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Fenton-O'Creevy, M, Furnham, A. Personality, ideology, and money attitudes as correlates of financial literacy and competence. *Financial*

Planning Review. 2020; 3:e1070. <https://doi.org/10.1002/cfp2.1070>

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**PERSONALITY, IDEOLOGY, AND MONEY ATTITUDES, AS CORRELATES OF
FINANCIAL LITERACY AND COMPETENCE.**

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The authors gratefully acknowledge the collaboration of the BBC LabUK team, the BBC Watchdog production team and Martin Lewis in helping design the questionnaire and managing the online data collection for the study reported on in this paper. They also gratefully acknowledge financial support from the Friends Provident Foundation to carry out analysis of the data.

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Abstract

This study looked at whether demographics, religious beliefs, political orientation, personality traits, and money attitudes are correlates of financial capability, knowledge and distress.

Over 3,500 British participants completed multiple measures online. As hypothesised, demographics, religious beliefs, political orientation, personality traits, and money attitudes each explained unique variance in financial capability, financial knowledge and financial distress. Regression and correlational results showed demographic factors particularly age, education and income were significantly related to all criteria variables. Money attitudes explained additional variance in financial capability and distress beyond that explained by demography, ideology and personality. Trait conscientiousness, money as security attitude, age and income were most strongly correlated with financial capability and financial distress.

Keywords: money, finance, personality, pathology, ideology

There has been an increasing interest in the psychology of money (Belsky & Gilovich, 1999; Furnham, 2014; Furnham & Grover, 2019; Lea & Webley, 2006; Rick, Cryder & Lowenstein, 2008; Tang, 2010). There is a literature on the relationship of money to happiness (Cone & Gilovich, 2010), personal relationships (Dakin & Wampler, 2008) and workplace outcomes (Tang, Tang & Homaifar, 2006). There is also a growing interest in the measurement of money attitudes and beliefs (Furnham & Murphy, 2019; Lay & Furnham, 2018).

The determinants of adult financial capability, financial knowledge and financial distress, are important as they can have a considerable impact on a person's health and welfare. This study examines four groups of variables as they relate to these finance variables namely demographics (age, education, gender, income and work status), ideology (political and religious beliefs), personality (Big Five traits) and attitudes towards money. These variables have been examined before but never together to determine to what extent they add incremental explanation over one another, nor with respect to these specific outcome variables.

1.1 Demography

Many studies have shown that *demographic variables* are related to money beliefs and behaviours. Men, rather than women; older rather than younger; better educated rather than less educated; higher rather than lower social class; and richer rather than poorer, people are better informed about financial affairs and more sensible and responsible with respect to their money (Furnham, 2014). However, these variables are often highly correlated (education, income, work status) so it is interesting to understand which of these variables is most closely related to financial capability and distress (Furnham & Cheng, 2019). This paper will look at the correlates of these five variables with our three outcome measures.

1.2 Ideology

It has also been established that religious and political beliefs, here called *ideology*, are related to money beliefs and behaviours. The most commonly explored relationship is through

the concept of the Protestant Work Ethic (Furnham, 1990). The idea is that people of different faiths (or none) socialise their children into clear beliefs and behaviours with regard to spending and saving, entrepreneurship and enterprise. These beliefs influence political beliefs which are related to religious beliefs. This study investigates the relationship of political and religious beliefs to our outcome measures and whether they can explain incremental variance over and above the demographic variables examined.

1.3 Personality

This paper is also concerned with the relationship between personality and money beliefs and behaviours. Various studies have looked at the relationship between the Big Five traits and money (Brown & Taylor, 2014). For instance, Donnelly, Iyer and Howell (2012) using American data showed that trait Conscientiousness was the best predictor of financial well-being. Similarly, Xu, Beller, Roberts and Brown (2015) found trait Conscientiousness was negatively, and Neuroticism positively, correlated with young adult's financial distress. The paper also addresses to what extent personality and money attitudes/pathology relate to people's knowledge of financial affairs and their personal financial management. In this study we examine not only the relationship between the Big Five personality traits and our criteria variables but also the extent to which personality has incremental validity over demographics and ideology.

