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## SOCIO-ECONOMIC INEQUALITY IN YOUNG PEOPLE'S FINANCIAL CAPABILITIES

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ABSTRACT: Previous research has shown that the UK has low levels of financial literacy by international standards, particularly among those in lower socio-economic groups. This may have an impact upon young people, with social inequalities in financial attitudes, behaviours and skills perpetuating across generations. Using parent-child linked survey data from 3,745 UK families, we find sizeable socio-economic inequalities in young people's financial capabilities, aspects of their mindset, and their financial behaviours. Sizeable differences are also observed in the financial education that socio-economically advantaged and disadvantaged children receive at school, and how they interact with their parents about money. Parental interactions can account for part of the socio-economic gap in money confidence, money management, financial connections, and financial behaviours, but less so in boosting financial abilities. However, we find no evidence of differences in financial education in schools driving differences in young people's financial capabilities.

Keywords: Inequality, socio-economic differences, financial literacy

#### 1. Introduction

The intergenerational transmission of inequalities has become a key policy issue (2018; OECD, 2010). In the UK – the setting of this paper – studies have argued that social mobility is relatively low by international standards (Blanden, 2013), with little improvement over time . Education is thought to be a key channel by which intergenerational transmission of social status occurs (Arenas and Hindriks, 2021). Yet inequalities in such skills are known to emerge early in life (Feinstein, 2003), with differences in academic abilities sustained into adult life (Goodman *et al.*, 2011).

A second, largely independent, literature has also emerged with respect to financial capabilities. Most work in this area finds a large proportion of the adult population having low levels of financial literacy (OECD, 2016), with some

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evidence suggesting the UK performs poorly by international standards. Such lack of basic financial skills is a particular problem amongst lower socioeconomic groups (Office for National Statistics, 2015).

Low socio-economic status households are more likely to take out high-interest loans and fall into problematic debt (Hanson *et al.*, 2014; Hood *et al.*, 2018; Office for National Statistics, 2019). While this is primarily due to financial need, lower levels of financial literacy may lead to a 'double-jeopardy' effect if not only do such families earn less money, but also manage their finances less effectively. They hence become at particular risk of suffering financial stress and anxiety, with consequent negative mental health implications (Businelle *et al.*, 2014). This also impacts their offspring, through having fewer resources to invest in their upbringing and the negative atmosphere that financial insecurity brings into the home (Berger and Houle, 2016, 2019). Together, these factors have the potential to perpetuate a lack of financial skills, debt problems and financial insecurity across generations.

This paper is one of few that bridges these two literatures. There is a particular dearth of evidence investigating the link between family background and financial capabilities in the next generation, including the age when such links are established and the channels via which such associations are generated.

There has been some limited previous work exploring variation in financial capabilities by socio-economic status, both within the UK and internationally. This is often small-scale, with a recent review noting that there are 'few studies on children and young people and financial capability' (Walker et al., 2018). This is particularly true of research exploring differences between socio-economic groups. There are, nevertheless, some important exceptions, particularly internationally.

Lusardi et al. (2010) used data from the United States to investigate the financial skills of young adults in their twenties. They found financial literacy was strongly associated with socio-economic characteristics. Similarly, Mahdavi and Horton (2014) found that American fathers' education was linked to their daughters' financial literacy. Kim and Chatterjee (2013) found a link between parental socio-economic status and financial worries in the United States, potentially then affecting the financial socialisation of young people. Similarly, research from Japan shows that socio-economic status of adults many of whom were parents – was linked to their financial literacy (Kadoya and Saidur Rahim Khan, 2020). In the UK, the Money Advice Service (2016) highlighted that children from lower-income households were at greatest risk of developing low levels of financial capability. That said, summarising the evidence on the link between family background and young people's financial capability, Walker et al. (2018) note how 'children growing up in low income homes may be at greater risk of poor financial capability, but also learn more about the techniques their parents use to manage financially'.

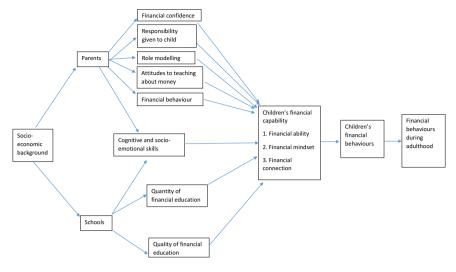


Figure 1. Intergenerational framework of financial literacy skills

Although insightful, there remain significant gaps in our knowledge about socio-economic differences in children's financial capabilities. Few studies have considered when such inequalities emerge, or whether they change magnitude with age. Limited theoretical or empirical consideration has been given to the channels by which these inequalities develop, and only a handful of studies have used UK data. We address these issues within this paper.

#### 2. Framework and Research Questions

Figure 1 illustrates our framework, bringing together theoretical models of financial learning and behaviour (Clark and Ghezelayagh, 2018) with well-established models of intergenerational transmission (e.g., Jerrim and Macmillan2015 Haveman and Wolfe, 1995).

#### 2.1. Direct Role of Parents

Parents play a direct role in passing on their own attributes and learned behaviours to their offspring. As Figure 1 illustrates, children's financial capabilities are directly influenced by their parents through five key channels.

Parents differ in their financial confidence, which is potentially related to socio-economic status. For instance, due to a lack of financial education themselves – or due to their own precarious financial position – parents in low socio-economic status households may have less confidence in managing money. If

so, this may impact their children's financial abilities due to less confidence in passing on financial knowledge.

Another difference is parenting behaviours, such as how much financial responsibility to give their children. By giving children greater financial autonomy, they may pick up financial skills – including becoming more adept at money management – by putting knowledge into practice. Indeed, children may only develop sound financial abilities if they learn to work with money themselves.

Third, parents may influence their offspring's financial development via actions as role models. This may be through the conversations they have with their children about money, or demonstrations of how money can be managed and used. They may also involve their children in such demonstrations – e.g., encouraging them to pay using the correct change in shops.

Parents also have different attitudes towards teaching their children about money, including the age to start teaching them such skills. If money habits emerge early in life, parents may have more impact upon if they start teaching their offspring about finance when young.

