Measuring Financial Capability in Children and Young People:

What drives financial behaviour?

Technical Appendices

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Overview

As part of the its Financial Capability Strategy for the UK, the Money Advice Service conducted a major survey in 2016, of UK Children and Young People's Financial Capability, which interviewed a total of 4,414 children aged 7 to 17 and their parents. The survey captured hundreds of individual pieces of data, in questions asked of children about themselves and in questions asked of parents (or carers) about their children, themselves and their household situations. These questions were intended to measure the financial capability of children and young people, explore variations in levels of capability and help understand why these variations exist and what can help improve financial capability.

In order to define key dimensions of financial capability among children and young people based on the questions and identify the important drivers of them from the survey, we have drawn on two statistical approaches: methods of factor analysis for reducing a large number of survey measures into a smaller number of meaningful and robust composite measures; and regression analysis to explore the independent influence of potential drivers on financial capability behaviours.

In taking a statistical approach, the process for understanding important dimensions and drivers of financial capability among children and young people has been an empirical one, driven by the data rather than being imposed on it. The approach has been informed by learning from the Money Advice Service's Building Blocks work, which developed composite measures and analysed the drivers of financial capability among adults.[1] Unlike the Building Blocks work, which considered financial wellbeing as the key outcomes for adults, this analysis focused on the financial behaviour of children and young people as their key outcome measures, and enablers and inhibitors (their financial ability, connection and mindset) as drivers of the behaviours.

The advantage of using these particular statistical techniques is that they are multivariate methods, which simultaneously consider a wide range of measures available in the data set. This is a powerful way of working with data and reduces the scope for concluding that important relationships exist between financial capability measures when in fact these relationships are better explained by other variables available in the survey.

As shown in Appendix A, exploratory methods of factor analysis and structural equation modelling were used to identify and derive the underlying dimensions of financial capability reflected in the survey questions. These were undertaken separately for each of the financial capability areas and returned several robust and meaningful composite measures within each:

- Five composite measures of children and young people's financial ability;
- Six composite measures of children and young people's financial connection;
- Seven composite measures of children and young people's financial mindset; and
- Three composite measures of children and young people's financial *behaviour* (two of which form the main focus for this report and the main report).

As shown in Appendix B, regression analysis enabled the effects of the potential predictors of financial capability behaviours to be assessed at the same time. This identified those characteristics of children – including their financial ability, connection and mindset, their means and wider skills and the influence of their parents and their demographic circumstances – which helped explain their behavioural capability *independently* of other characteristics. Within this, the analysis identified those characteristics which exerted their influence directly, and those which exerted their influence only indirectly, through other characteristics. It also estimated the ability of the independent variables, in combination, to predict scores on the outcome.

[1] *Measuring financial capability – identifying the building blocks* (Money Advice Service, 2016); *Defining, measuring and predicting financial capability in the UK: Technical report* (Andrea Finney, Money Advice Service, 2016)

Appendix A – Constructing composite measures

A key objective of the 2016 UK Children and Young People's Financial Capability Survey was to be able to define and measure the key dimensions of financial capability for children and young people. The development of the survey questionnaire was a major step towards this and questions were designed broadly to reflect the range of financial capability concepts set out in the Financial Capability Strategy for the UK. However, individual questions do not measure concepts reliably, and the Money Advice Service was keen to develop composite measures of financial capability which could better reflect the depth and breadth of financial capability. Informed by the Building Blocks work which produced composite measures of financial capability for adults, the approach here also uses a statistically-driven data-reduction method to derive robust and meaningful summary (composite) measures of financial capability.

A.1 Method

The process of deriving composite measures involved data preparation and substantive analysis to summarise and reduce the data. In practice, as with any measure produced within a policy context, constructing composite measures of financial capability for children and young people was an iterative process. Initial results were produced and refined in discussion with research and policy colleagues and this was often repeated with successive results. The process is described here in a linear fashion for simplicity.

Data preparation

There were two main steps to the preparation of the data prior to the substantive analysis. First, the questions and variables in the survey which were believed to capture some aspect of children and young people's financial capability were categorised into the financial capability areas defined by the Strategy: ability, connection, mindset and behaviour. This was undertaken through an iterative, consultative process with the research and policy teams within the Money Advice Service.

Second, survey questions used to measure financial capability often allowed respondents to answer 'Don't know'. Our approach to treating 'Don't knows' differed depending on whether the respondent was the child, or a parent proxy.

- When the respondent was the child, 'Don't know' was treated as being an informative answer. It was taken to be an indication of not being able to understand the concept being asked about and therefore being unable to demonstrate the capability. Each instance was therefore recoded into the existing response category which reflected 'not capable' on that question.
- When the respondent was the parent, responding as a proxy for their child, 'Don't knows' were treated as missing values. These missing values were then imputed (estimated) using a statistical method of imputation.[2] This brought them back into the sample for any questions affected.

This approach ensured that all of the resulting variables contained valid responses for all cases in the data, which was essential for the next stage: the data reduction. All resulting variables comprised either two or three ordered response categories.

Data reduction

Statistical methods of data reduction are powerful tools, which are designed to simplify data by grouping similar variables together. These methods assume that there are latent, or underlying, dimensions in the data. The analysis therefore examines the patterns of responses which exist in the data across the variables to identify possible, underlying dimensions. There are several methods and exploratory factor analysis is one of the more powerful and commonly used types. In factor analysis, the dimensions which are identified are referred to as 'factors'. For our purposes, these factors became the composite measures of financial capability, with several composite measures within each of the capability areas: ability, connection, mindset and behaviour. The method is 'exploratory' because, although the emerging factors were considered within the individual capability areas, we did not have any prior assumptions about how many factors would emerge or which variables would comprise them. Instead, it was necessary to look to the data, and the results of the analysis, to help make judgements about the right number of factors to select in each area.[3]

Within exploratory factor analysis, there are several methods for estimating the underlying dimensions. This analysis used diagonally weighted least squares as the estimation method, and this was applied to the polychoric correlation matrix.[4] To ensure that all variables were available for inclusion in this analysis, the factor analysis was performed on 14-17 year-old respondents (as this was the only age group which was asked the full questionnaire).[5] The results could then be applied to all age groups.

[2] The method used in this instance was random forest imputation, as other characteristics (e.g. parental engagement) could be the reason for the missing value.
[3] This can then be validated against later waves of the survey using confirmatory factor analysis.
[4] This is sometimes called the 'underlying variable approach'. Analysis of the polychoric correlation matrix was necessary due to the mixture of dichotomous and ordered (three-category) variables.
[5] N=2,118. All models were fitted using MPlus 7.4 (Muthen & Muthen 2015). Visualisations were produced in R (R core team 2016) using ggplot2 (Wickham 2009).

There were then two main steps to the factor analysis: choosing the number of factors to best reflect the underlying dimensions; and calculating the resulting factor 'scores' to produce the final composites.

Choosing the number of factors

For the results of factor analysis to be useful, the factors which are returned must be statistically robust and meaningful. Exploratory factor analysis returns several solutions, from a one-factor solution to as many factors as there are variables in the analysis. Selecting the solution with the 'best' number of factors – which represents the data well – was assessed in this analysis based on a mixture of diagnostic criteria, and interpretability of the resulting factors. In practice, this was an interactive exercise, and we have presented the final stage of our decision-making process.

Factor analysis returns several diagnostic indicators by which to assess the 'goodness-of-fit' of each factor solution to the data (from the one-factor solution to the n-factor solution). As there is no consensus on a single indicator for the best number of factors, this analysis uses a combination of:

- Scree plot: This examines the amount of shared variance explained by each solution (from the one-factor solution to the n-factor solution). This is given by the 'Eigenvalue' which reduces with each successive solution. By examining the plot, it is often possible to see an 'inflection point' (sometimes known as an 'elbow') where the reduction in eigenvalues becomes much flatter. The number of factors to select is the number shown to the left of this point. This is a traditional method of choosing the number of factors and is best seen as indicative only because it can be subjective.
- Parallel analysis6: This compares the amount of shared variance explained by each solution to the same solution applied to random data (marked as a red line in the charts below). This has been shown to under-factor slightly in polychoric cases where there are few variables per factor and high factor correlations7 therefore results closest to the cut off are used as potential candidate models.
- Local fit: This examines of the residual correlation matrices to ensure low residual correlation between all items.
- Indices of the overall fit of the solution:[8]
  - Root mean squared error of approximation (RMSEA): where values of less than 0.05 are taken to indicate good fit
  - Tucker Lewis Index (TLI): where values greater than 0.95 taken to indicate good fit
  - Comparative Fit Index (CFI): where values of greater than 0.95 taken to indicate good fit
  - Weighted Root Mean Squared Residual (WRMSR): where values of less than 1 taken to indicate good fit.

Finally, interpretability and usefulness of the identified factors were also considered when determining the number to retain. This was based on the strength of 'loading' (a measure of correlation) of individual question variables on the resulting factors in the factor analysis: those which loaded most strongly suggested the interpretation of the factor, and these needed to be meaningful and relevant to our financial capability framework.

To ensure the prior classification of variables into the ability, connection, mindset behaviours areas did not bias the results, exploratory factor analysis was also run on all of the variables together. Similar results were obtained as for the separate analyses, which lends support to the separate consideration of the financial capability areas.

Calculating factor scores

Once the best-fitting factor solution was selected based on the results of the exploratory factor analysis, the composite measures could be produced for the 14-17 year olds, and applied to the younger age groups on a like-for-like basis. We needed to produce factor 'scores' for each factor in order to do this. Factor scores are the scores produced for each respondent in the data to reflect their position ('capability') on the factor.

[6] Horn (1965) https://link.springer.com/article/10.1007/BF02289447
[7] Garrido et al (2013) http://psycnet.apa.org/doiLanding?doi=10.1037%2Fa0030005
[8] Given the large sample size, it was not appropriate to use the significance of the chi squared statistic as a indicator of fit.

First, new loadings were obtained for the 14-17 year olds using an extension of exploratory factor analysis, exploratory structural equation modelling (ESEM).[9] The advantage of this extended technique is that the results of the modelling can be compared across groups of respondents and over time. The loadings were 'rotated' to more clearly distinguish the resulting factors.[10] The factors were then labelled to reflect the underlying concept they were interpreted as representing. The results of this analysis, and the interpretation of the factors, are detailed in the next section (A.2).

The loadings derived from this ESEM solution were then used to calculate raw factor scores for each respondent based on the questions asked of their age group.[11] These scores were then centred around the mean score for each age group to generate respondents' final scores (e.g. a 15-year old's final score = the respondent's raw score minus the average raw score for all 15 year olds in the survey). This set all respondents' final financial capability scores on any composite measure relative to average score for the age group to which they belonged, taking into account whether their score was higher or lower than the average and how far away from the average it was.

For the younger age groups, for whom some questions were not asked, the same (imputed) value was given to all respondents on these questions, as if they had all given the same answer. The same factor loadings obtained for the 14-17 year olds across the full set of questions were then used to calculate the younger respondents' scores. This assumed that the pattern of correlations was similar in younger children as the 14-17 year olds on questions asked of both age groups. Additional analysis of the data indicated that this was a reasonable assumption.[12]

In deriving the final re-scaled composite measures for each financial capability area, every survey question allocated to that area contributed to each composite measure, but only to the extent indicated by the loadings. Therefore, the most important questions – the ones which correlated most strongly with each factors – carried the greatest weight within the composite.

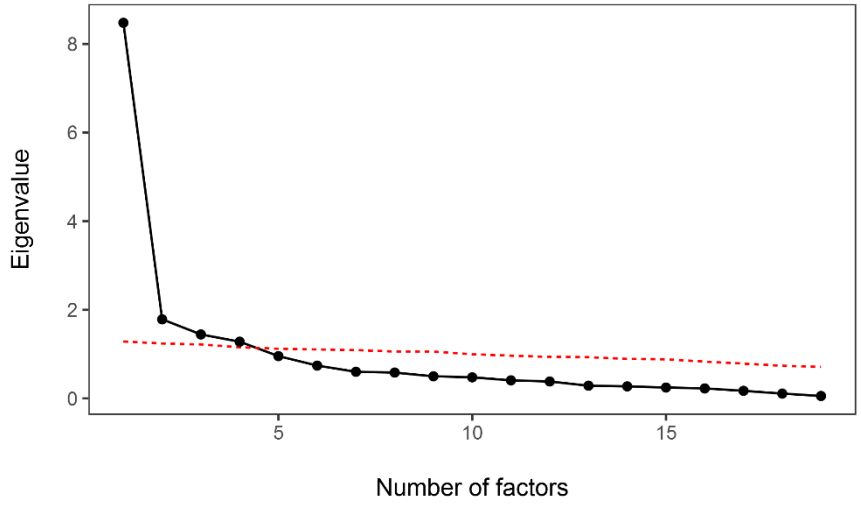
A.2 Results

The composites indicated by the factor analysis were considered for each of the financial capability areas in turn: ability, connection, mindset and the behaviours.

Ability

Analysis of the various measures allocated against the ability enabler and inhibitor suggested that 5 factors was a good fit for the underlying patterns in the data.

An initial review of the scree plot (shown by the black line in the chart below) suggested 4 or 6 possible factors, although the inflection point in either case was not distinct. Parallel analysis (indicated by the red dash line in the chart) confirmed that a 4- or 5- factor solution was a good fit to the data.



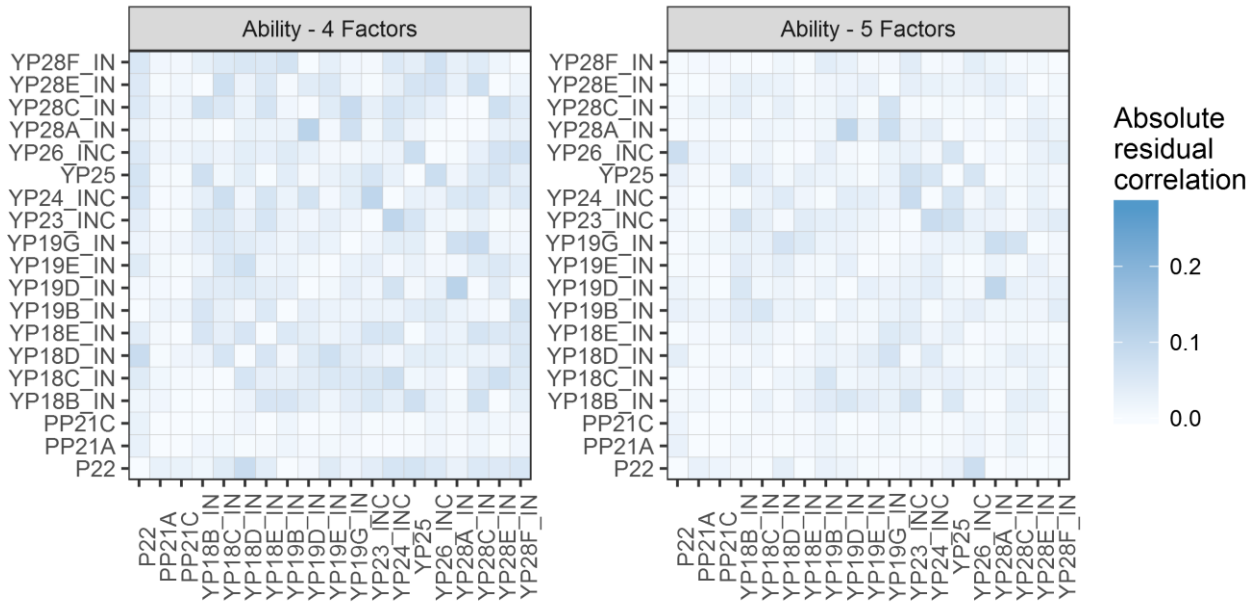
[9] Asparouhov et al 2009 http://www.tandfonline.com/doi/abs/10.1080/10705510903008204

[10] Rotation is a standardised method for aiding the interpretation of the results of factor analysis. It makes the pattern of factor loadings easier to understand by simplifying their structure. The method of rotation used here was oblique rotation, which allows for the factors returned in the analysis to be correlated with each other.

[11] These were estimated using the maximum a posteriori method.

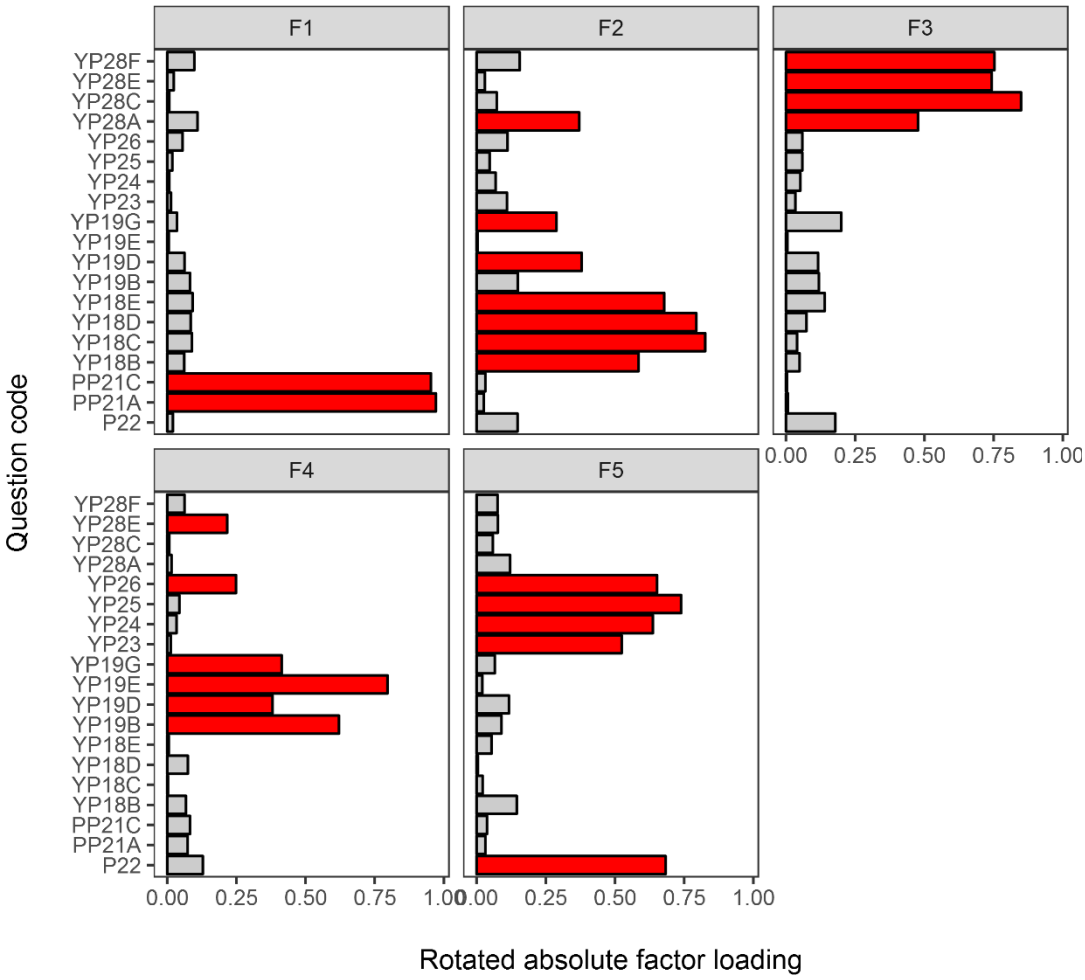
[12] Where possible (i.e. where the component was comprised of at least two measures asked of both the younger and older children) this assumption was tested by examining the factor congruence scores of factors fitted to the 7-13 year olds and 14-17 year olds to ensure similar factor loadings. All diagonal values in the matrix of congruence scores were greater than 0.9.

