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Migrants' work environment in the Danish construction sector

Summary in English

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Center for Labor Market Research, Aalborg University, Aalborg 2023

1 Introduction

The report "Migrants' work environment in the Danish construction industry" presents the results of a research project detailing the work environment of migrants in the Danish building and construction industry, as well as differences when compared to the Danish workforce. This document summarizes the main results from the report.

The research project investigates by the following questions:

1. How is migrants' work environment in the Danish construction industry?
2. How do migrants' work environment and safety differ from that of Danes?
3. In which sub-industries do migrant workers take up employment? And do these industries pose the highest occupational health and safety risks?
4. What is the accident profile of migrants?
5. What are the reasons for underreporting of occupational accidents in the construction industry?
6. Are there differences in the safety culture of Danes and migrant workers?
7. Do Danish companies and foreign companies offer different work environments?
8. Does the working environment for migrant workers "spread" to Danish workers?
9. Is there a link to social dumping?

The study uses mixed methods. The quantitative part of the study is based on administrative register data where civil registration numbers (CPR-numbers) are linked to other administrative registers, registers concerning labor market participation and employment, contact with hospitals and occupational injury reports.

In addition, the study is based on qualitative interviews with 84 migrant workers from 13 different countries, primarily from Eastern and Southern Europe, interviews with 37 professional informants, including occupational health and safety (OHS) consultants and coordinators, site inspectors, employers, trade unionists as well as site visits and a scoping study.

This document is structured as follows: First, the report provides an overview of key research results followed by a longer summary of the main results from each chapter of the main report.

Brief overview of key research findings

- 1. In the construction sector, the number of migrant workers has increased over the past ten years from 8,782 to 25,014 full-time jobs in 2023, an increase of almost 300%. The increase is mainly due to the influx of migrant workers from new EU countries and, to a lesser degree and in recent years, migrant workers from third countries (outside the EU).**
- 2. Migrant workers are overrepresented in the most dangerous sectors of the Danish labor market, including in construction. In addition, migrant workers are overrepresented in the most dangerous sub-sectors within the construction industry, such as demolition, and are largely allocated so-called 3D jobs (dirty, dangerous and demanding).**
- 3. From 2016 to 2022, migrant workers account for about 37% of all fatal workplace accidents, but only make up about 13% of total employment over the same period.**
- 4. There is severe underreporting of migrant workers' occupational accidents into the mandatory reporting system called EASY. We estimate that only one in five accident concerning migrants from the new EU countries is registered in accordance with the law.**
- 5. Pressure on migrants to continue working with injuries, repatriation to own country, prevention of professional medical treatment and/or redundancy are all accident responses which inhibit correct registration of accidents. Data show examples of conscious efforts to hide accidents and exploitation of migrants' ignorance as means of avoiding mandatory reporting.**
- 6. Incentives in the industry discourage reporting, including the role of accident statistics such as "100 days without accidents", and the desire to avoid increased attention from the Danish Working Environment Authority (WEA).**
- 7. Migrant workers experience enormous work pressures with expectations to work at high speed for many hours and days in a row without necessary breaks.**
- 8. Migrant workers are positive about health and safety initiatives to the extent these are designed to improve their work environment and safety, but migrants report that initiatives are often formal in nature (safety work) and not designed to make a real difference to their safety and health (safety of work).**
- 9. Migrant workers receive inadequate or no instructions from employers. They also experience a lack concern from employers about their well-being. Earnings and schedules are more important to employers than migrants' safety and health.**

- 10. Migrants experience a high degree of inequality and discrimination compared to Danish employees. This includes pay, work pace, working hours and allocation of the most dangerous tasks. They attribute the differences to Danes' better relative powers.**
- 11. Actual or threats of dismissal and dependence on the employer, such as dependence for housing and transport, explain why migrants find it difficult to speak out against poor treatment, orders to work overtime or undertake dangerous work even when tasks involve major health risks.**
- 12. Migrant workers employed in non-Danish companies experience the worst work environment and safety problems. Without the relative power afforded by having Danish colleagues, problems intensify.**
- 13. Satisfied migrant workers have decent wages, Danish colleagues, regular working hours, receive thorough instruction and perform tasks that match their professional skills. They are also not pressured to work at high speed.**
- 14. Inspections by the Danish Working Environment Authority (WEA) are made difficult by migrants being ordered to stop work, leave work sites, or hide when WEA arrives.**

2 Migrants' experiences in the construction industry in Denmark

This section summarizes key findings from chapters 4 and 5 of the main report, detailing migrant workers' experiences in the construction industry.

2.1 *Everyday life at work*

A pressure to work fast—and faster than Danish workers—is migrant workers' most dominant experience of their everyday life at Danish construction sites. Virtually all migrant workers report a pressure to work at high speed, or as many express it, they must work "faster, faster, faster". In this way, migrants report on work pressures which are substantial and difficult to sustain.

Migrant workers often work many hours per day and per week. Migrants explain that, on the one hand, they may have a desire to work long hours. At the same time, employers pressure migrants into working extensive hours and past the number of hours that migrants wish. Also, migrant workers are aware that long working days are a risk factor in relation to accidents and long-term consequences.

The problematization of working hours and pace is also linked to pay. Some migrants explain that the long hours are motivated by their lower pay which makes it difficult for them to earn a reasonable salary. Migrant workers must work more hours than Danes to achieve the same earnings.

Discriminatory low pay affects wellbeing. Even where wages fall within the minimal salary dictated by collective agreements¹, the relatively lower pay compared to the salary earned by Danish workers has the potential to affect wellbeing in the workplace. Migrant workers find it discriminatory that they must work longer hours and faster, but at a lower wage than Danes.

Migrants report on lack of instruction. It is striking *how* dominant the theme of lack of instruction is in the overall material. When a Polish migrant worker who has worked in Denmark for many years reveals that "often employers don't take the time to give instructions", he speaks for many other migrant workers who similarly report on lack of instruction.

