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Personality and Economic Behaviour

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Abstract

This study investigated the relationship between six self-assessed work personality traits and three self-assessed aspects of economic behaviour: how respondents rate their personal wealth, how financially literate they would rate themselves, and how many credit cards they have. Two separate surveys were conducted at different points in time. Survey 1 (n = 884) contained the personal wealth question, and survey 2 (n = 840) contained the financial literacy and credit card questions. Correlational and regression analyses indicated that individuals with a degree and were higher on Self-esteem, Conscientiousness, and Courage, but lower on Curiosity, and more politically conservative tended to rate their personal wealth higher. Individuals higher on Self-esteem, Conscientiousness, and Courage, who were more politically conservative, tended to rate their financial literacy more highly. Finally, those who were older, with a degree, higher in Self-esteem and Competitiveness, but lower on Conscientiousness, tended to have more credit cards. Implications and limitations are acknowledged.

Keywords

Personality, Personal Wealth, Financial Literacy, Credit Cards

1. Introduction

There is a great deal of interest in personality and individual difference correlates of money-related behaviour, including financial literacy, spending and saving, wealth accumulation and investing (Ben-Shahar & Golan, 2014; Bucciol & Zarri, 2017; Exley et al., 2022; Fenton-O'Creevy & Furnham, 2020a, 20202b, 2023; Furnham & Grover, 2022; Furnham et al., 2022; Holmén et al., 2021; Lai, 2019; Sesini & Lozza, 2023). These studies have identified certain traits, like Conscientiousness, which are systematically related to several financial behaviours. In an

important recent study, Giannelis et al. (2023) assessed impulsivity and irresponsibility in a sample of 3,920 American twins and related this to a measure of saving disposition and financial distress. They concluded that 44% of the covariance between the two financial behaviours is due to genetic effects.

There have been a number of studies that have tried to determine whether personality factors play a part in wealth creation (Balasuriya & Yang, 2019; Denissen et al., 2018; Gambetti & Giusberti, 2019; Judge et al., 2012; Kajonius & Carlander, 2017; Maczulskij & Viinikainen, 2018). In an early study, Nyhus and Pons (2005) found Emotional Stability (low Neuroticism) was positively associated with the wages of both women and men, while Agreeableness was significantly associated with lower wages for women. Ng et al. (2005) suggested that personality traits are related to self-perceptions of success, whereas demographic variables better predict objective success. Thus, personality variables may relate to the self-confidence of succeeding in stock-market speculation, but demography links to actually making money.

Mueller and Plug (2006) found that men who are Antagonistic (low Agreeable), Open and, to a lesser extent, Emotionally Stable enjoy earnings advantages over otherwise similar men, while women receive an economic premium for being more Conscientious and Open. The returns to non-Agreeableness are very different for men and women (positive for men and negative for women), but the positive returns to Openness are similar across genders.

Heineck (2011) found a positive relationship between Openness, but a negative linear relationship between Agreeableness, and wages. Furthermore, for females, there was a negative relationship between wages and Neuroticism. More recently, Denissen et al. (2018) found that the fit between individuals' actual personality and the personality demands of their jobs is a predictor of their income.

In a thorough review, Vella (2024) noted that the data shows Openness to Experience, Conscientiousness, and Extraversion exhibit positive correlations with earnings, whereas Agreeableness and Neuroticism are inversely correlated with earnings. Overall, personality has a modest-to-small effect on earnings.

Interestingly, while financial experts are often the most interested in the risk appetite of individuals and how they use their money, few psychologists have investigated this. An exception is the work of Exley et al. (2022), who used the Big Five to devise three latent types of risk appetite: *Under Controlled*, *Resilient*, *and Over Controlled*, which were uniquely associated with income. Based on these types, Campbell et al. (2023) concluded:

There are predictable individual differences in financial performance—some people are risk-taking and aggressive and blow up, but others are fearful and take no risks and never acquire enough wealth to even blow it up, and still other people seem to have an almost supernatural discipline and calm that allows them to invest despite the chaos in the markets. Each of these people will need different styles of support and planning (p. 241).

