Exploring the coastal association in education: Are young people in coastal communities less likely to get a degree-level qualification?

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Outline

Context and Background

- **Motivation**
  - Education is one of the strongest determinants of life chances.
  - Degree attainment is linked to higher income, better health and wellbeing, and wider social participation
  - Individual-level factors have been widely discussed (e.g., gender, ethnicity, household income...)
  - But **Do where young people grow up shape their educational attainment?**

Context and Background

- **Spatial educational inequality in England**
  - London effect
  - Hot spots and cold spots

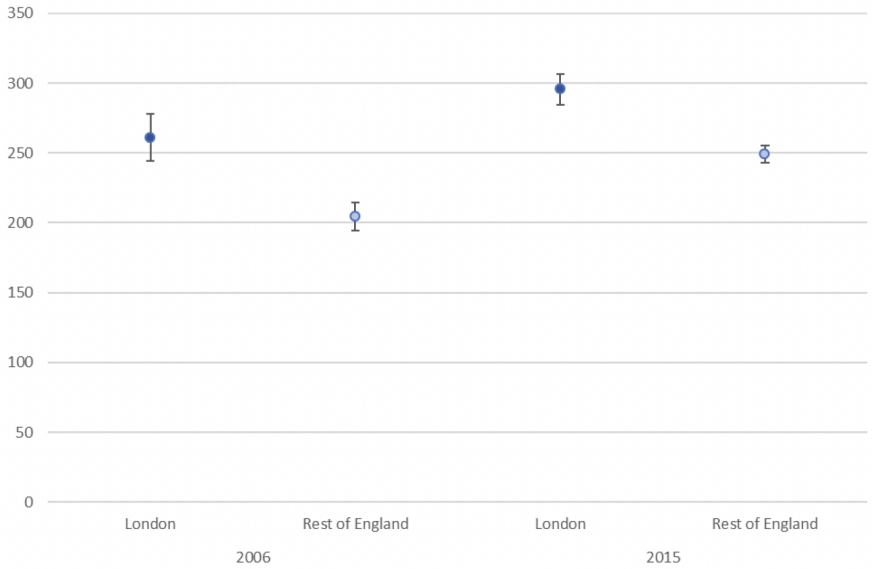


Figure 1: Best 8 points score among disadvantaged pupils in London and the rest of England (2006 and 2015) (DfE, 2020)

