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MONEY ATTITUDES, BUDGETING AND HABITS

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This study was concerned with the correlates of attitudes to, and habits surrounding money, particularly budgeting. It involved a secondary analysis of a representative (UK) sample of adults who completed a questionnaire that enquired into such things as their saving and spending habits, and investments. We drew on data from 1767 participants and looked specifically at demographic correlates (age, gender, income), as well as money attitudes, spending habits and their self-rated financial literacy. Our central interest was how specific beliefs about money, impulsive spending, and financial literacy are related to regular saving, spending and investment. Through correlation and regression analyses, we were able to show that household income was a major correlate of these behaviors, as were participant gender and age. We paid particular attention to the money attitude variable which suggested that those who saw money primarily as a source of security tended to be savers rather than investors and had more disposable cash. Implications of the findings and limitations of the study are discussed, including implications for detecting and advising those with money-related issues.

Keywords: Money attitudes; saving; budgeting; income; financial literacy.

1. Introduction

Since the millennium, there has been a great deal of interest in the psychology of money, and more specifically the correlates of people's spending habits and beliefs (Baker & Hagedorn 2008, Christopher *et al.* 2004, Cohen *et al.* 2019,

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Donnelly *et al.* 2012, Fernandes *et al.* 2014, Furnham *et al.* 2022, Klontz *et al.* 2021, 2023). Several commercial organizations interested in helping people with their financial literacy and well-being have sponsored studies on this topic (Klontz *et al.* 2023, Lozza *et al.* 2022, Larrabee & Klontz 2019). In this study, we examine demographic, money belief and financial literacy correlates of four behavior-dependent variables (DVs): money left after necessary expenditure, spending on “nice to haves”, personal saving, and investment.

There have also been attempts to categorize and dimensionalize attitudes to money and develop psychometrically valid tests of money attitudes (Lay & Furnham 2019, Furnham & Grover 2019). This study drew on a secondary analysis of data from a study commissioned by a British-based online cashback company. Their business model is based on attracting website hits by offering cash back on purchases and earning commission from merchants for directing people to their websites. They wanted a better understanding of their clients and commissioned a survey.

Because of its fundamental importance, there has been a great deal of interest in individual financial habits, knowledge and well-being (Abdullah *et al.* 2019, Brüggem *et al.* 2017), capability (Taylor 2011), risk-taking (Dohmen *et al.* 2011) and satisfaction (Gasiorowska 2015). The determinants of adult financial literacy/capability, financial distress, financial knowledge, and financial welfare matter, because they affect a person’s health and general well-being (Fenton-O’Creedy & Furnham 2020, 2022, Maison *et al.* 2019, Qamar *et al.* 2016, Santos & Campos 2019). The issue is of interest to many financial institutions as well as government agencies and financial advisors.

There are many studies on how attitudes to money act as direct and mediator effects on financial outcomes (Abdullah *et al.* 2019, Gasiorowska 2015). As a consequence, there have been many attempts to develop measures starting with Wernimont & Fitzpatrick’s (1972) celebrated measure 50 years ago. In that paper, where they asked 11 groups of participants to rate money on 40 semantic differential items, they identified seven dimensions of the meanings of money including Source of Worry and Anxiety, Comfortable Security and Moral Evil. However, subsequent research has shown money to be essentially associated with four factors: Freedom/Autonomy, Love/Generosity, Power and Security (Furnham 2014, Klontz *et al.* 2022, 2023, Lay & Furnham 2019).

Goldberg & Lewis (1978), who were clinical psychologists, argued that money can represent *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 original classification has been supported empirically with the development of various validated measures (Furnham 2014, Furnham & Horne 2021, Furnham *et al.* 2012, Klontz *et al.* 2012, von Stumm *et al.* 2013). The data from a number of these ever-increasing studies has clearly suggested that those who associate money with Security, as opposed to Freedom, Love and Power are better informed about, and more “sensible” with their money (Furnham & Cuppello 2023). However, it is also recognized that

sometimes these security attitudes can result in unhealthy behaviors (Furnham & Horne 2021) it is clear that those who associate money with a sense of personal security are more likely to be “careful” with money; favoring saving over spending and often being better informed (Furnham *et al.* 2022).

