

Decomposing the Disability Employment Gap: The role of education

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TOP 100
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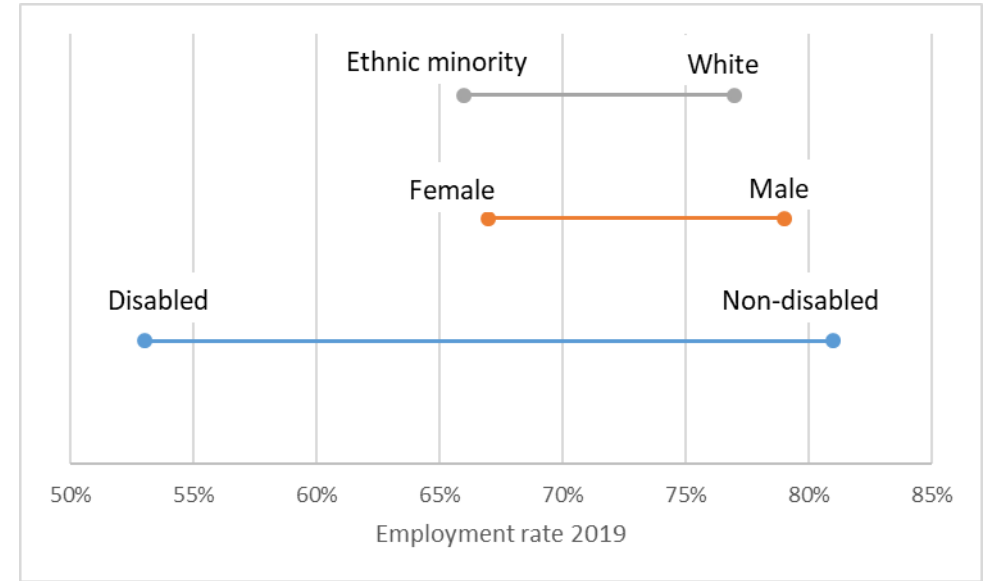
Summary

- Disability Employment Gap (DEG) - difference between employment rates of disabled people and non-disabled people
 - 28 percentage points (pp) in 2019 (UK)
- Using decomposition analysis, we unpack the DEG
 - How much due to:
 - characteristics of disabled people
 - structural barriers in the labour market
- Focus on education
 - If we could improve the education levels of disabled people, how much difference would that make?
- We find that achieving education parity will only make a small difference to the DEG
 - Most of the DEG is attributable to structural barriers

