

# Understanding and addressing educational underachievement: New evidence from linked administrative data in Northern Ireland

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## Introduction

This policy brief explores educational underachievement according to GCSE attainment outcomes in Northern Ireland. Evidence is drawn upon from existing research and our study, which used the first linked dataset for education that combined the Northern Ireland Census (2011), School Leavers Survey and School Census<sup>1</sup>. The study examined GCSE attainment outcomes according to the socio-demographic profile of pupils and school factors. The key factors explored in our study were a pupil's socio-economic status, religious affiliation and gender, along with school type (grammar/non-grammar). This policy brief provides a brief outline of the current context, the key messages from research, and the implications for policy and practice aiming to improve attainment outcomes for pupils, particularly those disadvantaged within the current system.

## Context

Post-primary attainment influences an individual's post-compulsory education trajectory and future employment [1,2]. Although GCSE attainment is often forefront to discussions, attainment disparities emerge in primary school [3-7]. Exploring primary school attainment trends is therefore useful to discover when attainment differences begin and at what stage interventions should be targeted. However, there is a lack of available data on primary school attainment in Northern Ireland, which limits the use of evidence-based practice. Although trends from other UK jurisdictions can be considered, these cannot be relied upon due to the social and historical context of Northern Ireland. Greater availability of primary school performance data is therefore needed to support equality and equity in the Northern Ireland education system.

Limited data is also available to investigate post-primary attainment in Northern Ireland. Recently, a review of existing studies noted the lack of quantitative research and evidence that could be used to inform policy in the area of educational underachievement [8]. However, existing research has considered education outcomes according to socio-economic background (predominantly through Free School Meal Eligibility (FSME)), religious affiliation, gender, Special Educational Needs, school type and school management structure [9-16]. Our research

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<sup>1</sup> Data were provided for three Year 12 cohorts completing their GCSEs in the academic years of 2010/2011, 2011/2012 and 2012/2013 (n=61,373 pupils and 217 schools).

also provided an update into post-primary attainment. Our study was particularly valuable due to its examination of the multidimensional structure of socio-economic status<sup>2</sup>, its in-depth investigation into religious affiliation, and its updated insight into the influence of gender and school type on GCSE attainment<sup>3</sup>. This in-depth exploration into GCSE outcomes was only possible due to the linked administrative dataset. Using administrative data in this way means that wider issues for education research and practice can be identified. These include the need for generating more evidence to develop targeted strategies to reduce underachievement. Access to more data, especially linked administrative data and primary school data, would improve our understanding of educational underachievement and its complexity. The use of data in this way would therefore help improve pupil outcomes, particularly those disadvantaged in the current system.

## Previous policy responses and strategies

Numerous responses and strategies have aimed to reduce educational underachievement in Northern Ireland. These include reports into educational underachievement according to factors such as gender [17], and deprivation [18], the experiences of Protestant working class boys (led by Dawn Purvis in 2011); strategies such as the Children and Young People's Strategy 2019-2029<sup>4</sup> and the Neighbourhood Renewal Strategy<sup>5</sup>; and policies such as 'Every School A Good School'. A Tackling Educational Disadvantage team was also established in the Department of Education in 2017 to examine the links between educational underachievement and socio-economic disadvantage. Most recently, the Expert Panel on Educational Underachievement published its report and action plan to tackle educational disadvantage throughout the education system.

## Messages from research

In the first record linkage study for education, we studied GCSE attainment for 61,373 pupils in Northern Ireland. This accounted for Year 12 pupils who completed their GCSEs over three consecutive academic years (2010/2011, 2011/2012 and 2012/2013). For each pupil, their educational attainment was linked to information about themselves, their parents and household, the area in which they lived and the school they attended. The linked data was anonymised, held in the secure data environment within NISRA and was only made available to the research team for the purpose of this study. This is the largest study of educational attainment in Northern Ireland to date.

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<sup>2</sup> Socio-economic status was measured using eight indicators, some of which were previously limited in education research in Northern Ireland. The following indicators were included in analysis: FSME, mothers' and fathers' education qualifications, mothers' and fathers' occupational status (classified by the NS-SEC), housing tenure, property value and the Northern Ireland Multiple Deprivation Measure (NI-MDM) (2010) for income.

<sup>3</sup> The individual and collective influences of these factors were considered in the study as covariates in the multilevel model and through interaction terms, respectively. The presented results refer to the fully adjusted model of this study.

<sup>4</sup> Acknowledges the reduction of educational underachievement according to social disadvantage (measured by FSME) as a strategic priority.

<sup>5</sup> Aims to address the links between educational underachievement and deprivation, particularly for pupils residing in the most deprived areas according to the NI-MDM.

### *Gender*

Our study confirmed that girls outperform boys in GCSE attainment. This finding has also been reported in previous studies [19-23]. Gender therefore remains a key factor to consider when examining educational underachievement. Explanations for the lower educational achievement of male pupils include a lack of engagement with educational settings, the curriculum lacking relevance, the shortage of male role models within the school environment, male learning styles, and their gender identity affecting attachment to education [24-27].