When considering the 4- and 5-factor solutions further, a comparison of the residual correlation matrices indicated that the 5th factor helped to account for some of the remaining correlation between indicators (indicated by a weakening of the blue cells in the second chart below, compared with the first). In particular, the 5-factor solution reduced the residual correlation between the YP28 indicators. This suggested that the 5-factor solution was the optimal solution.



The 5-factor solution also had acceptable model fit indices (on each of the RMSEA, TLI, CFI and WRMSR measures), suggesting good overall fit of this solution to the data.

Rotation of the 5-factor solution identified a clear pattern of factor loadings against each factor. Factor loadings provide a measure of strength, or weighting, of an individual survey measure against the resulting factor. Loadings are measured on a scale from 0 to 1. The red bars in the chart below indicate questions that loaded statistically significantly onto the factor and strongly (with a factor loading of greater than 0.2).



By examining which questions loaded strongly onto, and therefore 'defined', each factor, the factors could be meaningfully interpreted as relating to: being able to carry out transactions, knowledge of financial concepts, knowledge of adult responsibilities, knowledge of financial products and financial numeracy (see the lists below, which give the highest loading questions against each factor). In deriving the re-scaled composite measures for these factors for use in further analysis, every question included in the chart above contributed to each composite measure, but was weighted within it to reflect its relative importance to it.

F1 – CAN CARRY OUT TRANSACTIONS	
PP21a: When [pipe: NAME/your x year old] pays for things in shops, does [he/she] usually… Choose the right coins or notes to pay	7+
PP21c: When [pipe: NAME/your x year old] pays for things in shops, does [he/she] usually… Check [he/she] has the right change	7+

F2 - KNOWLEDGE OF FINANCIAL CONCEPTS	
YP18b. Can you pick the word that best fits this description? (12+) The money that is added to savings by banks or building societies	12+
YP18c. Can you pick the word that best fits this description? (12+) The money people pay to government	12+
YP18d. Can you pick the word that best fits this description? (12+) The money you get when you retire from working	12+
YP18e. Can you pick the word that best fits this description? (12+) The amount of money you have in your bank account	12+

F3 - KNOWLEDGE OF ADULT RESPONSIBILITIES	
YP28a. Which of the following things do most adults pay for, and which do most adults get for free? (14+) Rent or mortgage	14+
YP28c. Which of the following things do most adults pay for, and which do most adults get for free? (14+) Water at home	14+
YP28e. Which of the following things do most adults pay for, and which do most adults get for free? (14+) Council tax	14+
YP28f. Which of the following things do most adults pay for, and which do most adults get for free? (14+) Internet at home	14+

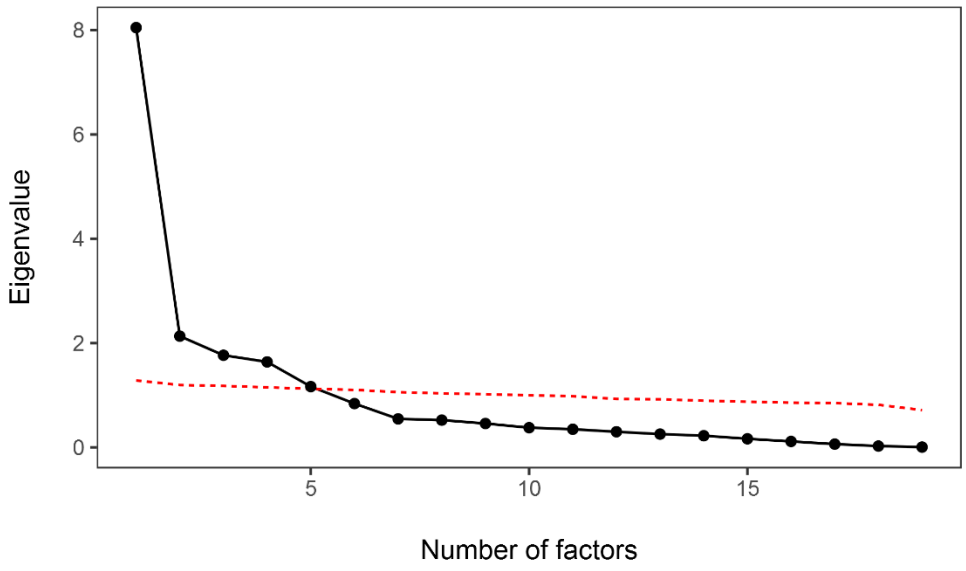
F4 - KNOWLEDGE OF FINANCIAL PRODUCTS	
YP19b. Look at this list, and choose which ones make your money grow, and which ones give you money now that has to be paid back later? (14+) Junior ISA	14+
YP19e. Look at this list, and choose which ones make your money grow, and which ones give you money now that has to be paid back later? (14+) Government bond	14+
YP19d. Look at this list, and choose which ones make your money grow, and which ones give you money now that has to be paid back later? (14+) Payday loan	14+
YP19g. Look at this list, and choose which ones make your money grow, and which ones give you money now that has to be paid back later? (14+) Investment	14+

F5 - FINANCIAL NUMERACY	
YP25. Suppose you put £100 into a savings account with a guaranteed interest rate of 2% per year. You don't make any further payments into this account and you don't withdraw any money. How much would be in the account at the end of the first year, once the interest payment is made? (11+)	11+
YP26. If the inflation rate is 5% and the interest rate you get on your savings is 3%, will your savings have more, less or the same amount of buying power in a year's time? (12+)	12+
P22. Looking at this example of a bank statement, how much money was in the account at the end of February? (12+)	12+
YP23. How much has Sally paid towards her retirement so far this year? (14+)	14+
YP24. How much was Sally paid this month before any tax or deductions were taken? (14+)	14+

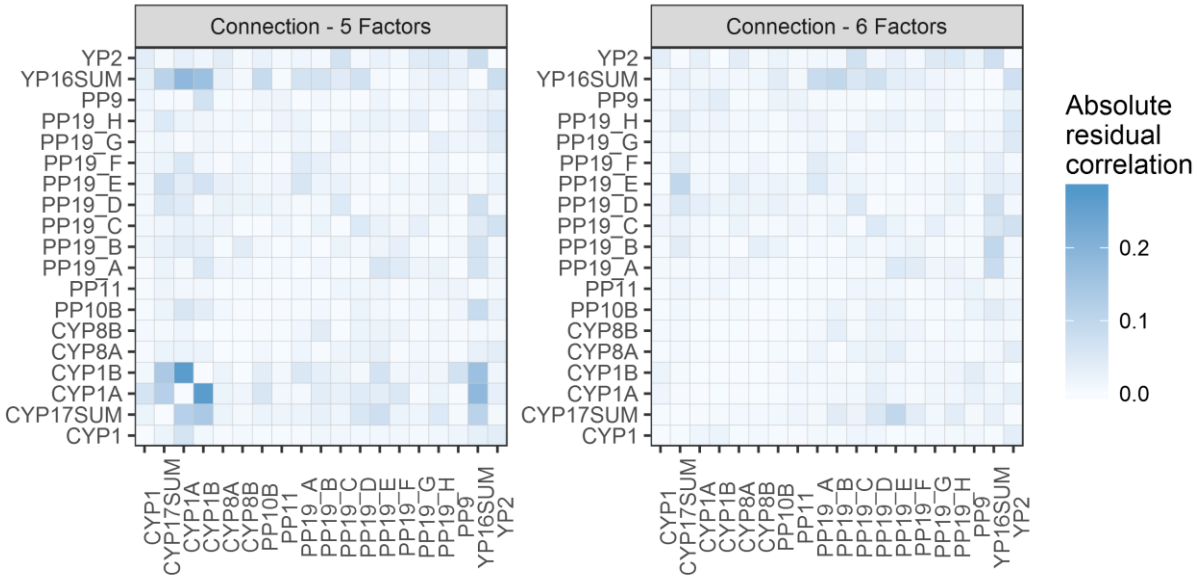
Connection

Analysis of the various measures allocated against connection suggested that 6 factors accounted well for the underlying patterns in the data.

The scree plot identified a clear inflection point, indicating 6 factors as the optimal solution. Parallel analysis additionally found that 5- or 6- factor solutions were likely to be a good fit.

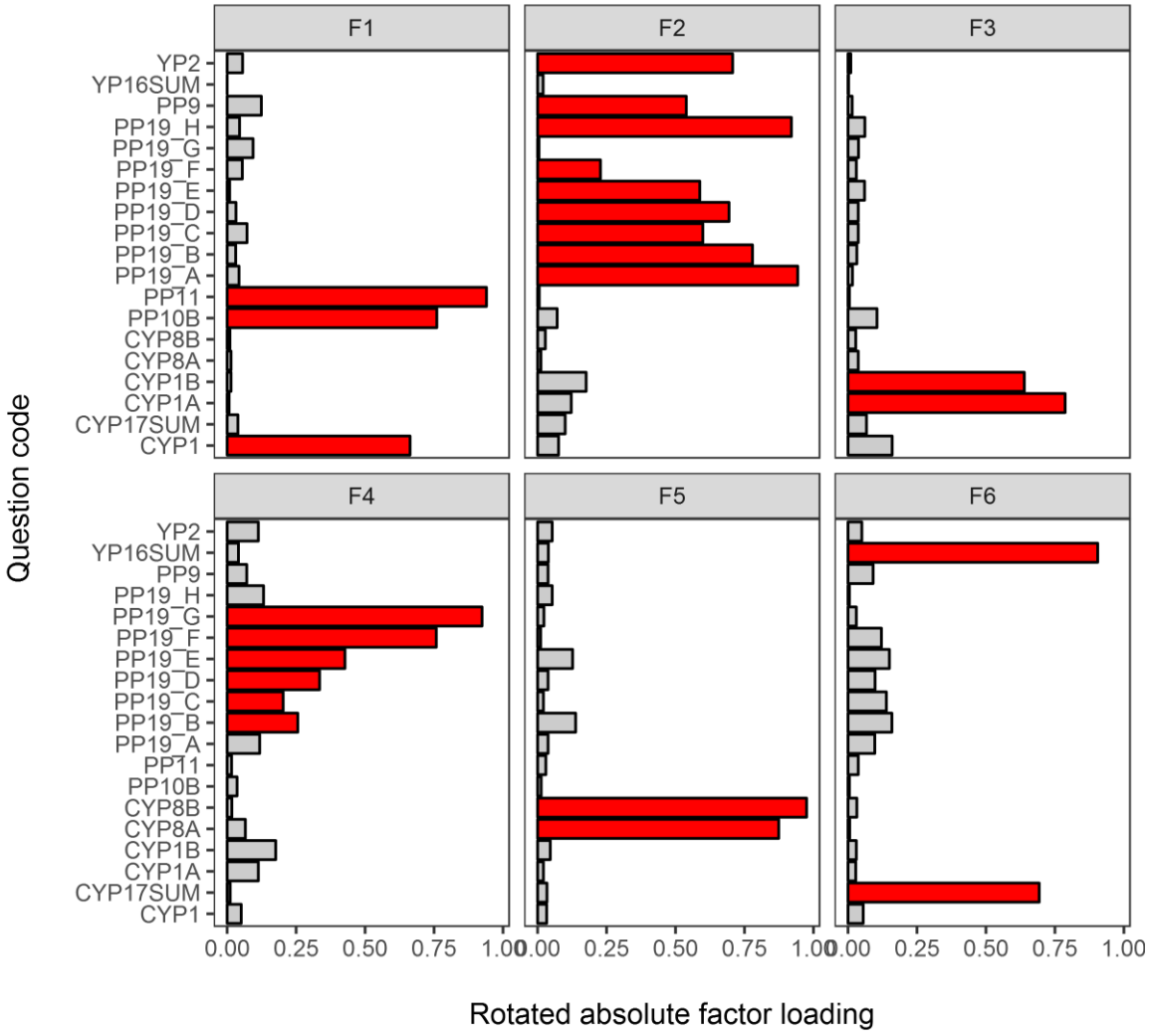


A comparison of the residual correlation matrices for the 5- and 6-factor solutions (shown in the charts below) suggested that the 6th factor helped to reduce for some of the remaining correlation between questions. This confirmed the 6-factor solution as the optimal solution.



The 6-factor solution also had acceptable model fit indices (on each of the RMSEA, TLI, CFI and WRMSR measures), indicating this solution as a good overall fit to the data.

When rotating the 6-factor solution to aid interpretation, there was a distinct pattern of factor loadings against each factor. The red bars in the chart below show which questions loaded statistically significantly onto the factor and strongly (with a factor loading of greater than 0.2).



Based on the loadings against each factor, the factors were interpreted as relating to: experience with phone payments, engagement with bank account, involvement with household spending, digital engagement, responsibility for financial decisions and discussing money (as listed below). Again, as for the ability composites, every question included in the chart above contributed to each composite measure, but was given a weighting within each one to reflect its relative loading on the corresponding factor.

F1 - EXPERIENCE WITH PHONE PAYMENTS	
PP10b. Is [pipe: NAME/your x year old] responsible for paying for [his/her] phone bill?	7+
PP11. To what extent was [pipe: NAME/your x year old] involved in the process of choosing the cost of [his/her] call and data package?	7+
CYP1. Do you get to have a choice in? (8+) The cost of your mobile phone call and data package	8+

F2 - ENGAGEMENT WITH BANK ACCOUNT	
YP2. Do you know what type of bank account you have? Is it a…. (7+)	8+
PP9. To what extent was [pipe: NAME/your x year old] involved in the choice of banking products in [his/her] name?	7+
PP19 Which of the following do you do with your bank account(s)? (excludes – digital engagement variables below)	8+

F3 – INVOLVEMENT WITH HOUSEHOLD SPENDING	
CYP1a. Do you get to have a choice in? Family days out or holidays	7+
CYP1b. Do you get to have a choice in? What to buy in the family food shop	7+

F4 - DIGITAL ENGAGEMENT	
PP19f. Which of the following do you do with your bank account(s)? (8+) Look at the account online (internet banking)	8+
PP19g. Which of the following do you do with your bank account(s)? (8+) Look at the account on my phone (mobile banking)	8+

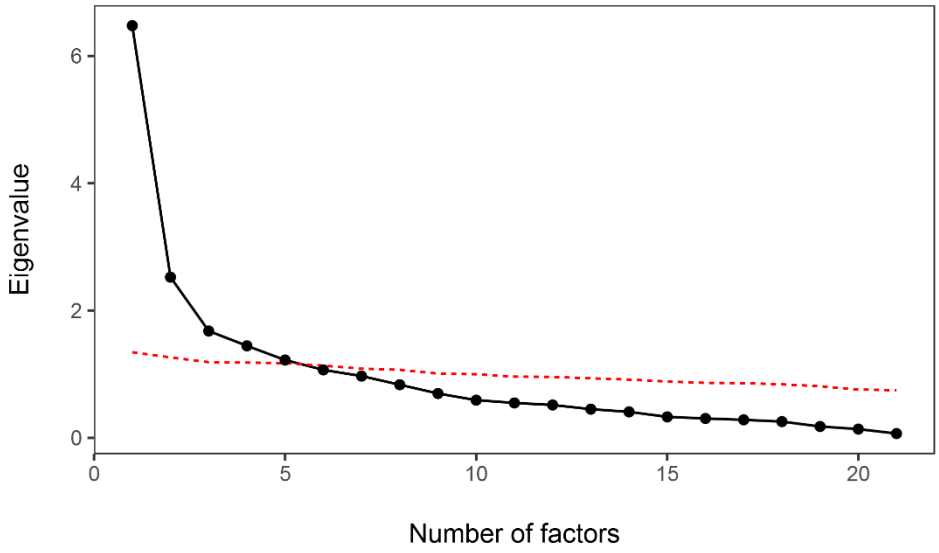
F5 – CHILD RESPONSIBLE FOR FINANCIAL DECISIONS	
CYP8a. When you have money, who usually decides whether you save any of it?	7+
CYP8b When you have money, who usually decides what you spend it on? (7+)	7+

F6 - DISCUSSING MONEY	
CYP17. Do you talk about your money with any of the following people?	7+
YP16. If you needed advice about money, who would you ask?	7+

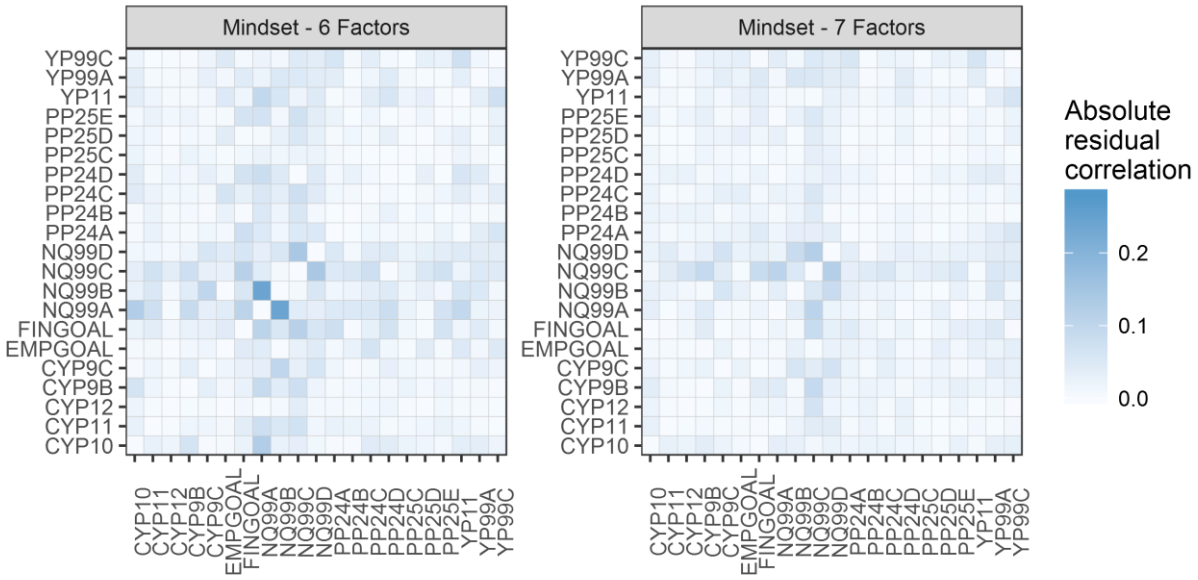
Mindset

Analysis of the various measures allocated against mindset suggested that 7 factors accounted well for the underlying patterns in the data.