Research has identified a number of correlates of money beliefs and behaviors. Many studies have also shown that money attitudes are related to *gender* (Gresham & Fontenot 1989, Furnham *et al.* 2012, 2014a,b, Klontz *et al.* 2012, 2015), *culture* (Burgess 2005, Henchoz *et al.* 2019), *education level* (Klontz *et al.* 2012), and *political and religious values* (Furnham *et al.* 2012). Males tend to associate money with Achievement, Power and Freedom (Furnham *et al.* 2012) more commonly than women, who in turn are more inclined to see money as a source of anxiety, as well as associate money with retention (Gresham & Fontenot 1989) and budgeting (Tang 2010, 2020).

2. This Study

In this study, we have a large representative adult sample based in the UK. We were particularly interested in their regular saving, spending and investment habits. We investigated which factors influence, first, the availability of discretionary income, and second, the allocation of this income to spending, versus saving and investing.

We had three related independent variables in this study. *First*, we were interested in examining to what extent money attitudes that associate money with security are related to regular spending and saving. While it has been recognized that some of these associations can be pathological and related to such things as obsessional collecting, hoarding and self-denial (Furnham and Horne 2022), the idea of accumulating and storing money for all contingencies is healthy and related to good money-management. *Second*, we were interested in the correlates of a self-confessed propensity to impulsive spending, since there is evidence that a propensity for impulsive spending is linked to a range of negative financial outcomes (Fenton-O’Creedy & Furnham 2019). *Third*, there is a growing literature on individual financial literacy; how it is achieved and why it is important (Furnham and Grover 2021). We predict that financial literacy would be directly related to planful spending and savings behavior, and thus the quantity and quality of a person’s investments.

We had several control variables in this study as it is evident that the use of money is a function of a number of demographic variables. We controlled for three important variables that were available to us. *First*, we controlled for age, as the amount of disposable cash is clearly a function of age, which is often curvilinear over time. We know that wealth, including income and investments, is associated with age and thus we have to control for it (Fenton-O’Creedy & Furnham 2023). *Second*, we controlled for gender as it remains the case that fewer women than men get well-paid jobs, that women tend to have less wealth than men and that women typically have subtly different attitudes to money (Furnham *et al.* 2015, Sahi 2023). *Third*, it is obvious that family income is a powerful correlate of discretionary spending money: that is, the more people have, the more discretionary money they have to spend (Zou 2016).

We focused on predicting four behavior-dependent variables that were available in this dataset: money left after necessary expenditure, spending on “nice to haves”, saving, and investment.

As we note above, there is good evidence from research on money attitudes, that associating money with security is linked to more careful decisions about money and a greater propensity to build savings and investments (Fenton-O’Creedy & Furnham 2019, 2022). People who see money as protective take more care of it; being more frugal (Furnham 2014), enhancing the likelihood of having discretionary funds at the end of the month, but also enhancing the likelihood of accumulating those funds rather than spending on “nice to haves”. Unlike prior studies (e.g. Fenton-O’Creedy & Furnham 2023) we have separate measures for regular savings, as well as investments. Thus, in this study, we are also able to distinguish, whether a money attitude associating money with security promotes both saving and investing or is more associated with (noninvestment) savings. Thus, we hypothesized the following:

H₁. Associating money with security as opposed to love, freedom, or power is associated with lower spending on nice to-haves, more money left at the end of the month, greater savings, and higher investments.

There is a large literature on the consequences of impulsive as opposed to planned spending. One important strand of this research emphasizes the adverse consequences of a propensity to buy impulsively. These include problems with credit card debt (Joireman *et al.* 2010), problems making ends meet, and a greater incidence of adverse financial life events, including bankruptcy (Fenton-O’Creedy *et al.* 2018). Thus, we hypothesized the following:

H₂. Impulsive spending is associated with higher spending on nice to haves, lower savings and lower investments and less money left at the end of the month.

There is a growing body of research, showing the importance of financial literacy and capability to financial prudence and wellbeing (Goyal and Kumar 2021). Self- as well as test-assessed financial literacy, is a simple yet accurate measure of how careful and planful people are with their money (Furnham and Grover 2021). Thus, we hypothesized the following:

H₃. Greater financial literacy is associated with greater savings and investments and more money left at the end of the month.

3. Method

3.1. Participants

In all, there were 2000 participants in the original survey. Of these, 1767 participants provided usable information on the questions of interest to this study of which 896

were female, and 871 were male. Table 1 shows the age and household income distributions of the sample.