Migrant workers report that they are assigned the worst tasks. Migrant workers find it unfair and discriminatory that they must undertake the most dangerous, hardest, and dirtiest jobs (3D) on construction sites, while Danes do the easier jobs.

¹ Denmark presents itself as quite peculiar in matters of workforce organisation. In Denmark, collective agreements, which are based on collective bargaining and negotiations regulate most aspects of the aspects of the workforce, including salaries and working-time (Høgedahl, 2017; Høgedahl, 2020) without government interference. There is no minimum wage in Denmark as mandated by law.

Only few migrants report having any collegiality with Danish workers. This is because migrant workers often work in separate shifts and teams with other migrants and therefore only have limited contact with Danish workers. As a result, most migrant workers do not experience that missing Danish and English language skills are an issue in terms of safety or as a daily problem. Perhaps somewhat surprisingly, migrant workers overwhelmingly agree that they do not experience language problems.

Relationships with colleagues depend on whether colleagues are Danes or other migrant workers. Migrant workers describe a positive but distanced relationship with Danes with little interaction at work and only rarely outside the workplace. The relationship with other migrants is closer, but often characterized by conflicts and a harsh language among the workers, but also in relation to management.

Employer provided housing is the cause of worries and a lack of wellbeing. Almost unanimously, migrant workers in employer assigned housing describe their housing as inadequate and overcrowded with insufficient access to bathrooms and kitchens. Many share rooms or even beds with other migrant workers.

Regardless of the state of their dwelling, employer assigned housing is seen as problematic. This is because migrants feel pressured to accept unacceptable conditions at work because being dismissed from the job also means eviction from their dwelling. Employment dependent housing thus increases dependency on the employer.

Discrimination is a common theme across all data. Compared to Danes, migrants point to the allocation of the worst and most dangerous work (3D jobs), longer working hours and an expectation to work faster and without breaks. Migrant workers overwhelmingly point to Danes' better relative powers which enable them to refuse order from employers as the primary reason for the differences.

2.2 Cultural encounters and migrants' vocational skills

The results point to a mixed picture of culture and cultural encounters. Some migrants flat out reject the existence of cultural differences between migrant workers and Danish employees. Others, for good reasons, have no view on culture differences because their first encounter with the construction industry is in Denmark with no prior experience outside Denmark.

Other migrant workers again report on a specific work culture in their home countries and in other Western European countries. Migrants describe this work culture as characterized by a high work pace, hard manual work and long workdays. However, when comparing this picture against the

picture painted of work life in Denmark, this work culture appears to be very similar to the work culture that most migrant workers experience on Danish sites. Therefore, while some migrant workers bring a specific work culture with them when they come to Denmark, this culture is also *maintained and sustained* on Danish construction sites. Employers reward those who continue the same work culture: fast pace, long hours and those who never complain.

Migrant workers who prioritize safety over high work pace and long hours, and thus fail to live up to the cultural image of hard-working migrant workers who never complain are swiftly punished. This happens most often by being dismissed or being threatened of dismissal. The different culture, to the extent that it already existed prior to encountering Danish construction sites, is cultivated and any attempt to create a "better", safer work culture is severely punished.

Overall, migrant workers do not perceive their skills to be inferior to the Danes', although a few migrants who problematize migrants' level of education and vocational skills. Being able to do the tasks is the most dominant experience even though the majority of the informants in our study have no vocational education, neither from their own country nor Denmark. However, many have extensive experience from their own or other countries. On average, the informants in this study have 12 years of experience working in the construction industry.

Some migrant workers are employed outside of their own profession, such as bricklayers working as carpenters. As a result, migrants feel that their skills are not valued. Instead, other qualities are highly valued by employers, particularly a willingness to work long hours, at a fast pace and without complaining.

2.3 *Various safety measures*

The introductory courses at large and medium work sites and which are mandatory for new workers are perceived as a positive initiative by migrants to the extent that courses are intended to have real impact on safety, not just a formality. Unfortunately, many migrants find that the courses are nothing but a formality.

Internal inspections (in opposition to inspections by WEA) at the workplace are perceived as the safety initiative with the best results in terms of personal safety. However, again the perception depends on whether the supervision is real and perceived to be for the sake of the migrants. Thus, those who are on a first-name basis with the supervisors and perceive an alliance between themselves and the supervisor report positive experiences, while others perceive the inspection as a formality.

Even though it is mandated by law to form a cooperation in which employees are involved in working for better occupational health and safety (In Danish and in short, AMO)² is required by law, in most workplaces AMO either does not function at all or migrant workers are excluded.

Discrimination is again the biggest source of dissatisfaction. Discrimination is crucial to how migrants perceive specific health and safety measures. For example, when assessing their own access to safety equipment, personal protective equipment and necessary tools, migrants use Danes as a benchmark. For example, the lack of safety shoes is not perceived as unfair as long as Danes do not get them either.

One of the most robust findings is that inspections by the Danish Working Environment Agency (WEA) trigger work stoppages. Repeatedly, migrants have told us that they must stop work, leave the site, disappear, hide, etc. when the WEA arrives.

2.4 Discrimination and attitudes

The perceived lack of concern for the wellbeing of migrant workers is a consistent, cross-cutting and disturbing theme which has far-reaching implications for migrant workers' wellbeing, but also for their ability to go to work safely. Migrant workers feel they are perceived as little more than just arms and legs and with no human value. Migrant workers make sense of this as an act of outright discrimination. In other words, their treatment applies to them because of nationality. Danes can avoid equal poor treatment—because they are Danish.

Migrant workers report being met with attitudes which suggest that their wellbeing and safety have little value. The experience of not being seen as a human being is primarily aimed at employers. Thus, when migrants report discrimination, being treated as inferior and being forced to work unsafely, criticism is primarily aimed at employers.