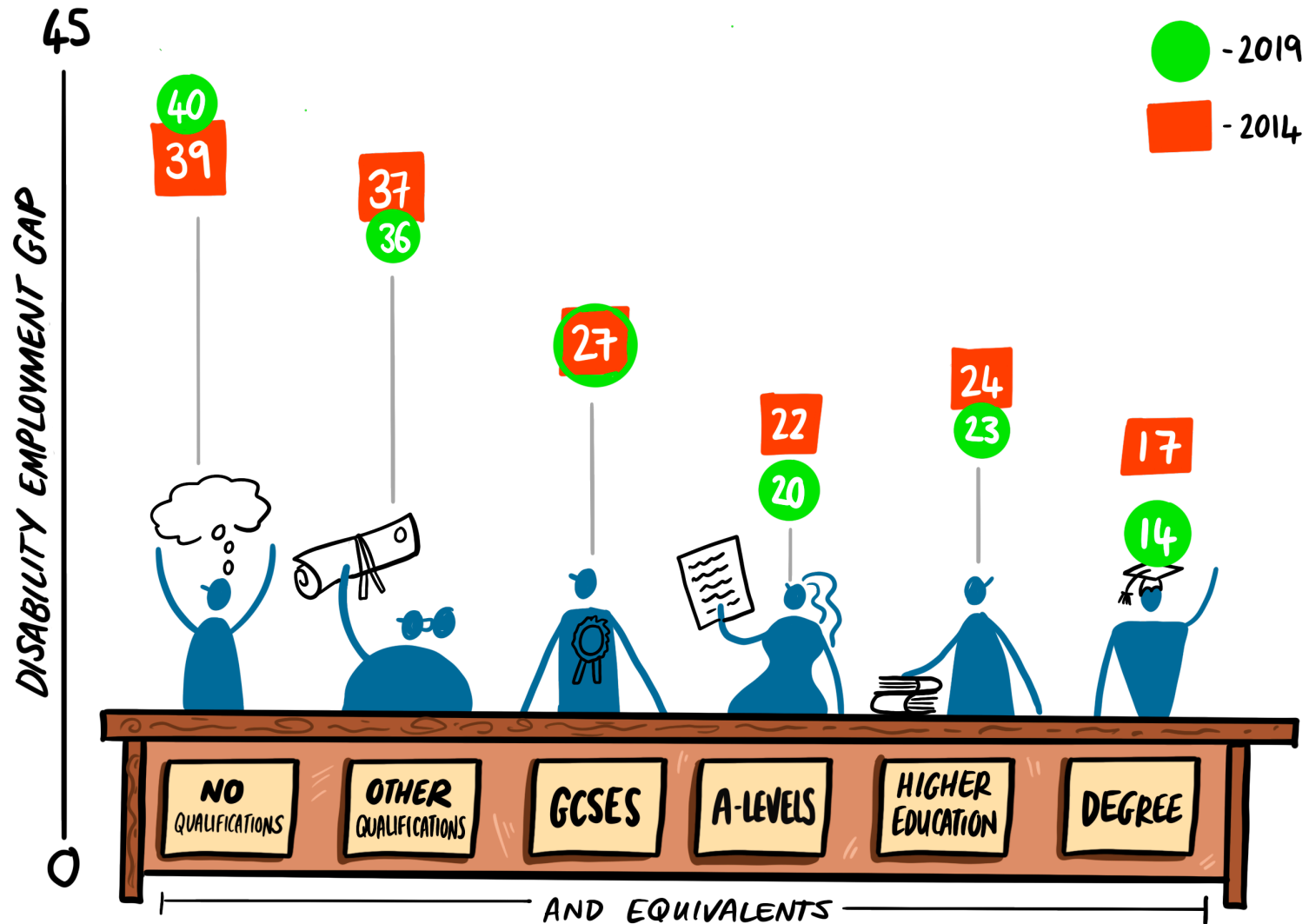


Motivation

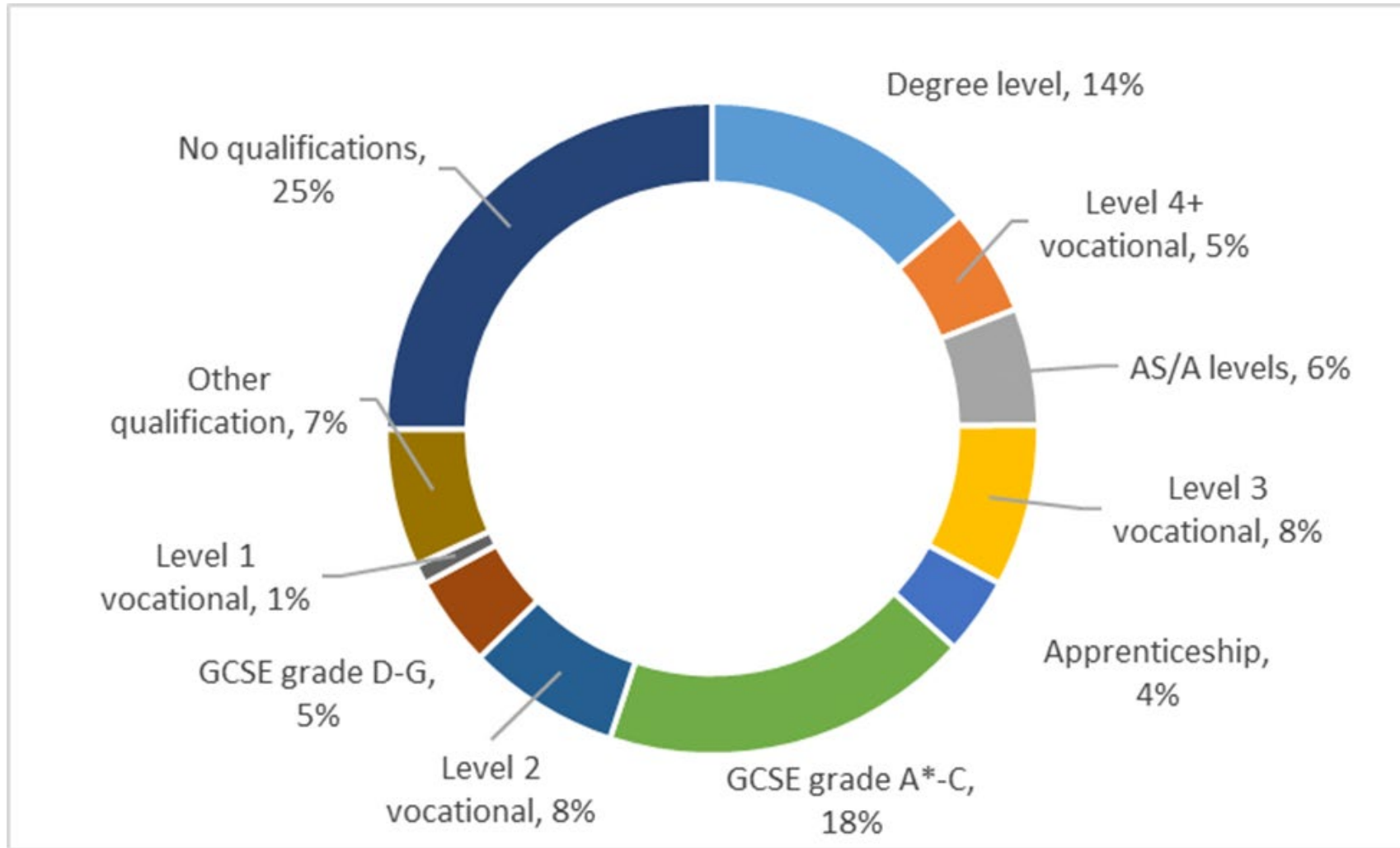
- Disability is a protected characteristic under the Equality Act 2010
 - illegal to discriminate against disabled people with respect to offering employment, terms of employment, access to promotion or other benefits, or dismissal
 - duty to make 'reasonable adjustments' to limit any disadvantage faced by disabled people
- And yet the employment rate of disabled people is so much lower than that of other protected groups – why?
 - Discrimination?
 - Productivity / employability?
 - Decision to seek employment?



Results

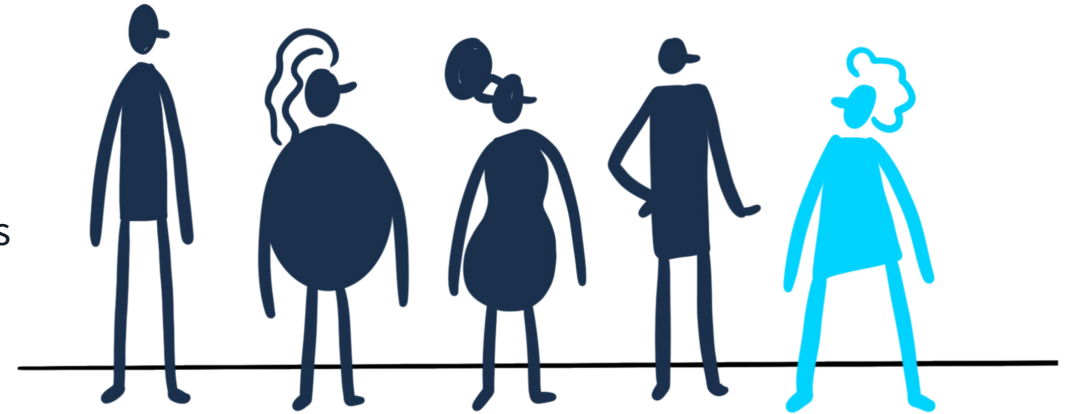


Results



Data

- Annual Population Survey (APS) in 2019
 - Individuals aged 25 to 64
 - Sample: 30,007 disabled & 104,096 non-disabled
 - Accessed via UKDS Secure Lab, giving full access to data on health conditions and also spatial information
- Disabled (Equality Act definition)
 - = 1 if any health problems or illnesses lasting 12 months or more AND this reduces ability to carry out day-to-day activities
 - = 0 otherwise
- Employment
 - = 1 if employed or self-employed
 - = 0 if unemployed or inactive
- Highest qualification
 - one of 11 highest qualification levels, from no qualifications to degree - vocational and academic qualifications identified separately as per McIntosh and Morris (2021)
- Other characteristics: sex, age, marital status, children, family structure interactions, ethnicity, employment status of partner, housing tenure, urban/rural, local authority of residence