Finally, parents may influence their offspring's financial skills through their own financial behaviours (including those which are driven by their financial position). Families from different socio-economic backgrounds may differ in attitudes to risk and to debt – particularly those with high-interest charges. This may make their children more likely to consider such products a normal part of financial life. Alternatively, greater exposure through parental behaviour to such products – and the associated financial difficulties – may lead to young people developing a better understanding of how they work, building financial skills.

#### 2.2. Direct Role of Schools

The second route young people from different backgrounds may develop different financial capabilities is their schooling. Specifically, they tend to go to schools with different levels of achievement (Allen *et al.*, 2014), teacher experience (Allen and Sims, 2018) and inspection grades (Hutchinson, 2016). Their schools may also differ in provision or delivery of financial education.

#### 2.3. Indirect Associations Through Cognitive and Socio-Emotional Skills

Both parents and schools also indirectly influence young people's financial capabilities through their effect on cognitive and socio-economic skills, and academic abilities. As being financially capable involves cognitive skill, this represents an important mechanism through which family background influences financial skill development. Drawing on evidence from the literature on socio-economic inequalities and skill formation, one would anticipate this to drive a difference in financial knowledge and skills from early in life.

A related sub-strand of the intergenerational transmission literature has focused upon the link between family background and offspring's socio-emotional skills, with disadvantaged children having more behavioural problems, less perseverance and less patience than their more advantaged peers (Delaney and Doyle, 2012; McGrath and Elgar, 2015). Socio-economic groups also differ in their self-confidence and self-efficacy (Bannink *et al.*, 2016). Such socio-emotional traits may also impact young people's financial capabilities, such as savings behaviours (Clark and Ghezelayagh, 2018).

#### 2.4. Children's Financial Capabilities and Behaviours

The above demonstrates how parents and schools may affect young people's financial capabilities. Yet the existing literature notes how 'financial capabilities' is multi-dimensional, encompassing three distinct constructs (as depicted within Figure 1).

The first is financial abilities – the extent that young people know and understand financial issues (e.g., interest rates, inflation). The second is their 'financial mindset'; for instance, whether they set financial goals, attitudes towards saving, debt, seeking value for money, and confidence in money management. The last is their 'connection' to the financial world, illustrated by engagement with appropriate financial services (e.g., bank accounts). Importantly, socio-economic inequalities may emerge in some financial capabilities, but not in others.

Finally, socio-economic differences in young people's financial capabilities result in inequalities in financial behaviours, including whether/how they budget, save, plan and respond to financial 'shocks' (e.g., pay for an unexpected bill). These behaviours – developed during childhood and adolescence – then to some extent become ingrained, influencing financial skills and behaviours into adulthood.

#### 2.5. Research Questions

This framework motivates four research questions. To begin we examine whether there are socio-economic differences in young people's financial capabilities and ultimately their financial behaviours, and, if so, how this varies across its different components (abilities, mindset and connection). We also investigate the age at which such socio-economic gaps emerge.

RQ1. Are there socio-economic differences in young people's financial capabilities and behaviours? If so, how big are these gaps, and at what age do they emerge?

Next, Figure 1 illustrates five routes through which parents directly affect their offspring's capabilities. In research question 2 we explore whether there are socio-economic differences in each, and the age these emerge:

RQ2. Are there socio-economic differences in parental inputs into children's financial skills? At what age during children's lives do these emerge?

Similarly, our framework illustrates a potentially important role for schools, explored in research question 3:

RQ3. Do children from disadvantaged socio-economic backgrounds receive less financial education through their school than their more advantaged peers? If so, does this vary by school year?

Figure 1 also illustrates how differences in (more general) cognitive and socio-emotional skills may drive socio-economic gaps in young people's financial capabilities. This raises the question of how large socio-economic disparities in financial capabilities are once these potential pathways have been taken into account? Hence our final research question:

RQ4. Are there socio-economic differences in children's financial capabilities after accounting for differences in their academic and socio-emotional skills? To what extent can parenting behaviours and financial education delivered by schools 'explain' the remaining difference?

We note that, although Figure 1 looks somewhat like a structural equation or path model, we do not 'test' this whole model within our analysis. Rather, Figure 1 is intended to depict our overarching theoretical framework, with our empirical analysis testing a set of ideas that demonstrate consistency with parts of this theory in separate analyses. We do this because testing such a complex model – and, in particular, establishing causality – is impossible with the cross-sectional data available, likely leading to spurious results

#### 3. Data

The data are drawn from the 2019 Children and Young People's Financial Capability Survey (CYPFCS). This measures financial capabilities and behaviour amongst British 7 to 17-year-olds. It included a parental questionnaire, usually completed by their mother (70%). Quota sampling was used, with boosts in Scotland, Wales and Northern Ireland. Table 1 compares the distribution of key characteristics from the CYPFCS to households with school-aged children within the Labour Force Survey (LFS) – a nationally representative survey that uses a random sampling methodology. Reassuringly, the distribution of key variables are similar. The final sample is 3,745 families (1,308 face-to-face interviews and 2,437 online). Weights are supplied to make the sample comparable to the national population and are applied throughout.

TABLE 1. Comparison of the CYPFCS data to the Labour Force Survey

	CYPFCS	LFS
Homeownership		
% Own outright	12	8
% Own with mortgage	47	48
% Other	40	43
Ethnicity		
% White	80	77
% Black	5	6
% Asian	10	14
% Other	5	4
Marital status		
% Single	11	16
% Married/cohabiting	79	74
% Other	10	9
Average age	41	41
Educational qualification		
% No qualifications	6	7
% GCSEs	21	20
% Alevels	14	19
% University below degree	11	8
% Degree	40	32
% Other	9	13
Employment status		
% Full-time	51	61
% Part-time	22	20
% Other	27	18
Single parent household		
% No	77	85
% Yes	23	15
Private school		
% No	94	93
% Yes	6	7*

Note: Data for private schools drawn from https://www.isc.co.uk/research/. LFS data based upon April-June 2019 quarter, restricted to respondents who are the household head or their spouse, aged under 60 and with a dependent child aged between 5 and 16 in the household (n = 2,440).