1.4 Money attitudes

Finally, we are concerned how *money attitudes* impact on financial knowledge and capability. Various clinicians have been particularly interested in money attitudes labelled pathology/ insanity and "neuroses" (Forman, 1987; Fenton O'Creevy & Furnham, 2019; Furnham 2019; Goldberg & Lewis, 1978; Matthews, 1991). Goldberg and Lewis, (1978) argued that money has four specific emotion connotations: money represents *security* (a primary way of staving off anxiety), *power* (a method to gain importance, dominance and

control), *love* (a manifestation of and substitute for affection) and *freedom* (a necessity to acquire what you want). This classification has been supported empirically (Furnham, 2014; Furnham, Wilson & Telford, 2012; Klontz, Britt, Archuleta & Klontz, 2012). We were thus also concerned with the relationship between four money attitudes and our outcome variables; and whether they could account for variance over and above demographics, ideology and personality variables. Attitudes are of especial interest since they are more tractable to change through education, advice and other interventions than is personality.

1.5 Related Studies

Von Stumm, Fenton-O’Creevy and Furnham (2013) were interested in financial capability which is essentially the ability to manage living on the resources available, and to make sensible financial decisions. Five key elements of financial capability have been identified: adequate management of available financial resources; monitoring one’s personal financial status; financial precautions taken for the immediate future; care in selecting financial products and engagement with current economic developments (Atkinson, McKay, Kempson, & Collard, 2006)

Von Stumm et al. (2013) found that socioeconomic status was associated with financial capabilities but not with money attitudes; which were independent of financial capabilities. Whilst they found financial capabilities to be greater risk factors for adverse financial outcomes than money attitudes; they concluded the latter important and likely targets to be changed by education and other interventions.

1.6 This study

In this study we interrogated a large data set that contained data on an individual’s demography, ideology, personality, money attitudes and financial knowledge and capability, together with data on personality from a separate source.

This study extends the work of von Stumm et al. (2013) and Furnham (2014) in various ways. *First*, we added an additional dependent variable namely financial knowledge. Thus, this study has seven dependent variables: five forms of financial capability, financial distress and financial knowledge, which we presume are significantly inter-correlated showing that those with more financial knowledge are more capable and less financially distressed. *Second*, we had a measure of the Big Five personality traits that allowed us to explore the extent to which personality explains incremental variance over other factors such as demography and money pathology. *Third*, we explored the role of ideology defined in terms of a person's religious and political views.

We hypothesise as follows:

H1: Demographic variables, ideology, personality and money attitudes will each explain significant unique variance in financial capability, financial knowledge and financial distress.

We additionally explore the detailed pattern of relationships of the individual independent variables with each financial capability measure, financial knowledge and financial distress.

2. Method

2.1 Participants

Data for this study came from secondary analysis of two sources. The first was a survey of money attitudes and financial behavior carried out in partnership with the BBC public television organization; the same source as the von Stumm et al. (2013) study. The data are available in a public repository (Fenton-O'Creevy & Furnham, 2017). The personality data are drawn from a separate study carried out via the same BBC platform (Jokela et al., 2015). Since both surveys relied on a common BBC account login (associated with a unique i.d. code in the data) and had a significant overlap in participants, it was possible to identify common

participants in the two surveys and track them via this i.d. code. A check on common demographic variables showed high consistency for participants with common i.d.s in the two surveys. There were 3577 participants who completed both surveys (after dropping incomplete questionnaires) of which 31.8% were male. Their mean age was 35.3 years ($SD=12.5$). In terms of education, 20.2% had, as their highest qualification GCSE/O Levels/ 10th Grade, 36.4% had A Levels (12th Grade) and 45.6% were graduates. The majority (71.8%) were in full or part-time employment (including self-employed), 14.8% were in education, 5.0 % homemakers, 3.7% unemployed, and 4.7% retired. Most were “White British” (93.3%). In terms of income, 8.2% earned less than £9 999, 14.4% between £10 000-19 999, 17.0% £20 000- £29 999, 14.7% between £30 000- £39 999, 11.6% between £40 000-£49 999, 16.7% between £50,000 and £74,999 and 9.9% earned £75,000 or more (all figures annual gross) and 7.5% said either they did not know or preferred not to say.

2.2 Measures

Control variables. Age (in years); female (gender, scored 0 ‘male’, 1 ‘female’); education (highest level of education completed: 1 ‘Did not complete GCSE/O Levels or equivalent’ to 6 ‘Postgraduate degree’); work Full-Time (1 if work full time else 0); income (1 ‘Up to £9.999 per annum, to 8 ‘£150,000 or more per annum’).

Personality. The Big Five Inventory (BFI) is measure of the five-factor model of personality that has been well validated (John, Naumann, & Soto, 2008). The items were rated on a 5-point Likert scale ranging from 1(‘Disagree strongly’) to 5 (‘Agree strongly’). In our sample, the Cronbach alpha reliabilities were .86 for extraversion ($M = 3.06, SD = .83$), .83 for conscientiousness ($M = 3.69, SD = .68$), .83 for neuroticism ($M = 2.99, SD = .83$), .76 for agreeableness ($M = 3.66, SD = .60$), and .79 for openness to experience ($M = 3.59, SD = .65$). Reliabilities are consistent with those for in-person administration of the BFI.

