

## **Disability, gender and hiring discrimination – a field experiment**

Vegar Bjørnshagen<sup>1</sup>, Dan-Olof Rooth<sup>2</sup>, Elisabeth Ugreninov<sup>3</sup>

<sup>1</sup> Corresponding author. Norwegian Social Research Nova, Oslo Metropolitan University, Norway; e-mail: [Vegar.Bjornshagen@oslomet.no](mailto:Vegar.Bjornshagen@oslomet.no)

<sup>2</sup> The Swedish Institute for Social Research, Stockholm University; IZA; Linnaeus University, Sweden; e-mail: [Dan-Olof.Rooth@sofi.su.se](mailto:Dan-Olof.Rooth@sofi.su.se)

<sup>3</sup> Norwegian Social Research Nova, Oslo Metropolitan University, Norway; e-mail: [Elisabeth.Ugreninov@oslomet.no](mailto:Elisabeth.Ugreninov@oslomet.no).

## **Abstract**

This article examines disability discrimination in the hiring process and explores variation in how the intersection of disability and gender shapes employers' hiring behavior. We use data from a field experiment in which 2,048 job applications with randomly assigned information about disability were sent to Swedish employers with vacancies. Nondisabled applicants receive 33 percent more callbacks than similarly qualified wheelchair users despite applying for jobs where the impairment should not interfere with performance. The results indicate no heterogeneity in disability discrimination against men and women on average across occupations or by occupational gender segregation. However, discrimination rates differ considerably among occupations, varying from no evidence of disability discrimination to discrimination against both disabled men and disabled women as well as cases where disability discrimination is found only against women or only against men. The results indicate that discrimination based on disability, and the intersection between disability and gender, is highly occupation-specific.

**Keywords:** Disability, hiring discrimination, gender, field experiment, correspondence study, occupations

## Disability, gender and hiring discrimination – a field experiment

### Introduction

Recent research on the labor market inequalities of people with disabilities extends the literature on social stratification by highlighting disability status as an axis of inequality (Ballo 2020; Brown and Moloney 2019; Maroto, Pettinicchio, and Patterson 2019; Brooks, 2021). An emerging literature provides field experimental evidence that discrimination constitutes a substantial obstacle to the employment opportunities of people with disabilities (e.g., Baert 2016; Bellemare et al. 2019; Bjørnshagen and Ugreninov 2021), which likely contributes to the persistent socioeconomic disadvantage associated with disability (Chatzitheochari, Velthuis, and Connelly 2022; Jenkins 1991). In this study of disability discrimination, we extend previous analyses by addressing the intersection of gender and disability, which has received little attention in prior field experiment studies.

Although there is no universally recognized conceptual model of disability (Thomas 2004), it is generally acknowledged to involve both individual, impairment-specific causes, as well as structural, disabling causes, including barriers such as discrimination (Barnes & Mercer 2005; United Nations 2006). Field experiments in which fictitious job applications are sent to real vacancies have consistently documented hiring discrimination based on various types of impairments (Baert 2018), thus identifying one mechanism of marginalization.<sup>1</sup> Field experiments constitute an established method to study discrimination (Baert 2018; Bertrand and Duflo 2016; Gaddis 2018; Verhaeghe 2022) and have increasingly been used to address how social categories interact and shape labor market outcomes, documenting distinct patterns of discrimination (Di Stasio and Larsen 2020; Pedulla 2018; Dahl and Krog 2018; Bursell 2014).<sup>2</sup>

Previous field experiments of disability discrimination, by contrast, have been restricted to male job applicants (e.g., Ameri et al. 2018 [US]; Baert 2016 [Belgium]), or, in the few studies with both male and female applicants, gender differences have been examined solely at an overall level (e.g., Bellemare et al. 2019 [Canada]; Krogh and Bredgaard 2022 [Denmark]; Bjørnshagen and Ugreninov 2021 [Norway]). These studies tend to find equal rates of discrimination against men and women with disabilities. However, given gender segregation in

---

<sup>1</sup> For field experiments of disability discrimination in other domains, see Verhaeghe et al. (2016) or Fumarco (2017) for housing, and Ahmed et al. (2021) or Rivera and Tilcsik (2023) for educational access.

<sup>2</sup> The large field experimental literature provides insight into many aspects of hiring discrimination, including cross-country differences (Quillian et al. 2019), the role of antidiscrimination laws (Tilcsik 2011), and positive discrimination (Gerhards, Sawert, and Tuppatt 2021).

the labor market and the gender-typing of jobs, male and female applicants with disabilities may have unequal hiring chances depending on the gender composition within the occupation in which they apply for jobs. The results from field experiments on gender discrimination are mixed and indicate no discrimination, female advantage, or male advantage but also suggest that gender discrimination is reliant on factors such as occupational gender composition and the type of jobs applied to (see Birkelund et al. 2021 for an overview). Hence, focusing solely on overall gender differences might obscure underlying patterns of disability discrimination by gender across gendered labor market contexts. Greater insight into how gender intersects with disability in employers' perception and treatment of job applicants during the hiring process can contribute to an increased understanding of the forces that shape disability-related labor market inequality (OECD 2022).

This study contributes to the literature on inequalities by disability status by studying the extent of disability discrimination in the Swedish labor market and how the effect of disability on employers' hiring decisions differs for male and female job applicants. As a social category, disability is very heterogeneous and includes people with different impairments and chronic health conditions (e.g., sensory, physical, intellectual; visible, nonvisible; acquired, congenital). Different impairments may affect a person's ability to perform certain job tasks and require different types of workplace accommodations. In addition, different impairments are subject to different kinds of stigma and discrimination (Pachankis et al. 2017; Timmons, McGinnity, and Carroll 2023). In this study, we focus on discrimination against people with a congenital spinal cord injury, and who signals being a wheelchair user, a group that might be more likely than others to signal disability in a job application due to the visibility of impairment and accessibility-related issues. We use data from the first field experiment on hiring discrimination against wheelchair users conducted in Sweden. More than 2,000 job applications were submitted in response to over 1,000 publicly announced vacancies in occupations where using a wheelchair is not expected to affect job performance. The jobs were applied to in the three largest cities in Sweden, Stockholm, Gothenburg and Malmö, randomly varying the fictitious applicants' disability and gender. We investigate how gender and disability jointly influence employers' hiring decisions depending on occupational gender composition as well as across occupations separately.

### **Social context: Disability and gender in the Swedish labor market**

According to the OECD (2022), people with disabilities make up around 10 percent of the Swedish population aged 15–69 years, which is a bit lower than the OECD average of 16 percent. However, the annual labor force surveys estimate people with disabilities to make up 16–18 percent of people aged 16–64 (Statistics Sweden 2021, 2022). Although the number varies across surveys, people with disabilities constitute a large minority group in Sweden. Since the mid-1960s, Sweden and other Northern European social democratic countries, have worked towards disability equality in all areas of society (Tøssebro 2016). Despite this, research shows that these relatively more generous welfare states do not perform better than other, less comprehensive welfare states in lessening disability-related inequalities, including in employment (Gugushvili et al. 2023; see also van der Zwan and de Beer 2021). As the prevalence of disability, the exact size of disability employment gaps also differs between surveys (Geiger, van der Wel, and Tøge 2017). According to the OECD, the disability employment gap for the most part hover around 20 to 30 percentage points across OECD countries, with a few deviating from that range (OECD 2022). Based on these data, Sweden has a disability employment gap that is lower than the OECD average, but it is still large at around 20 percentage points. Hence, the employment rate of people with disabilities falls well behind the one for people without disabilities.

The unfavorable labor market position of people with disabilities in Sweden is despite anti-discrimination legislation. On a broader level, Sweden ratified the UN Convention on the Rights of Persons with Disabilities (CRPD) in 2008. However, the discrimination law used in Swedish courts is the Discrimination Act 2008:567, which prohibits discrimination related to disability, but also covers gender, gender identity or expression, ethnic affiliation, religion or other belief, disability, sexual orientation, or age. The law applies in working life, education, healthcare, goods, services, and several other areas of society. The duty of employers to provide reasonable accessibility measures is also included in the law, and since 2014, it considers inadequate accessibility as a form of discrimination (Lappalainen 2021). Put briefly, individuals with disabilities are protected from being treated unfairly due to a failure by employers to take reasonable accessibility measures that would enable them to perform a job effectively. In each individual case, it is the employers themselves who make assessments of whether measures are ‘reasonable’ based on factors such as the practical and financial situation of the company.

While the disability gap in employment is substantial, gender differences in labor market participation are small (Statistics Sweden 2021, 2022). Sweden is characterized by progressive

attitudes toward gender equality (Brandt 2011; Kaufman, Bernhardt and Goldscheider 2017) and dual-earner family policy models that are among the most ambitious in the world. A primary objective of these policies has been to relieve the conflict between care responsibilities and labor force participation as well as to encourage women's participation in employment. Consequently, the employment rate of Swedish women is among the world's highest. As in most Western countries, however, occupational gender segregation is still pronounced in Sweden, despite long-standing commitment to gender equality (Charles and Grusky 2018).

