



UNIVERSITY of  
**STIRLING**



# Choice, Attainment and Positive Destinations

EMERGING FINDINGS FROM SCOTTISH  
LONGITUDINAL STUDY DATA


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# INTRODUCTION

- Scotland's Curriculum for Excellence (CfE) has been widely acknowledged as the most significant educational development in a generation with the potential to transform learning and teaching in Scottish schools. (Priestley & Humes, 2010)
- CfE seeks to provide a broad competency-based education suited to the demands of the 21st century and is underpinned by strong values relating to social equity.
- However, contrary to policy intentions, there is emerging evidence of a reduction of choices and curriculum narrowing; (Secondary School Survey 2017; Shapira & Priestley, 2018, 2019).
- Research prior to the CfE implementation found subject choices were socially patterned by family background. (Iannelli *et al.*, 2016; Playford *et al.*, 2016).
- Therefore, the emerging evidence of the narrowing of the subject choice under the CfE could be particularly detrimental for young people from less advantaged socio-economic backgrounds and affect their prospects of making a successful school-to-work transition and entering Higher Education.

# RESEARCH QUESTIONS

Is there evidence of the senior phase curriculum narrowing over the period of the introduction of CfE?



What are the relationships between the number of subject choices and family characteristics?



Is there evidence that the relationships between the number of subject choices and family characteristics have changed over the period of the introduction of CfE?

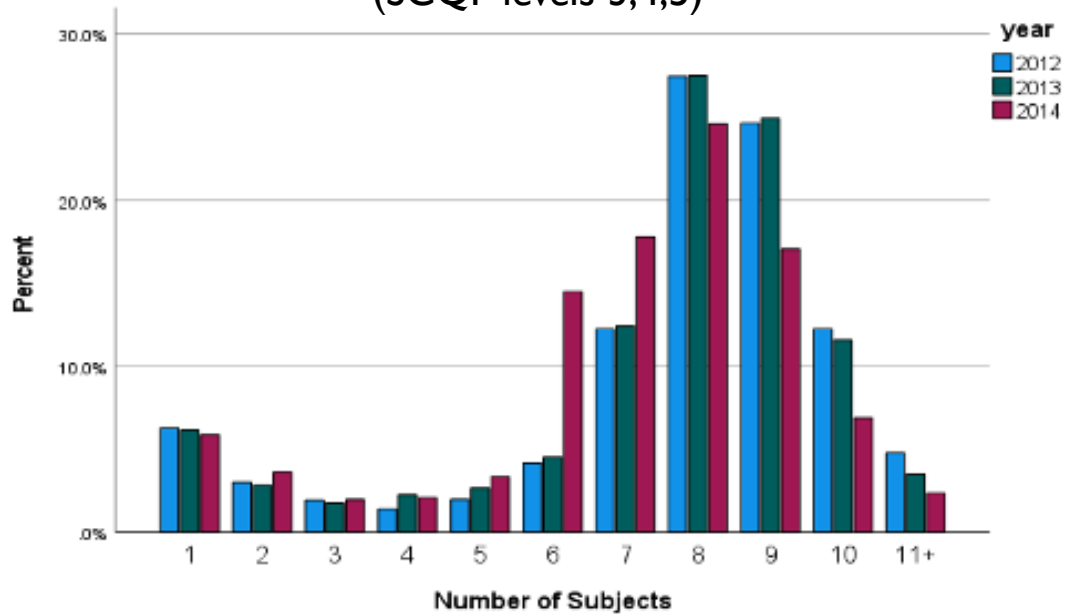
# DATA

"The help provided by staff of the Longitudinal Studies Centre - Scotland (LSCS) is acknowledged. The LSCS is supported by the ESRC, National Records of Scotland and the Scottish Government. The authors alone are responsible for the interpretation of the data. Census output is Crown copyright and is reproduced with the permission of the Controller of HMSO and the Queen's Printer for Scotland."