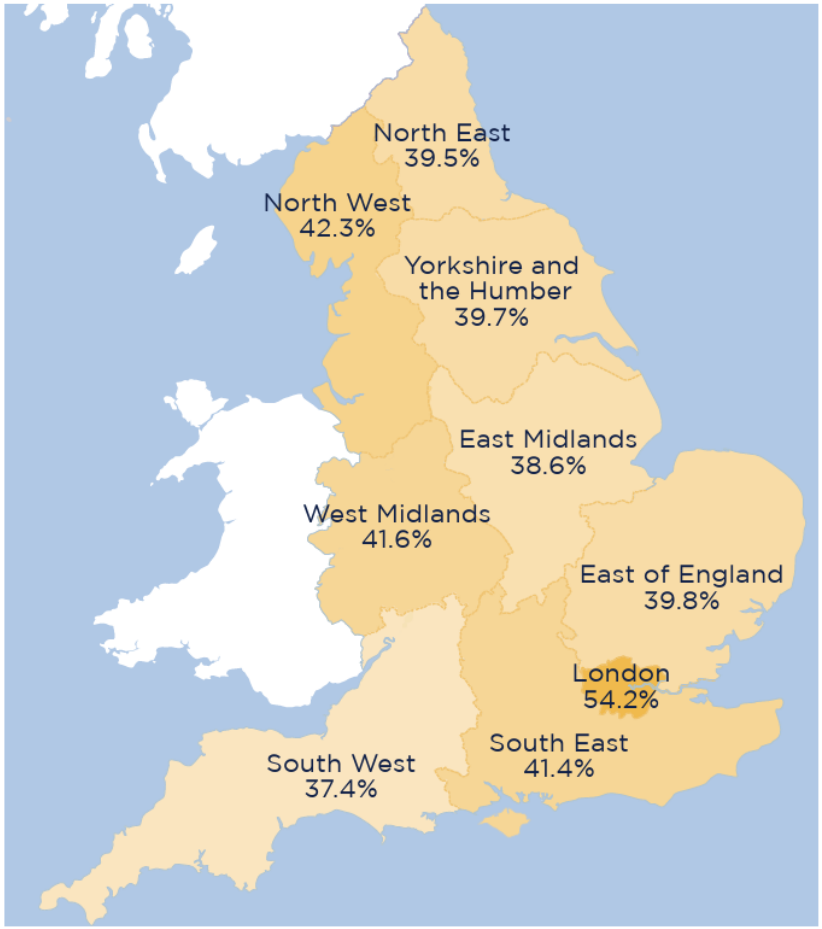


Figure 2: Proportion of young people from each region who entered higher education aged 18 or 19 (Ofs, 2022,2)

Context and Background

- **Why coastal communities**
  - Policy debates: coastal areas seen as **"left behind places"**(CMO, 2021)
  - Disadvantages: economic decline, poorer health and wellbeing
  - **Lower educational attainment**(DfE, 2019)

