to provide a coherent analysis (van Hulst & Visser, 2025). While the questionnaire design was unaffected by the qualitative analysis due to the pre-defined format, the analysis of the questionnaire was shaped by the qualitative analysis. For example, the focus on the relationship between age groups and safety climate scores was influenced by the analysis of the interviews.

4.4.1 Qualitative analysis

Reflexive thematic analysis was used to analyse the data and deepen the abductive approach through the creation of themes through an exploratory and iterative analysis process (Braun & Clarke, 2019). Of particular importance is their point that themes are constructed by the researcher and that the researcher must be conscious "of the philosophical sensibility and theoretical assumptions informing their use of [thematic analysis]" (Braun & Clarke, 2019, p. 594). While thematic analysis was originally either oriented towards deduction or induction (Braun & Clarke, 2006), abduction can support thematic analysis by fostering sensitivity towards anomalies arising in the comparison between empirical data and theoretical assumptions (Khurshid et al., 2025).

Themes were constructed through familiarisation with data, producing tentative codes to construct themes which were thereafter subsequently reviewed (Braun & Clarke, 2019). NVivo Software 14 was used to code the transcribed interviews. Through this coding process themes and sub-themes were generated. After the initial round of thematic coding, the themes and sub-themes were jointly reviewed by me and the co-author of the first article. As we iterated and developed the sub-themes, they became increasingly connected to theory. For instance, the sub-theme 'ideal worker' initially had a less theory-driven name. After reviewing the sub-theme, we both considered it associated with Acker's concept, and the sub-theme was renamed. This process strengthened the adequacy of our interpretation by validating the accuracy of our descriptions (Acker et al., 1983).

The first article discusses four main themes: hierarchies, models of explanations, homosociality and values. In contrast, the second article shifted its focus towards safety, organising its analysis around the four themes of safety performance, place and context, homosociality and hierarchies (see Table 3 below).

Table 3. Themes and sub-themes that emerged in the analytic process. Based on tables featured in Article I and II (see Table 2 in Article I and Table 4 in Article II).

Main themes	Content descriptions and sub-theme summaries
Models of explanation	Features explanations on the persistence of gender segregation in the construction sector and key roadblocks towards gender equality. Explanations are attributed to individual- or structural factors. Comments concerning the impact of technology on these dynamics are also included in the theme.
Hierarchies	Describes views on managerial fairness, fairness among construction workers, status-bringing practices and personal capacity to exercise power. The theme also includes views on the ideal worker norm.
Homosociality	Contains descriptions of how men relate to each other at construction sites through practices. It also features perspectives on the impact these practices have on the workplace culture.
Place	Views on the working environment, safety culture and working in a changing workplace.
Safety practice	Features perspectives on time pressures, the role unexpected events have on safety and whether safety always has a higher priority than productivity in the workplace. Discussion on the relationship between piecework wages and safety practices is included in the theme.
Values	Reflections on the meaning of work, what constitutes excellent work performance and gendered assumptions concerning the workplace and the construction sector.

4.4.2 Quantitative analysis

Descriptive and inferential statistical analysis were used to analyse the questionnaire data. Ultimately the key aim with the statistical methods was to

improve the abductive research process by contrasting questionnaire data with qualitative data and theoretical priors.

Use of quantitative analysis is not without danger in terms of its relationship to the underlying epistemological assumptions of this licentiate. Cohen et al. (2011) argue that quantitative research on gender equality often lacks reflexivity as it usually just presents social categories without really questioning them. As a result, it risks overlooking how power relations such as patriarchy shape society and how power impacts the design, methods and result of quantitative research (Sprague & Zimmerman, 1989). In response to these concerns, quantitative data analysis was extended beyond descriptive statistics, framed conjecturally and shaped by the research design choices. At best it can help us tentatively discard some explanations (Martin, 2018).

To evaluate each dimension, mean values of participants' responses were calculated following the procedure recommended by the NOSAQ-50 website. Certain questions were negatively posed and were reverse coded to align with the positively posed statements during data analysis, following Kines et al. (2011). Article II presents mean scores for all respondents, managers and workers. The means of young and old workers were also calculated as a comparison.

The study examined whether significant differences exist in how safety is understood between workers and management, and among two age-cohorts from Central Construction Co. The hypothesis was that there would be significant differences in all dimensions between workers and management, as well as between the age cohorts. To test these hypotheses, Welch independent samples t-tests were conducted through SPSS 30. These t-tests examined differences in overall safety climate scores across groups based on age cohort (0 = 20–35 Years Old, 1 = ≥36 Years Old) gender (Men = 0, Women = 1) and position (Worker = 0, Management = 1). Statistical significance was evaluated at the 0.05 ($\alpha = 0.05$) threshold.