- To explore the relationship between the students' socio-economic background and curriculum narrowing in secondary year 4 (S4) over the period of the implementation of the CfE (2011-2015). This paper draws on a dataset from the *Scottish Longitudinal Study* (SLS) database. The SLS sample is made up of 5.3% of the Scottish population selected using 20 dates of birth.
- "The Scottish Longitudinal Study (SLS) is a large-scale linkage study created using data from administrative and statistical sources. These include: census data from 1991 onwards; vital events data (births, deaths, marriages); NHS Central Register data (gives information on migration into or out of Scotland); and education data (including Schools Census and SQA data)." (<https://sls.lscs.ac.uk/about/>)
- The dataset provided to us for use in this project comprises young people who were born between 1996 and 2000, and who went through the upper stages of secondary education (S3-S6) in years 2011-2014(15). Family background information was available from the 2011 census and subject choices from administrative education data. SLS linked datasets have no identifiable individual level data and are derived from linkages that are anonymised prior to handover to the research team.

# ANALYSIS

Number of subject entries of fourth year pupils over time (SCQF levels 3,4,5)



Source: Scottish Longitudinal Study

Dependent variable: count of number of subject entries each fourth-year student had across SCQF levels 3-4-5.

Spike in proportion of students taking 6 and 7 subjects in 2014/2015 school year.  
Smaller proportion of students taking 8 or more subjects in 2014/2015 school year.

Findings in line with previous research on curriculum narrowing post CfE introduction (Secondary School Survey 2017; Shapira & Priestley, 2018, 2019).

# ANALYSIS

## Number of subject entries of fourth year pupils (SCQF levels 3,4,5)

	B	Std. Error	Beta	t	p
Year 2012/13	Contrast	Contrast	Contrast	Contrast	Contrast
Year 2013/14	-0.084	0.063	-0.016	-1.319	0.187
Year 2014/15	-0.597	0.064	-0.112	-9.248	0
(Constant)	7.598	0.045		168.88 2	0

Source: Scottish Longitudinal Study

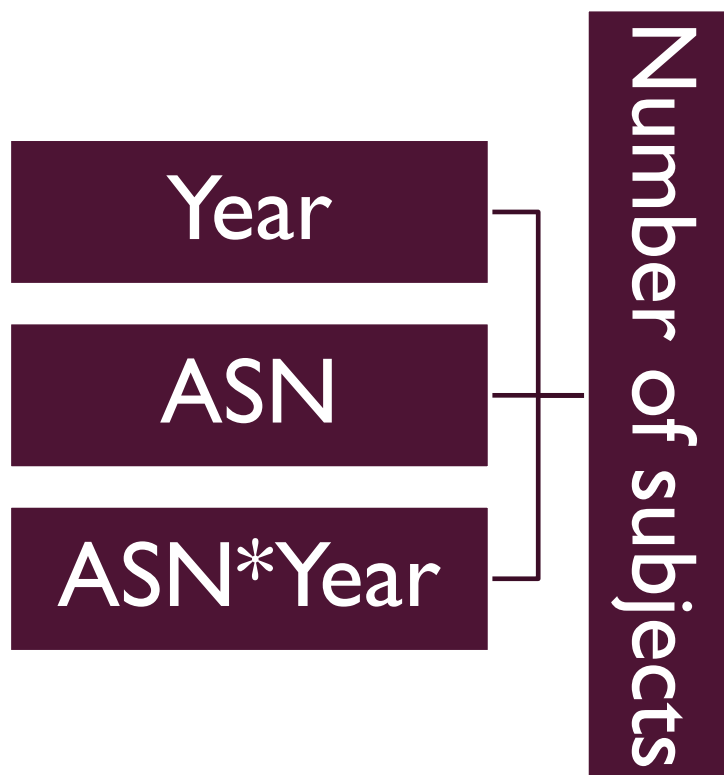
As shown in regression there is no significant difference in number of subjects between 2012/13 and 2013/14. But there is a significant difference between 2012/2013 and 2014/2015.

