

GoWell is a collaborative partnership between the Glasgow Centre for Population Health, and Urban Studies and the MRC/CSO Social and Public Health Sciences Unit at the University of Glasgow, sponsored by Glasgow Housing Association, the Scottish Government, NHS Health Scotland and NHS Greater Glasgow and Clyde.

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**The impact of
housing tenure on
secondary school
pupils' educational
attainment**

A grey silhouette of a person's head and shoulders, positioned to the right of the teal speech bubble.

December 2018

GoWell is a planned ten-year research and learning programme that aims to investigate the impact of investment in housing, regeneration and neighbourhood renewal on the health and wellbeing of individuals, families and communities. It commenced in February 2006 and has several research components. This paper is part of a series of Briefing Papers which the GoWell team has developed in order to summarise key findings and policy and practice recommendations from the research. Further information on the GoWell Programme and the full series of Briefing Papers is available from the GoWell website at: www.gowellonline.com

Key findings

- Between 2001 and 2011, Glasgow's population became more educated, more ethnically diverse, with more people in employment. At the same time housing tenure was changing, but these changes were not distributed evenly throughout school catchment areas and secondary schools in the city.
- S4 educational attainment improved in all but four of the city's secondary schools between 2001 and 2011. Owner occupation increased in ten of the school catchment areas.
- Educational attainment is influenced by a complex mix of factors at many different levels – including individual, neighbourhood, catchment area and school factors.
- A higher proportion of owner occupied households in a pupil's neighbourhood had a positive association with their educational attainment, over and above other individual, neighbourhood, catchment and school factors. However, housing tenure mix at the level of the school catchment was not associated with pupil attainment.
- There were no significant differences in individual pupil attainment between secondary schools in Glasgow once pupil, neighbourhood, catchment area and school factors were taken into account.
- Poverty in the catchment area was seen by staff and pupils as having negative effects on those living in the area, both outside the school and within the school.
- An increase in well-off pupils within the school was seen by staff to make it easier to enact school policies intended to increase attainment, and improve the reputation of the school.
- The findings illustrate that mixed tenure policies, which focus on increasing owner occupied housing in mainly social rented areas, at a neighbourhood level could have a positive impact on individual educational attainment in Glasgow.



INTRODUCTION

This briefing paper summarises the results of a recently completed PhD research project¹ which investigated whether mixed tenure housing policy has had an impact on individual pupil educational attainment in Glasgow. The PhD was completed as part of the GoWell research programme, with funding from the Medical Research Council.

In Glasgow, as in many parts of the UK, tenure mixing, which aims to combine areas of mainly social rented housing with developments of owner occupied housing, has been a focus of regeneration policy. One of the expected gains from housing tenure mixing is an improvement in pupil and school performance. Educational attainment is strongly associated with a person's life chances, and poorer children most often have poorer educational outcomes, resulting in a widening of inequality later in life. It is known that living in a deprived neighbourhood can have a negative impact on educational outcomes. Additionally, it has been found that having a high proportion of poor pupils within a school can have a negative impact on individual educational outcomes. The proportion of poor pupils within a school could be lessened through the introduction of tenure mixing within a school's catchment area.

The research used a combination of data analysis and interviews with teachers and pupils in schools in Glasgow to look at the impacts of tenure mixing.



BACKGROUND

There are differences between the educational attainment of those from affluent backgrounds and those from poorer backgrounds, with background characteristics, such as gender or socioeconomic status, having the strongest influence on a pupil's educational outcomes². Not only is this the case for individual pupils, but it has been found that schools with a lower proportion of affluent pupils do worse in part because of the cumulative impact on the school of having a largely deprived pupil body³. The Scottish Government made reducing the educational attainment gap between more and less deprived children the focus of a new policy initiative in 2015⁴.

Schools are not the only contextual factor to affect a pupil's outcomes. "Neighbourhood effects" are the effect that living in a certain neighbourhood has on an individual, once background characteristics have been accounted for⁵. The specific ways in which neighbourhood context can influence a person's outcomes are known as the mechanisms of neighbourhood effects, for example a neighbourhood being far away from services, or having a high level of antisocial behaviour⁶. Neighbourhood effects have been found to have a small but significant impact on educational outcomes, with poorer areas having a negative impact⁷.

Urban regeneration aims to improve the social and economic prosperity of an area by improving the built, social and economic environment, and area-based policies are a common way of using regeneration to tackle the problems in poor areas⁸. There are a range of outcomes that are thought to result from regeneration and they can be grouped into three themes: economic, such as job creation; people, such as enhancing skills and aspirations; and physical/environmental, such as increasing the environmental quality and appeal of an area⁹.