3.2. Procedure

Data were collected in Great Britain in November 2022 by a well-regarded and established polling company that is governed by the Market Research Society Code of Conduct (2019) and which uses advanced survey software to conduct online surveys (CAWI or Computer Assisted Web Interviewing). For nationally representative samples (as in the data used in this study), they draw a sub-sample of their panel that is already representative of UK adults in terms of age, gender, and region. This sample is invited and rewarded for completing the survey (with points that accumulate towards rewards). They understand and consent that their anonymized data are analyzed and often published. The survey was sent to a nationally representative sample of 2000 UK adults. The polling company takes informed consent when participants sign up as panellists (including for the sharing of anonymized data with third party researchers) and they have the right to withdraw at any point. We deleted cases that lacked data on our variables of interest, resulting in a sample of 1767 participants.

3.3. Dependent variables

In this study, we concentrated on four DVs (all single items, with participants responding on a 23-point scale from 0 “Nothing” to 22 “over £1000 per month”).

Spending on nice to haves: “How much do you spend on things you would deem a “nice to have”, but not essential?”

Savings per month: “In total each month, how much money do you save? By save, we mean put away in a savings account?”

Table 1. Distribution of age and income in the study sample.

| Household income | Frequency | Percent | Age | Frequency | Percent |
|------------------|-----------|---------|-------|-----------|---------|
| 0–5000 | 28 | 1.6% | 18–24 | 191 | 10.8% |
| 5001–10,000 | 247 | 14% | 25–34 | 269 | 15.2% |
| 10,001–15,000 | 155 | 8.8% | 35–44 | 307 | 17.4% |
| 15,001–20,000 | 102 | 5.8% | 45–54 | 292 | 16.5% |
| 20,001–25,000 | 137 | 7.8% | 55–64 | 296 | 16.8% |
| 25,001–30,000 | 215 | 12.2% | 65+ | 412 | 23.3% |
| 30,001–35,000 | 191 | 10.8% | Total | 1767 | 100% |
| 35,001–40,000 | 138 | 7.8% | | | |
| 40,001–50,000 | 166 | 9.4% | | | |
| 50,001–60,000 | 128 | 7.2% | | | |
| 60,001–70,000 | 125 | 7.1% | | | |
| 70,001+ | 135 | 7.6% | | | |
| Total | 1767 | 100% | | | |

Investments per month: “In total each month, how much money do you invest (in a pension, stocks, shares, premium bonds, cryptocurrency, etc.)?”

Money left at end of the month: “Approximately, how much money are you left with at the end of each month after all essentials (including credit card payments)?”

3.4. Control variables

We identified three important control variables:

Age: “How old are you”, answered by respondents on a 6-point scale from 1 “18 to 24” to 6 “65 or over”.

Gender: “Which gender do you identify with”? 1 “Female”, 2 “Male”. Participants could also choose “Non-binary or alternative identity” or “Prefer not to say”. However, since these categories only accounted for four participants these cases were dropped from the analysis since the subsample was too small for meaningful comparisons.

Household Income: “What is your household average annual income, in £s?” 12-point scale from 1 “0–5000” to 12 “Over 70,000”.

3.5. Independent variables

Money as security: “Which of the following do you think money is best at providing?” Choices were “A show of power”, “A way of expressing love”, “Financial security”, “Freedom from life’s demands”, “None of the above”. “Financial security” was coded as 1 and other options as zero.

Impulsive spending: “Which if any of the following do you do?”. “Spend Impulsively” Selected = 1, Not selected = 0.

Financial literacy: How financially literate do you consider yourself to be on a scale of 0 to 10? With 0 being “not at all” and 10 being “very” (scored from 1 to 10).

3.6. Analysis

It is important to note that, since we relied on secondary analysis of the existing data, we were constrained by the dataset in what was measured and how. Since the four DVs would, necessarily, be intercorrelated, we analyzed the data using multivariate multiple regression. Multivariate multiple regression is an analysis method for modeling multiple DVs with a single set of independent variables. It is especially useful where the DVs have significant intercorrelations; as, in the test of the overall model, this method produces significance tests for the independent variables which control for all other relationships in the model, including via the other DVs (Dattalo 2013).

4. Results

4.1. Correlations

Table 2 reports Pearson correlations for all variables analyzed. Means and standard deviations are shown on the diagonal. First considering the control variables, we see that spending on “nice to haves” and investments per month both fall with age. However, as we discuss later, there are nonlinear age effects. A significant correlation of gender with the DVs suggests that investments per month are higher for male than female participants, but that females valued money as security less than males. The literature on sex differences in money attitudes suggests small sex differences in the extent to which women associated money with love more than men, but that often men associated it more with security (Furnham *et al.* 2014a,b). It could be that unwaged females in more financially dependent relationships come to value money, more than males, as a source of security in their lives. It may also be that this changes over time depending on social trends and economic climate.