Method

Separate employment equations for disabled (D=1) and non-disabled (D=0) people:

$$\bar{y}^D = \hat{\beta}_0^D + \bar{\mathbf{q}}^D \hat{\beta}_q^D + \bar{\mathbf{x}}^D \hat{\beta}_x^D$$

The DEG can be expressed as:

$$\bar{y}^0 - \bar{y}^1 = (\hat{\beta}_0^0 - \hat{\beta}_0^1) + (\bar{\mathbf{q}}^0 \hat{\beta}_q^0 - \bar{\mathbf{q}}^1 \hat{\beta}_q^1) + (\bar{\mathbf{x}}^0 \hat{\beta}_x^0 - \bar{\mathbf{x}}^1 \hat{\beta}_x^1)$$

Oaxaca-Blinder decomposition with non-disabled coefficients as reference:

$$= \underbrace{(\bar{\mathbf{q}}^0 - \bar{\mathbf{q}}^1) \hat{\beta}_q^0}_{\text{Education}} + \underbrace{(\bar{\mathbf{x}}^0 - \bar{\mathbf{x}}^1) \hat{\beta}_x^0}_{\text{Other characteristics}} + \underbrace{(\hat{\beta}_0^0 - \hat{\beta}_0^1) + \bar{\mathbf{q}}^1 (\hat{\beta}_q^0 - \hat{\beta}_q^1) + \bar{\mathbf{x}}^1 (\hat{\beta}_x^0 - \hat{\beta}_x^1)}_{\text{Structural component}}$$

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Results

Means and estimated coefficients of highest qualification

Highest qualification	Non-disabled people		Disabled people	
	Mean \bar{q}_k^0	Coefficient $\hat{\beta}_{q_k}^0$	Mean \bar{q}_k^1	Coefficient $\hat{\beta}_{q_k}^1$
Degree level	0.388**	0.035**	0.237**	0.133**
Level 4+ vocational	0.078**	0.031**	0.074**	0.082**
AS/A levels	0.072**	0.001	0.061**	0.033**
Level 3 vocational	0.096**	0.033**	0.099**	0.093**
Apprenticeship	0.033**	0.034**	0.036**	0.015
GCSEs grade A*-C	0.142**	-0.002	0.160**	-0.034**
Level 2 vocational	0.048**	0.023**	0.069**	0.021*
GCSEs grade D-G	0.022**	0.004	0.031**	-0.062**
Level 1 vocational	0.004**	-0.079**	0.008**	-0.107**
Other	0.055**	0.004	0.059**	0.012
No qualifications	0.063**	-0.084**	0.166**	-0.185**

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Results

Decomposition of overall DEG

	Non-disabled as reference	Disabled as reference
DEG	0.332**	0.332**
Degree level	0.005**	0.020**
No qualifications	0.009**	0.019**
Sum of education	0.014**	0.041**
Other characteristics	0.036**	0.107**
Structural component	0.282**	0.184**
% education	4%	12%
% other characteristics	11%	33%
% structural	85%	55%
N	134,103	134,103

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Results

Attribution of the structural component to qualification levels

Highest qualification	Weighted by disabled means		Weighted by non-disabled means	
	Attribution (pp)	Attribution (%)	Attribution (pp)	Attribution (%)
Degree level	0.046**	16%	0.048**	26%
Level 4+ vocational	0.018**	6%	0.013**	7%
AS/A levels	0.016	6%	0.014**	7%
Level 3 vocational	0.023**	8%	0.016**	8%
Apprenticeship	0.011**	4%	0.008**	4%
GCSEs grade A*-C	0.052**	18%	0.036**	19%
Level 2 vocational	0.020**	7%	0.011**	6%
GCSEs grade D-G	0.011**	4%	0.006**	3%
Level 1 vocational	0.003**	1%	0.001**	1%
Other	0.017**	6%	0.012**	6%
No qualifications	0.065**	23%	0.020**	11%
Total	0.282	100%	0.184	100%