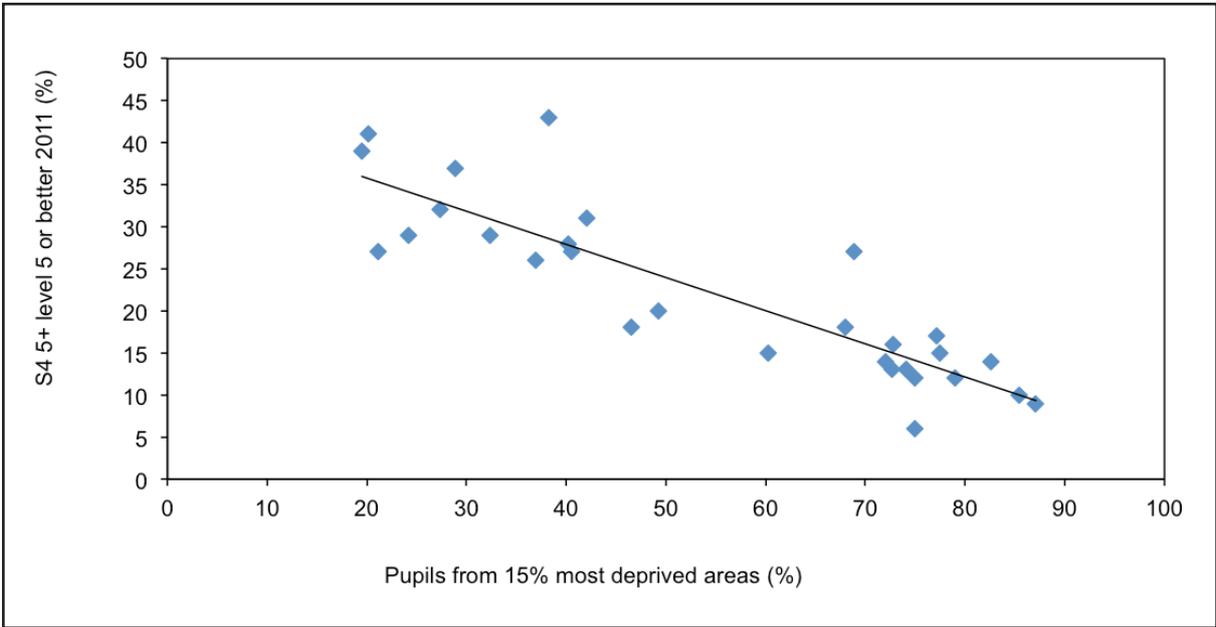
One place-based response to the effects of concentrations of deprivation has been to dilute areas that mainly contain social rented housing by creating areas of mixed tenure housing. Though there have been criticisms of mixed tenure housing – for example whether it is a means in itself or a way to deliver income mix¹⁰ – it has been adopted under a range of names in housing policy across the UK¹¹.

Glasgow has a high concentration of deprived neighbourhoods, and multiple regeneration efforts have been carried out within the city for much of the past 100 years¹². In the last two decades, regeneration approaches in Glasgow have included objectives of producing or supporting mixed communities, with the idea that mixing in terms of income and housing tenure may reduce negative neighbourhood effects¹³. In the Glasgow context, the areas with high concentrations of deprivation also tend to have high levels of social rented housing, in part due to social rented properties being used to house those most vulnerable in society.

In Glasgow, 58% of children live in the two most deprived deciles of neighbourhoods. As would be expected in an area with a history of such wide-ranging deprivation, Glasgow tends to perform the worst out of all local authorities in Scotland in terms of overall educational attainment¹⁴. Yet, although educational attainment is lower for pupils from the most deprived neighbourhoods compared with the least deprived, it is also the case that secondary school pupils in Glasgow from the two most deprived deciles are achieving higher average tariff scores (at S5) than equivalent pupils nationally¹⁵.

Within Glasgow, schools that have a high proportion of pupils from deprived areas tend to perform the worst, as illustrated in Figure 1. Therefore, one could expect that a child living in a deprived neighbourhood and attending a school with a large proportion of deprived pupils may be doubly disadvantaged. Nevertheless, in accord with the National Improvement Framework (NIF), Glasgow City Council reports that the attainment gap between pupils from the most and least deprived neighbourhoods has been closing for primary and secondary school pupils in recent years (2015 to 2017), with the drivers of improvement being identified as located within the school (e.g. school leadership; teacher professionalism), along with the factor of parental engagement¹⁶.

Figure 1: Percentage of pupils from the 15% most deprived areas plotted against the percentage of pupils gaining five or more level 5 qualifications (Credit Standard Grades), for each Glasgow school.

