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Challenges of Direct Discrimination in Algorithmic Recruitment: Insuperable or Not?[*]

Henni PARVIAINEN[**]

Although the EU prohibition of direct and indirect discrimination under non-discrimination law theoretically applies to algorithmic recruitment, doubts exist about whether the prohibition can tackle algorithmic recruitment discrimination in practical terms. This article examines two significant obstacles to dealing with direct discrimination identified in prior research: ambiguity in determining whether proxy discrimination constitutes direct discrimination, and the incapacity of job applicants to meet the burden of proof. First, the analysis of the Court of Justice of the European Union (CJEU) case law suggests that the inextricable link doctrine could apply to proxies used by algorithmic recruitment systems, assuming that the proxies are comprehensible and detectable. In cases in which the proxies remain unintelligible or invisible, it might still be possible to show that the protected ground determined the decision to impose less favourable treatment. Thus, proxy discrimination in algorithmic systems could constitute direct discrimination. Moreover, the direct discrimination prohibition could deal with more proxy discrimination cases if the applicability of the Charter of Fundamental Rights of the European Union (CFREU) is acknowledged when an EU Regulation directly applies to algorithmic recruitment. Second, the research discloses that the burden of proof could be interpreted in a way which allows applicants to establish prima facie *cases of algorithmic recruitment discrimination even if they lack access to detailed information about the workings of the algorithmic recruitment system. The challenges of direct discrimination in algorithmic recruitment might not be insuperable, and the prohibition of direct discrimination should not be sidestepped when analysing the discriminatory tendencies of algorithmic recruitment.*

Keywords: Artificial Intelligence, Algorithmic Recruitment, Charter of Fundamental Rights of The European Union, Direct Discrimination, Discrimination, Equality, EU Non-Discrimination Law, Protected Grounds, Proxies

1 INTRODUCTION

Algorithmic recruitment systems are technologies based on various algorithms[1] configured to make or assist recruitment process decisions. The techniques used by

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[1] Herein algorithms are understood as mathematical constructs, which consist of a sequence of computational steps transforming input into output, *see* Thomas H. Cormen, *The Role of Algorithms in Computing*, *in* Introduction to algorithms 5 (3d ed. 2009).

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algorithmic recruitment range from deep learning[2] and big data analytics[3] to knowledge-based expert systems.[4] At the simpler end of the spectrum, an algorithmic recruitment system contains an elemental and transparent 'if-then' algorithm that discards all applications lacking relevant qualifications, such as a licence to operate. At the more complex end of the spectrum, these systems use a large language model (LLM) such as GPT-4,[5] for example, to screen and rank applicants on the basis of their CVs or video interviews.

Algorithmic recruitment systems are supposed to avoid human recruiters' prejudice, stereotyped beliefs, and implicit biases, for instance, by ignoring arbitrary and irrelevant information and treating all the applicants consistently.[6] However, discrimination can creep into the process in several phases of the lifecycle of algorithmic recruitment.[7] For instance, if training data contains past human decisions (e.g., personnel selection and performance reviews)[8] or if the features the system uses in its analyses are biased and disadvantage certain applicant groups, the system may learn to perpetuate the systemic disadvantages inherent in society.[9]

Although human-managed recruitment processes can also be discriminatory, algorithmic recruitment systems have specific characteristics that may aggravate the problem.[10] First, their superior data processing capabilities facilitate the discovery of intricate correlations between training data features. Even if the training data does not contain protected grounds, the algorithms can discreetly build on characteristics that

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2 *See* e.g., Christian Janiesch, Patrick Zschech & Kai Heinrich, *Machine Learning and Deep Learning*, 31 EM 685 (2021), doi: 10.1007/s12525-021-00475-2.

3 *See* e.g., Matthew T. Bodie et al., *The Law and Policy of People Analytics*, 88 U. Colo. L. Rev. 961, 968–973 (2017).

4 *See* e.g., Mudavath Ravi, Atul Negi & Sanjay Chitnis, *A Comparative Review of Expert Systems, Recommender Systems, and Explainable AI*, *in* 2022 IEEE 7th International conference for Convergence in Technology (I2CT) 1, 1–4 (2022), https://ieeexplore.ieee.org/document/9824265/ (accessed 30 Jun. 2024).

5 GPT is the abbreviation for generative pre-trained transformer. *See* e.g., OpenAI, *GPT-4 Technical Report* (2023), http://arxiv.org/abs/2303.08774 (accessed 30 Jun. 2024).

6 *See* e.g., Pauline T. Kim, *Big Data and Artificial Intelligence: New Challenges for Workplace Equality*, 57 U. Louis. L. Rev. 313, 321 (2018).

7 *See* e.g., Solon Barocas & Andrew D. Selbst, *Big Data's Disparate Impact*, 104 CLR 671, 677–693 (2016), doi: 10.2139/ssrn.2477899; Jon Kleinberg et al., *Discrimination in the Age of Algorithms*, 10 J. Legal Analysis 113, 139–146 (2018), doi: 10.1093/jla/laz001; Alina Köchling & Marius Claus Wehner, *Discriminated by an Algorithm: A Systematic Review of Discrimination and Fairness by Algorithmic Decision-Making in the Context of HR Recruitment and HR Development*, 13 Bus. Res. 795, 800–801 (2020), doi: 10.1007/s40685-020-00134-w. Humans could also make biased decisions after the algorithmic recruitment systems have made their suggestions, *see* Moa Bursell & Lambros Roumbanis, *After the Algorithms: A Study of Meta-Algorithmic Judgments and Diversity in the Hiring Process at a Large Multisite Company*, 11 Big Data & Soc'y 20539517231221758 (2024), doi: 10.1177/20539517231221758.

8 A cautionary real-life example is the Amazon discriminatory recruitment algorithm, *see* Jeffrey Dastin, *Amazon Scraps Secret AI Recruiting Tool That Showed Bias against Women*, Reuters (10 Oct. 2018), https://www.reuters.com/article/us-amazon-com-jobs-automation-insight-idUSKCN1MK08G (accessed 7 Dec. 2023).

9 *See* e.g., Barocas & Selbst, *supra* n. 7, at 679–681; Aislinn Kelly-Lyth, *Challenging Biased Hiring Algorithms*, 41 Oxford J. Leg. Stud. 899, 903 (2021), doi: 10.1093/ojls/gqab006.

10 Janneke Gerards & Raphaële Xenidis, *Algorithmic Discrimination in Europe: Challenges and Opportunities for Gender Equality and Non-discrimination Law* 40–47 (2020), https://data.europa.eu/doi/10.2838/544956 (accessed 30 Jun. 2023).

strongly correlate with those (i.e., proxies).[11] Humans likely struggle to identify proxies, if not entirely fail, and eliminating proxies is difficult.[12] Still, making decisions based on proxies can have similar effects on the applicants as basing decisions directly on protected grounds. Second, when the algorithmic system is highly complex and non-interpretable, detecting and proving discrimination may be even more difficult than in solely human-led recruitment, as the system hides the process and can lack any visible clues of discrimination.[13] Third, algorithmic recruitment systems operating at high speed and scale can systematically entrench and enhance existing structural inequalities.[14] When these systems spread in the job market, they may seriously limit access to employment for already vulnerable applicant groups and have severe consequences for the applicants' livelihoods, possibilities for professional, intellectual, and societal advancement, and self-esteem.[15] In the recruitment phase, job applicants can be even more vulnerable to discrimination than during employment.

Luckily, algorithms offer no refuge from EU equality[16] and non-discrimination law'[17] The fundamental rights of equality before the law,[18] non-

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11 *See* e.g., Betsy Anne Williams, Catherine F. Brooks & Yotam Shmargad, *How Algorithms Discriminate Based on Data They Lack: Challenges, Solutions, and Policy Implications*, 8 J. Inf. Pol'y 78, 84 (2018), doi: 10.5325/jinfopoli.8.2018.0078; Ignacio N. Cofone, *Algorithmic Discrimination Is an Information Problem*, 70 Hastings L.J. 1389, 1413–1415 (2018); Gerards & Xenidis, *supra* n. 10, at 44.

12 *See* e.g., Cofone, *supra* n. 11, at 1413; Anya E. R. Prince & Daniel Schwarcz, *Proxy Discrimination in the Age of Artificial Intelligence and Big Data*, 105 Iowa L. Rev. 1257, 1281 (2020).

13 *See* e.g., Gerards & Xenidis, *supra* n. 10, at 45–46; Ljupcho Grozdanovski, *In Search of Effectiveness and Fairness in Proving Algorithmic Discrimination in EU Law*, 58 CML Rev. 99, 119 (2021), doi: 10.54648/COLA2021005; Philipp Hacker, *Teaching Fairness to Artificial Intelligence: Existing and Novel Strategies against Algorithmic Discrimination under EU Law*, 55 CML Rev. 1143, 1168 (2018), doi: 10.54648/COLA2018095; Sandra Wachter, Brent Mittelstadt & Chris Russell, *Why Fairness Cannot Be Automated: Bridging the Gap Between EU Non-discrimination Law and AI*, 41 CLSR 105567, 5–6 (2021), doi: 10.1016/j.clsr.2021.105567. Compare, Kleinberg et al., *supra* n. 7, at 116 and 144–145.

14 *See* e.g., Ifeoma Ajunwa, *The Paradox of Automation as Anti-Bias Intervention*, 41 Cardozo L. Rev. 1671, 1679–1680 (2020); Gerards & Xenidis, *supra* n. 10, at 46.

15 *See also* Carlotta Rigotti & Eduard Fosch-Villaronga, *Fairness, AI & Recruitment*, 53 CLSR 105966, 1 (2024), doi: 10.1016/j.clsr.2024.105966.

16 For the sake of simplicity, this article refers only to non-discrimination, even though the analysis also covers equality.

17 *See* e.g., Hacker, *supra* n. 13; Frederik J. Zuiderveen Borgesius, *Strengthening Legal Protection Against Discrimination by Algorithms and Artificial Intelligence*, 24 Int'l J. Hum. Rts. 1572 (2020), doi: 10.1080/13642987.2020.1743976; Gerards & Xenidis, *supra* n. 10; Raphaële Xenidis & Linda Senden, *EU Non-discrimination Law in the Era of Artificial Intelligence: Mapping the Challenges of Algorithmic Discrimination*, in *General Principles of EU Law and the EU Digital Order* 12, at 166 (Ulf Bernitz et al. eds 2020); Wachter, Mittelstadt & Russell, *supra* n. 13; Raphaële Xenidis, *Tuning EU Equality Law to Algorithmic Discrimination: Three Pathways to Resilience*, 27 MJ 736 (2020), doi: 10.1177/1023263X20982173. Especially from an employment perspective, *see* e.g., Christine Carter, *Why the Algorithmic Recruiter Discriminates: The Causal Challenges of Data-Driven Discrimination*, Maastricht J. Eur. & Comp. L. (2024), doi: 10.1177/1023263X241248474 (accessed 1 Jun. 2024); Aislinn Kelly-Lyth, *Algorithmic Discrimination at Work*, 14 Eur. Lab. L.J. 152 (2023), doi: 10.1177/20319525231167300; Jeremias Adams-Prassl, *Regulating Algorithms at Work: Lessons for a 'European Approach to Artificial Intelligence'*, 13 Eur. Lab. L.J. 30 (2022), doi: 10.1177/20319525211062558; Kelly-Lyth, *supra* n. 9; Grozdanovski, *supra* n. 13; Miriam Kullmann, *Discriminating Job Applicants Through Algorithmic Decision-Making*, (2019), Available at SSRN, doi: 10.2139/ssrn.3373533.