4.4.3 Reflection on methodological choices and the positionality of the researcher

My position as a man in my thirties, largely unfamiliar to construction work, shaped the interviews. Since researchers inevitably belong to social categories, it was less about embracing or rejecting these identities (Bourdieu, 2010) than acknowledging how my position as an outsider influenced the interviews. The interviews tended to have a relaxed atmosphere with some jokes at the start

and attempts to draw commonalities between researchers and carpenters from both sides. Humour is a strategy men can use to emphasise similarities as well as maintaining distance towards other men (Williams, 2009). While I maintained distance by becoming reserved (a behaviour some interviewees noted), the shared gender expression and my age shaped the tone and direction of the interview towards light yet pedagogical. I was the outsider, and they were the masters of their craft. Previous studies in the construction sector have shown that construction workers adjust their tone and manner of explanation depending on the researcher's gender and age (Gherardi, 2009).

Undoubtedly, if I had personal experience working in construction and was perceived as a woman their language and presentation directed towards me would differ (Goundar, 2025). My circumstances can be contrasted with Paap (2006), who worked as a construction worker before and during her study, and faced constant questioning of her presence due to her gender. My position as a man and an outsider with no claim of being a construction worker ensured that I never received this attention while conducting interviews at the construction sites.

Since researchers who become personally well known to construction workers might have encouraged new behaviours through this familiarity, additional methods such as participant observation could have deepened the exploration and generated richer data. For example, it would provide more opportunities to analyse their practices towards other men. It would also give a more permanent and legitimate role at the construction site. While I spent some time at the construction site talking, eating and drinking coffee with construction workers and site managers, taking on a more frequent role as a participant observer might have shifted my positionality as an exotic outsider to something more mundane. Time constraints ensured that participant observation was not used as a method. Nevertheless, it could have served as a complementary method that would have enhanced the analysis of their homosocial practices featured in this thesis.

4.5 Use of AI-assisted tools

The writing process of this kappa was supported by use of two AI-assisted tools: Copilot (MS 365 2025), and ChatGPT-4. Copilot was used to correct grammatic structure and improve clarity in sentences. It was also used as a learning tool in quantitative analysis. ChatGPT-4 was used to improve article search and occasionally translate difficult sentences from Swedish to English.

No AI-tool was employed to produce original material. Ultimately all critical thinking comes from myself, and I am responsible for all information featured in the kappa.

5 Summary of apprehended papers

5.1 Article I: Homosocial communities at construction sites—a workplace culture in transition?

The aim of this article is to subjectively explore homosocial practices and masculinities among carpenters and in which ways these dimensions interplay with and affect the workplace culture. As such, two research questions were developed. They are:

1. In what ways are local homosocial practices among male construction workers constructed and manifested within the everyday work at Swedish construction sites?
2. What are the implications of the identified homosocial practices for the construction of masculinities and workplace culture within Swedish construction sites?

Main findings

The article highlighted homosocial practices (i) showing interest in construction work, (ii) being older and showing experience, (iii) having the capacity to be efficient and (iv) being loyal and caring. Overall, the men tended to state that macho culture at their workplaces was declining. Competitiveness was seen as less valued than before and physical strength less important to prosper in the sector due to better machines and tools. Also notable was the rejection of stoically enduring pain and constantly engaging in tough

aggressive jargon. Instead, the ideal worker ought to show interest in construction work and be efficient. By de-emphasising bodily types in favour of behaviours such as interest, the construction site was framed as gender equal and fair, while maintaining gatekeeping mechanisms for inclusion. Since interest was conceptualised as not bound by gender, body type or sexuality, anyone could become a good colleague. This made the carpenters' distance themselves from some protest masculine ideals while still seeking to prove themselves as an efficient and reliable colleague.

Their homosocial practices included expressing care, risk avoidance and displaying interest. But whilst under pressure from efficiency, some of these practices were side-lined in favour of traditional homosocial norms. Caring and loyalty could also be interpreted differently depending on circumstances. In normal conditions care entailed putting colleagues' safety first and open expressions of care, but in times of crisis care could be redefined to take risks to help the construction team. Consequently, the article showed that homosocial communities can persist whilst the prevalent masculine identities are undergoing change. Indeed, practices such as risk-taking can be maintained on the basis that working fast entails expressing care and respect for colleagues (Ajslev et al., 2013).

Tensions in homosocial practices concern age and experience. Younger workers appreciated older workers' knowledge but contested them for sustaining macho culture. They attempted to avoid co-optation into some homosocial practices associated with protest masculinity, while seeking co-optation at other times. This highlights that the hybrid masculinity was unstable, shifting between caring practices and competitive practices under pressure.

Contributions to the thesis

The article provides examples of how the workplace culture was shaped by hybrid masculine homosocial practices, including how gatekeeping mechanisms were maintained while workers distance themselves from macho culture and how caring practices could reinforce unsafe practices under pressure.

