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Citation: Bacon, N. & Hoque, K. (2022). The treatment of disabled individuals in small, medium-sized, and large firms. *Human Resource Management*, 61(2), pp. 137-156. doi: 10.1002/hrm.22084

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The treatment of disabled individuals in small, medium-sized, and large firms

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Forthcoming paper in *Human Resource Management*

ABSTRACT

Integrating literature on small firm informality and organizational growth and development into Stone and Colella's (1996) model of the workplace treatment of disabled individuals, we assess prior claims that disability employment outcomes are better in large firms than in small and medium-sized firms. Drawing on the principle of equifinality, we propose disability employment outcomes (workforce disability prevalence and disability gaps in contentment and job satisfaction) will not vary by firm size, given both the formalized approach of large firms (disability equality practices, HR specialists, and union recognition), and the more informal approach of small firms (greater job autonomy, a stronger fairness culture, better work-life balance, and single-site operations with closer personal relationships) may have benefits for disabled people. Analyzing nationally representative matched employer-employee data, we show, as anticipated, formalized approaches are more prevalent in large firms (and to an extent medium-sized firms) and informal approaches are more prevalent in small firms, and disability employment outcomes do not vary by firm size. However, this appears to reflect the ineffectiveness (rather than effectiveness) of characteristics and practices associated with both large firm formality and small firm informality, with both being weakly associated with better disability employment outcomes.

INTRODUCTION

Several international frameworks including the *United Nations Convention on the Rights of Persons with Disabilities* (UNCRPD) (article 27) and *ILO Convention No. 159* (articles 3 and 4) require countries to take steps to address disabled people's ongoing labor market disadvantage. This disadvantage is reflected in a global employment rate of 36% for disabled people compared to 60% for non-disabled people, lower average earnings, and lower levels of work-related contentment and job satisfaction (Bruyère, 2020; Hoque, Wass, Bacon, & Jones, 2018; Jones, 2016a,b; Schur, Kruse, & Blanck, 2013; United Nations, 2018).

In considering the steps countries might take to address this disadvantage, it is helpful to identify the organizational settings associated with positive and negative employment outcomes for disabled people. In this regard, several prior studies have concluded that the treatment of disabled individuals varies by firm size, being notably worse in small and medium-sized enterprises (SMEs) than in large firms (Beatty, Baldridge, Boehm, Kulkarni, & Colella, 2019; Equality and Human Rights Commission, 2015; Goss, Goss, & Adam-Smith, 2000: 813; United States Department of Labor, 2008; Woodhams & Corby, 2007). For example, Woodhams and Corby (2007: 557) conclude that organizational size is positively associated with 'an increased percentage of disabled employees', while Goss et al. (2000: 813) assert 'studies provide clear evidence that larger enterprises are more effective than small ones in enabling people with disabilities to enter and/or remain in employment'. This is concerning given that SMEs, defined as private-sector firms with fewer than 250 employees (EU Recommendation 2003/361/EC), account for 99% of enterprises and 60% of employment in OECD countries (OECD, 2019). The differences between large firms and SMEs in these studies are attributed to the more formalized approach taken by large firms, as indicated by the presence of disability equality practices,

human resource (HR) specialists, and labor union recognition, for example. This in turn suggests SMEs might usefully be encouraged to adopt a similar approach.

However, contrary to the research concerning workforce disability prevalence outlined above, nationally representative labor market data suggests this is no lower in SMEs than in large firms. For example, the UK government's *Labour Force Survey* (LFS) reports the proportion of the workforce that is disabled is 8.9% in micro firms (10 or fewer employees), 7.6% in SMEs, and 7.3% in large firms (IPPR, 2014: 14). The *US Current Population Survey* reports a similar concentration of disabled people in small and large firms (Bruyère, Erickson, & van Looy, 2006: 204), while the US Census Bureau (1990: 2) *Survey of Income and Program Participation* concludes that disabled people are 'not under-represented in the small business labor force'. This evidence suggests that large firms may not be exemplars in the employment of disabled people, and there is little to be gained by encouraging SMEs to imitate their more formalized approach.

Given this lack of consensus regarding the prevalence of disabled people in the workforce by firm size, this paper draws on nationally representative matched employer-employee government data from Britain to explore further the implications of firm size for disabled people's employment outcomes. We focus on private sector firms (as appropriate for the study of SMEs) and two particular sets of disability employment outcomes. First, similar to the studies outlined above that draw on nationally representative data (Bruyère et al., 2006; IPPR, 2014: 204; US Census Bureau, 1990), we explore workforce disability prevalence by firm size. Second, we present a unique analysis of disability gaps in contentment and job satisfaction (the difference in perceptions between disabled and non-disabled employees) by firm size. Our focus therefore reflects the emphasis in international frameworks on both the employment and in-work experience of disabled people (United Nations, 2018). Responding to calls for a more detailed

appreciation of firm heterogeneity within the SME sector (Baird & Meshoulam, 1988; Harney & Alkhafaf, 2021; Wu, Hoque, Bacon, & Bou Llusar, 2015), we consider separately disabled people's employment outcomes in small firms (defined as between 5 and 49 employees) and medium-sized firms (between 50 and 249 employees) (EU Recommendation 2003/361/EC).

In addressing these matters, we build on Stone and Colella's (1996) seminal and widely used model of the characteristics affecting the workplace treatment of disabled individuals (see: Beatty et al., 2019; Lengnick-Hall, Gaunt, & Kulkarni, 2008). We do this in two ways. First, we develop arguments regarding a wider range of organizational characteristics that may affect disability employment outcomes than considered within Stone and Colella's (1996) model. Second, we argue that the prevalence of these characteristics is likely to vary by firm size. Here, we draw on arguments in the small firm literature concerning the potential benefits for employees of human resource management (HRM) informality in small firms (Bacon, Ackers, Storey, & Coates, 1996; Harney & Alkhafaf, 2020; Storey, Saridakis, Sen-Gupta, Edwards, & Blackburn, 2010; Tsai, Sengupta, & Edwards, 2007), and also Baird and Meshoulam's (1988) Organizational Growth and Development (OGD) model, which argues that the approach taken to HRM should change as firms transition through initiation, growth, and maturity phases. A notable feature of both the OGD model and the small firm literature is the implication of equifinality (alternative routes to equivalent outcomes). This suggests that while SMEs may take a less formalized approach than large firms (e.g., an absence of disability equality practices, HR specialists, and union recognition), they will nevertheless possess other characteristics (e.g., greater job autonomy, a stronger fairness culture, better work-life balance, and closer working relationships in single-site operations) that may be beneficial to disabled people. As such, disability employment outcomes may be no poorer in SMEs than in large firms.

FIRM SIZE AND DISABLED PEOPLE'S EMPLOYMENT OUTCOMES

Stone and Colella's (1996) seminal review of prior studies identifies three sets of characteristics that affect the workplace treatment of disabled individuals: organizational characteristics (e.g., policies and practices, the nature of jobs, norms and values); the person-oriented characteristics of both the disabled individual (e.g., the nature of their disability) and supervisors/co-workers; and environmental characteristics (e.g., legislation). We focus on the organizational characteristics element of the model (its most frequently studied element) given organizational characteristics are particularly likely to vary by firm size.

Stone and Colella (1996) argue that three organizational characteristics are likely to impact positively on the treatment of disabled individuals: organizational policies and practices such as formal disability equality practices; job flexibility and autonomy; and norms and values such as a culture of fairness that is considerate of personal needs. We extend the model by arguing that several other organizational characteristics are also likely to influence disability employment outcomes: the presence of HR specialists; trade union recognition; work-life balance; and closer interpersonal contact in single-site operations.

We also anticipate that the prevalence of these organizational characteristics will vary by organizational size, with characteristics reflective of formalization being more prevalent in large firms, and those reflective of informality being more prevalent in small firms. Regarding this, the OGD model suggests that as firms grow and develop they adopt a more formal approach to management (Baird & Meshoulam, 1988). Hence, it would be anticipated that organizational characteristics such as formal disability equality practices, HR specialists, and union recognition

will be more prevalent in large firms than in both small or medium-sized firms, and more prevalent in medium-sized than in small firms.

Indeed, regarding formal disability equality practices, studies report that large firms are more likely than small firms to adopt: monitoring and reviewing of recruitment, promotion, and pay by disability; special recruitment procedures to encourage applications from disabled people; formal assessments of workplace accessibility; and return-to-work programmes (Bruyère et al., 2006; Colella & Bruyère, 2011: 494; Equality and Human Rights Commission, 2015; Forth, Bewley, & Bryson, 2006; Forth & Rincon-Aznar, 2008; Hoque et al., 2018; Jones & Latreille, 2010; Schur, Kruse, Blasi, & Blanck, 2009; Stone & Colella, 1996). Beatty et al.'s (2019: 126) recent review of prior studies tentatively concludes that such practices have positive implications for disability employment outcomes. However, formal HR practices (including disability equality practices) are generally regarded by small firm proprietors as overly bureaucratic and unnecessary (Storey et al., 2010), with small firms relying instead on an informal approach that involves direct personal oversight by proprietors. Hence, we anticipate that the uptake of disability equality practices will be positively associated with firm size, and such practices will be associated with better disability employment outcomes.