An initial review of the scree plot did not indicate a clear solution, but that solutions of between 5 and 8 factors might be possible solutions. Parallel analysis suggested that between 5 and 7 factors are potential good-fit solutions.

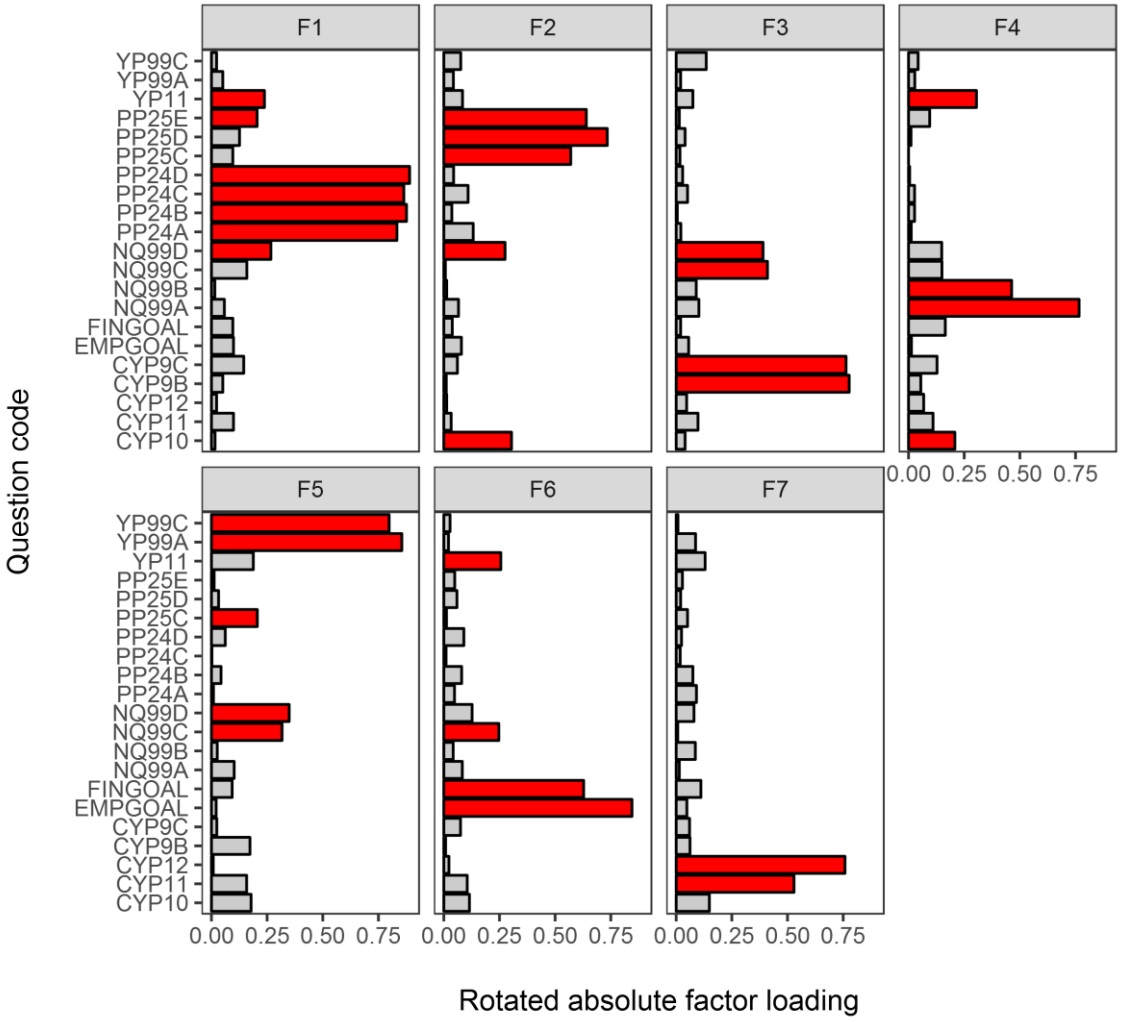


A comparison of the residual correlation matrices for the 6- and 7-factor solutions (shown in the charts below) indicated that the 7th factor helped to account for some of the remaining correlation between indicators. This suggested that the 7-factor solution was the optimal solution.



The 7-factor solution also had acceptable model fit indices (on each of the RMSEA, TLI, CFI and WRMSR measures), suggesting good overall fit of the solution to the data.

Rotation of the 7-factor solution identified a distinct pattern of factor loadings against each factor. The red bars in the chart below indicate questions that loaded statistically significantly onto the factor and strongly (with a factor loading of greater than 0.2).



When examining which questions load strongly onto each factor, the factors were interpreted as relating to: understanding money's value, children's financial confidence, self-controlled spending, attitude to their financial situation, shopping around, goal setting and savings mindset (see the lists below). The composite measures were derived based on these loadings and the re-scaled factor scores for each respondent.

F1 – UNDERSTANDS MONEY'S VALUE	
PP24a: How well do you think [pipe: NAME/your x year old] understands the following about money? That money has a value	7+
PP24b: How well do you think [pipe: NAME/your x year old] understands the following about money? Where your day-to-day money comes from	7+
PP24c: How well do you think [pipe: NAME/your x year old] understands the following about money? That you have to make choices when you spend your money	7+
PP24d: How well do you think [pipe: NAME/your x year old] understands the following about money? That adverts and some TV programmes are trying to sell them things	7+

F2 - FINANCIAL CONFIDENCE	
PP25d: Is [pipe: NAME/your x year old] able to do any of the following? Finish a task [he/she] has been asked/decided to do	7+
CYP10. How confident do you feel managing your money?	12+
PP25c: Is [pipe: NAME/your x year old] able to do any of the following? Explain the choices [he/she] makes when [he/she] spends [his/her] money	7+
PP25e: Is [pipe: NAME/your x year old] able to do any of the following? Able to recognise the difference between something [he/she] wants (e.g. games) and something [he/she] needs (e.g. food)	7+

F3 - SELF-CONTROLLED SPENDING[13]	
CYP9b. Here are some things that people your age have said about money. How strongly do you agree or disagree with them? I don't like it when my parents or carers say I cannot have things I see in shops	7+
CYP9c. Here are some things that people your age have said about money. How strongly do you agree or disagree with them? I don't like it when friends have things I don't have	7+
NQ99c. To what extent do you agree or disagree with the following statements? It is important to learn how to manage your money (11+)	11+
NQ99d. To what extent do you agree or disagree with the following statements? Having a job is the best way to be an independent person (14+)	14+

F4 -ATTITUDE TO FINANCIAL SITUATION	
NQ99a. To what extent do you agree or disagree with the following statements? Thinking about my money makes me anxious (11+)	11+
NQ99b. To what extent do you agree or disagree with the following statements? Nothing I do will make much difference to my money situation (11+)	11+
YP11. Below are some things people your age have said about borrowing money. Which one best describes how you feel about borrowing money? (12+)	12+

[13] This variable is not included in analyses in the main report as was found to have very low correlation with behavioural outcomes

F5 - SHOPPING AROUND	
YP99a. When you want to buy something for yourself, how often... (11+) [ASK THOSE AGED 11 TO 17, CODES 6 TO 12 AT SC1] ... do you look in different places or stores to compare prices?	11+
YP99c. When you want to buy something for yourself, how often... (11+) [ASK THOSE AGED 11 TO 17, CODES 6 TO 12 AT SC1] ... do you think about whether the item is good value for money?	11+

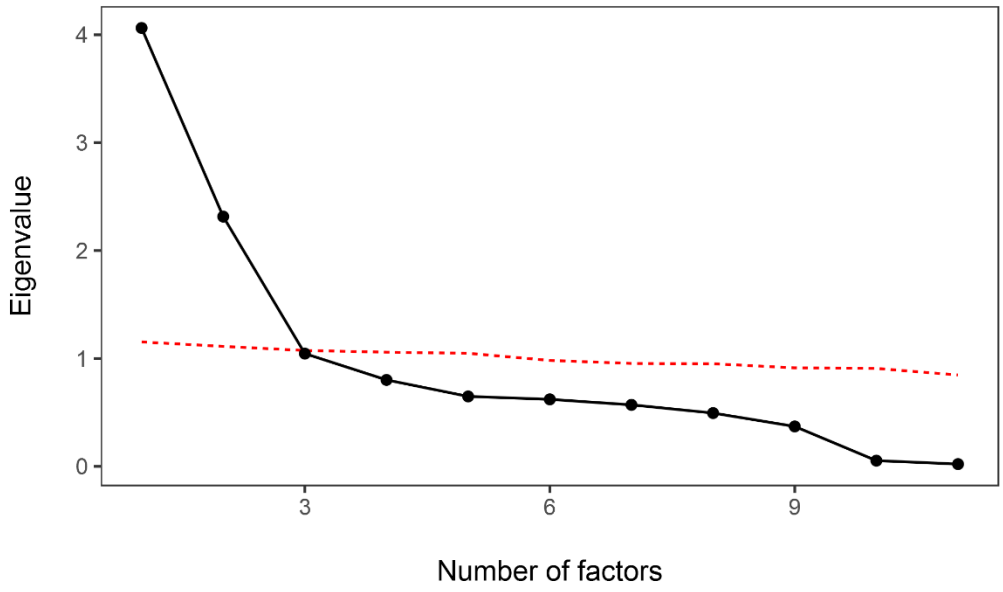
F6 - GOAL SETTING	
YP13. Which, if any, of the following goals would you like to achieve in the next 5 years? - employment goals	11+
YP13. Which, if any, of the following goals would you like to achieve in the next 5 years? - financial goals	11+

F7 - SAVINGS MINDSET	
CYP11. Imagine someone gives you £10. How much would you spend and how much would you save for later?	7+
CYP12. Imagine someone gives you £100. How much would you spend and how much would you save for later?	12+

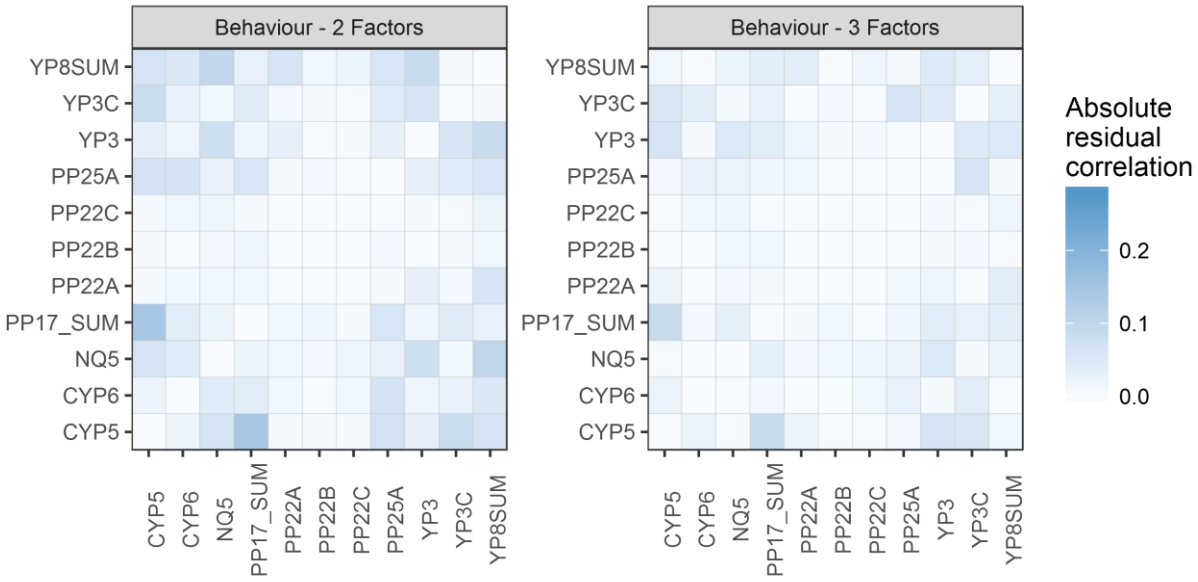
Behaviour

Analysis of the various measures allocated against the financially capable behaviours found that 3 factors accounted adequately for the underlying patterns in the data.

An initial review of the scree plot did not indicate a clear solution, but that 2, 3 or 4 factors might be possible solutions. Parallel analysis suggested only 2 or 3 factors as significant solutions.

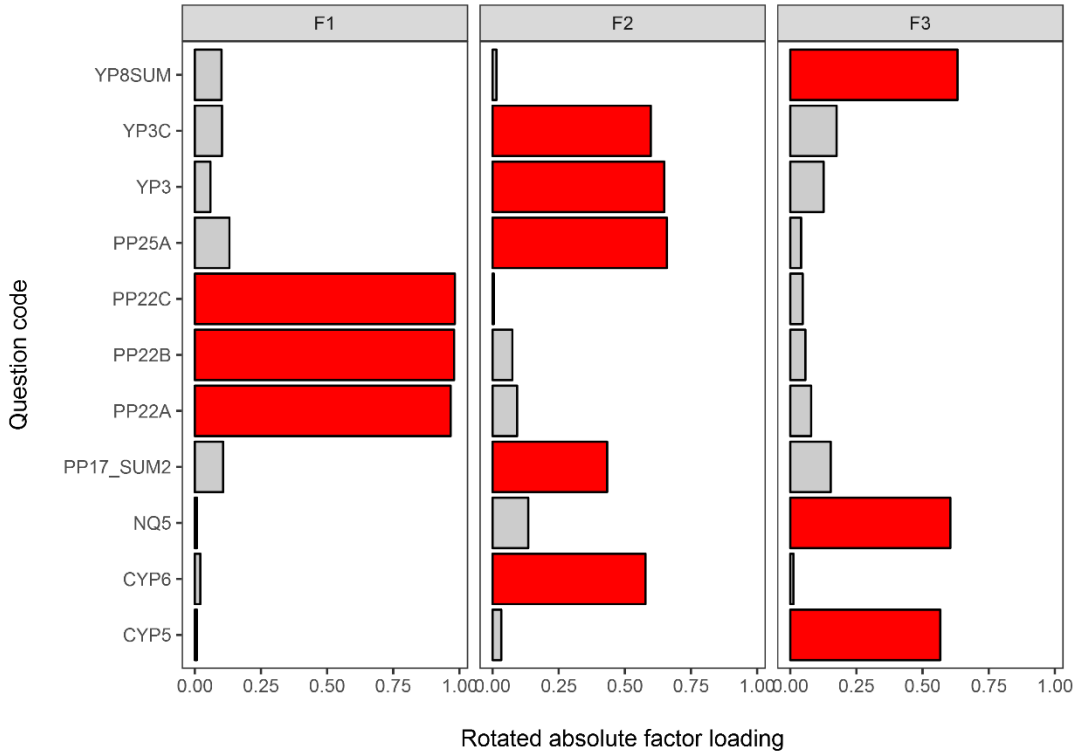


When considering the 2- and 3-factor solutions further, a comparison of the residual correlation matrices indicated that the 3rd factor helped to account for some of the remaining correlation between indicators. This suggested that the 3-factor solution was the optimal solution.



The 3-factor solution had acceptable model fit indices (on each of the RMSEA, TLI, CFI and WRMSR measures), confirming good overall fit of the solution to the data.

Rotation of the 3-factor solution identified a clear pattern of factor loadings against each factor. The red bars in the chart below indicate questions that loaded statistically significantly onto the factor and strongly (with a factor loading of greater than 0.2).



When examining which questions load strongly onto each factor, the factors were interpreted as relating to: online spending, active saving and day to day money management (see the lists below). Again, the composite measures were derived based on these loadings and the re-scaled factor scores for each respondent.

F1 - ONLINE SPENDING BEHAVIOUR	
PP22a. When [pipe: NAME/your x year old] pays for things online such as apps, games or music, does [he/she]… Stick to any agreements that you have about buying online	7+
PP22b. When [pipe: NAME/your x year old] pays for things online such as apps, games or music, does [he/she]… Pay online without adult supervision	7+
PP22c. When [pipe: NAME/your x year old] pays for things online such as apps, games or music, does [he/she]… Use [his/her] own money or online account	7+

F2 - ACTIVE SAVING	
CYP6. What is the longest time you have saved up for? (for example to buy something you wanted)	7+
PP25a: Is [pipe: NAME/your x year old] able to do any of the following? Save up for a short period of time to buy something [he/she] wants	7+
PP17: How often does [pipe: NAME/your x year old] save up [his/her] own money to buy a specific item?	7+
YP3. When you get money, how often do you save at least some of it, [say by putting it in a piggy bank or cash box or into your bank account]? (8+)	8+
YP3c. How often do you put money aside into your savings?	8+

F3 - DAY TO DAY MONEY MANAGEMENT	
CYP5. Do you know how much money you have in total? [Including in your bank?]	7+
NQ5. How often do you plan how you are going to pay for things you need? (14+)	14+
YP8a. How do you keep track of the money you get and the money you spend? (14+)	14+

Appendix B – Regression analysis

Regression analysis is a statistical method which enables the effects of multiple characteristics on an outcome of interest to be assessed at the same time. For our purposes, the outcomes of interest for this analysis are children and young people's financial capability behaviours, and the characteristics of interest (sometimes known as independent variables) include the mindset, ability and connection composites as well as the demographic characteristics of the child or their household, parental influence and the child's social, cognitive or behavioural skills. The analysis identifies which of the characteristics exert *independent* effects on financially capable behaviours by simultaneously controlling for the effects of all the other characteristics included in the analysis. It also estimates the ability of the independent variables, in combination, to predict scores on the outcome (hence, independent variables are also sometimes known as predictors).