As for gender discrimination in hiring, most Swedish field experiments have not found gender differences in callbacks from employers *in the aggregate* (e.g., Bygren et al. 2017; Carlsson 2011; but see Carlsson & Eriksson 2019 for an exception). However, in a study by Ahmed et al. (2021) women are found to have an advantage over men, which is driven by a preference for female applicants among employers in female-dominated occupations. Similarly, Carlsson (2011) found that female applicants had somewhat higher callback rates in female-dominated and gender-balanced occupations compared with men. Other field experiments, by contrast, do not find such difference between occupations (e.g., Bygren et al. 2017), whereas yet others have found the opposite pattern; that is, employers having a preference for applicants of the *underrepresented* gender (Bursell 2014).

Despite ambiguous predictions from previous studies on gender discrimination, how gender and disability interact in shaping employers' hiring decisions is an open question.

### **Intersectional stereotyping and discrimination**

Multiple theories offer explanations for discriminatory behavior. In this article, we focus on the role of employers' stereotypes in generating unequal employment outcomes, drawing on theories on stereotyping and intersectionality. Social psychological theory suggests that discrimination follows from employers' classification of applicants into social categories, which unconsciously activates stereotypes and leads these widely shared beliefs about the typical attributes of category members to shape judgments and hiring decisions (see Fiske 1998 for an overview). Consistent with research on disability stereotypes (Nario-Redmond 2010; Rohmer and Louvet 2012), qualitative studies have found that employers hold stereotypes of people with disabilities as being passive, dependent, incompetent, and unproductive (Østerud 2022; Lengnick-Hall, Gaunt, and Kulkarni 2008). To the extent that employers value and emphasize characteristics that disabled people are perceived to lack, employers are likely to engage in discrimination against disabled applicants.

Intersectional theory and research on inequality and discrimination emphasize that social categories are interrelated and that they interact in distinct ways that shape how people are perceived and treated (Collins 2000; Crenshaw 1989; Ridgeway and Kricheli-Katz 2013). Accordingly, studies have shown that stereotyping unfolds intersectionally (Petsko, Rosette, and Bodenhausen 2022; Hall et al. 2019). The dominant focus of this tradition has been on gender, race, and class, whereas disability has been largely overlooked (Barnartt 2013). In the literature on disability inequality that has applied a gender or intersectional perspective, however, there are two main notions about the joint influence of gender and disability on labor market outcomes, with somewhat diverging empirical implications regarding the gendered nature of disability discrimination.

First, disabled women are conceived of as ‘twice penalized’ or ‘doubly disadvantaged’ in terms of experiencing the largest labor market disadvantages, due to both disability and female gender (O’Hara 2004; Fine and Asch 1981). This is consistent with the concept of double jeopardy (Beale 1970), suggesting that people in multiple subordinate categories experience discrimination directed at each category in a cumulative manner (see Purdie-Vaughns and Eibach 2008 for a review). The intersection of gender and disability is argued to amplify the impact of disability for women due to the overlap between stereotypes of passivity and dependency that are associated with both disability and traditional femininity (Stone and Colella 1996; Fine and Asch 1981; Vernon 1999; Coleman, Brunell, and Haugen 2015; Shakespeare 1999). Even if traditional stereotypes of (nondisabled) women may have become less important in the hiring context (Birkelund et al. 2021), a core claim of intersectional theory is that social categories intersect in complex, nonadditive ways (Collins and Chepp 2013). Accordingly, disabled women may experience discrimination that cannot be captured by either gender or disability discrimination as such.

Conversely, the ‘dilemma of disabled masculinity’ suggests that male job applicants with disabilities might be worse off when competing for jobs (e.g., Stone and Colella 1996; Ren, Paetzold, and Colella 2008). Disability is argued to erode ‘masculine privilege’. In the labor market, disability may for example limit access to ‘masculine’ jobs that are associated with physical strength. Moreover, the content of disability stereotypes is inconsistent with traits associated with masculinity, such as autonomy, assertiveness, competence, and power (Shuttleworth, Wedgwood, and Wilson 2012; Gerschick 2000; Shakespeare 1999). Given the ways disability may position men with disabilities in contradiction with dominant notions of

masculinity, disability might have stronger negative effects on employment among men (Pettinicchio and Maroto 2017).

The above perspectives on disability and gender are general in scope and implicitly assume that employers' evaluations and behavior are constant across social contexts. In contrast, theories of gender discrimination (Heilman 2012; Reskin 1993; Eagly and Karau 2002) and gendered racial discrimination (Ridgeway and Kricheli-Katz 2013; Hall et al. 2019) emphasize that the salience of gender and race stereotypes depends on whether individuals are considered prototypical of their social categories and on contextual factors. In contexts that are culturally linked to a certain gender (e.g., female- and male-typed jobs) or where people differ numerically by gender (e.g., female- and male-dominated workplaces), cultural beliefs about gender are more likely to become salient and bias judgement and behavior. In brief, theories of gender discrimination predict that male and female applicants will be at a disadvantage when they compete for jobs stereotypically associated with, or numerically dominated by, the opposite gender (Eagly and Karau 2002; Reskin 1993; Heilman 2012). Gendered race theory, on the other hand, posits that the *combination* of race and gender influences perceptions of an individual's femininity or masculinity, which in turn affect their perceived fit and hiring chances for occupational roles perceived as feminine or masculine (Hall et al. 2019; Ridgeway and Kricheli-Katz 2013).

There is a lack of context-sensitive theorization on the interplay of gender and disability discrimination. Drawing on the above perspectives about the conditions under which beliefs associated with particular groups are made salient, we explore how the intersection of gender and disability may influence employers' hiring decisions differently depending on occupational gender segregation. For instance, we may expect a double penalty of disability and incongruent gender in gender-segregated occupations due to a mismatch between the stereotypical characteristics of an ideal worker in the occupation and traits associated with gender, in addition to disability stereotypes. Hence, employers in male-dominated occupations might be more likely to discriminate against women with disabilities than men with disabilities and vice versa.

However, just as stereotypical beliefs about men and women implicitly refer to *white* men and *white* women (Ridgeway and Kricheli-Katz 2013), they also implicitly refer to *nondisabled* men and *nondisabled* women and differ from stereotypes attributed to disabled men (e.g., men with disabilities are viewed as dependent and passive) and, somewhat, to disabled women. While this is likely to shape employers' perceptions of their fit for gender-typed occupations, we apply an exploratory approach in investigating gendered disability



discrimination in occupations that differ in gender composition. Thus, we refrain from formulating explicit hypotheses and leave open the possibility for intersectional results.

### Data and research design

The data for this article come from a field experiment designed to investigate discrimination against wheelchair users in the Swedish labor market that relied on written job applications (i.e., a correspondence study). Between March 2020 and June 2021, we conducted a field experiment in the three largest cities in Sweden—Stockholm, Göteborg and Malmö.<sup>3</sup> In the experiment, two job applications were sent in pairs to job vacancies, randomly varying the disability status and gender of the applicant. In a first step, the gender of the pair to be sent was randomly chosen, and then, within the pair, disability was randomly assigned to one of the applications. Thus, the experiment combines within- and between-subject designs.

In more detail, information about disability was randomly assigned to the applications according to a paired, within-subject design. The “within-subject” here implies employers/jobs, that is, each employer receives both the treatment and control candidate. This design was chosen to maximize statistical power to test the main hypothesis that wheelchair users will receive less callbacks from employers than applicants without disabilities. Since we included only occupations where being a wheelchair user is not expected to limit productivity, the number of jobs available to apply for was limited. The paired, within-subject design offers the advantage of collecting more than one observation per vacancy.

Since the gender of the applicant may also predict employers’ callback, and we did not want to interfere with the main disability effect, we randomize gender *across* jobs (i.e., a between-subject design) instead of within jobs (see Deming et al. 2016). Hence, the applicants for any given job opening were either two females or two males.

---

<sup>3</sup> The experiment was conducted during the COVID-19 pandemic. Previous field experimental research provides mixed evidence on the impact of COVID-19 on discrimination in hiring (Bjørnshagen 2021; Chavez, Weisshaar, and Cabello-Hutt 2022). However, Sweden decided not to shut down the labor market as many other countries did, and in most occupations, presence at the workplace was required throughout the pandemic. A recent government report stated that production returned to prepandemic levels in the third quarter of 2020, and there was even a shortage of workers in 2021 (SOU 2022: 33). We do not find any evidence of the pandemic affecting the callback rate during the experiment, which was at a rather stable and constant level. When dividing the time period of the experiment into six three-month periods, the average callback rate is 17 percent with max=20 and min=14. Start and end periods have a callback rate of 18 and 17 percent, respectively.