Also, females claimed, unusually, to have higher financial literacy than males and be less impulsive in their spending which is contrary to prior research but may be a function of how the items were measured, or changing social trends. The inter-correlations between DVs are substantial (varying between 0.51 and 0.73) justifying the multivariate multiple regression approach.

Money as security shows a significant positive correlation with saving and with money left at the end of the month and a significant negative correlation with investment. Impulsive spending shows a significant positive correlation with spending on nice-to-haves and with the level of investment. Financial literacy shows a significant positive correlation with all four DVs.

4.2. Multivariate multiple regression analysis

Tables 3 and 4 report the results of the multivariate multiple regression analysis. Table 3 provides an omnibus test of the overall model, showing the significance of joint variance between each independent variable and the group of four DVs. The partial eta-squared values are effect sizes that provide a comparative indication of unique common variance between each independent variable and the DVs. Partial eta-squared (η_p^2)^a values may be understood as the proportion of unique variance in the DVs explained by each independent variable once all other modeled relationships are partially 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 control and independent variables explain significant unique joint variance in the DVs. The largest effect size is for household income which uniquely explains 28% of the variance in the DVs. The other independent variables each explain between 2% and 7% of the variance. Money attitude, financial literacy and impulsive spending

^aPartial eta-squared, $\eta_p^2 = (\text{effect sum of squares})/(\text{effect sum of squares} + \text{error sum of squares})$.

Table 2. Pearson correlations.

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|--------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| 1. Age | 3.83 (1.68) | | | | | | | | | |
| 2. Gender | 0.08*** | 1.49 (0.50) | | | | | | | | |
| 3. Household income | -0.17*** | -0.04 | 6.55 (3.22) | | | | | | | |
| 4. Money as security | 0.14*** | -0.12*** | 0.10*** | 0.44 (0.50) | | | | | | |
| 5. Impulsive spending | -0.12*** | -0.10*** | 0.13*** | 0.04 | 0.09 (0.28) | | | | | |
| 6. Financial literacy | 0.06** | -0.06* | 0.39*** | 0.26*** | 0.06* | 5.79 (2.42) | | | | |
| 7. Spending on nice to haves | -0.18*** | 0 | 0.49*** | -0.04 | 0.17*** | 0.20*** | 6.72 (5.53) | | | |
| 8. Savings per month | -0.04 | 0.02 | 0.54*** | 0.14*** | 0.04 | 0.41*** | 0.52*** | 8.65 (6.78) | | |
| 9. Investments per month | -0.15*** | 0.14*** | 0.42*** | -0.08** | 0.07** | 0.18*** | 0.51*** | 0.56*** | 5.93 (6.34) | |
| 10. Money left at end of month | 0.01 | 0.02 | 0.52*** | 0.15*** | 0.04 | 0.39*** | 0.47*** | 0.73*** | 0.48*** | 8.57 (6.84) |

a. $N = 1767$, means (std. deviations) on the diagonal
 Note: *** $p < 0.001$, ** $p < 0.010$, * $p < 0.050$.

Table 3. Multivariate tests and effect sizes for parameters in the multivariate multiple regression.

| Effect | Hotelling's trace | Sig. | Partial eta-squared |
|--------------------|-------------------|------|---------------------|
| Intercept | 0.04 | 0 | 0.04 |
| Age | 0.07 | 0 | 0.02 |
| Gender | 0.03 | 0 | 0.03 |
| Household Income | 0.39 | 0 | 0.28 |
| Money as security | 0.04 | 0 | 0.04 |
| Impulsive spending | 0.02 | 0 | 0.04 |
| Financial Literacy | 0.07 | 0 | 0.07 |

explain very modest amounts of variance. However, effect sizes are likely attenuated due to imprecision of measurement given the simple single-item measures we rely on.

Table 4 reports parameter estimates and significance for the regressions of the independent variables on each of the DVs, as well as partial eta-squared effect sizes.

Adjusted *R*-squared values for each regression show the model explaining between 23% and 35% of variance in each DV.

4.2.1. Control variables

There are significant age effects for all DVs, controlling for other variables (including income). Spending on nice-to-haves is highest for the 18 to 25 age group ($B = 2.59$) and lowest in the 25 to 34 ($B = -0.02$), 45 to 54 ($B = -0.01$), and 65+ (reference category) age groups. Savings per month are highest for the 18 to 24 age group ($B = 0.58$; perhaps due to a combination of the effects of living with parents and being less likely to have children), lowest in the 25–34 group ($B = -1.15$), then broadly rise with age. Investment per month is highest for the 18 to 24 age group ($B = 2.70$) then drops and rises with age to the 45–54 age group ($B = 1.26$) before falling again (perhaps reflecting the shift to drawing on investments rather than accumulating them in later life). Money left over at the end of the month is highest in the 18–24 ($B = 0.20$) and 55–64 age groups ($B = 0.69$).