The OGD model also anticipates differences in the uptake of formal disability equality practices between small firms and medium-sized firms. As small firms grow into medium-sized firms, they start to adopt formal HR practices (including disability equality practices) to help regulate supervisor and co-worker behavior, and facilitate a consistent and fair approach across the workforce (Baird & Meshoulam, 1988; Kotey & Slade, 2005; de Kok, Uhlaner, & Thurik, 2006; Messersmith & Guthrie, 2010). This reflects increased organizational complexity as proprietors become less involved in day-to-day workplace management (Baird & Meshoulam,

1988; Rutherford, Buller, & McMullen, 2003; Wu et al., 2015). Therefore, while medium-sized firms might be less likely to adopt formal disability equality practices than large firms, they might be more likely to adopt them than small firms (though no prior research has been undertaken on this matter).

Turning to HR specialists, the OGD model predicts that as firms grow, they will appoint such specialists who possess the managerial expertise required in larger and more complex organizations (Baird & Meshoulam, 1988; Wu et al., 2015). Prior studies confirm that HR specialists are indeed more prevalent in large firms than in both small and medium-sized firms (Goss et al., 2000; Messersmith & Guthrie, 2010: 243), and more prevalent in medium-sized firms than in small firms (Forth et al., 2006: 21-22). HR specialists are generally members of professional associations that disseminate best practice advice on how to address discrimination and unfair treatment, and encourage the adoption of practices to achieve this outcome (Chadwick & Li, 2018). Accordingly, studies suggest that organizations with HR specialists are more aware of their legal responsibilities regarding the employment of disabled people (Goss et al., 2000). As such, we anticipate that HR specialists (most frequently employed in larger firms) are associated with better disability employment outcomes.

Where union recognition is concerned, the OGD model suggests this will be positively related to firm size, with research showing both large and medium-sized firms have higher levels of union recognition than small firms (Wu et al., 2015). Union recognition might have positive implications for disability employment outcomes, as unions seek to address disability disadvantage by bargaining over equality with employers, and provide information and advice to support their disabled members (Ameri, Ali, Schur, & Kruse, 2019; Bacon & Hoque, 2012,

2015). Reflecting this, Beatty et al. (2019: 126) conclude that studies report a positive association between unionization and the treatment of disabled individuals.

Therefore, in line with the small firm literature and the OGD model, prior studies suggest that large firms are the most likely, and small firms the least likely, to have organizational characteristics reflective of a formalized approach to management (e.g., disability equality practices, HR specialists, and recognized unions). Prior literature suggests these organizational characteristics are associated with higher workforce disability prevalence. We also assess whether this extends to smaller disability gaps in contentment and job satisfaction. As such, we propose:

Hypothesis 1a: Large firms are more likely than small firms and medium-sized firms to have: (i) formal disability equality practices; (ii) an HR specialist; and (iii) union recognition.

Hypothesis 1b: Medium-sized firms are more likely than small firms to have: (i) formal disability equality practices; (ii) an HR specialist; and (iii) union recognition.

Hypothesis 2a: Workforce disability prevalence is higher in workplaces with: (i) formal disability equality practices; (ii) an HR specialist; and (iii) union recognition.

Hypothesis 2b: Disability gaps in contentment and job satisfaction are smaller in workplaces with: (i) formal disability equality practices; (ii) an HR specialist; and (iii) union recognition.

However, the small firm and OGD literature suggests that while large firms might possess organizational characteristics associated with a more formalized approach (as outlined above), small (and to an extent medium-sized) firms will possess a range of informal organizational characteristics that might also have positive implications for disabled people (e.g., greater job autonomy, stronger fairness cultures, better work-life balance, and closer working relationships in single-site operations). Indeed, although prior studies suggest that the formalization associated with large firms may result in better disability employment outcomes, this runs counter to Stone and Colella's (1996: 373) prediction that bureaucratic systems might limit the personalized consideration of disabled individuals' needs. Similarly, the small firm literature explicitly highlights the benefits of informality and the personalized treatment of employees in small firms (Bacon et al., 1996; Harney & Alkhafaf, 2020; Storey et al., 2010; Tsai et al., 2007; Wu et al., 2015). In what follows we explore organizational characteristics associated with informality (job autonomy, fairness cultures, work-life balance, and single-site operations), in terms of variation in their prevalence by firm size, and their potential implications for disabled people.

Turning first to job autonomy, it is widely argued that small firms typically offer employees greater autonomy and decision-latitude over how they complete their tasks. This reflects a less centralized and rules-based approach to management, compared to the greater division of labor in large firms with defined job roles and job specifications regarding how tasks should be completed (Kalleberg & Van Buren, 1996; Storey et al., 2010; Tsai et al., 2007). As Stone and Colella (1996) argue, job autonomy is important to disabled people given it provides opportunities to accommodate impairment-related restrictions; hence, we anticipate that job

autonomy will be higher in small firms, and will be associated with better disability employment outcomes. However, levels of job autonomy might vary between small firms and medium-sized firms. The OGD model suggests that while medium-sized firms will retain more job autonomy than large firms, they will provide less job autonomy than small firms, given the division of labor and formalization of job roles will increase with firm size.

Second, where fairness cultures are concerned, studies show small firms typically have stronger fairness cultures that are more responsive to employee needs than large firms (Tsai et al., 2007), and this may have positive implications for disability employment outcomes. Stone and Colella (1996: 386) argue that firms in which employees perceive fair and equitable treatment (i.e., stronger fairness cultures) will have better disability employment outcomes, as managers will be more likely to give due consideration to the personal and specific needs of disabled (and non-disabled) employees. In such instances, accommodations are more likely to be granted to disabled employees, and non-disabled employees may be more likely to view these accommodations as fair and reasonable, thus minimizing potential backlash. Supporting these arguments, prior research has shown that perceived fairness is associated with disabled employees' positive affective (e.g., contentment and job satisfaction) and behavioral responses (e.g., decisions to stay) (*ibid.*). Furthermore, workplaces in which employees regard managers as especially fair and responsive do not appear to have disability gaps in job satisfaction, company loyalty, willingness to work hard, and turnover intentions (Schur et al., 2009).

Third, regarding work-life balance, the small firm literature suggests this is likely to be better in small than in large firms. While large firms are more likely to adopt formal policies on flexible working aimed at enhancing work-life balance, and a standardized process for considering flexible working requests (Dex & Scheibl, 2001), small firms (and to a lesser extent

medium-sized firms) generally adopt a ‘more informal and mutually beneficial approach’ (Cegarra-Leiva, Sánchez-Vidal, & Cegarra-Navarro, 2012: 94). This involves direct personal conversations between proprietors and employees in small firms, which increase the likelihood of individual circumstances (such as an individual’s disability) being taken into account (Storey et al., 2010). A more personalized approach to work-life balance might therefore be particularly beneficial for disabled individuals who need to align work responsibilities with their personal health needs and everyday living routines (Schur, Nishii, Adya, Kruse, Bruyère, & Blanck, 2014).

Finally, where single site operations are concerned, these are more likely to be a feature of small than large firms, and they may also have beneficial implications for disabled people. It is widely argued in the small firm literature that physical proximity in single-site operations enables proprietors to manage employees directly through close working relationships and regular personal contact (Forth et al., 2006; McClean & Collins, 2019; Storey et al., 2010; Tsai et al., 2007). This might have distinct advantages for disabled employees, given direct personal observation of their job performance may increase managers’ belief in their job suitability, and moderate negative cognitive and affective reactions towards them (Scherbaum, Scherbaum, & Popovich, 2005; Stone & Colella, 1996: 370). Williams-Whitt and Taras (2010) further suggest that close proximity might encourage empathy towards, and a greater willingness to accommodate and retain, employees who develop impairments. Therefore, close working relationships between proprietors and employees in single-site firms may be associated with positive disability employment outcomes.

Hence, we anticipate that small firms will offer employees greater job autonomy, have stronger fairness cultures, provide better work-life balance, and are more likely to be single-site

operations than large firms. Regarding medium-sized firms, the OGD model implies they are likely to occupy an intermediate position, possessing less informality than small firms, but retaining greater informality than large firms. We also anticipate these organizational characteristics are associated with greater workforce disability prevalence, and smaller disability gaps in contentment and job satisfaction. As such, we propose:

Hypothesis 3a: Relative to large firms, small firms and medium-sized firms: (i) provide employees with greater job autonomy; (ii) have a stronger fairness culture; (iii) provide better work-life balance; and (iv) are more likely to be single-site operations.