Socio-economic status is measured by combining the following indicators into a single scale (Kolenikov and Angeles, 2009):

- parental qualifications;
- whether the responding parent achieved a C grade in GCSE English and mathematics:
- occupation of main income earner;

- household income (banded);
- Index of Multiple Deprivation.

This scale is divided into three equally sized groups to define young people from 'low', 'average' and 'high' socio-economic backgrounds. The average household income of the low socio-economic status group is £17,601, compared to £59,121 for high socio-economic status families. Similarly, just 8% of parents in the low socio-economic status group hold a degree, compared to 82% for the high socio-economic status group.

Our measures of children's financial capabilities focus on three components from our framework (Figure 1): financial abilities, mindset and connections. Financial abilities are measured using test questions around financial concepts, products, and tasks such as interpreting bank statements. Financial mindsets are based on attitudes to savings and debt, self-efficacy (perception of control over financial situation), financial anxiety, and financial confidence. Financial connections are measured using young people's interactions with bank accounts (particularly savings accounts). Financial behaviours of young people are measured using their savings behaviours, money management, and 'savvy decision making' (e.g., finding value for money in purchases).

As shown in Figure 1, there are five routes through which parents can influence their children's financial capabilities and behaviours. These are measured as follows:

- (a) Parental financial confidence. This is operationalised as their financial anxiety, financial self-efficacy, and financial confidence.
- (b) Responsibility given to child. This is measured using three scales; one focused on who has responsibility for spending and saving with children's money; one capturing parental delegation of responsibility for paying for certain items to the child; a third capturing rules around money and the strictness of these rules in relation to the child. We also consider weekly pocket money (in absolute terms and as a proportion of household income).
- (c) Role modelling. This is measured based on conversations between parents and children about money, and on actions of parents showing children how to interact with money.
- (d) Parental attitudes to financial education. Measured using three scales, including the importance of teaching children about money, perceived ability to help their children to learn about money, and the appropriate age to engage with children about money.
- (e) Parental financial behaviours. This is measured using indicators of parental savings behaviour, ability to pay unexpected bills, and interactions with high interest debt/credit cards.

To measure the quality and quantity of financial education in schools, children were asked whether they had been taught about a range of financial concepts, including money topics, money planning, and money choices. The available measure of the quality of this education is a self-reported scale on the 'usefulness' of the education received form the child's perspective, and whether 'it made a difference' to their use of money.

Finally, our measures of cognitive and socio-emotional skills are based on parent's reports of their children's cognitive achievement in very coarse form (at, above, or below age expectations), and the extent to which they are quick to anger, and often disobedient. We also have three child-reported metrics on their self-perceived perseverance, irritability, and agreeableness.

A fuller description of each of these measures can be found in Appendix C.

#### 4. METHODS

#### 4.1. Research Question 1–3

We investigate socio-economic differences in our outcomes using Ordinary Least Squares (OLS) regression. We use this approach – rather than a simpler alternative such as comparing mean differences – to adjust for potential background differences between socio-economic groups that could in theory confound our results (e.g., if one socio-economic group received more help completing the questionnaire than the other, or differences across socio-economic groups in who completed the parental questionnaire). The model we estimate is specified:

$$O_i = \alpha + \beta_{1\alpha}.SES_i + \sigma.G_i + \theta.A_i + \tau.H_i + \rho.M_i + \varepsilon_i$$
 (M1)

Where:

 $O_i$  = One of interest for child i.

 $SES_i$  = Dummy variables capturing socio-economic groups (low, medium, high).

 $G_i$  = Child's gender.

 $A_i$  = Child's age.

 $H_i$  = Help child received completing the questionnaire (none, a little, a lot).

 $M_i$  = Which parent completed the questionnaire (mother, father, other).

 $\varepsilon_i = \text{Random error}.$ 

 $\beta_{1a}$  provides an estimate of socio-economic disparities in the outcome under investigation. As all continuous outcome scales have been standardised, estimates can be interpreted as effect sizes. To further aid communication of results, we also discuss magnitudes for continuous outcomes using percentile ranks (i.e., the number of places high and low socio-economic status groups differ by – on average – in a ranking of 100 children). Where individual items/questions are investigated, they have been dichotomised, meaning the  $\beta$  parameters capture probability differences. Alternative estimation approaches (e.g., logistic

regression) for binary outcomes are presented in Appendix B. We also present predicted outcomes for an illustrative child from a low and a high socio-economic background. With reference to equation (M1), these illustrative children refer to an 11-year-old boy who had a little help answering the questions and whose mother completed the parent survey.

Where a socio-economic gap is observed, we explore how these differ by the child's age by adding an interaction term:

$$O_i = \alpha + \beta_{1h}.SES_i + \sigma.G_i + \theta.A_i + \tau.H_i + \rho.M_i + \gamma.SES_i * A_i + \varepsilon_i$$
 (M1b)

This model is first estimated with socio-economic status and age treated as categorical variables, <sup>1</sup> and predicted outcomes generated for our illustrative high and low socio-economic status children. We then investigate this more formally by re-estimating model (M1b) treating age as continuous linear, with the  $\gamma$  parameter capturing the change in socio-economic disparities per one year increase in children's age.

#### 4.2. Research Question 4

Where a socio-economic gap is found for research questions 1–3, we investigate the extent these gaps can be 'explained' (in a statistical sense) by socio-economic differences in young people's academic and socio-emotional skills. The following model is estimated using multiple imputation (with ten imputation cycles) to account for missing data:

$$O_i = \alpha + \beta_2 .SES_i + \sigma .G_i + \theta .A_i + \tau .H_i + \rho .M_i + .Ac_i + \omega .S_i + \varepsilon_i$$
 (M2)

 $\beta_2$  captures socio-economic differences in the outcomes after accounting for differences in more general academic abilities and socio-emotional skills. The differences between  $\beta_{1a}$  and  $\beta_2$  provides an estimate of how much of the socio-economic gap can be attributed to differences in young people's academic and socio-emotional skills (or at least those measured within the data).