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Other	0.017**	6%	0.012**	6%
No qualifications	0.065**	23%	0.020**	11%
Total	0.282	100%	0.184	100%

Results

Decomposition of 'involuntary' DEG

Only includes people who are: employed, ILO unemployed, inactive but seeking work, or inactive but would like work (variable INECAC05)

	Non-disabled as reference	Disabled as reference
DEG	0.166**	0.166**
Degree level	0.002**	0.009**
No qualifications	0.001**	0.004**
Sum of education	0.003**	0.013**
Other characteristics	0.011**	0.049**
Structural component	0.152**	0.105**
% education	2%	8%
% other characteristics	6%	29%
% structural	92%	63%
N	113,762	113,762

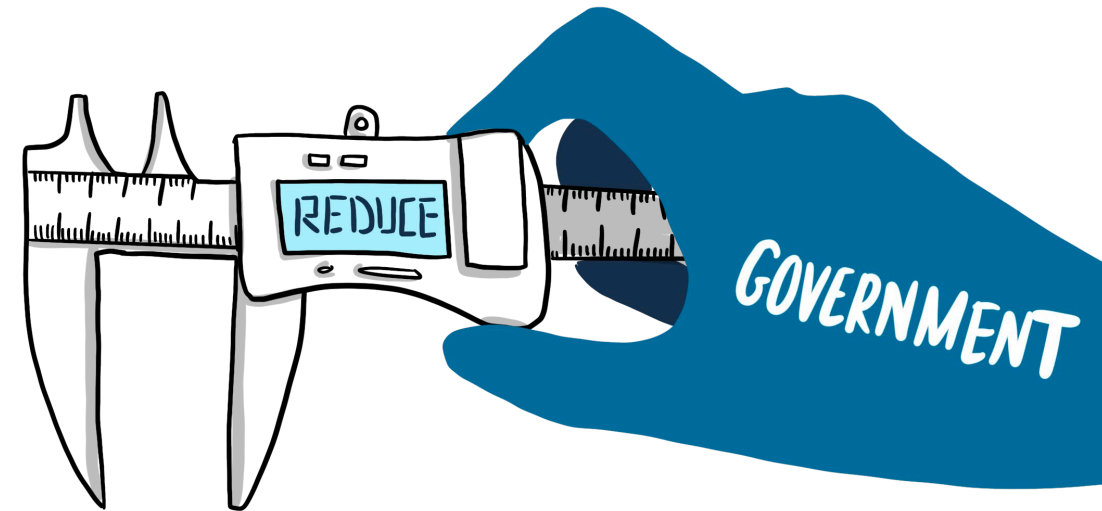
Results

Attribution of the structural component to qualification levels ('involuntary' DEG)

Highest qualification	Weighted by disabled means		Weighted by non-disabled means	
	Attribution (pp)	Attribution (%)	Attribution (pp)	Attribution (%)
Degree level	0.031**	21%	0.028**	27%
Level 4+ vocational	0.010**	7%	0.007**	7%
AS/A levels	0.009**	6%	0.008**	7%
Level 3 vocational	0.015**	10%	0.009**	8%
Apprenticeship	0.007**	5%	0.005**	5%
GCSEs grade A*-C	0.027**	17%	0.019**	19%
Level 2 vocational	0.012**	8%	0.006**	6%
GCSEs grade D-G	0.007**	5%	0.004**	4%
Level 1 vocational	0.002**	1%	0.001**	1%
Other	0.009**	6%	0.006**	6%
No qualifications	0.023**	15%	0.012**	11%
Total	0.152**	100%	0.105**	100%

Conclusion

- What do these results tell us about how to reduce the DEG?
- Achieving educational parity without addressing structural barriers
 - would reduce overall DEG by 12%
 - but greater impact on the female DEG (not shown today)
- Removing structural barriers without changing qualification levels
 - would reduce overall DEG by 85%
 - and even more for the mental health and ‘more severe’ DEGs (not shown today)
- What are these structural barriers?
 - Latent productivity differences?
 - Discrimination (demand side)?
 - Preferences for work (supply side)?
- Decomposition of the ‘involuntary’ DEG suggests structural component not driven by preferences
- The removal of structural barriers for people with no qualifications will have the greatest impact on the DEG



Thank you!

More information at:

bit.ly/sheff-DEG



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