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A New Money Attitudes Questionnaire

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Abstract: This study reports on the development and validation of a new questionnaire to measure money attitudes and beliefs. In all, 268 participants from diverse backgrounds, who were recruited online, completed a 30-item questionnaire. Exploratory and confirmatory factor analyses verified a five-factor model. The factors were labeled: Achievement and Success, Power and Status, Mindful and Responsible, Saving Concerns, and Financial Literacy Worries. Results showed that demography (sex, age, and education), ideology (politics and religious practices), and self-rated happiness, success, and adjustment were related to all five factors, particularly the first two. Worries about Financial Literacy is an important and neglected factor in money attitudes research, which has implications for consumer well-being and protection. Limitations and implications are noted.

Keywords: money, attitudes, questionnaire, saving, spending

A number of forces and factors shape a person's attitude to, beliefs about and behavior concerning money. Over the past three decades, various measures of attitudes to money have been developed (Furnham, 2014). This study set about developing and validating a new measure that could be used internationally to assess modern money attitudes. It adds the dimension of financial literacy to this literature.

One of the earliest psychometrically valid money-related measures developed was the Money Attitudes Scale (Yamauchi & Templer, 1982), comprising five factors: power-prestige, retention time, distrust, quality, and anxiety. Later, Furnham (1984) identified six money beliefs: obsession, power/spending, retention, security/conservative, inadequate, and effort/ability. For many years researchers in the area used either or both of these measures. Later, the Money Ethics Scale was developed which also had six factors consisting of affective components (good, evil), cognitive components (achievement, respect, and freedom), and a behavioral (budget) component (Tang, 1992).

The last 20 years has seen the development of other scales but not all have attracted researchers to use them. Lim and Teo (1997) developed a test using three existing measures, identifying eight factors: obsession, power, budget, achievement, evaluation, anxiety, retention, non-generous. Rose and Orr (2007) argued that the literature suggested four dimensions: status, achievement, worry, and security. Similarly, Baker and Hagedorn (2008) also found four factors, although slightly different from Rose and Orr (2007): power-prestige, retention-time/planning-savings,

distrust/frugality-distrust, anxiety. More recently, Klontz, Britt, Mentzer, and Klontz (2011) in a very different approach found four money attitudes: avoidance, worship, status, and vigilance and various studies have been done looking at the psychometric properties of this measure (Taylor, Klontz, & Britt, 2016). Similarly looking at emotions associated with money: power, freedom, love, and security, Furnham, Wilson, and Telford (2012) developed a short 16-item measure.

Although there is no consensus on the number of factors underlying money attitudes, it is clear from the extant measures that there are overlaps (Furnham, 2014). Four clear factors can be identified from the dozen or so studies in the area:

- Achievement and Success;
- Power and Status;
- Security and Safety; as well as
- Savings Issues.

However, there is one concept that has often been neglected: Financial Literacy Worries. A similar concept to this that has been previously identified is retention, which is being prepared for one's financial future (Baker & Hagedorn, 2008; Furnham, 1984; Klontz et al., 2011; Tang, 1992; Yamauchi & Templer, 1982). These refer to being relatively ignorant about financial events and processes which can have a significant impact on one future.

Table 1 shows the various scales used to develop money beliefs and some findings from relevant studies. Studies

which have attempted to replicate the factor structure have not always been successful. Further, they have tended to show that only one or two factors (usually referring to power and security) were correlated as hypothesized with other beliefs and behaviors.

The table shows that most of the studies used students and that, as always, most (but not all) studies were done in America and Europe. Yet, none of the previous measures assess the worrying aspects of financial literacy. We propose a five-factor model. The proposed factors will be explained in more details in the following section.

Money Attitudes

These attitudes below are taken from a close reading of the literature (Furnham, 2014). The constructs have been named based on the most commonly used terminology in the salient papers on this topic.