There are many reasons why people save (Furnham 1985) which is a function of a number of different issues including their disposable income (related to their age, income and commitments) as well as their personality and early socialization. Lunt & Livingstone (1991) found optimism, self-discipline and financial management linked to saving but concluded that the total amount people had saved was not very predictable by psychological variables but, rather, explained by income and demographic variables.

Gender differences are nonsignificant (at $p < 0.5$) for spending on nice-to-haves. However, being female is significantly associated with lower savings, lower investments, and less money left at the end of the month. Household income shows a significant positive relationship with all of the DVs and is the strongest predictor, in each case, explaining between 14% and 20% of unique variance.

Table 4. Parameter estimates for multivariate multiple regression predicting each DV.

| Parameter | DV | | | | | | | | | | | | | | | |
|-------------------------|---------------------------|-------|-------|---------------------|-------------------|-------|-------|---------------------|-----------------------|-------|-------|---------------------|----------------------------|-------|-------|---------------------|
| | Spending on nice to haves | | | | Savings per month | | | | Investments per month | | | | Money left at end of month | | | |
| | B | t | Sig. | Partial eta-squared | B | t | Sig. | Partial eta-squared | B | t | Sig. | Partial eta-squared | B | t | Sig. | Partial eta-squared |
| Intercept | 1.00 | 2.68 | 0.008 | 0 | -0.78 | -1.79 | 0.073 | 0 | 0.80 | 1.81 | 0.070 | 0 | -0.27 | -0.60 | 0.548 | 0.00 |
| [Age=18 to 24] | 2.59 | 6.14 | 0 | 0.02 | 0.58 | 1.18 | 0.238 | 0 | 2.70 | 5.40 | 0 | 0.02 | 0.20 | 0.39 | 0.695 | 0.00 |
| [Age=25 to 34] | -0.02 | -0.05 | 0.961 | 0 | -1.15 | -2.62 | 0.009 | 0 | 0.32 | 0.72 | 0.470 | 0 | -1.85 | -4.11 | 0 | 0.01 |
| [Age=35 to 44] | 0.96 | 2.59 | 0.010 | 0 | -0.30 | -0.70 | 0.487 | 0 | 0.91 | 2.08 | 0.038 | 0 | -1.34 | -3.03 | 0.002 | 0.01 |
| [Age=45 to 54] | -0.01 | -0.04 | 0.969 | 0 | -0.50 | -1.18 | 0.239 | 0 | 1.26 | 2.91 | 0.004 | 0 | -0.50 | -1.15 | 0.250 | 0 |
| [Age=55 to 64] | 0.94 | 2.58 | 0.010 | 0 | -0.10 | -0.23 | 0.819 | 0 | 1.14 | 2.65 | 0.008 | 0 | 0.69 | 1.58 | 0.114 | 0 |
| [Age=65 +] | 0.00 ^a | — | — | — | 0 ^b | — | — | — | 0.00 ^a | — | — | — | 0 ^b | — | — | — |
| [Gender = female] | -0.34 | -1.48 | 0.138 | 0 | -0.68 | -2.57 | 0.010 | 0 | -2.04 | -7.54 | 0 | 0.03 | -0.73 | -2.67 | 0.008 | 0 |
| [Gender = male] | 0 ^a | — | — | 0 | 0 ^a | — | — | — | 0.00 ^a | — | — | — | 0 ^a | — | — | — |
| Household income | 0.77 | 19.46 | 0 | 0.18 | 0.97 | 21.08 | 0 | 0.20 | 0.78 | 16.69 | 0 | 0.14 | 0.95 | 20.25 | 0 | 0.19 |
| Money as security | -1.01 | -4.24 | 0 | 0.01 | 0.60 | 2.15 | 0.032 | 0 | -1.45 | -5.14 | 0 | 0.01 | 0.63 | 2.21 | 0.027 | 0 |
| Impulsive spending | 2.09 | 5.11 | 0 | 0.01 | -0.80 | -1.67 | 0.095 | 0 | 0.70 | 1.45 | 0.146 | 0 | -0.43 | -0.89 | 0.373 | 0 |
| Financial literacy | 0.09 | 1.80 | 0.072 | 0 | 0.60 | 9.92 | 0 | 0.05 | 0.13 | 2.10 | 0.04 | 0 | 0.55 | 8.79 | 0 | 0.04 |
| Adjusted R ² | 0.28 | | | | 0.35 | | | | 0.23 | | | | 0.33 | | | |

a. This parameter is set to zero because it is redundant.