### *Religious affiliation*

Religious affiliation remains a key indicator of social identity in Northern Ireland, with the underachievement of Protestant boys and Protestant working class boys highlighted as a key issue, most recently in the New Decade New Approach agreement. The influence of religious affiliation on GCSE attainment is complex. This is highlighted by some studies reporting differences in the attainment outcomes of pupils based on their religious affiliation [28, 29], while others failed to find a significant difference [30]. Our study adds to the complexity as it found no discernible difference in the GCSE attainment of Protestant and Catholic pupils. In addition, no evidence was found to suggest that Protestant working class (FSME) boys were underachieving in the education system. These results suggest an alternative perspective to the previous narrative, reflecting the complexity of this issue and the need for a more nuanced approach.

### *Socio-economic status*

This study confirmed the important influence of social disadvantage on academic attainment. While the importance of FSME (the standard measure of disadvantage in studies of educational attainment) was substantiated, this study demonstrated that it was not the most important indicator of socio-economic background.

Parental qualifications, particularly having a mother or father with no qualifications, were greater predictors of attainment. Pupils with a mother or father with no education qualifications had lower GCSE attainment scores than pupils with a mother or father with a degree level qualification. More specifically, mothers' qualifications had a greater influence on a pupil's GCSE outcomes than fathers'. Housing tenure, property value, mothers' and fathers' occupation and the deprivation scores of the areas of residence (NI-MDM (2010) based on income) were also associated with educational attainment, even after adjustment for other socio-economic factors.

FSME is a proxy measure of low parental income, widely used in social policy research as an individual indicator of potential disadvantage. It is a readily available measure that is reported by schools annually. It is acknowledged as a good indicator of disadvantage, though there are concerns about the substantial proportion of children living in poverty that are not registered [31]. Despite its frequent use, its effectiveness as an indicator of educational attainment has been questioned, and other studies find that parental education and occupation are the best predictors of pupils' attainment [32]. Parental qualifications being a better predictor of

educational outcomes is also evidenced in our study. It may be that parental educational attainment is a greater predictor as it reflects a parent's understanding of the education system and their ability to support their child's scholastic efforts [33, 34]. Overall, those from lower socio-economic backgrounds experience higher levels of deprivation. This negatively affects the ability to invest in home educational resources that may improve a pupil's academic outcomes [35, 36]. This may be a source for the intergenerational transmission of educational underachievement.

### *School type*

School type remains a key marker of GCSE attainment, with grammar school pupils achieving higher GCSE scores than pupils attending non-grammar schools, even after adjustment for other factors. This mirrors findings from previous studies in Northern Ireland [37-40]. However, as we do not have data on earlier academic attainment rates it is not possible to distinguish between school-level effects (such as added value from attending a grammar school) and academic ability, as perhaps reflected in the transfer test performance [41]. A recent study in England found that once prior attainment and ability were accounted for so that equivalent pupils were compared, it could not be concluded that grammar schools were achieving higher results than non-grammar schools [42].

It would be desirable to have information relating to earlier educational attainment levels, but such data is not currently available at an individual level in Northern Ireland. Our ability to chart inequalities in educational attainment at earlier ages and the effects of our selective school system is therefore curtailed, though, the social gradients in grammar school attendance in Northern Ireland [43, 44] and England [45] are well documented.

## **Recommendations for policy and practice**

Based on our study, we have three key recommendations for policy and practice.

### **1. Increasing data sources on educational attainment in Northern Ireland.**

The current lack of pre-GCSE attainment data is a fundamental issue for those aiming to promote and implement evidence-based research, policy and practice. This presents considerable limitations for understanding when attainment gaps emerge and for the timing of targeted interventions. The lack of data at primary school level is a notable omission.

*We recommend the greater efforts to gain individual-level attainment data at primary and post-primary level, and when possible, the better use of this data through record linkage of administrative data, to further our understanding of factors influencing educational underachievement.*

## 2. Better use of new and existing data in Northern Ireland.

The current study represents the first and only instance of using linked administrative sources to examine educational attainment in Northern Ireland. In this respect, Northern Ireland lags behind other parts of the UK where such linkages are more common and used extensively to inform policy.

*We believe that greater insights could be achieved through more innovative use and linkage of existing data and by incorporating new educational data when it becomes available.*

## 3. Understanding the relationship between disadvantage and educational underachievement in Northern Ireland.

FSME is a readily accessible measure of disadvantage, but this simple binary measure underrepresents the complexity and multidimensional interplay between socio-economic background and educational achievement. In addition, other factors such as ethnicity, migrant status and the mediating role of the health status of parents and children needs to be increasingly considered.

*We recommend that further and ongoing research is needed to better understand the complexity of socio-economic status and educational attainment and to understand how these are changing over time.*

A more detailed write-up of this study and analysis can be found in the paper titled '[The Influence of Socio-Demographics and School Factors on GCSE Attainment: Results from the First Record Linkage Data in Northern Ireland](#)' published in the Oxford Review of Education.

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