Wage theft and other forms of fraud are consistent, dominant themes. When the totality of data is considered, migrant experiences form a catalog of different scams and cunning ways to cheat and deceive migrant workers. Fraud occurs primarily in the employer-employee relationship, but not in the relationship between colleagues, the client, WEA or other supervisory authorities. In some cases, middlemen/traffickers are involved.

² In Denmark, it is mandatory to have cooperation (AMO) in companies of a certain size. The legal rules on the legislatively mandated cooperation on the working environment can be found in the Working Environment Act (LBK no. 2062 of 16/11/2021).

2.5 *Working life in general*

Dismissal or threat of dismissal is an experience shared by many migrant workers. Under the threat of dismissal, migrant workers are scared to speak up. They find it difficult to stand up to poor treatment, orders to work overtime, orders to perform work unsafely or to do dangerous work, even when it has major health consequences.

Being dismissed has different consequences for migrants than for Danish workers. Often, it is not just the job and salary that is at risk, although devastating enough in itself. Often, housing, transportation and meals also disappear along with the job.

Job precarity is a condition of work. While migrant workers enjoy some protection by working in a booming sector, this does not transform to a feeling of freedom to pick and choose. Lack of Danish and English language skills, in particular, is linked to experiences of precarity. Language impacts migrants' ability to navigate towards better employers, and a lack of language skills makes it difficult to find good jobs. A lack of language skills thus limits migrants' opportunities and increases dependency on the employer.

3 Workplace accidents and underreporting

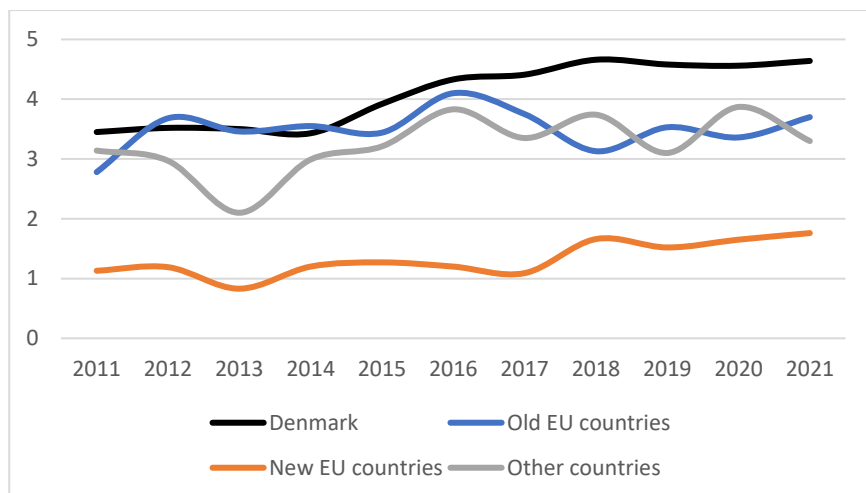
This section details whether migrant status has an impact on the number of reported accidents at work and reasons for underreporting. The full analysis can be found in chapter 6 of the main report.

3.1 *Accidents*

In Denmark, it is mandatory for employers to report work accidents, see the main report for a detailed overview of which accidents must be reported.

In line with a previous Danish study (Biering et al., 2017), the analysis of administrative data confirms that relative few occupational accidents are reported for migrant workers. In particular, the number of reported accidents to EASY relate to citizens from new EU countries, see figure 1. A similar picture emerges for reporting to the hospital system, see chapter 6 of the main report.

Figure 1: probabilities of reporting accidents at work to EASY, by nationality - construction, in percent



Citizens from the new EU may thus appear to be less susceptible to risks and therefore less prone to accidents than Danes. However, the surprising result is due to massive underreporting—not that migrant workers actually have fewer accidents. A conservative estimate based on the analyses is that only around one in five accidents are reported for new EU citizens.

When compared to previous estimates of unreported accidents, we consider previous estimates to be too conservative. We consider the previous official estimate of 56% for all industries (Lander et al., 2015) and 51% for the construction industry specifically (Arbejdstilsynet, 2017) far too conservative in relation to migrant workers in the construction industry.

Overall, we conclude that administrative data concerning both emergency departments and EASY suffer from so many missing entries that we still hold no valid knowledge of the exact number of accidents in the building and construction industry. Efforts to determine the accident profile of migrants is difficult due to the lack of valid data. At the very least, it is likely that more accidents involve migrants than previously assumed.

3.2 *Reasons for underreporting*

The result above begs the question, what is the cause of underreporting? We asked migrants who had been involved in an accident. Migrants overwhelmingly point to the fact that some employers systematically hide workplace accidents. This is done, for example, by various forms of pressure on the worker to continue working, by expatriation to country of origin, by ignoring injuries, by preventing professional medical treatment and/or by dismissing injured employees.

What becomes clear in the qualitative analysis is that these are systematic efforts where cheating, circumvention and exploitation of ignorance are means to keep the real number of accidents out of the administrative data registers.

It is also apparent, that some incentives in the industry make it more attractive to hide accidents than to report them. Intertwined and partially overlapping, informants point to the company's public image, the role of accident statistics such as "100 days without accidents" and the desire to avoid increased attention from the Danish Working Environment Authority.

Thus, employers' failure to report accidents in accordance with the law is not primarily due to confusion, busyness, unfamiliarity with the rules or anything else. The results show that underreporting is due to systematic circumvention to hide the occurrence of accidents.

Underreporting is particularly prevalent among migrant workers, while accidents among Danes are more likely to be treated and registered.

4 Conditions of work

The project investigates why migrant workers experience poor occupational health and safety conditions. Some explanations can be found in the experiences already presented above, including work pace, working hours, threats of dismissal, lack of instruction in the work, discrimination and employers' lack of concern for the person behind the labor.