Hypothesis 3b: Relative to medium-sized firms, small firms: (i) provide employees with greater job autonomy; (ii) have a stronger fairness culture; (iii) provide better work-life balance; and (iv) are more likely to be single-site operations.

Hypothesis 4a: Workforce disability prevalence is higher in workplaces: (i) providing greater job autonomy; (ii) with a stronger fairness culture; (iii) providing better work-life balance; and (iv) that are single-site operations.

Hypothesis 4b: Disability gaps in contentment and job satisfaction are smaller where employees: (i) have greater job autonomy; (ii) perceive a stronger fairness culture; (iii) report better work-life balance; and (iv) are in single-site operations.

Drawing on the small firm literature and the OGD model to extend the organizational characteristics element of Stone and Colella's (1996) model, and also to develop predictions regarding variation in organizational characteristics by firm size, the above arguments imply equifinality whereby employment outcomes for disabled people may not differ between small, medium-sized, and large firms. Although characteristics reflecting a formalized approach in large firms (disability equality practices, HR specialists, and union recognition) may benefit disabled people, characteristics reflecting a more informal and personalized approach in small firms (greater job autonomy, a stronger fairness culture, better work-life balance, and closer working relationships in single-site operations) may also have equivalent benefits. Where medium-sized firms are concerned, although they may adopt a less formalized approach than large firms, they may retain some of the benefits of small-firm informality, and therefore also deliver equivalent employment outcomes for disabled people. Given this, contrary to the conclusions drawn from prior studies (Beatty et al., 2019; Goss et al., 2000; Woodhams & Corby, 2007), and consistent with nationally-representative labor market data, we propose equifinality, whereby disability employment outcomes will not vary between small, medium-sized, and large firms. Hence:

Hypothesis 5a: Workforce disability prevalence is no lower in small firms or medium-sized firms than in large firms.

Hypothesis 5b: Disability gaps in contentment and job satisfaction are no greater in small firms or medium-sized firms than in large firms.

THE STUDY

The data

To test our hypotheses, we draw on matched employer-employee data from the Workplace Employment Relations Study (WERS 2011) (Department for Business, Innovation and Skills, Advisory Conciliation and Arbitration Service, National Institute of Economic and Social Research, 2015). WERS is nationally representative of British workplaces with five or more employees in all industry sectors (with the exception of agriculture, hunting, forestry and fishing, and mining and quarrying) when it is probability weighted to account for the complex nature of the survey design.

WERS 2011 includes both an employer and employee survey. Our analysis draws on both elements. The employer survey comprises 2,680 workplaces with a response rate of 46.5%. The respondent is the workplace manager with primary responsibility for employment relations matters. In total 1,468 workplaces are included in the analysis once non-private sector workplaces and workplaces with missing data are excluded.

The WERS employee survey comprises 21,981 responses, with a response rate of 54.3% (van Wanrooy et al., 2013). The survey was sent to a random sample of up to 25 employees in 2,170 of the workplaces in the employer survey (those in which the management respondent gave permission). The survey design thus allows the workplace-level data to be matched into the employee data (and vice versa). For the elements of our analysis based on the employee-level data, 8,584 employees were included, after employees in non-private sector workplaces and observations with missing data were excluded.

Dependent variables

a) Workforce disability prevalence. Respondents within the WERS employee survey are asked ‘Are your day-to-day activities limited because of a health problem or disability that has lasted, or is expected to last, at least 12 months?’, with the following response options: ‘No’; ‘Yes, limited a little’; or ‘Yes, limited a lot’. This definition of disability is consistent with the UK *Equality Act 2010*. The measure is used to construct a dependent variable at workplace-level (following Hoque et al., 2018) relating to the proportion of the workforce at each workplace that is disabled (respondents answering both ‘Yes, limited a little’ and ‘Yes, limited a lot’, mean = 0.067). This is calculated by dividing the total number of disabled respondents to the survey at the workplace by the total number of respondents at the workplace (hence, if 20 respondents at the workplace replied, and 5 of these were disabled, the workplace has a workforce disability prevalence of 25%). To reduce the possibility of sampling error in workplaces in which the proportion of respondents to the employee survey was very low relative to the size of the workforce, we excluded from the measure workplaces in which fewer than three employees responded to the survey. This resulted in the exclusion of 127 workplaces. With these workplaces excluded, the average workplace within our analysis has employee responses from 29.7% of its total workforce. In total, 99.2% of respondents to the WERS employee survey provided a valid response to the question on their disability status.

b) Contentment. This was assessed using Warr’s (1990) anxiety-contentment measure, with respondents asked: ‘Thinking of the past few weeks, how much time has your job made you feel each of the following: tense/ depressed/ worried/ gloomy/ uneasy/ miserable?’ (5-point scale coded 4 = ‘never’ to 0 = ‘all of the time’). Responses were combined into a single scale (range 0–24; mean = 18.11; $\alpha = 0.91$), in which higher values denote higher levels of contentment.

c) *Job satisfaction*. This was based on eight items (see: Rose, 2007) on a 5-point scale (coded 0 = ‘very dissatisfied’ to 4 = ‘very satisfied’) that asks respondents how satisfied they are with different elements of their job (sample item: how satisfied are you with the sense of achievement you get from your work?). These were combined into a single scale (range 0-32; mean = 20.75; $\alpha = 0.87$) with higher values denoting higher job satisfaction.

Independent variables

(a) *Firm size*. Workplaces are classified as to whether they are part of a small (5-49 employees), medium-sized (50-249 employees), or a large (250+ employees) firm, in one of two ways. First, for workplaces that are part of a larger organization, the WERS employer survey asks management respondents to report how many employees are in the UK organization of which the workplace is a part, thereby showing whether the workplace is part of a small, medium, or large firm. Second, in workplaces that are not part of a larger organization (hence the whole firm consists of a single workplace), the size of the workplace is used to categorize the firm as small, medium, or large. These two classification methods allow for the creation of a categorical variable in which: 1 = small firm workplaces (mean = 0.561); 2 = medium-sized firm workplaces (mean = 0.112); and 3 = large firm workplaces (mean = 0.327). This variable is also merged into the survey of employees, giving a variable in which: 1 = employees in small firms (mean = 0.235); 2 = employees in medium-sized firms (mean = 0.122); and 3 = employees in large firms (mean = 0.643). Given the WERS organizational size question asks how many employees in total are in the organization within the UK, foreign-owned workplaces and those with overseas subsidiaries (or workplaces that fail to report their national ownership, or whether they have overseas subsidiaries) are dropped from the small and medium-sized categories. This

ensures firms with fewer than 250 employees in the UK that may be part of a large foreign firm, or have large overseas operations, are excluded. This results in the exclusion of 49 workplaces.

INSERT TABLE 1 HERE

(b) *Employees' disability status.* As outlined above, respondents within the WERS employee survey are asked 'Are your day-to-day activities limited because of a health problem or disability that has lasted, or is expected to last, at least 12 months?', with the following response options: 'No'; 'Yes, limited a little'; or 'Yes, limited a lot'. Disability is defined as including the responses 'Yes, limited a little' and 'Yes, limited a lot', whereas 'No' defines the non-disabled group (allowing for the creation of a dichotomous variable in which: 1 = disabled; and 0 = non-disabled, mean = 0.077).¹ The proportion of respondents to the employee survey classified as disabled (7.7%) is similar to the figures in the LFS data (outlined above) which reports disability employment rates of 8.9% in micro firms (10 or fewer employees), 7.6% in SMEs, and 7.3% in large firms (IPPR, 2014: 14). This provides reassurance that the WERS measure is not affected significantly by non-response bias, which might occur should disabled people feel less comfortable completing the survey than non-disabled people given fears regarding disclosure. The guarantees of anonymity within the WERS survey and the requirement for individual employees to post their completed survey directly to the research team also assist in this regard.

(c) *Formal disability equality practices.* Management respondents are asked about the presence of a range of disability equality practices at the workplace, enabling the creation of the following dichotomous variables, all coded 1 = 'Yes' and 0 = 'No': recruitment and selection procedures

¹ 6.5% of the sample (582 respondents) reported they are 'disabled a little', while 1.19% (86 respondents) reported they are 'disabled a lot'. The 'disabled a lot' sample is of an insufficient size for separate analysis.

monitored by disability; recruitment and selection procedures reviewed by disability; promotions monitored to identify indirect discrimination by disability; promotions reviewed to identify indirect discrimination by disability; relative pay rates reviewed by disability; special recruitment procedures when filling vacancies to encourage applications from disabled people; formal assessment made of the extent to which the workplace is accessible to employees or job applicants with disabilities. These are combined into a workplace-level count measure of the number of these disability equality practices adopted (scale from 0 to 7, mean = 0.74). Table 1 provides the means for the individual dichotomous variables used in the count measure for small (mean = 0.5), medium-sized (mean = 1.0), and large firms (mean = 1.1) separately. These means are notable in their own right given they show the adoption of formal disability practices across private sector workplaces in Britain is extremely limited, even in large firms. For the analysis of contentment and job satisfaction, the count variable is merged into the employee-level data, giving a measure for the number of disability equality practices adopted in each employee's workplace (mean = 1.36).