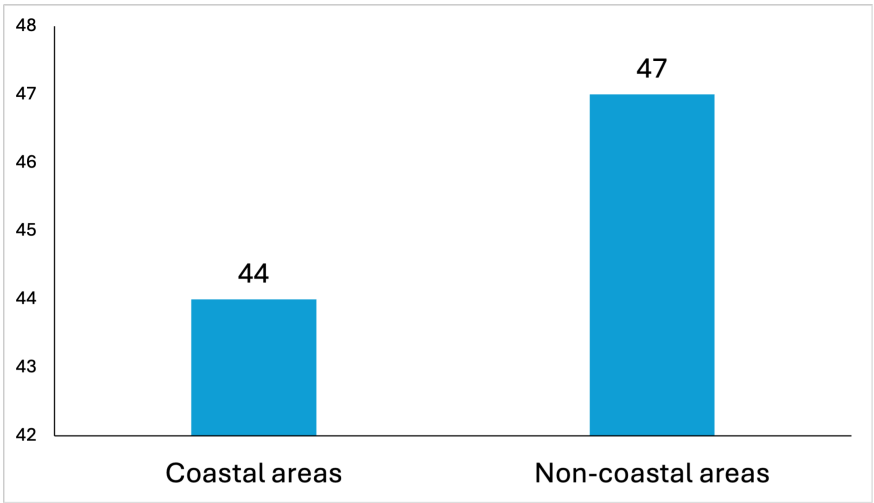


Figure 3: GCSE results (Attainment 8) in coastal and non-coastal areas

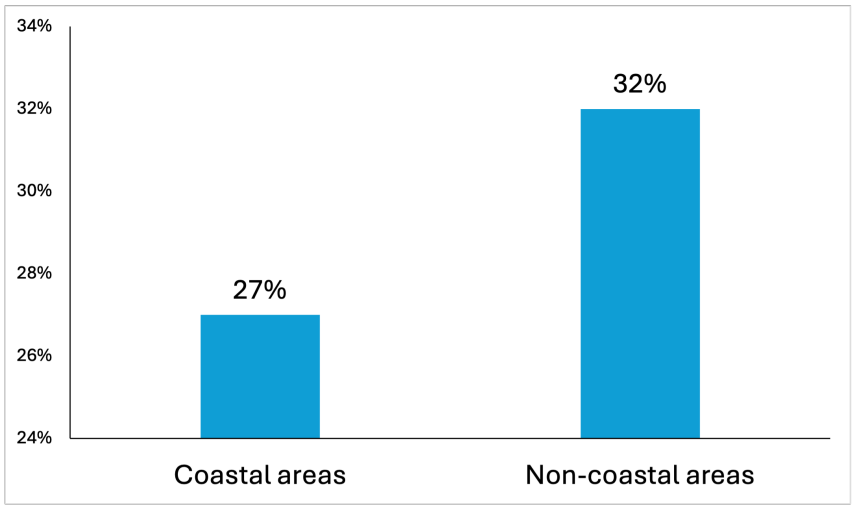


Figure 4: Degree-level qualifications in coastal and non-coastal areas (%) (Keating, et al., 2025)

Context and Background

- **Explaining Spatial Educational Inequality in England**
  - A consequence of **clustering**?
    - Ethnicity: *minority v.s. white*
    - Deprivation: *high level v.s. low level*
    - ...
  - **Cultural** explanation?
    - Educational enviroment: *positive v.s. negative*
    - Collective socialisation

      (low educational aspiration among parents even teachers)
    - Habitus
    - ...

Hypothesis

Hypothesis

- **H1**: young people who lived in coastal communities at age 16 are **less likely** to have obtained a degree-level qualification by age 32.
- **H2 (a)**: this coastal effect is explained by either area-level **income deprivation** or **educational context**.
- **H2 (b)**: Is the coastal association **stronger** in the **more deprived areas?**