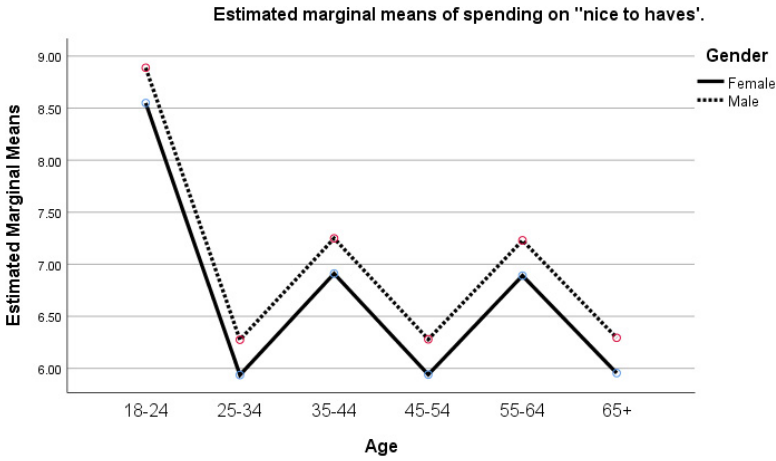


Fig. 1. Marginal means of spending on nice to haves by age-band and gender.

Figures 1–4 show the marginal means of each DV for different values of age and gender. These values are estimated from regression equations, holding other variables constant at their mean values. It is thus important to understand that the figures do not represent the absolute level of each DV but the incremental effects of age and gender once the other variables (income most importantly) are controlled for.

Figure 1 reflects a well-known age effect on discretionary income with a steep decline from the youngest age group and then a decline around the usual age of retirement (Furnham 2014). Figure 2 shows the pattern of saving with the lowest amount for the age groups 25–34 and gradually increasing. There was also a wide and

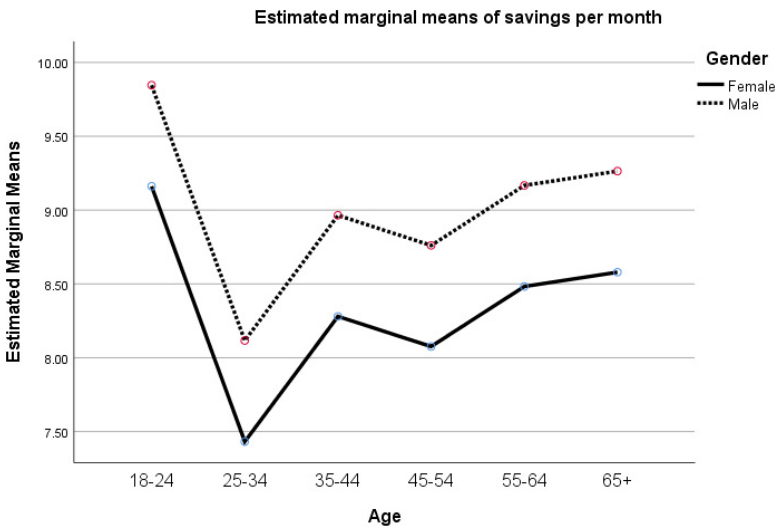


Fig. 2. Marginal means of savings per month by age and gender.

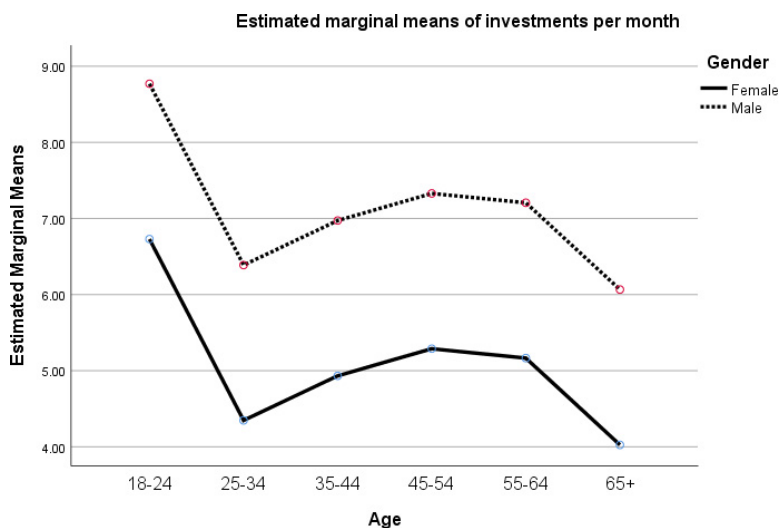


Fig. 3. Marginal means of investments per month by age and gender.