Achievement and Success

Achievement and Success is the idea that money is an obvious and comparable sign of achievement. Money is a measure of success and self-worth: earning lots of money gives people a sense of achievement. The amount of money one has is simple but powerful index of success in life.

Power and Status

Power and Status concerns the idea that money is something that many people strive for, and are happy to show off, if and when they acquire it. Money gives social power and capital and is a major source of social status. Moreover, people look up to those who have a “reasonable” amount of money. It is the idea that people enjoy respect by displaying their wealth. This attitude is different from the former in the sense that this is a more other-oriented attitude, while the former is more of a self-focused attitude.

Mindful and Responsible

This idea concerns the fact that many people think of saved and invested money as a form of protection against the vicissitudes of life. Money can protect one because people can buy things they really need (a home, healthcare) and not be beholden to others who might want to control them in some way. People with these beliefs tend to save money through means like budgeting and paying bills to avoid being fined. They are, and pride themselves in, being money responsible.

Savings Concerns

Money is a source of various types of stress, the main one being if there is not enough of it. This attitude is characterized by worries and anxieties, primarily in the association

with savings. People with this money attitude are worried about savings; they fear that their savings are never enough or that they will run out of money. The whole topic of finance and money is associated with anxiety and depression.

Financial Literacy Worries

This refers to feeling ignorant about financial affairs. The main source of worry and anxiety for individuals with this money attitude is their low comprehension of financial issues. They often feel anxious and ashamed to talk to others about financial affairs.

Money Attitude Correlates

Money attitudes have been linked with many *demographic* variables (Furnham, 1996). Previous studies have found differing money attitudes between the *genders* (Gresham & Fontenot, 1989; Furnham et al., 2012; Furnham, von Stumm, & Fenton-O’Creevy, 2014; Furnham, von Stumm, & Milner, 2014; Tang, 1992), *cultures* (Burgess, 2005; Lynn, 1991; Medina, Saegert, & Gresham, 1996), *education levels* (Furnham, 1984), *political and religious values* (Furnham et al., 2012; Tang, 1992).

In general, males tend to associate money with Achievement, Power, and Freedom (Furnham et al., 2012) more than women, who in turn are more inclined to see money as a source of anxiety (Gresham & Fontenot, 1989), as well as associate money with retention (Gresham & Fontenot, 1989) and budgeting (Tang, 1992). Regarding cultural differences, Medina et al. (1996) found Mexican Americans to score significantly lower than Anglo-Americans in Power-Prestige and Retention-time, but higher Distrust-anxiety and Quality, asserting the notion that different ethnic and national cultures do hold different attitudes toward money and presumably related behaviors. Furnham (1984) and Furnham et al. (2012) both found associations between money beliefs and sociopolitical ideology. While for political and religious values, Furnham et al. (2012) found those who are more affiliated with right wing are more likely to endorse power and freedom related emotions toward money.

There is also considerable evidence that other factors correlate with money attitudes and beliefs (Furnham, 2014). These include subjective ratings of success and happiness, as well as the simple categorization of whether one is a spender or a saver. In this study we use a number of other questions like political beliefs, psychological stability, and a simple statement about whether people are “money worriers” to further examine attitudinal correlates. Each has been identified as relating to money attitudes in the literature (Furnham, 2014) but there is a paucity of data on

Table 1. Empirical studies: Methodological characteristics and demographic and personality factors that do and do not influence money attitudes