It also provided an important inquiry into how the ideal worker was expressed at these construction sites and the role images of women played in constructing this ideal worker. Finally, it shows how homosocial practices can

persist as masculine ideals change, and how older practices can return in times of crisis.

5.2 Article II: Constructing maturity: safety and homosociality at construction sites

The aim of this article is to explore the interplay between safety and homosocial practices and relations and its implications for workplace culture at construction sites. To answer this aim two research questions are used:

1. How is safety perceived and practiced by construction workers and site management in their daily workplace culture?
2. What implications does homosociality have on safety rule compliance and performance of work tasks at construction sites?

Main findings

To address the research questions empirical material from semi-structured interviews with men active at construction sites and the NOSACQ-50 survey were integrated through a mixed-method design.

The questionnaire suggests that Safe Solution Builders perceived themselves to have a robust safety system, but ambivalence remained regarding workers' capacity to risk prioritise. Moreover, younger male workers were more prone to question safety than older workers or bosses.

The qualitative findings highlighted that safety practices often functioned as homosocial practices. These practices were oriented towards colleagues' safety performance. An often-discussed problem was whether there was a trade-off between safety and efficiency, and the tendency to break rules based on an "I'll only just" (*Jag ska bara*) mindset.

Amongst the men, safety performances were assessed and acted upon through subtle visual signals and verbal cues from male colleagues. Moreover, the importance of autonomy and mastery was highlighted in relation to safety practices. Construction workers partially understood their autonomy as a relational autonomy, acknowledging interdependence and the need for peer oversight to maintain autonomy.

The importance of autonomy shaped the ambivalence towards the safety system expressed by some men, as the system was at times perceived to limit their decision-making capacity on safety issues. The ambivalence was counteracted by an understanding that safety systems were necessary to set

rules and that taking excessive risks were undesirable. This can be contrasted with the quantitative findings, which showed that construction workers had less confidence in their capacity to comply with safety protocols than managers thought they did.

The article indicates that the acceptance of relational autonomy is likely partly due to the robustness of the safety system. By framing robust safety practices as part of being a master and something that relies on others, the construction workers redefined the ideal of autonomy as being grounded in interdependence.

Expressing mastery of a safety performance functioned both as a sign of masculinity and maturity. Age-based expectations regarding other safety practices were pervasive, and male maturity was characterised by the ability to work autonomously, efficiently, safely and collaboratively. Older men feared that younger colleagues might fail to cultivate this maturity, whereas some younger men criticised older workers' safety practices as reproducing macho culture. The article suggests that the ability to become mature through mastery of safety is a seductive element towards homosocial co-optation. Questionnaire data show age-related differences in safety perceptions, but analysis of the interviews suggests that behaviours conforming to age-based expectations result from homosocial practices aimed at cultivating a form of masculine maturity.

Contributions to the thesis

The article highlights how homosocial practices can be expressed through safety practices, and how these can at times be contested. The role of ideals of autonomy and mastery play in shaping homosocial practices are also highlighted. Further, the article identifies an ambivalence towards the safety system, despite being robust. How construction workers adapt their co-optation strategies to age-based expectations was also developed. Finally, the article supports the view of Nielsen et al. (2015) that safety and gender have a dialectical relationship, whereby efforts to strengthen safety systems may reshape prevailing masculine ideals.

6 Discussion

This chapter discusses the main findings of the licentiate thesis, which are divided into three sections: characteristic homosocial practices, age and homosociality and the relationship between safety and homosociality.

6.1 Characteristic homosocial practices

This section discusses how homosocial practices intertwine elements of both care and competitiveness directed towards colleagues and the construction project. These practices functioned to compare, correct and coordinate the actions of co-workers. Central to these practices is the image of the ideal construction worker (Acker, 1990), which in this study emphasises interest in construction work while simultaneously relying on two images of women as a point of comparison and means of gatekeeping. By combining these gendered images with a narrative that depicts macho culture as outdated and wrong, workers can sustain a phantom image shaped by hybrid masculinity (Pietilä & Ojala, 2021). This allows them to maintain gatekeeping and co-optation. Being co-opted provided several benefits: better social support and more respect among men, and as a result more influence among them.

Overall, men expressed care to each other through various means, including informal monitoring of colleagues' health and safety as well as bantering. As both articles suggest, there was widespread support for help-seeking, indicating that open expressions of care were socially accepted within these construction sites. In terms of competitiveness, there was little evidence of personal rivalry in relation to task completion, unlike Paap (2006) and Duke et al. (2010) where construction workers engaged in open competition with

colleagues over who executed tasks faster. Nevertheless, the men described themselves in constant competition with time. As such, the project-based nature of the work fostered competitive practices and an emphasis on efficiency, attributes associated with masculinity (Lindgren & Packendorff, 2006).