(d) *HR specialist*. Workplace-level dichotomous variable in which: 1 = the individual with responsibility for HR at the workplace is in a specialist HR role (with 'human resource', 'personnel', 'industrial relations' or 'employee relations' in their job title); and 0 = otherwise (mean = 0.206). For the analysis of contentment and job satisfaction, this variable is merged into the employee-level data giving a measure in which: 1 = employees in workplaces with an HR specialist; and 0 = otherwise (mean = 0.512).

(e) *Union recognition*. Workplace-level dichotomous variable in which: 1 = workplaces with a union/staff association that is recognised by management for negotiating pay and conditions for any sections of the workforce at the workplace; and 0 = otherwise (mean = 0.089). For the

analysis of contentment and job satisfaction, this variable is merged into the employee-level data, giving a measure in which: 1 = employees in workplaces with a recognised union; and 0 = otherwise (mean = 0.296).

(f) *Job autonomy*. Drawing on established measures of control and autonomy (Jackson, Wall, Martin, & Davids, 1993) derived from Karasek's (1979) measure of decision latitude, the WERS employee survey asks respondents: 'In general, how much influence do you have over the following: the tasks you do in your job; the pace at which you work; how you do your work; the order in which you carry out tasks?'. Each is measured on a 4-point scale (coded 0 = 'none' to 3 = 'a lot'). Responses were combined into a single scale (range 0-12) with higher values denoting higher levels of job autonomy (mean = 8.92; $\alpha = 0.83$). In the workplace-level equations for the proportion of the workforce that is disabled, this variable is merged into the workplace-level data, giving a measure for the mean rating of job autonomy at each workplace (mean = 9.29).

(g) *Fairness culture*. The WERS employee survey asks respondents: 'To what extent do you agree or disagree that managers here treat employees fairly?' (5-point scale from 1 = 'strongly disagree' to 5 = 'strongly agree'). Following Schur et al. (2009), this is merged into the workplace-level data to provide a measure for the mean fairness rating for each workplace, from 1 to 5 (mean = 3.70). For the employee-level analysis of contentment and job-satisfaction, this variable is merged into the employee-level data to provide a measure of the mean fairness culture perceived at each employee's workplace (mean = 3.55).

(h) *Work-life balance*. This is conceptualised as bi-directional and represents the extent to which work interferes with life outside work, and the extent to which life outside work interferes with work (Frone, Russell, & Cooper, 1992). Respondents to the WERS employee survey were asked: 'thinking about both your commitments at this workplace and outside of work, do you agree or

disagree with the following': 'I often find it difficult to do my job properly because of my commitments outside of work'; and 'I often find it difficult to fulfil my commitments outside of work because of the amount of time I spend on my job' (both on a 5 point scale coded 0 = strongly agree to 4 = strongly disagree). These two measures are combined into a single scale from 0-8, with higher values denoting better work-life balance (mean = 5.24). In the workplace-level equations for the proportion of the workforce that is disabled, this variable is merged into the workplace-level data providing a measure of the mean work-life balance rating at each workplace (mean = 5.34)

(i) *Single-site operation.* Workplace-level dichotomous variable in which: 1 = standalone workplace that is not part of a larger organization; and 0 = workplace that is part of a larger organization (mean = 0.511). For the analysis of contentment and job satisfaction, this variable is merged into the employee-level data, giving a measure in which: 1 = employee in single-site operations; and 0 = otherwise (mean = 0.308).

Control variables

A range of controls was included in the analysis (means reported in the Appendix Table). In the workplace-level analysis, the controls were: SIC major group; national ownership; workplace age; log of workplace size; standard statistical region. The employee-level analysis also included controls for the respondent's: Standard Occupational Classification major group; pay band; marital status; age; job tenure; highest qualification; part-time, temporary or fixed-term contract status; union membership; ethnicity; gender; dependent children.

Analysis procedure

Hypotheses 1a and 1b were tested in a series of workplace-level equations in which the dependent variables were the disability equality practices, HR specialist, and union recognition variables outlined above. The independent variable was the categorical firm size measure, with large firms as the reference category, and the coefficients for the small firm and medium-sized firm variables demonstrating difference relative to large firms (thus testing Hypothesis 1a). The difference between small and medium-sized firms (Hypothesis 1b) was evaluated via post hoc tests of the significance of the difference between the small and medium-sized firm coefficients. The equations included the workplace-level controls outlined above. Survey poisson was used for the formal disability equality practices equation, this being the standard model where the dependent variable is a count measure (Cameron & Trivedi, 1998: 9), given the highly non-normal nature of such measures (Greene, 1997). Survey probit was used for the HR specialist and union recognition equations.

Hypotheses 2a was tested in a workplace-level equation in which the dependent variable was the workforce disability prevalence measure outlined above. The independent variables were the measures for the adoption of formal disability equality practices, the presence of an HR specialist, and union recognition. Workplace-level controls were included. Fractional logit was used given the dependent variable is naturally bounded between 0 and 1 (Papke & Wooldridge, 1996).

Hypothesis 2b was tested in a series of employee-level equations. The dependent variables were the contentment and job satisfaction measures described above. The independent variables were: the respondent's disability status; disability equality practices; HR specialist; union recognition. Both workplace and individual level control variables were included.

Interactions of the respondent's disability status with the other independent variables were then added into the equations to ascertain variation in these variables' effect sizes by disability status. Given the multi-level structure of the data in which employee responses are nested within workplaces, multi-level mixed effects modelling incorporating both fixed and random effects was used. This allows the variance to be partitioned into within (Level 1) and between (Level 2) workplace variation, thus enabling between-workplace variance to be controlled for. This prevents the violation of assumptions of independence between observations in multiple regression, given that employees within a workplace are not independent from each other.

Hypotheses 3a and 3b were tested in the same manner as Hypotheses 1a and 1b, except the dependent variables were the job autonomy, fairness culture, work-life balance, and single-site operation variables outlined above. The fairness culture (using OLS) and single-site operation equations (using survey probit) were estimated at workplace-level, while the job autonomy and work-life balance equations were estimated at individual level using multi-level mixed effects modelling incorporating both fixed and random effects (these latter equations also included individual level controls).

Hypothesis 4a was tested in the same workplace-level equation as Hypothesis 2a via the inclusion of independent variables for the workplace-level means for job autonomy, fairness culture, work-life balance, and the single-site operation measure. Hypothesis 4b was tested in the same equation used to test Hypothesis 2b via the inclusion of independent variables for job autonomy, fairness culture, work-life balance, and single-site operations, and the inclusion of interaction terms for these variables with the respondent's disability status to ascertain variation in these variables' effect sizes by disability status.

Hypotheses 5a and 5b were tested in a series of equations in which the dependent variables were the workforce disability prevalence, contentment and job satisfaction measures outlined earlier. Fractional logit was used for the workforce disability prevalence equation (Hypothesis 5a). The independent variable was the categorical firm size measure, and workplace-level controls were included. For the contentment and job satisfaction equations (Hypothesis 5b), multi-level mixed effects modelling incorporating both fixed and random effects was used. Independent variables were included for the respondents' disability status, and for whether they worked in a small, medium-sized or large workplace. Both workplace and individual-level controls were included. 'Disabled x small firm' and 'disabled x medium-sized firm' interaction terms were included in the equations to ascertain variance in the size of the contentment and job satisfaction disability gap between small, medium-sized and large firms.

To allow unbiased population estimates to be obtained, the workplace-level equations were all weighted by the inverse of the workplace's selection into the sample to account for the complex nature of the WERS survey design, in which larger workplaces and workplaces in certain industrial sectors were deliberately over-sampled. The individual-level equations were weighted by: the probability of selection of the respondent's workplace into the main management sample; the respondent's own probability of selection from the employee population at the workplace; and bias introduced as a result of employee non-response. The weights were scaled to ensure consistency across lower-level clusters. The scaling specified that first-level (observation-level) weights were scaled so they summed to the sample size of their corresponding second-level cluster.