Empirical studies	Scale used	N	Sample	Location	Factors that influence money attitudes
Wernimont and Fitzpatrick (1972)	MSD	533	College students, engineers, religious sisters, etc.	Large US Midwestern City	Work experience, socioeconomic level and gender
Yamauchi and Templer (1982)	MAS	300	Adults from different professions	Los Angeles and Fresno, CA	Income, gender, age, and education
Furnham (1984)	MBBS	256	College students	England, Scotland, and Wales	Gender
Bailey and Gustafson (1986)	MBBS	NA	College students	US Southwestern City	Gender
Gresham and Fontenot (1989)	Modified MAS	557	College students and their parents	US Southwestern Cities	Sensitivity and emotional stability
Bailey and Gustafson (1991)	Modified MBBS	472	College students	US Southwestern City	Compulsive behavior
Hanley and Wilhelm (1992)	MBBS	143	NA	Phoenix, Tucson, Denver, and Detroit	Age, income, work ethic, social, political, and religious values
Tang (1992)	MES	769	College students, faculty, managers, etc.	Middle Tennessee City	Age
Bailey and Lown (1993)	MPFS	654	College students, their relatives and other professionals	Western US States	Gender, financial progress
Tang (1992)	MES	68 and 249	College students	Taiwan	Geographical location
Wilhelm, Varese, and Friedrich (1993)	MBBS	559	Adult Americans	USA	Gender differences
Bailey et al. (1994)	MBBS	344, 291, and 328	Employed adults related to college students	USA, Australia, Canada	Compulsive buying
Lim and Teo (1997)	MBBS, MAS	200	Students	Singapore	Gender, age, family type
Roberts and Sepulveda (1999)	MAS	273	Adults	Mexican	Values and culture
Ozgen and Bayoglu (2005)	MPFS	300	Turkish students	Ankara, Turkey	Emotional intelligence
Burgess (2005)	Modified MAS	221	Urban South Africans	Major Metropolitan Cities	Materialism
Engelberg and Sjöberg (2006)	MAS	212	Swedish students	Sweden	Social capital
Christopher, Marek, and Carroll (2004)	MBBS	204	Students	American	Age, ethnicity, salary, education, politics
Tatarko and Schmidt (2012)	MBBS	634	Adults	Russian	Education, income, financial habits
Furnham et al. (2012)	SMTM	400	Adults	English	
Von Stumm, Fenton-O'Creedy, and Furnham (2013)	SMTM	109,472	Adults	British	

Notes: MSD = Modified Semantic Differential; MBBS = Money Beliefs and Behavior Scale; MES = Money Ethic Scale; MAS = Money Attitude Scale; MPFS = Money in the Past and Future Scale; SMTM = Short Money Type Measure.

these issues. The data suggest that the happier and healthier a person rates themselves to be the more they associate money with Achievement and Power and they are less concerned with Savings and poor Financial Literacy. Similarly more religious people have been shown to be more “conservative” in their money attitudes seeing money as an index of achievement and means of power.

This Study

The first aim of the present study is to devise and evaluate a new measure of money attitudes in an effort to understand people’s relationship with money. Although many measures have been developed to assess money attitudes, none of them looked explicitly at worries associated with Financial Literacy (see Furnham, 2014 for a review). Further, it has an international population of non-students.

Financial literacy is the ability to understand how money works in the world: how people earn or make it, how they manage and invest it and how, when and why they might donate it to others. Essentially it refers to the skills and knowledge that allows an individual to make informed and effective decisions with their financial resources. People are aware of the extent to which they are literate or “savvy” about money, yet no previous study has considered this as a potential attitudinal variable.

The second aim is to investigate the demography, ideology, biographical information, and subjective well-being correlates of money attitudes. There is scarce evidence examining the possible associations of money attitudes in terms of biographical information. Hence, we set out to explore the relationship between money attitude and biographical information, in terms of psychological illness and happy childhood. Further, we will also look at how money attitudes are related to subjective well-being: subjective success and subjective happiness. Given the links between money attitudes and ideology and demography (Furnham, 2014), we propose the following hypotheses.

Hypothesis 1 (H1): Males would score higher than females in (a) Achievement and Success (b) Power and Status.

Hypothesis 2 (H2): Savers would score higher than spenders in Mindful and Responsible.

Hypothesis 3 (H3): Worriers would score higher than non-worriers in (a) Savings Concerns and (b) Financial Literacy Worries.

Hypothesis 4 (H4): Politically more conservative individuals would score higher in Achievement and Success compared to those politically more radical.