Within the construction team construction workers compared and assessed each other's practices to ensure that everyone found the right balance between care and competition. Although safety was often posited as profitable, not all workers regarded it as always compatible with efficiency. Homosocial practices were thus shaped by how construction workers prioritised safety or productivity. To gauge other men's priorities construction workers used visual and verbal cues. For instance, workers who cleaned while executing their work tasks were perceived as working safely and efficiently over those who did not clean at all (Article II). Evaluating whether another construction worker needed a reminder to clean their workplace thus relied on observing their practices (Article II). Moreover, banter is used by workers to check other men's health at construction sites, similar to Hanna et al. (2020) where light-hearted teasing was used to check other construction workers' health and mood. These assessments also gauged other men's interest in construction work, as forward-thinking is posited as a sign of interest in construction work (Article I). Such engagement was understood as a caring practice that improved the collective work experience (Ajslev et al., 2013).

Article I highlighted how showing interest in construction work, showing age and experience, being efficient and expressing care were key homosocial practices among the men. Nevertheless, they also rely on a homosocial process of comparison and evaluation of other men. These comparisons can be broken down into four practices: (i) comparisons with an ideal worker; (ii) contrasts with two images of women; (iii) a narrative about the decline of macho masculinity that contrasts with the present day; and (iv) assessments of behaviours in instrumental terms.

The ideal worker at the construction site was portrayed as rejecting risk-taking while valuing interest, experience, equality, individual responsibility and collective responsibility towards each other. This can be contrasted with the ideal worker norms constructed as representing worker commitment (Acker, 2006) in the sector, such as risk-taking, competitiveness and physical strength (Hanna et al., 2020). Younger construction workers were particularly keen to de-emphasise these traditional aspects when discussing the ideal worker. As

such, they sought to redefine competence and status-bringing practices to interest, experience, efficiency and care. This redefinition occurred on the basis that improved machines and tools had lessened the need for physical strength, and that extreme competitiveness and risk-taking amongst construction workers would lead to coordination problems and chaos, followed by accidents and loss of productivity. Referring to this ideal worker was thus used to portray care as a status-bringing practice and consequently become a homosocial practice.

To strengthen the legitimacy of practices associated with the new ideal worker such as interest, men drew on two contrasting images of women when evaluating the actions of other construction workers. Despite the near absence of female employees on their worksites, they held well-defined opinions about women's place in construction. Women's interest in construction work, physical strength, influence on the social atmosphere and why gender segregation in the sector persisted were topics on which men had well-articulated opinions.

Such discussions were shaped by images of women either as competent individuals or a deficient collective with less potential as construction workers. These served to strengthen homosocial comparison amongst men and shaped their practices. This reflects how images of women can structure homosociality by enabling a comparison to what is not a man (Tjeder, 2003). These two images lower gatekeeping barriers for men but preserve the need to have status-bringing practices to be co-opted.

In Article I several men argued that although women are often perceived as physically weaker, they can still succeed in the construction sector, implying that men of any body type or strength capacity can do so as well. As a result, women's potential participation is used by men, particularly younger men, to deconstruct practices needed for co-optation such as appearing physically imposing. Individual women who show interest and efficiency are therefore construed by the men as capable of being co-opted and would in this scenario be treated similarly to male construction workers. Women who fail to show interest through their practices, however, were expected to leave and thus be a part of the deficient collective image.

This use of images can be compared to previous research in the construction sector (Dozier, 2019; Paap, 2006) where women tended to be branded as anomalies or threats to male construction workers. In comparison, construing women as a threat was largely absent in the material. Unlike Baxter and

Wallace (2009), however, while male construction workers construed women as non-threatening but also highly peripheral and having little to do with construction sites altogether, the image of an interested female construction worker was often supported and their absence lamented on the basis that good potential construction workers were likely not recruited to the sector.

The well-developed ideas men had of female construction workers indicates that these images were frequently drawn upon in their practices. This supports previous research on homosocial dynamics that suggests that representations of women shape homosocialilty (Holgersson, 2013; Lindgren, 1996). In this study the two images lower gatekeeping barriers for men but preserve the need to have status-bringing practices to be co-opted. They are drawn upon by male construction workers as a comparison to renegotiate the prevalent phantom image of masculinity towards hybrid masculinity, while competence is defined to generally marginalise women.

As Holgersson (2013) notes, homosocial groups can (re)define competence to ensure that men maintain a prerogative for co-optation over women by adding criteria for inclusion that favour men. As such, the support for gender equality, the de-emphasis for strength to prosper and the importance of interest entails such a redefinition. This results in support for homosocial practices that more openly incorporate care. Support for gender equality can legitimise care and tolerance for diversity as a homosocial practice necessary for co-optation (Pietilä & Ojala, 2021). Ultimately, the two images of women help balance support for caring practices with gatekeeping among men. They reinforce the notion that the construction site was open to everyone, if they had the right attitude and support (Agapiou, 2002).