Money attitudes scale (Furnham et al. 2012). This questionnaire was designed to assess attitudes to money. Example items: “The best thing about money is that it means you can influence others” (power), “I would rather save money than spend it” (security), “The main point of earning money is to feel free and be free” (autonomy) and “I often demonstrate my love to people by buying them things” (generosity). The 16 items are categorised into four scales: security (Cronbach’s Alpha = 0.65), autonomy (Cronbach’s alpha = 0.64), power (Cronbach’s alpha = 0.76) and generosity (Cronbach’s alpha = 0.64).

Financial capability (von Stumm et al., 2013; Atkinson et al. 2006). Five financial capabilities were assessed. Capabilities (and sample items) were: *making ends meet* (“In the last 12 months, how often have you run out of money before the end of the week/month or needed to use your credit card or overdraft to get by?”); *keeping track* (“How often do you check how much money you have available – either in your current account or, if you don’t use a current account day to day, how much cash you have in your hand?”); *planning ahead* (“How strongly do you agree or disagree with the statement - I always have money saved for a rainy day?”); *choosing products* (“To what extent do you (or you and your partner) normally shop around when you open or take out a financial ‘product’? - Products such as a bank account, credit/store card, insurance, loan, insurance.”) and *staying informed* (“Do you keep track of changes in the state pension, benefits and tax credits?”).

Financial distress. Participants indicated which, if any, of six adverse financial events they had experienced during the past five years: unexpected overdraft, missing loan or mortgage payments, denial of credit, repossession of car, repossession of house, or bankruptcy. Mokken analysis was used to test the assumption that items measured a single latent scale, with error. Item H scores ranged from .46 to .69; the scale H score = 0.69, (reliability rho=0.67); indicating a good fit to the Mokken assumptions.

Financial knowledge. Financial knowledge was measured as the number of correct answers to a 10-question financial knowledge quiz. The items were chosen to reflect a mix of ability to carry out simple calculations correctly in relation to everyday financial tasks and having general knowledge relevant to managing money. Sample questions; “A TV is on sale at a discount in two different shops. The original cost of the TV was £250. One shop is offering £30 off, the other 10% off. Which is the better deal?” (£30 off; 10% off; they are both the same); “Which method of payment gives you the strongest consumer protection if you’re buying goods worth over £100? (paying in cash, paying by cheque, paying by debit card, paying by credit card)”

Political orientation. Single item: “How would you describe your political orientation?”; 10-point scale anchored at 1, “Strongly right wing”, and 10, “Strongly left wing”.

Religiousness. Single item: “Are you religious?”; 10-point scale anchored at 1 (“Not at all”) and 10 (“Extremely”).

2.3 Procedure

Participants took part in a range of on-line BBC surveys as part of a set of online scientific investigations. The aim of the BBC was to engage audiences with a range of social science research. Participants’ anonymity was protected, and data were collected across 6 weeks from survey launch. The university department research ethics committee reviewed and accepted the proposal.

2.4 Analysis

We first calculated Pearson correlations between all variables. Second, to account for relationships between the dependent variables we conducted multivariate multiple regression with the financial capability variables, financial knowledge and financial distress entered jointly as dependent variables. Multivariate multiple regression is an analysis method for modelling multiple dependent variables with a single set of predictor variables. It is

especially useful where the dependent variables have significant intercorrelations; since, in the test of the overall model, this method produces significance tests for the predictors of the dependent variables which control for all other relationships in the model, including via the other dependent variables (Dattalo, 2013). This analysis was carried out using the multivariate version of the general linear model procedure in SPSS 25. We entered independent variables hierarchically in blocks in the order: demographic variables, ideology variables, personality variables, money attitude variables.

As a final check, since financial distress is distributed non-normally, we conducted a supplementary analysis regressing financial distress on the independent variables separately using Poisson regression which is suitable for the count data distribution of this variable. Results in the supplementary analysis were largely consistent with those in the primary analysis giving further confidence in the results.