Method

Sample

Altogether, 268 participants (148 male, 120 female) participated in the study. Their mean age was 37.43 ($SD = 12.75$ years, range of 18–77). 59.3% of the participants were from the US ($N = 159$), 36.6% were from India ($N = 98$), the rest were from Canada and the United Kingdom. In terms of ethnicity, 47.4% were White ($N = 127$), 43.7% Asian ($N = 117$), 3.4% Black ($N = 9$), the rest identified themselves as other ethnicities. With regard to education, 14.2% completed high school ($N = 38$), 14.2% obtained a diploma equivalent level ($N = 38$), 50.0% have a Bachelor’s degree ($N = 134$), and 21.6% achieved a Master’s degree or a PhD ($N = 58$).

Measures

Money Attitudes Measure

This measure consists of 30 items which contained questions regarding their attitudes toward money. All responses were answered on an 8-point Likert scale ranging from 1 (= *strongly disagree*) to 8 (= *strongly agree*). These items were obtained from three sources: a review of previous scales (see Table 1), 10 recent interviews with people about their money habits, as well as popular media accounts of famous people’s personal money beliefs and behaviors. An initial pool of 72 questions was drawn up based on previous measures as well as interviews with 10 people on their money beliefs. Nearly always the new items were differently worded than previous scales. These items were first subjected to a Q sort technique then examined for overlap. The remaining items were then given to two researchers experienced at attitude scale items to evaluate for clarity and overlap. This pilot work reduced these to 30 which were used in this study.

Biographical Information, Ideology, and Subjective Well-Being

Eight single-item questions were designed to assess participants’ biographical information, ideologies and well-being. Participants rated on a 10-point Likert scale ranging from 1 (= *not at all*) to 10 (= *very*), the extent to which they are religious, happy, successful, as well as the extent to which their childhood was happy. The question tapping on political orientation was rated on a 10-point Likert scale ranging from 1 (= *very conservative*) to 10 (= *very radical*). Retrospectively we believe we should have replaced *radical* with *liberal*, though the distribution of scores suggested this was not a serious problem. Participants were also answered on a binary scale whether they are a spender or a saver,

a worrier or a non-worrier, and whether they have had received psychological treatment in the past.

Demographic Questions

Participants provided information regarding their gender, age, ethnicity, and education level.

Procedure

The participants were recruited via Amazon Mechanical Turk (MTurk), an online market for enlisting workers to participate in research and surveys. Data from MTurk have been found to be comparable with traditional recruitment methodologies in terms of reliability, while the diversity of the samples surpasses those from standard Internet surveys and student samples (Buhrmester, Kwang, & Gosling, 2011; Paolacci, Chandler, & Ipeirotis, 2010). We chose to sample people primarily from India and the United States and this would ensure the test could be used in many different countries.

In all, 300 people were sampled but the number was reduced because of missing data and checks on the time participants took to complete the survey, as an index of careless responding.

Results

Scale Structure

Exploratory Factor Analysis

The Kaiser-Meyer-Olkin (KMO) measure verified the sampling adequacy for the analysis (.91) (Kaiser, 1974). In addition, all KMO values for individual items were above 0.50, supporting their retention in the analysis. Bartlett's Sphericity was significant ($p < .001$), supporting the factor-ability of the correlation matrix. An obliquely rotated principal axis factor analysis was run again, this time yielding five factors with an eigenvalue of over 1.00, explaining 59.90% of the variance in total. The scree plot confirms the five-factor structure. The factors showed excellent internal consistency. Eigenvalues greater than 1.00 was the criteria we used to retain the five factors. Table 2 presents the factor loadings and the Cronbach's alpha values of money attitude factors.