Before we collected the data, we preregistered the main hypothesis, power calculations and analysis plan at AsPredicted.org ([URL]) and obtained ethical approval by the Swedish Ethical Review Authority (no. 2019-01291).<sup>4</sup>

### *Occupations*

We applied for jobs in eight occupations: administrative assistants (business and other), ICT operations and user support technicians, software developers, accountants, business sales representatives, customer service representatives and shop sales assistants (Table 1). The occupations were selected with the purpose of providing a comprehensive picture of potential discrimination while applying only for jobs for which being a wheelchair user would not be expected to interfere with job performance. The occupations involve different levels of customer contact and had different educational requirements and gender composition. We consider occupations as dominated by men if the share of men is greater than or equal to 65 per cent of the workforce, dominated by women when the share of men is less than or equal to 35 per cent, and gender-balanced when falling between these thresholds. A similar cutoff is used by Carlsson (2011) and Ahmed et al. (2021). We calculated the share of males in each occupation in 2020 using publically available data at Statistics Sweden.<sup>5</sup> Thus, three of the occupations were male-dominated (i.e., ICT operations and user support technicians, software, business sales representatives), four were female-dominated (i.e., administrative assistants in business/other, accountants and customer service representatives), and one was gender-balanced (i.e., shop sales assistants).

(TABLE 1 ABOUT HERE)

### *Creating application materials*

For each occupation, we created pairs of application templates, each consisting of a cover letter and a CV. To ensure that the applications listed qualifications on demand in the chosen occupations and that they would be perceived as realistic to employers, we reviewed authentic job postings and applications. The application material was also designed to ensure that the

---

<sup>4</sup> The correspondence testing method entails that researchers bypass obtaining informed consent from participants. In this particular study, the societal benefits of the project were considered to outweigh the costs associated with the method.

<sup>5</sup> For the data used to calculate the share of males in the occupations, see [https://www.statistikdatabasen.scb.se/pxweb/sv/ssd/START\\_AM\\_AM0208\\_AM0208E/YREG50N/](https://www.statistikdatabasen.scb.se/pxweb/sv/ssd/START_AM_AM0208_AM0208E/YREG50N/)

applications in each pair were equally qualified in terms of education, work experience and personal characteristics but differed in factors such as the current employer, wording and layout and specific work experience to avoid suspicion among employers. Depending on the occupation, the age of the applicants ranged from 22 to 28 years due to variation in the years of education required to obtain occupationally relevant qualifications.

### ***Data collection***

During the study period, we collected all job advertisements in the selected occupations from the website of the Swedish Public Employment Service, which is the main job search portal in Sweden. To minimize suspicion among employers, the applications were sent by e-mail with a time interval of one to three days. Before submitting the applications, we randomized the order in which the applications in each pair were sent. We recorded the responses from employers and promptly declined invitations to job interviews to limit the inconvenience to the employers. The final sample consists of 2,048 applications that were sent to 1,024 jobs. As specified in the preregistration of this study, a priori power analyses determined that a sample of at least 1,428 applications (714 jobs) was required to test our main hypothesis about discrimination based on disability. We continued the data collection after reaching this number of observations to obtain more statistical power for the exploratory analyses of the interaction of gender and disability in determining patterns of discrimination.

### ***Treatment variables***

We randomized the assignment of two treatments to the applications: disability and gender. In line with prior field experiments (Ameri et al. 2018; Bellemare et al. 2019; Bjørnshagen and Ugreninov, 2021), disability was indicated by including the following passages in the cover letter: ‘I want to be open about having a congenital spinal cord injury, and I therefore use a wheelchair. This is not limiting with respect to carrying out the job, and I have a high work capacity.’ This experimental manipulation is strong while ensuring realism because people with visible impairments might want to be upfront with employers to avoid uncomfortable situations, for instance when attending a potential job interview. To further strengthen the disability signal, the CV also listed volunteer work for a disability organization, including relevant work tasks, and the following statement: ‘As I use a wheelchair myself, I think it is important to promote activities targeting kids and youth with disabilities. I therefore volunteered at the National Federation of Mobility Impaired Children and Youth’s summer camp over the course of two

summers ([years]).' For the control applicants, volunteer work for a sports event not associated with disability was included in the CV.

Gender was proxied by common male and female Swedish-sounding names.<sup>6</sup> In Sweden, there is usually a clear difference between male and female names. To avoid the possibility that effects might be caused by the unique characteristics of any particular name, we used multiple first and last names in the experiment (eight in total).<sup>7</sup>

### ***Dependent variable***

The outcome variable in the analyses is an invitation to a job interview. The employers' response to each job application was coded as an interview invitation ( $y = 1$ ) if the candidate received an explicit invitation; otherwise, it was coded as zero. Discrimination was measured as the average difference in interview invitations to applications with and without information about disability.

### ***Analytical approach***

To test if there is a negative effect of disability on callbacks from employers (i.e., invitation to a job interview), we ran preregistered linear probability models to predict the dependent variable based on a dummy predictor for disclosing disability in the application status versus not. Standard errors were corrected for clustering of observations at the job level. As a robustness check, we conducted the analyses using a broader definition of callbacks as the outcome (i.e., any expression of employer interest).<sup>8</sup> The analysis was also run using vacancy/firm fixed effects, and the results remain the same. The replication package for reproducing the analyses is available from: [DOI]

### ***Exploratory analyses***

---

<sup>6</sup> We selected the most common birth names in Sweden in 1999 from Statistics Sweden's name register, available from: <https://www.scb.se/en/finding-statistics/statistics-by-subject-area/population/general-statistics/name-statistics/>

<sup>7</sup> For male applicants, we used the first names Erik, Simon, Anton and Filip and the last names Larsson, Karlsson, Svensson, and Nilsson. For female applicants, we used the first names Emma, Amanda, Elin and Hanna and the last names Karlsson, Johansson, Olsson and Persson.

<sup>8</sup> Overall, we obtain substantively similar results when using a broader definition of callbacks as the outcome (see Online Appendix B).

We conducted a series of non-preregistered exploratory linear probability models predicting the probability of callbacks based on disability and gender, in the aggregate, by occupational gender composition and for each occupation separately. Thus, pre-study power calculations were not conducted for these analyses, and the number of observations is inevitably smaller than in the main analysis. The results must therefore be interpreted with caution and should be considered as suggestive, not conclusive.

In addition, we further explore findings from preliminary (non-preregistered) analyses conducted halfway into the data collection suggesting patterns of discrimination by gender and disability for positions as software developers and ICT operations and user support technicians. For vacancies in these occupations, we added a third applicant with ethnic minority background as of March 2021 ( $N = 96$ ).<sup>9</sup> Ethnic minority background was signaled through common Arabic-sounding names (i.e., Yasmin Haddad and Mustafa Hosseini for female and male applicants, respectively). Beyond the names, the application material for these applicants is the same as described above, including for example education obtained in Sweden, thus signaling a second-generation immigrant background.<sup>10</sup>

By including a third applicant in the experiment, we increased the risk of detection by employers. To avoid undermining the main objective of the field experiment, the ethnic minority applicant was always sent last and was always of the opposite gender so that three female applicants were never sent to a single employer. Thus, the gender of the ethnic minority applicant also followed a between-employer manipulation of applicant gender.

## Findings

Table 2 provides a descriptive overview of the results, with callback rates reported by disability for male ( $N = 1,030$ ) and female ( $N = 1,018$ ) job applicants and per occupation. In total, the nondisabled applicants received an invitation to a job interview for 19.9 percent of their applications, which is approximately 5 percentage points higher than for the disabled applicants, who received an invitation to a job interview in 15.0 percent of the cases. The difference corresponds to a callback ratio of 1.33, indicating that disabled applicants must send 33 percent more applications to receive the same number of invitations for job interviews as applicants

---

<sup>9</sup> The preregistration was not updated to include a description of this change of the original research design.

<sup>10</sup> The names have, in a separate project run by the authors, been shown to signal a Middle Eastern background. In addition, Arabic-sounding names may evoke assumptions about other characteristics than ethnicity, such as religiosity (see e.g., Martiniello & Verhaeghe 2022).

without disabilities. Furthermore, the overall disability disadvantage is more or less equal among men and women. Among male applicants, the ratio of interview invitations is 1.36, which is only marginally higher than the ratio of 1.29 among female applicants. The final columns show that there is a preference for the applicant without disabilities over the disabled applicant in all occupations except for customer service representatives, while callback rates and relative differences in interview invitations vary substantially across occupations. In the female-dominated occupations, the callback *rates* are quite low while the callback *ratios* are high, except for customer service representatives. In male-dominated occupations, by contrast, average callback rates are high, which likely reflects a tight labor market. The callback ratios in the two IT occupations indicate a very small and not statistically significant disability penalty, while the callback ratio for business sales representatives (1.50) is relatively high. The number of jobs applied for in each occupation ranges from 80 for ICT operations and user support technician positions to 212 for software developer positions, reflecting variation in the number of vacancies available during the data collection period. Overall, the results suggest large variation among occupations, which we will explore further along the intersection of disability and gender in the sections below.