Usage of images of women to legitimise caring practices and tolerance was also supported by a rejection of macho culture. This signalled a deconstruction of a protest masculine ideal (Hanna et al., 2020) as well as characteristics associated with it as aggression and physical strength. Nevertheless, this rejection is itself a homosocial practice aimed at a hybrid masculine phantom image. By disavowing macho culture they signal support for a workplace culture in which autonomy is understood as grounded on interdependence and social relations. This aligns more closely with the notion of relational autonomy, where independence and decision-making capacity arises from mutual dependence and respect for others' wishes (Elliott et al., 2022). Such rejection had a strategic element, as it aligned with employers' formal rejection of macho culture and reinforced the importance of efficiency and productivity.

Since men framed macho as counterproductive to work productivity due to its deleterious impact on safety, it reasserted competitiveness as part of homosocial practices. Unlike McCarthy et al. (2021), the affirmation of effort and merit as status-bringing practices did not correspond to substantial distrust of managerial justice, as the high scores in the statistical analysis of the questionnaire data indicated.

Claims that macho culture was stronger in the past and is now in decline is itself a practice. By labelling macho culture and protest masculinity as outdated, a boundary between present and past is established where the present is framed as more inclusive and progressive than the past. Boundary drawing helps men maintain the plausibility and coherence of a social world (Lamont & Molnár, 2002). Narratives at construction sites render the present practices coherent and meaningful, and provided a shared story for adapting safety (Gherardi, 2006). This is the impact the narrative on the decline of macho culture has for the men. The narrative provided coherence to their safety practices by co-signing certain actions as having no place in their workplace culture. For instance, acts such as sexual harassment and overt aggression were framed as remnants of an outdated macho past and condemned. Any other man who did these practices can be positioned as 'old' and castigated. In homosocial groups castigating some practices as old and sexist can be a strategy to appear enlightened (Holgersson, 2013).

This tension was made apparent through the comparisons to the ideal worker and condemnation of macho culture on an instrumental basis. Since the most efficient solutions to construction site problems are rarely obvious and require collective reasoning (Gherardi, 2006), monetary terms become a way to evaluate practice from an instrumental viewpoint. This was highlighted in how men often used monetary costs of accidents to affirm the importance of robust individual safety practices for the collective. However, this tendency also perpetuates an older association between status, profitable practices and manhood also described by Paap (2006). While no connection between manhood and profit was explicitly drawn by the male construction workers, the instrumental language used to assess others suggests that profitable work performances remain important to homosocial practices and the larger workplace culture.

6.1.1 Cumulative effects of the practices

Together, these four practices (comparisons to an ideal worker norm, contrasting two images of women, positioning macho as declining and assessing behaviour instrumentally) contribute to a homosocial process of comparisons and evaluation. The effect of this process is that the construction site is viewed as being shaped by equality and that merit and effort is rewarded, consequently explaining and obscuring gender from the workplace culture (Acker, 1990). It allows men to maintain the ability to gatekeep while deconstructing some meanings of gender at work, therefore facilitating more tolerance towards heterogeneity among men. An effect of stressing equality in homosocial groups can increase tolerance of difference amongst men (Pietilä & Ojala, 2021). As such, maintaining these practices is key to constructing a hybrid masculine phantom image that incorporates both care and competitiveness. It allowed protest masculinity to be positioned as dated, while still gatekeeping co-optation and acceptance to the workplace culture. Despite this increased focus on safety, the ideal worker norm remains centred around high efficiency and strong dedication (Acker, 1990) to the construction site.

6.2 Age, safety and homosociality

This section explores how safety practices can entail homosocial practices through caring and competitive practices towards other men. Safety practices are framed as an individual and collective responsibility as and part of a marker of maturity. The section highlights anxieties over increased formalisation, reflecting concern that it might destabilise co-optation structures between young and old construction workers and reduce opportunities to demonstrate mastery and autonomy.

Ensuring that other construction workers were balancing caring and competitive practices was a key concern throughout the articles. As discussed earlier in the thesis, responsibility to work safely and efficiently was understood to be an individual and collective issue. While each worker carried out their tasks autonomously, successful task execution and personal safety often hinged on other men's safety practices. This created a strong imperative to ensure that the men cultivated the right balance between care and competitiveness in their safety practices. While no one wanted their workplace to be unsafe, there was also shared pressure to complete projects on time.