18 Charter of Fundamental Rights of the European Union (2012/ C 3226/02) ('CFREU') Art. 20.

discrimination,[19] and equality between women and men[20] safeguarded in the Charter of Fundamental Rights of the European Union (CFREU) are essential in algorithmic recruitment. Moreover, the Race Equality Directive,[21] the Employment Equality Directive,[22] and the Gender Equality Directive[23] (hereinafter, the Directives) are crucial as those apply to 'conditions for access to employment, […] including selection criteria and recruitment conditions', and lay down the minimum requirements[24] for prohibiting direct and indirect discrimination based on racial or ethnic origin,[25] religion or belief, disability, age, sexual orientation,[26] and gender.[27]

The predominant perception in academia has been that the prohibition of indirect discrimination is the most relevant in addressing algorithmic discrimination as it is claimed to be better at catching proxy discrimination[28] and easier to prove.[29] However, as the prohibition of indirect discrimination offers employers broader possibilities for justification, the prohibition of direct discrimination would better protect job applicants.[30] In their research, Adams-Prassl et al., have rightly questioned indirect discrimination's supremacy and advocated the broader application of the prohibition of direct discrimination in algorithmic contexts, including hiring algorithms.[31] However, Adams-Prassl et al., conclude that the scope of direct discrimination remains ambiguous.[32] It is hard to ascertain how closely a proxy

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19 CFREU Art. 21.

20 CFREU Art. 23.

21 Council Directive 2000/43/EC of 29 Jun. 2000 implementing the principle of equal treatment between persons irrespective of racial or ethnic origin. *See* Art. 3(1)(a).

22 Council Directive 2000/78/EC of 27 Nov. 2000 establishing a general framework for equal treatment in employment and occupation. *See* Art. 3(1)(a).

23 Directive 2006/54/EC of the European Parliament and of the Council of 5 Jul. 2006 on the implementation of the principle of equal opportunities and equal treatment of men and women in matters of employment and occupation (recast). *See* Arts 1 and 14.

24 *See* Race Equality Directive Art. 6, Employment Equality Directive Art. 8 and Gender Equality Directive Art. 27.

25 Race Equality Directive Arts 1 and 2.

26 Employment Equality Directive Arts 1 and 2.

27 Gender Equality Directive Arts 1 and 14.

28 In algorithmic systems, proxy discrimination refers to using an ostensibly neutral feature as a substitute for a protected characteristic. *See* e.g., Hilde Weerts et al., *Unlawful Proxy Discrimination: A Framework for Challenging Inherently Discriminatory Algorithms*, in *The 2024 ACM Conference on Fairness, Accountability, and Transparency* 1850, 1851 (2024), https://dl.acm.org/doi/10.1145/3630106.3659010 (accessed 27 Jun. 2024); Rigotti & Fosch-Villaronga, *supra* n. 15, at 5.

29 *See* e.g., Gerards & Xenidis, *supra* n. 10, at 67, 70–71; Hacker, *supra* n. 13, at 1153; Xenidis & Senden, *supra* n. 17 at 172; Pablo Martínez-Ramil, *Discriminatory Algorithms. A Proportionate Means of Achieving a Legitimate Aim?*, 4 JELT 3, 3 (2022); Wachter, Mittelstadt & Russell, *supra* n. 13, at 20; Carter, *supra* n. 17, at 26; Rigotti & Fosch-Villaronga, *supra* n. 15, at 5.

30 *See* e.g., Gerards & Xenidis, *supra* n. 10, at 67; Hacker, *supra* n. 13, at 1160, 1165; Raphaële Xenidis, *When Computers Say No: Towards a Legal Response to Algorithmic Discrimination in Europe*, SSRN Journal 7 (2024), https://www.ssrn.com/abstract=4735345 (accessed 29 Jun. 2024); Kelly-Lyth, *supra* n. 9, at 906–907; Martínez-Ramil, *supra* n. 29.

31 Jeremias Adams-Prassl, Reuben Binns & Aislinn Kelly-Lyth, *Directly Discriminatory Algorithms*, 86 MLR 144 (2023), doi: 10.1111/1468-2230.12759; Kelly-Lyth, *supra* n. 17, at 159.

32 Adams-Prassl, Binns & Kelly-Lyth, *supra* n. 31, at 175.

should correspond to the protected grounds to give rise to direct discrimination and what is required to establish a prima facie case of direct discrimination.[33]

Since algorithmic recruitment systems typically rely on proxies, the practical grasp of direct discrimination on algorithmic recruitment discrimination requires (1) proxy discrimination to constitute direct discrimination and (2) the job applicants to establish a prima facie case of direct discrimination. This article explores whether these requirements are insuperable. Although the Directives are not directly applicable and require implementation by the Member States, the article focuses on the EU level, which sets the minimum standards for protection that the Member States may not erode. As this article concentrates on the EU non-discrimination law and the case law of the Court of Justice of the European Union (CJEU), the European Convention on Human Rights and the case law of the European Court of Human Rights are excluded from the scope, even though their significance and potential influence on the developments of EU law are acknowledged.

To illuminate how the practical hurdles affect technologically diverging algorithmic recruitment systems differently, this article uses two types of CV screening systems as fictional case examples. The first case is a more traditional 'data mining example'. It is a CV screening system developed by mining a data set to find factors correlating with job performance. The correlations are then turned into decision-making rules according to which the system scores and ranks applicants' CVs. These systems may be complex but remain interpretable enough for experts to test and audit them, distinguishing the underlying decision-making rules, explaining their logic, and monitoring them. In one infamous real-life incident, an audit revealed that a CV screening algorithm gave precedence to the name 'Jared' and playing high school lacrosse as two characteristics most reflective of job performance.[34]

The second case is a more advanced 'GPT example': a CV screening system built on a foundation model or an LLM such as GPT-4 and tailored to the recruitment context to screen CVs. Unlike the previous example, much of the underlying LLM will rely on vast amounts of data, the contents and origins of which are unknown.[35] Further, the model is highly complex and non-interpretable.[36] One common feature of the GPT models is that they can provide

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33 *Ibid.,* at 160–161, 165 and 171. *See also* Gerards & Xenidis, *supra* n. 10, at 70.

34 Greg Gershgorn, *Companies Are on the Hook If Their Hiring Algorithms are Biased*, Quartz (2018), https://qz.com/1427621/companies-are-on-the-hook-if-their-hiring-algorithms-are-biased/ (accessed 12 Jul. 2024).

35 *See* e.g., OpenAI, *supra* n. 6 at 53.

36 GPT-3 had 175 billion parameters and at most ninety-six layers in its neural network, *see* e.g., Chuan Li, *OpenAI's GPT-3 Language Model: A Technical Overview* (2020), https://lambdalabs.com/blog/demystifying-gpt-3 (accessed 13 Jul. 2024). The creator of the models, OpenAI, has not disclosed similar exact numbers for GPT-4, but it has indicated that those would be higher, *see* e.g., Will Douglas Heaven, *GPT-4 Is Bigger and Better than ChatGPT – But OpenAI Won't Say Why*, MIT Technology Review (14 Mar. 2023).

different outputs with the same input,[37] making the systems non-deterministic and their performance non-linear. Hence, testing the GPT systems is highly complicated, if not impossible, as the same tests can yield divergent results. These examples are used throughout the article to cast light on the potential difficulties encountered by the direct discrimination regime when dealing with algorithmic recruitment systems.

The article proceeds as follows. Section 2 explores CJEU case law to examine whether and when proxy discrimination can constitute direct discrimination in an algorithmic recruitment context. It also scrutinizes the unused potential of the CFREU in addressing proxy discrimination. Section 3 probes whether job applicants have realistic possibilities to establish prima facie cases of direct discrimination and thus investigates the theoretical requirements for establishing the burden of proof, the applicants' pathways to obtain evidence, and the evidence required to shift the burden of proof. Finally, section 4 concludes the discussion and argues that the challenges are not insurmountable: the prohibition of direct discrimination could also address some algorithmic recruitment discrimination and constrain more complex algorithmic recruitment systems.

2 CAN PROXY DISCRIMINATION CONSTITUTE DIRECT DISCRIMINATION IN ALGORITHMIC RECRUITMENT?

Under the Directives, direct discrimination occurs when 'one person is treated less favourably than another is, has been or would be treated in a comparable situation' on any of the protected grounds.[38] While indirect discrimination arises when 'an apparently neutral provision, criterion or practice would put persons' having a protected characteristic 'at a particular disadvantage compared with other persons, unless that provision, criterion or practice is objectively justified by a legitimate aim and the means of achieving that aim are appropriate and necessary'.[39] To count as direct discrimination, the less favourable treatment must be addressed to the applicants *because of* their protected grounds (i.e., a causation requirement).[40] In contrast, indirect discrimination focuses on the effects and not as direct causation between the provision, criterion or practice and the protected grounds is required,

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37 Robert Dale, *GPT-3: What's It Good for?*, 27 Nat. Lang. Eng. 113, 116 (2021), doi: 10.1017/S1351324920000601.

38 Article 2(2)(a) of the Race Equality and Employment Equality Directives. *See also* Art. 2(1)(a) of the Gender Equality Directive, where the word order is somewhat divergent.

39 Article 2(2)(b) of the Race Equality and Employment Equality Directives and Art. 2(1)(b) of the Gender Equality Directive.

40 *See* e.g., Xenidis, *supra* n. 30, at 9; Kristin Henrard, *The Effective Protection Against Discrimination and the Burden of Proof: Evaluating the CJEU's Guidance Through the Lens of Race*, in *EU Anti-Discrimination Law Beyond Gender* 107 (Uladzislau Belavusau & Kristin Henrard eds, 2019).

which allegedly makes it better suited to algorithmic discrimination and especially proxy discrimination.[41]

Proxy discrimination takes place when the algorithmic recruitment system uses an ostensibly neutral feature as a substitute for a protected ground, and the use of the proxy leads to a particular harm for the applicants associated with the protected ground.[42] At first sight, using a proxy in the decision-making of the algorithmic system may seem to comply better with the direct discrimination prohibition, as the algorithm does not directly rely on protected grounds.[43] For example, our GPT example could use intricate blends of multiple variables as proxies.[44] It might use the speed of eye movement, frequency of background noises, internet browser version, and time of completing video interview together as a decisive factor in the screening process. Such a complex proxy[45] is incomprehensible to applicants, and it would be challenging to claim that a decision made using that proxy is based on protected grounds. In prior research, Adams-Prassl et al., have argued that some proxy discrimination may also constitute direct discrimination.[46]

This section explores whether and when direct discrimination can exist if the treatment of the applicants is not formally based on a protected ground.

2.1 CJEU CASE LAW AND DIRECT PROXY DISCRIMINATION

2.1[a] *Proxies Inextricably Linked to Protected Grounds*

The CJEU does not require the less favourable treatment formally to rest on the protected grounds.[47] Instead, the CJEU considers that direct discrimination may also occur when the less favourable treatment is based on a proxy inextricably[48] or inseparably[49] linked to a protected ground. The CJEU appears to use the terms

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41 *See* e.g., Henrard, *supra* n. 40, at 107; Carter, *supra* n. 17, at 11.

42 *See also* Weerts et al., *supra* n. 28, at 1851; Rigotti & Fosch-Villaronga, *supra* n. 15, at 5.

43 *See* e.g., Gerards & Xenidis, *supra* n. 10, at 69–70.

44 Prince & Schwarcz, *supra* n. 12, at 1304; Sandra Wachter, *The Theory of Artificial Immutability: Protecting Algorithmic Groups under Anti-Discrimination Law*, 97 Tul. L. Rev. 149, 158–159 (2022), doi: 10.2139/ssrn.4099100.

45 *See* e.g., Weerts et al., *supra* n. 28, at 1854.

46 Adams-Prassl, Binns & Kelly-Lyth, *supra* n. 31, at 157–166. Based, mostly, on UK case law Adams-Prassl et al., suggest that the use of perfect proxies constitutes inherently discriminatory direct discrimination while imperfect proxies may result in subjective direct discrimination. *See also* Weerts et al., *supra* n. 28, at 1851.

47 *See also* Christa Tobler, I*ndirect Discrimination under Directives 2000/43 and 2000/78* 78–79 (2022); Marc De Vos, *The European Court of Justice and the March Towards Substantive Equality in European Union Anti-discrimination Law*, 20 IJDL 62, 68 (2020), doi: 10.1021/cen-v078n043.p078.