consistent gender difference with men reporting saving more than women. Figure 3 shows the pattern of investing which is essentially curvilinear from low points at 25–34 years and after 65 years. On this variable there were dramatically large gender differences. Figure 4 shows that, with the exception of the youngest age group, discretionary income rises pretty linearly from 25 to 64 again with consistent gender differences. Overall, the results from the four figures show a very dramatic change in all these variables from 18 to 24, but also consistent gender differences.

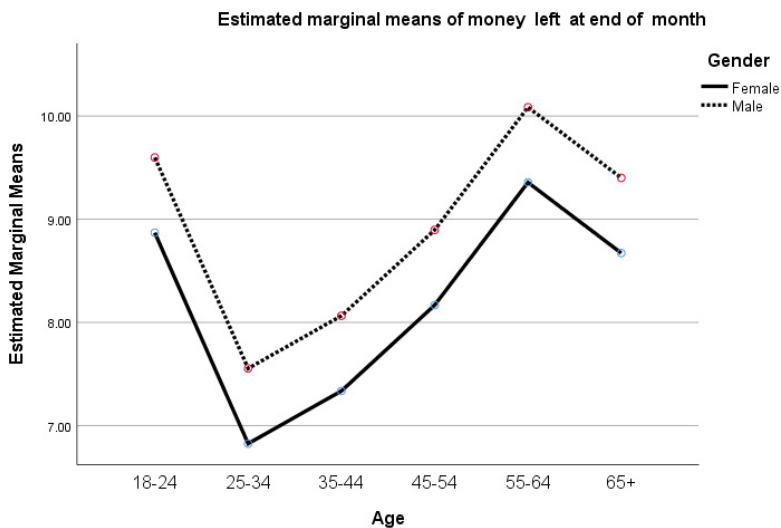


Fig. 4. Marginal means of money left at end of month by age and gender.

4.2.2. Independent variables

The parameter for money as security was significant (at $p < 0.05$) for all DVs. As hypothesized (H_1), associating money with security significantly predicts lower spending on nice-to-haves ($B = -1.01$), more money left at the end of the month ($B = 0.63$) and greater saving ($B = 0.60$). However, contrary to the hypothesis it also predicts lower investments per month ($B = -1.45$), perhaps reflecting greater risk aversion among those focused on security. Impulsive spending significantly predicts spending on nice-to-haves (at $p < 0.5$), consistent with H_2 . However, the parameter is nonsignificant for other DVs. Since our analysis eliminates indirect effects via other DVs, it is very plausible that in the previous studies where impulsive spending is consistently shown to be related to a wide range of financial behaviors (Fenton-O’Creevy & Furnham 2019) the effect pathway is via spending on hedonic purchases (“nice to haves”), reducing ability to save or invest rather than a direct effect. It is also plausible that the very simple measure of money as security compared to other studies reduced the power of the test.

Consistent with H_3 , financial literacy showed a positive association with saving, investing and money left at the end of the month.

5. Discussion

In this study, we looked at demographic, attitudes, habits and self-rated financial literacy correlates of specific money behaviors. It is a common finding that many people report on money worries, difficult-to-change money habits, and financial ignorance and there is a growing literature on this topic (Furnham 2014, Klontz *et al.* 2021, 2023). In many ways, our data confirmed the previous studies (Furnham & Grover 2022), though what it did add was the particular variance accounted for by various factors and demonstrated interesting differences in the correlates of saving versus investing. Of particular interest is that associating money with security promotes saving behavior, but also promotes avoidance of investing in riskier (though typically better return) assets. Of course, the question remains how and who defines risk, and its effects on return. Again, this finding clearly warrants further investigation, for example by distinguishing between different classes of investment assets, which may be of particular interest to financial advisors.

We know from economic data the “average person’s” lifetime earnings, etc. Our findings (see Figs. 1–4) show two things: clear life span and gender differences. The gender differences reflect the stubborn persistence of gender inequalities in economic matters. There is also a vast literature on why people do and do not save (Nyhus 2017, Traut-Mattausch & Jonas 2011) testing various economic as well as psychological theories because the issue is of such importance to individuals, families and whole societies.