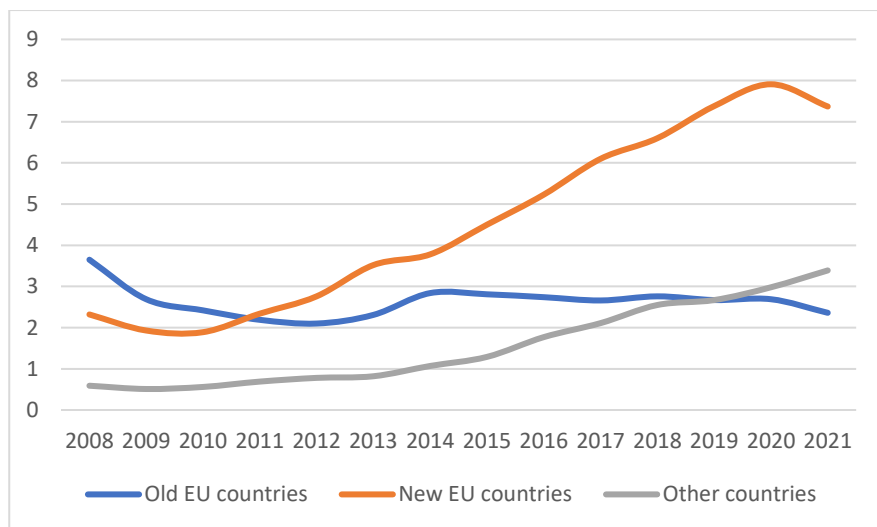
But there are other reasons as well. The main findings regarding conditions of work are presented here, while the full analysis can be found in chapter 7 of the report.

4.1 *Nature of work*

A main reason why migrants have a very different safety profile than Danes is due to the type of work migrants do. Migrants perform jobs that are referred to in the international literature as 3D jobs (dirty, dangerous and demanding) (Connell, 1993).

Analyses of administrative data show a significant increase in migrants' participation in the most dangerous industries both inside and outside the construction industry between 2008 and 2021. Figure 2 shows migrants' participation in the most dangerous industries in construction, see chapter 7 and the full methods section in the main report for more details.

Figure 2: Proportions of migrant workers in the most dangerous industries in construction, in %, by three groups



The figure shows that citizens from especially new EU countries are taking over work in the most dangerous jobs within the construction industry. As the figure shows, citizens from new EU member states make up only 2.32 percent of these industries in 2008, while in 2021 they make up 7.37 percent.

In particular, migrant workers work in the concrete and demolition industries, which are associated with particularly hazardous work, such as contact with dust, asbestos, Polychlorinated biphenyls (PCBs), insulation and other hazardous materials.

Also, migrant workers primarily perform manual tasks. Migrants do unskilled work, i.e., work where strength and stamina count more than technical know-how. These jobs put strain on the body. In addition, even when migrant workers have the same tasks as Danes, they must do the task with less access to necessary tools and protective gear.

In summary, one (and possibly the main) reason why migrant workers have more accidents than Danes is because migrants find jobs in particularly dangerous industries, including construction. But the risks associated with working in these specific industries are even higher for migrants than Danes who also work in, for example, concrete and demolition, because migrants are predominantly assigned manual and dirty tasks and without the same access to assistive tools. Migrant workers are more likely than Danes to work in the rain, mud, dust and perform particularly dangerous tasks without access to the tools that Danes have access to.

The analysis also shows that Danes are increasingly able to avoid 3D jobs. Migrant workers and Danes who are employed by the same company and work on the same projects do not share the tasks equally. Instead, migrant workers must put up with being assigned the least attractive tasks

on the sites. With this division of labor, Danes are spared many of the most unhealthy, debilitating, and dangerous tasks.

This is of course beneficial for Danish workers, but it is also beneficial for the Danish healthcare system, because consequences are externalized. The negative impacts are primarily borne by the migrant workers' own national healthcare systems. The consequences of exposure to dust and asbestos and hard and heavy manual labor which arise in the short term (accidents) or long term (wear and tear), are not borne by the Danish health care system to the extent migrants return to their country of origin.

4.2 *Organization of work*

It is no coincidence that migrants are assigned the most dangerous tasks, while Danes can avoid them. The division of labor is the result of certain processes on Danish construction sites. These processes most clearly take the form of division, segregation and exclusion.

Data document the creation and maintenance of “B teams” of migrants, who have less access to almost everything and are subject to different conditions and expectations than the “A teams” of Danes. They are also segregated, often physically into different sections, teams and do not share breaks. It is hard not to conclude that the segregation is sometimes deliberate with the intention of separating migrant workers from the Danish workforce.

Data also document the exploitation of migrants' willingness to work, which exceeds their *voluntary* willingness to work. Willingness to work is expected. Willingness is “encouraged” under the threat of dismissal.

Finally, there are reports of fraud and labor crime on a scale which is difficult to quantify, but which all informants agree exist throughout the industry. Professional informants estimate that organized labor crime is on the rise and that migrant workers must put up with increasing degrees and more sophisticated and organized forms of labor crime.

Data point to increasing involvements of organized criminals from both Denmark and abroad. The cases reported in the media and brought to court probably only count for the top of the iceberg considering the data in this project which details widespread organized labor crime. The vulnerability of migrant workers in the labor market makes them especially vulnerable to organized efforts to exploit labor.

5 Migrants' culture, knowledge and experience

The project also examined whether poorer work environment and safety of migrants are due to the characteristics of migrants, i.e., migrants' background, knowledge, experience, and culture. The full analysis can be found in chapter 8 of the main report. The results are summarized here.

Migrant workers in the construction industry are on average only slightly younger than their Danish counterparts (around 40 years old). Around 42% of both Danes and foreigners are married. Comparatively speaking, migrants are therefore not particularly young or particularly old. Nor do they have a different profile in terms of marital status. We can therefore rule out the possibility that differences in accident profiles can be attributed to age or a presumed special carefree/risk-free life as an unmarried/young person.