Results

Hypothesis 1a is that large firms are more likely than small firms and medium-sized firms to have: (i) formal disability equality practices; (ii) an HR specialist; and (iii) union recognition. The results, given in the first three equations in Table 2, provide support for the Hypothesis for small firms (formal disability equality practices: $\beta = -0.959$, $p < 0.01$; HR specialists: $\beta = -1.445$, $p < 0.01$; and union recognition: $\beta = -1.097$, $p < 0.01$). However, for medium-sized firms, while they are less likely than large firms to have union recognition ($\beta = -0.922$, $p < 0.01$), they are no less likely than large firms to have formal disability equality practices ($\beta = -0.212$, $p = \text{non-significant}$) or an HR specialist ($\beta = -0.218$, $p = \text{non-significant}$). Hypothesis 1a is therefore supported for small firms, but is supported only regarding union recognition for medium-sized firms.

Hypothesis 1b is that medium-sized firms are more likely than small firms to have: (i) formal disability equality practices; (ii) an HR specialist; and (iii) union recognition. The results in Table 2 support the Hypothesis regarding formal disability equality practices ($-0.959 - -0.212 = -0.747$, $p < 0.01$) and HR specialists ($-1.445 - -0.218 = -1.227$, $p < 0.01$), but not regarding union recognition ($-1.097 - -0.922 = -0.175$, $p = \text{non-significant}$).

INSERT TABLE 2 HERE

INSERT TABLE 3 HERE

Hypothesis 2a is that workforce disability prevalence is higher, and Hypothesis 2b is that disability gaps in contentment and job satisfaction are smaller, in workplaces with: (i) formal disability equality practices; (ii) an HR specialist; and (iii) union recognition. Support for these

Hypotheses would lead to the expectation that both small and medium-sized firms have poorer disability employment outcomes (lower workforce disability prevalence and larger contentment and job satisfaction disability gaps) than large firms, given (as demonstrated above) the prevalence of HR specialists and disability equality practices is lower in small firms, and union recognition is lower in both small and medium-sized firms.

Turning first to workforce disability prevalence (Hypothesis 2a), equation 1 in Table 3 shows there is no relationship between workforce disability prevalence and disability equality practices ($\beta = 0.081$, $p = \text{non-significant}$), HR specialists ($\beta = -0.218$, $p = \text{non-significant}$), or union recognition ($\beta = 0.059$, $p = \text{non-significant}$). Hypothesis 2a is therefore not supported.

The results for Hypothesis 2b are given in equations 2 to 5 in Table 3. Equations 2 and 4 show that neither contentment ($\beta = -0.031$, $p = \text{non-significant}$) nor job satisfaction ($\beta = -0.093$, $p = \text{non-significant}$) are higher where disability equality practices are more widely adopted. These equations also confirm the existence of contentment and job satisfaction disability gaps, with disabled employees reporting lower contentment ($\beta = -2.212$, $p < 0.01$) and job satisfaction ($\beta = -1.064$, $p < 0.05$) than non-disabled employees. Regarding the implications of disability equality practices for these disability gaps, the non-significant ‘disabled x disability equality practices’ interaction term in equation 5 ($\beta = 0.129$, $p = \text{non-significant}$) suggests the job satisfaction disability gap is no smaller where disability equality practices are more widely adopted. However, the ‘disabled x disability equality practices’ interaction term in equation 3 is weakly positively significant (at the 10% significance level) ($\beta = 0.427$, $p < 0.10$), suggesting the contentment disability gap is slightly smaller where disability equality practices are more widely adopted.

For HR specialists and union recognition, equations 2 and 4 show that neither are associated with higher contentment (HR specialists: $\beta = -0.303$, p = non-significant; union recognition: $\beta = -0.294$, p = non-significant) or job satisfaction (HR specialists: $\beta = -0.014$, p = non-significant; union recognition: $\beta = 0.430$, p = non-significant). The non-significant ‘disabled x HR specialist’ and ‘disabled x union recognition’ interaction terms in equations 3 and 5 show the disability gaps in contentment (HR specialist: $\beta = -0.410$, p = non-significant; union recognition: $\beta = -0.142$, p = non-significant) and job satisfaction (HR specialist: $\beta = 0.120$, p = non-significant; union recognition: $\beta = -0.543$, p = non-significant) do not vary by HR specialist presence or union recognition.

Overall, therefore, Hypothesis 2b is not supported for HR specialists and union recognition, and is not supported for disability equality practices regarding job satisfaction (though for contentment there is weak evidence supporting the Hypothesis). This suggests there are no reasons to anticipate a smaller job satisfaction disability gap and only very weak evidence to anticipate a smaller contentment disability gap in large firms than in small or medium-sized firms.

Hypothesis 3a is that relative to large firms, small firms and medium-sized firms: (i) provide employees with greater job autonomy; (ii) have a stronger fairness culture; (iii) provide better work-life balance; and (iv) are more likely to be single-site operations. The results in equations 4 to 7 in Table 2 support the Hypothesis for small firms (job autonomy: $\beta = 0.526$, p < 0.01); fairness culture ($\beta = 0.231$, p < 0.05); work-life balance ($\beta = 0.284$, p < 0.01); single-site operations ($\beta = 4.438$, p < 0.01). The Hypothesis is supported where medium-sized firms are concerned for single-site operations ($\beta = 1.805$, p < 0.01), and weakly (at the 10% significant level) for work-life balance ($\beta = 0.182$, p < 0.1), but not for job autonomy ($\beta = 0.052$, p = non-significant).

significant), or fairness culture ($\beta = 0.058$, $p = \text{non-significant}$). Hypothesis 3a is therefore fully supported for small firms, but for medium-sized firms is only supported regarding single-site operations and (weakly) regarding work-life balance.

Hypothesis 3b is that relative to medium-sized firms, small firms: (i) provide employees with greater job autonomy; (ii) have a stronger fairness culture; (iii) provide better work-life balance; and (iv) are more likely to be single-site operations. Equations 4 to 7 of Table 2 support the Hypothesis for job autonomy ($0.526 - 0.052 = 0.474$, $p < 0.05$) and single-site operations ($4.438 - 1.805 = 2.633$, $p < 0.01$), provide weak support (at the 10% significant level) for fairness culture ($0.231 - 0.058 = 0.173$, $p < 0.1$), but not for work-life balance ($0.284 - 0.182 = 0.102$, $p = \text{non-significant}$).

The association between these organizational characteristics and both workforce disability prevalence and disability gaps in contentment and job satisfaction is addressed by Hypotheses 4a and 4b. Hypothesis 4a is that workforce disability prevalence is higher in workplaces: (i) providing greater job autonomy; (ii) with a stronger fairness culture; (iii) providing better work-life balance; and (iv) that are single-site operations. Contrary to Hypotheses 4a(i), 4a(ii) and 4a(iv), equation 1 in Table 3 shows workforce disability prevalence is no higher where employees have greater job autonomy ($\beta = -0.106$, $p = \text{non-significant}$), in workplaces with a stronger fairness culture ($\beta = 0.121$, $p = \text{non-significant}$), or in single-site operations ($\beta = -0.305$, $p = \text{non-significant}$). However, supporting Hypothesis 4a(iii), workforce disability prevalence is higher in workplaces with better work-life balance ($\beta = 0.357$, $p < 0.05$).

Hypothesis 4b is that disability gaps in contentment and job satisfaction are smaller where employees: (i) have greater job autonomy; (ii) perceive a stronger fairness culture; (iii) report better work-life balance; and (iv) are in single-site operations. Equations 2 and 4 of Table

3 show that both contentment and job satisfaction are higher where job autonomy is higher (contentment: $\beta = 0.233$, $p < 0.01$; job satisfaction: $\beta = 0.716$, $p < 0.01$); there is a stronger fairness culture (contentment: $\beta = 1.802$, $p < 0.01$; job satisfaction: $\beta = 2.943$, $p < 0.01$); and where work-life balance is better (contentment: $\beta = 0.950$, $p < 0.01$; job satisfaction: $\beta = 0.616$, $p < 0.01$); but not in single-site operations (contentment: $\beta = -0.380$, $p = \text{non-significant}$; job satisfaction: $\beta = 0.452$, $p = \text{non-significant}$). Regarding the influence of these factors on contentment and job satisfaction disability gaps, the insignificant interaction terms in equations 3 and 5 show these gaps are no smaller where employees have greater job autonomy (contentment: $\beta = -0.133$, $p = \text{non-significant}$; job satisfaction: $\beta = -0.124$, $p = \text{non-significant}$); where there is a stronger fairness culture (contentment: $\beta = -1.395$, $p = \text{non-significant}$; job satisfaction: $\beta = -0.962$, $p = \text{non-significant}$); or in single-site operations (contentment: $\beta = -0.041$, $p = \text{non-significant}$; job satisfaction: $\beta = -0.094$, $p = \text{non-significant}$). Nevertheless, the ‘disabled x positive work-life balance’ interaction terms in equations 3 and 5 of Table 3 show the contentment disability gap is smaller ($\beta = 1.140$, $p < 0.01$) and the job satisfaction disability gap is slightly smaller (at the 10% significance level) ($\beta = 0.702$, $p < 0.1$) where work-life balance is higher.