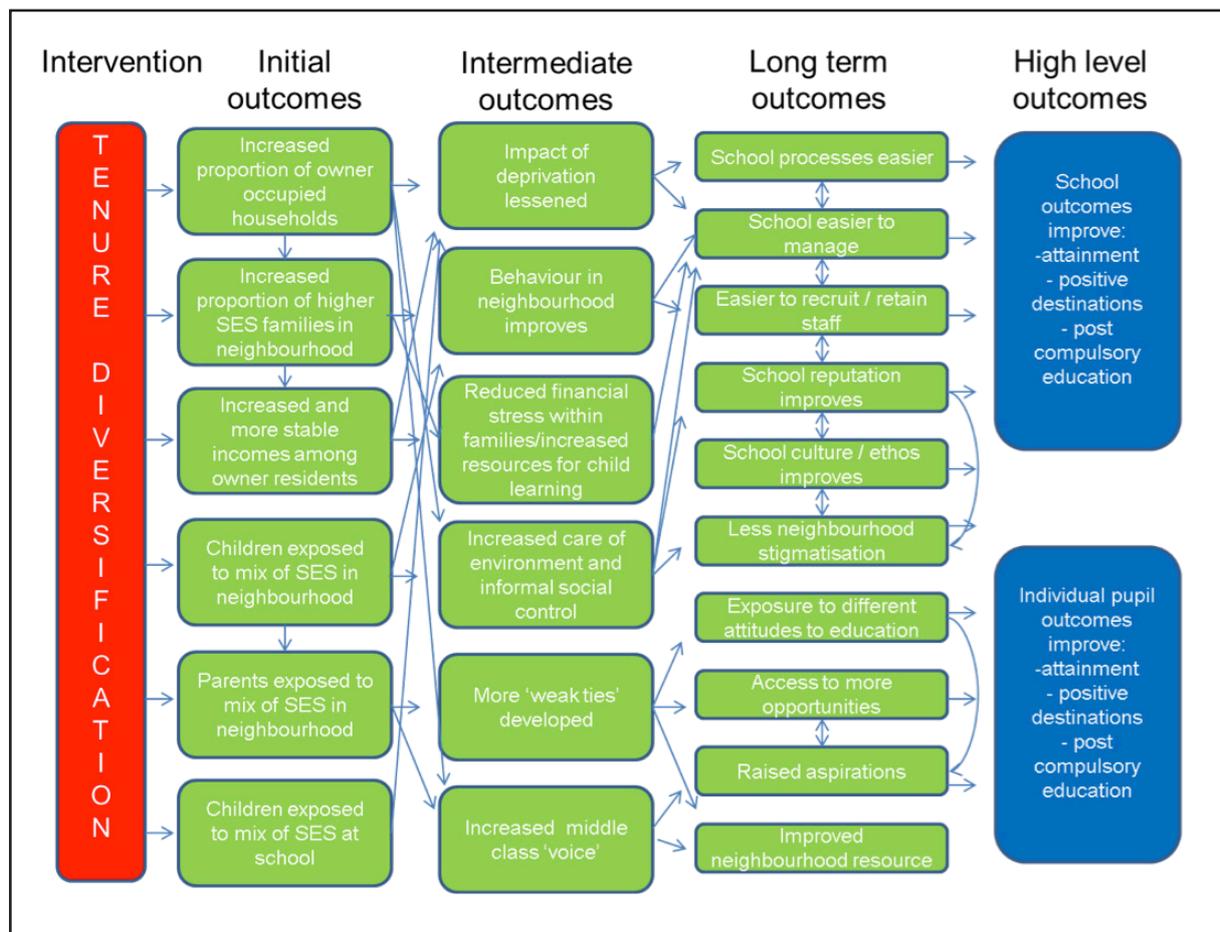


Source: Glasgow City Council and Scottish Government, compiled by the author.

Outwith the NIF approach, however, it could be posited that regeneration with a focus on housing tenure mixing could lead to changes both within the neighbourhood and catchment area, and within schools, with potentially positive impacts on both school and individual outcomes. Figure 2 shows possible pathways, taken from the literature, from housing tenure diversification to educational outcomes. As can be seen, there are many possible pathways identified in which this diversification – at both neighbourhood and catchment area level, and through children and parents – could impact on both individual educational outcomes, and whole school educational performance.

In a city such as Glasgow, where place-based initiatives to de-concentrate areas of deprivation have been implemented for many years, the question arises: can mixed tenure housing policy make a difference to educational outcomes?

Figure 2: Visual representation of pathways from tenure diversification to educational outcomes.



The research aimed to answer the following three questions:

1. How have catchment areas and schools changed in recent years, focusing especially on housing tenure and educational attainment?
2. What explains individual educational attainment and changes in educational attainment, focusing especially on housing tenure?
3. How have changes in neighbourhoods, catchment areas and schools been experienced by staff and pupils?