3. Results

3.1 Correlations

Insert Table 1 here

Table 1 shows the correlation matrix for all the variables of interest. Since the large sample results in even small correlations being significant, only larger correlations ($r \geq .20$) will be noted. We look first at intercorrelations amongst the dependent variables. The five financial capability variables were modestly and predictably inter-correlated, except for 'keeping track', which had very low inter-correlation with making ends meet and planning ahead. The strongest correlation among these variables (.68) was between making ends meet and planning ahead. Financial distress was lower for higher scores on making ends meet (-.58) and planning ahead (-.45). Financial knowledge correlated moderately with planning ahead (.23) and choosing products (.21).

Second, looking at correlations between dependent and independent variables, the only major correlate of financial distress was money security (-.26): those who associated money with security were less likely to experience financial distress. Major correlates of making ends meet were income (.20), conscientiousness (.29) and money security (.42). For planning ahead, they were age (.30), income (.31), conscientiousness (.25) and money security (.43). Choosing products correlated with conscientiousness (.20); staying informed had larger correlations with age (.22) and conscientiousness (.20).

3.2 Overall model

Insert Table 2 here

Tables 2, 3 and 4 show results of the hierarchical multivariate multiple regression we carried out. Variables were entered in four steps: model 1: demography (age, gender, education, work, income); model 2: ideology (political and religious beliefs), model 3: personality (the big five) and model 4: money attitudes (the four types).

Table 2 provides an omnibus test of the overall model, showing the significance of joint variance between each independent variable (IV) and the group of seven dependent variables (DV). The partial eta squared values are effect sizes that provide a comparative indication of unique common variance between each IV and the DVs. Partial eta squared (η^2_p)¹ values may be understood as the proportion of unique variance in the DVs explained by each IV once all other modelled relationships are partialled out (Richardson, 2011). We use partial eta squared measures in this study as an indicator of the relative importance of each IV in explaining the DVs.

All IVs show significant relationships with the group of DVs, except for religiousness. Thus, in considering the results in more detail we disregard results for religiousness which show as significant for individual DVs.

¹ Partial eta squared, $\eta^2_p = (\text{effect sum of squares})/(\text{effect sum of squares} + \text{error sum of squares})$

Most variables have very modest partial eta squared values, with a few variables accounting for the majority of explained variance. In model 4 with all IVs, the largest effect sizes are for age (.13), income (.10), conscientiousness (.06) and money security (.24).

3.3 Incremental variance explained for ideology, personality and money attitudes

Insert Table 3 here

Table 3 shows standardized regression parameters and significance of the IVs for each of the DVs. We first consider the incremental variance explained at each step.

For making ends meet, in model 1 the demographic variables explain 7% of variance, adding the ideology variables (model 2) adds a modest 1%, the personality variables (model 3) add 8% and the money attitude variables (model 4) a further 15% with total explained variance of 31%.

For keeping track, in the first step demographic variables explain just 3% of variance, adding ideology variables contributes less than .5%, adding personality variables contributes a further 2% and adding money attitudes adds less than .5%, with total variance explained of only 5%.

For planning ahead, in the first step, demographic variables explain 19% of variance, adding ideology variables contributes less than .5%, adding personality variables contributes a further 4% and adding money attitudes adds 17%, with total variance explained of 40%.

For choosing products, in the first step demographic variables explain just 5% of variance, adding ideology variables contributes less than .5%, adding personality variables contributes a further 3% and adding money attitudes adds 2%, with total variance explained of 9%.

For staying informed, in the first step demographic variables explain 7% of variance. Adding ideology variables adds just 1%. Adding the personality variables contributes a further 3% and adding money attitudes contributes a further 1%. Total variance explained is 12%.

For financial knowledge, demographic variables explain 7% of variance with additional steps jointly adding less than .5% to explained variance. Total variance explained is 7%.

For financial distress, in the first step, demographic variables explain just 3% of variance, adding ideology variables contributes less than .5%, adding personality variables contributes a further 3% and adding money attitudes adds 5%, with total variance explained of 12%.

3.4 Relative importance of independent variable relationships with each dependent variable

Table 4 shows standardized regression parameters and effect sizes (partial eta squared) for each of the dependent variables in the model. The effect sizes allow us to see which of the IVs are contributing most unique explained variance for each DV and hence to order them in terms of importance. We do not show results for religiousness since it did not achieve significance at the level of the whole model.

Insert Table 4 here

For making ends meet, coefficients for all variables are significant (at $p < .05$) except for education and autonomy. Making ends meet is greater for older ages, males, not working full time, higher incomes, more right-wing political orientation, lower extraversion and agreeableness, higher conscientiousness, lower neuroticism and openness lower money power and money generosity and higher money security. Looking at effect sizes we see the largest are for money security (.162) and conscientiousness (.039).