As such, Hypothesis 4b(iii) (work-life balance) is supported, but Hypotheses 4b(i) (job autonomy), 4b(ii) (fairness culture), and 4b(iv) (single-site operations) are not.

INSERT TABLE 4 HERE

Hypothesis 5a is that workforce disability prevalence is no lower in small firms or medium-sized firms than in large firms, and Hypothesis 5b is that disability gaps in contentment

and job satisfaction are no greater in small firms or medium-sized firms than in large firms.

Support for the Hypotheses might be expected given that none of the workplace characteristics more common to large firms (disability equality practices, HR specialists, and union recognition) are associated with higher workforce disability prevalence or smaller job satisfaction disability gaps, and only one of these characteristics (disability equality practices) is only very weakly associated with smaller contentment disability gaps. At the same time, one of the workplace characteristics (positive work-life balance) more common to small firms (and slightly more common to medium-sized firms) is positively associated with workforce disability prevalence, and with smaller contentment and job satisfaction disability gaps. There are therefore no reasons to assume that workforce disability prevalence would be higher, and contentment and job satisfaction disability gaps smaller, in large firms than in small or medium-sized firms.

Turning first to workforce disability prevalence, equation 1 in Table 4 shows this is no different in small firms ($\beta = -0.141$, $p = \text{non-significant}$) or medium-sized firms ($\beta = -0.263$, $p = \text{non-significant}$) than in large firms. For contentment, equation 2 shows this is no higher overall in small firms ($\beta = 0.537$, $p = \text{non-significant}$) or medium-sized firms ($\beta = 0.348$, $p = \text{non-significant}$) than in large firms. The non-significant ‘disabled x small firm’ ($\beta = -1.235$, $p = \text{non-significant}$) and ‘disabled x medium-sized firm’ ($\beta = -2.114$, $p = \text{non-significant}$) interaction terms in equation 3 show the contentment disability gap is no different in either small firms or medium-sized firms than in large firms. For job satisfaction, equation 4 shows this is higher overall in small firms ($\beta = 1.467$, $p < 0.01$) but not medium-sized firms ($\beta = 0.648$, $p = \text{non-significant}$) than in large firms. The non-significant ‘disabled x small firm’ ($\beta = -0.796$, $p = \text{non-significant}$) and ‘disabled x medium-sized firm’ ($\beta = 0.912$, $p = \text{non-significant}$) interaction terms

in equation 5 show the job satisfaction disability gap is no different in either small or medium-sized firms than in large firms. Hypotheses 5a and 5b are therefore supported.

DISCUSSION

Drawing on the small firm literature and the OGD model (Baird & Meshoulam, 1988), we extend the organizational characteristics element of Stone and Colella's (1996) model to explore the implications of firm size for disability employment outcomes.

In support of our hypotheses, we show that organizational characteristics associated with formality (disability equality practices, HR specialists, and union recognition) are more prevalent in large (and to an extent medium-sized) firms than in small firms, while those associated with informality (job autonomy, fairness cultures, work-life balance, and single-site operations) are more prevalent in small (and to an extent medium-sized) firms than in large firms. These findings are in accordance with the OGD model (Baird & Meshoulam, 1988), thereby demonstrating the validity of the model's predictions regarding variation in the approach taken to HR across firms of different size.

Against our hypotheses, however, we find these organizational characteristics are only very weakly associated with better disability employment outcomes. In particular, we found two of the organizational characteristics typically associated with large firm formality (HR specialists and union recognition) are not associated with the disability employment outcomes assessed here, while disability equality practices are only marginally associated with a smaller disability gap in contentment. Regarding the organizational characteristics typically associated with small firm informality, we found that greater job autonomy, a fairness culture, and single-site operations are not associated with better workforce disability prevalence, or smaller disability

gaps in contentment and job satisfaction. The only characteristic associated with better outcomes is work-life balance, which is positively associated with workforce disability prevalence, and smaller disability gaps in contentment and (marginally) job satisfaction. This supports prior research that suggests flexibility tailored to individual needs may help disabled employees align work responsibilities with health and everyday living routines (Schur et al., 2014).

Given these findings, it is perhaps unsurprising that, consistent with nationally representative labor market data (Bruyère et al., 2006; IPPR, 2014; US Census Bureau, 1990), we find workforce disability prevalence does not vary between small, medium-sized, and large firms. We also find disability gaps in contentment and job satisfaction do not vary by firm size. However, although these findings are consistent with our hypotheses, they are not consistent with their underpinning theorization. Drawing on the principle of equifinality, we argued earlier that disability equality outcomes would not vary by firm size given the more formalized approach in large firms, the more informal approach in small firms, and a combination of formalization and informality in medium-sized firms, may prove equally effective. Instead, our analysis suggests disability employment outcomes do not vary by firm size because neither the formality typical of large firms, nor the informality typical of small firms, appear particularly effective in improving disability employment outcomes.

This calls into question why, contrary to our predictions, several of the organizational characteristics related to either large firm formality or small firm informality are not associated with the disability employment outcomes assessed here. Where large firm formality is concerned, first, Goss et al. (2000) suggest that large firms may adopt formal disability equality practices (which we find are only very weakly associated with better disability employment outcomes) for presentational purposes in response to regulatory reporting requirements and

public scrutiny, rather than as part of a sustained attempt to improve employment outcomes for disabled people. As such, managers in large firms often question the effectiveness of the disability equality practices their firms adopt (Dibben, James, Cunningham, & Smythe, 2002; Erickson, von Schrader, Bruyère, & VanLooy, 2014). Enayati, von Schrader, Erickson and Bruyère (2019: 34) further note the general lack of studies demonstrating a positive relationship between such practices and workforce disability prevalence.

Second, regarding the lack of association between HR specialists and the expected positive outcomes, it is possible that the HR practices such specialists often implement, which are typically based on equality of treatment (rather than equality of outcomes) and an impersonal approach, may leave little scope to allow for individual differences. For example, competency frameworks used to identify ‘ideal’ or high-performing candidates in hiring, reward, and retention decisions, are often insufficiently flexible to account for either disabled people’s activity limitations or their competencies and strengths (Hoque et al., 2018; Stone & Colella, 1996: 374). Indeed, formalized HR processes may give the appearance of impartiality, but serve to justify bias (Noon, Healy, Forson, & Oikelome, 2013). Goss et al. (2000) further argue that HR specialists may regard the unfair treatment of disabled individuals as a tokenistic issue, rather than a primary concern, and even if HR specialists are genuinely committed to improving disability employment outcomes, they may lack sufficient power within organizations to influence either corporate priorities or line manager behavior.

Third, regarding the lack of an association between union recognition and better disability employment outcomes, positive union effects may rely on employer willingness to negotiate or consult over equality, and where they are unwilling to do so, the ability of unions to extract concessions from management may be limited (Hoque & Bacon, 2014). Also, recent

union initiatives to improve the representation of disabled members in the UK (the introduction of equality representatives and disability champions, for example) remain relatively small-scale (Bacon & Hoque, 2012, 2015). Beyond this, unionization may be associated with strict job rules and demarcations that hinder changes to accommodate disabled individuals, and employers may also be reluctant to hire disabled individuals into jobs at unionized pay rates (Ameri et al., 2019).

Turning to the organizational characteristics associated with small firm (and to an extent medium-sized firm) informality, it remains open to question why work-life balance, but not job autonomy, fairness culture, and single-site operations, is associated with the anticipated positive outcomes. One possibility is that work-life balance might be a proxy for an employee centred culture or approach to people management that is more holistic or proximal than other narrow HR interventions. By contrast, where job autonomy is concerned, although this may have certain benefits for disabled employees (Stone & Colella, 1996), it is also often associated with broad job descriptions that require employees to be versatile and polyvalent, which may be difficult for disabled people with activity limitations to fulfil. Regarding fairness and close working relationships in single site operations, concerns about treating non-disabled employees fairly may deter managers from hiring or retaining disabled employees, given that if disabled employees are unable to fulfil the range of tasks required of them, non-disabled employees' workloads may increase (Lengnick-Hall et al., 2008).

We can, however, only speculate on these explanations for why work-life balance stands out as a route to enhanced disability employment outcomes, and why the other characteristics associated with both large firm formality and small firm informality do not. Additional research on this matter is therefore needed. Either way, the results suggest caution is required regarding the organizational characteristics element of Stone and Colella's (1996) model. In the absence of

convincing empirical support, it should not be automatically assumed that the organizational policies and practices highlighted within the model will have the anticipated positive effects. Nevertheless, the positive association between work-life balance and better disability employment outcomes suggests support for Beatty et al.'s (2019) contention that flexible working has received insufficient attention in Stone and Colella's model, but should be included within it.