Confirmatory Factor Analysis

The χ^2 statistic can be overly sensitive in cases where sample sizes are large or the observed variables are non-normally distributed. The final index of choices are the Comparative Fit Index (CFI), and the Tucker Lewis Index (or Non-normed Fit Index) where values above .95 indicate a very good fit, and values $> .90$ are interpreted

as good (Bentler, 1990). Cutoff RMSEA values have been proposed at .08 or .07 (Hooper, Coughlan, & Mullen, 2008). The chi-square was significant, $\chi^2(340) = 741.58$, $p < .001$. However, large sample sizes can artificially inflate chi-square values, causing a rejection of the model (Bentler & Bonnet, 1980). For this reason, other absolute fit indices were used, showing good fit for the model, CFI = 0.91, RMSEA = .067, and TLI = .90.

Demography, Ideology, Biographical Information, and Subjective Well-Being Correlates

Correlations and Descriptive Statistics

Pearson correlations with Bonferroni corrections were computed for all factors included within the current study. Only correlations significant at $p < .001$ will be considered. The money attitude factors were highly correlated with one another, except for Mindful and Responsible which is only positively related to Achievement and Success. Age was negatively related to Achievement and Success, Power and Status, and Financial Literacy Worries. Education level was related to Achievement and Success and Power and Status positively. Religiosity was positively associated with Achievement and Success, and Power and Status. Subjective happiness was positively related to Achievement and Success, Power and Status, and Mindful and Responsible, negatively to Savings Concerns. Subjective success was related to Power and Status in a positive manner. Happy childhood was positively related to Achievement and Success, and Power and Status, negatively with Savings Concerns. Political orientation in terms of conservativeness was only moderately related to Achievement and Success, and Savings Concerns, therefore *H4* was only partially supported. Further, education was positively correlated with subjective success, while religiosity was positively related to subjective happiness, subjective success, happy childhood, and negatively with political orientation. Finally, subjective happiness was positively correlated with subjective success and happy childhood (Table 3).

Analysis of Variance (ANOVA)

Group differences in factors were explored using one-way ANOVA (see Table 4). Males scored significantly higher than females in Achievement and Success and Power and Status ($ps < .01$), but not in other factors. This confirms *H1ab*. In terms of ethnicity, Games-Howell post-hoc analysis revealed significant differences between Asians and Whites in Achievement and Success ($1.68 \pm .19$), Power and Status ($2.13 \pm .20$), and Financial Literacy Worries ($.76 \pm .20$), all of which Asians score higher than Whites. Asians also scored higher than black in Power and Status ($2.04 \pm .35$). Relative

Table 2. Factor loadings for the items of the Money Attitudes Measure, as well as the α , mean, and standard deviation for the five factors

Factor	Item	1	2	3	4	5
Achievement and Success	1 Money is a really good indicator of a person's life achievements and success	.83				
	2 One of the best measures of success in life is how much money you have earned	.78				
	3 Earning a lot of money is one of the best achievements in life	.77				
	4 Being rich is a sign of a great achievement	.76				
	5 Money really talks: it talks about your status in life	.75				
	6 You need money to buy the good things in life	.73				
Saving Concerns	7 I never seem to have enough money		.79			
	8 I have a real fear of running out of money		.72			
	9 The amount of money that I have saved is never quite enough		.72			
	10 I constantly worry about how few savings I have		.71			
	11 I seem to worry more than most people about money		.61			
	12 I am really concerned about whether I have enough money saved		.58			
Mindful and Responsible	13 I am pretty good at budgeting			.78		
	14 I am really proud of my ability to save money			.66		
	15 I am much more of a saver than a spender			.66		
	16 It is very important for me to save money for a rainy day			.65		
	17 I keep a close track of my money affairs			.61		
	18 I pay bills immediately to avoid interest and penalties			.59		
Power and Status	19 I enjoy buying expensive products to impress others				.78	
	20 I am quite happy to let people know how much money I have				.75	
	21 I show off to people with the brand name products I have bought				.69	
	22 I am happy to use money to persuade people to help me				.58	
	23 I am proud of my financial "victories" and tell people about them				.53	
Financial Literacy Worries	24 I feel foolish and embarrassed talking about many money issues					.72
	25 I wished that I understood financial affairs better than I do					.69
	26 I feel anxious and defensive when talking about my personal finances					.60
	27 I really don't understand financial talk and jargon					.54
	28 Even thinking about my money makes me anxious					.53
α		.93	.89	.82	.89	.83
<i>M</i>		5.12	3.81	5.94	5.35	4.56
<i>SD</i>		1.71	1.89	1.24	1.58	1.64