While 11% of Danes in the construction sector are women, only 7% of migrant workers are women. Men generally have a higher risk profile compared to women (Hansen et al., 2020). More men than women are involved in accidents at work, and the accidents are often more severe for men than women. Thus, when there is an overrepresentation of men compared to women among migrants compared to Danes, it contributes to an increased risk profile.

Qualitative data show that migration is largely driven by demand for jobs and better pay than possible in migrants' country of origin. The differences between wage incomes in Denmark and country of origin, combined with responsibilities to families and mortgages, make migrants vulnerable to dismissal. This makes migrant workers more likely to accept poor working environments and dangerous work than their Danish counterparts. Migrant workers' alternatives may be so inadequate that it is difficult to stand up to employer demands.

There is a lack of agreement as to whether migrant workers lack professional skills and with that, knowledge of how to perform their work safely. Overall, migrant workers themselves do not believe that they lack vocational skills, while many professional informants are of the opinion that they do.

Some informants also point to cultural differences. However, it is uncertain whether what is perceived as a different culture is due to something else entirely, such as education. In addition, it is conceivable that the use of the word "cultural differences" is used to explain behavior that appears inappropriate to the outside world, but which, for example, is undertaken under the threat of dismissal. It is also conceivable that the widespread reference to "culture" among professional informants is due to the informants' conscious or unconscious trust in a superior Danish "culture".

Overall, it has been difficult to demonstrate that there is a different type of *safety* culture among migrant workers compared to Danes. Thus, the current study supports previous studies

(Guldenmund et al., 2013), which suggest that differences are more likely to be due to different levels of training and education than nationality. Data also indicate that the safety of migrant workers is situational and determined by what migrants encounter, not their backgrounds.

6 OHS interventions

The project also investigated the connection between various OHS efforts and migrants' poorer outcomes. The full analysis can be found in chapter 8 of the main report. Here, we present the most important findings regarding various safety and health interventions.

Migrants are predominantly excluded from occupational health and safety efforts. For example, informants point to a lack of instruction, exclusion from the law-mandated cooperation on occupational health and safety (AMO) and inadequate introductory courses. In addition, informants report on a willingness to perceive the occupational Health and Safety Act as being negotiable. At the same time, it seems that there are no major consequences for breaking the law.

It is difficult for even the most ambitious occupational health and safety employees to implement proper initiatives. In continuation of this, it is pointed out that most people employed in OHS positions are ill-equipped for the task.

Language problems are highlighted in OHS efforts. This is not surprising as virtually all previous literature on migrants (Arnholtz & Hansen, 2009) point to language problems. We note that there is a tendency to perceive language problems as a problem that originates with the migrant workers, and not with the (mostly Danish) OHS employees.

Formalities dominate rather than real, effective measures that improve safety interventions. The results thus point towards dominance of what is described in the international literature as *safety work*, rather than *safety of work* (Rae et al., 2018; Rae & Provan, 2018).

Inspections by the Danish Working Environment Authority (WEA) are hampered by work stoppages, orders to leave the site, clean up, take breaks, or hide somewhere on or off site. This makes it difficult for WEA to perform their core task of protecting migrants.

7 Industry organization and characteristics

Finally, the project investigated how the industry's organization of work result in in migrants' poorer outcomes. The full analysis can be found in chapter 8 of the main report.

The ease of hiring and firing in the industry is a contributing factor to migrants' poorer work environment and safety. Lack of employment security makes migrant workers vulnerable when

they have such poor alternatives in their home countries and low expectations of finding new and better jobs. General precariousness is thus a contributing factor to risky behavior at work.

In addition, data point to unrealistic schedules where profit always takes precedence over health and safety. Unrealistic schedules have an impact on health and safety because migrants are expected to work many days and hours in a row. Migrants may have a special interest in working long hours. They are also easier to pressure into working than Danes. This leaves migrant workers particularly vulnerable in a labor market driven by unrealistic schedules. Tired and exhausted workers are more prone to accidents. They are also more prone to the long-term consequences of such work.

Data also point to the widespread use of enterprise chains, where tasks are outsourced through a chain of companies from one company to the next. The consensus is that problems increase with the number of subcontractors: Longer chains equal more OHS problems. Chains shift responsibility and drain the process financially, making it difficult to implement good initiatives further down the chains. Stakeholders point out that problems arise even when the main contractor takes health and safety seriously and has procedures in place to ensure a good work environment.

Finally, data point to a generalized fear among migrants. It's not always clear what the fear is directed at or what causes it. In some cases, fear is clearly directed at the employer, but in other cases, it is unclear what causes such widespread fear. In other words, it is a general distrust. This fear makes it difficult for trade unions, public authorities and occupational health and safety professionals to help and protect migrants.

8 A decent working life

Compared to most migrants who report on problems and who are dissatisfied with all or many aspects of their working lives, a small group of nine migrants stand out. These migrants describe their work life in positive terms and provide insights into a decent working life.

Based on the interviews with satisfied migrants, workplaces should offer equal pay, Danish colleagues, thorough instruction, tasks that match skills and normal working hours. Employers who want satisfied employees should pay attention to how to match know-how to work tasks as the analysis shows that satisfied employees feel well-equipped to do the tasks they are assigned. This match is not linked to education, but rather to thorough instruction by employers, training and insight into migrants' professional background and knowledge.

Employers should not demand dangerous work, threaten to dismiss, cheat, deceive, discriminate, push migrants to work unreasonably fast, or take advantage of migrants' willingness to work. Nor should they make housing conditional on employment.

Satisfied migrants do not have long working days. On the contrary. The analysis suggests that there is good reason to cut back on the hours if employers want satisfied employees. The willingness to work associated with migrants in Denmark, and which employers so strongly demand, should not be abused under the constant threat of dismissal if employers want satisfied employees.

At the same time, the analysis also suggests that there is a correlation between responsible individuals with orderly housing and family relationships, language skills and allies, such as Danish friends or boyfriends, on the one hand, and the possibility of having a decent job on the other.