Data and Methods

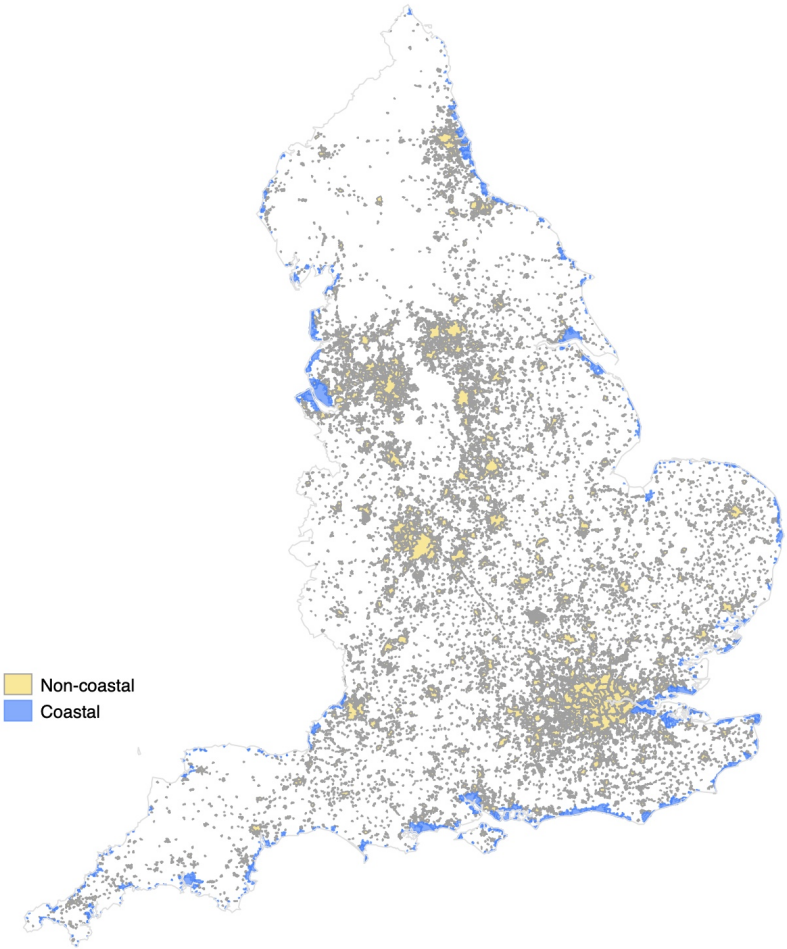
1. Data and measures

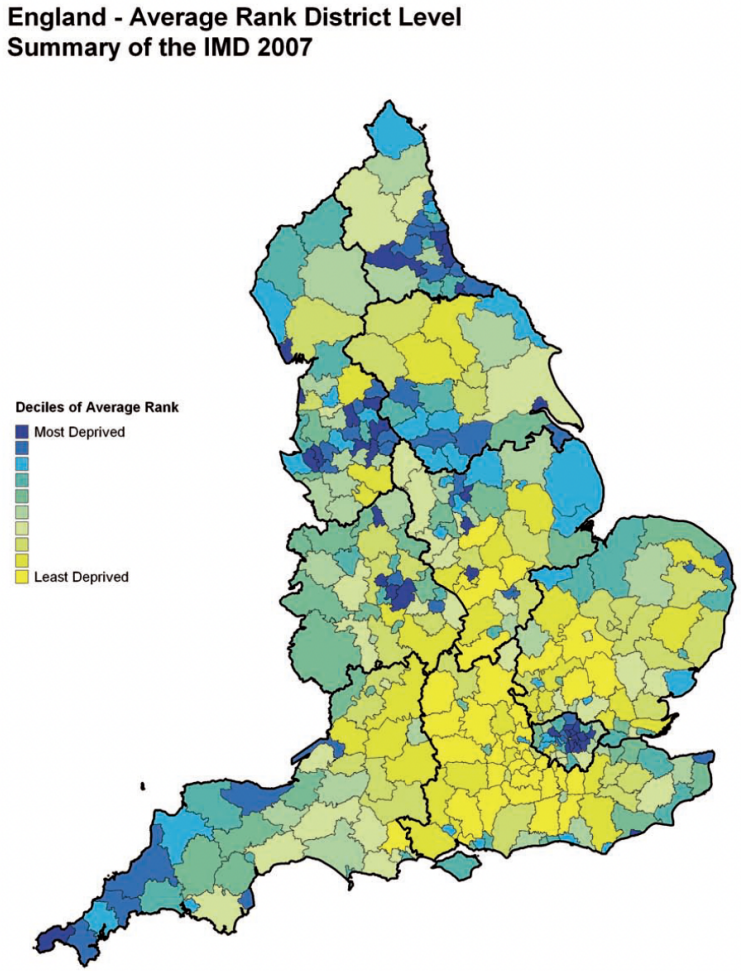
Year	2004	2005	2006	2007	2008	2009	2010	2015	2022
Age	14	15	16	17	18	19	20	25	32

- The study commenced in 2004 when the cohort members were 14 years old (cohort born in the years **1989-90)**
- Initial sample size: **15,770**
- Including physical and educational development, economic circumstances, employment, family life, health behaviour, wellbeing, social participation, and attitudes