Table 3. Correlations between all factors included in this study

	1	2	3	4	5	6	7	8	9	10	11	12
1 Achievement and Success	–	.64***	.24***	.23***	.35***	–.22***	.25***	.36***	.20***	.17**	.21***	–.13*
2 Power and Status		–	.09	.20***	.39***	–.34***	.28***	.39***	.33***	.27***	.25***	.05
3 Mindful and Responsible			–	.04	–.02	.04	.00	.11	.20***	.12*	.12*	–.04
4 Saving Concerns				–	.68***	–.17**	–.13*	.07	–.31***	–.17**	–.21***	.13*
5 Financial Literacy Worries					–	–.22***	–.09	.17**	–.15*	–.09	–.11	.09
6 Age						–	–.11	–.03	–.03	.01	.01	–.17**
7 Education							–	.10	.17**	.21***	.05	.08
8 Religiosity								–	.33***	.28***	.17***	–.17***
9 Subjective happiness									–	.43***	.48***	–.02
10 Subjective success										–	.09	.02
11 Happy childhood											–	–.09
12 Political orientation ¹												–

Notes. ¹Political orientation was rated on a conservative-radical (1–9) continuum. * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 4. Mean, standard deviations, and ANOVA results for gender, ethnicity, spending orientation, and history of psychological illness for the four factors

	<i>M (SD)</i>				
	Achievement and Success	Power and Status	Mindful and Responsible	Savings Concerns	Financial literacy Worries
Gender					
Male	5.36 (1.62)	4.10 (1.87)	5.24 (1.63)	4.46 (1.66)	5.89 (1.27)
Female	4.81 (1.78)	3.43 (1.86)	5.48 (1.52)	4.70 (1.62)	6.01 (1.21)
<i>F</i>	7.15**	8.45**	0.70	1.52	1.48
Ethnicity					
White	4.29 (1.71)	2.81 (1.50)	5.93 (1.34)	5.17 (1.73)	4.17 (1.76)
Asian	5.97 (1.29)	4.93 (1.67)	6.03 (1.14)	5.42 (1.34)	4.93 (1.40)
Black	5.15 (1.46)	2.89 (.95)	5.30 (1.07)	5.78 (1.77)	4.36 (1.65)
Other	5.38 (1.52)	4.09 (1.96)	5.62 (1.12)	6.07 (1.72)	5.21 (1.57)
<i>F</i>	24.81***	37.38***	1.34	1.90	5.46***
Spending orientation					
Spender	5.08 (1.57)	4.12 (1.72)	4.99 (1.11)	5.40 (1.44)	4.91 (1.56)
Saver	5.13 (1.78)	3.67 (1.95)	6.37 (1.05)	5.33 (1.64)	4.41 (1.65)
<i>F</i>	0.05	3.31	95.64***	0.14	5.59*
Worry tendency					
Worrier	4.85 (1.84)	3.26 (1.78)	6.00 (1.33)	5.83 (1.57)	4.78 (1.69)
Non-worrier	5.39 (1.52)	4.38 (1.83)	5.87 (1.15)	4.86 (1.43)	4.34 (1.56)
<i>F</i>	6.99**	25.91***	0.71	27.49***	4.87*
History of psychological illness					
Yes	4.56 (1.90)	3.35 (1.99)	5.92 (1.29)	5.82 (1.70)	4.84 (1.83)
No	5.31 (1.60)	3.98 (1.83)	5.94 (1.55)	5.18 (1.50)	4.47 (1.55)
<i>F</i>	10.47***	5.83*	0.01	8.75**	2.68