A key concern is that reliance on formal over informal practical knowledge might constrain workers' capacity to recognise risks to both profits and safety and constrain their autonomy. This supports Stergiou-Kita et al. (2015), who also found that construction workers might express concerns over safety systems due to fears that it would limit autonomy. Such concern stems from a fear that lack of autonomy in resolving problems would also inhibit interest in experiential, practical learning due to a reliance on formal safety rules. Construction workplace cultures tend to stress that the capacity to see problems beyond the long term comes from social relations that cultivate learning and practical experience (Gherardi, 2006). As such, co-optation to homosociality provides workers with opportunities to develop practical knowledge and safety practices, to gatekeep men from tasks they are not ready to perform.

Concerns about other construction workers' safety practices were influenced by age-based expectations, which were used to predict whether mentorship might be needed to cultivate robust safety practices. Article II indicated real differences between age cohorts' safety perception, as younger workers tended to feel that workplace safety was worse than older workers, in line with previous research (Ajslev 2017). Nevertheless, categorising construction workers as 'young' or 'old' was a reoccurring theme in the material. Key was how maturity was associated with autonomy and mastery, as these attributes had high status.

The men often depicted older workers as experienced but resistant to new practices, while younger workers were seen as needing guidance to work safely. How construction workers should behave and the forms of masculinity they were expected to express were therefore shaped by age-based expectations (Gherardi, 2006; Paap, 2006). Consequently, homosocial practices were adjusted according to the perceived alignment between presumed age of a man and their expected masculinity.

Through this relationship, both young and old do homosocial practices aimed at achieving or maintaining maturity and be seen as a man. This supports the view of scholars who stress maturity as central to the construction of masculinity (Janssen, 2008; Tjeder, 2003). Since maturity in construction work is tied to efficiency (Marchant, 2013), young construction workers have incentives to subsume themselves to co-optation to gain experience and

consequently efficiency. Hence when the young man displays mastery and gains recognition, he also displays maturity.

As aging construction workers face declining health and increased difficulties to maintain a high work pace (Marchant, 2013) associated with the ideal worker, assuming a mentor role allows them to maintain respect at construction sites. Such mentorship can reinforce their role as mature by exerting control over trainees (Gherardi, 2006). Article I, however, demonstrated that younger workers sought to distance themselves from certain practices associated with older men, while still respecting their knowledge and taking advice from them to be able to demonstrate mastery and work safely. Such unwillingness echoes the view that co-optation to these practices might be becoming less attractive for younger workers due to new social norms and new working methods (Andersson, 2003; Lindgren, 1999). Yet their respect and desire for advice show that this development is only partial, as co-optation remained seductive.

Nevertheless, the possibility that co-optation might be disrupted contextualises the ambivalence expressed by some older construction workers towards the safety system. The importance of co-optation can be contrasted with an ambivalence expressed towards the safety system. While safety at the construction sites was praised as rigorous, concerns were raised that the safety system might reduce youngers' incentives to learn, develop practical knowledge and gain interest in construction work due to less reliance on practical knowledge and more on theoretical knowledge. For example, defences of piecework wages were often on the basis that monetary rewards for being efficient would cultivate stronger concerns for safety (Article II).

As a result, some construction workers feared that they were at risk of not developing strong safety practices, believing that the formalised safety system alone would not incentivise interest in construction work. To foster inclusion and sustain co-optation, some adjusted their behaviour by speaking more softly and calmy to younger men. This dynamic complicates Marchant's (2013) view that older construction workers adopt softer masculinities simply to compensate for declining physical ability. While a softer approach was sometimes highlighted due to perceived fragility amongst younger workers, it was noted that this was a strategic choice to co-opt them for certain safety practices through kindness.

These age-based expectations can become suspended by using instrumental language and monetary terms to propose an efficient solution. Through adopting the instrumental language young construction workers frame their solution in a language comprehensible to more experienced construction workers (Gherardi, 2006) and express maturity through displaying mastery. By mastering the appropriate language to articulate practices, the suspensions paradoxically reinforce status-bringing practices important to pass homosocial gatekeeping such as efficiency. But through this homosocial practice the link between maturity and authority is reinforced.

6.3 A safety-masculinity dialectic?

This section examines the dialectical relationship between ideals of safety and masculinity that is mediated through homosocial practices, emphasising how structural constraints limit attempts to reshape safety culture.

The discussion on age and safety practices shows how homosociality at construction sites is fundamentally shaped by the pursuit and maintenance of maturity through autonomy and mastery, and how changing safety systems impacts doing gender at construction sites. As such, this licentiate supports the view that there is a dialectical relationship between the ideals of safety and masculinity, as changes in safety practices can reconfigure homosocial practices and vice versa (Ely & Meyerson, 2010; Jensen et al., 2014). As an example, the decline of macho culture was often attributed to an increased focus on safety.