Looking at significant coefficients for keeping track; people better at keeping track are older, less educated, have lower income, and are more right-wing, more conscientious and more inclined to see money as security. All effect sizes are modest, the largest being for conscientiousness (.017).

For planning ahead, all regression coefficients are significant except for extraversion and agreeableness. People better at planning ahead are older, male, more educated don't work full-time, have higher income, are more right-wing, more conscientious, less neurotic and open to experience, score lower on money power, autonomy and generosity, and higher on money security. The largest effect sizes are for money security (.209), and age (.100).

Looking at significant coefficients for choosing products, people scoring higher on choosing products were older, higher income, more right-wing, more conscientious, less neurotic, more open to experience and more inclined to associate money with security. The largest effect sizes were for age (.020), money security (.019) and conscientiousness (.016).

Looking at significant coefficients for staying informed, people scoring higher were older, male, higher income, more right-wing, more extravert, more conscientious, and had higher scores on money as power and security. The largest effect sizes were for age (.035), security (.018) and conscientiousness (.017).

Turning to financial knowledge significant coefficients suggest that those scoring higher on financial knowledge are older, more educated, have higher income, are less extravert and are more disposed to associate money with security. The largest effect sizes were for money security (.050) and conscientiousness (.010).

Turning to financial distress, people reporting greater experienced financial distress were younger, less educated, working full-time, had lower income, were more left-wing, were higher on extraversion and neuroticism and lower on conscientiousness, and scored higher on money power and lower on money security, The largest effect sizes were for money security (.050) and conscientiousness (.010).

Since the financial distress variable distribution is decidedly non-normal, we also carried out a supplementary analysis using Poisson regression (suitable for count data distributions). We found a similar pattern of significant results and the same order of effect

sizes with two exceptions. Work full time, and money power had non-significant coefficients in the Poisson regression.

3.4 Hypothesis tests and summary of key results

Our hypothesis that demographics, ideology, personality and money attitudes would each explain significant unique variance in the dependent variables is supported.

Different patterns of results emerge at a more detailed level. We looked at four sets of variables as they related to financial capability, financial knowledge and financial distress. Of the five demographic variables we examined, age, education and income (all themselves correlated) were the strongest predictors. Of the ideology factors it was political opinions rather than religious beliefs that were the key predictor. Among the personality variables it was trait conscientiousness, and to a lesser extent trait neuroticism that primarily related to financial capability. However, it was money attitudes, most specifically associating money as security, that added most incremental variance.

The greatest variance explained was represented by the substantial adjusted R squared values for predicting planning ahead (.43) and making ends meet (.31).

5. Discussion and Conclusions

The results for the money attitudes were very clear: those who saw money as security were more capable and knowledgeable and less prone to financial distress whereas those who associated money with the other issues (autonomy, generosity and power) were less planful and had greater difficulty making ends meet. Clearly being an instinctive saver rather than spender is healthy. It is tempting to argue that a focus on money as security leads to financial knowledge, capability and well-being although it could be argued that cautious saving behaviour is as much a consequence as a cause of these factors.

Those in the business of giving financial advice attest to substantial individual differences in how people think about and use their money (Furnham, 2014). This study has highlighted some of these factors, particularly trait conscientiousness and the money security attitude, as traits leading to financial rectitude. Similarly, trait neuroticism is clearly both a cause and part consequence of poor financial capability and increased stress.

There are important implications for those concerned with financial advice and education. Whilst factual information is important, these results suggest first, that advice, support and education need to help beneficiaries understand their own financial attitudes and behaviour. Second, whilst advice and education are unable to impact personality, they may be more successful in shaping attitudes and both may usefully support beneficiaries in understanding the behavioural risks they face and the likely outcomes of different attitudes to money. For example, Klontz, Bivens, Klontz, Wada, and Kahler (2008) report on the use of a 6-day program for 33 money disordered people aimed at changing money attitudes. Participants showed significant and lasting reductions in worry about money and finance related situations and better overall financial health.

The results also suggest that some focus on attitudes to money may be a useful area of development in financial education. Financial education is receiving greater attention internationally and now forms a compulsory part of secondary education in the UK. However, most often, this element of education is embedded in mathematics curricula with little or no attention to the role of attitudes to money. Our results suggest that greater attention to money attitudes in financial education would be beneficial.

One result was initially a little puzzling: working full time, although explaining only little variance was inversely associated with making ends meet and planning ahead and positively associated with financial distress. However, further checks revealed that this only happens when this variable is entered together with income. Thus, one explanation may be

that this represents a problem of the working poor who often work full-time but in precarious employment.