Note. * $p < .05$, ** $p < .01$, *** $p < .001$.

to savers, spenders scored significantly higher in Financial Literacy Worries ($p < .05$), lower in mindful ($p < .001$), supporting *H2*. Worriers scored significantly lower in Achievement and Success ($p < .01$) and Power and Status ($p < .001$), higher in Financial Literacy Worries ($p < .05$) and Saving Concerns ($p < .001$), confirming *H3ab*. Regarding history of psychological illness, those who reported having received psychological treatment in the past scored lower in Achievement and Success ($p < .001$) and Power and Status ($p < .05$), higher in Savings Concerns ($p < .01$).

Multiple Regressions

A series of multiple regressions was computed to predict money attitudes using demographics, ideology, biographical information, and subjective well-being. Ethnicity was dummy-coded such that white was the referent group for comparison. Table 5 presents the results for the multiple regressions.

Education and religiosity positively predict Achievement and Success, while age, ethnicity and political orientation negatively predict it. For Power and Status, religiosity was the only positive predictor, while age and ethnicity were negative predictors. Being a worrier positively predict, while

being a spender negatively predicts Mindfulness and responsibility. For Savings Concerns being a worrier and religiosity were positive predictors, while age, ethnicity and subjective happiness were a negative predictor. Finally, Financial Literacy Worries was positively predicted by religiosity and being a worrier, negatively predicted by age and ethnicity.

Discussion

The current study aimed to develop and validate a new measure of money attitudes, as well as assess the demography, ideology, biographical information, and well-being correlates of these money attitudes. Exploratory and confirmatory factor analyses confirmed the five money attitude factors: Achievement and Success, Power and Status, Mindful and Responsible, Savings Concerns, and most importantly, the previously unidentified Financial Literacy Worries.

The regression analyses show that more highly educated controlling for other predictors was associated with seeing

Table 5. Multiple regression results for the money attitude factors, based on demographics, ideology, subjective well-being, and biographical information

	Achievement and Success		Power and Status		Mindful and Responsible		Savings Concerns		Financial Literacy Worries	
	β	t	β	t	β	t	β	t	β	t
	$F(12, 254) = 9.77^{***},$ $\text{adj } R^2 = .28$		$F(12, 254) = 14.76^{***},$ $\text{adj } R^2 = .38$		$F(12, 254) = 11.10^{***},$ $\text{adj } R^2 = .31$		$F(12, 254) = 7.53^{***},$ $\text{adj } R^2 = .23$		$F(12, 254) = 5.62^{***},$ $\text{adj } R^2 = .17$	
Gender	-.08	-1.52	-.09	-1.78	.00	0.07	0.04	0.69	.08	1.32
Age	-.13	-2.14*	-.21	-3.90***	.03	0.56	-.16	-2.62**	-.18	-2.90**
Ethnicity	-.30	-4.38***	-.22	-3.49***	-.09	-1.32	-.17	-2.46*	-.22	-2.96**
Education	.13	2.29*	.11	2.13*	-.04	-0.68	-.09	-1.45	-.10	-1.58
Religiosity	.18	2.97**	.22	3.75***	.05	0.77	.17	2.58**	.19	2.84**
Political orientation	-.12	-2.10*	.04	0.70	.01	0.24	-.10	1.67	.05	0.77
Worrier	.11	1.67	-.02	-0.29	.17	2.67**	.27	4.09***	.15	2.26*
Spender	-.06	-1.09	.07	1.41	-.54	-10.25***	-.02	-0.44	.10	1.75
Subjective happiness	.04	0.52	.11	1.62	.13	1.76	-.18	-2.41*	-.09	-1.12
Subjective success	.02	0.40	.09	1.55	.10	1.71	-.09	-1.40	-.09	-1.32
Happy childhood	.10	1.54	.09	1.58	.10	1.67	-.08	-1.27	-.08	-1.15
Psychological treatment	.05	0.85	.00	0.07	-.03	-0.50	-.05	-0.75	-.03	-0.55