48 *See* e.g., Case C-16/19, *VL v. Szpital Kliniczny im. dra J. Babińskiego Samodzielny Publiczny Zakład Opieki Zdrowotnej w Krakow*ie, 26 Jan. 2021, ECLI:EU:C:2021:64, para. 48; C-499/08 *Ingeniørforeningen i Danmark, acting on behalf of Ole Andersen, v. Region Syddanmark,* 12 Oct. 2010, ECLI:EU:C:2010:600, para. 23.

49 *See* e.g., Case C-356/09, *Pensionsversicherungsanstalt v. Christine Kleist,* 18 Nov. 2010, ECLI:EU:C:2010:703, paras 30–31.

'inextricable' and 'inseparable' interchangeably,[50] and it has found a sufficient link in several cases, even without explicit reference to those terms.[51] Until now, the doctrine has been applied, for instance, in relation to sex,[52] age,[53] sexual orientation[54] and disability.[55] Presumably, it also applies to the other protected grounds. The cases where the CJEU has so far found such a link can be divided into three categories: (1) the proxy applies exclusively to the protected group, (2) the proxy affects the whole protected group, and (3) the proxy excludes the protected (sub)group entirely.[56]

First, an inextricable link between a proxy and the protected ground may exist if the proxy applies exclusively to one protected group. This earliest form of the inextricable link doctrine emerged in sex discrimination cases.[57] In *Dekker,* the CJEU considered that if a criterion (pregnancy) can affect only the protected group (women), it may constitute direct discrimination even if the protected ground is not an explicit decision-making criterion.[58] The convoluted proxies used in algorithmic recruitment systems may cover not only protected group members, thus reducing the applicability of this part of the doctrine in algorithmic recruitment. For instance, in our example CV screening systems, a proxy discarding applicants who have included the word 'maternity' in their CV does not constitute direct discrimination based on this form of the doctrine if, for example, a male applicant has worked in a maternity ward and thus is also affected by the proxy.

Second, the CJEU seems to have found an inextricable link when a proxy affects the whole protected group.[59] In *Maruko,* the CJEU considered that when entitlement to survivor's benefit was reserved solely for surviving marital partners, and marriage was possible only for heterosexual couples, the treatment could amount to direct discrimination based on sexual orientation.[60] Unlike the previous version of the doctrine, this does not require that the proxy affects

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50 *See* e.g., C-16/19 *Szpital Kliniczny, supra* n. 48, paras 46–47.

51 *See* e.g., Case C-267/06, *Tadao Maruko v. Versorgungsanstalt der deutschen Bühnen,* 1 Apr. 2008, ECLI:EU:C:2008:179, paras 67–73 and Case C-267/12, *Frédéric Hay v. Crédit agricole mutuel de Charente-Maritime et des Deux-Sèvres*, 12 Dec. 2013, ECLI:EU:C:2013:823, paras 41–44. For simplicity this article refers to inextricable links as an overarching term for all sufficiently close links between the proxy and the protected ground, which can lead to direct discrimination.

52 *See* e.g., C-356/09 *Kleist, supra* n. 49.

53 *See* e.g., C-499/08 *Ingeniørforeningen i Danmark, supra* n. 48.

54 *See* e.g., C-267/12 *Hay, supra* n. 51.

55 *See* e.g., C-16/19 *Szpital Kliniczny, supra* n. 48.

56 Compare, Tobler, *supra* n. 47, at 88.

57 *See* e.g., Case C-177/88, *Elisabeth Johanna Pacifica Dekker v. Stichting Vormingscentrum voor Jong Volwassenen (VJV-Centrum) Plus*, 8 Nov. 1990, ECLI:EU:C:1990:383, para. 12; Case C-196/02, *Vasiliki Nikoloudi v. Organismos Tilepikoinonion Ellados AE,* 10 Mar. 2005, ECLI:EU:C:2005:141, para. 40. *See also ibid.*, at 79–80.

58 C-177/88 *Dekker, supra* n. 57, para. 12.

59 C-267/06 *Maruko, supra* n. 51, paras 67–70; C-267/12 *Hay, supra* n. 51, paras 43–44. *See also* Martínez-Ramil, *supra* n. 29, at 17; Kelly-Lyth, *supra* n. 9, at 905–906. Compare, Adams-Prassl, Binns & Kelly-Lyth, *supra* n. 31, at 161–162.

60 C-267/06 *Maruko, supra* n. 51, paras 67–72. *See also* C-267/12 *Hay, supra* n. 51, paras 43–44.

only the protected group members, but it requires all the protected group members to be affected by the proxy. As *Martinez-Ramil* has pointed out, if the proxies used in algorithmic recruitment systems are highly specific, itemized and complex, then only a few protected group applicants share them, making this line of the doctrine often inapplicable in algorithmic recruitment.[61] For example, an algorithmic CV screening system that discards applications with the word 'maternity' does not affect all women or even mothers, as not all mothers mention 'maternity' in their CVs. However, this version of the doctrine can apply, for instance, if the system discards all applicants who have not completed military service, and women may not join the military.

In the third version of the doctrine, based on more recent CJEU case law, an inextricable link exists when the proxy used entirely excludes protected group members, or a specific part of them, since they cannot satisfy the proxy's criteria.[62] In *Hay,* the CJEU determined the discriminatory nature of a collective agreement provision which granted days of special leave and salary bonuses only to persons who were married and not to persons who concluded a civil solidarity pact (PACS). The CJEU clarified that it was irrelevant that the PACS was also available for other than same-sex couples insofar as same-sex couples were not permitted to marry.[63] Similarly, in *Müller,* the CJEU deemed that an inextricable link between a prohibition of wearing conspicuous, large-sized signs of political, philosophical, or religious beliefs and specific religion(s) or belief(s) (e.g., women's headscarves and Islam) could exist although the prohibition could also affect others than those having the specific religion (e.g., those wearing political signs).[64] In *Szpital Kliniczny*, the CJEU acknowledged that the less favourably treated group might consist only of a clearly defined part of the protected group.[65] In that matter, the disadvantaged group comprised employees with disabilities whose disability status was known to the employer when introducing a new practice regarding disability allowances, making it impossible for that group of employees to satisfy the

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61 Martínez-Ramil, *supra* n. 29, at 18.

62 *See* e.g., C-267/12 *Hay, supra* n. 51, paras 43–44; C-16/19 *Szpital Kliniczny, supra* n. 48, paras 51–53. The above-mentioned second version of the doctrine could alternatively be regarded a subgroup of this third version of the doctrine. For instance, Tobler has not separated these, *see* Tobler, *supra* n. 47, at 88.

63 C-267/12 *Hay, supra* n. 51, paras 43–44.

64 Joined Cases C-804/18 and C-341/19, *IX v. WABE eV and MH Müller Handels GmbH v. MJ,* 15 Jul. 2021, ECLI:EU:C:2021:594, para. 73. *See also* Adams-Prassl, Binns & Kelly-Lyth, *supra* n. 31, at 162.

65 C-16/19 *Szpital Kliniczny, supra* n. 48, para. 53. The *Szpital Kliniczny* case raises the question of how detailed the subsets of the protected groups may be. The more detailed a subset of the protected group, the more likely also an inextricable link between the proxy and the said group. For intersectional discrimination, this possibility of finding an inextricable link between the proxy and a subgroup of the protected group appears promising and encouraging. However, from the employers' point of view and for legal certainty, this may be a problematic direction.

conditions for the allowance.[66] In prior research, Tobler has emphasized that in case law, the complete exclusion of the disadvantaged seems decisive.[67]

This third version of the doctrine appears the most prominent in relation to algorithmic recruitment since it comprises situations where the proxy affects others than protected groups and situations where the proxy affects only a subset of the protected group, which are typical situations when algorithmic recruitment systems rely on proxies. However, it remains unresolved how close the correspondence between the protected group and the proxy needs to be to give rise to direct discrimination. The above-discussed CJEU case law suggests that a 100 % correspondence is not necessary to create an inextricable link. Binns et al., have deemed that a 'sufficient degree of correspondence' is required,[68] whereas Weerts et al., have proposed that the proxy and the protected ground must be 'at least highly associated and possibly even deterministically related'.[69] However, drawing an exact line is challenging, as the CJEU prefers to adopt contextual criteria[70] instead of exact statistical thresholds in discrimination cases. Furthermore,its case law appears somewhat inconsistent as the below examples demonstrate.[71]

The disputed provision in *Bedi* concerned not just people with disabilities but also those entitled to early retirement, which led the CJEU to conclude that the criterion was not inseparably linked to a disability. Thus, there was no direct discrimination.[72] In *WABE,* the prohibition of any visible signs of beliefs covered all manifestations, and it was not inextricably linked to a specific religion or belief.[73] In contrast, in *Müller,* wearing 'conspicuous, large-sized signs' was deemed inextricably linked to one or more specific religions or beliefs.[74] Similarly, in *Hay,* an inextricable link between the employees' marital status and sexual orientation was found, even though the collective agreement provision negatively affected also opposite-sex PACS couples.[75] The

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66 *Ibid.,* paras 51, 53 and 60.

67 Tobler, *supra* n. 47, at 86 and 88. Compare, Martínez-Ramil, *supra* n. 29, at 17–18.

68 Reuben Binns, Jeremias Adams-Prassl & Aislinn Kelly-Lyth, *Legal Taxonomies of Machine Bias: Revisiting Direct Discrimination*, in *2023 ACM Conference on Fairness, Accountability, and Transparency* 1850, 1854–1855 (2023), https://dl.acm.org/doi/10.1145/3593013.3594121 (accessed 25 Jun. 2024).

69 Weerts et al., *supra* n. 28, at 1856.

70 *See* e.g., C-804/18 and C-341/19 *WABE and Müller, supra* n. 64, para. 78, where weight is given to the type of the signs.

71 Wachter, Mittelstadt & Russell, *supra* n. 13, at 14 and 19; Hilde Weerts et al., *Algorithmic Unfairness Through the Lens of EU Non-discrimination Law: Or Why the Law Is Not a Decision Tree*, in *2023 ACM Conference on Fairness, Accountability, and Transparency* 805, 812 (2023), https://dl.acm.org/doi/10.1145/3593013.3594044 (accessed 27 Jun. 2024); Weerts et al., *supra* n. 28, at 1851.

72 Case C-312/17, *Surjit Singh Bedi v. Bundesrepublik Deutschland and Bundesrepublik Deutschland in Prozessstandschaft für das Vereinigte Königreich von Großbritannien und Nordirland,* 19 Sep. 2018, ECLI:EU:C:2018:734, paras 47–48. *See also* Case C-668/15, *Jyske Finans A/S. v. Ligebehandlingsnævnet, acting on behalf of Ismar Huskic,* 6 Apr. 2017, ECLI:EU:C:2017:278, paras 19–25, where country of birth was not deemed inextricably linked to racial or ethnic origin.

73 C-804/18 and C-341/19 *WABE and Müller, supra* n. 64, para. 52.

74 *Ibid.,* para. 73.

75 C-267/12 *Hay, supra* n. 51, paras 43–44.

reasons for these differing decisions remain debatable.[76] The proportion of the protected group members within those affected by the provision might have been one influential factor in these cases.

Determining whether an inextricable link exists requires a case-by-case judicial assessment. In this assessment, the courts could consider, for instance, what proportion of the disadvantaged group has (or is associated with)[77] the protected ground and what proportion of the protected group the proxy entirely excludes.[78] The closer to 100% they are, the more likely there is to be an inextricable link between the proxy and the protected ground(s).[79] However, no strict thresholds can be laid down in advance.[80] Our case examples might shed some light on the level of correspondence needed in algorithmic recruitment.