Analysis will focus on a comparison between two cohorts of young people –

- those who went through the S4 year of secondary education between 2011-2012, prior to the CfE introduction,
- and those who went through the S4 year of secondary education between 2014-2015 after the introduction of the CfE.

The year 2013-2014 (the transition year) was omitted from further analysis.

## SCQF LEVELS 3,4 & 5 COMBINED



Series of models where outcome variable was number of subjects at level 3/4/5 including range of main and interaction effects.

**In all models year 2014/15 had significant negative effect compared to year 2012/13** - As expected less subjects taken in 2014/15

However, interactions between year and other variables were non-significant – no change in the effect of ASN or Family background etc. over time

### Other significant negative main effects

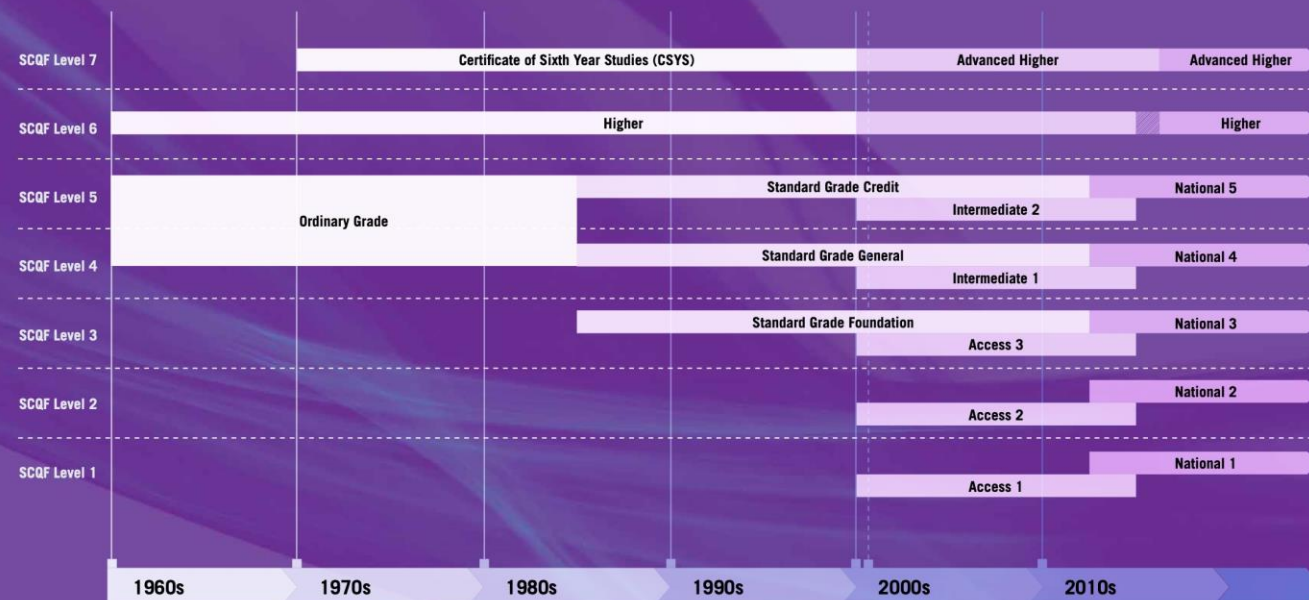
Additional support needs	Expected
Long term illness or disability	Expected
Parents being in a more advantaged NSSEC group	Not Expected
Parents having attended University	Not Expected

## LOOKING AT INDIVIDUAL SCQF LEVELS

- To further disentangle and understand effects we then looked at what was happening at individual SCQF levels.
- Using SCQF because of change in qualification.
- Due to Standard Grades being taught in parallel (general/credit or general/foundation) now looking at passes rather than entries.