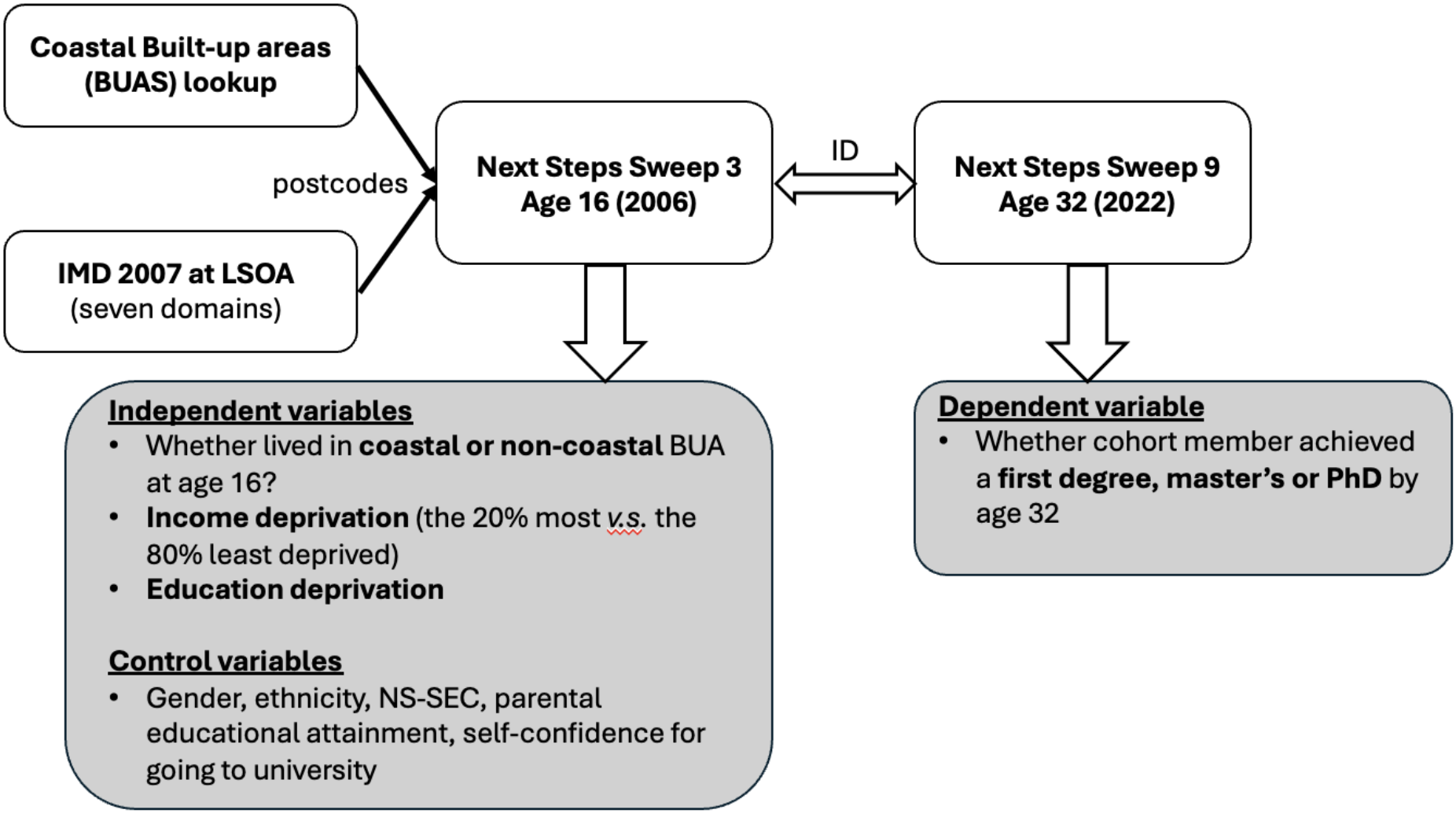
Data and Methods

- Coastal built-up areas (BUAs) from ONS (2022)
- Indices of deprivation 2007 at lower super output areas (LSOA)





Data and Methods



Data and Methods

2. Sample selection and imputation

- **Sample selection**
  - Respondents had to have completed at least one of either sweep three or sweep nine $\rightarrow$ **n=13,375**
- **Multiple imputation**
  - **6,221** completed cases for key variables
  - Multiple imputation by chained equations **(MICE)** with suggested auxiliary variables (Silverwood et al., 2024)

Data and Methods

3. Analytical strategy

- **Logit** regression model with reporting **Odds Ration (OR)**
  - **Model 1**: coastal indicator
  - **Model 2 (6)**: coastal indicator and income (education) deprivation
  - **Model 3 (7)**: coastal indicator and income (education) deprivation, and interaction term
  - **Model 4 (8)**: adding individua-level characteristics
  - **Model 5 (9)**: sensitive analysis (excluding Londoners)