Analogous models are estimated focusing upon the extent that young people's financial capabilities and behaviours can be 'explained' by parental behaviours and financial education in schools. This is based upon a comparison of estimates from model (M1) with those from two further models:

$$O_i = \alpha + \beta_3 .SES_i + \sigma .G_i + \theta .A_i + \tau .H_i + \rho .M_i + \emptyset .Par_i + \varepsilon_i$$
 (M3)

$$O_{i} = \alpha + \beta_{4}.SES_{i} + \sigma.G_{i} + \theta.A_{i} + \tau.H_{i} + \rho.M_{i} + \vartheta.FinEd_{i} + \varepsilon_{i}$$
 (M4)

Where:

 $FinEd_i$  = Variables capturing the quantity and quality of financial education in schools.

 $Par_i$  = Variables capturing the role of parents in developing their children's financial capabilities.

Finally, we estimate a model including all cognitive, socio-emotional, parent and school controls where a socio-economic difference was observed when addressing research questions 1–3:

$$O_{i} = \alpha + \beta_{5}.SES_{i} + \sigma.G_{i} + \theta.A_{i} + \tau.H_{i} + \rho.M_{i} + .Ac_{i} + \omega.S_{i} + \vartheta.FinEd_{i} + \emptyset.Par_{i} + \varepsilon_{i}$$
(M5)

This final model captures the joint role of all these inputs together.  $\beta_5$  reflects socio-economic differences in young people's financial capabilities that cannot be explained via the measured channels in our framework.

#### 4.3. Limitations

Our approach provides an exploratory analysis of the magnitude of socioeconomic financial capability gaps. Estimates provide evidence of conditional associations only, and are not able to establish cause and effect. Moreover, the quality of the available measures is – in some places – limited (e.g., children's academic abilities), meaning we can only partially account for their potential confounding effect. Finally, there may be parental and school inputs not measured, meaning we may underestimate the importance of such channels.

#### 5. RESULTS

RQ1. Are there socio-economic differences in young people's financial capabilities and behaviours? If so, how big are these gaps, and when do they first emerge?

Table 2 presents results with respect to young people's financial capabilities. The second and third column from the left presents predicted outcomes for our illustrative low and high socio-economic status child. The 'gap' is the difference between these figures.

Young people from advantaged backgrounds score 0.42 standard deviations higher on our financial ability scale than their peers from disadvantaged backgrounds (95% confidence interval = 0.30 to 0.54). To put this finding into context, if we were to rank 100 children in terms of their financial abilities, those from affluent families would rank (on average) 12 places higher in the distribution than children from disadvantaged families.

In Appendix Table A1, we illustrate how the socio-economic gap in young people's financial capabilities changes for each year increase in the child's age.

TABLE 2. Socio-economic differences in children's financial capabilities and behaviours

	Low SES	High SES	Gap	SE	N
Financial abilities					
Average test scores (ES)	0.12	0.54	0.42*	0.06	2,251
Financial mindset					
Attitudes towards saving (ES)	-0.13	0.06	0.20*	0.05	3,739
Attitudes towards debt (%)	9	6	-2.73	1.45	2,110
Financial self-efficacy (%)	18	17	-0.82	2.46	2,251
Financial anxiety (%)	21	18	-2.90	2.40	2,251
Learn how to manage money (%)	86	93	6.43*	1.73	3,739
Money confidence (0–10)	6.9	7.2	0.23*	0.12	2,251
Financial connection					
Have bank account (%)	81	102	20.85*	2.11	3,739
Have savings account (%)	39	56	17.18*	2.26	3,739
Connection with bank account (ES)	0.44	0.57	0.13*	0.05	2,289
Financial behaviours					
Savings behaviour (ES)	-0.24	0.16	0.40*	0.05	3,567
Plan how to pay for things (%)	29	33	3.69	4.00	1,170
Doesn't know how much they have saved (%)	26	15	-10.99*	2.23	3,623
Keep track of money in spreadsheet (%)	4	6	1.39*	0.61	3,739
Seek value for money (ES)	-0.02	0.20	0.22*	0.06	2,204

Note: (ES) indicates results reported in terms of effect sizes, while (%) refers to percentage differences. Results based upon OLS regression model controlling for gender, age, help the child received in completing the survey and which parent completed the survey. Predicted outcomes for an 11-year-old boy who had a little help from their parent in completing the survey, and whose mother completed the parental questionnaire. SE refers to the standard error for the difference between high and low socio-economic groups.

For financial abilities, the socio-economic gap remains stable from age 11 through to age 17. This is also illustrated in Figure 2a, where outcomes are presented for our illustrative low and high socio-economic status children.

Results for financial mindset are more mixed. There are two areas where clear socio-economic differences emerge. The first is attitudes towards saving; socio-economically advantaged young people have a more positive mindset towards saving than disadvantaged young people. The magnitude of the gap – although half the size of that for financial abilities – is not trivial; the estimated effect size is 0.2 (95% CI 0.1 to 0.3) – equivalent to a difference of approximately five places in a ranking of 100 children. The second aspect where low and high socio-economic status young people differ substantively is attitudes towards money management: socio-economically advantaged young people are approximately seven percentage points more likely to believe that learning how to manage money is important (e.g., 93% versus around 86% for our illustrative young people from advantaged and disadvantaged backgrounds). A slight

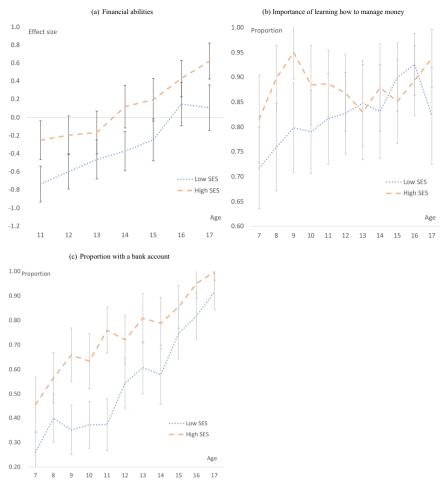


Figure 2. Change in socio-economic status gap in selected capabilities as children Notes: Estimates refer to predicted outcomes for our illustrative high and low SES children (a boy who had some help completing the survey and whose mother completed the parental survey). Estimates refer to effect sizes (left-hand graph) or proportion in agreement (right-hand graph). Thin grey lines illustrate the 95% confidence interval.

difference can also be observed for young people's confidence with money; on average, low socio-economic status children scored 6.9 on the 0–10 scale (in reference to the question 'how confident do you feel in managing your money') compared to 7.2 for high socio-economic status children.