In the data mining example, the algorithmic recruitment system used as screening criteria the terms 'Jared' and 'high school lacrosse'. Since Jared is a male name, it entirely excludes nearly all women,[81] but also most men. Thus, only slightly over 50% of those disadvantaged by the proxy are women. However, since the proxy 'Jared' entirely excludes close to 100% of women, it is inextricably linked to job applicants' sex[82] and can result in direct discrimination. Nevertheless, the situation is less clear when high school lacrosse is the screening criterion.[83] The proportion of women within the disadvantaged group might be somewhat higher, as more men probably play lacrosse than are named Jared. Women still form clearly

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76 On the *WABE and Müller* cases *see* e.g., Jule Mulder, *Religious Neutrality Policies at the Workplace: Tangling the Concept of Direct and Indirect Religious Discrimination. WABE and Müller*, 59 COLA 1501 (2022).

77 The victim of discrimination does not have to belong to the protected group themselves, but rather association with it suffices ('discrimination by association'), since the principle of equal treatment applies not only to a particular protected group of persons but more broadly by reference to the protected grounds. *See* Cases C-303/*06 S. Coleman v. Attridge Law and Steve Law*, 17 Jul. 2008, ECLI:EU:C:2008:415, paras 38 and 56 and Case C-83/14 *CHEZ Razpredelenie Bulgaria AD v. Komisia za zashtita ot diskriminatsia, third parties: Anelia Nikolova, Darzhavna Komisia za energiyno i vodno regulirane*, 16 Jul. 2015, ECLI:EU:C:2015:480, paras 56 and 60. *See also* Ellis and Watson, *supra* n. 151, at 146–147; Sandra Wachter, *Affinity Profiling and Discrimination by Association in Online Behavioural Advertising*, 35 BTLJ 367, 394–412 (2020).

78 Considering the CJEU's gold standard set in Case C-167/97, *Regina and Secretary of State for Employment, ex parte Nicole Seymour-Smith and Laura Perez,* 9 Feb. 1999, ECLI:EU:C:1999:60, para. 59, looking only at the affected group is not sufficient. Thus, the courts should consider also how the proxy affects the advantaged group, *see* Wachter, Mittelstadt & Russell, *supra* n. 13, at 17–18. However, determining the advantaged group might be difficult when complex proxies are used.

79 As the below example suggests, it could suffice if either of these proportions is close to 100 %.

80 *See also* Weerts et al., *supra* n. 28, at 1851.

81 Women named Jared are extremely rare. *See* e.g., Jared | Forename search | Finnish Name Statistics | Digital and Population Data Services Agency, https://nimipalvelu.dvv.fi/en/forename-search?name=Jared (accessed 1 Jul. 2024).

82 If the name is relatively new and has not been given to older people, it could exclude also applicants of certain age altogether.

83 No reliable statistics on European lacrosse players exist and making detailed guesses on the sex distribution and generality of the sport is difficult.

less than 100% of the disadvantaged group, as numerous men do not play lacrosse. Further, the proxy 'high school lacrosse' entirely excludes fewer women than the proxy 'Jared', as some women also play lacrosse. Yet, without statistics on the matter, determining exact percentages is impossible. Based on an intuitive common-sense assessment, which the CJEU also often resorts to, playing high school lacrosse might not necessarily be deemed inextricably linked to the protected ground of sex,[84] though its use might still amount to indirect discrimination.[85]

As for the GPT example, an inextricable link analysis is not feasible when the proxies remain undetectable or incomprehensible.[86] Thus, presumably, the courts could rarely find inextricable links between the proxies and protected grounds in more complex algorithmic recruitment systems. Arguably, the CJEU case law focusing on the reasons for the treatment could provide a way forward in such cases.

2.1[b] *The Determining Reasons for Job Applicants' Less Favourable Treatment*

The CJEU case law also proposes a more flexible reasoning-based framework for determining whether the applicants' treatment was based on the protected grounds. In *Chez,* the CJEU indicated that direct discrimination can occur when the measure that constitutes less favourable treatment was introduced or maintained 'for reasons relating to' the protected ground.[87] The CJEU considered that direct discrimination could occur if 'the ethnic origin *determined the decision* to impose the treatment'.[88] In *Chez,* the apparent reason for installing the electricity meters at inaccessible heights in Roma districts was the alleged damage and unlawful connections perpetrated by persons of Roma origin.[89] The CJEU left it to the national court to determine whether those reasons were related to protected grounds.[90] Consequently, it remains unresolved when the protected grounds affect the adoption decision sufficiently to give rise to direct discrimination. Prior research offers some insights into this question.[91]

Campbell and Smith's reasoning-oriented approach to assessing whether the treatment is based on protected grounds is illuminating, even though it appears to be primarily based on UK law and to be broader than the CJEU judgment in

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84 If a deterministic relationship between the proxy and the protected ground is required for direct discrimination to occur, as suggested by Weerts et al., high school lacrosse would not be inextricably linked to protected grounds. *See* Weerts et al., *supra* n. 28, at 1854. However, another question is, whether the 'high school lacrosse' criterion could be inextricably linked to disability.

85 Direct discrimination could also occur if protected grounds determined the decision to impose the less favourable treatment. *See* Ch. 2.1[b].

86 *See also* Martínez-Ramil, *supra* n. 29, at 18.

87 C-83/14 *Chez, supra* n. 77, para. 91.

88 Italics added by the author. *Ibid.,* para. 76.

89 *Ibid.,* paras 31 and 82.

90 *Ibid.,* para. 91.

91 *See* e.g., Tobler, *supra* n. 47, at 86–87.

Chez.[92] Simply put, the reasoning-oriented approach considers that the less favourable treatment is based on the protected grounds if:

> the complainant's possession of a protected characteristic: (i) *is taken into account* by the alleged discriminator at any stage in their reasoning as to whether to accord the adverse treatment to the complainant; or (ii) *shapes the alleged discriminator's reasoning* as to whether to accord the adverse treatment to the complainant.[93]

The protected ground could be taken into account in the reasoning in different ways, such as: (1) by relying on a rule which explicitly refers to a protected ground, (2) by considering the protected grounds when deciding on the adoption of the rule (which does not refer to protected grounds), or (3) when no explicit rule is used, by weighing various considerations in decision-making and having the protected ground feature in the considerations that weigh in favour of the unfavourable treatment.[94] Further, the second part of the approach (*shapes the reasoning)* broadens the analysis to include situations where the protected grounds are not part of the reasoning but affect the line of reasoning and could thus catch unconscious discrimination.[95]

Likewise, *Ada*ms-Prassl et al., suggest, predominantly deriving from UK case law, that subjective direct discrimination can occur if the protected ground is instrumental in the mental or machine processes that led to the decision, consciously or unconsciously.[96] Adams-Prassl et al., imply that it suffices if the protected ground was a cause, not the sole or primary cause, of the less favourable treatment.[97] Similarly, Farkas and O'Farrell have proposed that it is sufficient for the protected ground to be one of many reasons for the less favourable treatment.[98]

Unlike the case of the inextricably linked doctrine, under the reasoning-based approach, there is no need to show what exactly the criterion used by the employer was and that the protected ground or its close proxy featured in it.[99] Instead, it would suffice to show that the protected grounds determined the decision to adopt the less favourable treatment.[100] Drawing from earlier research discussed above, that could be the case if the

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92 Colin Campbell & Dale Smith, *The Grounding Requirement for Direct Discrimination*, 136 LQR 258 (2020).

93 *Ibid.,* at 280. Italics added by the author.

94 Colin Campbell & Dale Smith, *Distinguishing Between Direct and Indirect Discrimination*, 86 MLR 307, 320 (2023), doi: 10.1111/1468-2230.12760.

95 Campbell & Smith, *supra* n. 92, at 279–281. Alternatively, Campbell and Smith have proposed that unconscious discrimination could be deemed to be based on protected grounds if the 'alleged discriminator failed to take reasonable steps to safeguard against the role that unconscious stereotypes, assumptions or heuristics played in his or her decision to accord the adverse treatment to the complainant'.

96 Adams-Prassl, Binns & Kelly-Lyth, *supra* n. 31, at 163–164.

97 *Ibid.,* at 163. Compare, C-83/14 *Chez, supra* n. 77 para. 76.

98 Lilla Farkas & Orlagh O'Farrell, *Reversing the Burden of Proof: Practical Dilemmas at the European and National Level* 100, 53 (2015), https://data.europa.eu/doi/10.2838/05358 (accessed 4 May 2024).

99 Campbell & Smith, *supra* n. 92, at 278; Campbell & Smith, *supra* n. 94, at 321–322.

100 C-83/14 *Chez, supra* n. 77, paras 76 and 91.

protected grounds have been influential in the process (e.g., reflected in the training data, which affected the choice of variables) that led to the decision (e.g., scoring equally qualified women worse than men). Detecting why the algorithmic recruitment system has treated an applicant less favourably or used a particular criterion may be possible if the system is traceable.[101] For instance, in the data mining example, auditors may discover that the algorithmic system chose the 'Jared' and 'lacrosse' criteria because the past successful employee or applicant data typically contains those, and men were over-represented in the data due to past structural inequalities.[102] In such a situation, applicants could argue that protected grounds affected the system's decision-making rules, and thus, the system could be deemed prima facie directly discriminatory.[103]

It is much more difficult to find reasons for the less favourable treatment from the extraordinarily complex and non-interpretable GPT example with its unknown training data.[104] However, the second part of Campbell and Smith's approach to shaping the reasoning[105] could apply even in cases where, for instance, the applicants do not know the data on which the algorithmic recruitment system has been developed, but they know that the model is built on real-world training data, which presumably reflects past human biases, prejudices, and societal inequalities. In such cases, the applicants could argue that protected grounds affected the reasoning process, and the courts could deem the algorithmic recruitment system to be prima facie directly discriminatory if it treats applicants from protected groups unfavourably. Nevertheless, this interpretation is open to criticism for being broader than the 'determining the decision' threshold. From the employers' point of view, this interpretation is problematic because notusing real-world training data or clearing the training data of all indices of protected grounds might not be feasible. In addition, this interpretation could more frequently shift the burden of proof to the employer, as it lightens the applicants' evidentiary burden.[106]

These reasoning-oriented and more subjective views could also be questioned as relying on the perpetrator's intent, which EU non-discrimination law does not require.[107] Arguably, reasoning is not the same as intent.[108] Regardless of this, if the perpetrator's intent is evident, it could imply that the adverse treatment is based on the protected characteristics.[109]

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101 Adams-Prassl, Binns & Kelly-Lyth, *supra* n. 31, at 170–171.

102 However, it must be ascertained that this is due to implicit bias and not the 'ground truth', *see* Kelly-Lyth, *supra* n. 17, at 161.

103 *See* e.g., Campbell & Smith, *supra* n. 92, at 280–281; Kelly-Lyth, *supra* n. 17, at 160; Adams-Prassl, Binns & Kelly-Lyth, *supra* n. 32 at 171.

104 The training data of black box algorithms might be examinable unlike in the case of human decision-makers, *see* Kelly-Lyth, *supra* n. 17, at 160.

105 Campbell & Smith, *supra* n. 92, at 279–281; Campbell & Smith, *supra* n. 94, at 320.

106 On the recruiters' burden of proof, *see also* Grozdanovski, *supra* n. 13, at 126.

107 *See* e.g., Tobler, *supra* n. 47, at 87; Henrard, *supra* n. 40, at 108–109.

108 *See* e.g., Campbell & Smith, *supra* n. 94, at 322.

109 *See* Hacker, *supra* n. 13, at 1152; Tarunabh Khaitan, *A Theory of Discrimination Law* 150 (1st ed. 2015).