9 Ukrainian refugees' work environment

Ukrainian refugees are of special interest to the Danish Center Against Human Trafficking because there is an expectation that people fleeing from war and unrest are particularly vulnerable to human trafficking (Pers. comm. 2023). The most important findings in relation to this group are presented here. The full analysis can be found in chapter 10 of the main report.

Despite the differences in their stories, three Ukrainian refugees share experiences of perhaps *the* worst working lives of all migrants in this project, including human trafficking and non-payment of wages. All three Ukrainians have also experienced workplace accidents. The stories of the three Ukrainians among the informants show that some employers are willing to go to great lengths to exploit an already desperate situation. We deduce that the relative power position between employer and migrant is a contributing factor in explaining how badly individuals are treated.

Furthermore, the story of the Ukrainians shows how powerless the authorities are in helping this group of people, even though Denmark has been friendly towards Ukrainian refugees. Results show that it is difficult for authorities to protect these particularly vulnerable migrants from unscrupulous employers or criminals.

10 Theorizing and categorizing the occupational health and safety problems of different migrant groups

In this project, we developed a categorization of migrants. The categorization takes the form a matrix based on migrants' experiences against places of employment. The individual categories

provide insight into the migrants' working life and reveal the typical working environment situation for each category, as well as the work environment problems that migrants experience in their work in different types of companies in the construction industry.

To develop relevant categories, we identify three groups of workers:

- Tradesperson in home country, migration to work as a tradesperson in Denmark (careerists)
- Perhaps tradesperson in home country, but has primarily worked in other Western European countries (nomads)
- Not a tradesperson in home country, became a tradesperson with migration (the opportunists)

In addition, we have divided the migrants into groups based on their employment status:

- Employed in a Danish company
- Employed in a foreign company
- Employed in one company but hired into another company. In our dataset, this type of employment typically takes the form of temping.

Based on this, we have developed a matrix that identifies 9 different categories (see Table 1). Some categories have few informants. We have not found it desirable to try to create descriptions based on less than three informants. Therefore, two categories are crossed out in the table.

Table 1: Matrix, Migrant background vs. company affiliation

Background and experience → Employment ↓	Careerists	Nomads	Opportunists
Danish company	A	B	C
Foreign company	D	E	F
Hired in (typically temping)	G	H	I

The description of the individual categories can be found in chapter 11 of the main report. It is too extensive to include the descriptions here. Overall, the results show that migrants in all categories face problems with their work environment and safety. There are no categories in which migrants do not have any health and safety issues at all.

10.1 Shared experiences across categories

In the following, we focus on results across the individual categories (vertically and horizontally).

Migrant workers employed in *Danish companies* share some common experiences, regardless of the migrants' background. One of the clearest patterns is exclusion from the legislatively mandated cooperation on work environment (AMO). In addition, migrants face discrimination when compared to Danes. Careerists experience discrimination in demands, working hours and tasks, while nomads experience discrimination in terms of work pace.

Temp workers share a range of experiences, regardless of their backgrounds. Both careerists and nomads lack instruction, are subjected to high work pressure, have no or limited contact with Danes, cannot make demands, feel that there is no room for even minor misconduct, and live precariously and experience no job security. They also experience discrimination. Overall, the results show that there is good reason to be concerned for temp workers who, due to their employment relationship, which leaves them to fend for themselves in a company to which they do not belong permanently. Also, the company which has the duty to instruct, has to incentives to do so.

Migrant workers working for *foreign companies* also share a range of experiences, regardless of their backgrounds. Both nomads and opportunists lack instruction or thorough instruction. They experience high work pressure and there is no room for even minor mistakes. They live in fear of dismissal and live a precarious existence. Migrants in foreign companies cannot make any demands. They also report a high level of discrimination when comparing to Danes, even though they have little or no contact with Danes. Migrants in foreign companies are also the most likely to report widespread fraud.

In summary, although there are fewer and less severe problems in Danish companies, migrants in Danish companies face problems, too. Yet, it is incorrect to assume that Danish companies offer equal work environments to migrants and Danish workers.

Careerists who are employed in a Danish company or as temps do not share many experiences. Their experiences could hardly be more different. While careerists in Danish companies' primary concerns are about the long-term consequences of hard physical work, differences in demands for working hours and tasks, the careerist temps report on severe work environment issues.

Careerist temps report on dangerous, 3D work, lack of thorough instruction, mismatch between qualifications and work, lack of training/certifications, disregard for safety and work environment in favor of a high work pace, discrimination between Danes and migrant workers in terms of work

pace and the nature of the work, high work pressure and a precarious existence as a result of the temporary form of employment, as well as isolation both inside and outside of work.

Nomads employed by Danish and foreign companies and as temporary workers share some experiences. These include discrimination and a high work pace regardless of the form of employment. They also share the experience that their safety and work environment are neglected and that they live a precarious existence. We deduce that nomads share experiences across forms of employment due to their nomadic existence. Nomads who frequently change countries, jobs and companies find it difficult to acquire the necessary knowledge and power because each new job brings with it a new set of conditions that affects not just one aspect of their work lives, but many.

The opportunists, who are employed by Danish or foreign companies, share few experiences. The shared experiences are lack of instruction and the assignment of 3D jobs, including allocation to the most dangerous work. In addition, the opportunists share almost no shared experiences even though the only thing that differentiates their employment is whether the company is Danish or foreign.

In summary, our analysis provides a first framework which differentiates migrants. This differentiation enables stakeholders to identify not only the degree of environmental problems, but also about the nature of occupational health and safety problems for each category. The analysis shows how migrant background and employment mode produce different outcomes and that there are work environment problems for migrants across all categories, but that the issues are not the same.