There is again little suggestion that socio-economic differences alter as young people age (see Appendix Table A1). One potential exception is in the

importance of learning how to manage money. This is illustrated by Figure 2b, with a suggestion that the socio-economic status gap narrows somewhat as children age. For instance, during primary school (ages 7–11) children from advantaged backgrounds are approximately 10 to 15% points more likely to believe learning how to manage money is important than children from disadvantaged backgrounds. Yet, from age 13 onwards, the socio-economic gap has all but disappeared. Note however some caution is needed when interpreting this result, given the relatively wide confidence intervals at each age. With respect to this aspect of children's financial mindset, socio-economic differences can only be observed amongst younger age groups.

Table 2 then turns to financial connection – where substantial socioeconomic differences are again evident. Those children with affluent parents are 21% points more likely to have a bank account (95% CI = 17 to 25% point difference) and are 17% points more likely to have a savings account than disadvantaged children (95% CI = 13 to 22% point difference). Moreover, even amongst the subset of children who have their own bank account, those from advantaged backgrounds are more likely to regularly use and engage with it (though the difference is relatively small; effect size = 0.13, confidence interval = 0.03 to 0.23). Young people's financial connection appears to some extent depends upon their family background.

On most elements the socio-economic gap in financial connection does not change with age. One exception with the clearest difference is having a bank account, as illustrated in Figure 2c for our illustrative children from high and low socio-economic status backgrounds. The difference is greatest when children are young, before declining during the teenage years. For instance, at age 10, children from affluent backgrounds are around 25% points more likely to have a bank account than their disadvantaged peers (e.g., 63 versus 37% probability for our illustrative high and low socio-economic status children). Yet, by age 15, this gap has shrunk to around 10% points (86 versus 75%). Hence a distinctive feature of socio-economic inequality in this aspect of children's financial connection is the gap is greatest when children are young.

The last section of Table 2 examines children's behaviours. Given that our framework suggests that inequalities in financial capabilities may lead to inequalities in financial behaviours, it is perhaps unsurprising that sizeable socio-economic differences in young people's saving behaviours emerge. Young people from affluent backgrounds are more likely to save some of their money, and for a longer period of time. The effect size is 0.40 on our 'savings behaviour' scale (95% CI = 0.3 to 0.5), or a difference of roughly 12 places in a ranking of 100 children. This point is reiterated in Table 2 by low socio-economic status children being 11% points more likely not to know what they currently have saved. The other behaviour where there is a clear socio-economic gap is savvy financial decision making; high socio-economic status children are more likely to seek value for money when shopping than those

TABLE 3. Socio-economic differences in parental inputs into offspring's financial skills

	Low SES	High SES	Gap	SE	N
Parental financial confidence					
Anxious about financial situation (%)	56	40	-16.49*	2.35	3,739
Low financial self-efficacy (%)	35	24	-10.84*	2.10	3,739
Confidence in managing money (0–10 scale)	7.1	7.8	0.77	0.10	3,739
Parental financial behaviour					
Rarely or never save (%)	33	9	-24.40*	1.90	3,693
Use credit to pay unexpected bill (%)	42	12	-29.77*	2.10	3,601
Has store card or payday loan (%)	22	21	-0.72	2.02	3,739
Credit card not paid off each month (%)	23	31	8.07*	2.24	3,739
Financial responsibility given to child					
Child decides how to spend/save own money (ES)	0.59	0.44	-0.15*	0.05	3,358
Uses own money for discretionary items (ES)	0.25	0.35	0.10	0.05	2,251
Set and stick to clear money rules (0–10 scale)	6.4	6.7	0.31*	0.11	3,739
Weekly pocket money (£)	12.0	14.4	2.5*	0.63	2,487
Weekly pocket money (% household income)	3.8	1.9	-1.87*	0.16	2,098
Role modeling					
Frequent money conversations with child (ES)	0.33	0.53	0.20*	0.05	3,708
Frequent money demonstrations to child (ES)	0.37	0.50	0.13*	0.05	3,714
Attitudes towards teaching about money					
Believe children should be protected from money (%)	19	21	1.84	1.88	3,739
Believe important to teach about money (%)	90	93	3.46*	1.65	3,739
Believe should teach children when older (ES)	0.40	0.29	-0.12*		3,599
Ability to influence children's money					
habits					
Confidence in teaching children (ES)	-0.21	0.11	0.32*	0.04	3,739

Note: (ES) indicates results reported in terms of effect sizes, while (%) refers to percentage differences. Results based upon OLS regression model controlling for gender, age, help the child received in completing the survey and which parent completed the survey. Predicted outcomes for an 11-year-old boy who had a little help from their parent in completing the survey, and whose mother completed the parental questionnaire. SE refers to the standard error for the difference between high and low socio-economic groups.

from disadvantaged backgrounds (effect size = 0.22 with confidence interval from 0.10 to 0.34; approximately five places difference in a ranking of 100 children). On the other hand, there is little socio-economic difference in terms of

making financial plans, while results for budgeting using a spreadsheet are inconclusive.

RQ2. Are there socio-economic differences in parental inputs into children's financial skills? At what age during children's lives do these emerge?

Table 3 provides our estimates of socio-economic inequalities in parental inputs to children's financial capabilities. Low socio-economic status parents are more likely to feel anxious about their financial situation. The difference is 16% points (56 versus 40% for our illustrative individuals), with 95% confidence interval spanning 12 to 21% points. High socio-economic status parents also express more confidence in money management and are less likely to have low levels of financial self-efficacy. For instance, our illustrative low socio-economic status parent had a 35% chance of agreeing that 'nothing I do will make much difference to my financial situation', compared to 24% for our illustrative high socio-economic status parent (a difference of 11% points with a confidence interval between 7 and 15% points).