2.2 Broader coverage through the CFREU

The Directives prohibit discrimination based on racial or ethnic origin,[110] religion or belief, disability, age, sexual orientation[111] and gender.[112] The list of grounds in the Directives is exhaustive.[113] If a proxy is not inextricably linked to these protected grounds, using it in the decision-making process of the algorithmic recruitment system is not in most cases directly discriminatory.[114] Naturally, a broader list of protected characteristics strengthens the applicants' protection, as possibly more proxies are protected grounds or are inextricably linked to them.[115] The CFREU offers non-discrimination protection not limited to the Directives' protected grounds, but its applicability is limited.[116]

Article 20 CFREU provides that 'everyone is equal before the law'. According to CJEU case law, Article 20 enshrines the general principle of equal treatment: 'comparable situations must not be treated differently and that different situations must not be treated in the same way unless such treatment is objectively justified'.[117] The wording 'everyone' allows a broad interpretation and is not limited to the protected grounds specified in the Directives. Instead, it appears to enable the challenging of all kinds of differences in treatment insofar as the CFREU applies.[118] In *Zoi Chatzi,* Article 20 CFREU applied to discrepancies in parental leave treatment between parents of twins and parents of singletons.[119]

Article 21 CFREU, titled 'non-discrimination', is a particular expression of the general principle of equal treatment.[120] It prohibits '[a]ny discrimination *based on any ground such as* sex,[121] race, colour, ethnic or social origin, genetic features, language, religion or belief, political or any other opinion, membership of a national minority, property, birth, disability, age, or sexual

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110 Race Equality Directive Art. 1.
111 Employment Equality Directive Art. 1.
112 Gender Equality Directive Art. 1.
113 However, as Member States are allowed to provide broader protection, national legislation already includes more extensive or open lists of protected grounds. *See* Isabelle Chopin & Catharina Germaine, *A Comparative Analysis of Non-discrimination Law in Europe 2022: The 27 EU Member States, Albania, Iceland, Liechtenstein, Montenegro, North Macedonia, Norway, Serbia, Turkey and the United Kingdom Compared*, 11–15 (2023), https://data.europa.eu/doi/10.2838/428042 (accessed 29 Jun. 2024).
114 Direct discrimination might still exist if the protected grounds have determined the decision as discussed in s. 2.1[b].
115 *See* Xenidis, *supra* n. 17, at 755; Carter, *supra* n. 17, at 18.
116 *See* e.g., Xenidis, *supra* n. 30, at 6–7.
117 *See* e.g., Case C-356/12, *Wolfgang Glatzel v. Freistaat Bayern,* 22 May 2014, ECLI:EU:C:2014:350, para. 43.
118 *See also* Mark Bell, *Article 20 – Equality before the Law*, in *The EU Charter of Fundamental Rights – A Commentary* 597, 597 (Steve Peers et al. eds, 2d ed. 2021).
119 Case C-149/10, *Zoi Chatzi v. Ypourgos Oikonomikon*, 16 Sep. 2010, ECLI:EU:C:2010:534, para. 63.
120 *See* e.g., C-356/12 *Glatzel, supra* n. 117, para. 43.
121 As Art. 21 CFREU covers discrimination based on sex, this subsection will not independently analyse Art. 23 CFREU on equality between women and men.

orientation'.[122] Article 21 CFREU explicitly covers many more grounds than the Directives: its list is non-exhaustive. The wording 'such as' implies that even grounds not specifically mentioned may be analogous to those and thus protected.[123] For instance, in *Escribano Vindel,* the CJEU hinted that length of service could have been considered such a ground if the CFREU had applied.[124]

Articles 20 and 21 CFREU do not differentiate between direct and indirect discrimination: they seem to apply regardless of the type of discrimination.[125] Especially in direct discrimination cases, the justification possibilities are broader under Articles 20 and 21 CFREU than under the Directives. Pursuant to CJEU case law, different treatment under CFREU Articles 20 and 21 may be objectively justified if the aim of the different treatment is legally permitted and the treatment is proportionate to the aim pursued.[126] These justification possibilities resemble those of indirect discrimination in the Directives. Hence, even if the CFREU applies, its protection against direct discrimination is not as strong as the Directives'.

The proxies used by the algorithmic recruitment system determine whether Article 20 or 21 CFREU is relevant. If the proxy is cognate with the grounds mentioned in Article 21 CFREU, it is likely to apply, whereas, if the proxy does not relate to the grounds in Article 21 CFREU, Article 20 CFREU may be pertinent.[127] Both provisions can affect the same matter if applicants are treated differently on several grounds, as in *Glatzel.*[128] Whether Article 20 or 21 is germane may be significant in algorithmic recruitment because the direct horizontal applicability of Article 20 remains somewhat obscure,[129] while following CJEU case law, Article 21 applies against private employers.[130]

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[122] Italics added by the author. Article 21(2) CFREU prohibits any discrimination on grounds of nationality, within the scope of application of the Treaties and without prejudice to any of their specific provisions.

[123] *See also* Xenidis, *supra* n. 17, at 755.

[124] Case C-49/18, *Carlos Escribano Vindel v. Ministerio de Justicia,* 7 Feb. 2019, ECLI:EU:C:2019:106, paras 57–59.

[125] *See* e.g., C-83/14 *Chez, supra* n. 77, para. 50.

[126] *See* e.g., C-356/12 *Glatzel, supra* n. 117, para. 43; Case C-406/15, *Petya Milkova v. Izpalnitelen direktor na Agentsiata za privatizatsia i sledprivatizatsionen control,* 9 Mar. 2017, ECLI:EU:C:2017:198, para. 55.

[127] *See* Bell, *supra* n. 118, at 601.

[128] *See* e.g., C-356/12 *Glatzel, supra* n. 117, paras 41–73 and 80–86.

[129] In support of direct applicability of Art. 20 CFREU, *see* Case C-144/04, *Werner Mangold v. Rüdiger Helm*, 22 Nov. 2005, ECLI:EU:C:2005:709, paras 75–78; C-555/07, *Seda Kücükdeveci v. Swedex GmbH & Co. KG,* 19 Jan. 2010, ECLI:EU:C:2010:21, paras 50–51. Compare, C-569/16 and C-570/16 *Stadt Wuppertal v. Maria Elisabeth Bauer and Volker Willmeroth v. Martina Broßonn,* 6 Nov. 2018, ECLI:EU:C:2018:871, para. 85. In the latter *Bauer* case, the CJEU implied that direct horizonal effect of CFREU articles may come into question if the article is 'mandatory and unconditional' so that it does not have to be given concrete expression in EU or national law. The unconditionality of Art. 20 CFREU might be questioned as, for instance, Art. 21 CFREU is a particular expression of it.

[130] *See* e.g., C-414/16 *Vera Egenberger v. Evangelisches Werk für Diakonie und Entwicklung e.V.,* 17 Apr. 2018, ECLI:EU:C:2018:257, paras 76–78; C-193/17, *Cresco Investigation GmbH v. Markus Achatzi,* 22 Jan. 2019, ECLI:EU:C:2019:43, paras 76–78.

Nevertheless, substantial obstacles exist in broadening the Directives' exhaustive list of protected grounds with the CFREU. First, the CJEU has ruled in several cases that the scope of the Directives should not extend by analogy beyond the exhaustively listed grounds.[131] The CJEU seems to justify this strict reading with the EU legislature's competencies as stated in Article 19 TFEU, which only cover the exhaustive list of protected grounds[132] and have not been extended by the CFREU.[133] If the alleged discrimination is not based on the grounds listed in the Directives, the CJEU considers that the situation falls outside the scope of EU law, making the CFREU inapplicable.[134]

Second, the CFREU's field of application is circumscribed. According to Article 51(1) CFREU, the Charter provisions are addressed to EU institutions, bodies, offices, and agencies and 'to the Member States only when they are *implementing Union law'*.[135] The reference to 'implementing' mirrors the strict approach that the CJEU took in *Wachauf.*[136] However, the explanations[137] also refer to other cases such as *ERT* and offer a broader interpretation, in which fundamental rights should be 'binding on the Member States when they act *in the scope of Union law'*.[138] More recent CJEU case law supports a reading covering national measures within the scope of EU law.[139] However, even with the broader interpretation, the situations where national measures fall within the confines of EU law remain limited. For instance, national legislation going beyond the Directives by extending the realm of the non-discrimination provisions to new areas appears to fall outside the scope of EU law.[140]

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131 The CJEU adopted this restrictive approach regarding the general principle of non-discrimination already before the CFREU entered into force, in Case C-13/05, *Sonia Chacón Navas v. Eurest Colectividades SA,* 11 Jul. 2006, ECLI:EU:C:2006:456, para. 56. After the entry into force of the CFREU, the CJEU reaffirmed this approach, e.g., in Case C-303/*06 Coleman, supra* n. 78, paras 34–37.

132 *See* e.g., Case C-354/13 *Fag og Arbejde (FOA), Acting on Behalf of Karsten Kaltoft, v. Kommunernes Landsforening (KL), Acting on Behalf of the Municipality of Billund,* 18 Dec. 2014, ECLI:EU:C:2014:2463, para. 34.

133 *See* Art. 51(2) CFREU and Art. 6(1) of the Consolidated version of the Treaty on European Union ('TEU') 2012/C 326/01.

134 C-354/13 *FOA, supra* n. 132, paras 36–39.

135 Italics added by the author.

136 *See* e.g., Case C-5/88, *Hubert Wachauf v. Bundesamt für Ernährung und Forstwirtschaft*. 13 Jul. 1989, ECLI:EU:C:1989:321, para. 19.

137 The explanations should be considered when interpreting the CFREU, *see* Art. 6(1) TEU and Art. 52 (7) CFREU.

138 Italics added by the author. *See* Explanations of Art. 51(1) CFREU and Case C-260/89, *Elliniki Radiophonia Tiléorassi AE and Panellinia Omospondia Syllogon Prossopikou v. Dimotiki Etairia Pliroforissis and Sotirios Kouvelas and Nicolaos Avdellas and others,* 18 Jun. 1991, ECLI:EU:C:1991:254, para. 42.

139 *See* e.g., Case C-617/10, *Åklagaren v. Hans Åkerberg Fransson,* 26 Feb. 2013, ECLI:EU:C:2013:105, paras 19–23 and 28; Case C-206/13, *Cruciano Siragusa v. Regione Sicilia – Soprintendenza Beni Culturali e Ambientali di Palermo,* 6 Mar. 2014, ECLI:EU:C:2014:126, paras 25–30.

140 *See* e.g., C-198/13, *Víctor Manuel Julian Hernández and others v. Reino de España (Subdelegación del Gobierno de España en Alicante) and others*, 10 Jul. 2014, ECLI:EU:C:2014:2055, paras 44–49. *Similarly also* FRA, HANDBOOK. *Applying the Charter of Fundamental Rights of the European Union in Law and Policymaking at National Level,* Guidance 51–53 (2020).

However, the limitation of Article 51(1) CFREU is not an insurmountable problem in algorithmic recruitment. Even if discrimination rests on grounds other than those listed in the Directives, directly applicable EU regulations can bring the algorithmic recruitment system within the scope of EU law and unlock the application of CFREU Article 21 with its non-exhaustive list of protected grounds. In the CV screening examples, the algorithmic recruitment system processes applicants' personal data, making the General Data Protection Regulation (GDPR)[141] and, consequently, CFREU applicable, as the matter falls within the scope of EU law when the Member State applies the EU regulation. Thus, if the CV screening system, for example, makes automated decisions, it should not discriminate against applicants on grounds mentioned in Article 21 CFREU or on related grounds. Consequently, discrimination based on language and genetic features would be prohibited, even though the Directives do not cover such aspects. Another regulation that potentially brings complex algorithmic recruitment systems, such as the GPT example, within the scope of EU law is the Artificial Intelligence Act (AIA).[142]

Nevertheless, the CJEU has not been eager to utilize the CFREU in non-discrimination cases where other EU directives also apply.[143] In *Jyske Finans,* the CJEU did not harness the possibility of using the CFREU in the context of car loan applications and money laundering.[144] Acknowledging the applicability of CFREU Article 21 when an EU legal act applies would enhance protection against discrimination and align with the aims of the CFREU and the EU to strengthen fundamental rights.[145]

In the algorithmic recruitment discrimination cases, where EU Regulations, such as the GDPR, inevitably apply, the courts could more boldly apply also the CFREU. Hence, the algorithmic recruitment systems' proxy-based discrimination could more often be direct, since the broader scope of the protected grounds, especially in Article 21 CFREU, may make more proxies protected grounds or increase the likelihood that the proxy inextricably links to a protected ground.[146] Nonetheless, the broader use of the CFREU would help applicants only if the

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[141] Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 Apr. 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC.