5.1 Limitations

Though we were limited to self-report data there is no reason to believe people reported inaccurately on their financial situation. Moreover, the financial knowledge questions tested knowledge, not preferences.

This was a cross sectional study conducted at a specific time in a single country (the UK). It is possible that the findings are influenced by both national culture and by factors relating to time-bound social and economic factors.

While we failed to find a significant effect for religiosity, we note that this was measured by a single item and may thus have significant measurement error reducing power to detect effects.

There are some limitations with the brief attitude measures used. In particular, the reliabilities are modest. We would note that a) modest reliabilities are common with short scales; b) reliability may be understood as reflecting the error of measurement. Low reliability can thus create concern that error in the measure reduces power to detect real effects (this is mitigated by large sample size and would be of most concern if we failed to find a hypothesized effect). There are now more and psychometrically improved questionnaires for use in this area (see Furnham, 2014, for review).

It would be valuable for future research to move beyond the limits of such cross-sectional studies to develop longitudinal studies of money attitudes and behaviours to better ascertain causal relationships (Cheng & Furnham, 2014; Furnham & Cheng 2012).

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Table 1 (cont.)

	Pearson Correlation												
	12	13	14	15	16	17	18	19	20	21	22	23	
1. Age	.02	-.11***	-.05**	-.05**	-.06***	-.09***	.17***	.17***	.06***	.30***	.19***	.22***	
2. Female	-.08***	-.13***	-.03	-.07***	.10***	.04*	-.06***	-.09***	.03*	-.08***	-.01	-.11***	
3. Education	.16***	-.07***	.09***	-.06***	-.03	-.08***	.17***	.09***	-.12***	.16***	.09***	.07***	
4. Work full-time	.00	.00	.01	.03	.02	.01	-.02	.01	-.02	.01	.01	-.02	
5. Income	-.03	-.01	.02	-.03	-.03	-.11***	.18***	.20***	-.11***	.31***	.14***	.17***	
6. Political orientation	.17***	-.22***	-.06***	-.12***	.00	.05**	-.01	-.09***	-.06***	-.09***	-.05**	-.09***	
7. Religiousness	-.03	-.03	.04*	-.11***	.06***	-.02	.00	-.01	-.01	.03*	.0	.02	
8. Extraversion	.20***	.00	-.13***	-.02	.10***	.07***	-.04*	-.06***	.03*	-.01	.04*	.10***	
9. Agreeableness	.05**	-.19***	-.03*	-.13***	.06***	-.01	-.03*	-.02	.00	.01	.03	-.01	
10. Conscientiousness	-.08***	-.07***	.16***	-.07***	-.06***	-.17***	.05**	.29***	.14***	.25***	.20***	.20***	
11. Neuroticism	-.08***	.08***	.08***	.05***	.10***	.06***	-.05**	-.12***	.01	-.12***	-.09***	-.08***	
12. Openness	1	-.09***	-.03	-.02	.07***	.04**	-.01	-.08***	-.05**	-.03*	.04**	.04*	
13. Power		1	.05**	.47***	.19***	.06***	-.04**	-.08***	.01	-.08***	-.05**	.04*	
14. Security			1	.01	-.09***	-.26***	.05***	.42***	.06***	.43***	.15***	.15***	
15. Autonomy				1	.13***	.07***	-.03	-.09***	.00	-.11***	-.05**	.01	
16. Generosity					1	.10***	-.07***	-.17***	.01	-.14***	-.05**	-.02	
17. Financial distress						1	-.08***	-.58***	.00	-.45***	-.14***	-.07**	
18. Financial knowledge							1	.15***	.04**	.23***	.21***	.18***	
19. Making ends meet								1	.09***	.68***	.27***	.20***	
20. Keeping track									1	.00	.18***	.25***	
21. Planning ahead										1	.31***	.27***	
22. Choosing products											1	.43***	
23. Staying informed												1	

*** Correlation is significant at the 0.001 level (2-tailed);

** Correlation is significant at the 0.01 level (2-tailed);

* Correlation is significant at the 0.05 level (2-tailed).

Listwise $n=3577$.