1. Descriptive analysis

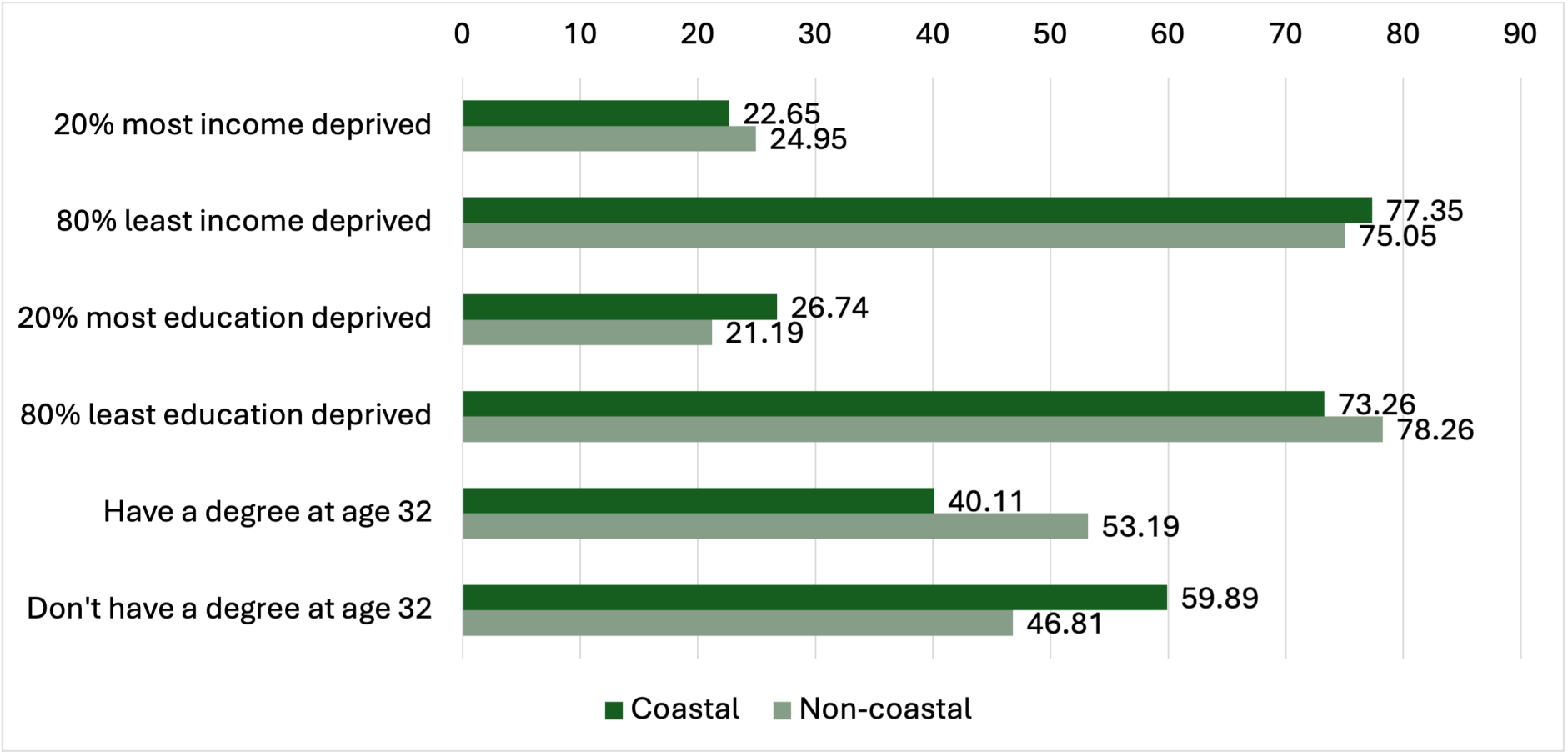


Figure 5: Area deprivation and educational attainment by area type (n=6,221)