Evidence of socio-economic differences in parental financial behaviours is more mixed. Table 3 reveals that – likely due to their comparative lack of financial resources – lower socio-economic status families are less likely to save regularly. Specifically, 33% rarely/never save for our illustrative low socio-economic status family, compared to 9% for our illustrative high socio-economic status family – a gap of 24% points (confidence interval 21 to 28% points). There is also a clear socio-economic gap in the use credit to pay an unexpected bill (42 versus 12%) – a difference of 30% points (95% CI = 26 to 34% points). Interestingly, high and low socio-economic status households are equally likely to have a store card or payday loan, while high socio-economic status families are *more* likely to have a credit card not paid off in full each month (potentially due to greater capacity to service high-interest debt).

Socio-economic differences in financial responsibility parents give to their children – also presented in Table 3 – is also somewhat mixed. Disadvantaged families are slightly *more* likely to let their children decide how to spend/save their own money than high socio-economic status families; effect size = -0.15 (95% CI from -0.05 to -0.25) equivalent to around four places difference in a ranking of 100 children. On the other hand, high socio-economic status parents are more likely to set clear money rules for their children and to stick to them, although again the size of the gap is small. Finally, the inferences made about generosity of pocket money depends upon how this is measured. While young people from affluent backgrounds receive more pocket money in absolute terms, those from disadvantaged backgrounds receive a greater share as a proportion of household income. Thus, overall, there is little clear evidence of substantive socio-economic differences in the financial responsibilities that parents afford their offspring.

Turning to our fourth dimension of parental inputs, young people from socio-economically advantaged backgrounds are somewhat more likely to have frequent conversations with their parents about money than their peers from disadvantaged backgrounds, though the difference is modest; effect size = 0.20 (CI = 0.10 to 0.30), equivalent to a difference of around four positions in a ranking of 100 children). The same holds true in reference to parental money demonstrations, though again the magnitude of the gap is small (effect size = 0.13 with CI = 0.03 to 0.23, equivalent to a difference of around three rank positions out of 100).

Finally, differences between high and low socio-economic status parents are small in terms of beliefs about teaching children about money. More affluent parents are slightly more likely to believe that teaching children about money is important (four percentage point difference) and slightly less likely to believe that this should be left until they are older (effect size = 0.12; CI = -0.02 to -0.22). There is essentially no difference in high and low socio-economic status parents believing children should be protected from understanding how money works (just a two-percentage point gap). However, socio-economically advantaged parents are much more confident in their ability to teach their children about money than low socio-economic status parents (effect size = 0.32 with CI = 0.24 to 0.40, or a difference of around 10 places in a ranking of 100 children) – see Final row of Table 3. Hence, the attitudes of socioeconomically advantaged and disadvantaged parents towards teaching children about money are mixed – while there are limited differences in terms of beliefs about financial education, higher socio-economic status parents exhibit more confidence to do so.

In terms of how the socio-economic gradient changes as children age, for most indicators there is no clear evidence of growth or decline (see Appendix Table A2 for further details). In other words, where there are socio-economic differences, they seem to emerge early in life and are then maintained at a similar level. One potential exception is with respect to conversations about money – as illustrated in Figure 3 – where the gap may be slightly larger at younger ages.

RQ3. Do children from disadvantaged socio-economic backgrounds receive less financial education through their school than their more advantaged peers? If so, how does this vary by school year?

Table 4 turns to our results for financial education provided by schools. This provides clear evidence of sizeable socio-economic gaps, with young people from disadvantaged backgrounds less likely to cover financial issues during lessons than their more advantaged peers. Particularly large differences emerge amongst primary pupils, most notably for 'money topics' (e.g., adding up the cost of different shopping items) and 'money planning' (e.g., learning about how money is earned and saved). The socio-economic gap for primary pupils is around 0.3–0.4 standard deviations – equivalent to a difference of around 10

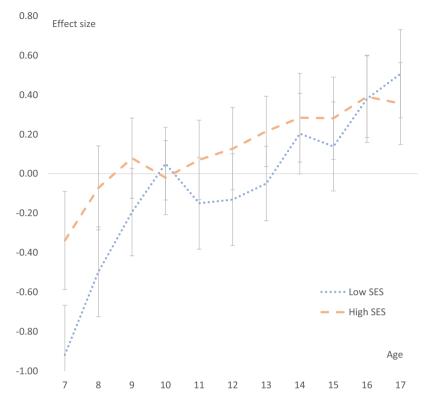


Figure 3. Change in parent-child money conversations as children age

Notes: Estimates refer to predicted outcomes for our illustrative high and low SES children (a boy who had some help completing the survey and whose mother completed the parental survey). Estimates refer to effect sizes. Thin line through centre of bar illustrates the 95% confidence interval.

places in a ranking of 100 children. Differences in the financial education received by advantaged and disadvantaged children are also observed amongst secondary pupils, albeit a smaller magnitude (effect sizes around 0.20–0.25).

Furthermore, high socio-economic status children are more likely to report receiving 'very useful' money lessons at school (although the overall percentages remain quite low). One caveat, however, is that the final row of Table 4 provides little evidence that financial education in schools had a differential impact upon socio-economic groups in terms of changing money behaviours.

Figure 4 provides further investigation of the socio-economic gap in financial education amongst primary pupils, demonstrating changes between age 7 and 10. This illustrates how, at age 7, the financial education provided to advantaged and disadvantaged children is on a broadly equal footing. Yet, as

	Low SES	High SES	Gap	SE	N
Financial education in schools					
7 to 10 year olds					
Money topics (ES)	0.32	0.70	0.38*	0.07	1,488
Money planning (ES)	0.68	0.98	0.30*	0.08	1,488
Money choices (ES)	0.64	0.83	0.19*	0.08	1,488
11 to 17 year olds					
Money topics (ES)	-0.01	0.21	0.22*	0.06	2,251
Financial risks and security (ES)	-0.06	0.18	0.24*	0.06	2,251
Quality of financial education					
Had useful money lessons (%)	8	14	5.93*	1.71	3,710
Lessons changed money behaviour (%)	40	43	3.74	2.55	3,168

TABLE 4. Socio-economic differences in school inputs into offspring's financial skills'

Note: (ES) indicates results reported in terms of effect sizes, while (%) refers to percentage differences. Results based upon OLS regression model controlling for gender, age, help the child received in completing the survey and which parent completed the survey. Predicted outcomes for an 11-year-old boy who had a little help from their parent in completing the survey, and whose mother completed the parental questionnaire. SE refers to the standard error of the difference between high and low socio-economic groups i.