It seems that various conclusions may be drawn from papers that use different

samples from different countries: first, all five of the Big Five traits are related to earnings and wages, two being negative (Agreeableness and Neuroticism) and three positive (Extraversion, Conscientiousness, and Openness). Next, the effects are different for each sex. Third, the effect sizes are modest. Fourth, other personality factors also have an impact (Salamanca et al., 2020). Fifth, the Big Five personality traits are similarly related to other comparable economic factors, like financial literacy, investments, and stock-market participation (Conlin et al., 2015; Gambetti & Giusberti, 2019; Hii et al., 2022).

In an important recent study, Jiang et al. (2024) surveyed over 3,000 American investors and showed that Neuroticism and Openness explained cross-investor variations in belief, risk aversion, tendencies of social interaction, and portfolio allocation. They argued that "some of the common components of investor heterogeneity in beliefs, preferences, social interaction tendencies, and investment decisions can be traced to these two traits" (p. 12).

1.1. Personality at Work

In this study, we used the High Potential Trait Indicator (HPTI), which was constructed to predict workplace behaviour and has good psychometric properties. For instance, each of the six factors has an alpha between .72 and .80, a good fit, convergent validity with the established NEO-PI-R, and predictive validity with management level (MacRae & Furnham, 2020).

The HPTI was developed to measure personality at work, and has some overlap with the Big Five (Five Factor Model, FFM) on three traits (Cuppello et al., 2023a, 2023b) and includes three additional traits, shown to relate to success in a variety of jobs (Teodorescu et al., 2017). The first overlapping trait is *Conscientiousness,* characterised by self-discipline, organisation, educational and business success and the ability to moderate one's impulses (Barrick et al., 2001). The second is *Adjustment* (low Neuroticism), characterised by emotional resilience to stressors, positive affect, and mood stability and regulation. The third is *Curiosity* (Openness), which is characterised by an interest in new ideas, experiences and situations. It involves new ways of completing tasks, new ideas, and an interest in colleagues with different opinions.

Three traits are not covered by the Big Five. *Ambiguity Acceptance* (Tolerance to Ambiguity) is associated with how people process and perceive unfamiliarity or incongruence (Furnham & Ribchester, 1995). Those who can tolerate ambiguity perform well in new or uncertain situations, adapt when objectives are unclear, and are able to learn in unpredictable times or environments. The fifth trait is *Competitiveness,* which is related to low Agreeableness. Competitiveness focuses on the adaptive elements that drive self-improvement, desire for individual and team success, and learning. The final trait of *Courage, or Approach to Risk,* is the ability to combat or mitigate negative or threat-based emotions and broaden the potential range of responses. Courage is exhibited as the willingness to confront difficult situations and solve problems in spite of adversity.

A number of papers have used the HPTI (Cuppello et al., 2023a, 2023b; Furnham & Treglown, 2018; Furnham & Impellizzeri, 2021; Treglown et al., 2020a, 2020b). The psychometric properties of the measure have been reported (MacRae & Furnham, 2020), of which the most relevant report is the study by Teodorescu et al. (2017). Their results indicated that the HPTI personality traits relate to subjective and objective measures of success, with Conscientiousness being the strongest predictor.

1.2. This Study

In this study, we are interested in three sets of economic behaviour correlates: demography, ideology, and personality. We had three criterion variables: subjective ratings of wealth and financial literacy and the number of credit cards they possessed. The essential question was, which set of variables predicted the outcome variable, and how much variance could we account for?

From our review of the above literature, we predict that males more than females (H1); older more than younger (H2); graduates rather than non-graduates (H3); those with higher scores on Conscientiousness (H4), Ambiguity Acceptance (H5), Competitiveness (H6) and Curiosity (H7) would rate their wealth and financial literacy higher and have more credit cards.

2. Method

2.1. Participants

Survey 1

A total of 884 individuals adequately completed the survey, of which 53.3% were female, 45.9% male, and 0.8% did not indicate their gender (coded: 1 = Female, 2 = Male). The age ranged from 19 to 77, with a mean of 45.88 (SD = 10.3). The majority indicated having obtained a degree (67.27%).