In this study, we focused on four outcome variables in a reasonably representative sample of the UK population. The results from the first “non-essential spending” question showed clear results. The more people had in household income the more they spent, but two other variables played a part. Impulsive spenders particularly

and those who do not see money as security are more likely to “indulge” in spending on nice-to-have, nonessentials. There were minor age effects but no gender effects. There is an extensive literature on impulsive spending which highlights many negative consequences of this behavior pattern (Fenton-O’Creevy & Furnham 2019).

This question and the habits behind it are of major interest to financial therapists who attempt to help people understand and use their money more sensibly (Klontz *et al.* 2021, 2023). Klontz *et al.* (2011) who pioneered work on money therapy argued that money scripts (beliefs individuals hold about money) are developed in childhood, often passed down from generation to generation in family systems, typically unconscious, contextually bound, and more importantly drivers of much of our financial behaviors (Klontz & Britt 2012). They identified four distinct money belief patterns (i.e. money avoidance, money worship, money status, and money vigilance). They found younger, non-White, nonmarried participants with lower levels of education, income, and net worth had higher *Money Avoidance* scripts and *Money Worship* scripts scores. Those with high *Money Avoidance* script scores were more likely to be younger, non-White, and nonmarried with lower levels of education, income, and a lower socioeconomic status as a child. Interestingly, there were no sex differences in the data. Recent research has confirmed these four belief patterns (Furnham & Cuppello 2023).

The results of the savings per month question showed the two strongest correlates were household income and financial literacy. There was also a gender effect (men save more) and a money attitude effect (those who associated money with security save more). We could account for a third of the variance with these simple measures, which stress the role of belief and education-related variables in everyday financial behavior.

Certainly, there has been a notable growth in the concept and measurement of financial literacy. There has been a great cross-disciplinary (economics, finance, psychology) interest in financial literacy (Bedi *et al.* 2019). In an important recent systematic review, Goyal & Kumar (2020) identified three major themes: levels of financial literacy amongst distinct cohorts, the influence that financial literacy exerts on financial planning and behavior, and the impact of financial education. They also identified a number of themes including financial capability, financial inclusion, gender gap, tax and insurance literacy, and digital financial education, which are worth exploring in future research.

The results of the investment question were particularly interesting. They showed predictable demographic effects: gender (more investment by men than women), age (more investment by late middle-aged people more than others) and income (investment increasing with income). Income was by far the most important factor. Also, those with higher self-assessed financial literacy invested more. However, those who associated money with security invested less in stocks and shares favoring more cautious bank savings devices. For some, investing appears to be very risky, particularly in times of recession, so those who want security are willing to trade off potential benefits for security. This idea is certainly worth pursuing in further

research to gain a better understanding of what attitudes predict how people prefer to “store” their money, from bank accounts, to buying stocks and shares or investing in speculative objects (e.g. arts) or gilts. Clearly financial literacy would play a part, but the question is what other variables would contribute to this choice.

The final DV (money remaining at the end of the month) had predictable gender, age and income correlates but of the other, attitudinal, factors it was financial literacy that dominated. Those who say they understand and manage their finances have more disposable income relative to how much they earn. One important question is the role of finance literacy in determining personal wealth. Certainly, it may be expected that brighter, better educated people obtain better jobs with more pay, but also gain in their financial literacy in doing so. Yet educating people in financial matters can be done with all groups and appears to be a very sensible “intervention” for those concerned with poverty reduction and wealth creation.


What was particularly interesting from this study was the incremental validity over the standard demographic variables (age, income, gender) that we assessed. It is apparent from both correlation (Table 2) and regression (Table 3) results that the money as security attitude and the simple self-rated financial literacy assessment accounted for additional variance in explicable ways. This supports the many lab-based studies in behavioral economics which show that attitudinal and psychological variables play an important part in everyday economic behavior.


Like all others, this study had limitations. Inevitably, we would have liked to know more about the financial situation of the respondents such as their total financial assets, total income, personal salary and family responsibilities. We also used short and nonstandard measures of money attitude and financial literacy and although they worked well, it would be interesting to repeat the findings using more standard and reliable measures of these variables. Finally, we should be cautious in how self-report of capabilities is interpreted. There can be confidence and self-presentation effects. For example, there is a well-documented tendency for men to over-estimate their intelligence and for women to underestimate their intelligence (Reilly & Mulhern 1995, Furnham 2001). The same is likely to be true of financial literacy.

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