[142] Regulation of the European Parliament and of the Council of 13 Jun. 2024 laying down harmonized rules on artificial intelligence and amending regulations (EC) No 300/2008, (EU) No 167/2013, (EU) No 168/2013, (EU) 2018/858, (EU) 2018/1139 and (EU) 2019/2144 and Directives 2014/90/EU, (EU) 2016/797 and (EU) 2020/1828 (Artificial Intelligence Act).

[143] *See also* Angela Ward, *The Impact of the EU Charter of Fundamental Rights on Anti-discrimination Law: More a Whimper than a Bang?*, 20 Cambridge Y.B. Eur. Legal Stud. 32, 37–39 (2018), doi: 10.1017/cel.2018.11; Wachter, *supra* n. 44, at 163–165.

[144] C-668/15 *Jyske Finans, supra* n. 72.

[145] *See* Preamble to the CFREU and TEU Arts 2, 3(1) and 6.

[146] The proposed reading of the CFREU could also be one way to get more algorithmic groups considered as protected groups. Compare, Wachter, *supra* n. 44, at 155.

proxies are detectable and comprehensible[147] and the broader justification possibilities confine the protection the CFREU provides. Since Member States' legislation already covers more extensive lists of protected grounds,[148] the effects of this wider application of the CFREU would differ between Member States. In any case, it would harmonize the level of protection against proxy discrimination at the EU level, which is an important goal.

3 DO JOB APPLICANTS HAVE REALISTIC POSSIBILITIES TO MEET THE BURDEN OF PROOF?

As noted in the above discussion, proving that proxy-based differentiation in algorithmic recruitment systems is direct discrimination appears strenuous.[149] The difficulties of applicants in discrimination cases against employers are acknowledged in the Directives' burden of proof provisions, which require that applicants must only 'establish […] facts from which it may be presumed that there has been direct or indirect discrimination'.[150] If the applicants succeed, discrimination is presumed, and to avoid liability, the employer must prove that there has been no less favourable treatment based on the protected grounds or that the less favourable treatment is justified.

The burden of proof is ultimately a matter of national discretion, and each Member State regulates the point that shifts the burden of proof: the standard of proof, the type of evidence required, practical tests and measures of assessing proof and the type of facts based on which discrimination may be inferred.[151] Nevertheless, Member States' courts must comply with the CJEU burden of proof rulings.[152] To determine whether applicants can meet the burden of proof, this section charts the EU-level theoretical requirements for establishing prima facie direct discrimination in algorithmic recruitment, the ways applicants can obtain evidence and the concrete evidence required to shift the burden of proof.

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147 For a discussion of incomprehensible characteristics, *see also ibid.,* at 158–159.

148 Chopin & Germaine, *supra* n. 113, at 11.

149 *See also* Hacker, *supra* n. 13, at 1168; Wachter, Mittelstadt & Russell, *supra* n. 13, at 6. Similar issues exist also regarding traditional recruitment, *see* e.g., Julie Ringelheim, *The Burden of Proof in Anti-discrimination Proceedings. A Focus on Belgium, France and Ireland*, Eur. Equal. L. Rev. 49, 49 (2019).

150 Race Equality Directive Art. 8, Employment Equality Directive Art. 10 and Gender Equality Directive Art. 19. Member States could provide even more beneficial rules for job applicants, *see supra* n. 24 and Farkas & O'Farrell, *supra* n. 98, at 65–67.

151 Recital 15 of the Race Equality Directive and of the Employment Equality Directive. *See also* Recital 30 of the Recast Gender Equality Directive. *See also* Timo Makkonen, *Measuring Discrimination: Data Collection and EU Equality Law* 29 (2007); Wachter, Mittelstadt & Russell, *supra* n. 13, at 18; Grozdanovski, *supra* n. 13, at 114–115.

152 *See* e.g., Grozdanovski, *supra* n. 13, at 117.

3.1 Theoretical requirements for establishing prima facie direct discrimination in algorithmic recruitment

To establish a prima facie case of discrimination, applicants must provide evidence of 'all the elements that legally constitute particular harmful conducts'.[153] According to the wording of the Directives, the constitutive elements of direct discrimination that applicants must prove in algorithmic recruitment are (1) the applicant's less favourable treatment, (2) when compared to another (hypothetical)[154] applicant in a comparable situation, (3) because of protected ground(s).[155] In indirect discrimination, the constitutive elements include (1) an apparently neutral recruitment provision, criterion or practice which puts applicants having a particular protected characteristic, (2) at a particular disadvantage, (3) when compared with other applicants.[156] As Wachter et al., have pointed out, in both cases, the evidential requirements include demonstrating the particular harm, the protected group in which it takes place, and its disproportionality compared to others in a similar situation.[157] However, notable differences exist between fulfilling these requirements for direct and indirect discrimination involving algorithmic recruitment systems.[158]

Initially, the requirement that the less favourable treatment is due to the protected ground (i.e., causation requirement) makes establishing a prima facie case of direct discrimination more arduous than indirect discrimination.[159] However, as discussed in section 2, in the CJEU case law, the causation requirement is also met when there is an inextricable link between the proxy and the protected ground, or when the decision to adopt the discriminatory measure is determined by the protected ground. Nevertheless, the more complex the algorithmic recruitment system and the proxies it uses, the more difficult it could be to establish the causation.

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153 Farkas & O'Farrell, *supra* n. 98, at 38.

154 Directives seem to allow hypothetical comparators ('another is, has been or would be treated in a comparable situation'), *see* Art. 2(2)(a) of the Race Equality and Employment Equality Directives and Gender Equality Directive Art. 2(1)(a). *See also* Evelyn Ellis & Philippa Watson, EU Anti-Discrimination Law 146 (2d ed. 2012); Ringelheim, *supra* n. 149 at 53; Farkas & O'Farrell, *supra* n. 97, at 45.

155 *See* Art. 2(2)(a) of the Race Equality Directive and Employment Equality Directive. *See also* Gender Equality Directive Art. 2(1)(a). Compare, Ringelheim, *supra* n. 149, at 52.

156 *See* Art. 2(2)(b) of the Race Equality Directive and Employment Equality Directive and Gender Equality Directive Art. 2(1)(b). Compare, *ibid.,* at 54.

157 *See* Wachter, Mittelstadt & Russell, *supra* n. 13, at 7–14. Wachter et al., have charted the CJEU case law and discussed in detail how these requirements may be fulfilled in cases of direct and indirect discrimination. *See also* Ringelheim, *supra* n. 149, at 52–54.

158 *See* e.g., Wachter, Mittelstadt & Russell, *supra* n. 13, at 8–14.

159 Farkas & O'Farrell, *supra* n. 98, at 45.

Further, the Directives seem to require that in direct discrimination cases, the applicant should establish the existence of less favourable treatment, which some scholars have deemed to mean opening the 'black box'.[160] Instead, indirect discrimination could be evident from the effects of the algorithmic system.[161] However, the wording of the Directives, especially when read in the light of the effective enforcement of the Directives, does not seem to exclude an interpretation that the less favourable treatment is understood on a higher level and inferred from the results of the algorithmic recruitment system. For instance, if the algorithmic recruitment system ranks the CVs of women lower than comparable CVs of men, the downgrading based on gender could be the less favourable treatment[162] that constitutes direct discrimination, and the applicants would not have to show the technical details of the operations of the algorithm if they can demonstrate the ranking and its link to gender.[163] Showing that the effects of the algorithmic recruitment system are due to the applicants' protected ground or association with such is crucial to dissociate direct discrimination from indirect discrimination. However, inferring the less favourable treatment from the results of the algorithm gives rise to the risk of further blurring the boundaries between direct and indirect discrimination.[164]

The required threshold of certainty, which the applicants are required to reach in showing the elements of direct discrimination, is also relevant in considering the possibilities of success. Based on the facts of the case, judges ultimately determine what is required to shift the burden of proof to the employer.[165] In *Feryn*, public statements of discriminatory recruitment policy gave rise to a presumption of direct discrimination even without specific victims.[166] However, such compelling evidence is not mandatory. Generally, scholars assume that conclusive evidence is not required but rather that the facts the applicants provide 'should raise a suspicion of discrimination'.[167] Farkas and O'Farrell have proposed that a prima facie case would be made when an applicant has established facts which call for an explanation, and one plausible

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160 Compare, Gerards & Xenidis, *supra* n. 10, at 74.

161 *See* e.g., Adams-Prassl, Binns & Kelly-Lyth, *supra* n. 31, at 145; Gerards & Xenidis, *supra* n. 10, at 74.

162 *See* e.g., Weerts et al., *supra* n. 28, at 1855.

163 *See also* Kelly-Lyth, *supra* n. 17, at 167–168.

164 Since the possible justifications for the two types of discrimination differ significantly and there seems to be a difference in their moral wrongness, the distinction is still important. *See* e.g., Campbell & Smith, *supra* n. 93, at 316 and 323–329; Xenidis, *supra* n. 30, at 7. Yet, in practice the difference between direct and indirect discrimination may hinge on the facts shown in the case, *see* e.g., Sandra Fredman, *Direct and Indirect Discrimination: Is There Still a Divide?*, *in* Foundations of Indirect Discrimination Law 31, 54 (Hugh Collins & Tarunabh Khaitan eds, 2018); Carter, *supra* n. 17, at 13.

165 *See* e.g., Wachter, Mittelstadt & Russell, *supra* n. 13, at 8 and 13.

166 C-54/07 *Centrum voor gelijkheid van kansen en voor racismebestrijding v. Firma Feryn NV,* 10 Jul. 2008, ECLI:EU:C:2008:397, para. 25.

167 Ringelheim, *supra* n. 149, at 51. *See* Grozdanovski, *supra* n. 13, at 115; Wachter, Mittelstadt & Russell, *supra* n. 13, at 18.

explanation is that discrimination has occurred.[168] Vale et al., have concluded that it is sufficient that the evidence presented convinces 'a court that it could (not that it should) conclude, failing an adequate explanation, that discrimination is present'.[169] Thus, in algorithmic recruitment, the applicants should show that it is probable or likely[170] that because of their (association with a) protected ground, the algorithmic recruitment system has treated them less favourably than another (hypothetical) applicant in a comparable situation.

3.2 Applicants' pathways to obtain potential evidence

The Directives or the CJEU do not specify any particular types of evidence in direct discrimination cases.[171] As a result, the evidence may comprise statistical evidence,-[172] situation testing,[173] common-sense assessment,[174] written documents,[175] witness statements,[176] or inferences drawn from circumstantial evidence.[177] The CJEU stresses the importance of considering 'all the circumstances surrounding the practice at issue'.[178] Thus, the evidence provided should be convincing and relevant to the case, and together demonstrate that the constitutive elements of discrimination are fulfilled.[179] However, obtaining such evidence is a significant practical hurdle for applicants who have only limited information about the upfront neutral and inclusive algorithmic recruitment systems.[180]

The Directives do not explicitly grant applicants specific rights to information.[181] However, other regulations, such as the GDPR, the AIA and

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168 Farkas & O'Farrell, *supra* n. 98, at 53.

169 Daniel Vale, Ali El-Sharif & Muhammed Ali, *Explainable Artificial Intelligence (XAI) Post-Hoc Explainability Methods: Risks and Limitations in Non-Discrimination Law*, 2 AI and Ethics.815, 821 (2022).

170 *See* e.g., Farkas & O'Farrell, *supra* n. 98, at 34; Ringelheim, *supra* n. 149, at 52; Grozdanovski, *supra* n. 13, at 115; Wachter, Mittelstadt & Russell, *supra* n. 13, at 18.

171 *See* e.g., Wachter, Mittelstadt & Russell, *supra* n. 13, at 3, 14–16; Grozdanovski, *supra* n. 13, at 114.

172 Recital 15 of the Race Equality Directive and of the Employment Equality Directive. *See also* Recital 30 of the Gender Equality Directive, C-167/97 *Seymour-Smith, supra* n. 79 at para. 62 and Wachter, Mittelstadt & Russell, *supra* n. 13, at 14.