Strictly speaking, the 'effects' that we observe in regression analysis – of a predictor on the outcome measure – are statistical *relationships* (associations). In practice, any cause-and-effect relationship between statistically associated predictors and outcomes could run in the opposite direction, and it is only our underlying theory or assumptions (which go into building the analysis) which allow us to interpret these associations as the *effects* or *influence* of one on the other.

The particular advantage of including multiple independent variables in a regression analysis is that it accounts for other possible relationships between predictor characteristics and the outcome. This helps our understanding of the influences on children and young people's financial capability behaviours in two key ways. First, it identifies the strongest *direct* influences that different characteristics exert; these are the characteristics which remain highly statistically significant in the regression analysis once all other characteristics available in the survey are taken into account (included in the analysis). Second, it identifies potentially important *indirect* influences of particular characteristics on behaviours; these are indicated where characteristics are statistically significant when only a subset of characteristics are included, but are no longer significant when other characteristics are taken into account in the analysis. An example of this would be where children's' social, cognitive or behavioural skills appear to be important influences on day-to-day money management, but this effect disappears when the mindset, ability and connection composites are included in the analysis.

Direct effects, from full regression analyses, are reported in section B.2. Indirect effects are explored in section B.3. The ability of the independent variables as a whole to predict scores on the outcome, which is informed by a measure of the amount of variation explained, is discussed in section B.4. First, the additional characteristics used in the analysis are considered (B.1).

B.1 Additional characteristics

The survey collected a wide range of information about a child's situation and circumstances, beyond those used in the derivation of financial capability composites already described. These related to their parents' and household's demographic situation, the child's financial means, parental influence and the child's social, cognitive or behavioural skills. These provide a large number of additional independent variables for inclusion in the regression analysis, and our approach was to include as many as are available. They were as follows:

Demographics

VARIABLE CODE	QUESTION WORDING
E1	Tenure
E2	Employment status
S4	Occupational group
E4	Household income
R3a	Parent disability
R4	Parent qualification
R9	Parent internet use
UK_region	UK region
resp	Household composition and responsibility structure
S8	Parent marital status
S11	Parent financial responsibility
TOP1	MAS Segment
IMD	Index of Multiple Deprivation - Income Domain
UR	Rural urban classification
S6A	Parent age
nChild	Number of children in the household
S2	Child's gender
New5_1	Child's educational stage
New5_2a	Child's school type
R1	Ethnicity
R3b	Child disability
R3c	Child caring responsibility
S1	Parent's relationship to child
Nqa	Child's internet use

Child's means

VARIABLE CODE	QUESTION WORDING
MoneyMerge	How much money child received last week
TOP17	Whether child gets regular money[14]

[14] Regular money includes pocket money or money from a job. Everything else is classified as irregular money.

Parental influence

Several parental influence questions in the survey were asked only of parents with children in particular age ranges. Including these in this analysis was not possible due to a problem known as multi-collinearity (which occurs when several variables are highly correlated; in this case, the missing values across several measures would be highly correlated, by definition). As such, those variables have been excluded from our analysis. This may mean that there are other important influences which we have not been able to test for or take into account. We have, however, included all variables which were asked of parents of children of all ages:

VARIABLE CODE	QUESTION WORDING	NOTES
P1	Parent satisfied with overall financial circumstances	
P10a	Parent agrees: thinking about my financial situation makes me anxious	
P10b	Parent agrees: Nothing I do will make much difference to my financial situation	
P10c	Parent agrees: I feel able to be a good role model for my children around money	
P10d	Parent agrees: I can affect how my children will behave around money when they grow up	
P11a	Parent agrees: I don't know how to talk to my child/children about money	
P11b	Parent agrees: Children should be protected from understanding how money works	
P11c	Parent agrees: My parents never talked to me about money	
P11d	Parent agrees: Children grow up to be like their parents/ carers are with their money	
P11e	Parent agrees: It is important to help your children learn how to manage their money	
P12a	Parent feels under pressure to spend money on my children even when I can't afford it	
P12b	Parent feels under pressure to spend like my friends even when I can't afford it	
P12c	Parent sets clear rules or agreements for [Child name] about money that I stick to	
P2	Parent is confident managing money	
P3	Parent is confident talking to child about money	
P5	Parent's perceived burden of bills	
P6	Parent has missed 3 bills in the last 6 months	
P7	Parent's saving frequency	
NQ96	How parent would pay an unexpected £300 bill	
talkOutsideFam	Parent talks to people outside the family about money	Formed from correspondence analysis of P13 questions
talkParentsSpouse	Parent talks to people within the family about money	
savingsProducts	Parent's savings product use	Formed from correspondence analysis of P14 questions
mainstreamCredit	Parent's mainstream credit use	
stCredit	Parent's short term credit use	

VARIABLE CODE	QUESTION WORDING	NOTES
offlineChecking	Parent's offline bank account checking	Formed from correspondence analysis of P8 questions
onlineChecking	Parent's online bank account checking	
PP26b	How often parent talks to children about the choices you make when spending your money	
PP26c	How often parent talks to children about the fact that advertising happens online, such as in search results, games, and videos	
PP27a	How often parent talks to children about the different ways you pay for things, e.g. by cash or card	
PP27c	How often parent shows child how to check your bank balance	
NQ2a	Age parent thinks a person's money habits and attitudes, for example being a spender or a saver, get established	
NQ2b	Age parent thinks that children should have the freedom to start making mistakes with their money and learn from them	
pp16Seg	Parent's attitude to when children should be involved with money	Formed from latent class analysis of PP16 questions

Child's social/cognitive/behavioural skills

VARIABLE CODE	QUESTION WORDING
LQ6	Child is shy
LQ10	Child would change lots about themselves
C14	Child believes when nice things happen it is only good luck?
CYP9d	Child perseveres
PP28a	Child is irritable or quick to get angry
PP28b	Child is often disobedient
NQ998a	Child's maths ability
NQ998b	Child's English ability

Dealing with missing values

Across all types of variables, there were instances of missing values: where respondents had not provided a valid answer to the question. As we saw in relation to the factor analysis which produced the composite measures, missing values are problematic in multi-variate analysis, and they must also be dealt with carefully in regression analysis. Rather than deleting cases with missing values on any variable, we have imputed (estimated) a value for missing values on these variables using multiple imputation.[15] In multiple imputation, multiple estimations of each missing value are made: we requested five estimations. For each new set of imputed values, the resulting distributions of the affected variables were compared to their original distributions to ensure that the imputation process had not changed the distributions unduly.

[15] For the continuous variables, we used predictive mean matching to impute the missing values. For categorical variables, we used random forest as the estimation method.

B.2 Testing for direct effects

The tables below report the results of incorporating all available variables (including the composites) into a regression analysis for each of the financial capability behaviours. This allows us to identify the important, direct effects of the predictor variables on the outcome measures. Because multiple imputation was used to estimate values for missing values for the additional characteristics, each analysis returned five sets of regression results (one for each set of imputed values). The results shown were therefore pooled across the five sets of results.

Several further steps were taken to improve the interpretability and accuracy of the regression analysis. First, continuous variables were re-scaled by dividing each value by two standard deviations (this standardised the resulting effects of these variables onto a common, comparable scale). Second, individual cases in the sample which were found to have a disproportionate impact on initial analysis were removed prior to running the final analysis.[16] Third, tests of multi-collinearity between the many independent variables were made.[17] All were within acceptable limits, giving us confidence to include all variables within the analysis. Finally, all analysis was run weighted using the survey weights.

For each predictor variable included in the regression analysis, two key pieces of information are returned:

- statistical significance, which is a measure of the statistical importance of the variable (the likelihood that the result has not occurred randomly in this survey sample and can therefore be generalised to the population from which the sample was drawn); and
- the effect size, which is a measure of the practical importance of the variable, which is comparable across variables.

The size of the effect is only important if the variable is statistically significant and then, rather than the point estimate of the effect size, the range in which the *true* effect – the size of the effect in the *population* – is likely to fall is important. This is given by the lower and upper thresholds of the confidence interval. The level of confidence used to test for statistical significance was set at 99%; this was set higher than the often used 95% level to account for the large number of variables used in the analysis and complexities in the sample design.

Full regression results have been produced for all three behaviour composites created above in the factor analysis: day to day money management, active saving and online spending.

Day to day money management

The table below shows the results of regression analysis of day to day money management on all available variables.

This shows that, even after taking into account the potential influence of a wide range of other characteristics, several financial capability composites were statistically significant predictors of day to day money management:

- Connection: Engagement with bank accounts, digital engagement, being responsible for financial decisions and discussing money
- Mindset: Understanding money values, shopping around and having a savings mindset

The size of effect for these composites varied from a small effect of 0.061 (confidently in the range of 0.007 to 0.116) for digital engagement to a comparatively large effect of 0.163 (0.115 to 0.210) for being responsible for financial decisions. In each case the effect was positive; in other words, a more positive mindset and higher levels of connection were associated with greater money management capability. None of the ability composites had any direct links to day to day money management independently of the other characteristics considered.

Very few of the remaining variables were statistically significant. Those with direct influences on day to day money management were parents setting rules around money (among children aged 8+), and the measures of children's means (both of which were statistically significant). The practical significance of how much money a child received last week (compared with receiving none) was particularly high, indicated by effect sizes greater than 0.2. Remaining variables, including all of the demographic characteristics and children's social, behaviour or cognitive skills were not important.

[16] The Cook's D values for each case were examined. A large Cook's D can indicate an outlying or highly influential case. Based on these values, a small number of cases were identified as problematic and removal from the final analysis (<10).

[17] The variance inflation factors (VIF) were examined. The VIF quantifies the extent to which one independent variable can be predicted by another (or a combination of others), which can lead to invalid results in regression analysis for any one predictor.

VARIABLE LABEL (SEE ABOVE FOR QUESTION WORDING)	REFERENCE CATEGORY (WHERE APPLICABLE)	CATEGORY LABEL	EFFECT SIZE	UPPER 99% CONFIDENCE INTERVAL	LOWER 99% CONFIDENCE INTERVAL	SIGNIFICANT AT 99% LEVEL?
COMPOSITES						
Understands money's value			0.076	0.144	0.008	Yes
Financial confidence			0.035	0.094	-0.024	Not
Attitude to financial situation			0.007	0.049	-0.035	Not
Shopping around			0.147	0.199	0.095	Yes
Goal setting			0.013	0.053	-0.028	Not
Savings mindset			0.121	0.164	0.078	Yes
Can carry out transactions			0.029	0.069	-0.011	Not
Knowledge of financial concepts			-0.065	0.017	-0.146	Not
Knowledge of adult responsibilities			0.032	0.102	-0.038	Not
Knowledge of financial products			0.019	0.076	-0.038	Not
Financial numeracy			0.033	0.107	-0.041	Not
Experience with phone payments			0.030	0.071	-0.011	Not
Engagement with bank account			0.081	0.139	0.022	Yes
Involvement with household spending			0.006	0.048	-0.036	Not
Digital engagement			0.061	0.116	0.007	Yes
Child responsible for financial decisions			0.163	0.210	0.115	Yes
Discussing money			0.100	0.144	0.057	Yes
PARENTAL INFLUENCE						
Parent satisfied with overall financial circumstances	8+	Not	-0.003	0.043	-0.049	Not
Parent agrees: thinking about my financial situation makes me anxious	Agree	Not	0.002	0.041	-0.038	Not
Parent agrees: Nothing I do will make much difference to my financial situation	Agree	Not	0.016	0.063	-0.031	Not
Parent agrees: I feel able to be a good role model for my children around money	Agree	Not	-0.003	0.051	-0.057	Not
Parent agrees: I can affect how my children will behave around money when they grow up	Agree	Not	-0.023	0.030	-0.077	Not

VARIABLE LABEL (SEE ABOVE FOR QUESTION WORDING)	REFERENCE CATEGORY (WHERE APPLICABLE)	CATEGORY LABEL	EFFECT SIZE	UPPER 99% CONFIDENCE INTERVAL	LOWER 99% CONFIDENCE INTERVAL	SIGNIFICANT AT 99% LEVEL?
Parent agrees: I don't know how to talk to my child/children about money	Agree	Not	-0.023	0.040	-0.085	Not
Parent agrees: Children should be protected from understanding how money works	Agree	Not	-0.037	0.016	-0.091	Not
Parent agrees: My parents never talked to me about money	Agree	Not	0.005	0.044	-0.034	Not
Parent agrees: Children grow up to be like their parents/carers are with their money	Agree	Not	-0.008	0.030	-0.046	Not
Parent agrees: It is important to help your children learn how to manage their money	Agree	Not	0.016	0.089	-0.057	Not
Parent feels under pressure to spend money on my children even when I can't afford it	8+	Not	0.030	0.083	-0.023	Not
Parent feels under pressure to spend like my friends even when I can't afford it	8+	Not	-0.013	0.052	-0.077	Not
Parent sets rules about money	Not	8+	0.062	0.101	0.022	Yes
Parent is confident managing money	8+	Not	-0.014	0.033	-0.061	Not
Parent is confident talking to child about money	8+	Not	0.001	0.046	-0.044	Not
Parent's perceived burden of bills	Heavy burden	Not	-0.022	0.037	-0.081	Not
Parent has missed 3 bills in the last 6 months	No	Yes	-0.015	0.039	-0.068	Not
Parent's saving frequency	Not	Every/most months	0.038	0.079	-0.004	Not
How parent would pay an unexpected £300 bill	Borrow	Own money	-0.007	0.041	-0.054	Not
		Sell stuff/couldn't pay	0.020	0.093	-0.054	Not
Parent talks to people outside the family about money			-0.027	0.011	-0.065	Not
Parent talks to people within the family about money			-0.036	0.009	-0.081	Not
Parent's savings product use			0.036	0.088	-0.016	Not
Parent's mainstream credit use			0.011	0.054	-0.031	Not
Parent's short term credit use			-0.002	0.035	-0.038	Not
Parent's offline bank account checking			0.022	0.060	-0.015	Not

VARIABLE LABEL (SEE ABOVE FOR QUESTION WORDING)	REFERENCE CATEGORY (WHERE APPLICABLE)	CATEGORY LABEL	EFFECT SIZE	UPPER 99% CONFIDENCE INTERVAL	LOWER 99% CONFIDENCE INTERVAL	SIGNIFICANT AT 99% LEVEL?
Parent's online bank account checking			0.003	0.041	-0.036	Not
How often parent talks to children about the choices you make when spending your money	Not	Sometimes/Often	-0.019	0.037	-0.074	Not
How often parent talks to children about online advertising	Not	Sometimes/Often	0.000	0.043	-0.042	Not
How often parent talks to children about ways you pay for things	Not	Sometimes/Often	-0.004	0.048	-0.055	Not
How often parent shows child how to check your bank balance	Not	Sometimes/Often	0.036	0.076	-0.004	Not
Age parent thinks a person's money habits get established	Under 7	12-18	-0.004	0.062	-0.070	Not
		19+/never	0.027	0.153	-0.099	Not
		7-11	-0.007	0.056	-0.069	Not
Age parent thinks that children should have the freedom to start making mistakes with their money and learn from them	Under 7	12-18	-0.002	0.089	-0.093	Not
		19+/never	0.005	0.128	-0.119	Not
		7-11	0.006	0.095	-0.082	Not
Parent's attitude to when children should be involved with money	1	12-15	-0.007	0.059	-0.073	Not
		8 - 12	0.005	0.069	-0.060	Not
		Under 7	0.008	0.085	-0.069	Not
DEMOGRAPHICS						
Tenure	Own it with a mortgage	Have some other arrangement (please specify)	-0.183	0.256	-0.622	Not
		Live with your parents/ grandparents/other family members	0.133	0.378	-0.113	Not
		Own it outright	0.043	0.109	-0.024	Not
		Part own/part rent the property (shared ownership)	-0.117	0.085	-0.319	Not
		Rent it from a local authority or housing association	-0.026	0.059	-0.111	Not
		Rent it from a private landlord	0.014	0.079	-0.050	Not

VARIABLE LABEL (SEE ABOVE FOR QUESTION WORDING)	REFERENCE CATEGORY (WHERE APPLICABLE)	CATEGORY LABEL	EFFECT SIZE	UPPER 99% CONFIDENCE INTERVAL	LOWER 99% CONFIDENCE INTERVAL	SIGNIFICANT AT 99% LEVEL?
Employment status	Working full time	In full time education	-0.021	0.188	-0.231	Not
		Part time education/part time work	0.029	0.203	-0.145	Not
		Retired	0.152	0.344	-0.040	Not
		Self employed	0.014	0.102	-0.074	Not
		Unemployed not seeking work	0.007	0.082	-0.069	Not
		Unemployed seeking work	0.056	0.149	-0.036	Not
		Working part time	0.002	0.050	-0.046	Not
Occupational group	Higher managerial	Casual worker - not in permanent employment	0.032	0.205	-0.141	Not
		Full-time carer of other household member	0.048	0.217	-0.122	Not
		Housewife/ Homemaker	0.019	0.150	-0.112	Not
		Intermediate managerial	-0.009	0.062	-0.080	Not
		Other	-0.071	0.079	-0.220	Not
		Retired and living on state pension	-0.048	0.286	-0.382	Not
		Semi or unskilled manual worker	0.022	0.115	-0.072	Not
		Skilled manual worker	-0.001	0.082	-0.084	Not
		Student	0.045	0.304	-0.214	Not
		Supervisory or clerical	-0.028	0.050	-0.105	Not
		Unemployed or not working due to long-term sickness	-0.045	0.096	-0.185	Not
Household income	Less than 13500	13500 - Less than 35000	0.017	0.081	-0.046	Not
		35000 - Less than 50000	0.014	0.096	-0.067	Not
		50000+	0.006	0.087	-0.074	Not
Parent is disabled	No	Yes	0.041	0.097	-0.015	Not