However, attempts to design and implement a safety culture do not automatically create homosocial practices that prioritise safety. There are four key factors that limited this dialectical relationship: how the concept of care was understood, how the workplace handled crisis events, how the project-form reinforced some male norms and the influence of past and future workplace cultures on current practices.

Key here is that caring practices can be used to rationalise unsafe practices (Article I). Since efficiency can be conceptualised as a form of care for other construction workers (Ajslev et al., 2013), encouraging a masculinity that incorporates caring practices does not necessarily eliminate “I’ll only just”-thinking.

This was highlighted in discussion on how a crisis or an unexpected event can restore old safety practices. The thesis diverges from Thiel (2012) and Paap's (2006) view that job insecurity incentivises practices aimed at embodying protest masculinity. In this study intentional exposure to danger was rejected and seen as outdated. Yet some older safety practices returned in times of crisis, such as when deadlines loomed or accidents occurred. In these moments, physical strength once again became a valued trait, while efficiency was emphasised to minimise exposure to risk.

The problem is that crises and unexpected events at construction sites regularly occur, particularly when planning is subpar (Gherardi, 2006; Hällgren & Wilson, 2008; Styhre, 2011a). As times of crisis recede, exerting physical strength seemingly returned to less prominence, yet crises and unexpected events were taken as inevitable. Moreover, the practices aimed at remedying crises and restore order at construction sites reflect previously existing social relations (Gherardi, 2006). As such, the return of strength as a part of the ideal worker is not merely an occurrence. It is an expression of the gendered workplace culture shaped by the project-based organisational structure, where care for other men can be expressed through working efficiently to eliminate a crisis.

For project-based employment celebration of traditional masculine traits and competitive practices can be justified on the basis that it is temporary and an emergency due to the limited amount of time to finish a project (Lindgren & Packendorff, 2006). In this study the project form reproduces competitive practices not against individuals, but against the clock. Moreover, these practices could also be understood as caring practices, as noted earlier.

As Article II shows, the notion of caring practice is marked by ambiguity: for who and whom, and for what, is care expressed? Although heroism was rejected, safety as an individual and collective safety cultivated a responsibility to safeguard others. Following this logic, deviating from standard safety practices to end a crisis and return safety for everyone could be justified. In doing so, individual self-care is de-emphasised. Self-care can be a part of hybrid masculine practices at construction sites (Hanna et al., 2020) and was part of the safety culture, as Article II shows. At the same time, crises offer a rationale to prioritise collective care over self-care, even if this meant breaking established safety rules.

Moreover, tendencies to promote safety as a collective endeavour and implement a strong safety culture reproduced a tendency in workers to blame themselves for accidents. Self-blame has historically been a common strategy to explain accidents at construction sites (Gherardi, 2006). The strict safety system and difficulties to complete tasks may have led to this self-blame, most clearly seen through critiquing their own tendency to fall back to an "I'll only just" mentality instead of following the rules.

The project-based nature of the construction sector also seemingly limits the construction companies' attempts to shape safety culture, since workers' safety perceptions are shaped by homosocial relations outside current employment. Even if a company prioritises safety over efficiency, as in this study, workers with histories of unsafe workplaces and an understanding that future employment opportunities in the sector hinge on a reputation for efficiency (Paap, 2006; Styhre, 2011a) may reinterpret such messages through that lens.

Since safety practices can also entail homosocial practices, these practices remain part of the construction workers' repertoire. This shapes their strategy of co-optation. Implicitly, this is evident in the portrayal of older workers as less adaptable to changing workplace cultures, suggesting their safety practices informed by different homosocial relations do not fit the current workplace culture.

This can be contrasted to the oil rig environment in Ely and Meyerson (2010), where a stable workforce and a static workplace seemingly facilitated such a dialectic. But in the construction sector, through changing projects, workers are brought in with different safety priorities due to their previous work history and the homosocial practices they maintained there. As such, their prioritisation between safety and efficiency might vary, leading to contestations of safety practices. Consequently, since construction site learning is socially mediated and always locally situated (Gherardi, 2006), homosocial practices developed from previous workplace cultures remain part of construction workers' experience and influence their practices.

The project-based nature of the sector limits formal attempts to cultivate a positive dialectic between safety and masculinity that results in less risk-taking. The stalling of this dialectic encourages the use of hybrid masculinity for younger construction workers. This allows construction workers to flexibly enable co-optation towards those who partly maintain different phantom images due to previous work experience. Ultimately the chaotic nature of

construction work, combined with the strict safety systems, incentivises fungibility on safety practices depending on circumstances.