173 *See* e.g., Ringelheim, *supra* n. 149, at 58–60; Farkas & O'Farrell, *supra* n. 98, at 36.

174 Makkonen, *supra* n. 151 at 34. However, in algorithmic recruitment, the contested processes do not necessarily appear potentially discriminatory in plain sight, which could lessen the role of common-sense assessments. *See* Wachter, Mittelstadt & Russell, *supra* n. 13, at 16.

175 Ringelheim, *supra* n. 149, at 56.

176 *Ibid*. Farkas & O'Farrell, *supra* n. 98, at 36.

177 Wachter, Mittelstadt & Russell, *supra* n. 13, at 14. This list of potential evidence is not exhaustive.

178 C-83/14 *Chez, supra* n. 77, paras 80–84.

179 Ringelheim, *supra* n. 149, at 52–54.

180 *See* e.g., Vale, El-Sharif & Ali, *supra* n. 169, at 822; Kelly-Lyth, *supra* n. 17, at 168; Carter, *supra* n. 17, at 16; Wachter, Mittelstadt & Russell, *supra* n. 13, at 5.

181 *See* Case C-415/10 *Galina Meister v. Speech Design Carrier Systems GmbH,* 19 Apr. 2012, ECLI:EU:C:2012:217, para. 46; Case C-104/10, *Patrick Kelly v. National University of Ireland (University College, Dublin),* 21 Jul. 2011, ECLI:EU:C:2011:506, para. 38 and Grozdanovski, *supra* n. 13, at 118.

the proposed AI Liability Directive (AILD),[182] may oblige employers to provide applicants with information about the algorithmic recruitment systems.[183] On fortunate occasions, some helpful details might be available also in open sources, (e.g., marketing material of third-party provided algorithmic systems, NGO reports, equality bodies' reports, social media). Nevertheless, the legally mandated disclosures are the most promising.

The employer's information obligations under the GDPR differ significantly depending on the type of algorithmic recruitment system. For instance, when the system truly only assists human recruiters and thus does not meet the GDPR Article 22 conditions of automated decision-making,[184] the employer must provide applicants with basic information about the processing of their personal data but no details of the algorithmic recruitment process.[185] However, if the algorithmic system comprises automated decision-making under GDPR Article 22, the employer has considerable information duties, the exact contents of which are yet to be crystallized.[186] GDPR Articles 13(2)(f) and 14(2)(g)[187] pose *ex-ante* information obligations, pursuant to which the employer is required to inform job applicants that the system uses automated decision-making, explain how the algorithm works (e.g., the criteria considered and their relevance, the types of personal data used to make the decisions), and specify what kind of consequences it may have on the applicants.[188] In the data mining example, the criteria considered

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However, lack of transparency, which is characteristic of algorithmic recruitment systems, could lead to depriving applicants of effective means of enforcing the principle of equality and, thus, entitle them to receive at least some information about the algorithmic system. *See* Case C-318/86 *Commission of the European Communities v. French Republic*, 30 Jun. 1988, ECLI:EU:C:1988:352, para. 27, C-109/88 *Handels- og Kontorfunktionærernes Forbund I Danmark v. Dansk Arbejdsgiverforening, acting on behalf of Danfoss,* 17 Oct. 1989, ECLI:EU:C:1989:383, paras 12–13 and Carter, *supra* n. 17, at 16.

182 Proposal for a Directive of the European Parliament and of the Council on adapting noncontractual civil liability rules to artificial intelligence (AI Liability Directive) (AILD) COM(2022) 496 final. If adopted in the proposed form, the AILD could also provide a noteworthy possibility to seek disclosure of evidence. Since the proposal has not yet been approved, the space is limited, and *Carter* has discussed it in algorithmic recruitment, the AILD will not be examined in detail herein. *See* Carter, *supra* n. 17, at 25–26.

183 *See* e.g., Grozdanovski, *supra* n. 13, at 121; Antonio Aloisi, *Regulating Algorithmic Management at Work in the European Union: Data Protection, Non-discrimination and Collective Rights*, 40 IJCL 37, 51; Carter, *supra* n. 17, at 19–26.

184 *See* e.g., Henni Parviainen, *Can Algorithmic Recruitment Systems Lawfully Utilise Automated Decision-Making in the EU?*, 13 Eur. Lab. L.J. 225, 234–240 (2022), doi: 10.1177/20319525221093815. Many algorithmic recruitment systems might not be deemed to make automated decisions, *see* Carter, *supra* n. 17, at 19–20; Kelly-Lyth, *supra* n. 17, at 169.

185 GDPR Arts 13 and 14.

186 *See* e.g., Grozdanovski, *supra* n. 13, at 121–124; Carter, *supra* n. 17, at 20–21.

187 *See also* GDPR Art. 15(1)(h).

188 *See* Sandra Wachter, Brent Mittelstadt & Luciano Floridi, *Why a Right to Explanation of Automated Decision-Making Does Not Exist in the General Data Protection Regulation*, 7 IDPL 76, 78 and 82–83 (2017), doi: 10.1093/idpl/ipx005; WP29, *Guidelines on Automated Individual Decision-Making and Profiling for the Purposes of Regulation 2016/679, Adopted on 3 October 2017, as Last Revised and*

might appear to be proxies that inextricably link to protected grounds and thus assist applicants in building their case. The *ex-post* obligation to provide an explanation uncovering the reasons behind a decision is more debatable and ambiguous since it is only mentioned in the GDPR Recital 71.[189] If the right to an explanation is laid down by the GDPR, as the opinion of the AG Pikamäe in *Schufa* would suggest,[190] it could help applicants to obtain evidence for their claims. From the employer's point of view, it would mean that they could utilize only explainable systems, limiting the usability of uninterpretable GPT example-like algorithmic systems.

In case the GDPR does not provide a right to explanation, or in cases where the algorithm does not make automated decisions, the AIA might come to the rescue soon.[191] However, the provisions of the AIA assist only when the algorithm is considered a high-risk AI system under the AIA Article 6. Our example algorithmic recruitment systems screen CVs and can materially influence decision-making, as well as profile applicants, posing a significant risk of harm to the applicants' fundamental rights. Hence, AIA Article 6(3) exceptions would not apply, and the example algorithmic recruitment systems could be deemed high-risk AI systems.[192] Similarly, like the GDPR's *ex-ante* obligations, AIA Article 26 (11) obliges employers as deployers of high-risk AI systems to inform applicants that they are subject to the use of a high-risk AI system if the algorithmic recruitment system makes decisions or assists in making decisions related to the applicants. Under AIA Recital 93, the information 'should include the intended purpose and the type of decisions it makes'. After being informed, the applicants could also seek publicly available information from the EU database for high-risk AI systems, but that information is likely to be on a rather general level.[193]

Unlike the GDPR, Article 86(1) AIA explicitly grants applicants the right to an explanation of individual decision-making when (1) the employer makes a

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Adopted on 6 February 2018, (WP251rev.01) 25–26 (2018), https://ec.europa.eu/newsroom/article29/items/612053 (accessed 15 Jul. 2024); Grozdanovski, *supra* n. 13, at 123–124.

189 In support of such a right, *see* e.g., Opinion of the AG Pikamäe in Case C-634/21 *SCHUFA Holding AG,* 16 Mar. 2023, ECLI:EU:C:2023:220, para. 19; Bryce Goodman & Seth Flaxman, *European Union Regulations on Algorithmic Decision-Making and a 'Right to Explanation',* 38 AIMAG 50, 50 (2017), doi: 10.1609/aimag.v38i3.2741; Maja Brkan, *Do Algorithms Rule the World? Algorithmic Decision-Making and Data Protection in the Framework of the GDPR and Beyond*, 27 Int'l J.L. Info. Tech. 91, 110–119 (2019), doi: 10.1093/ijlit/eay017; Carter, *supra* n. 17, at 21 and against such a right, *see* e.g., Wachter, Mittelstadt & Floridi, *supra* n. 186, at 96.

190 *See* e.g., AG Pikamäe Opinion in C-634/21 *Schufa, supra* n. 190 at para. 19.

191 *See* Art. 86(3) on the subsidiary nature of the right. It will apply only if a similar right is not provided for in other EU law. *See also* Carter, *supra* n. 17, at 23. Pursuant to AIA Art. 113, the Regulation applies from 2 Aug. 2026.

192 *See also* AIA Recital 57. Yet, some algorithmic recruitment systems might not be considered as high-risk, if, e.g., they only perform narrow procedural or preparatory tasks as intended in AIA Art. 6(3).

193 AIA Art. 71. According to Annex VIII s. 6 the information should include among others 'a basic and concise description of the information used by the system (data, inputs) and its operating logic'.

decision based on the output from an algorithmic recruitment system, and (2) the decision produces legal effects or similarly significantly affects the applicant in a way that the applicant considers to have an adverse impact on their health, safety or fundamental rights. The right includes 'clear and meaningful explanations of the role of the AI system in the decision-making procedure and the main elements of the decision taken'.[194] Still, it remains to be seen what this right entails in practice.[195] According to AIA Recital 171, the explanation 'should provide a basis on which the affected persons are able to exercise their rights'.[196] The Recital could be read to mean that both the content and form of the explanations are such that they allow applicants to bring non-discrimination claims, where necessary. Carter has argued that the role of the AI system could allude to the automated tasks, the extent of automation and the human recruiter's involvement.[197] That information probably is not particularly useful for applicants who file direct discrimination claims. However, the main elements of the decisions taken could be more helpful for the applicants, especially if understood as including 'access to data indicating how bias emerged in training data, label and feature selection, as well as potentially self-learning bias in ML' as suggested by Carter.[198] Such information could possibly assist applicants in detecting the proxies, showing the inextricable links or proving that protected grounds have determined the less favourable treatment.

The information on the role of the algorithmic system in the recruitment process, how the system works, which criteria it considers and how relevant they are, provided under the GDPR and AIA, could assist applicants in establishing a prima facie case of direct discrimination. However, the applicants are not tied only to the information provided by the employer. Although the CJEU has not often used nor expressly required statistics for establishing a prima facie case of direct discrimination, and statistics are more typically used in indirect discrimination cases, if available, statistics could be helpful for applicants in showing discriminatory recruitment patterns.[199]

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194 AIA Art. 86(1).

195 *See* e.g., Carter, *supra* n. 17, at 23.

196 Under AIA Recital 93 employers must inform applicants of their right to explanation.

197 Carter, *supra* n. 17, at 24.

198 *Ibid*. Carter discusses alternative ways to interpret 'the main elements of the decision taken'. Those could refer to: the significance of the information or the algorithm's decision and not to the main elements that are 'constitutive to the reaching of that decision'. However, those interpretations would not, in the author's opinion, mean that the applicants can exercise their rights and, thus, do not fit the algorithmic recruitment context.

199 Makkonen, *supra* n. 151, at 31–34; Wachter, Mittelstadt & Russell, *supra* n. 13, at 14–16. Of the general requirements CJEU has set for statistics in non-discrimination cases, *see* Case C-127/92, *Dr Pamela Mary Enderby v. Frenchay Health Authority and Secretary of State for Health,* 27 Oct. 1993, ECLI:EU:C:1993:859, para. 17.