Table 2: Hierarchical multivariate multiple regression: multivariate tests and effect size for each predictor in the overall model

Model	Model 1		Model 2		Model 3		Model 4	
Effect	Hotelling's trace F	Partial Eta Squared	Hotelling's trace F	Partial Eta Squared	Hotelling's trace F	Partial Eta Squared	Hotelling's trace F	Partial Eta Squared
Intercept	1282.71***		1075.93***		225.70***		168.20***	
Age	64.23***	0.11	65.50***	0.11	55.10***	0.10	75.81***	0.13
Female	9.68***	0.02	8.97***	0.02	10.36***	0.02	8.68***	0.02
Education	21.60***	0.04	21.72***	0.04	20.13***	0.04	15.92***	0.03
Work Full-Time	2.39*	0.01	2.39*	0.01	2.69**	0.01	2.33*	0.00
Income	54.75***	0.10	52.16***	0.10	51.37***	0.09	58.44***	0.10
Political Orientation			6.44***	0.01	3.25**	0.01	2.50*	0.00
Religiousness			1.70	0.00	1.49	0.00	1.63	0.00
Extraversion					13.64***	0.03	10.24***	0.02
Agreeableness					2.86**	0.01	3.02**	0.01
Conscientiousness					54.96***	0.10	34.43***	0.06
Neuroticism					4.73***	0.01	6.78***	0.01
Openness					5.23***	0.01	6.04***	0.01
Power							4.12**	0.01
Freedom							2.04*	0.00
Security							157.14***	0.24
Generosity							2.79**	0.01

*** Parameter is significant at the 0.001 level (2-tailed);

** Parameter is significant at the 0.01 level (2-tailed);

* Parameter is significant at the 0.05 level (2-tailed).

Listwise $n=3577$.

Table 3: Hierarchical multivariate multiple regression for predicting financial capability, knowledge and financial distress: standardized regression coefficients

Parameter	Dependent Variable											
	Making ends meet				Keeping track				Planning ahead			
	1	2	3	4	1	2	3	4	1	2	3	4
Age	.14***	.04***	.10***	.12***	.06***	.06***	.04*	.05**	.27***	.27***	.24***	.27***
Female	-.08***	-.07***	-.08***	-.06***	.02	.03	.00	.00	-.06***	-.05***	-.06***	-.04**
Education	.07***	.08***	.07***	.03	-.10***	-.08***	-.09***	-.09***	.11***	.12***	.12***	.07***
Work full-time	-.04*	-.04*	-.05**	-.03*	-.02	-.02	-.02	-.02	-.04*	-.04*	-.04**	-.03*
Income	.18***	.17***	.17***	.16***	-.09***	-.10***	-.11***	-.11***	.27***	.26***	.26***	.25***
Political orientation		-.07***	-.04*	-.03*		-.06***	-.04*	-.04*		-.07***	-.05**	-.04**
Religiousness		-.02	-.02	-.03*		-.02	-.02	-.02		.01	.01	-.01
Extraversion			-.10***	-.04**			.05**	.05**			-.06***	.00
Agreeableness			-.05**	-.05***			-.03	-.03			-.02	-.02
Conscientiousness			.27***	.18***			.15***	.14***			.19***	.10***
Neuroticism			-.07***	-.10***			.04	.03			-.04*	-.07***
Openness			-.05**	-.06***			-.03	-.03			-.02	-.03*
Power				-.07***				.00				-.04*
Autonomy				-.03				-.00				-.05***
Security				.38***				.05**				.42***
Generosity				-.06***				.02				-.04**
Adj. Rsq	.07***	.08***	.16***	.31***	.03***	.03***	.05***	.05***	.19***	.19***	.23***	.40***
Change Adj. Rsq		.01***	.08***	.15***		.00**	.02***	.00*		.00***	.04***	.17***

Table 3: (cont.)

Parameter	Dependent Variable							
	Choosing Products				Staying Informed			
	1	2	3	4	Model			
Age	.16***	.16***	.13***	.14***	.19***	.19***	.17***	.19***
Female	.00	.00	.00	.01	-.08***	-.08***	-.11***	-.09***
Education	.06***	.07***	.05**	.03	.03	.04*	.03	.01
Work Full-Time	.01	.01	.01	.01	.01	.01	.01	.02
Income	.11***	.10***	.10***	.10***	.14***	.13***	.12***	.12***
Political Orientation		-.04**	-.04*	-.04*		-.7***	-.05**	-.04*
Religiousness		-.01	-.01	-.02		.02	.02	.01
Extraversion			-.01	.01			.09***	.11***
Agreeableness			.00	.00			-.03	-.02
Conscientiousness			.16***	.13***			.16***	.13***
Neuroticism			-.03	-.04*			.03	.02
Openness			.06***	.05**			.03	.03
Power				-.01				.05*
Autonomy				-.03				-.02
Security				.13***				.13***
Generosity				-.01				.01
Adj. Rsq	.05***	.05***	.07***	.09***	.07***	.08***	.11***	.12***
Change Adj. Rsq		.00*	.03***	.02***		.01***	.03***	.01***

Table 3: (cont.)