(TABLE 2 ABOUT HERE)

In Table 3, we report the results from linear probability models merging all occupations together. Column 1 shows that disability reduces the probability of receiving an interview invitation by 4.9 percentage points. Columns 2 and 3 present estimates from the same model run separately for men and women. The estimates show that disability reduces the probability of being invited to a job interview by 5.0 and 4.7 percentage points for male and female applicants, respectively. Accordingly, the coefficient of the interaction term between disability and female gender is statistically indistinguishable from zero (Column 4).

(TABLE 3 ABOUT HERE)

Hitherto, we find evidence of disability discrimination, but the disability penalty is lower than in other countries, where previous similar studies find callback ratios between 1.93 and 2.21 (Bellemare et al. 2019; Bjørnshagen and Ugreninov 2021; Krogh and Bredgaard 2022). Moreover, we find no indication of greater levels of disability discrimination against either male

or female applicants on average, which corresponds to previous research findings. However, no prior studies of disability discrimination address the gender segregation of the labor market and whether gender and disability influence employers' hiring decisions differently depending on the gender composition of the occupation within which applicants apply for jobs. Thus, we continue with a more in-depth analysis of the intersection between disability and gender within gender-segregated occupational contexts exploiting our experimental design, in which both disability and gender are randomized, within and between employers, respectively.

### ***Occupational gender segregation and gendered disability discrimination***

In the following regression models, we present results from exploratory analyses of how the intersection of disability and gender influences employers' hiring decisions depending on occupational gender segregation. To examine whether the full sample might hide heterogeneous patterns in disability discrimination by gender and occupational gender segregation, we first estimate separate linear probability models for occupations categorized as female- and male-dominated, respectively, as described above.<sup>11,12</sup> We then explore the results for each occupation separately.

### ***Female-dominated and male-dominated occupations***

As expected for female-dominated occupations, nondisabled women receive a higher level of interview invitations (0.156) compared to nondisabled men (0.114) (see the estimate of "Constant" in Panel A in Table 4, Columns 2 and 3). Information about disability decreases the probability of being invited for a job interview by 4.2 percentage points for men and by 4.9 percentage points for women. In absolute terms, then, we find no evidence that disabled men are at a particular disadvantage in female-dominated occupations. However, in relative terms, as indicated by the callback ratio, we find that disabled men are subject to a greater disadvantage than disabled women. Thus, in relative terms, the findings indicate that there might be a double penalty for men in female-dominated occupations due to disability and incongruent gender, but the effect is rather small and not statistically significant (Column 4).

---

<sup>11</sup> As a reminder, these heterogeneity analyses use the same observations as the main analyses presented in Table 2, but analyzing the grouped data implies using fewer observations for each of the statistical analyses, which inevitably renders the estimates less precise.

<sup>12</sup> Table A1 in the appendix presents results for the only gender-balanced occupation included in the field experiment (i.e., shop sales assistants).

Next, Panel B in Table 4 shows the same analysis for male-dominated occupations, and the difference between men and women without disabilities is negligible (31.1 percent versus 29.7 percent). The reduction in the callback rate is slightly larger for disabled men than disabled women in both absolute and relative terms. Disclosing disability decreases the probability of an interview invitation by 6.8 percentage points for men. The corresponding estimate for disabled women is 4.8 percentage points, but it is not statistically significant. The relative difference in interview invitations by disability is also larger among men than women (1.28 versus 1.19). Opposite to what might be expected, then, the disability penalty is larger for men in both absolute and relative terms within male-dominated occupations. That being said, these gender differences are, as for the female-dominated occupations, small and statistically insignificant (Column 4).

(TABLE 4 ABOUT HERE)

To summarize this far, despite some observed gender differences, these are small and statistically insignificant. The overall picture is that men and women mentioning disability in their job applications are equally discriminated across the labor market. In the following, we continue with an exploration of the potential interplay between gender and disability at the occupation level.

### ***The intersection of disability and gender by occupation***

Table 2 indicated that there is heterogeneity in the disability penalty across occupations. In this section, we break down the analysis even further and explore patterns of discrimination at the intersection of disability and gender at the occupational level. Table 5a reports the results for each female-dominated occupation. Since the two categories of administrative assistants ('business' and 'other') are similar, we merge them into a single category to increase precision in the estimates. In all of the female-dominated occupations considered separately, the findings suggest a preference for nondisabled women over nondisabled men, particularly for accountant positions, but the differences are not statistically significant (see the estimate on "Female" in Columns 3, 6 and 9). Turning to the disability penalty, in absolute terms, the penalty is roughly similar, and statistically significant at 6–8 percentage points, for women and men for positions as accountants and administrative assistants. Thus, discrimination is roughly the same for male and female applicants. In the final female-dominated occupation of customer service jobs, by



contrast, employers do not discriminate based on disability; if anything, disabled applicants receive *more* callbacks than applicants without disabilities. Moreover, the differences in disability discrimination across the female-dominated occupations are statistically significant. More precisely, the level of disability discrimination is significantly higher for positions as accountants and administrative assistants compared to customer service jobs.<sup>13</sup>

(TABLE 5A ABOUT HERE)

Next, we turn to each of the male-dominated occupations (see Table 5b). Interestingly, analyzing these occupations as an aggregated male-dominated group concealed quite diverging patterns by disability and gender. Contrary to the findings for female-dominated occupations, we find strong disability penalties that vary by gender in “opposing ways” in the male-dominated occupations. Although not significantly so, the disability penalty is much higher for women (14.1 percentage points) than for men (4.4 percentage points) for business sales jobs (Columns 1 and 2). Thus, while imprecisely estimated, there is a large 9.7 percentage points difference in the disability penalty of women and men for business sales jobs (Column 3).

The final three columns of Table 5b report the results for system developers and ICT operations and user support technicians, which have been merged due to their similarity and to achieve more precision in the estimates. The findings show that only male applicants experience disability discrimination when applying for these jobs, with the callback rate decreasing by 7.8 percentage points relative to nondisabled men (Column 4). However, albeit large gender difference in the disability penalty, the interaction term between disability and gender is not statistically significant (Column 6).

Across the two male dominated occupations, we find the difference in the disability penalty for women at 14 percentage points to be statistically significant ( $t = 2.19$ ,  $p = .029$ ), while that is not the case for the 3.4 percentage point difference for men.

(TABLE 5B ABOUT HERE)

### ***Special case: Gender equality and discrimination in the IT sector***

---

<sup>13</sup> The t-statistic of the difference in disability penalty for men between customer service jobs and accountant positions is -1.95 ( $p = .053$ ), and -1.99 ( $p = .049$ ) for women. Between customer service jobs and administrative assistant positions, it is -2.56 ( $p = 0.012$ ) and -1.73 ( $p = .086$ ) for men and women, respectively.

Since we noticed the unexpected result of a lack of discrimination against disabled women for IT jobs halfway into the data collection, we decided to expand the field experiment for these occupations by submitting a job application for an additional applicant signaling an ethnic minority background. Although IT occupations are heavily dominated by men, recent field experiments have found that nondisabled majority women are not discriminated against for these jobs (Birkelund et al. 2021), suggesting a more gender-egalitarian culture in IT firms as one possible explanation.

If there are stronger norms of gender equality in the IT sector, this could imply that employers evaluate all applications from women more carefully, which might potentially include scrutinizing the applications of minority women in more detail. Hence, our reason for including the third application of an ethnic minority applicant was to explore whether a level playing field is also found when hiring other types of female minorities. We hypothesized that norms of gender equality in these male-dominated occupations might also eliminate discrimination based on ethnicity for female applicants.

Table 5c simply adds the 96 (44 male and 52 female) observations for the ethnic minority to the analysis in Table 5b for IT jobs. Hence, by construction (when no covariates), the estimates in Table 5c for disability and the control are exactly as in Table 5b, whereas the coefficients of signaling an ethnic minority background are new. While the ethnic penalty is large for men, almost twice as large as for disabled males (-14.3 and -7.8 percentage points, respectively), it is nonexistent for both women with an ethnic minority background and disabled women. Ethnic minority women even received somewhat more callbacks than majority nondisabled women. Nonetheless, none of the interaction terms are statistically significant since we are underpowered due to the small sample size. Despite this, these suggestive results are consistent with gender equality norms in the IT sector influencing these employers' hiring behavior. In practice, this appears to involve employers considering all female applicants more carefully, which in turn has the effect of cancelling out the negative impact of other minority categories for women, thus eliminating discrimination in hiring against disabled women and women with an ethnic minority background.<sup>14</sup>

---

<sup>14</sup> The finding that women with an ethnic minority background and disabled women are not discriminated against may reflect an explicit intention to compensate for the overrepresentation of men. To explore such intentions more directly, we examined whether declarations that the employer strives for diversity and gender equality in the workplace were related to the level and pattern of discrimination. We also investigated the relationship between discrimination and company size. In sum, diversity statements do not seem to increase the hiring chances of disabled men and women, and discrimination occurs across companies of varying size. For these analyses, see Author (2023).