2. Main results

- Income deprivation

	Model 1	Model 2	Model 3	Model 4	Model 5
Coastal area (ref: non-coastal)					
Coastal	0.595***	0.587***	0.667***	0.840**	0.880
	(0.517, 0.684)	(0.509, 0.676)	(0.570, 0.781)	(0.703, 1.003)	(0.735, 1.054)
Income deprivation (ref: 80% least deprived)					
20% most deprived		0.630***	0.662***	0.733***	0.706***
		(0.577, 0.688)	(0.604, 0.725)	(0.649, 0.827)	(0.612, 0.814)
Coastal area*income deprivation					
Coastal*20% most deprived area			0.576***	0.693**	0.735*
			(0.416, 0.797)	(0.489, 0.983)	(0.513, 1.054)
Control variables	No	No	No	Yes	Yes
cons	0.813***	0.932***	0.919***	5.465***	4.823***
	(0.777, 0.850)	(0.887, 0.980)	(0.874, 0.967)	(4.739, 6.304)	(4.123, 5.641)
Pseudo R-square	0.006	0.014	0.015	0.134	0.281

Note: ***p<0.01, **p<0.05, *p<0.1

- People who lived in coastal communities at age 16 were **41% less likely** to get a degree.
- People lived in the 20% most deprived areas were **37% less likely** to get a degree.
- **Greater** educational disadvantage for individuals who lived in the **20% most deprived coastal areas**.

Results

- Education deprivation

	Model 6	Model 7	Model 8	Model 9
Coastal area (ref: non-coastal)				
Coastal	0.617***	0.639***	0.789***	0.819**
	(0.534, 0.713)	(0.542, 0.753)	(0.671, 0.928)	(0.696, 0.964)
Education deprivation (ref: 80% least deprived)				
20% most deprived	0.427***	0.434***	0.569***	0.617***
	(0.385, 0.473)	(0.389, 0.483)	(0.505, 0.641)	(0.543, 0.701)
Coastal area*education deprivation				
Coastal*20% most deprived area		0.860		
		(0.624, 1.186)		
Control variables	No	No	Yes	Yes
cons	0.992	0.989	5.339***	4.815***
	(0.946, 1.042)	(0.942, 1.038)	(4660, 6.118)	(4.139, 5.601)
Pseudo R-square	0.031	0.031	0.139	0.283

Note: ***p<0.01, **p<0.05, *p<0.1

- People lived in the 20% most educational deprived areas were **40% less likely** to get a degree.
- **No additional educational disadvantage** for individuals who lived in the **20% most educational deprived coastal areas**.

Discussion and conclusion

- **Conclusion**
  - Young people who lived in coastal communities at age 16 are **less likely** to obtain a first or higher degree by age 32
  - Educational outcomes are driven by **individual and family characteristics**.
  - The coastal effect **cannot** be explained by income or education deprivation.
  - Both income and education deprivation have independent effect on education outcome, and **additional** interaction effect was found between coastal and **income deprivation**.
  - ...

Discussion and conclusion

- **Policy implications**
  - More higher education options in the local area?
  - Early intervention (e.g., careers advice) and more widening participation organisations.
  - Not enough to focus on most deprived, or on lowest performing areas. The coastal effect is wider than that.
  - ...
- **Limitations**
  - Point in time measurement of coastal living at age 16
  - Imperfect coastal identification which dichotomises coastal status
  - High level of attrition

Reference

[1] Department for Education (2020). Examining the London advantage in attainment: Evidence from LSYPE. Dep. Edu. Res. Rep, 1070.
[2] OfS (2022) Insight brief 11. Place matters: Inequality, employment and the role of higher education. Office for Students.
[3] CMO (2021). Chief medical officer's annual report 2021: health in coastal communities. Department for Health and Social Care.
[4] Department for Education (2019). Outcomes for pupils at the end of KS4 by geography Ad hoc statistics. London: DfE.
[5] Young people & coastal communities: Local policymaker and practitioner perspectives: Interim report from the UCL Coastal Youth Life Chances project.

Any questions?

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