The results show that the *worst* problems relate to both the middle column and the middle row (see Table 2 below). Thus, the analysis shows that the most severe problems happen in foreign companies (the green ring) and to those who live a nomadic life (the blue ring). This also means that nomads in foreign companies are particularly vulnerable and thus require extra efforts.

Table 2 : The worst work environment problems

Background and experience → Affiliation ↓	Careerists	Nomads	The opportunists
Danish companies	A	B	C
Foreign companies	D	E	F
Hired (typically temp)	G	H	I

As the analysis is the first of its kind to our knowledge, we are not in a position to assess our findings against previous research and thus cannot assess the value of the model beyond how industry stakeholders will receive and accept the model.

11 Conclusion

Here we outline conclusions within and across the chapters. The full conclusion can be found in chapter 12 of the main report.

11.1 How is the work environment and safety of migrants?

The overall conclusion is that we should be concerned for the health and safety of migrant workers in the Danish construction industry. The main report identifies a number of problems in relation to the health and safety of migrant workers and these problems are widespread and severe.

11.2 Are migrants particularly vulnerable to accidents?

The overall conclusion is that migrant workers are particularly vulnerable in the Danish construction industry. The construction industry is dangerous for all, but it is significantly more dangerous for a migrant to work in the construction industry than it is for a Danish tradesperson.

Unfortunately, the administrative data registers do not allow us to determine exactly how exposed migrants are to non-fatal accidents. The reason is that the administrative registers suffer from underreporting.

11.3 What are the reasons for the high unreported and underreported figures?

We conclude that the main reason for underreporting is systematic circumvention with the intention to hide workplace accidents. This is done, for example, by various forms of pressure on the worker to continue working while injured, by expatriation to country of origin, by ignoring injuries, by preventing professional medical treatment and/or by dismissal. These are systematic efforts. Covering up, circumvention and exploitation of migrant ignorance are means to keep the real number of accidents off the records. The results also show that there are some incentives in the industry which make it more attractive to hide accidents than to report them.

11.4 Do migrants work in particularly dangerous industries and tasks?

The conclusion is that migrants are offered jobs which are particularly dangerous. In support of this conclusion, we point to migrants being overrepresented in the most dangerous industries both in general and in construction specifically; migrants work in the most dangerous sub-sectors of already dangerous industries, including concrete and demolition; migrants are assigned the most

dangerous, dirty and demanding job tasks (3D) on sites; migrants have to undertake these tasks with insufficient or deficient tools, less instruction, less protection and more often lack technical aids.

Thus, one of the main reasons for migrants' higher risk of both fatal and non-fatal accidents is that they are employed in the most dangerous industries and perform the most dangerous jobs in those industries. Our study confirms research from other countries, which concludes that employment in the most dangerous industries is the overwhelming reason why migrants have an increased accident profile (Hvid & Buch, 2020).

11.5 Does it matter if the company is Danish or foreign?

We conclude that the occupational health and safety of migrants is situational and therefore also dependent on the company of employment. The company of employment influences migrants' safety and how migrants perceive their work environment and safety. The OHS is different for migrants employed in Danish and migrants employed in foreign companies.

Migrants in foreign companies experience a lack of instruction, high work pressure and report that there is no room for even minor mistakes. They live with the fear of dismissal, a threat that is perceived as real and vocalized. As a result, migrants in foreign companies have a precarious existence. They report being unable to make any demands even in situations of great personal risk. Migrants in foreign companies are also most likely to report widespread cheating and fraud.

Employees in foreign companies have the worst health and safety issues when compared to migrants employed in Danish companies. Employees in foreign companies are closely followed by temp workers. Being employed in Danish companies is an actual as well as perceived improvement in migrants' work environment.

At the same time, we concluded that although there are fewer and less severe problems in Danish companies, there are problems in these companies, too. Danish companies do not offer a work environment to migrants which is equal to the work environment offered to Danish tradespeople.

11.6 How does the safety and work environment of migrants differ from that of Danes?

We conclude that migrants are offered a worse work environment and have poorer safety than Danes. Migrants are much more vulnerable than Danes to both fatal and non-fatal accidents and experience discrimination in all aspects of their employment.

11.7 Are there signs of social dumping?

The answer is a sound “yes” when the question is assessed in relation to the Ministry of Employment's definition of social dumping: "Foreign employees have pay and working conditions which are below the usual Danish level" (FAOS, 2023), including in the area of occupational health and safety (Ministry of Employment, 2023).

Data clearly show that migrants do not have a work environment which is like that of Danish workers. They are also far more exposed to safety risks. They experience discrimination in all aspects of work. In fact, discrimination is a common experience among migrants and relates to everything from dangerous work, work pace, working hours, pay, assignment of tasks, accident registration, and more.

We also conclude that social dumping occurs in all kinds of companies, including Danish ones. Here, one of the clearest patterns is exclusion from the mandatory health and safety cooperation, AMO. In addition, discrimination is widespread, particularly related to differences in requirements, working hours, tasks and work pace in Danish companies, too.

11.8 Does migrants' poor work environment spread to Danes in the industry?

Another question is whether the poor work environment for migrants affects others in the industry. Behind this question is a concern that migrants' poor work environment is "contagious" in the sense that Danes increasingly experience a poorer work environment as a result of migrant workers entering the Danish labor market.

There are methodological problems associated with answering this question. The question assumes that it is possible to compare over time as more migrants enter the workforce. However, the registers which could ideally be used for such an analysis suffer from so much underreporting that it is difficult to make an authoritative conclusion.

A cautious conclusion is that migrants' poor work environment is not contagious if we consider the question as a snapshot in time, a time period during which the industry is booming. We base this conclusion on the fact that migrants are increasingly taking over the most dangerous work from Danish employees in the industry. We also put emphasis on the fact that informants consistently talk about A and B teams, not a general deterioration for all workers in the industry. See the main report for an in-depth discussion of this challenging question.