METHODS

The project used a mixed methods approach, and was carried out in two stages.

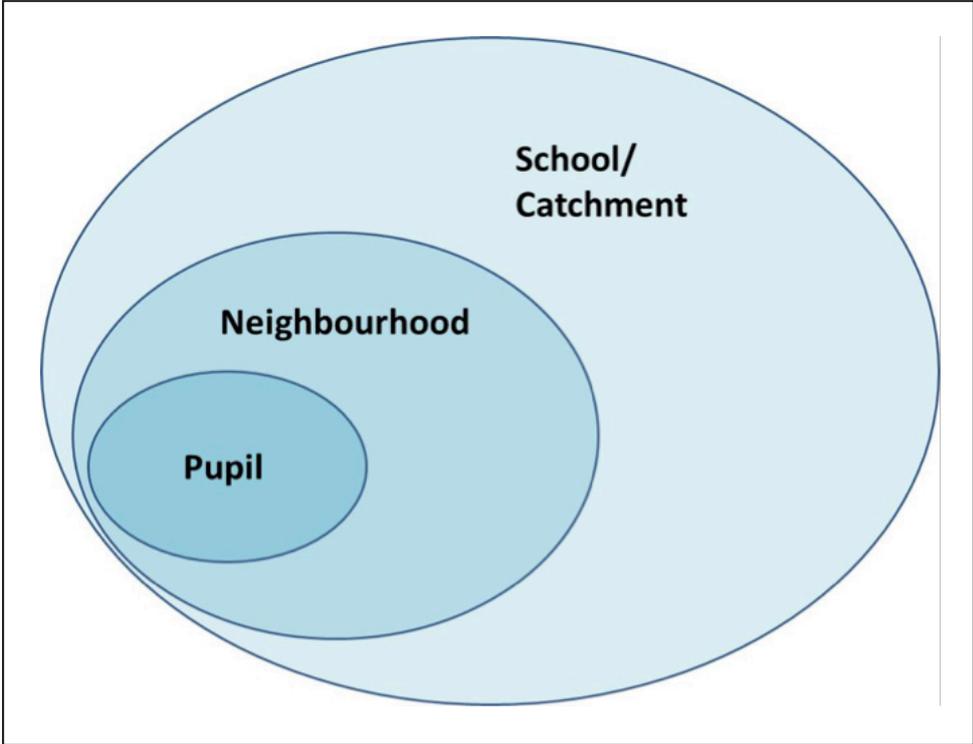
Stage one: analysis of quantitative data

The first stage aimed to look for differences in educational attainment between individual pupils, neighbourhoods and schools, and to see what contextual factors could explain these differences. Analysis was carried out for datasets relating to two time-points containing explanatory variables (characteristics which could explain differences in educational attainment) for individual school pupils, the pupils' home neighbourhood, their school, and their school catchment area^a. The datasets were created from several sources: individual secondary school pupil data from Glasgow City Council (GCC) for 2003 and 2012; census data from 2001 and 2011; and Scottish Index of Multiple Deprivation (SIMD) data from 2004 and 2012. Overall, 28 schools were included in the analysis – 18 non-denominational and 10 Roman Catholic – out of the 38 available schools. Of the remaining ten schools, eight were Additional Support for Learning schools, one is a Gaelic school, and one did not have catchment data available.

In order to take into account the hierarchical structure of the data, in that pupils were grouped into neighbourhoods, schools and catchment areas – as illustrated in Figure 3 – a type of statistical analysis known as multilevel modelling was used¹⁷. This type of analysis allows the researcher to see both the impact that explanatory variables at each level have on educational attainment, as well as how much of the variation in attainment at each level is explained by the individual explanatory variables.

^a Not all explanatory variables were included in all models, for a full explanation of the rationale please refer to the original thesis¹.

Figure 3: Illustration of pupil contexts.



A three-level model of individual pupil educational attainment, with pupil, neighbourhood and catchment area/school levels, was built in order to identify where the variation in pupil educational attainment lay. Next, individual pupil and context variables were added to look for possible explanations for this variation. Individual educational attainment at both time-points was then combined and modelled jointly in a four-level model (with time-point as the extra level) to see whether changes in overall individual educational attainment over time could be explained by changes in housing tenure, independently of other neighbourhood and catchment area/school characteristics.

Stage two: qualitative interviews

The second stage of the research comprised interviews with teachers and pupils in two schools. The schools were chosen as they had both an increase in the proportion of owner occupied households between the two time-points, as well as an improvement in educational attainment. Six schools were approached, with two, referred to by the pseudonyms Parkside and Meadow Flats, agreeing to take part.