A further notable feature of our analysis is that, responding to calls for a more detailed appreciation of firm heterogeneity within the SME sector and across the organizational life cycle (Baird & Meshoulam, 1988; Harney & Alkhafaf, 2021; Wu et al., 2015), we identify some key differences and similarities between small and medium-sized firms' organizational characteristics. In particular, we find that medium-sized firms more closely resemble large firms regarding the adoption of disability equality practices, presence of HR specialists, job autonomy, and fairness culture. However, they more closely resemble small firms regarding union recognition and (marginally) work-life balance, and they adopt an intermediate position regarding their likelihood of being single-site operations. Therefore, prior claims that SMEs adopt a less formal approach (and in particular use fewer disability equality practices) than large firms (Kersley et al., 2006; Woodhams & Corby, 2007) hold to a much greater extent for small firms than for medium-sized firms. Given these apparent differences in approach, caution is needed in combining small firms and medium-sized firms into a single category when exploring disability-related matters.

It also remains open to question why our findings regarding workforce disability prevalence, while consistent with macro-level data, differ from those of prior studies reviewed by Beatty et al. (2019) that report an association between firm size and workforce disability

prevalence. One possibility is that these prior findings reflect sampling error, given studies have typically drawn on convenience samples of HR professionals rather than nationally representative data (as used in our analysis). They may also reflect measurement error, given the frequent reliance on managers' estimates of the prevalence of disabled people within their workforce. Managers generally underestimate such figures as not all disabilities are evident or declared (Hoque et al., 2018). Further measurement error may arise in studies asking managers whether they have hired any disabled applicants, given this is less likely in SMEs simply because they have fewer vacancies (Goss et al., 2000; United States Department of Labor, 2008). Future organizational-level quantitative studies should therefore draw on nationally representative data and employee self-reported disability status (rather than managers' estimates) when estimating firm size effects, as this will provide more reliable measures of workforce disability prevalence.

Implications for policy and practice

Our analysis has several practical implications. In particular, it suggests that formal disability equality practices, HR specialists, and union recognition may be less effective in improving disability employment outcomes than anticipated. In contrast, our findings suggest employers may usefully focus on improving work-life balance (see also: Schur et al., 2014). Although research indicates that large firms are more likely than small and medium-sized firms to adopt formal flexible working policies (Dex & Scheibl, 2001), employees in small firms report better (and employees in medium-sized firms report slightly better) work-life balance than employees in large firms. This suggests formal flexible working policies in large firms may be under-delivering or are poorly implemented (see for example: Dibben et al., 2002; Enayati et al., 2019; Erickson et al., 2014).

Our findings also have implications for the employers' networks and third-party accreditations with which HR specialists sometimes engage in seeking to hire and retain more disabled people, and to signal these efforts to their disabled employees and potential new hires. In the US these include the *American Association of People with Disabilities* (AAPD), *Disability:IN™ Disability Equality Index®*, and in the UK the *Disability Confident* scheme and the *Business Disability Forum*. These networks and accreditations typically encourage employers to adopt a broader range of disability equality practices. However, this may send misleading signals to disabled people regarding the organizations that are likely to treat them better, given the limited evidence that such practices have the anticipated positive effects. A preferable approach may instead be for such networks and accreditations to require employers to demonstrate positive outcomes such as workforce disability prevalence above a given threshold. This would also be more inclusive of small firms, given they typically have fewer disability equality practices than medium-sized and large firms, but have broadly equivalent disability employment outcomes. Such accreditations also need to account for whether disabled people are distributed equally across the firm's occupational hierarchy, to ensure they do not disproportionately cluster into lower occupational groups. This is an important matter given evidence that disabled people are more likely than non-disabled people to be employed in job roles for which they are overqualified (Jones & Sloane, 2010).

Our findings also have implications for government policy. First, the lack of variation by firm size in the disability employment outcomes assessed here suggests that governments should not view SMEs as especially responsible for disabled people's ongoing labor market disadvantage. Instead, governments need to focus on encouraging firms in all size categories to improve their treatment of disabled people. Second, our findings suggest that SMEs are not

disadvantaged by government regulations aimed at incentivizing employers to employ more disabled people by requiring them to report their workforce disability prevalence or by establishing disability employment targets. This includes, for example, Section 503 of the *US Rehabilitation Act* that requires federal contractors and subcontractors to work towards the achievement of a 7% ‘utilization goal’. Our analysis suggests SMEs are no less capable of meeting this goal than are large firms. Similarly, proposals to introduce mandatory disability employment reporting for large firms (see, for example, the *UK Workforce Information Bill, 2019-2021*) would not cast SMEs in a particularly negative light were these proposals extended to them.

Caveats

We acknowledge a range of caveats that affect our study. First, it should be kept in mind that the absence of variation in disability employment outcomes in small, medium-sized, and large firms may reflect omitted variable bias (notwithstanding the wide range of controls available in WERS), hence further research exploring this matter is warranted.

Second, our analysis considers only selected disability employment outcomes. Future studies may therefore usefully assess the relationship between firm size and other outcomes, such as the proportion of disabled employees at different levels of seniority, and disability pay gaps.

Third, employment rates vary by impairment, and different impairments may elicit distinct stereotypes concerning task competence (Stone & Colella, 1996). Also, some types of impairment may be more difficult for employers to accommodate. Although the US Census Bureau (1990) suggests the severity of impairment does not vary between disabled people employed in SMEs compared to large firms, future studies might further explore whether employment outcomes vary by the intersection of firm size and impairment type.

Fourth, our analysis of disability equality practices is restricted to the practice measures available in the WERS data, which does not include information on important practices aimed at the hiring (e.g., work experience and trials, apprenticeships, job shadowing, internships) and retention (e.g., reasonable adjustments, occupational health provision, return to work practices and redeployment) of disabled people (see Erickson et al., 2014). Our findings regarding the association between disability equality practices and disability employment outcomes need to be interpreted in light of this, given it is possible that studies incorporating a wider range of measures would find a stronger association. However, we anticipate that any unobserved practices are more likely to be found in large than small firms. Given our findings show disability employment outcomes do not vary by firm size, it is quite possible that any such unobserved practices will be also not be associated with better disability employment outcomes.

Fifth, our analysis focuses on the private sector alone, this being an integral feature of our study design given that SMEs are a private sector phenomenon. The lack of an association between HR specialists and union recognition and disability employment outcomes, and the limited association with formal disability equality practices, needs to be interpreted in this light. The association between these organizational characteristics and the disability employment outcomes we assess may be stronger in a public sector context.

Finally, our results are based on data from Britain; hence, further research is needed to confirm whether our findings hold in other countries with different institutional contexts or legislative frameworks. International/ comparative studies exploring, for example, the implications of different disability laws and social security arrangements for variation in disability employment outcomes by firm size would also enable an extension and evaluation of the environmental characteristics component in Stone and Colella's (1996) model.

CONCLUSION

We find very little evidence of a relationship between the disability employment outcomes we assess and organizational characteristics associated with large firm formality (formal disability equality practices, HR specialists, and union recognition). Regarding organizational characteristics associated with small firm informality, although we find work-life balance is associated with the anticipated positive outcomes, this is not the case for job autonomy, stronger fairness cultures, or single-site operations. As such, it is unsurprising that workforce disability prevalence and disability gaps in contentment and job satisfaction do not vary by firm size. Our findings suggest ongoing workplace disability disadvantage should not be attributed to either small or medium-sized firms to any greater extent than to large firms.

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Table 1: Disability equality practices in small, medium-sized and large firm workplaces

	Small firms (5-49 employees) (%)	Medium-sized firms (50-249 employees) (%)	Large firms (250+ employees) (%)	All firms (%)
Recruitment and selection monitored by disability	5.0	16.5	19.4	10.8
Recruitment and selection reviewed by disability	4.7	17.6	17.6	10.3
Promotions monitored by disability	1.0	5.2	8.0	3.7
Promotions reviewed by disability	1.6	6.8	11.5	5.3
Pay reviewed by disability	0.1	3.0	3.3	1.5
Special recruitment procedures for disabled people	1.5	4.3	4.8	2.9
Formal assessment of workplace accessibility to employees or job applicants with disabilities	32.0	47.3	49.8	39.9
<u>Number of disability equality practices adopted</u>	<u>0.5</u>	<u>1.0</u>	<u>1.1</u>	<u>0.7</u>

N = 1,414

Table 2: Characteristics of small, medium-sized and large firm workplaces

	(1) Formal disability equality practices	(2) HR specialist	(3) Union recognition	(4) Job autonomy
<i>Reference category: large firms</i>				
Small firms	-0.959 (0.160)***	-1.445 (0.179)***	-1.097 (0.202)***	0.526 (0.175)***
Medium-sized firms	-0.212 (0.145)	-0.218 (0.189)	-0.922 (0.257)***	0.052 (0.212)
F	9.03	8.42	9.02	
Prob>F	0.000	0.000	0.000	
Wald chi2				896.65
Prob>chi2				0.000
Level 1				6.567
Level 2				0.332
N	1,414	1,456	1,460	8,410
	(5) Fairness culture	(6) Positive work-life balance	(7) Single-site operation	
<i>Reference category: large firms</i>				
Small firms	0.231 (0.091)**	0.284 (0.097)***	4.438 (0.257)***	
Medium-sized firms	0.058 (0.102)	0.182 (0.100)*	1.805 (0.210)***	
F	4.47		25.07	
Prob>F	0.000		0.000	
Wald chi2		352.64		
Prob>chi2		0.000		
Level 1		2.091		
Level 2		0.130		
N	986	8,537	1,474	

Notes:

All private sector workplaces.