Survey 2

A total of 840 individuals adequately completed the survey, of which 58.2% were female, 41.3% were male, and 0.5% did not indicate their gender. The participants' ages ranged from 18 to 74, with a mean of 45.95 (SD = 11.39). The majority indicated having obtained a degree (68.33%)

2.2. Materials

Two similar surveys were conducted at different points in time. Both surveys (Survey 1 and Survey 2) contained the High Potential Trait Indicator, Ideology, Self-esteem, and demographic questions. However, Survey 1 contained the Personal Wealth question, and Survey 2 contained the Financial Literacy and Credit Cards questions.

Ratings: We had three criterion variables. (1) Personal Wealth (Survey 1): On a scale from 1 - 100, how would you rate your personal wealth? (Very low) 1 - 100 (Very high). The mean was 56.43 (SD = 21.46), and the results were normally distributed. (2) Financial Literacy (Survey 2): How financially literate would you

say you are? (1) Not at all to (9) Very. The mean was 6.90 (SD = 1.45). (3) Credit cards (Survey 2): How many credit cards do you have? The range was from none (15%) to four and over (9%), with 36% having one, 29% two, and 18% three.

Self-esteem: We asked participants to make four ratings: On a scale from 1-100 (100 being extremely high) how would you rate your physical attractiveness, physical health, intelligence, and emotional intelligence? We aggregated these into a rating of Self-esteem with acceptable internal reliability ($\alpha_{Study1} = .70$, $\alpha_{Study2} = .73$).

Ideology: Two questions were asked: "How religious are you?" (1) Not at all to Very (9; M = 3.52, SD = 2.59), Political views from (1) Very Conservative to (9) Very Liberal (M = 5.48 SD = 1.95).

High Potential Trait Indicator (HPTI; MacRae & Furnham, 2014). The HPTI measures personality traits, specifically within a workplace context. It comprises six factors, outlined in the table below. The inventory is 78 items in length. It has been used in several studies (Cuppello et al., 2023a, 2023b; Furnham & Treglown, 2018; Teodorescu et al., 2017).

2.3. Procedure

Participants were recruited from a pool of individuals who had completed a psychometric assessment provided by test publisher Thomas International for genuine occupational test use and subsequently volunteered to take part in research. They were incentivised by being offered brief feedback on their results following the study. Participants were emailed to inform them about the study and provide them with a link to complete it, and they gave their informed consent to have their anonymised data analysed and published. The studies were conducted on an online survey platform. The research was approved by the committee LSA/TI/2022. Finally, participants were debriefed, thanked for their time, and provided feedback on their scores.

3. Results

Table 1 and Table 2 reports Pearson correlations, with means and standard deviations on the diagonal.

Table 1 indicates that sex and religious beliefs were largely unrelated to the three ratings, whereas the traits Risk Approach and Ambiguity Acceptance demonstrated stronger associations. Notably, Self-esteem emerged as one of the stronger correlates of the criterion variables, all of which, according to Cohen (1988), were small effect sizes.

A series of regressions were then conducted with Personal Wealth, Financial Literacy, and Number of Credit Cards as dependent variables. A standard multiple linear regression was utilised for Personal Wealth, as it did not considerably violate the assumptions of linear regression (Tabachnick & Fiddel, 2013). However, alternative regressions were used for Financial Literacy and Number of Credit Cards due to the nature of the responses for these questions.

Financial Literacy is a single-item question anchored at 1 (Not at all), to 9

Table 1. Cronbach's alpha, Correlations, and (on diagonal) Means (Standard Deviations) of Study 1.