Fifteen interviews were undertaken, with five staff and ten pupils across the two schools. Staff participants were recruited on the basis that they had been in the school for a relatively long time, in order to be able to comment on changes that had taken place. For the same reason, pupil participants were recruited from sixth year, who had both lived in the catchment area since at least the start of secondary school, as well as attending the school since first year.

Individual interviews were carried out within the two schools, and the transcripts from these interviews were then analysed using thematic analysis. The analysis aimed to generate categories and themes from the data, and then to identify patterns and relationships between the themes that had arisen¹⁸.

Ethical approval was given by the University of Glasgow's College of Social Science Ethics Committee.

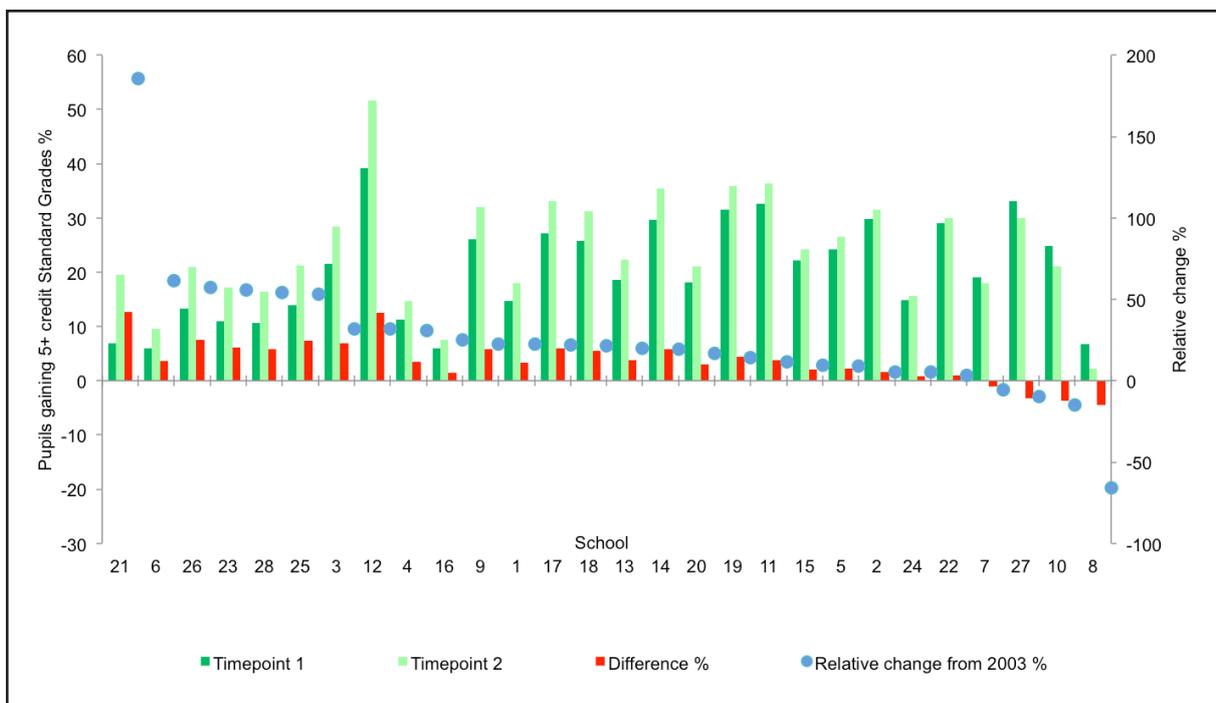
1. How catchment areas and schools have changed

This first section of the findings concentrates on what changes had occurred in the 28 catchment areas and schools between the two time-points. Though a range of socioeconomic and demographic variables were measured, the findings concentrate specifically on housing tenure and educational attainment.

Across the city, the population became more educated, more ethnically diverse, with more people in employment between 2001 and 2011. There was a decrease in the number of people living in owner occupied households, as well as a fall in those in social rented households. Schools across the city improved in terms of attainment, as well as becoming more ethnically diverse, with a drop in pupils receiving free school meals.