VARIABLE LABEL (SEE ABOVE FOR QUESTION WORDING)	REFERENCE CATEGORY (WHERE APPLICABLE)	CATEGORY LABEL	EFFECT SIZE	UPPER 99% CONFIDENCE INTERVAL	LOWER 99% CONFIDENCE INTERVAL	SIGNIFICANT AT 99% LEVEL?
Parent has degree or higher	GCSE	A level/Dip/Voc	0.013	0.064	-0.038	Not
		Degree+	0.038	0.096	-0.021	Not
		I have no formal qualifications	0.016	0.094	-0.062	Not
		Other	0.022	0.121	-0.077	Not
		Still studying	-0.005	0.268	-0.278	Not
Parent internet use	None - not used in the last week	1 - 2 hours	0.072	0.247	-0.104	Not
		11 - 19 hours	0.022	0.185	-0.142	Not
		20 - 29 hours	0.046	0.212	-0.121	Not
		3 - 5 hours	0.030	0.195	-0.135	Not
		30 hours or more	0.019	0.185	-0.147	Not
		6 - 7 hours	0.059	0.223	-0.105	Not
		8 - 10 hours	0.054	0.216	-0.107	Not
		Less than 1 hour	0.059	0.284	-0.166	Not
UK region	East	East Midlands	0.006	0.095	-0.084	Not
		London	0.031	0.116	-0.055	Not
		North East	0.050	0.165	-0.065	Not
		North West	0.030	0.114	-0.055	Not
		Northern Ireland	0.053	0.138	-0.031	Not
		Scotland	0.032	0.110	-0.046	Not
		South East	0.042	0.127	-0.043	Not
		South West	0.034	0.122	-0.053	Not
		Wales	0.030	0.107	-0.048	Not
		West Midlands	0.019	0.104	-0.066	Not
		Yorkshire & Humber	-0.046	0.043	-0.135	Not
Knowledge of adult responsibilities	2+ responsible adults in household	2+ adults not in household	-0.015	0.084	-0.114	Not
		Single Parent	-0.014	0.049	-0.078	Not
Parent marital status	Married/Living with partner	Divorced/Separated/ Widowed	0.025	0.114	-0.064	Not
		Single (never married)	0.032	0.118	-0.054	Not

VARIABLE LABEL (SEE ABOVE FOR QUESTION WORDING)	REFERENCE CATEGORY (WHERE APPLICABLE)	CATEGORY LABEL	EFFECT SIZE	UPPER 99% CONFIDENCE INTERVAL	LOWER 99% CONFIDENCE INTERVAL	SIGNIFICANT AT 99% LEVEL?
Household composition and responsibility structure	Solely/mainly responsible	Jointly/not onsible	-0.009	0.033	-0.052	Not
MAS Segment	Cushioned (4)	Squeezed (3)	-0.009	0.044	-0.062	Not
		Struggling (1&2)	0.026	0.107	-0.056	Not
Index of Multiple Deprivation - Income Domain	1 = Quintile 1 (Most income deprived)	2	0.019	0.071	-0.033	Not
		3	0.008	0.064	-0.047	Not
		4	-0.006	0.058	-0.069	Not
		5 = Quintile 5 (Least income deprived)	0.023	0.088	-0.043	Not
Rural urban classification	Intermediate	Rural	-0.016	0.075	-0.106	Not
		Urban	-0.010	0.056	-0.077	Not
Parent age	18-24	25-34	-0.037	0.149	-0.223	Not
		35-54	-0.066	0.120	-0.251	Not
		55-74	-0.039	0.166	-0.244	Not
		75+	-0.116	0.198	-0.429	Not
Number of children in the household	3+	Not	-0.013	0.037	-0.064	Not
Child's internet use	None - not used in the last week	1 - 2 hours	-0.034	0.075	-0.142	Not
		11 - 19 hours	0.020	0.130	-0.090	Not
		20 - 29 hours	-0.006	0.118	-0.130	Not
		3 - 5 hours	-0.001	0.105	-0.106	Not
		30 hours or more	0.017	0.145	-0.111	Not
		6 - 7 hours	-0.003	0.103	-0.110	Not
		8 - 10 hours	-0.032	0.080	-0.144	Not
		Less than 1 hour	0.017	0.141	-0.107	Not
Child's gender	Female	Male	0.024	0.059	-0.011	Not
Child's educational stage	Post-16 education (e.g. sixth form, college, Apprenticeship, Traineeship)	Other (please specify)	0.084	0.294	-0.126	Not
		Primary	0.074	0.151	-0.002	Not
		Secondary	0.022	0.089	-0.045	Not

VARIABLE LABEL (SEE ABOVE FOR QUESTION WORDING)	REFERENCE CATEGORY (WHERE APPLICABLE)	CATEGORY LABEL	EFFECT SIZE	UPPER 99% CONFIDENCE INTERVAL	LOWER 99% CONFIDENCE INTERVAL	SIGNIFICANT AT 99% LEVEL?
Child's school type	A different type of state school	An Academy (inc. Free Schools)	0.001	0.039	-0.038	Not
		Other	0.083	0.190	-0.024	Not
		Private or Independent school	0.028	0.106	-0.050	Not
Ethnicity	BME	White	-0.013	0.048	-0.073	Not
Child is disabled	No	Yes	-0.018	0.048	-0.083	Not
Child caring responsibility	No	Yes	-0.012	0.089	-0.112	Not
Parent's relationship to child	Carer	Non-parent relative	-0.080	0.173	-0.333	Not
		Parent/Step-parent	-0.019	0.177	-0.215	Not
CHILDREN'S SOCIAL/BEHAVIOURAL/COGNITIVE SKILLS						
Child would change lots about themselves	Don't know/No	Yes	0.040	0.085	-0.004	Not
Child is shy	Don't know/No	Yes	-0.003	0.036	-0.041	Not
Child believes when nice things happen it is only good luck?	Don't know/No	Yes	0.019	0.065	-0.028	Not
Child perseveres	Not	Agree	0.032	-0.006	0.069	Not
Child is irritable or quick to get angry	Not	Very/Mostly true	-0.028	0.023	-0.079	Not
Child is often disobedient	Not	Very/Mostly true	0.025	0.093	-0.043	Not
Child's maths ability	Below age expectations	Above age expectations	0.036	0.117	-0.045	Not
		At age expectations	-0.007	0.072	-0.085	Not
Child's English ability	Above age expectations	At age expectations	0.001	0.047	-0.044	Not
		Below age expectations	0.010	0.094	-0.074	Not
CHILD'S MEANS						
How much money child received last week	None	10-20	0.238	0.343	0.133	Yes
		20-50	0.252	0.363	0.141	Yes
		5-10	0.236	0.338	0.135	Yes
		50+	0.330	0.468	0.193	Yes
		Less than £5	0.235	0.340	0.130	Yes
Whether child gets regular money	No/Irregular money	Regular money	0.129	0.173	0.085	Yes

Active saving

The next table shows that, after taking into account the potential influence of all possible characteristics, several financial capability composites were statistically significant predictors of active saving:

- Ability: Carrying out transactions.
- Connection: Engagement with bank accounts; being responsible for financial decisions; and discussing money.
- Mindset: Understanding money values; financial confidence; shopping around; and having a savings mindset.

The size of effect for these composites varied from 0.043 (confidently in the range of 0.004 to 0.81) for carrying out transactions to 0.198 (0.159 to 0.237) for savings mindset. In each case the effect was positive.

Only a few of the remaining variables were statistically significant. These included where parents set rules around money (among children aged 8+) and saved most or every month. Child's means were important, and there were particularly large effect sizes for how much money a child received last week (compared with receiving none). Demographic characteristics and a child's social, behaviour or cognitive skills were not significant.

VARIABLE LABEL (SEE ABOVE FOR QUESTION WORDING)	REFERENCE CATEGORY (WHERE APPLICABLE)	CATEGORY LABEL	EFFECT SIZE	UPPER 99% CONFIDENCE INTERVAL	LOWER 99% CONFIDENCE INTERVAL	SIGNIFICANT AT 99% LEVEL?
COMPOSITES						
Understands money's value			0.114	0.180	0.049	Yes
Financial confidence			0.083	0.141	0.026	Yes
Attitude to financial situation			0.016	0.054	-0.021	Not
Shopping around			0.110	0.156	0.064	Yes
Goal setting			-0.011	0.027	-0.048	Not
Savings mindset			0.198	0.237	0.159	Yes
Can carry out transactions			0.043	0.081	0.004	Yes
Knowledge of financial concepts			-0.052	0.014	-0.119	Not
Knowledge of adult responsibilities			0.013	0.065	-0.039	Not
Knowledge of financial products			0.000	0.044	-0.044	Not
Financial numeracy			0.020	0.083	-0.043	Not
Experience with phone payments			0.028	0.065	-0.009	Not
Engagement with bank account			0.111	0.166	0.056	Yes
Involvement with household spending			-0.012	0.028	-0.053	Not
Digital engagement			-0.033	0.019	-0.085	Not
Child responsible for financial decisions			0.126	0.170	0.082	Yes
Discussing money			0.100	0.142	0.058	Yes

VARIABLE LABEL (SEE ABOVE FOR QUESTION WORDING)	REFERENCE CATEGORY (WHERE APPLICABLE)	CATEGORY LABEL	EFFECT SIZE	UPPER 99% CONFIDENCE INTERVAL	LOWER 99% CONFIDENCE INTERVAL	SIGNIFICANT AT 99% LEVEL?
PARENTAL INFLUENCE						
Parent satisfied with overall financial circumstances	8+	Not	-0.002	0.042	-0.046	Not
Parent agrees: thinking about my financial situation makes me anxious	Agree	Not	0.017	0.056	-0.023	Not
Parent agrees: Nothing I do will make much difference to my financial situation	Agree	Not	0.023	0.069	-0.022	Not
Parent agrees: I feel able to be a good role model for my children around money	Agree	Not	0.001	0.054	-0.051	Not
Parent agrees: I can affect how my children will behave around money when they grow up	Agree	Not	-0.026	0.028	-0.079	Not
Parent agrees: I don't know how to talk to my child/children about money	Agree	Not	-0.014	0.047	-0.075	Not
Parent agrees: Children should be protected from understanding how money works	Agree	Not	-0.012	0.040	-0.064	Not
Parent agrees: My parents never talked to me about money	Agree	Not	0.011	0.049	-0.027	Not
Parent agrees: Children grow up to be like their parents/ carers are with their money	Agree	Not	-0.017	0.020	-0.054	Not
Parent agrees: It is important to help your children learn how to manage their money	Agree	Not	0.026	0.096	-0.043	Not
Parent feels under pressure to spend money on my children even when I can't afford it	8+	Not	0.030	0.082	-0.022	Not
Parent feels under pressure to spend like my friends even when I can't afford it	8+	Not	-0.033	0.027	-0.094	Not
Parent sets rules about money	Not	8+	0.043	0.081	0.005	Yes
Parent is confident managing money	8+	Not	-0.014	0.031	-0.059	Not
Parent is confident talking to child about money	8+	Not	0.005	0.051	-0.042	Not
Parent's perceived burden of bills	Heavy burden	Not	-0.013	0.044	-0.069	Not

VARIABLE LABEL (SEE ABOVE FOR QUESTION WORDING)	REFERENCE CATEGORY (WHERE APPLICABLE)	CATEGORY LABEL	EFFECT SIZE	UPPER 99% CONFIDENCE INTERVAL	LOWER 99% CONFIDENCE INTERVAL	SIGNIFICANT AT 99% LEVEL?
Parent has missed 3 bills in the last 6 months	No	Yes	-0.018	0.038	-0.074	Not
Parent's saving frequency	Not	Every/most months	0.047	0.088	0.007	Yes
How parent would pay an unexpected £300 bill	Borrow	Own money	0.023	0.070	-0.024	Not
		Sell stuff/couldn't pay	0.031	0.106	-0.045	Not
Parent talks to people outside the family about money			-0.021	0.015	-0.058	Not
Parent talks to people within the family about money			-0.007	0.036	-0.051	Not
Parent's savings product use			0.030	0.077	-0.018	Not
Parent's mainstream credit use			0.020	0.060	-0.020	Not
Parent's short term credit use			-0.004	0.029	-0.037	Not
Parent's offline bank account checking			0.028	0.065	-0.009	Not
Parent's online bank account checking			0.013	0.051	-0.025	Not
How often parent talks to children about the choices you make when spending your money	Not	Sometimes/Often	-0.018	0.038	-0.074	Not
How often parent talks to children about online advertising	Not	Sometimes/Often	0.032	0.073	-0.010	Not
How often parent talks to children about ways you pay for things	Not	Sometimes/Often	0.021	0.070	-0.029	Not
How often parent shows child how to check your bank balance	Not	Sometimes/Often	0.025	0.064	-0.013	Not
Age parent thinks a person's money habits get established	Under 7	12-18	-0.058	0.011	-0.126	Not
		19+/never	-0.011	0.106	-0.128	Not
		7-11	-0.045	0.022	-0.111	Not
Age parent thinks that children should have the freedom to start making mistakes with their money and learn from them	Under 7	12-18	0.067	0.153	-0.019	Not
		19+/never	0.060	0.191	-0.070	Not
		7-11	0.023	0.106	-0.060	Not
Parent's attitude to when children should be involved with money	16+	12-15	0.002	0.065	-0.062	Not
		8 - 12	0.052	0.114	-0.010	Not
		Under 7	0.103	0.177	0.029	Yes

VARIABLE LABEL (SEE ABOVE FOR QUESTION WORDING)	REFERENCE CATEGORY (WHERE APPLICABLE)	CATEGORY LABEL	EFFECT SIZE	UPPER 99% CONFIDENCE INTERVAL	LOWER 99% CONFIDENCE INTERVAL	SIGNIFICANT AT 99% LEVEL?
DEMOGRAPHICS						
Tenure	Own it with a mortgage	Have some other arrangement (please specify)	-0.114	0.230	-0.458	Not
		Live with your parents/ grandparents/other family members	0.049	0.254	-0.155	Not
		Own it outright	0.020	0.082	-0.041	Not
		Part own/part rent the property (shared ownership)	-0.277	0.013	-0.566	Not
		Rent it from a local authority or housing association	-0.050	0.034	-0.133	Not
		Rent it from a private landlord	-0.007	0.059	-0.072	Not
Employment status	Working full time	In full time education	0.019	0.195	-0.157	Not
		Part time education/part time work	-0.052	0.111	-0.216	Not
		Retired	0.135	0.337	-0.068	Not
		Self employed	-0.023	0.056	-0.103	Not
		Unemployed not seeking work	-0.012	0.060	-0.085	Not
		Unemployed seeking work	0.056	0.145	-0.033	Not
		Working part time	-0.039	0.008	-0.086	Not

VARIABLE LABEL (SEE ABOVE FOR QUESTION WORDING)	REFERENCE CATEGORY (WHERE APPLICABLE)	CATEGORY LABEL	EFFECT SIZE	UPPER 99% CONFIDENCE INTERVAL	LOWER 99% CONFIDENCE INTERVAL	SIGNIFICANT AT 99% LEVEL?
Occupational group	Higher managerial	Casual worker - not in permanent employment	0.047	0.228	-0.134	Not
		Full-time carer of other household member	0.011	0.171	-0.150	Not
		Housewife/ Homemaker	-0.002	0.124	-0.128	Not
		Intermediate managerial	0.007	0.074	-0.060	Not
		Other	-0.027	0.121	-0.174	Not
		Retired and living on state pension	-0.139	0.224	-0.503	Not
		Semi or unskilled manual worker	0.052	0.143	-0.038	Not
		Skilled manual worker	0.037	0.115	-0.040	Not
		Student	0.017	0.265	-0.230	Not
		Supervisory or clerical	-0.002	0.068	-0.073	Not
		Unemployed or not working due to long-term sickness	-0.031	0.105	-0.166	Not
Household income	Less than 13500	13500 - Less than 35000	-0.001	0.058	-0.060	Not
		35000 - Less than 50000	-0.029	0.047	-0.105	Not
		50000+	-0.018	0.062	-0.099	Not
Parent is disabled	No	Yes	0.051	0.105	-0.004	Not
Parent has degree or higher	GCSE	A level/Dip/Voc	-0.002	0.048	-0.052	Not
		Degree+	0.039	0.096	-0.018	Not
		I have no formal qualifications	0.002	0.077	-0.074	Not
		Other	0.045	0.163	-0.074	Not
		Still studying	0.048	0.282	-0.185	Not

VARIABLE LABEL (SEE ABOVE FOR QUESTION WORDING)	REFERENCE CATEGORY (WHERE APPLICABLE)	CATEGORY LABEL	EFFECT SIZE	UPPER 99% CONFIDENCE INTERVAL	LOWER 99% CONFIDENCE INTERVAL	SIGNIFICANT AT 99% LEVEL?
Parent internet use	None - not used in the last week	1 - 2 hours	0.016	0.210	-0.179	Not
		11 - 19 hours	0.024	0.206	-0.158	Not
		20 - 29 hours	0.057	0.243	-0.128	Not
		3 - 5 hours	0.020	0.206	-0.165	Not
		30 hours or more	0.023	0.209	-0.163	Not
		6 - 7 hours	0.040	0.225	-0.144	Not
		8 - 10 hours	0.061	0.244	-0.123	Not
		Less than 1 hour	0.008	0.245	-0.229	Not
UK region	East	East Midlands	-0.042	0.044	-0.127	Not
		London	0.033	0.112	-0.045	Not
		North East	0.012	0.114	-0.091	Not
		North West	0.018	0.098	-0.062	Not
		Northern Ireland	0.021	0.102	-0.059	Not
		Scotland	0.033	0.106	-0.039	Not
		South East	-0.007	0.071	-0.086	Not
		South West	0.005	0.086	-0.075	Not
		Wales	-0.025	0.049	-0.099	Not
		West Midlands	-0.009	0.072	-0.091	Not
		Yorkshire & Humber	-0.049	0.037	-0.134	Not
Household composition and responsibility structure	2+ responsible adults in household	2+ adults not in household	0.005	0.100	-0.090	Not
		Single Parent	-0.007	0.059	-0.072	Not
Parent marital status	Married/Living with partner	Divorced/Separated /Widowed	-0.015	0.071	-0.100	Not
		Single (never married)	0.011	0.097	-0.076	Not
Parent financial responsibility	Solely/mainly responsible	Jointly/ not responsible	0.001	0.043	-0.041	Not
MAS Segment	Cushioned (4)	Squeezed (3)	0.008	0.059	-0.042	Not
		Struggling (1&2)	0.009	0.092	-0.073	Not