	α	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
(1) Personal Wealth	—	56.43 (21.35)												
(2) Sex	—	.05	0.54 (0.50)											
(3) Age	—	.07*	.06	45.72 (1.77)										
(4) Degree	—	.18***	−.07*	−.04	0.68 (0.47)									
(5) Religious	—	.07*	−.01	.05	.07*	3.38 (2.58)								
(6) Politics	—	−.10**	−.14***	−.08*	.10**	−.13***	5.41 (1.99)							
(7) Self-esteem	.70	.35***	.10***	.00	.17***	.09***	.03	278.18 (50.69)						
(8) Conscientiousness	.73	.23***	−.01	.10**	.07*	.07*	−.12***	.20***	7.27 (1.29)					
(9) Adjustment	.81	.19***	.07*	.20***	−.03	.05	−.12***	.25***	.22***	64.39 (12.22)				
(10) Curiosity	.75	.05	.05	−.02	.10**	.04	.15***	.24***	.29***	.16***	68.01 (9.62)			
(11) Risk Approach	.78	.23***	.19***	.15***	.03	.07*	−.11**	.25***	.52***	.44***	.46***	64.39 (1.67)		
(12) Ambiguity Acceptance	.74	.16***	.04	.22***	.11***	−.02	.03	.12***	.23***	.38***	.34***	.48***	51.86 (1.23)	
(13) Competitiveness	.81	.13***	.22***	−.16***	.03	.03	−.18***	.17***	.30***	−.08*	.01	.26***	.07*	49.11 (12.51)

Note. *p < 0.05, **p < 0.01, ***p < 0.001. 0 = Male, 1 = Female. 0 = Degree not obtained, 1 = Degree obtained.

Table 2. Cronbach's alpha, Correlations, and (on diagonal) Means (Standard Deviations) of study 2.

	α	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(13)
(1) Financial Literacy	—	**6.89 (1.46)**													
(2) Credit Cards	—	**.10****	**1.72 (1.43)**												
(3) Sex	—	**.06**	**.03**	**0.58 (0.49)**											
(4) Age	—	**.12*****	**.22*****	**.02**	**45.71 (11.27)**										
(5) Religion	—	**.05**	**.04**	**.02**	**.08***	**3.58 (2.61)**									
(6) Politics	—	**-.11****	**.02**	**-.18*****	**-.09***	**-.19*****	**5.46 (1.93)**								

Continued

(7) Degree	—	.04	.10**	-.06	-.12***	.04	.16***	0.69 (0.46)							
(8) Self-esteem	.73	.23***	.14***	.07	.06	.12***	.00	.15***	274.24 (55.14)						
(9) Conscientiousness	.70	.23***	-.02	.00	.10**	.09**	-.05	-.04	.24***	7.73 (8.67)					
(10) Adjustment	.82	.20***	.12***	.07*	.22***	-.01	-.03	-.02	.32***	.23***	62.84 (11.99)				
(11) Curiosity	.75	.10**	.10**	.05	.03	.07	.14***	.10**	.17***	.30***	.21***	68.28 (8.56)			
(12) Risk Approach	.76	.23***	.13***	.15***	.20***	.08*	-.07	-.01	.27***	.50***	.52***	.46***	63.57 (9.66)		
(13) Ambiguity Acceptance	.76	.19***	.13***	.06	.23***	-.11**	.06	.06	.14***	.17***	.48***	.31***	.48***	51.21 (9.77)	
(14) Competitiveness	.80	.10**	.05	.12***	-.19***	.04	-.16***	.02	.20***	.35***	-.01	.07	.24***	.04	48.82 (11.59)

Note. *p < 0.05, ** p < 0.01, *** p < 0.001. 0 = Male, 1 = Female. 0 = Degree not obtained, 1 = Degree obtained.

(Very), deeming the responses to be ordinal. The distribution of responses was also negatively skewed (skewness = −0.715, W = 0.919, p < 0.001, M = 6.91, SD = 1.45). Accordingly, an ordinal logistic regression was conducted using the proportional odds model (Ananth & Kleinbaum, 1997). The analysis was performed in Jamovi (The Jamovi Project, 2025), which utilizes the *MASS* package (Ripley et al., 2023) in the statistical programme, R (R Core Team, 2024).