From the point of view of algorithmic recruitment, a viable option is to gather statistical data about a specific algorithmic system through situation testing.[200] Applicants[201] could use generative AI to efficiently create hundreds of application pairs (similar except for the protected ground) for testing, submit those to the algorithm and receive initial screening decisions.[202] If the algorithm treats a significant number of test applications possessing the protected ground unfavourably, it could reveal discrimination.[203] For instance, the results may show that the algorithm produces divergent screening results for CVs with similar qualifications and work experience but different genders, scoring women's CVs systematically lower than men's. Such results could be rather convincing for the data mining example, indicating a prima facie case of direct discrimination. However, the GPT example is more problematic, as it is non-deterministic and does not consistently produce identical outputs even with one set of inputs. In short, situation testing is unlikely to provide conclusive evidence in the GPT example, and applicants may need to present other evidence to support their case.[204]

Occasionally, the applicant could use openly available data, for example, from LinkedIn, to identify the applicant chosen for the position and use it to show that their qualifications are similar but that they are of different ethnicity, gender, or age. Several other factors could also hint at direct discrimination, such as if the algorithmic recruitment system's treatment of protected groups has been repeatedly reported to the national equality bodies, or if the applicant's treatment differs from standard recruitment practices or the practices of that specific employer.[205] If the algorithmic recruitment system typically requires the applicants to take part in a personality assessment game directly after applying, but for certain protected groups initially not seen as suitable for the position (e.g., those over fifty years of age), it would assign the personality assessment only if a human recruiter considered the application to have potential. Still, the applicants might not be aware of such differences in treatment, especially if they do not suspect any misbehaviour and do not have extensive networks or trade union support.

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[200] *See* e.g., Makkonen, *supra* n. 151 at 30–31; Farkas & O'Farrell, *supra* n. 98, at 36; Ringelheim, *supra* n. 149, at 58–60; Grozdanovski, *supra* n. 13, at 115. Compare, Case C-423/15 *Nils-Johannes Kratzer v. R +V Allgemeine Versicherung AG,* 28 Jul. 2016, ECLI:EU:C:2016:604.

[201] To secure credible results, the applicants might need to hire experts to conduct the testing. *See* Ringelheim, *supra* n. 149, at 59.

[202] *See ibid.,* at 58–59; Isabelle Rorive & Centre for Equal Rights (CFER), *Proving Discrimination Cases: The Role of Situation Testing* 42–43 (2009).

[203] *See* Ringelheim, *supra* n. 149, at 58–59*; Rorive and Centre for Equal Rights (CFER), supra* n. 202, at 42–43.

[204] Ringelheim, *supra* n. 149, at 59.

[205] *Ibid.,* at 52–53.

3.3 Evidence required to shift the burden of proof

It is left to the Member States' courts to determine the evidence needed to shift the burden of proof in each case.[206] Based on the case law of the CJEU, the courts should set the threshold for prima facie cases of direct discrimination so that it safeguards job applicants' effective means of enforcing the principle of equal treatment and ensures that the Directives' objectives are effectively achieved.[207] At the same time, the courts must ensure that the burden is fairly distributed.[208] In these considerations, the courts should acknowledge the applicants' reasonable possibilities to provide evidence.

In cases where applicants struggle to obtain evidence, if the employer has breached their information obligations or the applicants' right to explanation under the GDPR or the AIA, less indicia could be required to shift the burden of proof. The proposed Article 3(5) of the AILD would create a rebuttable presumption of non-compliance with a relevant duty of care if the employer fails to comply with an order to disclose or preserve evidence. The proposal suggests that the EU legislators would be willing to take a step further from *Meister*[209] and be ready to conclude that refusing to provide evidence could be enough to shift the burden of proof in AI cases. In algorithmic recruitment, the refusal would risk jeopardizing the achievement of the Directives' objectives and depriving them of their effectiveness.[210] Hence, the breach of the information obligations or right to explanation could be enough to shift the burden of proof onto the employer, especially if the employer has completely neglected those duties.

In addition, the type of algorithmic recruitment system used could affect applicants' chances of obtaining evidence, even if the employer fulfils its obligations. In the data mining case, the information provided by the employer based on the GDPR and the AIA could suffice to show it was probable that the selection criteria used by the algorithmic recruitment system relied on a proxy (e.g., a limit on the years of work experience) that excludes the protected subgroup (e.g., older applicants having more experience) completely and thus treats them less favourably. Instead, in the GPT example, the functionalities of the system and the reasons

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206 Grozdanovski, *supra* n. 13, at 114–115; Wachter, Mittelstadt & Russell, *supra* n. 13, at 3, 8 and 18.

207 *See* e.g., C-415/10 *Meister, supra* n. 181, paras 39–41; Case C-109/88 *Danfoss*, *supra* n. 181, paras 13–14; C-104/10 *Kelly, supra* n. 181, paras 33–35; and C-127/92 *Enderby, supra* n. 199, para. 14. *See also* Grozdanovski, *supra* n. 13, at 117.

208 *See* e.g., *ibid.,* at 113.

209 In *Meister,* the CJEU deemed that while the applicant who met the requirements of the job advertisement and who the employer did not interview was not entitled to information on whether the employer had chosen another applicant and based on which criteria, such a refusal to provide information was only one of the factors to consider when establishing the facts giving rise to a prima facie case of discrimination. *See* e.g., C-415/10 *Meister, supra* n. 181, paras 46–47.

210 *See* e.g., C-415/10 *Meister, supra* n. 181, paras 38–42 and C-38/14 *Chez, supra* n. 78, para. 80.

behind a specific decision are more complicated. This means that establishing a prima facie case of direct discrimination based on legally mandated data disclosures is likely to be formidable. For example, the selection criteria used by the algorithmic recruitment system could rely on proxies that are incomprehensible to applicants and as a result claiming an inextricable link between those and the protected ground could be tricky. Other evidence could also be unattainable since the situation testing results are not credible in the case of non-deterministic algorithmic systems, and similar cases possibly are not brought to the equality bodies if other applicants also struggle to comprehend the algorithmic recruitment system. Thus, the burden of proof could shift if the applicant shows that they meet the criteria of the job advertisement, possess or are associated with a protected ground, were not chosen, and that submission of a similar test application but without indicia of the protected ground provided more favourable results.[211]

Since the employer decides whether and what type of algorithmic recruitment system to use and is able to secure access to information about the chosen system,[212] shifting the burden of proof to the employer should not overburden them.[213] The employer can rebut the presumption of discrimination to avoid liability for direct discrimination by proving that there has been no differential treatment based on protected grounds or that the differential treatment was justified, for instance, due to genuine and determining occupational requirements.[214] However, as it may be impossible to rebut the presumption if the employer does not know how the algorithmic recruitment system operates,[215] the suggested approach implies that employers can use only interpretable and explainable algorithms.[216] Thus, the approach would restrict the use of incomprehensible algorithmic systems, such as the GPT example, insofar as they cannot be explained.[217] If applicants could establish the prima facie case of direct discrimination even without detailed knowledge of the workings of the algorithm, the employers could no longer hide behind the veil of ignorance, counting that the applicants do not know how the algorithm works.

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211 *See also* Kelly-Lyth, *supra* n. 17, at 167–168. Especially in the case of more complex and opaque algorithmic recruitment systems, such an interpretation could be needed to secure the effective enforcement of the principle of equal treatment and the achievement of the Directives' objectives. Compare, Carter, *supra* n. 17, at 26.

212 *See* e.g., AIA Art. 13.

213 Compare, Grozdanovski, *supra* n. 13, at 126.

214 Race Equality Directive Art. 4, Employment Equality Directive Art. 4 and Gender Equality Directive Art. 14(2). The Employment Equality Directive provides also several other exceptions, *see* Art. 2(5), Art. 4(2) and Art. 6. *See also* Wachter, Mittelstadt & Russell, *supra* n. 13, at 18; Adams-Prassl, Binns & Kelly-Lyth, *supra* n. 31, at 166–167.

215 *See* Adams-Prassl, Binns & Kelly-Lyth, *supra* n. 31, at 166–167.

216 The AIA Article 86 explicit right to explanation could also have similar implications.

217 Constantly evolving explainable AI models ('XAI') could be helpful, but are not problem-free, *see* e.g., Vale, El-Sharif & Ali, *supra* n. 169.

4 CONCLUSIONS

This paper explored whether the prohibition of direct discrimination can, in practice, tackle algorithmic recruitment discrimination. The focus was on two significant obstacles detected in prior research: (1) whether proxy discrimination can constitute direct discrimination although it is not directly based on a protected ground, and (2) whether job applicants can meet the burden of proof and establish a prima facie case of direct discrimination.

The analysis of the CJEU case law suggests that proxy discrimination can comprise direct discrimination if the proxy is inextricably linked to the protected ground, or if the protected ground has determined the decision to impose the less favourable treatment. An inextricable link does not require 100% correspondence between the proxy and the protected ground. An inextricable link could exist even if the proxy affects persons not in protected groups or only a subset of the protected group, provided that the proxy entirely excludes a protected group or its specific part. To the extent that the proxies are comprehensible and detectable, the inextricable link doctrine could apply to more complex proxies used in algorithmic recruitment systems. Where proxies remain unintelligible or invisible, it might still be possible to show that the protected ground has been determinative in the algorithmic recruitment process that caused the less favourable treatment. Showing that determinative role of the protected ground could again be easier in the more straightforward and traceable algorithmic recruitment systems. Yet, the boundaries of inextricable links and what determines the decision appear malleable for the courts to adjust to the facts of the case. The more complex the algorithmic recruitment system, the more difficult it could, however, be to present the facts.

Moreover, one route in tackling proxy discrimination, which the CJEU has not yet duly explored, is to apply the broader list of protected characteristics of the CFREU Article 21. While CFREU Article 51(1) circumscribes the field of application of the CFREU, it is not an insurmountable hurdle. Since the GDPR and the AIA are directly applicable, they can bring algorithmic recruitment under the scope of EU law and thus unlock the applicability of CFREU Article 21. Such an interpretation makes it possible to consider more proxies as protected grounds or inextricably linked to protected grounds in algorithmic recruitment. However, the possibilities to justify direct discrimination under the CFREU are broader than under the Directives, which constricts the protection. Furthermore, this route will not help if the proxies remain undetectable.

Regarding applicants' chances of proving discrimination in algorithmic recruitment, the examination revealed that even without legal reforms, the evidential requirements and the burden of proof could be interpreted in a way that allows applicants to establish prima facie cases of discrimination in algorithmic recruitment. Theoretically, establishing prima facie direct discrimination requires

showing that it is probable or likely (1) an applicant's less favourable treatment, (2) when compared to another (hypothetical) applicant in a comparable situation (3) because of the applicant's protected grounds. The evidence needed differs depending on the case and jurisdiction. When determining the required proof, the courts should acknowledge the applicants' reasonable possibilities to provide evidence and how employers have fulfilled their information duties.

The courts should ensure that the burden of proof shifts at a stage that safeguards the means of enforcing the principle of equal treatment, thus effectively achieving the Directives' objectives. In this way, the Directives could be read to allow an interpretation where less favourable treatment is inferred from the results of the algorithmic recruitment system, eliminating the need to detect and analyse the detailed operations of the system. Consequently, the burden of proof could be shifted, for example, if the applicant shows that they meet the criteria of the job advertisement, are associated with a protected ground, were not chosen and that the submission of a similar test application but without indicia of the protected ground provided more favourable results.

In line with more recent scholarly accounts, it is argued that the direct discrimination prohibition could also grasp some algorithmic recruitment discrimination. Hence, the ban on direct discrimination should not be sidestepped when analysing whether algorithmic recruitment systems are discriminatory. However, national variations are likely to emerge, and there could be significant differences depending on the characteristics of the algorithmic recruitment system. While fitting proxy discrimination into the requirements of direct discrimination may be challenging especially in more complicated, non-interpretable and non-deterministic algorithmic systems, the suggested interpretation of the burden of proof requirements could mitigate those problems and, consequently, confine the usability of the more complex algorithmic recruitment systems.

Although this study focuses on direct discrimination and recruitment, indirect discrimination is also significant in relation to algorithmic discrimination, which could occur in several phases of the employment relationship. Some considerations outlined herein, especially regarding the applicants' possibility of obtaining potential evidence, may apply to indirect discrimination. Likewise, the overall findings can be relevant for broader workplace use of algorithms, and the results could contribute to limiting the use of inexplicable algorithmic systems in employment.

Until the CJEU clarifies how discrimination in algorithmic recruitment should be addressed, scholars and practitioners alike must not bury direct discrimination under the wave of algorithmic recruitment systems. Furthermore, employers must be aware of the potential applicability of direct discrimination to algorithmic recruitment and take account of it in their risk assessments when considering whether and what kinds of algorithmic recruitment systems to adopt.