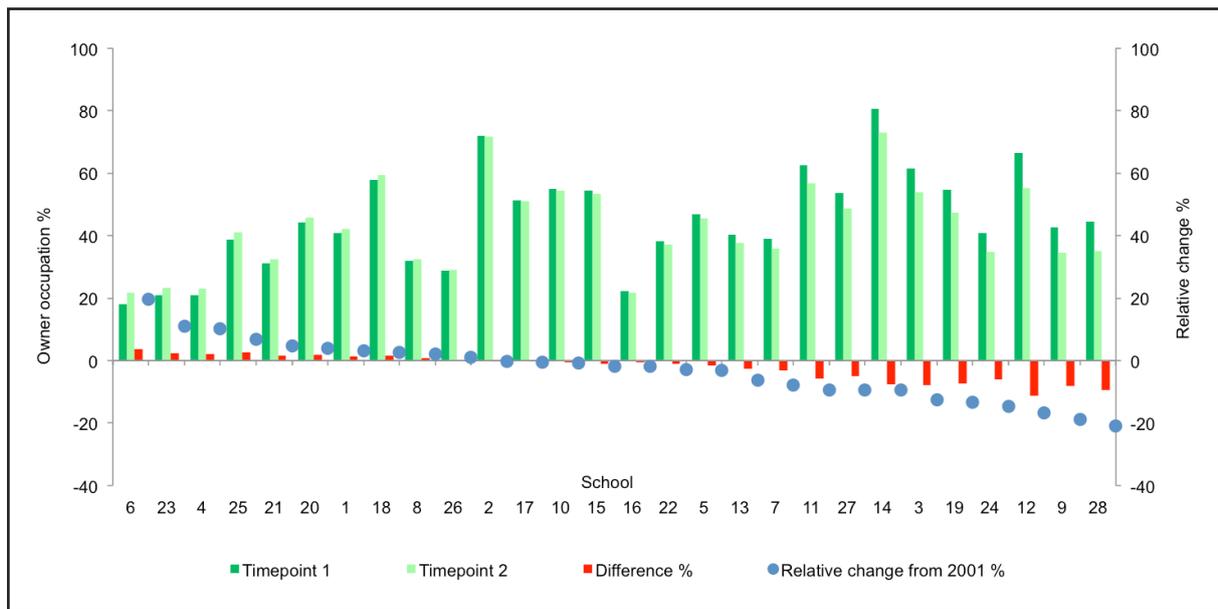
Educational attainment rose overall in the schools and, as can be seen in Figure 4, all but four of the schools saw an increase between the time-points in their S4 educational attainment score, with some of the lowest scoring schools in the first time-point having the largest relative change.

Figure 4: S4 Educational attainment score by catchment area, time-point 1 and time-point 2.



The share of owner occupied households decreased across the city, but this overall decrease was not spread equally across all school catchment areas, as can be seen in Figure 5. Indeed, in ten of the catchment areas there were slight rises in owner occupation. The catchment areas in which the largest increases relative to 2001 were seen tended to be the catchment areas that had the lowest owner occupation in 2001.

Figure 5: Owner occupied households by catchment areas, time-point 1 and time-point 2.



In the catchment areas there were also increases in: private renting; those of working age in employment; those with degree-level education or higher; those in the highest three social class groupings; and Black or Minority Ethnic (BAME) residents. Across the catchments there were falls in social renting, and lone parents with dependent children.

However, these changes were not distributed evenly throughout the catchment areas and schools, illustrating that school and catchments within the city have differing trajectories.

2. Explanations of individual educational attainment

This section of the findings focuses specifically on what explains the differences in individual educational attainment at each time-point. Different factors at individual pupil, neighbourhood, school and catchment level were examined. Although, as in the previous findings section, several socioeconomic and demographic factors were examined, the focus was on housing tenure.

As can be seen in Table 1, at both time-points the proportion of owner occupied households in a pupil's neighbourhood of residence had an association with their educational attainment, over and above other individual, neighbourhood, catchment and school factors. This was not the case for tenure mix at catchment area level.

Individual factors such as sex, poverty, and looked-after status^b still had strong and significant associations with educational attainment.

At school level, the proportion of pupils in recent years who had done well in exams had a positive association with subsequent individual educational attainment.

Table 1: Significance of explanatory variables at both time-points.

	Time-point 1	Time-point 2
Individual pupil		
Gender	✓	✓
Free school meals	✓	✓
Ethnicity	X	X
Looked after status	✓	✓
Neighbourhood		
Housing tenure	✓	✓
Education	✓	✓
Working	X	✓
Ethnic mix	-	✓
Family structure	X	X
SIMD	✓	✓
Catchment area/school		
Housing tenure	X	X
Education	X	-
Working	-	X
Family structure	X	X
S4 attainment	✓	✓
Denomination	✓	X
Free school meals	X	X
School ethnic mix	-	X

Key:

✓ = included and statistically significant at $p > 0.05$;

X = included and not statistically significant;

- = not included.

^b Looked-after status refers to those pupils who those who are cared for by a local authority, either within the home or outside of it.

There were no significant differences in individual pupil attainment between schools once pupil, neighbourhood, catchment area and school factors were taken into account, suggesting that differences in attainment between schools can be explained by accounting for pupil and contextual factors.

In further analysis, the overall improvement in educational attainment between the time-points was not found to be due to the increase in owner occupation. However, the improvement was found to be explained by changes in all individual, neighbourhood, catchment area and school characteristics together.