VARIABLE LABEL (SEE ABOVE FOR QUESTION WORDING)	REFERENCE CATEGORY (WHERE APPLICABLE)	CATEGORY LABEL	EFFECT SIZE	UPPER 99% CONFIDENCE INTERVAL	LOWER 99% CONFIDENCE INTERVAL	SIGNIFICANT AT 99% LEVEL?
Index of Multiple Deprivation - Income Domain	1 = Quintile 1 (Most income deprived)	2	0.013	0.063	-0.038	Not
		3	-0.014	0.046	-0.073	Not
		4	-0.012	0.051	-0.074	Not
		5 = Quintile 5 (Least income deprived)	0.008	0.072	-0.057	Not
Rural urban classification	Intermediate	Rural	-0.034	0.052	-0.119	Not
		Urban	-0.033	0.028	-0.093	Not
Parent age	18-24	25-34	-0.008	0.215	-0.231	Not
		35-54	-0.025	0.195	-0.244	Not
		55-74	0.003	0.237	-0.231	Not
		75+	0.181	0.519	-0.158	Not
Number of children in the household	3+	Not	0.006	0.058	-0.046	Not
Child's internet use	None - not used in the last week	1 - 2 hours	0.000	0.134	-0.134	Not
		11 - 19 hours	0.071	0.201	-0.060	Not
		20 - 29 hours	0.037	0.179	-0.105	Not
		3 - 5 hours	0.048	0.180	-0.084	Not
		30 hours or more	0.022	0.169	-0.125	Not
		6 - 7 hours	0.048	0.180	-0.085	Not
		8 - 10 hours	-0.002	0.135	-0.139	Not
		Less than 1 hour	0.044	0.196	-0.108	Not
Child's gender	Female	Male	0.034	0.069	-0.001	Not
Child's educational stage	Post-16 education (e.g. sixth form, college, Apprenticeship, Traineeship)	Other (please specify)	0.148	0.353	-0.057	Not
		Primary	0.032	0.099	-0.036	Not
		Secondary	-0.005	0.051	-0.061	Not
Child's school type	A different type of state school	An Academy (inc. Free Schools)	0.007	0.046	-0.032	Not
		Other	0.017	0.118	-0.084	Not

VARIABLE LABEL (SEE ABOVE FOR QUESTION WORDING)	REFERENCE CATEGORY (WHERE APPLICABLE)	CATEGORY LABEL	EFFECT SIZE	UPPER 99% CONFIDENCE INTERVAL	LOWER 99% CONFIDENCE INTERVAL	SIGNIFICANT AT 99% LEVEL?
		Private or Independent school	0.029	0.105	-0.046	Not
Ethnicity	BME	White	-0.022	0.038	-0.083	Not
Child is disabled	No	Yes	0.016	0.085	-0.053	Not
Child caring responsibility	No	Yes	-0.008	0.083	-0.098	Not
Parent's relationship to child	Carer	Non-parent relative	0.097	0.366	-0.172	Not
		Parent/Step-parent	0.099	0.309	-0.111	Not
CHILDREN'S SOCIAL/BEHAVIOURAL/COGNITIVE SKILLS						
Child would change lots about themselves	Don't know/No	Yes	0.038	0.080	-0.005	Not
Child is shy	Don't know/No	Yes	0.023	0.060	-0.014	Not
Child believes when nice things happen it is only good luck	Don't know/No	Yes	0.034	0.078	-0.009	Not
Child perseveres	Not	Agree	0.033	-0.004	0.071	Not
Child is irritable or quick to get angry	Not	Very/Mostly true	-0.040	0.008	-0.089	Not
Child is often disobedient	Not	Very/Mostly true	-0.018	0.050	-0.087	Not
Child's maths ability	Below age expectations	Above age expectations	0.028	0.115	-0.060	Not
		At age expectations	-0.003	0.083	-0.089	Not
Child's English ability	Above age expectations	At age expectations	-0.023	0.022	-0.069	Not
		Below age expectations	-0.013	0.076	-0.103	Not
CHILD'S MEANS						
How much money child received last week	None	10-20	0.173	0.277	0.068	Yes
		20-50	0.178	0.289	0.066	Yes
		5-10	0.185	0.288	0.081	Yes
		50+	0.203	0.334	0.073	Yes
		Less than £5	0.197	0.306	0.088	Yes
Whether child gets regular money	No/Irregular money	Regular money	0.142	0.187	0.097	Yes

Online spending

The next table shows that, after taking into account the potential influence of all possible characteristics, several enabler and inhibitor composites – and especially those relating to connection – were statistically significant predictors of online spending:

- **Ability**: Carrying out transactions.
- **Connection**: Experience with phone payments; involvement with household spending; digital engagement; being responsible for financial decisions; and discussing money.
- **Mindset**: Financial confidence.

The size of effect for these composites varied from 0.055 (confidently in the range of 0.007 to 0.102) for being responsible for financial decisions to 0.279 (0.210 to 0.348) for digital engagement. The ffect in each case was positive, with one exception: the effect of higher scores on discussing money was associated with lower scores on the online spending behaviour:

Variables associated with parental influence, children's wider skills or their means were not significant. Instead several demographic variables were important, and these included the child's ethnicity, their relationship to their parents, their educational stage and, notably, their internet use. A child online spending was also influenced directly by their parents' age and household income.

These results are not discussed in the main report as the focus of that report is on day to day money management and active saving. The analysis presented in later sections of this Appendix also do not consider online spending for the same reason.

VARIABLE LABEL (SEE ABOVE FOR QUESTION WORDING)	REFERENCE CATEGORY (WHERE APPLICABLE)	CATEGORY LABEL	EFFECT SIZE	UPPER 99% CONFIDENCE INTERVAL	LOWER 99% CONFIDENCE INTERVAL	SIGNIFICANT AT 99% LEVEL?
COMPOSITES						
Understands money's value			-0.011	0.060	-0.081	Not
Financial confidence			0.070	0.135	0.006	Yes
Attitude to financial situation			-0.011	0.034	-0.055	Not
Shopping around			0.033	0.085	-0.019	Not
Goal setting			-0.014	0.030	-0.059	Not
Savings mindset			0.009	0.055	-0.036	Not
Can carry out transactions			0.147	0.192	0.102	Yes
Knowledge of financial concepts			-0.002	0.078	-0.081	Not
Knowledge of adult responsibilities			-0.004	0.054	-0.062	Not
Knowledge of financial products			-0.021	0.030	-0.072	Not
Financial numeracy			0.042	0.114	-0.030	Not
Experience with phone payments			0.065	0.108	0.022	Yes
Engagement with bank account			-0.039	0.030	-0.108	Not
Involvement with household spending			0.056	0.103	0.009	Yes

VARIABLE LABEL (SEE ABOVE FOR QUESTION WORDING)	REFERENCE CATEGORY (WHERE APPLICABLE)	CATEGORY LABEL	EFFECT SIZE	UPPER 99% CONFIDENCE INTERVAL	LOWER 99% CONFIDENCE INTERVAL	SIGNIFICANT AT 99% LEVEL?
Digital engagement			0.279	0.348	0.210	Yes
Child responsible for financial decisions			0.055	0.102	0.007	Yes
Discussing money			-0.075	-0.025	-0.126	Yes
PARENTAL INFLUENCE						
Parent satisfied with overall financial circumstances	8+	Not	-0.004	0.048	-0.057	Not
Parent agrees: thinking about my financial situation makes me anxious	Agree	Not	0.030	0.080	-0.019	Not
Parent agrees: Nothing I do will make much difference to my financial situation	Agree	Not	0.006	0.061	-0.049	Not
Parent agrees: I feel able to be a good role model for my children around money	Agree	Not	0.012	0.069	-0.045	Not
Parent agrees: I can affect how my children will behave around money when they grow up	Agree	Not	-0.012	0.048	-0.071	Not
Parent agrees: I don't know how to talk to my child/children about money	Agree	Not	-0.015	0.060	-0.089	Not
Parent agrees: Children should be protected from understanding how money works	Agree	Not	-0.028	0.037	-0.092	Not
Parent agrees: My parents never talked to me about money	Agree	Not	-0.012	0.035	-0.058	Not
Parent agrees: Children grow up to be like their parents/ carers are with their money	Agree	Not	0.001	0.046	-0.044	Not
Parent agrees: It is important to help your children learn how to manage their money	Agree	Not	0.022	0.100	-0.057	Not
Parent feels under pressure to spend money on my children even when I can't afford it	8+	Not	-0.047	0.014	-0.108	Not
Parent feels under pressure to spend like my friends even when I can't afford it	8+	Not	0.001	0.076	-0.075	Not
Parent sets rules about money	Not	8+	-0.018	0.028	-0.064	Not
Parent is confident managing money	8+	Not	0.020	0.074	-0.033	Not

VARIABLE LABEL (SEE ABOVE FOR QUESTION WORDING)	REFERENCE CATEGORY (WHERE APPLICABLE)	CATEGORY LABEL	EFFECT SIZE	UPPER 99% CONFIDENCE INTERVAL	LOWER 99% CONFIDENCE INTERVAL	SIGNIFICANT AT 99% LEVEL?
Parent is confident talking to child about money	8+	Not	0.022	0.075	-0.031	Not
Parent's perceived burden of bills	Heavy burden	Not	0.023	0.092	-0.047	Not
Parent has missed 3 bills in the last 6 months	No	Yes	-0.005	0.066	-0.075	Not
Parent's saving frequency	Not	Every/most months	0.009	0.057	-0.039	Not
How parent would pay an unexpected £300 bill	Borrow	Own money	-0.021	0.035	-0.076	Not
		Sell stuff/couldn't pay	0.015	0.099	-0.068	Not
Parent talks to people outside the family about money			0.018	0.065	-0.029	Not
Parent talks to people within the family about money			-0.005	0.046	-0.055	Not
Parent's savings product use			-0.035	0.025	-0.095	Not
Parent's mainstream credit use			0.049	0.098	0.001	Yes
Parent's short term credit use			0.020	0.062	-0.023	Not
Parent's offline bank account checking			-0.020	0.023	-0.062	Not
Parent's online bank account checking			-0.002	0.047	-0.052	Not
How often parent talks to children about the choices you make when spending your money	Not	Sometimes/Often	0.022	0.083	-0.038	Not
How often parent talks to children about online advertising	Not	Sometimes/Often	0.021	0.071	-0.030	Not
How often parent talks to children about ways you pay for things	Not	Sometimes/Often	-0.002	0.056	-0.059	Not
How often parent shows child how to check your bank balance	Not	Sometimes/Often	0.038	0.086	-0.009	Not
Age parent thinks a person's money habits get established	Under 7	12-18	0.036	0.120	-0.048	Not
		19+/never	-0.001	0.133	-0.134	Not
		7-11	0.056	0.138	-0.026	Not
Age parent thinks that children should have the freedom to start making mistakes with their money and learn from them	Under 7	12-18	-0.059	0.048	-0.167	Not
		19+/never	0.024	0.175	-0.128	Not
		7-11	-0.024	0.085	-0.132	Not
Parent's attitude to when children should be involved with money	16+	12-15	0.018	0.087	-0.051	Not
		8 - 12	0.022	0.092	-0.048	Not
		Under 7	0.000	0.085	-0.085	Not

VARIABLE LABEL (SEE ABOVE FOR QUESTION WORDING)	REFERENCE CATEGORY (WHERE APPLICABLE)	CATEGORY LABEL	EFFECT SIZE	UPPER 99% CONFIDENCE INTERVAL	LOWER 99% CONFIDENCE INTERVAL	SIGNIFICANT AT 99% LEVEL?
Variable label (see above for question wording)	Reference category (where applicable)	Category label	Effect size	Upper 99% confidence interval	Lower 99% confidence interval	Significant at 99% level?
DEMOGRAPHICS						
Tenure	Own it with a mortgage	Have some other arrangement (please specify)	-0.084	0.306	-0.474	Not
		Live with your parents/grandparents/other family members	0.076	0.333	-0.182	Not
		Own it outright	0.021	0.093	-0.052	Not
		Part own/part rent the property (shared ownership)	0.105	0.449	-0.238	Not
		Rent it from a local authority or housing association	-0.069	0.020	-0.157	Not
		Rent it from a private landlord	-0.034	0.039	-0.107	Not
Employment status	Working full time	In full time education	-0.043	0.146	-0.233	Not
		Part time education/part time work	-0.079	0.085	-0.242	Not
		Retired	0.169	0.388	-0.050	Not
		Self employed	0.069	0.160	-0.022	Not
		Unemployed not seeking work	0.015	0.091	-0.061	Not
		Unemployed seeking work	-0.023	0.074	-0.120	Not
		Working part time	-0.020	0.035	-0.076	Not

VARIABLE LABEL (SEE ABOVE FOR QUESTION WORDING)	REFERENCE CATEGORY (WHERE APPLICABLE)	CATEGORY LABEL	EFFECT SIZE	UPPER 99% CONFIDENCE INTERVAL	LOWER 99% CONFIDENCE INTERVAL	SIGNIFICANT AT 99% LEVEL?
Occupational group	Higher managerial	Casual worker - not in permanent employment	0.106	0.360	-0.149	Not
		Full-time carer of other household member	-0.109	0.058	-0.275	Not
		Housewife/ Homemaker	-0.054	0.084	-0.191	Not
		Intermediate managerial	-0.070	0.019	-0.158	Not
		Other	-0.023	0.133	-0.180	Not
		Retired and living on state pension	-0.106	0.235	-0.448	Not
		Semi or unskilled manual worker	-0.039	0.063	-0.142	Not
		Skilled manual worker	-0.011	0.086	-0.108	Not
		Student	-0.107	0.139	-0.354	Not
		Supervisory or clerical	-0.026	0.065	-0.116	Not
		Unemployed or not working due to long-term sickness	-0.030	0.117	-0.176	Not
Household income	Less than 13500	13500 - Less than 35000	0.051	0.113	-0.011	Not
		35000 - Less than 50000	0.018	0.093	-0.058	Not
		50000+	0.093	0.179	0.007	Yes
Parent is disabled	No	Yes	0.013	0.076	-0.050	Not
Parent has degree or higher	GCSE	A level/Dip/Voc	0.001	0.059	-0.057	Not
		Degree+	0.006	0.073	-0.060	Not
		I have no formal qualifications	0.039	0.115	-0.037	Not
		Other	0.000	0.132	-0.131	Not
		Still studying	0.060	0.349	-0.229	Not

VARIABLE LABEL (SEE ABOVE FOR QUESTION WORDING)	REFERENCE CATEGORY (WHERE APPLICABLE)	CATEGORY LABEL	EFFECT SIZE	UPPER 99% CONFIDENCE INTERVAL	LOWER 99% CONFIDENCE INTERVAL	SIGNIFICANT AT 99% LEVEL?
Parent internet use	None - not used in the last week	1 - 2 hours	0.090	0.255	-0.076	Not
		11 - 19 hours	0.063	0.210	-0.084	Not
		20 - 29 hours	0.039	0.193	-0.115	Not
		3 - 5 hours	0.032	0.178	-0.115	Not
		30 hours or more	0.067	0.219	-0.086	Not
		6 - 7 hours	0.110	0.260	-0.039	Not
		8 - 10 hours	0.052	0.199	-0.094	Not
		Less than 1 hour	-0.058	0.138	-0.253	Not
UK region	East	East Midlands	0.000	0.109	-0.108	Not
		London	0.008	0.111	-0.096	Not
		North East	0.044	0.184	-0.095	Not
		North West	-0.040	0.059	-0.139	Not
		Northern Ireland	0.016	0.125	-0.093	Not
		Scotland	0.065	0.164	-0.035	Not
		South East	0.000	0.097	-0.097	Not
		South West	-0.025	0.081	-0.131	Not
		Wales	-0.044	0.053	-0.140	Not
		West Midlands	-0.017	0.089	-0.123	Not
		Yorkshire & Humber	-0.004	0.101	-0.109	Not
Household composition and responsibility structure	2+ responsible adults in household	2+ adults not in household	0.078	0.183	-0.026	Not
		Single Parent	0.080	0.155	0.005	Yes
Parent marital status	Married/Living with partner	Divorced/Separated /Widowed	-0.034	0.060	-0.128	Not
		Single (never married)	-0.034	0.059	-0.127	Not
Parent financial responsibility	Solely/mainly responsible	Jointly/not responsible	0.024	0.076	-0.027	Not
MAS Segment	Cushioned (4)	Squeezed (3)	-0.040	0.020	-0.099	Not
		Struggling (1&2)	-0.059	0.031	-0.149	Not

VARIABLE LABEL (SEE ABOVE FOR QUESTION WORDING)	REFERENCE CATEGORY (WHERE APPLICABLE)	CATEGORY LABEL	EFFECT SIZE	UPPER 99% CONFIDENCE INTERVAL	LOWER 99% CONFIDENCE INTERVAL	SIGNIFICANT AT 99% LEVEL?
Index of Multiple Deprivation - Income Domain	1 = Quintile 1 (Most income deprived)	2	-0.010	0.052	-0.072	Not
		3	-0.034	0.031	-0.099	Not
		4	0.035	0.109	-0.038	Not
		5 = Quintile 5 (Least income deprived)	-0.017	0.061	-0.095	Not
Rural urban classification	Intermediate	Rural	0.050	0.160	-0.060	Not
		Urban	-0.001	0.079	-0.080	Not
Parent age	18-24	25-34	-0.239	-0.021	-0.458	Yes
		35-54	-0.221	-0.003	-0.438	Yes
		55-74	-0.339	-0.101	-0.578	Yes
		75+	-0.190	0.367	-0.747	Not
Number of children in the household	3+	Not	-0.004	0.057	-0.066	Not
Child's internet use	None - not used in the last week	1 - 2 hours	0.059	0.176	-0.058	Not
		11 - 19 hours	0.216	0.330	0.103	Yes
		20 - 29 hours	0.188	0.312	0.065	Yes
		3 - 5 hours	0.087	0.194	-0.020	Not
		30 hours or more	0.218	0.341	0.094	Yes
		6 - 7 hours	0.120	0.231	0.009	Yes
		8 - 10 hours	0.157	0.269	0.046	Yes
		Less than 1 hour	0.007	0.149	-0.134	Not
Child's gender	Female	Male	0.104	0.146	0.062	Yes
Child's educational stage	Post-16 education (e.g. sixth form, college, Apprenticeship, Traineeship)	Other (please specify)	0.041	0.239	-0.157	Not
		Primary	0.093	0.175	0.011	Yes
		Secondary	0.003	0.068	-0.061	Not
Child's school type	A different type of state school	An Academy (inc. Free Schools)	0.032	0.081	-0.017	Not
		Other	0.099	0.199	0.000	Not

VARIABLE LABEL (SEE ABOVE FOR QUESTION WORDING)	REFERENCE CATEGORY (WHERE APPLICABLE)	CATEGORY LABEL	EFFECT SIZE	UPPER 99% CONFIDENCE INTERVAL	LOWER 99% CONFIDENCE INTERVAL	SIGNIFICANT AT 99% LEVEL?
		Private or Independent school	0.077	0.171	-0.017	Not
Ethnicity	BME	White	0.100	0.168	0.031	Yes
Child is disabled	No	Yes	-0.019	0.059	-0.098	Not
Child caring responsibility	No	Yes	0.035	0.139	-0.069	Not
Parent's relationship to child	Carer	Non-parent relative	0.236	0.492	-0.020	Not
		Parent/Step-parent	0.289	0.481	0.097	Yes
CHILDREN'S SOCIAL/BEHAVIOURAL/COGNITIVE SKILLS						
Child would change lots about themselves	Don't know/No	Yes	0.052	0.105	-0.001	Not
Child is shy	Don't know/No	Yes	0.020	0.065	-0.026	Not
Child believes when nice things happen it is only good luck	Don't know/No	Yes	0.050	0.107	-0.006	Not
Child perseveres	Not	Agree	0.002	-0.045	0.048	Not
Child is irritable or quick to get angry	Not	Very/Mostly true	0.041	0.104	-0.022	Not
Child is often disobedient	Not	Very/Mostly true	0.008	0.093	-0.078	Not
Child's maths ability	Below age expectations	Above age expectations	0.072	0.167	-0.023	Not
		At age expectations	0.031	0.121	-0.059	Not
Child's English ability	Above age expectations	At age expectations	0.013	0.069	-0.043	Not
		Below age expectations	0.029	0.130	-0.071	Not
CHILD'S MEANS						
How much money child received last week	None	10-20	-0.047	0.048	-0.141	Not
		20-50	-0.019	0.087	-0.126	Not
		5-10	-0.019	0.075	-0.113	Not
		50+	-0.043	0.092	-0.177	Not
		Less than £5	-0.050	0.043	-0.142	Not
Whether child gets regular money	No/Irregular money	Regular money	0.039	0.092	-0.014	Not

B.3 Testing for indirect effects

Where particular independent variables had only indirect effects on financially capable behaviour, their effects only emerged when other influential variables are excluded from a regression analysis, and disappeared when other important variables were included. As before, these effects needed to be statistically significant to be considered important; our secondary consideration was then the relative size of the effect. By running several regression analysis of the same behaviour, and systematically varying the combinations of variables included as predictors in each successive one, it was possible to start to see where there were possible indirect effects. The different combinations of variables, by type, were:

- Parental influence ('Parents')
- Demographics ('Demographics')
- Child's means ('Means')
- Children's behavioural/social/cognitive skills ('Skills')

For each type included in any regression, all variables of this type were included.