## SCOTTISH NATIONAL QUALIFICATIONS - SCQF LEVELS AND TIMELINES

This table shows how current and old qualifications relate to one another in terms of their SCQF level. The SCQF level of a qualification provides a way of comparing how demanding or difficult the learning involved in achieving a qualification is. This table can be used by anybody with a need to understand National Qualifications (normally awarded at school), for example employers when recruiting. More information on the SCQF can be found on our website ([www.scqf.org.uk](http://www.scqf.org.uk)). More information on current qualifications in the table can be found by visiting the SQA website ([www.sqa.org.uk/cfe](http://www.sqa.org.uk/cfe)).



2001: Creation of Scottish Credit and Qualifications Framework. All levels are approximate for qualifications delivered prior to this date.

[www.scqf.org.uk](http://www.scqf.org.uk)



# SCQF LEVEL 3

- In all models year has a significant negative effect suggesting fewer level 3s were passed post CFE.
- Girls pass fewer level 3's than boys however the positive interaction effect shows this effect is smaller post CFE introduction.
- Religion and country of birth have no significant effect on the number of level 3s passed.
- Those with household deprivation characteristics passed more level 3s but there is a significant negative interaction effect suggesting that post CFE this effect was smaller.
- Those who live in a 2-parent household pass fewer level 3s and the interaction effect suggests the influence of being in a two parent household increases post CFE.
- Those whose parents have the most advantaged socioeconomic circumstances pass fewer level 3s and those whose parents have the least advantaged socioeconomic circumstances pass more level 3s. However, post CFE this effect is smaller for those in NS\_SEC 7 and 8 (least advantaged)
- Those whose parents had higher (or equivalent), Further education and University education passed fewer level 3s than those whose parents' highest qualification was lower than a higher. There was no significant interaction with year.

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Year 2014	▼	▼	▼	▼	▼	▼
Free school meal		▲	▲			not significant
ASN		▲	▲			▲
Free school meal* 2014			▼			not significant
ASN*2014			▼			not significant
Female				▼	▼	▼
Female*2014				▲	▲	▲
Religion				not significant	not significant	
Country of Birth UK						not significant
Country of Birth UK* 2014						not significant
Household Deprivation				▲	▲	▲
Household Deprivation*2014				▼	▼	▼
Illness or Disability				▲	▲	not significant
Illness or Disability*2014				not significant	not significant	not significant
HHtype couple				▼	▼	▼
HHtype couple*2014				▼	▼	▼
Parent NS-SEC 1				▼	▼	▼
Parent NS-SEC 2				▼	not significant	not significant
Parent NS-SEC 3				(reference)	(reference)	(reference)
Parent NS-SEC 4				not significant	not significant	not significant
Parent NS-SEC 5				not significant	not significant	not significant
Parent NS-SEC 6				▲	not significant	not significant
Parent NS-SEC 7				▲	▲	▲
Parent NS-SEC 8				▲	▲	▲
Parent NS-SEC 1 *2014				▲	not significant	not significant
Parent NS-SEC 2 *2014				not significant	not significant	not significant
Parent NS-SEC 3 *2014				(reference)	(reference)	(reference)
Parent NS-SEC 4 *2014				not significant	not significant	not significant
Parent NS-SEC 5 *2014				not significant	not significant	not significant
Parent NS-SEC 6 *2014				not significant	not significant	not significant
Parent NS-SEC 7 *2014				▼	▼	not significant
Parent NS-SEC 8 *2014				▼	▼	▼
Parent University					▼	▼
Parent Further Education					▼	▼
Parent Highers					▼	▼
Parent University*2014					not significant	not significant
Parent Further Education*2014					not significant	not significant
Parent Highers*2014					not significant	not significant
ll	-9018.131	-6161.6844	-6121.8029	-6134.1835	-6103.0649	-5987.7892
aic	18040.262	12331.369	12255.606	12330.367	12280.13	12045.578
bic	18053.609	12357.088	12294.184	12529.687	12518.028	12270.617