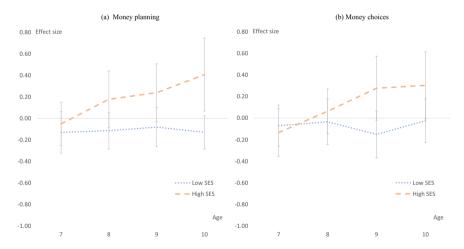


Figure 4. Change in socio-economic status gap in financial education provided to primary school pupils.

Notes: Estimates refer to predicted outcomes for our illustrative high and low SES children (a boy who had some help completing the survey and whose mother completed the parental survey). Estimates refer to effect sizes. Thin grey lines illustrate the 95% confidence interval.

children advance through primary school, high socio-economic status children are more likely report learning about additional money issues, while the trajectory for socio-economically disadvantaged children is essentially flat. In other words, it seems that increasing the requirement for financial education during the latter stages of primary school has the potential to increase the amount of financial education disadvantaged young people receive. Appendix Table A3 and Appendix Figure A1 reiterate this finding, which illustrates how the socio-economic gap in the proportion of children reporting they received very useful financial education lessons is greatest during primary school.

RQ4. Are there socio-economic differences in children's financial capabilities after accounting for academic and socio-emotional skills? To what extent can parenting behaviours and financial education delivered by schools 'explain' any of the remaining difference?

Table 5 presents results from our models that attempt to 'explain' socioeconomic gaps in young people's financial capabilities (amongst those where significant gaps have been found).

Starting with a comparison between M1 (base controls) and M2 (cognitive and socio-emotional controls) the magnitude of the socio-economic gap differs in several areas. For instance, the difference between socio-economically advantaged and disadvantaged children's financial capabilities is reduced by around one-third (from an effect size of 0.42 to 0.28) once cognitive and socio-emotional skills have been added. Thus, as anticipated, part of the socio-economic gap in children's financial abilities is a reflection of differences in their (more general) academic abilities. Yet there remains a sizeable difference between socio-economic groups, even once these areas have been taken into account.

Other areas where there are substantive differences between M1 and M2 include two aspects of children's financial mindset: attitudes towards saving (where the socio-economic gap falls by a half) and confidence with money (where the socio-economic gap is reduced to essentially zero). Similarly, differences between socio-economic groups in their cognitive and socio-emotional skills explains roughly one-third of the inequality in their savings behaviours and half the difference in the propensity to seek value for money. This suggests there are other areas – outside of just financial abilities – where socio-economic differences in broader (i.e., not finance-specific) skills may play a role.

However, it is important to caveat the above with two points. First, there are other aspects of young people's financial capabilities (e.g., their 'financial connection') where the magnitude of the socio-economic gap is largely unchanged between M1 and M2. Second, in several areas – including financial abilities, money confidence and savings behaviour – large socio-economic gaps remain even once academic abilities and socio-emotional skills differences have been controlled.

TABLE 5. The role of cognitive skills, socio-emotional skills, parents and schools in explaining socio-economic gaps in children's financial skills and capabilities

	M		M2		M		M4	4	M5	
	Gap	SE								
Financial abilities										
Average test scores (ES) Financial mindset (ES)	0.42*	90.0	0.28*	90.0	0.34*	90.0	0.37*	90.0	0.25*	90.0
Attitudes towards saving (ES)	0.20*	0.05	0.09	0.05	0.16*	0.05	0.18*	0.05	0.10	0.05
Learn how to manage money (%)	6.43*	1.73	3.52*	1.70	2.49	1.80	4.04*	1.72	0.74	1.80
Money confidence (0–10) Financial connection	0.23*	0.12	-0.01	0.12	0.07	0.12	0.16	0.12	-0.07	0.12
Have bank account (%)	20.85*	2.11	18.28*	2.18	15.14*	2.21	19.09*	2.18	13.13*	2.28
Have savings account (%) Financial behaviours	17.18*	2.26	14.34*	2.33	10.34*	2.38	14.56*	2.31	7.93*	2.46
Savings behaviour (ES)	0.40*	0.05	0.28*	0.05	0.26*	0.05	0.38*	0.05	0.20*	0.05
Savvy decision making (ES)	0.22*	90.0	0.10	90.0	0.16*	90.0	0.17*	0.07	90.0	90.0
Additional controls										
Cognitive skills	1		Y		1		•		Y	
Socio-emotional skills	1		Y		1		•		Y	
Parent controls	1		1		Y		1		Y	
School controls	1		•		•		Y		Y	

Notes: (ES) indicates results reported in terms of effect sizes, while (%) refers to percentage differences. All models control for gender, age, help the child received in completing the survey and which parent completed the survey. Gap refers to the difference in the outcome between high and low socio-economic status groups. SE refers to the standard error of the difference between high and low socio-economic groups.

Turning to the comparison between M1 (base controls) and M3 (parental controls) a similar pattern emerges. Some of the areas with the biggest changes relate to financial mindset: approximately two-thirds of the socioeconomic differences in young people's views about the importance of learning about money management and their money confidence are explained by differences in parental inputs. Similarly, these parental inputs 'explain' more of the socio-economic gap in young people's financial connection than the cognitive and socio-emotional controls included in M2. By contrast, the socio-economic gap in young people's financial abilities and attitudes towards savings have only been modestly reduced with the addition of parental controls.

The role played by parents in their offspring's behaviour is somewhat clearer. The addition of parental inputs explains a sizeable proportion of the socio-economic difference in both savings behaviours and savvy financial decision making. This points towards a potentially important direct role played by parents in some areas, for example money confidence, money management, financial connection, and directly observed financial behaviours, but perhaps only an indirect role in others. It could be the case, for example, that their role in boosting children's financial abilities comes through their role in developing their cognitive and socio-emotional skills more generally.