The Number of Credit Cards responses is count data by nature, and therefore require a more suitable regression approach. Poisson and negative binomial regressions were considered, with the latter being preferred as the data exhibit overdispersion, which violates a key assumption of Poisson regression (Fávero et al., 2021; Gardner et al., 1995). The distribution of reported credit cards was positively skewed and overdispersed (skewness = 1.763; W = 0.833, p < 0.001; M = 1.73, SD = 1.42). Consequently, a negative binomial regression was employed to examine the relationship between the number of credit cards and the independent variables. Multicollinearity was not a concern, as the highest variance inflation factor (VIF) observed was 2.259, well below the commonly used threshold of 5 (O'Brien, 2007).

Table 3 shows that for the regression of personal wealth, in all, six variables were significant and accounted for around 13% of the variance. Individuals with higher levels of education, higher Self-esteem, higher Conscientiousness, more willingness to take risks, and lower curiosity, tended to rate their personal wealth higher. Interestingly, age was not significant, as it is expected that older individuals would accumulate more wealth over time.

Four variables were significant for the rating of financial literacy, which, in total, accounted for about 5% of the variance. More Conscientious and Ambiguity

Table 3. Multiple regressions of personal wealth, ordinal logistic regression of financial literacy, and negative binomial regression of the number of credit cards.

	Personal Wealth				Financial Literacy				Credit Cards			
	B	SE B	β	t	B	SE B	OR	Wald	B	SE B	IRR (exp[B])	Wald
Sex	−0.349	1.394	−0.008	-0.251	0.131	0.132	1.140	0.990	0.002	0.057	1.002	0.036
Age	0.060	0.065	0.030	0.922	0.010	0.006	1.010	1.653	0.018	0.003	1.018	6.855***
Degree	5.987	1.442	0.132	4.150***	0.170	0.141	1.185	1.203	0.162	0.063	1.176	2.593**
Religious	0.195	0.260	0.024	0.751	0.013	0.026	1.013	0.516	0.005	0.011	1.005	0.439
Politics	−0.786	0.353	−0.073	-2.227*	-0.096	0.036	0.908	-2.687**	0.015	0.015	1.015	1.030
Self-Esteem	0.492	0.057	0.291	8.591***	0.022	0.005	1.022	4.099***	0.006	0.002	1.006	2.803**
Conscientiousness	0.167	0.055	0.114	3.019**	0.025	0.006	1.026	4.444***	-0.010	0.002	0.990	-4.021***
Adjustment	0.045	0.048	0.035	0.929	0.006	0.005	1.006	1.174	0.001	0.002	1.001	0.599
Curiosity	−0.217	0.058	−0.140	-3.726***	-0.003	0.005	0.997	-0.577	0.004	0.002	1.004	1.602
Risk Approach	0.141	0.068	0.096	2.078*	0.002	0.007	1.002	0.336	0.003	0.003	1.003	1.153
Ambiguity Acceptance	0.101	0.063	0.061	1.609	0.016	0.006	1.016	2.526*	0.001	0.003	1.001	0.306
Competitiveness	0.029	0.050	0.021	0.588	-0.002	0.005	0.998	-0.390	0.007	0.002	1.007	3.148**
F (df)/χ^2 (df)	F = 11.39 (11, 855)***				χ^2 = 123.00 (12)***				χ^2 = 100.24 (12)***			
R^2 (Nagelkerke's R^2)	0.128				(0.052)				(0114)			

Note *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$, 1 = Female, 2 = Male, 1 = Degree not obtained, 2 = Degree obtained.

Tolerant people with higher Self-esteem, and tending to be politically conservative, rated their financial literacy more highly.

The regression onto the number of credit cards a person owned showed that older people, individuals who have obtained a degree, more Competitive, and those with higher Self-esteem, but less Conscientious people had more credit cards.

4. Discussion

The results showed that Self-esteem and Conscientiousness were related to all three criterion measures. A few of the variables were not significant predictors in any of the regressions: sex, religious beliefs, and Adjustment. Overall, all three regressions accounted for between 5 and 12% of the variance.