Rather than reporting each table of results, we have used 'heatmaps' to show visually the difference between each successive regression. The heatmaps show which variables were significant predictors of each behaviour when different combinations of variables were included in the regression. Statistically significant predictors are given a square and the strength of this link is shown in the heatmap by the darkness of the square's shading (where blue additionally indicates a positive effect, and red shading indicates a negative effect). Where multiple categories of a categorical variable were significant the mean value of the effect size was used.

This analysis was run with day to day money management and active saving as the outcomes of interest.

Day to day money management

The first heatmap shows the influence of parental influence variables when different combinations of variables were included. The first column shows that several (eight) parental influence variables were statistically significant predictors of day to day money management when *only* the parental influence variables were included. Four of these had quite strong effects. However, these cannot be interpreted as having direct effects on day to day money management: when demographics were included in the second column of results, only six of the parental influence variables remained significant, reducing to four when a child's wider skills were taken into account. Once all variables and the composites were taken into account only one of these variables – 'parents set rules about money' – was significant; this was the only variable of this type which appeared to have a direct effect on this behaviour.

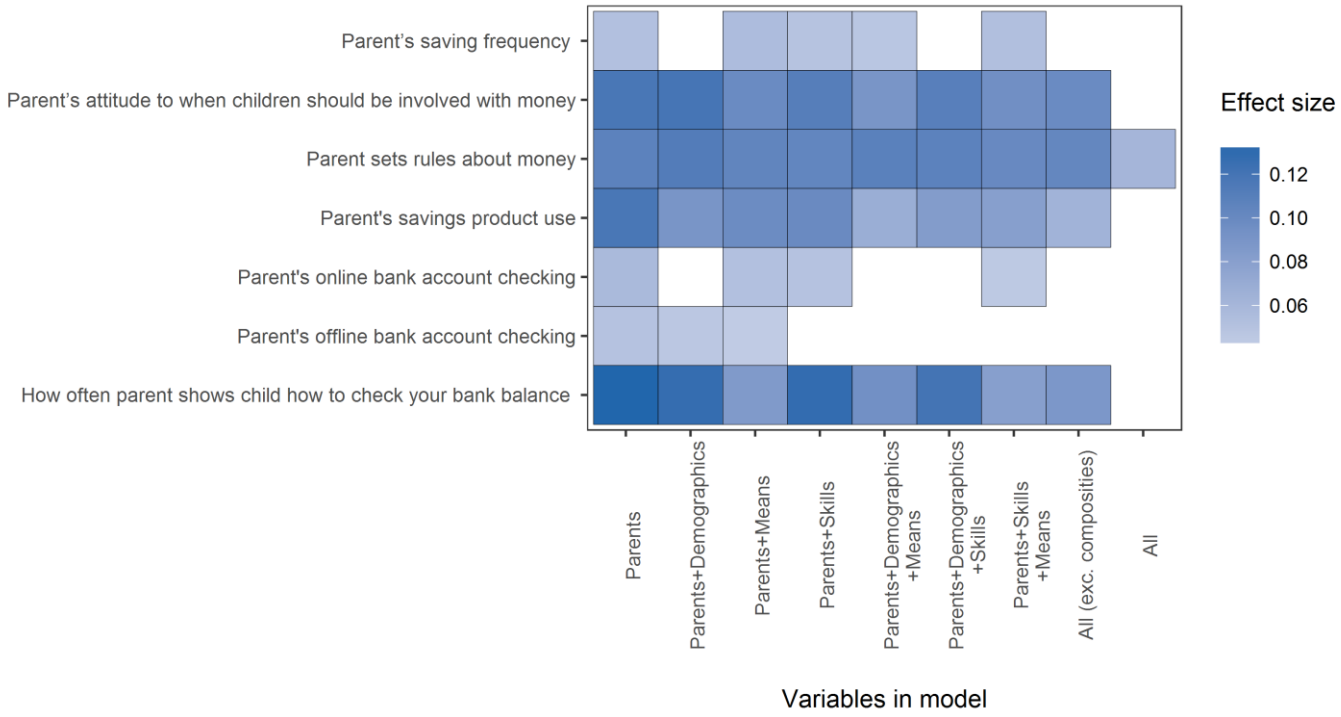
The remaining seven variables had effects which were reduced or moderated by other types of variables. For example, the effect of 'parent's saving frequency' in this instance was mediated by (channelled through) household demographics. It appears, therefore, that the influence of parents' saving frequency was less about the behaviour itself as it was about the financial situation of the household which enabled (or otherwise prohibited) parents ability to saving.

In contrast, both measures of a child's means (whether they received money regularly, how much they received last week) statistically predicted day to day money management when considered as a group of variables on their own *and* when all other potential influences were taken into account. This is shown in the second heatmap and evidences clearly the direct effect of children's means on this financial capability behaviour.

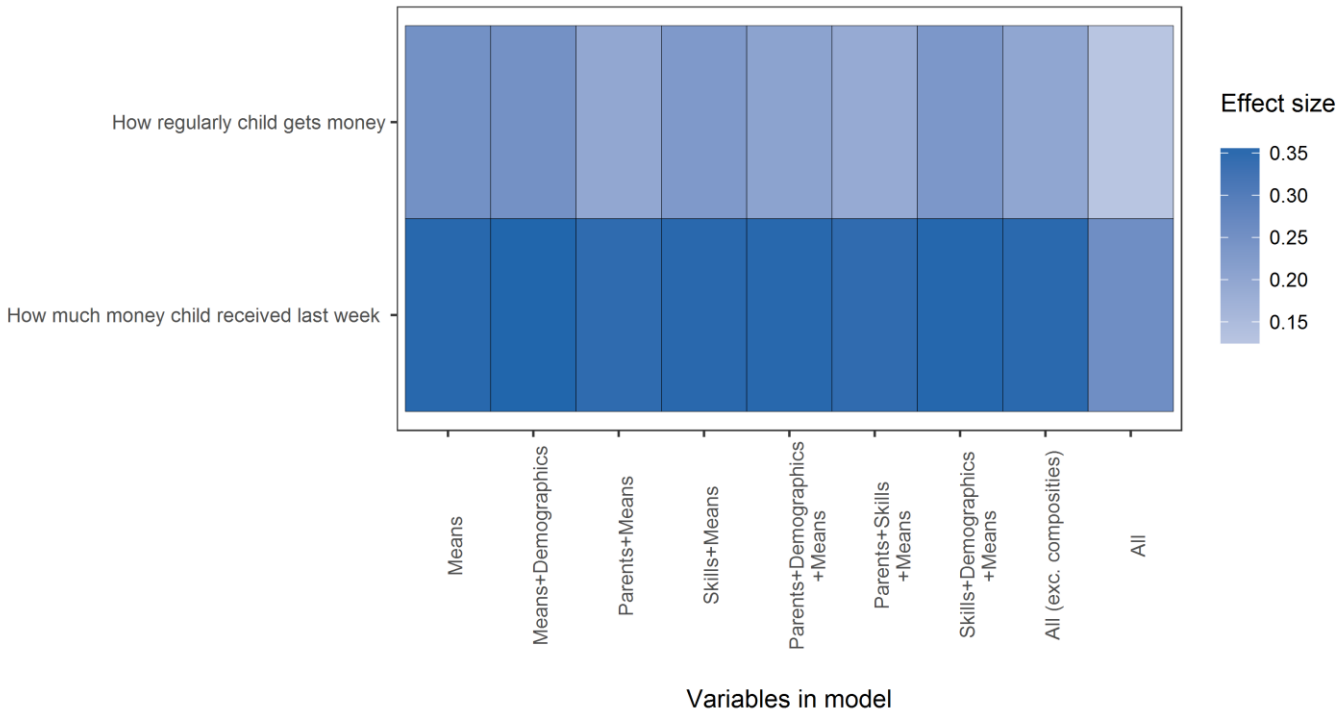
In relation to demographics, we confirm the earlier finding that there were no direct effects of demographic characteristics on money management (third heatmap, last column). However, when other variables were not included (in the earlier columns), several of them were significant. For example, this heatmap shows that having a disability as a child had a negative effect on day to day money management, but this was an indirect effect only, becoming unimportant when a child's wider skills were taken into account. The initial, indirect, effect of household income on managing money was removed when a child's means were considered: in other words, it was how much money a child received and whether it was regular that mattered for their money management, even where children were otherwise living in households with equivalent income levels.

The final heatmap emphasises the importance of the composite measures of mindset, ability and connection, and that children's wider skills are otherwise important until these were taken into account. This indicates that the effect of children's wider skills operated indirectly through the stronger – perhaps more relevant – financial enablers and inhibitors.

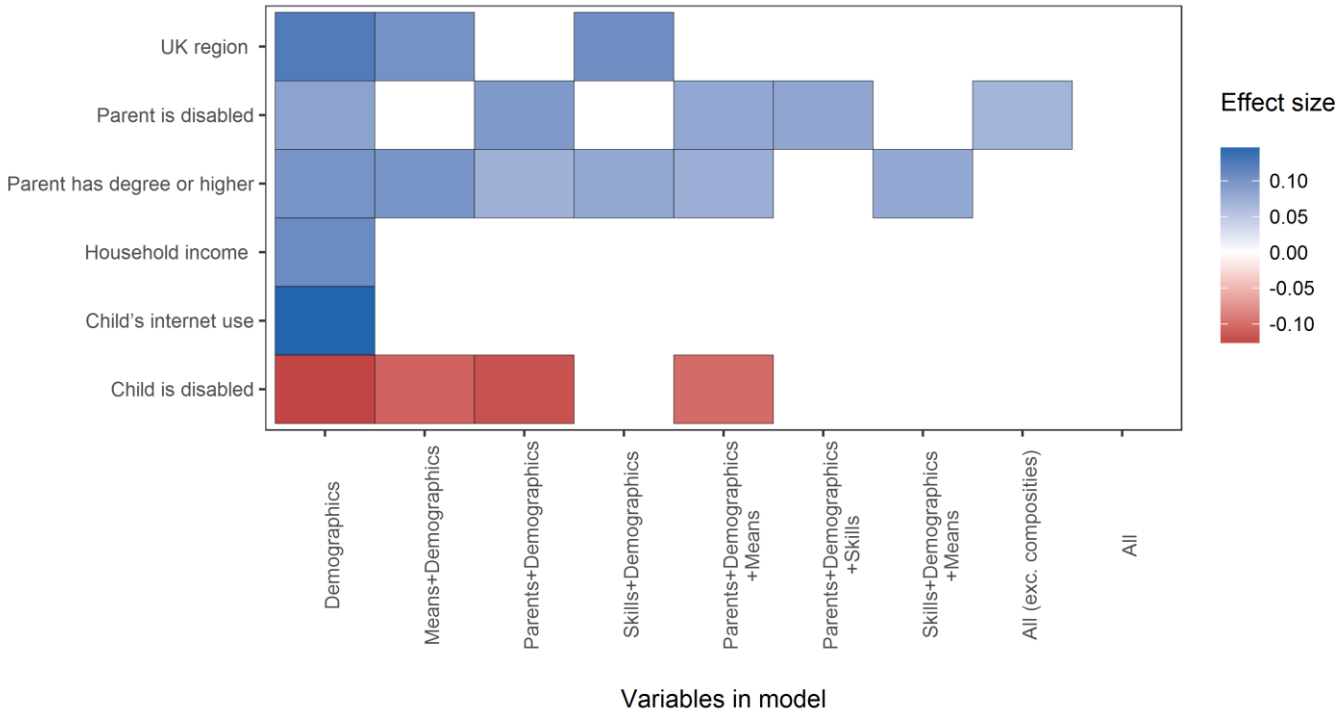
Parental Influence



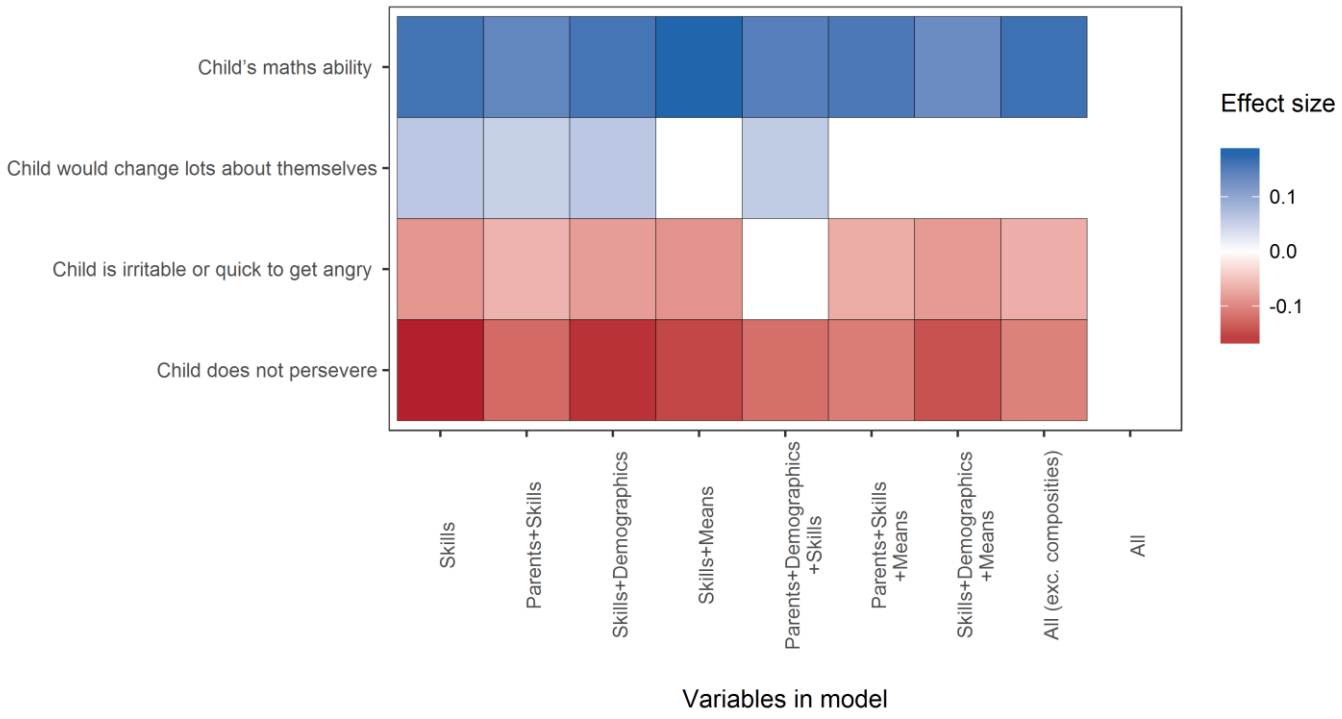
Means



Demographics



Child's social/cognitive/behavioural skills



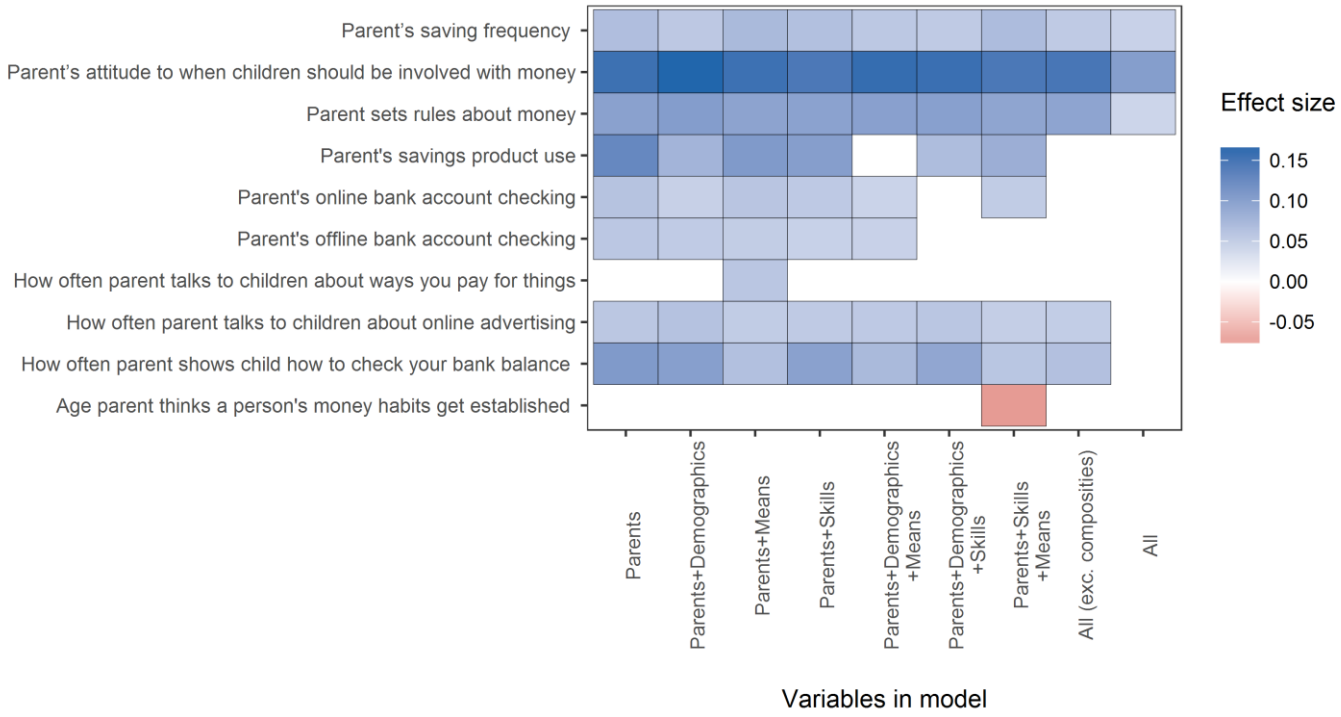
Active saving

The heatmaps showing the results of the successive regression analyses for predicting active saving together evidence the strength of the effects of the enabler and inhibitor composites. To a large extent, it was only when these composites were included (in the last regression, shown in the last column of each heatmap), that the significant influence of the other variables previously found disappeared. In other words, the influence of many parental variables, demographics and especially children's wider skills (in the fourth heatmap) was exerted indirectly, via the composites.