A rather different story emerges when comparing estimates across model M1 (base controls only) and M4 (school controls). On almost all occasions with the potential exception of socio-economic differences in money confidence – the socio-economic gap is not reduced with the addition of the available school controls. There are two potential explanations for this result. One is that the socio-economic gap we observe in the financial education provided by schools doesn't feed through into making a difference to young people's financial capabilities and behaviours (which is possible if the quantity and quality of financial education provided by schools is limited). The other is that the measures available do not fully capture the importance of financial education provided by schools for the development of young people's capabilities. Unfortunately, it is not possible to disentangle these two explanations with the data available, although the fact that we find stark socio-economic differences in school inputs does suggest that there is some value in our measures. Nevertheless, overall, Table 5 provides no evidence that inequalities in the quantity and quality of financial education currently provided by schools is directly driving inequalities in young people's financial capabilities and behaviours (outside of their general role in developing young people's cognitive and socio-emotional skills). We note, however, meta-analytic evidence of the potential for school-based financial education to make a difference (Kaiser and Menkhoff, 2020).

Finally, M5 presents results from the model including all controls. These estimates reiterate many of the points above. In particular, the simultaneous

inclusion of all controls does not (generally) lead to much further change in the estimates from model M2 (where just cognitive and socio-emotional controls were included), other than a handful of areas where the financial inputs of parents may potentially have a direct role (e.g., financial connection, learning about money management). It does highlight, however, a handful of areas where a substantial socio-economic gap remains despite the inclusion of the full set of controls – and is hence due to other (unobserved) factors. These are financial abilities, financial connection and savings behaviours. This suggests that there may be other areas contributing to socio-economic differences in financial capabilities, or there are other aspects of what parents/schools do that are not included in the model.

#### 6. CONCLUSIONS

Developing sound financial capabilities is vital to navigate 21<sup>st</sup> century society: worrying when existing evidence suggests that the UK has low levels of financial literacy by international standards, particularly among disadvantaged groups (Bhutoria et al. 2018). There has also been much concern in the UK about a lack of social mobility and the propensity for educational and social disadvantage to perpetuate across generations (Social Mobility Commission, 2019). This includes intergenerational cycles of money problems, poverty, and debt, which may be linked to socio-economic inequalities in the financial capabilities of young people. Understanding more about inequalities in young people's financial skills, including when they emerge and how they might be related to parent and school inputs, is hence an issue of academic and policy concern.

It is therefore perhaps surprising that the literature on social mobility and the literature regarding financial literacy have not previously been brought together. The aim of this paper has been to move us forward in this regard. Specifically, we have sought to build upon previous models of how financial capabilities in children and young people develop (Clark and Ghezelayagh, 2018) and produce new empirical evidence on this matter.

Using parent-child linked survey data for the UK, we have found sizeable socio-economic gaps in young people's financial capabilities. These generally seem to emerge early in life and, in some dimensions, persist into the teenage years. Only part of these socio-economic gaps in financial capabilities can be explained by differences in children's cognitive and socio-emotional skills. It seems that socio-economic differences in financial capabilities may not merely be a reflection of inequalities in these other areas.

We also find evidence of substantial socio-economic differences in parental and school inputs into their offspring's financial capability development. Young people from disadvantaged backgrounds have less frequent money conversations with their parents and are less likely to be shown how money 'works'. They are also less likely to report covering money issues during their school lessons, with a particularly large socio-economic status gap in financial education provision towards the end of primary school

There is some evidence that certain inputs made by parents/schools differ most between social groups when they are quite young, with those young people from affluent background having greater exposure to financial education (through both parents and schools) before secondary education.

While there is evidence that these parental inputs drive socio-economic gaps in particular financial capabilities (money confidence, money management, and financial connections) and financial behaviours, we do not find evidence for schooling inputs making a big difference in explaining the SES gap in financial capabilities. However, we acknowledge some limitations of our measures in this respect, and the potential for school-based financial education to have an effect if better measured (Kaiser and Menkhoff, 2020).

It is important to note this study's limitations and how future work could provide further insight. First, the data were collected using quota sampling. Although we have found the sample to be broadly comparable to the national population for key observable characteristics, future studies drawing probabilistic samples will improve confidence in the generalisability of the results. Second, as with many social surveys, only one parent completed the household questionnaire (typically the child's mother). Future studies should seek to capture data about financial parenting behaviours from both parents, allowing for further analysis that distinguishes the contributions made by mothers and fathers. Third, the quality of some of the measures available is limited, such as the information collected about children's educational achievement and socio-emotional skills. Fourth, our analysis illustrates how gaps in certain financial capabilities emerge early; differences in some areas can already be observed at age 7. Future data collections – and survey instrument development – focusing upon younger children (e.g., four to six-yearolds) may provide further insight into when such socio-economic inequalities in financial capabilities emerge. Finally, all estimates refer to conditional associations only, and should not be interpreted as capturing cause and effect.

Despite these limitations, the evidence generated in this paper has potentially important implications for policy and practice. With sizeable socioeconomic gaps emerging, the issue of inequality in financial capabilities needs more public scrutiny and debate. Our results generally suggest that it may be helpful for young people from disadvantaged backgrounds to be engaged with about money earlier in their lives. This includes both through the actions of parents and schools, with our evidence suggesting a particular need to consider how financial education is provided in the primary curriculum to those from disadvantaged social backgrounds. The government and financial providers could potentially play an important role as well: socio-economically

disadvantaged children are much less likely to have a bank account – particularly when they are young – which may mean they are less likely to develop a firm connection with the financial world. To help improve financial connection – particularly aspects of their mindset and skills – more could be done to encourage use of financial services amongst disadvantaged socio-economic families and their children. This might include, for instance, a young person's account linked to the government's Help to Save account available to those with low incomes which effectively pay higher rates of interest and provide rewards for positive saving behaviours.

#### DISCLOSURE STATEMENT

No potential conflict of interest was reported by the authors.

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#### NOTE

The maximum (minimum) sample size is 425 for seven-year-olds (270 for 17-year-olds).

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