The regression onto perceived wealth showed that degree status, political beliefs, Self-esteem, and three of the six personality traits were significant. It is well-accepted that people are not well-informed about the wealth of others and that this measure is essentially comparative and, thus, open to variability over time. Perhaps most surprising is that age is not associated with this estimate. As people become older, their wealth usually increases, but their comparative judgements may stay the same. Interestingly, as so frequently observed political beliefs were related to perceived wealth, showing that individuals who perceived themselves as being wealthy tended to be politically more conservative. Our results showed that

Conscientiousness was related to self-perceived wealth. We know that this trait is most consistently and systematically related to success at work, which, in part, is rewarded monetarily (Furnham, 2018). Equally, wise risk-taking is often rewarded financially. While we only have correlational data, given the findings on the stability of personality in adulthood, this data suggests that personality does effect wealth accumulation. A particularly shocking result was the negative relationship with Curiosity (Openness). This may reflect the "creative" nature of more open people, who are less interested in wealth accumulation than quality of life and "having fun".

However, what is most clear is the role of Self-esteem. It is possible that Self-esteem is a part cause and consequence of a person's wealth. Assuming more competent people on a range of skills have higher Self-esteem, it seems likely they would achieve better jobs and make better financial decisions and hence achieve greater wealth. Similarly, being financially successful would no doubt lead to an increase in Self-esteem. Another possible interpretation is that individuals with high Self-esteem tend to respond more positively on self-report surveys, either due to Self-enhancing tendencies (Baumeister et al., 2003) or because of a favourable response style associated with high Self-esteem (Ohide, 1979). Alternatively, they may genuinely believe they are better off—including in domains like personal wealth—regardless of their objective circumstances (Taylor & Brown, 1988; Sedikides & Gregg, 2008).

Our results showed that more politically conservative, Conscientious, and Ambiguity-tolerant people who had higher Self-esteem believed that they were more financially literate. There is a sizable literature on the correlates of financial literacy, which indicates that Conscientiousness is a major predictor (Fenton-O'Creevy & Furnham, 2020a; von Stumm et al., 2013). It could be argued that an interest in financial affairs is related to seeking wealth accumulation, which is related to more conservative politics. It is fascinating that tolerance for ambiguity is related to Self-assessed financial literacy, which may be due to the uncertainty and randomness of many markets and financial affairs; one has to be able to tolerate this to pursue financial knowledge and, thence, literacy. However it no surprise that Self-esteem is related to beliefs about financial literacy, though once again it not clear how the process works: do people with high Self-esteem make more attempts to become financially literate; or does financial literacy boost Self-esteem? However it should be acknowledged that people might not be able to accurately estimate their degree of financial literacy and that the correlation reflects poor insight into personal skills and talents.

Finally, the correlates of credit card ownership showed that older people with a degree held more. Once again, Self-esteem was a correlate suggesting that those with more cards had higher Self-esteem though it is not clear as to the causal relationship. The personality results were particularly intriguing; less Conscientious and more Competitive people had more cards. Credit card ownership is related to many factors, which may change as a function of the decrease in cash. For some,

credit card ownership and use could be related to careless and compulsive spending (Khandelwal et al., 2022), while for others, credit cards might be used to signal power and success (Furnham, 2015). It is noteworthy that Conscientious people had fewer cards while Competitive people had more. The former may be more selective in the cards to choose and use; in contrast, the latter may like to display their wealth by the number of cards they have.

Like all others, this study had limitations. We had a reasonably sized population, but they were essentially middle-aged professionals, which concomitantly restricted range. It would have been desirable to have actual objective economic data on each individual's wealth, earnings, credit and debit card ownership, as well as a test measure of their actual financial literacy. Finally, many of our measures were based on single items, which may be less robust and reliable than multiple-item measures. However, a recent review noted that "most research published on single-item measures shows that they are often as valid and reliable as their multi-item counterparts" (Allen et al., 2022, p. 4).

Data Availability

The data may be requested from the first author.

Registration

This paper was not pre-registered with the journal.

Ethics

The study involved secondary analysis of anonymised data, collected from a non-vulnerable population with informed consent that allowed the use of the data by third party researchers.

Conflict of interest

There was no conflict of interest.

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