Note. * $p < .05$, ** $p < .01$, *** $p < .001$.

money as associated with Achievement and Success. The same was true for ethnicity, religiosity, and political situation. Younger “non-whites” who are more religious tend to view money as a source of Power and Status. Those who are more likely to associate money with Mindful and Responsible are worriers and savers. Those who have Savings Concerns tend to be “non-white,” younger, less happy, more religious, and money worriers. Attitudes concerning Financial Literacy Worries are typically held by worriers who are non-white, younger, and more religious.

Our findings on age corroborate previous research (Baker & Hagedorn, 2008; Klontz et al., 2011). It could be that younger people have less income, thus less likely to associate money with achievement or social status (Tang, 1992). Further, the fact that younger people are more likely to associate money with worries about savings could be explained by their lack of money, possibly due to student loans and debts, while their tendency to worry about financial literacy might be attributable to their inexperience in managing their money. Higher education level was related to both Achievement and Success and Power and Status, inconsistent with previous findings (Furnham et al., 2012). It could be that individuals with higher education level earn more money, thus more likely to associate money with achievement (Tang, 1992).

In terms of ethnic differences, “non-whites” appear to associate money with Achievement and Success, Power and Status, Savings Concerns, and Financial Literacy Worries. The associations between Achievement and Success and Power and Status with “non-whites” are in conjunction with Klontz et al. (2011), possibly due to cultural and socioeconomic differences in money attitudes. Specifically for worries about financial literacy, “non-whites” might have less access or exposure toward financial education. This is unrelated to education level as financial education is not necessarily a part of curriculum in most countries (Blue, Grootenboer, & Brimble, 2014). This issue warrants further investigation.

Religiosity was related to all money attitudes except for Mindful and Responsible. This is incongruent with previous research, showing negative associations between religious values and achievement and power (Tang, 1992). However, this finding could be further extended by collecting information about respondents’ actual religions and specific practices. The relation between conservative political stance and Achievement and Success replicated Furnham et al.’s (2012) findings, showing individuals with right wing political affiliation tended to associate money with power and freedom, similar to the Achievement and Success construct of this scale.

Gender and biographical information variables significantly correlated with, but did not significantly predict money attitudes. This could possibly be due to meditational

effect of other variables that are products of biographical information and gender differences. A fruitful avenue for future research could be to look at the mediations of variables in relation to biographical information, gender, and money attitudes.

The present findings are limited in terms of generalizability, as there is some evidence that MTurk workers have distinct personality profiles compared with offline samples (Goodman, Cryder, & Cheema, 2013). However, this could be addressed in future work with more precise recruitment methods to ensure representativeness. It would also be desirable to have more details about responded actual money affairs such as their income, social class, money saved, and personal money-related habits such as spending patterns, and savings habits. It would also be interesting to know how financially literate and capable they were (Von Stumm et al., 2013).

There are various implications of this study for consumer well-being and protection. Various financial organizations are interested in profiling and targeting potential clients both in terms of their financial status and resources but also their attitudes, knowledge, and habits. Similarly there are in various countries organisations that are set up to protect people from miss-selling of various types. This measure as well as its five-factor conceptual framework may prove useful to various groups who want to understand differences in money beliefs. It could help by providing psychographic profiles of typical money types (in terms of demography and attitudes) that could assist those concerned with consumer protection target groups who may be particularly vulnerable to the sales techniques of those selling financial products.

Electronic Supplementary Materials

The electronic supplementary material is available with the online version of the article at <https://doi.org/10.1027/1015-5759/a000474>

ESM 1. Data (.spv)

Output data file obtained from the analyses conducted on this study.

ESM 2. Data (.spv)

Cleaned dataset which was used for the analyses.

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