Legend ▲ significant positive (p<=0.05) ▼ significant negative (p<=0.05)

Source: Scottish Longitudinal Study

# SCQF LEVEL 4

- In models 1-3 year has a significant negative effect suggesting fewer level 4s were passed. But this drops out when family characteristics are controlled for suggesting the effect of CFE is different for those with different backgrounds.
- Girls pass fewer level 4s than boys and this effect doesn't significantly change post CFE introduction.
- Religion and country of birth have no significant effect on the number of level 4s passed.
- There is no main effect of household deprivation but there is a significant positive interaction effect suggesting that post CFE those in more deprived households were passing more level 4s
- Those who live in a 2-parent household pass fewer level 4s and the interaction effect suggests the influence of being in a two parent household increases post CFE.
- Those whose parents have the most advantaged socioeconomic circumstances pass fewer level 4s and those who's parents have the least advantaged socioeconomic circumstances pass more level 4s. However, post CFE this effect is smaller for those in NS\_SEC8 (least advantaged)
- Those whose parents had University education passed fewer level 4s than those whose parents' highest qualification was lower than a higher. There is a significant negative interaction between parents with higher and year.

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Year 2014	▼	▼	▼	not significant	not significant	not significant
Free school meal		▲	▲			not significant
ASN		▲	▲			▲
Free school meal* 2014			not significant			not significant
ASN*2014			not significant			not significant
Female				▼	▼	▼
Female*2014				not significant	not significant	not significant
Religion				not significant	not significant	
Country of Birth UK						not significant
Country of Birth UK* 2014						not significant
Household Deprivation				not significant	not significant	not significant
Household Deprivation*2014				▲	▲	▲
Illness or Disability				not significant	not significant	not significant
Illness or Disability*2014				not significant	not significant	not significant
HHtype couple				▼	not significant	not significant
HHtype couple*2014				▼	▼	
Parent NS-SEC 1				▼	▼	▼
Parent NS-SEC 2				▼	not significant	not significant
Parent NS-SEC 3				(reference)	(reference)	(reference)
Parent NS-SEC 4				not significant	not significant	not significant
Parent NS-SEC 5				not significant	not significant	not significant
Parent NS-SEC 6				▲	▲	▲
Parent NS-SEC 7				not significant	not significant	not significant
Parent NS-SEC 8				▲	▲	▲
Parent NS-SEC 1 *2014				not significant	not significant	not significant
Parent NS-SEC 2 *2014				not significant	not significant	not significant
Parent NS-SEC 3 *2014				(reference)	(reference)	(reference)
Parent NS-SEC 4 *2014				not significant	not significant	not significant
Parent NS-SEC 5 *2014				not significant	not significant	not significant
Parent NS-SEC 6 *2014				not significant	not significant	not significant
Parent NS-SEC 7 *2014				not significant	not significant	not significant
Parent NS-SEC 8 *2014				not significant	▼	▼
Parent University					▼	▼
Parent Further Education					not significant	not significant
Parent Highers					not significant	not significant
Parent University*2014					not significant	not significant
Parent Further Education*2014					not significant	not significant
Parent Highers*2014					▼	▼
ll	-12879.255	-10019.7	-10019.667	-9834.6169	-9779.7663	-9778.7654
aic	25762.509	20047.4	20051.335	19731.234	19633.533	19627.531
bic	25775.856	20073.119	20089.913	19930.554	19871.43	19852.569

Legend ▲ significant positive (p<=0.05) ▼ significant negative (p<=0.05)