Coefficients given, standard errors in brackets.

***p<0.01; **p<0.05; *p<0.1.

All equations control for: log of workplace size; SIC major group; national ownership; workplace age; standard statistical region.

Equations 4 and 5 also control for respondent's: SOC major group; pay band; marital status; age; job tenure; highest qualification; part-time, temporary or fixed-term contract; union membership; ethnicity; gender; dependent children. Poisson: equation 1.

Probit: equations 2, 3, 7.

Multi-level OLS: equations 4, 5.

OLS: equation 6.

Table 3: Factors associated with employment outcomes for disabled people

	(1) Workforce disability prevalence			
	(2) Contentment	(3) Contentment	(4) Job satisfaction	(5) Job satisfaction
Disability equality practices	0.081 (0.076)			
HR specialist	-0.218 (0.276)			
Union recognition	0.059 (0.216)			
Job autonomy	-0.106 (0.089)			
Fairness culture	0.121 (0.190)			
Positive work-life balance	0.357 (0.145)**			
Single-site operation	-0.305 (0.265)			
F	2.66			
Prob>F	0.000			
N	840			
Disabled	-2.212 (0.530)***	-3.707 (3.489)	-1.064 (0.488)**	-0.965 (2.940)
Disability equality practices	-0.031 (0.264)	-0.080 (0.078)	-0.093 (0.082)	-0.113 (0.084)
HR specialist	-0.303 (0.264)	-0.288 (0.249)	-0.014 (0.295)	-0.028 (0.296)
Union recognition	-0.294 (0.380)	-0.275 (0.386)	0.430 (0.283)	0.478 (0.284)*
Job autonomy	0.233 (0.033)***	0.241 (0.033)***	0.716 (0.036)***	0.726 (0.038)***
Fairness culture	1.802 (0.221)***	1.907 (0.215)***	2.943 (0.225)***	3.017 (0.212)***
Positive work-life balance	0.950 (0.062)***	0.871 (0.061)***	0.616 (0.067)***	0.571 (0.063)***
Single-site operation	-0.380 (0.285)	-0.413 (0.261)	0.452 (0.283)	0.425 (0.249)*
Disabled x Disability equality practices		0.427 (0.257)*		0.129 (0.266)
Disabled x HR specialist		-0.410 (1.198)		0.120 (1.003)
Disabled x Union recognition		-0.142 (0.900)		-0.543 (0.913)
Disabled x Job autonomy		-0.133 (0.138)		-0.124 (0.125)
Disabled x Fairness culture		-1.395 (0.918)		-0.962 (1.190)
Disabled x Positive work-life balance		1.140 (0.307)***		0.702 (0.423)*
Disabled x Single-site operation		-0.041 (0.998)		-0.094 (1.259)
Wald chi2	1400.90	1437.41	2329.48	2440.68
Prob>chi2	0.000	0.000	0.000	0.000
Level 1	19.11	18.867	20.545	20.444
Level 2	0.606	0.601	0.709	0.719
N	7,977	7,977	7,734	7,734

Notes:

All private sector workplaces.

Coefficients given, standard errors in brackets.

*** $p<0.01$; ** $p<0.05$; * $p<0.1$.

All equations control for: log of workplace size; SIC major group; national ownership; workplace age; standard statistical region.

Equations 2 to 5 also control for respondent's: SOC major group; pay band; marital status; age; job tenure; highest qualification; part-time, temporary or fixed-term contract; union membership; ethnicity; gender; dependent children.

Fractional logit: equation 1.

Multi-level OLS: equations 2-5.

Table 4: Employment outcomes for disabled people in SME and large firm workplaces

	(1) Workforce disability prevalence			
	(2) Contentment	(3) Contentment	(4) Job satisfaction	(5) Job satisfaction
<i>Reference category:</i> <i>large firms</i>				
Small firms	-0.141 (0.290)			
Medium-sized firms	-0.263 (0.284)			
F	2.62			
Prob>F	0.000			
N	871			
Disabled	-2.618 (0.534)***	-1.722 (0.652)***	-1.574 (0.455)***	-1.300 (0.537)**
<i>Reference category:</i> <i>large firm</i>				
Small firm	0.537 (0.381)	0.620 (0.385)	1.467 (0.461)***	1.524 (0.473)***
Medium-sized firm	0.348 (0.442)	0.498 (0.431)	0.648 (0.499)	0.579 (0.503)
Disabled x small firm		-1.235 (1.034)		-0.796 (0.935)
Disabled x medium- sized firm		-2.114 (1.640)		0.912 (1.080)
Wald chi2	524.50	526.98	545.54	551.58
Prob>chi2	0.000	0.000	0.000	0.000
Level 1	21.477	21.440	25.373	25.356
Level 2	2.149	2.152	4.253	4.242
N	8,459	8,459	8,172	8,172

Notes:

All private sector workplaces.

Coefficients given, standard errors in brackets.

*** $p<0.01$; ** $p<0.05$

All equations control for: log of workplace size; SIC major group; national ownership; workplace age; standard statistical region.

Equations 2 to 5 also control for respondent's: SOC major group; pay band; marital status; age; job tenure; highest qualification; part-time, temporary or fixed-term contract; union membership; ethnicity; gender; dependent children.
Fractional logit: equation 1.

Multi-level OLS: equations 2-5.

Appendix table: Control variable means

Workplace level controls (n=1,468)	
SIC Major group	
Manufacturing	0.109
Electricity, gas, steam, and air conditioning supply	0.001
Water supply; sewerage, waste management and remediation activities	0.005
Construction	0.063
Wholesale and retail trade; repair of motor vehicles and motorcycles	0.284
Accommodation and food service activities	0.031
Transport and storage	0.106
Information and communication	0.042
Financial and insurance activities	0.014
Real estate activities	0.033
Professional, scientific and technical activities	0.093
Administrative and support service activities	0.080
Public administration and defence; compulsory social security/ Education	0.024
Human health and social work activities	0.076
Arts, entertainment and recreation	0.018
Other service activities	0.021
National ownership	
UK	0.946
North American	0.017
European Union	0.027
Rest of World	0.010
Workplace Age (years)	22.68
Log of workplace size	2.606
Standard statistical regions	
North	0.041
Yorkshire and Humberside	0.070
East Midlands	0.081
East Anglia	0.046
South East	0.343
South West	0.111
West Midlands	0.069
North West	0.091
Wales	0.045
Scotland	0.104
Additional controls for individual level analysis (n=8,584)	
Respondent's SOC major group	
Manager or senior official	0.097
Professional	0.145
Associate professional or technical	0.162
Administrative and secretarial	0.148
Skilled trades	0.085
Caring, leisure and other personal service	0.055
Sales and customer service	0.103
Process, plant and machine operatives and drivers	0.092
Routine occupations	0.113
Pay band (per week)	
£60 or less	0.027
£61-£100	0.037
£101-£130	0.033

£131-£170	0.038
£171-£220	0.062
£221-£260	0.069
£261-£310	0.090
£311-£370	0.104
£371-£430	0.104
£431-£520	0.112
£521-£650	0.106
£651-£820	0.085
£821-£1,050	0.056
£1,051+	0.076
Marital status	
Single	0.258
Married	0.667
Divorced/ separated	0.063
Widowed	0.012
Respondent age (years)	
16-21	0.060
22-29	0.206
30-39	0.239
40-49	0.238
50-59	0.191
60-65	0.047
65+	0.020
Respondent's tenure (years)	
<1	0.151
1 to <2	0.120
2 to <5	0.255
5 to <10	0.242
10+	0.233
Highest academic qualification	
None	0.083
Other	0.024
GCSE grade D-G	0.061
GCSE grade A-C	0.197
A-level	0.248
Degree	0.305
Higher degree	0.081
Part-time	0.240
Temporary/ fixed-term contract	0.054
Union member	0.173
Ethnicity	
White	0.910
Mixed	0.015
Asian or Asian British	0.046
Black	0.020
Other	0.009
Female	0.449
Respondent has dependent child	0.356