11.9 Why are there differences in outcomes?

The overall conclusion to this question is that there is no single factor which explains the differences between migrant outcomes when compared to Danish worker outcomes. Thus, it is not possible to isolate a single reason. For this reason, we caution against simple notions of causality. Instead, the differences are due to several interrelated factors. These influences can generally be attributed to the nature of the work, such as being offered the most dangerous work, the organization of the work into A and B teams, the knowledge and experience of migrant workers, inadequate occupational health and safety measures and practices, and the industry's conditions, such as the use of subcontractors and unrealistic time schedules.

11.10 Is poorer health and safety due to cultural differences?

The overall conclusion is that migrants' safety is situational and thus not dependent on culture. In continuation of previous research (Guldenmund, 2000; Guldenmund et al., 2013), we conclude that culture does not play a role in safety, but that safety is instead determined by the conditions that migrants encounter.

11.11 Are no migrants satisfied?

We conclude that it is possible to have a decent working life in the construction industry in Denmark under certain conditions. Indeed, some migrants have and are offered satisfactory working lives. We refer to this situation as "decent work". Decent work is characterized both in terms of what is present (such as regular working hours) and what is not (such as threats of dismissal).

11.12 Who are particularly vulnerable?

Overall, there is great variation in the work environment and safety of migrants. No two stories are the same. Nevertheless, we point out some general patterns to identify groups of migrants who are of particular risk. They are:

- Employees in foreign companies, including companies where the only "Danish" is the company registration number (CVR)
- Nomads who have worked in multiple countries and are oriented towards the whole of Europe as their workplace
- Temporary workers and other hired labor
- Ukrainian refugees
- Migrants without Danish colleagues
- Migrants who do not work regular work hours and weeks

- Migrants whose housing is linked directly to their employment
- Migrants who do not speak English or Danish because it makes it difficult for them to leave exploitative employment

These migrants are also those who require the most efforts by inspection agencies, OHS professionals and union representatives.

12 Measures to improve the work environment and safety of migrants

Throughout the project, informants have—either on request or on their own initiative—made suggestions to improve conditions. The suggestions are presented here in an abbreviated list. An extended list can be found in chapter 13 of the main report.

- General information
- Training and information of occupational health and safety
- Language training
- Greater consequences/penalties for lack of compliance with regulations
- Greater consequences for wage fraud
- Blacklisting of companies
- Mixed teams of migrant and Danish workers
- More and thorough instruction and the use of available information material in native languages
- Better training of middle managers
- Employer's assessment of migrants' professional capacity
- Equal pay
- More inspections and more resources for inspections
- Joint governmental efforts with reference to the Norwegian model
- Better cooperation between the Danish Working Environment Authority and construction companies
- Inspections to oversee compliance with the legislatively mandated cooperation on working environment (AMO)
- Changed focus at the Danish Working Environment Authority to focus more on psychological wellbeing, work pressures and housing
- More focus on insuring workers in foreign companies
- Better and more training of health and safety professionals
- Use of health and safety materials in relevant languages
- More focus on mental health

- Mandatory ID cards for all
- Expanded liability when using subcontractors
- Building a knowledge bank of initiatives that work
- Better, valid data
- Evidence sharing via the Danish Working Environment Authority

With this, we let our informants have the last word. We hope the catalog can be used as inspiration to implement initiatives. We leave it to industry and authorities to assess which proposals in the catalog are suitable for specific situations and contexts. At the same time, we encourage the industry to be bold and ambitious. We also encourage the industry to document and share both good and bad experiences when implementing specific initiatives.

13 Reading guide and short introduction to all chapters of the main report

We include a reading guide to all chapters of the main report, allowing readers to drill down on specific topics of interest.

Introductory chapters	Chapter 1 contains the preface, purpose of the report and research questions.
	Chapter 2 contains a detailed overview of our methodology and methods. Here, the reader can gain insight into the procedures, choices and methods used in the design, data collection, coding and analysis phases.
Literature review	Chapter 3 contains a literature review of prior knowledge detailing migrants' occupational health and safety in the construction industry. The literature study takes the form of a scoping study, which has also been published as a journal article (Overgaard et al., 2023).
Migrant workers' experiences in the construction industry in Denmark	Chapter 4 examines how migrants experience their work environment and safety in the Danish construction industry. The chapter begins with themes relating to daily life at work, including work pace, working hours, work allocation, etc. In Chapter 4, we then focus on the migrants' experiences with various safety measures on the sites and

explore the migrants' experiences with safety instructions, safety equipment and physical work environment.

Chapter 5 focuses on discrimination towards migrants, a discrimination which migrants believe underlie to be the root cause of their maltreatment.

Accidents and underreporting

Chapter 6 focuses on accidents and underreporting of accidents. First, a brief description of existing knowledge from Denmark and the rest of Europe detailing migrants' risk profiles. This is followed by administrative register analyses shedding light on probabilities of occupational accidents. The qualitative analysis is used to understand the somewhat surprising results of the register analysis and explore reasons for underreporting.

Causal relationships:
Reasons for differences

Chapters 7 and 8 assess the key question of why there are differences between migrant and domestic workers.

Chapter 7 addresses the causal relationships between working conditions and outcomes. We take an in-depth look at the conditions at work, including the nature of work, psychosocial influences and task demands which affect migrant outcomes.

Chapter 8 covers other influences, including the characteristics of the migrants themselves, health and safety interventions and various conditions affecting the whole of industry.

Variations in migrants' experiences

Chapter 9 examines what characterizes a decent working life. The analysis to answer this question is based on a thematic analysis of nine satisfied workers.

Chapter 10 focuses on the working lives of Ukrainian refugees.

Chapter 11 is a theorization and categorization of groups of migrants. The chapter examines migrant experiences based on previous work experience against employment modes.

Conclusion and actions
for improvement

Chapter 12 contains a conclusion and answers to the research questions.

Chapter 13 contains a catalog of suggestions on how to improve the occupational health and safety of migrants.

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