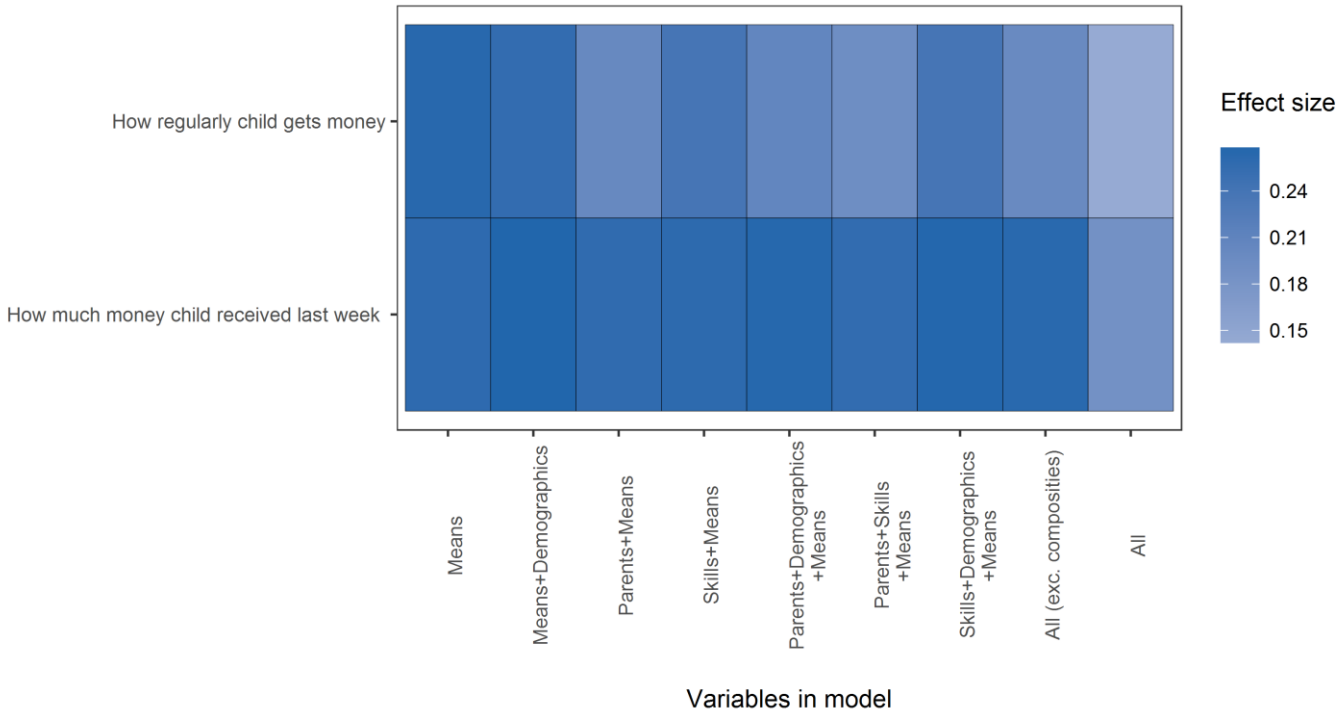
There were exceptions. For example, the influence of most of the demographic variables in the third heatmap was moderated by the combined influence of parental variables and children's wider skills. And several of the parental influence variables were moderated by the combined influence of demographic characteristics and children's skills.

As we saw in relation to day to day money management, children's means remained important in predicting active saving even when all other characteristics were included (second heatmap). A few of the parental influence variables also remained significant in their influence (first heatmap). This highlights these variables as having a direct influence on active saving and confirms the results in section B.2 for this outcome. However, all of these variables were weakened when the composites were added to the regressions (indicated by the paler shading for these variables in the last column), and this suggested that their effect was *partly* mediated by the composites.

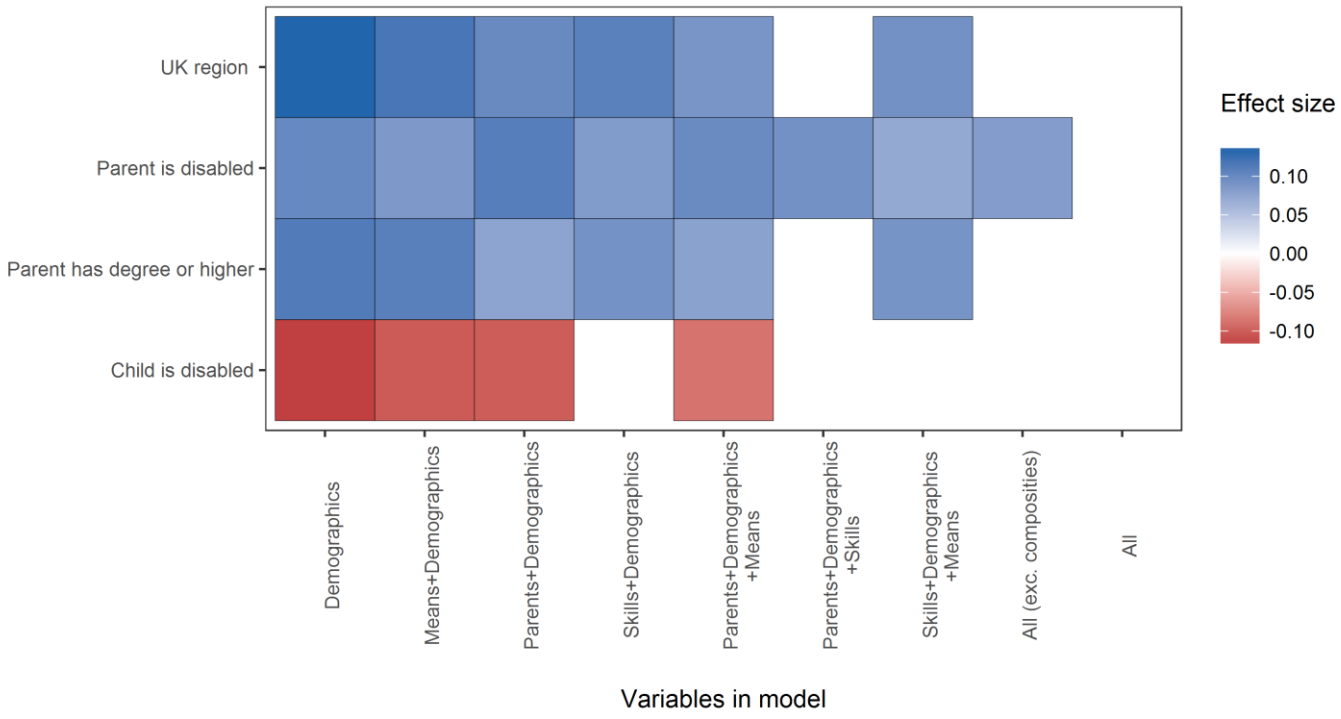
Parental influence



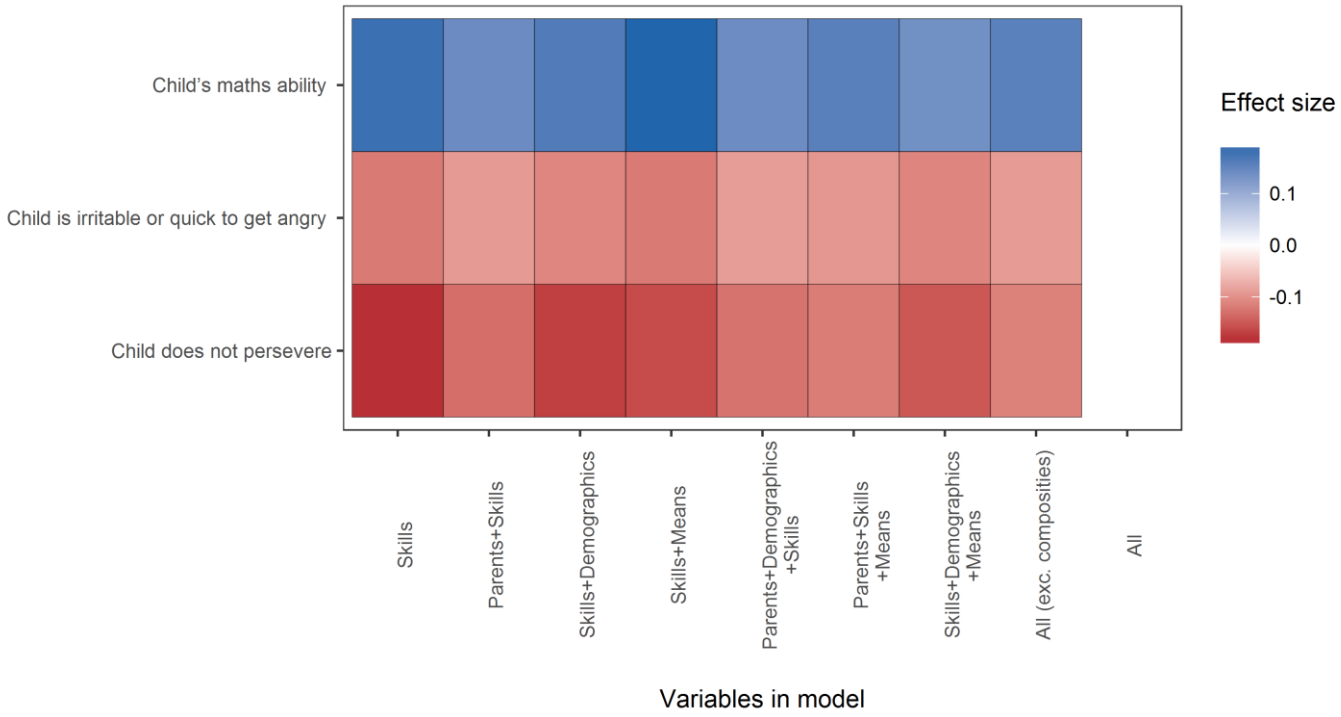
Means



Demographics



Child's social/cognitive/behavioural skills



B.4 Amount of variation explained

The ability of independent variables – in combination – to predict scores on the outcome is measured by the amount of variation that is explained by the model produced in a regression analysis. This is given by something called the R-squared statistic, which was calculated separately for each regression run on the data.

The R-squared statistics is a goodness-of-fit statistic: it measures 'how well' the model explains the total variation in scores on the outcome measures. It takes on a number between 0 and 1 as the *proportion* of the variation explained. This can readily be converted to a *percentage* of the variation explained. The higher the percentage, the better the independent variables, as a whole, 'fit' or account for the variation in scores on the outcome measure. In theory, the more independent variables which are included in a regression the higher the R-squared should be; but this isn't the case were the independent variables are *not* useful predictors of the outcome.

A comparison of the percentage of the variation for several regressions is shown in the chart below. As in section B.3 above, we focussed on day to day money management and active saving as the outcomes of interest. For each outcome, the chart compares the combined influence of each individual *type* of variable – parental influence, demographics, children's means, their wider skills – and each set of composites – mindset, ability and connection – in terms of the percentage of variation in the outcome each type of variable explained. The chart then considers the percentage of variance explained by the composites as a whole, and then all of the available measures as a whole.

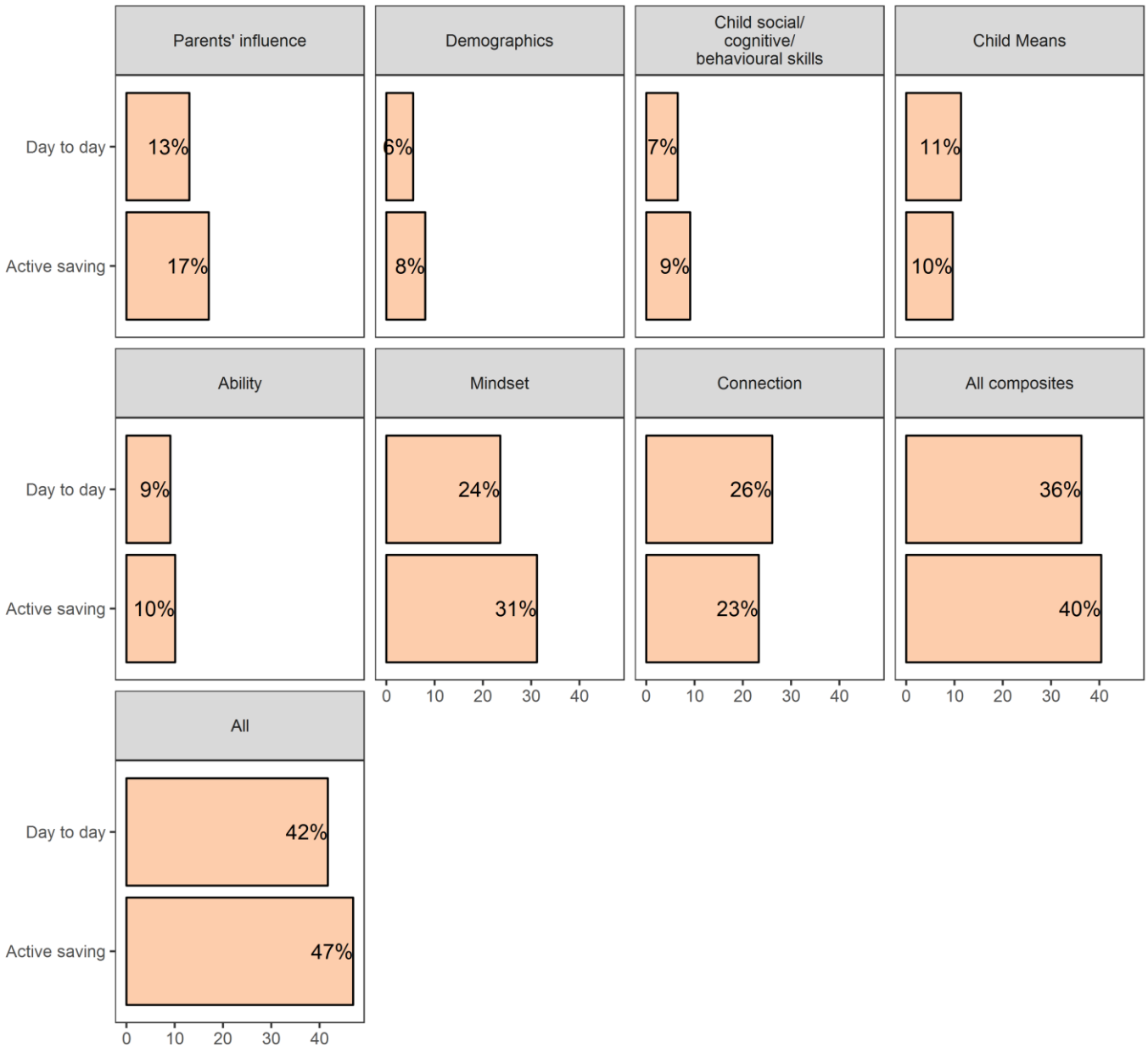
Looking first along the top row of the chart, the chart shows that a comparatively large percentage of the total variation in children and young people's active saving behaviour was explained by the parental influence measures alone (17%). This was more than for any of the other types of additional variables, reducing to 8% for the demographic characteristics.

The effect of parental influence on active saving was also greater than when the same parental influence variables were used to predict day to day money management (13%). Still parental influence appeared to be the most important type of additional variable, followed by children's means (11%).

In the middle row, the connection composites by themselves accounted for a large share of day to day money management (26%). Mindset composites accounted for a similar share (24%). We might be tempted to sum together these percentages to give us the total variation explained by these two types of composites. However, these statistics come from separate regressions, and when the two types are included in the same regression we can expect there to be some relationships between the composites of each, thereby reducing the total amount that is explained. This is evident from the box showing the percentage of variation explained by all of the composites. Even together with the ability composites, the total variation in day to money management explained by enabler and inhibitor composites was 36%. Still, this is a large share of what was a complex, social outcome measure.

Also in the middle row, the composites as a whole explained 40% of the variation in active saving scores. A large share of this is likely to be made up by the mindset composites, which on their own accounted for 31% of the variation in active saving.

Finally, the bottom row of the chart gives the percentage of variation explained by all of the available measures. This was 42% for day to day money management and 47% - nearly a half of the total variation in scores – for active saving. For both outcomes, this was slightly higher than for the composites as a whole in the middle row. This confirms that there was value in considering the influence of some of the additional statistics when trying to explain (or indeed influence) financial capability behaviours.


Parents' influence
Demographics
Child social/ cognitive/ behavioural skills
Child Means
Ability
Mindset
Connection
All composites
All
Day to day
Active saving
13%
17%
6%
8%
7%
9%
11%
10%
9%
10%
24%
31%
26%
23%
36%
40%
42%
47%
0
10
20
30
40
% of variation explained

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