3. Experience of changes

The final section of the findings looks at how the changes in neighbourhoods, catchment areas and schools have been experienced by staff and pupils. The views of staff and pupils are summarised below.

Educational attainment is influenced by a complex mix of factors, with school staff attributing many differences in individual attainment to poverty.

Pupils identified mechanisms of neighbourhood effects in their neighbourhood. Some were positive mechanisms, such as collective socialisation (for example good relationships between young people and neighbours) and social networks (e.g. the neighbourhood feeling like a community). Some were negative, including lack of informal social control (such as parents not supervising their children), stigma (for example the area having a bad reputation), being exposed to crime and violence, negative role models, the area being isolated (far away from shops and services), and poor infrastructure (such as a lack of public transport).

School staff associated owner occupation with higher aspirations of parents and children. Positive area change was seen by staff as occurring in two ways: improvements in housing and infrastructure for those already in the area; and through new people moving into the area because of improvements.

Poverty in the catchment area was seen by staff and pupils as having negative effects on those living in the area, both outside the school and within the school. The negative impact of poverty within the school was felt by staff to have led to “leakage”, whereby families who lived in the catchment of a school with a large number of poor pupils sent their children to schools outside the catchment, as these were perceived to be better.

A change in the balance of the social mix within the school, from a large amount of poor pupils to a more 'balanced' mix, was seen by staff to make it easier to enact school policies intended to increase attainment and improve the reputation of the school, such as the introduction of school uniform, and improving exam results. The school and catchment area were seen by staff to have a two-way relationship, with positive changes in one being reflected in the other.



DISCUSSION

This research found that the proportion of owner occupied households in a pupil's neighbourhood could have a significant impact on their educational attainment, over and above other individual, neighbourhood, and catchment area and school factors in Glasgow, suggesting that mixed tenure housing policy could have an impact on individual educational attainment. This was true for both time-points examined, and is consistent with previous research carried out in Scotland¹⁹.

The findings suggest that many of the pathways shown in Figure 2 may in fact operate through an increase in owner occupied households. One possible explanation for this may be due to policy initiatives enabling those on lower incomes to become home owners, such as shared equity and 'help to buy', meaning that people from a wider range of social class classifications are now able to become home owners²⁰.

Although the research found evidence that the proportion of owner occupied households in a pupil's neighbourhood did have an association with their educational attainment, the overall changes in educational attainment were not explained by changes over time in neighbourhood or catchment housing tenure. However this lack of evidence is perhaps unsurprising due to the overall decrease in the proportion of owner occupied households across Glasgow over the time period, with small increases only seen in ten catchment areas, while educational attainment increased in all but four of the city's schools. It is possible that this pattern of change in owner occupation is particular to the ten-year period covered by the data which included the financial crash of 2008, leading to a drop in the number of private sector new builds in Glasgow¹³.

The interviews with staff also reflected some of the pathways that were found in the literature around mixed tenure and educational outcomes (see Figure 2). These included an increase of owner occupied households in the area leading to the impact of deprivation being lessened, and the exposure of children and parents to those perceived to be more 'aspirational'. In turn, this was seen to lead to an improvement in aspirations for other pupils. As well as this, some of the benefits that are felt to result from mixed tenure housing initiatives were reflected in the staff interviews, such as raised parental and pupil aspirations and the overcoming of social exclusion¹⁰. Staff at one of the schools, Parkside, talked explicitly about a change in the social mix of the school being, in part at least, due to the influx of families who had chosen to buy housing in the area. These families were seen to be 'aspirational' for both themselves and their children. Interestingly, though this study shows that housing tenure itself (though of course not controlling for income) has an impact on educational attainment, through the interviews it could be seen that the most important characteristic ascribed to new incomers to the area was being 'aspirational'. The concept of aspirations in education are problematic, with some

previous research challenging the widely held belief that poorer parents and pupils have lower aspirations than more affluent families; however poorer families and pupils have been found to have less capital with which to translate their aspirations into outcomes^{21,22}. The discussion of ‘aspirational’ families and pupils by staff, and the comparison they drew with other less ‘aspirational’ pupils, chimes with the literature on regeneration, with ‘enhancing aspirations’ being seen as one of the main outcomes of neighbourhood improvement through urban regeneration, specifically mixed tenure housing policies⁹.

The perception at Meadow Flats was that the social mix had changed in the school as they were now representing a wider range of those people already living in the catchment area, with no mention of new residents moving into the area, while previously some parents had chosen to send their children to non-catchment schools. At Parkside school, staff had noticed new families moving into the area, therefore shifting the balance of the social mix of the catchment further to ‘normality’, rather than being ‘just deprived’.