(TABLE 5A ABOUT HERE)

## Discussion

In the Swedish labor market, employers are less likely to contact candidates who state that they use a wheelchair compared to otherwise identical applicants without disabilities. This finding is consistent with disability discrimination. However, the level of discrimination against wheelchair users is lower than in previous similar studies in other countries.<sup>15</sup> Whereas wheelchair users in Sweden must apply for 33 percent more jobs compared to identical job applicants without disabilities, this number is approximately three times higher in Norway (Bjørnshagen and Ugreninov 2021) and Canada (Bellemare et al. 2019), where wheelchair users must apply to twice as many jobs as applicants without disabilities.

To be clear, the comparison of findings across field experiments is complicated, but the design of the current study is largely equivalent to that of the Norwegian study, including the choice of occupations. This reduces problems associated with comparison that pertain to differences in design, although challenges remain due to differences in the conditions under which the field experiments were conducted. Despite such uncertainties and given the similar designs, there are reasons to believe that the observed difference between Norway and Sweden reflects substantial differences in disability discrimination. Further research should address possible mechanisms underlying these differences.

On the aggregate level, we find no gender differences in disability discrimination in the explorative analyses in this study, thus confirming previous field experimental findings (Bellemare et al. 2019; Bjørnshagen and Ugreninov 2021; Krogh and Bredgaard, 2022). These results contradict general theories implying that disability discrimination should be more severe for either men or women. Moreover, we find no evidence of a clear relationship between gendered disability discrimination and occupational gender segregation. Overall, then, the disability effect dominates the gender effect, even when considering male- and female-dominated occupations separately. Of course, it is possible that disability and gender intersect in employers' perceptions of applicants without resulting in different rates of discrimination

---

<sup>15</sup> Compared to discrimination on other grounds in the Swedish labor market, such as age discrimination (Carlsson and Eriksson 2019) and ethnic discrimination (e.g., Carlsson and Rooth 2007; Erlandsson 2024), disability discrimination is slightly lower, but of similar magnitude. As these field experiments differ in many ways other than the characteristics of interest (e.g., occupations), however, the results across studies are not directly comparable.

against men and women with disabilities (cf. Browne and Misra 2003). However, at least for wheelchair users, it is plausible that disability is more salient than gender when employers consider applicants, even in contexts where gender is usually highly salient.

Interestingly, the picture of no/small gender differences is challenged when we look at occupations separately, where we find large occupation-specific variations in disability discrimination, as well as differences in discrimination based on the intersection of disability and gender unrelated to gender composition. Across female-dominated occupations, we find significant differences in the disability penalty. Further, in male-dominated occupations, discrimination based on the intersection of disability and gender significantly differs. In the occupations with no gender differences in disability discrimination, it is possible that disability overrides other social categories in employers' reactions to the applicant. However, our finding that discrimination varies with the intersection of disability and gender in male-dominated occupations suggest other explanations.

Before proceeding, we emphasize that there is a substantially smaller number of observations for specific occupations and that the results should be viewed as suggestive. Nevertheless, it is interesting to focus on the diverging patterns of discrimination by gender and disability in the male-dominated occupations. For business sales positions, we find that female applicants are subject to high levels of disability discrimination, while nondisabled women are preferred at equal rates as nondisabled men. In this case, the effect of the intersection of disability and gender cannot be easily disentangled into separate contributions of each category, as expressed by the concept of "multiple jeopardy" (King 1988). Rather, the results could suggest that in this occupation, the intersection of gender and disability influences employers' perceptions in distinct ways. It might be that in an occupation where traits such as being assertive and extroverted are considered important to succeed, female gender amplifies the stereotyping of disabled people as introverted, passive and weak (Stone and Colella 1996), making employers perceive disabled women as less fit for these jobs.

Next, we find no discrimination against women regardless of disability and ethnicity for IT jobs. Despite the scarce supply and high demand for labor, as evident from IT jobs being the largest occupational category in the field experiment ( $N = 292$ ) and the high level of callbacks for these jobs (29.1 percent),<sup>16</sup> male applicants still face disability discrimination and ethnic discrimination in these occupations. We interpret these findings as being linked to progressive

---

<sup>16</sup> The percentage share represents the overall rate of invitations for IT jobs regardless of disability and ethnic background.

gender norms, as expressed in a hiring practice in which all applicants of the underrepresented gender (i.e., women) are considered more carefully regardless of intersecting social categories. The results call for more in-depth studies of hiring in IT firms to investigate the conditions under which strategies to improve diversity and equality might be effective in reducing discrimination. Of course, the gender composition is only one characteristic of the male-dominated occupations in this study, and there might be other unobserved factors that explain these results.

Finally, our results show that disability discrimination rates differ between occupations, despite selecting jobs in which being a wheelchair user is not expected to affect productivity. Although we can only speculate on the drivers behind these differences, it is possible that the perceived mismatch between employers' stereotypes of disabled people and the ideal worker varies across occupations (Stone and Colella, 1996; Østerud, 2022). Other factors potentially underlying occupational heterogeneity include differences in labor market tightness (Baert et al. 2015; Carlsson et al. 2018), and the level of customer contact in the job (Bjørnshagen and Ugreninov 2021). However, the exact processes generating the occupational differences in disability discrimination are unobserved in the current study and for future research to examine.

The present study contributes to the literature on disability discrimination, particularly by exploring the intersection of gender and disability in greater depth than previous studies. However, some limitations must be acknowledged. First, field experiments measure discrimination in the initial stages of the hiring process and reveal little about final job and wage offers. Second, while mobility impairments constitute the most common type of impairment in Sweden (Statistics Sweden 2020), disability is a complex construct encompassing a broad range of impairments that may elicit different levels of discrimination. Thus, the findings cannot be generalized to other types of impairments that may experience both higher and lower rates of discrimination, and interact differently with gender (cf. Timmons, McGinnity, and Carroll 2023).

Notwithstanding these caveats, our study highlights the importance of considering the occupational context to understand discrimination based on disability and the intersection of disability and gender, as our study indicates that disability discrimination is very occupation-specific, and that disability and gender may combine to generate occupationally contingent patterns of discrimination. However, much theoretical and empirical work remains. Despite theoretical accounts of how beliefs about gender and disability function together, evidence on the interplay of these categories on stereotypical perceptions is still limited. We also emphasize

a need for theoretical advancement addressing the intersection of gender and different types of impairments across social contexts. Future field experimental research on disability discrimination would also benefit from larger samples to further examine patterns of gendered disability discrimination. In this regard, a deeper investigation of hiring practices *within* particular occupations or industries based on a sufficiently large sample in combination with qualitative in-depth interviews might generate knowledge on whether and how diversity strategies focusing on one social category, such as gender, may reduce discrimination based on intersecting categories.

### **Acknowledgments**

We are grateful for valuable comments from seminar participants at Stockholm University, Linnaeus University, and at the Gender seminar at the Norwegian Sociological Association's Winter Conference 2023.

### **Funding**

This work was supported by the Research Council of Norway under grant number 273745.

### **Disclosure statement**

The authors report there are no competing interests to declare.