6.4 Summary of discussion

To summarise, the workplace cultures were characterised by a mix of care- and competition-based practices aimed at maintaining homosociality, where images served as a means of gatekeeping, while reconfiguring the co-optation process through attributes such as interest to broaden inclusion. This was reinforced by a hybrid masculine phantom image. This phantom image was supported by an ideal worker that centred characteristics such as interest, comparisons to two images of women and evaluating other practices on instrumental terms. Women were thus positioned at a distance to the ideal worker. As a result, there was flexibility in determining what practices were useful for a given circumstance. For instance, physical strength was downplayed in daily work yet regained importance during crises (Article I). This highlights how these ideals could cease or return as part of homosocial gatekeeping.

Building on this, safety practices also reflected a balance between care and competitiveness. As such, strong safety practices were posited simultaneously as an individual and collective responsibility and as a sign of maturity. This maturity was expressed through displaying autonomy and mastery through strong safety practices. Ensuring that construction workers aligned their practices to balance care and competitiveness reinforced homosocial practices. This alignment shaped relations between younger workers who sought co-optation with older workers who retained status through mentorship. Nevertheless, formal safety systems were feared to undermine this co-optation structure by undermining practical learning. There was some support for a masculinity-safety dialectic, but it was weakened by how care was defined, how crises were managed, the project form's reinforcement of masculine ideals and the pull of past and future workplace cultures on safety practices.

7 Conclusion

This study aims towards exploring the dynamics between homosocial practices and safety at construction sites, and the implications these might have for the workplace culture. The resulting understanding of workplace culture is dynamic but centered around balancing caring- and competitive practices amongst men and how safety practices can entail homosocial practices.

Contributions

There are three main contributions featured in this study. First, homosocial practices can persist even as the workplace culture undergoes a transformation towards being more accepting and open for expressions of care. Through comparisons to an ideal worker, these homosocial practices produced a vision of their workplace culture as inclusive, rewarding merit and open to anyone showing interest in construction work, having experience, being efficient and capable of showing care. While care was emphasised, it coexisted with competitive practices that reinforced hierarchies and competitiveness. A hybrid masculine phantom image allowed construction workers to adapt to changing expectations while maintaining continuity with established workplace culture. This enabled a redefinition of competence in construction work to be inclusive, while still maintaining gatekeeping of co-optation.

Second, homosociality and safety interplays with each other through the pursuit of aligning performance of safety practices with other men. Through such practices men seek to demonstrate their maturity. Efforts to ensure that colleagues aligned their safety practices and shared a similar balance between caring and competitiveness was viewed as deeply important, as lack of alignment on safety practices increased safety risks for construction workers. Age played an important role in shaping these dynamics, as different generations approached safety and collaboration in distinct ways. Younger workers tended to both adopt and reject practices performed by older colleagues. On the other hand, older workers were cautious about formal safety systems that might undermine younger construction workers' capacity to develop forward-thinking safety practices. Through these dynamics, construction workers of all ages sought to demonstrate maturity by displaying mastery and autonomy.

Third, changing ideals of safety and masculinity are shown to be linked to a changing workplace culture and its homosocial practices. Nevertheless, conscious efforts to promote caring practices via formalisation are constrained by organisational factors and ambiguities around care. A strong safety culture corresponded with a decline of practices associated with protest masculinity such as competitiveness towards colleagues. This thesis supports the view that there is a dialectical relationship between ideals of safety and masculinity at construction sites mediated through homosocial practices.

Such a positive development is limited, however, by organisational factors such as the project-form, recurrent crises disrupting care practices and the influence of past workplace cultures. Care for colleagues could be used to justify problematic practices such as prioritising collective safety over individual health. This was highlighted in crises, where deviations from safety rules could be justified to protect and express care for colleagues.

Practical Implications and Future Research

An important implication of this study is that safety practices can be influenced by homosocial practices and vice versa. Moreover, homosocial practices can be maintained even if the phantom image of masculinity is undergoing change. As such, gatekeeping can be retained amid changes. Furthermore, a masculine ideal centred on open care for other men, combined with a strong safety ideal that prioritises safety above all, can dialectically reinforce one another.

Homosocial practices mediate this dialectic, as men attempt to enact these ideals in their interactions among men.

Attempts to enact these ideals consistently are limited by ambiguities in how care is understood and organisational structures typical of construction projects. Therefore, both practitioners and future research should recognise that normalising caring practices in a workplace culture does not always lead to stronger safety practices. Instead, the development of safety culture should emphasise the importance of self-care alongside collective care. Cultivating such a shared understanding of safety priorities may incentivise homosocial practices that strengthen safety performance. Nevertheless, how unforeseen events and crises at construction sites can encourage a return to older safety practices warrants further exploration. Future research could apply a robust intersectional framework that incorporates ethnicity into the analysis to explore how these factors shape homosocial practices used in times of crisis.

Likewise, homosocial practices within subcontractors' work cultures, and homosocial practices between primary contractors and subcontractors are not investigated in this thesis. Future research could contribute to deeper understanding of how the contractor relationships shape the dynamics between homosociality and safety practices in this context.

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