Though schools in the same local authority may enact very similar policies, there can be differences in how these policies are implemented, and this seems to be dependent on the catchment area context of the school. The social mix of the catchment area seems to have an impact on the implementation – Meadow Flats had some success in changing the social mix of the school to better reflect the mix of the catchment area. However, without additional change in the mix of the catchment area (which was seemingly stalled in terms of housing new builds) there was not expected to be further positive change in school outcomes.

The qualitative findings suggest that school-based policies to improve educational attainment or reputation seem to be more sustainable in the long term when the catchment area is changing in terms of social mix. That is, a combination of changes in school policy and process alongside changes in school context may be the best recipe for school improvement. Although changes from inside the neighbourhood – for example new housing for existing residents – can provide the basis for some improvement, in order to achieve sustained improvement, change must come from outside in the form of additional new residents.

The strength of the effect of poverty on educational attainment was a recurrent theme in the literature, and was also found throughout this study. The majority of neighbourhood, catchment area and school factors that had the biggest impacts on individual educational attainment, such as social class, working status and housing tenure, were socioeconomic in nature, and poverty was a persistent theme.



STRENGTHS AND LIMITATIONS

As far as the author is aware, this is the first time that individual pupil data has been linked with administrative neighbourhood, and catchment area/school-level data in Glasgow to explore the impact of context characteristics on individual educational attainment. The findings have implications for both educational and housing policies, and add to the evidence base for the influence of both school contexts and neighbourhood effects.

There are of course several limitations to this piece of work. This was not a longitudinal study of the same pupils over time, primarily as the interest was in the effect of housing tenure on outcomes, and the source of such tenure information at a local scale – census data for neighbourhoods and catchment areas – was only available for 2001 and 2011.

Many characteristics that have been found to have an association with educational attainment were not able to be controlled for in this analysis. As income is not available as a census variable, it was not possible to control for this completely in this study. Only S4 pupils were used in the analysis, which looked at one measure of educational attainment.

It is also important to acknowledge the small-scale nature of the qualitative component of the research, and the impact this may have had on the data generated. Although the case studies were designed to be small scale, as they formed a small part of the overall work – which was, as a thesis, bound by time and resource – only five teachers and ten pupils across two schools were interviewed. Additionally, due to the nature of the pupils I was speaking to – those who had stayed on past the required legal age into sixth year – the sample may have been biased towards those who would be seen as more aspirational.

These findings have several implications for policy at school, Glasgow City Council and Scottish Government level.

- Individual pupil educational attainment was associated with many of the individual, neighbourhood, catchment area and school characteristics. The evidence that such a wide range of characteristics are associated with educational outcomes seems to suggest that a more holistic, contextual approach should be considered in policies that aim to improve individual circumstances and outcomes. Therefore, there should be recognition that issues such as housing, neighbourhood quality and schooling cannot be addressed separately and that school-based policies - although important – are not enough to address disparities in educational attainment. The National Improvement Framework (NIF) for Education may therefore require supplementing by policies to tackle neighbourhood disadvantage, or inequalities of place, in order for the educational attainment gap to be eradicated.
- The study found that there was an influence of neighbourhood housing tenure on pupil outcomes: the proportion of owner occupied households in the neighbourhood of a pupil's residence impacts on their educational attainment over and above other characteristics. In terms of housing policy, it could be argued that these findings suggest there is a case for policies that focus on mixing housing tenure within neighbourhood settings.
- The findings also suggest that housing improvement alone is unlikely to lead to better outcomes for those living in renewal areas, and would have most impact if it was part of a wider programme of area improvement.
- In terms of educational policy, it could be argued from these findings that by limiting school placement requests^c and ensuring that most pupils within a catchment area attend their local school, the issue of leakage of pupils to other schools outside their catchment area could be addressed, thus helping to rebalance the social mix of pupils within some schools in less affluent areas.
- Due to the restricted numbers of social rented housing units being built currently in the UK, social rented housing can often end up only accommodating those that are the most vulnerable and in the greatest need. It is possible that a more mixed community that might benefit from an improvement in educational attainment

^c Although national figures for placement requests are no longer published, figures from 2008/9 show that there were 2,022 secondary school placement requests in Glasgow City over the academic year.

could be produced by offering a wider range of people the option of social rented housing, or by increasing the volume of social rented housing being built across a range of neighbourhoods.

- Although this work has shown that changes in the housing tenure structure could have an impact on individual educational outcomes, the main thread running through the research was the negative impact that poverty has on neighbourhoods and pupils. Therefore addressing poverty and reducing socioeconomic inequality should continue to be a key focus of the Scottish Government in seeking to improve educational and other outcomes for children and young people in Scotland.



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