## References

- Ahmed, A., Granberg, M., & Khanna, S. (2021). "Gender discrimination in hiring: An experimental reexamination of the Swedish case." *PLOS ONE*, 16(1), e0245513. <https://doi.org/10.1371/journal.pone.0245513>
- Ahmed, A., Hammarstedt, M., & Karlsson, K. (2021). "Do schools discriminate against children with disabilities? A field experiment in Sweden." *Education Economics*, 29(1), 3–16. <https://doi.org/10.1080/09645292.2020.1855417>
- Ameri, Mason, Lisa Schur, Meera Adya, F. Scott Bentley, Patrick McKay, and Douglas Kruse. 2018. "The Disability Employment Puzzle: A Field Experiment on Employer Hiring Behavior." *ILR Review* 71 (2):329-364. doi: 10.1177/0019793917717474.
- Baert, Stijn. 2016. "Wage subsidies and hiring chances for the disabled: some causal evidence." *The European Journal of Health Economics* 17 (1):71-86. doi: 10.1007/s10198-014-0656-7.
- Baert, Stijn. 2018. "Hiring Discrimination: An Overview of (Almost) All Correspondence Experiments Since 2005." In *Audit Studies: Behind the Scenes with Theory, Method, and Nuance*, edited by S. Michael Gaddis, 63-77. Springer International Publishing.
- Ballo, J. G. (2020). Labour Market Participation for Young People with Disabilities: The Impact of Gender and Higher Education. *Work, Employment and Society*, 34 (2), 336-355. <https://doi.org/10.1177/0950017019868139>
- Barnartt, Sharon N. 2013. "Introduction: Disability and intersecting statuses." In *Disability and Intersecting Statuses*, 1-20. Emerald Group Publishing Limited.
- Barnes, C., & Mercer, G. (2005). "Disability, work, and welfare: challenging the social exclusion of disabled people." *Work, Employment and Society*, 19(3), 527–545. <https://doi.org/10.1177/0950017005055669>
- Beale, F. . 1970. "Double jeopardy: To be Black and female." In *The Black woman: An anthology*, edited by T. Cade, 90–100. New York: New American Library.
- Bellemare, Charles, Marion Goussé, Guy Lacroix, and Steeve Marchand. 2019. "Physical Disability, Discrimination, and Public Subsidies: Evidence from a Field Experiment Controlling for Workplace Accessibility (Working paper)."
- Bertrand M, Duflo E. 2016. "Field experiments on discrimination. " NBER Working Paper. w22014
- Birkelund, Gunn Elisabeth, Bram Lancee, Edvard Nergård Larsen, Javier G Polavieja, Jonas Radl, and Ruta Yemane. 2021. "Gender Discrimination in Hiring: Evidence from a Cross-National Harmonized Field Experiment." *European Sociological Review*. doi: 10.1093/esr/jcab043.
- Bjørnshagen, V. (2021). "The mark of mental health problems. A field experiment on hiring discrimination before and during COVID-19". *Social Science & Medicine* 283: 114181. <https://doi.org/10.1016/j.socscimed.2021.114181>.
- Bjørnshagen, V & Ugreninov, E. (2021). "Disability Disadvantage: Experimental Evidence of Hiring Discrimination against Wheelchair Users. " *European Sociological Review* 37(5): 818–33. <https://doi.org/10.1093/esr/jcab004>.
- Brandt, Mark J. 2011. "Sexism and Gender Inequality Across 57 Societies." *Psychological Science* 22 (11):1413-1418. doi: 10.1177/0956797611420445.
- Brooks, Jennifer D. 2021. "The Case for Intersectionality: An Intersectional Look at Disability in the Labor Market." In *The Oxford Handbook of the Sociology of Disability*, edited by R.L. Brown, M. Maroto and D. Pettinicchio. Oxford University Press.

- Brown, Robyn Lewis, and Mairead Eastin Moloney. 2019. "Intersectionality, Work, and Well-Being: The Effects of Gender and Disability." *Gender & Society* 33 (1):94-122. doi: 10.1177/0891243218800636.
- Browne, Irene, and Joya Misra. 2003. "The Intersection of Gender and Race in the Labor Market." *Annual Review of Sociology* 29 (1):487-513. doi: 10.1146/annurev.soc.29.010202.100016.
- Bursell, Moa. 2014. "The Multiple Burdens of Foreign-Named Men—Evidence from a Field Experiment on Gendered Ethnic Hiring Discrimination in Sweden." *European Sociological Review* 30 (3):399-409. doi: 10.1093/esr/jcu047.
- Bygren, M., Erlandsson, A., & Gähler, M. (2017). "Do Employers Prefer Fathers? Evidence from a Field Experiment Testing the Gender by Parenthood Interaction Effect on Callbacks to Job Applications." *European Sociological Review*, 33(3), 337–348. <https://doi.org/10.1093/esr/jcx051>
- Carlsson, M. (2011). "Does Hiring Discrimination Cause Gender Segregation in the Swedish Labor Market?" *Feminist Economics*, 17(3), 71–102. <https://doi.org/10.1080/13545701.2011.580700>
- Carlsson, M. & Eriksson, S. (2019). "Age discrimination in hiring decisions: Evidence from a field experiment in the labor market." *Labour Economics*, 59, 173–183. <https://doi.org/10.1016/j.labeco.2019.03.002>
- Carlsson, M., & Rooth, DO. (2007) «Evidence of ethnic discrimination in the Swedish labor market using experimental data». *Labour Economics* 14(4): 716–29. <https://doi.org/10.1016/j.labeco.2007.05.001>.
- Chatzitheochari, Stella, Sanne Velthuis, and Roxanne Connelly. 2022. "Childhood disability, social class and social mobility: A neglected relationship." *The British Journal of Sociology*. doi: <https://doi.org/10.1111/1468-4446.12974>.
- Chavez, Koji, Katherine Weisshaar, and Tania Cabello-Hutt. 2022. "Gender and Racial Discrimination in Hiring Before and During the COVID-19 Pandemic: Evidence from a Field Experiment of Accountants, 2018–2020." *Work and Occupations* 49 (3):275-315. doi: 10.1177/07308884221094539.
- Charles, M., and D. B. Grusky. 2018. "Egalitarianism and Gender Inequality." In *The Inequality Reader: Contemporary and Foundational Readings in Race, Class, and Gender*, 389–404. New York: Routledge.
- Coleman, Jill M., Amy B. Brunell, and Ingrid M. Haugen. 2015. "Multiple forms of prejudice: How gender and disability stereotypes influence judgments of disabled women and men." *Current Psychology: A Journal for Diverse Perspectives on Diverse Psychological Issues* 34 (1):177-189. doi: 10.1007/s12144-014-9250-5.
- Collins, P. H. 2000. *Black Feminist Thought: Knowledge, Consciousness, and the Politics of Empowerment*. 2 ed: Routledge.
- Crenshaw, Kimberle. 1989. "Demarginalizing the Intersection of Race and Sex: A Black Feminist Critique of Antidiscrimination Doctrine, Feminist Theory and Antiracist Politics." *The University of Chicago Legal Forum* 140:139-167.
- Dahl, Malte, and Niels Krog. 2018. "Experimental Evidence of Discrimination in the Labour Market: Intersections between Ethnicity, Gender, and Socio-Economic Status." *European Sociological Review* 34 (4):402-417. doi: 10.1093/esr/jcy020.
- Deming DJ, Yuchtman N, Abulafi A, Goldin C, Katz LF. "The Value of Postsecondary Credentials in the Labor Market: An Experimental Study." *American Economic Review*. 2016;106 (3) :778-806.
- Di Stasio, Valentina, and Edvard N. Larsen. 2020. "The Racialized and Gendered Workplace: Applying an Intersectional Lens to a Field Experiment on Hiring Discrimination in



- Five European Labor Markets." *Social Psychology Quarterly* 83 (3):229-250. doi: 10.1177/0190272520902994.
- Eagly, Alice H., and Steven J. Karau. 2002. "Role congruity theory of prejudice toward female leaders." *Psychological Review* 109 (3):573-598. doi: 10.1037/0033-295X.109.3.573.
- Erlandsson, A. (2024). Gendered ethnic discrimination and the role of recruiter gender. A field experiment. *Acta Sociologica*, 67(2), 232-250. <https://doi.org/10.1177/00016993231201482>
- Fine, Michelle , and Adrienne Asch. 1981. "Disabled Women: Sexism without the Pedestal." *The Journal of Sociology & Social Welfare*: 8 (2).
- Fiske, Susan T. 1998. "Stereotyping, prejudice, and discrimination." In *The handbook of social psychology, Vols. 1-2, 4th ed.*, 357-411. New York, NY, US: McGraw-Hill.
- Fumarco, L. (2017). "Disability Discrimination in the Italian Rental Housing Market: A Field Experiment with Blind Tenants." *Land Economics*, 93(4), 567–584.
- Gaddis, S. Michael. 2018. "An Introduction to Audit Studies in the Social Sciences." In *Audit Studies: Behind the Scenes with Theory, Method, and Nuance*, edited by S. Michael Gaddis, 3-44. Springer International Publishing.
- Geiger, Ben Baumberg, Kjetil A. van der Wel, and Anne Grete Tøge. 2017. "Success and failure in narrowing the disability employment gap: comparing levels and trends across Europe 2002–2014." *BMC Public Health* 17 (1):928. doi: 10.1186/s12889-017-4938-8.
- Gerhards, Jürgen, Tim Sawert, and Julia Tuppatt. 2021. "Reversing the symbolic order of discrimination: results from a field experiment on the discrimination of migrants and transgender people in theatre." *Journal of Ethnic and Migration Studies* 47 (15):3622-3640. doi: 10.1080/1369183X.2020.1754771.
- Gerschick, Thomas J. 2000. "Toward a Theory of Disability and Gender." *Signs* 25 (4):1263-1268.
- Gugushvili, Alexi, Jan Grue, Therese Dokken, and Jon Erik Finnvoll. 2023. "No evidence that social-democratic welfare states equalize valued outcomes for individuals with disabilities." *Social Science & Medicine* 339:116361. doi: <https://doi.org/10.1016/j.socscimed.2023.116361>.
- Hall, Erika V., Alison V. Hall, Adam D. Galinsky, and Katherine W. Phillips. 2019. "MOSAIC: A Model of Stereotyping Through Associated and Intersectional Categories." *Academy of Management Review* 44 (3):643-672. doi: 10.5465/amr.2017.0109.
- Heilman, Madeline E. 2012. "Gender stereotypes and workplace bias." *Research in Organizational Behavior* 32:113-135. doi: <https://doi.org/10.1016/j.riob.2012.11.003>.
- Jenkins, R. 1991. "Disability and social stratification." *Br J Sociol* 42 (4):557-80.
- Kaufman, G., Bernhardt, E., & Goldscheider, F. (2017). Enduring Egalitarianism? Family Transitions and Attitudes Toward Gender Equality in Sweden. *Journal of Family Issues*, 38(13), 1878-1898. doi:10.1177/0192513x16632266
- King, Deborah K. 1988. "Multiple Jeopardy, Multiple Consciousness: The Context of a Black Feminist Ideology." *Signs: Journal of Women in Culture and Society* 14 (1):42-72. doi: 10.1086/494491.
- Krogh, C., and T. Bredgaard. 2022. "Unequal? A Field Experiment of Recruitment Practises Towards Wheelchair Users in Denmark." *Scandinavian Journal of Disability Research* 24 (1):266–276. doi: <http://doi.org/10.16993/sjdr.944>.
- Lappalainen, P. 2021. "Country report: Non-discrimination: Transposition and implementation at national level of Council Directives 2000/43 and 2000/78: Sweden."