Parameter	Dependent Variable							
	Financial Knowledge				Financial Distress			
	1	2	3	4	1	2	3	4
Age	.14***	.14***	.14***	.14***	-.09***	-.09***	.06***	-.07***
Female	-.04*	-.04*	-.03	-.03	.03	.02	.03	.02
Education	.13***	.14***	.14***	.13***	-.08***	-.09***	-.08***	-.05**
Work Full-Time	.02	.02	.02	.02	.06**	.06**	.06***	.05**
Income	.13***	.13***	.13***	.13***	-.10***	-.10***	-.09***	-.09***
Political Orientation		-.01	.00	.00		.05**	.04*	.04*
Religiousness		-.01	.00	-.01		-.01	.00	.00
Extraversion			-.05**	-.04*			.10***	.07***
Agreeableness			-.03	-.03			.00	.00
Conscientiousness			.01	.00			-.15***	-.10***
Neuroticism			-.03	-.03			.05**	.07***
Openness			-.03	-.03			0.03	.03
Power				-.01				.06**
Autonomy				-.02				.01
Security				.04*				-.23***
Generosity				-.03				.03
Adj. Rsq	.07***	.07***	.07***	.07***	.03***	.03***	.06***	.12***
Change Adj. Rsq		.00	.00**	.00*		.00**	.03***	.05***

*** Parameter is significant at the 0.001 level (2-tailed);

** Parameter is significant at the 0.01 level (2-tailed);

* Parameter is significant at the 0.05 level (2-tailed).

Listwise $n=3577$.

Table 4: Standardized regression parameters and effect sizes for model 4

Parameter	Dependent Variable													
	Making Ends Meet		Keeping Track		Planning Ahead		Choosing Products		Staying Informed		Financial Knowledge		Financial Distress	
	β	<i>Partial Eta Sq.</i>	β	<i>Partial Eta Sq.</i>	β	<i>Partial Eta Sq.</i>	β	<i>Partial Eta Sq.</i>	β	<i>Partial Eta Sq.</i>	β	<i>Partial Eta Sq.</i>	β	<i>Partial Eta Sq.</i>
Age	.12***	.019	.05**	.002	.27***	.100	.14***	.020	.19***	.035	.14***	.019	-.07***	.005
Female	-.06***	.005	.00	.000	-.04**	.003	.01	.000	-.09***	.008	-.03	.001	.02	.000
Education	.03	.001	-.09***	.008	.07***	.007	.03	.001	.01	.000	.13***	.016	-.05**	.003
Work full-time	-.03*	.002	-.02	.000	-.03*	.001	.01	.000	.02	.000	.02	.000	.05**	.003
Income	.16***	.029	-.11***	.010	.25***	.079	.10***	.008	.12***	.013	.13***	.014	-.09***	.007
Political orientation	-.03*	.002	-.04*	.001	-.04**	.002	-.04*	.001	-.04*	.001	.00	.000	.04*	.001
Extraversion	-.04**	.002	.05**	.002	.00	.000	.01	.000	.11***	.010	-.04*	.002	.07***	.004
Agreeableness	-.05***	.003	-.03	.001	-.02	.001	.00	.000	-.02	.000	-.03	.001	.00	.000
Conscientiousness	.18***	.039	.14***	.017	.10***	.013	.13***	.016	.13***	.017	.00	.000	-.10***	.010
Neuroticism	-.10***	.010	.03	.001	-.07***	.006	-.04*	.001	.02	.000	-.03	.001	.07***	.004
Openness	-.06***	.005	-.03	.001	-.03*	.002	.05**	.003	.03	.001	-.03	.001	.03	.001
Power	-.07***	.006	.00	.000	-.04*	.002	-.01	.000	.05*	.002	-.01	.000	.06**	.003
Autonomy	-.03	.001	-.00	.000	-.05***	.003	-.03	.001	-.02	.000	-.02	.000	.01	.000
Security	.38***	.162	.05**	.003	.42***	.209	.13***	.019	.13***	.018	.04*	.001	-.23***	.050
Generosity	-.06***	.004	.02	.000	-.04**	.002	-.01	.000	.01	.000	-.03	.001	.03	.001
Adj. Rsq.	.31***		.05***		.40***		.09***		.12***		.07***		.12***	

*** Parameter is significant at the 0.01 level (2-tailed);

** Parameter is significant at the 0.01 level (2-tailed);

* Parameter is significant at the 0.05 level (2-tailed).

Listwise $n=3577$