Source: Scottish Longitudinal Study

# SCQF LEVEL 5

- In models 1-3 year has a significant positive effect suggesting more level 5s were passed. But this drops out when family characteristics are controlled for suggesting the effect of CFE is different for those with different backgrounds.
- Girls pass more level 5s than boys and this effect doesn't significantly change post CFE introduction.
- Religion and country of birth have no significant effect on the number of level 5s passed.
- Those who live in a 2-parent household pass more level 5s and the interaction effect suggests the positive influence of being in a two parent household increases post CFE.
- Those whose parents have the most advantaged socioeconomic circumstances pass more level 5s and those whose parents have the least advantaged socioeconomic circumstances pass fewer level 5's. As do those who have markers of household deprivation. Interaction effects with year were not significant.
- Those whose parents had higher's (or equivalent), Further education and University education passed more level 5s than those whose parents' highest qualification was lower than a higher. There is a significant positive interaction between parents with higher and year.

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Year 2014	▲	▲	▲	not significant	not significant	not significant
Free school meal		▼	▼			not significant
ASN		▼	▼			▼
Free school meal* 2014			not significant			not significant
ASN*2014			not significant			
Female				▲	▲	▲
Female*2014				not significant	not significant	not significant
religion				not significant	not significant	
Country of Birth UK						not significant
Country of Birth UK* 2014						not significant
Household Deprivation				▼	▼	▼
Household Deprivation*2014				not significant	not significant	not significant
Illness or Disability				▼	▼	not significant
Illness or Disability*2014				not significant	not significant	not significant
HHtype couple				▲	▲	▲
Hhtype couple*2014				▲	▲	
Parent NS-SEC 1				▲	▲	▲
Parent NS-SEC 2				▲	not significant	not significant
Parent NS-SEC 3				(reference)	(reference)	(reference)
Parent NS-SEC 4				not significant	not significant	not significant
Parent NS-SEC 5				not significant	not significant	not significant
Parent NS-SEC 6				▼	not significant	not significant
Parent NS-SEC 7				▼	▼	not significant
Parent NS-SEC 8				▼	▼	▼
Parent NS-SEC 1 *2014				not significant	not significant	not significant
Parent NS-SEC 2 *2014				not significant	not significant	not significant
Parent NS-SEC 3 *2014				(reference)	(reference)	(reference)
Parent NS-SEC 4 *2014				not significant	not significant	not significant
Parent NS-SEC 5 *2014				not significant	not significant	not significant
Parent NS-SEC 6 *2014				not significant	not significant	not significant
Parent NS-SEC 7 *2014				not significant	not significant	not significant
Parent NS-SEC 8 *2014				not significant	not significant	not significant
Parent University					▲	▲
Parent Further Education					▲	▲
Parent Highers					▲	not significant
Parent University*2014					not significant	not significant
Parent Further Education*2014					not significant	not significant
Parent Highers*2014					▲	▲
ll	-14269.988	-10945.938	-10943.167	-10798.968	-10740.233	-10675.708
aic	28543.976	21899.875	21898.333	21659.936	21554.466	21421.417
bic	28557.323	21925.594	21936.912	21859.256	21792.364	21646.455

Legend ▲ significant positive (p<=0.05) ▼ significant negative (p<=0.05)

Source: Scottish Longitudinal Study

# CONCLUSIONS


Is there evidence of the senior phase curriculum narrowing over the period of the introduction of CfE?

Yes



What are the relationships between the number of subject choices and family characteristics?

When looking at all levels together those with more advantaged backgrounds take fewer subjects  
When looking at individual levels more advantaged pass more level 5 and less advantaged pass more level 3 and 4




Is there evidence that the relationships between the number of subject choices and family characteristics have changed over the period of the introduction of CfE?

Not when considering all levels together but yes when looking at different levels separately – highlighting importance of this when considering curriculum narrowing

NEXT STEP:  
TO EXAMINE  
SUBJECT  
CONFIGURATIONS

Is there evidence of changes in the configuration of subject choices over the period of the introduction of CfE?



What are the relationships between the configurations of subject choice and family characteristics?



Have the relationships between the configurations of subject choice and school characteristics changed over the period of the introduction of CfE?