- Lengnick-Hall, Mark L., Philip M. Gaunt, and Mukta Kulkarni. 2008. "Overlooked and underutilized: People with disabilities are an untapped human resource." *Human Resource Management* 47 (2):255-273. doi: 10.1002/hrm.20211.
- Maroto, Michelle, David Pettinicchio, and Andrew C. Patterson. 2019. "Hierarchies of Categorical Disadvantage: Economic Insecurity at the Intersection of Disability, Gender, and Race." *Gender & Society* 33 (1):64-93. doi: 10.1177/0891243218794648.
- Martiniello B., Verhaeghe P. P. 2022. "Signaling ethnic-national origin through names? The perception of names from an intersectional perspective." *PLOS ONE* 17(8): e0270990. <https://doi.org/10.1371/journal.pone.0270990>
- Nario-Redmond, Michelle R. 2010. "Cultural stereotypes of disabled and non-disabled men and women: Consensus for global category representations and diagnostic domains." *British Journal of Social Psychology* 49 (3):471-488. doi: 10.1348/014466609x468411.
- O'Hara, Brett. 2004. "Twice Penalized: Employment Discrimination Against Women with Disabilities." *Journal of Disability Policy Studies* 15 (1):27-34. doi: 10.1177/10442073040150010501.
- OECD. 2022. *Disability, Work and Inclusion*.
- Pachankis, John E., Mark L. Hatzenbuehler, Katie Wang, Charles L. Burton, Forrest W. Crawford, Jo C. Phelan, and Bruce G. Link. 2017. "The Burden of Stigma on Health and Well-Being: A Taxonomy of Concealment, Course, Disruptiveness, Aesthetics, Origin, and Peril Across 93 Stigmas." *Personality and Social Psychology Bulletin* 44 (4):451-474. doi: 10.1177/0146167217741313.
- Pedulla, David S. 2018. "How Race and Unemployment Shape Labor Market Opportunities: Additive, Amplified, or Muted Effects?" *Social Forces* 96 (4):1477-1506. doi: 10.1093/sf/soy002.
- Petsko, Christopher D., Ashleigh Shelby Rosette, and Galen V. Bodenhausen. 2022. "Through the looking glass: A lens-based account of intersectional stereotyping." *Journal of Personality and Social Psychology*:No Pagination Specified-No Pagination Specified. doi: 10.1037/pspi0000382.
- Pettinicchio, David, and Michelle Maroto. 2017. "Employment Outcomes Among Men and Women with Disabilities: How the Intersection of Gender and Disability Status Shapes Labor Market Inequality." In *Factors in Studying Employment for Persons with Disability*, 3-33. Emerald Publishing Limited.
- Purdie-Vaughns, Valerie, and Richard P. Eibach. 2008. "Intersectional Invisibility: The Distinctive Advantages and Disadvantages of Multiple Subordinate-Group Identities." *Sex Roles* 59 (5):377-391. doi: 10.1007/s11199-008-9424-4.
- Quillian, Lincoln, Anthony Heath, Devah Pager, Arnfinn H. Midtbøen, Fenella Fleischmann, and Ole Hexel. 2019. "Do Some Countries Discriminate More than Others? Evidence from 97 Field Experiments of Racial Discrimination in Hiring." *Sociological Science* 6 (18).
- Ren, Lily Run, Ramona L. Paetzold, and Adrienne Colella. 2008. "A meta-analysis of experimental studies on the effects of disability on human resource judgments." *Human Resource Management Review* 18 (3):191-203. doi: <https://doi.org/10.1016/j.hrmr.2008.07.001>.
- Reskin, Barbara. 1993. "Sex Segregation in the Workplace." *Annual Review of Sociology* 19 (1):241-270. doi: 10.1146/annurev.so.19.080193.001325.
- Ridgeway, Cecilia L., and Tamar Kricheli-Katz. 2013. "Intersecting Cultural Beliefs in Social Relations: Gender, Race, and Class Binds and Freedoms." *Gender & Society* 27 (3):294-318. doi: 10.1177/0891243213479445.

- Rivera, L. A., & Tilcsik, A. (2023). "Not in My Schoolyard: Disability Discrimination in Educational Access." *American Sociological Review*, 88(2), 284–321. <https://doi.org/10.1177/00031224221150433>
- Rohmer, Odile, and Eva Louvet. 2012. "Implicit measures of the stereotype content associated with disability." *British Journal of Social Psychology* 51 (4):732-740. doi: 10.1111/j.2044-8309.2011.02087.x.
- Shakespeare, Tom. 1999. "The Sexual Politics of Disabled Masculinity." *Sexuality and Disability* 17 (1):53-64. doi: 10.1023/A:1021403829826.
- Shuttleworth, Russell, Nikki Wedgwood, and Nathan J. Wilson. 2012. "The Dilemma of Disabled Masculinity." *Men and Masculinities* 15 (2):174-194. doi: 10.1177/1097184x12439879.
- SOU. 2022. Kommittén om stöd vid korttidsarbete. Korttidsarbete under pandemin – en utvärdering av stödets betydelse. Swedish Ministry of Finance.
- Statistics Sweden. 2020. The labour market situation for persons with disabilities 2019.
- Statistics Sweden. 2021. The labour market situation for people with disabilities 2020.
- Statistics Sweden. 2022. The labour market situation for persons with disabilities 2021.
- Stone, Dianna L., and Adrienne Colella. 1996. "A Model of Factors Affecting the Treatment of Disabled Individuals in Organizations." *The Academy of Management Review* 21 (2):352-401. doi: 10.2307/258666.
- Thomas, C. (2004). "How is disability understood? An examination of sociological approaches." *Disability & Society*, 19(6), 569–583. <https://doi.org/10.1080/0968759042000252506>.
- Tilcsik, András. 2011. "Pride and Prejudice: Employment Discrimination against Openly Gay Men in the United States." *American Journal of Sociology* 117 (2):586-626. doi: 10.1086/661653.
- Timmons, S., F. McGinnity, and E. Carroll. 2023. "Ableism differs by disability, gender and social context: Evidence from vignette experiments." *Br J Soc Psychol*. doi: 10.1111/bjso.12696.
- Tøssebro, Jan. 2016. "Scandinavian disability policy: From deinstitutionalisation to non-discrimination and beyond." *Alter* 10 (2):111-123. doi: <https://doi.org/10.1016/j.alter.2016.03.003>.
- United Nations. (2006). Convention on the rights of persons with disabilities (CRPD).
- van der Zwan, Roos, and Paul de Beer. 2021. "The disability employment gap in European countries: What is the role of labour market policy?" *Journal of European Social Policy* 31 (4):473-486. doi: 10.1177/09589287211002435.
- Verhaeghe, P. P. 2022. "Correspondence Studies". In: Zimmermann, K.F. (eds) *Handbook of Labor, Human Resources and Population Economics*. Springer, Cham. [https://doi.org/10.1007/978-3-319-57365-6\\_306-1](https://doi.org/10.1007/978-3-319-57365-6_306-1).
- Verhaeghe, P. P., K. Van der Bracht, and B. Van de Putte. 2016. "Discrimination of Tenants with a Visual Impairment on the Housing Market: Empirical Evidence from Correspondence Tests." *Disability and Health Journal*. 9 (2): 234–238.
- Vernon, Ayesha. 1999. "The Dialectics of Multiple Identities and the Disabled People's Movement." *Disability & Society* 14 (3):385-398. doi: 10.1080/09687599926217.
- Østerud, Kaja Larsen. 2022. "Disability Discrimination: Employer Considerations of Disabled Jobseekers in Light of the Ideal Worker." *Work, Employment and Society*. doi: 10.1177/09500170211041303.

**Table 1. Occupations used in the field experiment: SSYK 2012 and gender composition**

Occupation	SSYK 2012 codes used	Share of males (%)
<i>Male-dominated</i>		
ICT support and user support technicians	351	81
Software developers	251	77
Business sales representatives	1242, 1252, 2431, 3322	68
<i>Gender-balanced</i>		
Shop sales assistant	5223	39
<i>Female-dominated</i>		
Customer service representatives	421, 422	32
Administrative assistants (other)	334	24
Accountants	3313	21
Administrative assistants (business)	411	17

Note: The Swedish Standard Classification of Occupations 2012 (SSYK) is based on the International Classification of occupations 2008 (ISCO-08). For translation key, see <https://www.scb.se/dokumentation/klassifikationer-och-standarder/standard-for-svensk-yrkesklassificering-ssyk/>. Labor statistics based on administrative data available from Statistics Sweden were used to calculate the share of males in the occupations in 2020. Occupations are considered male-dominated if the share of men is greater than or equal to 65 per cent of the workforce, female-dominated when the share of men is less than or equal to 35 per cent, and gender-balanced when falling between these thresholds.

**Table 2. Callback rates and ratios (interview invitation) by disability, gender, and occupation**

	Number of jobs (1)	Callback for none (2)	Callback for both (3)	Callback only for non- disabled (4)	Callback only for disabled (5)	Callback rate, all (6)	Callback rate, non- disabled (3)+(4)/(1) (7)	Callback rate, disabled (3)+(5)/(1) (8)	Callback ratio (7)/(8) (9)
All	1,024	779	113	91	41	17.5	19.9	15.0	1.33**
<b>Gender</b>									
Male	515	400	55	43	17	16.5	19.0	14.0	1.36*
Female	509	379	58	48	24	18.5	20.8	16.1	1.29^
<b>Occupation</b>									
<i>Male-dominated</i>									
ICT operations/user support technicians	80	51	12	10	7	25.6	27.5	23.8	1.16
Software developers	212	129	48	22	13	30.9	33.0	28.8	1.15
Business sales representatives	139	90	16	23	10	23.4	28.1	18.7	1.50^
<i>Female-dominated</i>									
Administrative assistants (business)	119	103	4	10	2	8.4	11.8	5.0	2.36^
Administrative assistants (other)	106	96	3	6	1	6.1	8.5	3.8	2.24
Customer service representatives	103	91	8	1	3	9.7	8.7	10.7	0.81
Accountants	152	116	19	14	3	18.1	21.7	14.5	1.50
<i>Gender balanced</i>									
Shop sales assistant	113	103	3	5	2	5.8	7.1	4.4	1.61

Note: Stars indicate p-values from two-tailed tests for equality of proportions. ^ p<0.10, \* p<0.05, \*\* p<0.01, \*\*\* p<0.001.

**Table 3. The probability of callback (interview invitation) by disability and gender**

	Total (1)	Male (2)	Female (3)	Total (4)
Disability	-0.049*** (0.011)	-0.050** (0.015)	-0.047** (0.017)	-0.050** (0.015)
Female				0.018 (0.025)
Female x Disability				0.003 (0.022)
Constant	0.199*** (0.012)	0.190*** (0.017)	0.208*** (0.018)	0.190*** (0.017)
Observations	2,048	1,030	1,018	2,048

Note: Linear probability model estimates with robust standard errors clustered by vacancy in parentheses. <sup>^</sup> p<0.10, \* p<0.05, \*\* p<0.01, \*\*\* p<0.001.

**Table 4. The probability of callback (interview invitation) by occupational gender composition**

	<i>Panel A: Female-dominated occupations</i>				<i>Panel B: Male-dominated occupations</i>			
	Total	Male	Female	Total	Total	Male	Female	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Disability	-0.046***	-0.042*	-0.049*	-0.042*	-0.058**	-0.068*	-0.048	-0.068*
	(0.013)	(0.017)	(0.020)	(0.017)	(0.021)	(0.029)	(0.032)	(0.029)
Female				0.041				-0.014
				(0.031)				(0.044)
Female x Disability				-0.007				0.020
				(0.026)				(0.043)
Constant	0.135***	0.114***	0.156***	0.114***	0.304***	0.311***	0.297***	0.311***
	(0.016)	(0.021)	(0.023)	(0.021)	(0.022)	(0.031)	(0.032)	(0.031)
Callback ratio	1.52	1.58	1.46	-	1.24	1.28	1.19	-
Observations	960	472	488	960	862	444	418	862

Note: Linear probability model estimates with robust standard errors clustered by vacancy in parentheses.  $\wedge$   $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ . The callback ratio is calculated by the following equation: (callback rate, non-disabled applicant) / (callback rate, wheelchair user).

**Table 5a. The probability of callback (interview invitation) by gender and occupation in female-dominated occupations**

	<i>Female-dominated occupations</i>								
	<i>Accountants</i>			<i>Administrative assistants</i>			<i>Customer service representatives</i>		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
Disability	-0.064 <sup>^</sup>	-0.081*	-0.064 <sup>^</sup>	-0.057*	-0.059 <sup>^</sup>	-0.057*	0.019	0.020	0.019
	(0.038)	(0.037)	(0.038)	(0.023)	(0.030)	(0.023)	(0.019)	(0.034)	(0.019)
Female			0.077			0.033			0.021
			(0.067)			(0.040)			(0.056)
Disability x Female			-0.017			-0.002			0.000
			(0.053)			(0.038)			(0.039)
Constant	0.179***	0.257***	0.179***	0.085**	0.118***	0.085**	0.077*	0.098*	0.077*
	(0.044)	(0.051)	(0.044)	(0.027)	(0.030)	(0.027)	(0.037)	(0.042)	(0.037)
Callback ratio	1.56	1.46	-	3.04	2.00	-	0.80	0.83	-
Observations	156	148	304	212	238	450	104	102	206

Note: Linear probability model estimates with robust standard errors clustered by vacancy in parentheses. <sup>^</sup> p<0.10, \* p<0.05, \*\* p<0.01, \*\*\* p<0.001. The callback ratio is calculated by the following equation: (callback rate, non-disabled applicant) / (callback rate, wheelchair user).



**Table 5b. The probability of callback (interview invitation) by gender and occupation in male-dominated occupations**

	<i>Male-dominated occupations</i>					
	<i>Business sales representatives</i>			<i>IT</i>		
	Male	Female	Total	Male	Female	Total
	(1)	(2)	(3)	(4)	(5)	(6)
Disability	-0.044	-0.141**	-0.044	-0.078*	0.000	-0.078**
	(0.065)	(0.051)	(0.065)	(0.030)	(0.040)	(0.030)
Female			0.002			-0.020
			(0.077)			(0.055)
Disability x Female			-0.097			0.078
			(0.082)			(0.050)
Constant	0.279***	0.282***	0.279***	0.325***	0.304***	0.325***
	(0.055)	(0.054)	(0.055)	(0.038)	(0.039)	(0.038)
Callback ratio	1.19	2.00	-	1.32	1.00	-
Observations	136	142	278	308	276	584

Note: Linear probability model estimates with robust standard errors clustered by vacancy in parentheses. <sup>^</sup> p<0.10, \* p<0.05, \*\* p<0.01, \*\*\* p<0.001. The callback ratio is calculated by the following equation: (callback rate, non-disabled applicant) / (callback rate, wheelchair user).

**Table 5c. The probability of callback (interview invitation) by disability, ethnicity, and gender for positions as software developers and ICT operations/user support technicians**

	Male	Female	Total
Disability	-0.078*	0.000	0.078*
	(0.030)	(0.040)	(0.030)
Ethnic minority	-0.143*	0.042	-0.143*
	(0.070)	(0.077)	(0.070)
Female			-0.020
			(0.055)
Disability x Female			0.078
			(0.050)
Ethnic minority x Female			0.185
			(0.116)
Constant	0.325***	0.304***	0.325***
	(0.038)	(0.039)	(0.038)
<i>N</i> (Disability)	154	138	292
<i>N</i> (Ethnic minority)	44	52	96
<i>N</i> (Non-disabled majority)	154	138	292

Note: Linear probability model estimates with robust standard errors clustered by vacancy in parentheses. ^  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ .