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Financial Socialisation of Australian University Students: Differences in Gender

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Abstract

In recent decades lower levels of financial literacy of females relative to males has been well documented. Understanding the gender gap in financial literacy is an important research objective and is central to the development of interventions to narrow the gender gap, improve the economic and financial security of women and support other social and economic outcomes linked to financial literacy. This paper uses a survey of 420 Australian university students to examine the relationship between components of financial literacy and financial socialisation. Financial literacy is measured using responses to the 'big three' financial literacy questions and financial socialisation metrics include the responses to questions on self-assessed confidence with managing finances, the source of financial information, the frequency of money conversations and a set of personal characteristics, including gender. Canonical correlation analysis as well as inspection of the descriptive statistics show financial educators and policymakers that more attention needs to focus on teaching concepts of diversification and inflation. It also provides insight into evidence of gender differences in financial confidence, the source of financial information and the frequency of discussions about money matters in the home.

Keywords: Financial socialisation; gender; students; financial literacy

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Introduction

A substantial body of research has established the sizeable gender difference in financial literacy. Hasler and Lusardi's (2017) study of financial literacy in 143 countries, for example, found that male financial literacy was higher in almost all countries studied. Gender gaps in financial literacy exist for a variety of demographic and socioeconomic groups, including teenagers (Bottazzi & Lusardi, 2016; Driva et al., 2016), university students (Gerrans & Heaney, 2016) and migrants (Karunarathne & Gibson, 2014). Similarly, there is strong evidence suggesting that there are discrepancies between how men and women are financially socialised. Specifically, there is variation in financial socialisation by parents and schools resulting in different financial knowledge, identities, behaviours and attitudes as adults (Goldsmith & Goldsmith, 1997; Anthes & Most, 2000; Agnew & Cameron-Agnew, 2015).

This study uses canonical correlation analysis is used to identify latent linear relationships between financial literacy and financial socialisation. The set of dependent variables that contribute to a composite measure (called a canonical variate) on financial literacy are identified by Lusardi and Mitchell (2011) and known as the 'big three' financial literacy questions on compound interest, inflation and diversification. We identify the set of financial socialisation metrics from the literature and include the responses to questions on self-assessed confidence with managing finances, the volume of advice from others, the frequency of money conversations in the home and a set of personal characteristics.

Using a survey of 420 Australian university students conducted in 2019, we draw three conclusions. First, education should focus more on concepts of diversification and inflation, as women were less sure of answering these questions relative to compound interest. Second, there were gender differences in responses to questions on financial socialisation that support women being a cohort in need of special attention. The financial socialisation literature on the role of mothers to daughters underscores the importance of the contribution of this study in providing insight to targeted interventions. Further, we conclude that 'confidence with managing finances', 'advice from others' and 'financial literacy' are positively correlated which provides a significant contribution to the literature.

Data and Methodology

This study employs data from a survey of 420 students from an Australian university in 2019. We use a monetary prize draw to incentivise and increase participation (Yu et al., 2017). The descriptive statistics of the respondents shown in Table 1 an overweight to females (63 per cent), being 23 years old or younger (45.3 per cent) and earning less than $19,999 per annum (35.4 per cent). Because of these respondent characteristics, generalisation of the results is limited.

<insert Table 1 here>

Canonical correlation analysis is used to identify latent linear relationships between financial socialisation and financial literacy. Canonical correlation is appropriate as it assesses the relationships between two sets of variables rather than separate relationships for each dependent variable, allowing for the complexity of human behaviour. Canonical correlation analysis is commonly used in sociology and science, for studies relating to personality traits, facial expressions and brain functions (West & Worthington, 2013; Sherry & Henson, 2010; De Clerq, Vergult & Vanrumste, 2006;

Zheng, Zhou, Zou & Zhao, 2006). In this application, we consider all three financial literacy questions as a set of dependent variables, instead of traditional approaches that combine responses into a single-item index or include the three metrics as independent variables in a multiple linear regression. The contribution of this study is to provide insight into how all variables interact with each other. An additional benefit of this methodology is that Type 1 error is less than employing multiple univariate analysis (Thompson, 2005).

The set of dependent variables that contribute to a composite measure (called a canonical variate) of financial literacy were established by Lusardi and Mitchell (2011) and known as the 'big three' financial literacy questions that address knowledge of compound interest, inflation and diversification. We identify the set of financial socialisation metrics from the literature and include the responses to questions on self-assessed confidence with managing finances, the volume of advice from others, the frequency of money conversations in the home. We provide canonical correlation analysis for gender separately. We hypothesise that the financial socialisation metrics that are associated with financial literacy metrics are different for females then males. Specifically, we hypothesise that females engage less with financial information, have less conversations about money, and have lower levels of confidence, which is positively association with lower levels of financial literacy knowledge. Figure 1 illustrates the conceptual model.

<insert Figure 1 here>

The financial literacy question set, coding of variables and descriptive statistics are provided in Table 2. 'No' is the correct answer for all three questions. The responses to the three financial literacy questions show that more students choose the correct answer for compound interest (50 per cent of women and 55 per cent of men), followed by inflation (29 per cent women and 41 per cent men) and diversification (23 per cent women and 28 per cent men). The percentage of wrong answers was higher for women for all three questions, with the highest percentage of wrong answers given for inflation (13 per cent of women and 8 per cent of men). Many respondents chose the 'Don't know' or 'Prefer not to answer' option for these questions, and a higher proportion of women chose this option for all answers. Without further information it is difficult to assume the drivers of this behaviour and could be a combination of not understanding the question, not knowing how to answer or apathy. Overall, we observe knowledge of the concept diversification is particularly lacking, followed closely by knowledge of inflation.

<insert Table 2 here>

Responses to the financial socialisation question set, coding of variables and descriptive statistics are provided in Table 3. These questions are drawn from financial socialisation studies by CFPB (2017), Shim, Serido, Tang and Card (2015) and Jorgensen (2007). Table 3 shows that students' self-assessment of their confidence with managing finances is most often a three or four on a five-point scale, with men rating their confidence slightly higher (mean of 3.54 for women and 3.81 for men). In fact, 29 per cent of male respondents rate themselves as a '5', that is, the statement 'I am confident I can manage my finances' describes them completely, while only 21 per cent of women make the same response.

The descriptive statistics highlight gender differences in financial socialisation. Fifteen questions ask respondents to rate the level of engagement with various influencers regarding financial matters. Looking at responses to 'A lot', women report higher levels of engagement from life experiences (67 per cent), parents (54 per cent), internet (29 per cent), job (22 per cent), books (15 per cent), university (12 per cent) and media (12 per cent). Men report the same top seven influencers such as life experiences (51 per cent), parents (44 per cent), job (25 per cent), internet (25 per cent), university (16 per cent), books (18 per cent) and media (14 per cent). Of interest for financial advisers, is that 9 per cent of women reported learning about money from a financial adviser or a counsellor as compared to 6 per cent of men. Scores were averaged over the fifteen questions to create an engagement (*ENG*) factor for each respondent.

The next seven questions ask the respondent to identify to frequency of financial discussions with family members. Looking at responses to 'Always', women report higher levels of discussions regarding the importance of saving (26 per cent), how to be a smart shopper (20 per cent), budgeting (18 per cent) and spending (14 per cent). Men also reported the same topics of conversation, with saving (21 per cent), being a smart shopper (14 per cent), budgeting (13 per cent) and spending (12 per cent). Women also tend to report higher levels of 'Never' having discussions compared to their male counterparts, particularly with regard to discussing financial matters generally (18 per cent vs 12 per cent), spending (13 per cent vs 9 per cent), the use of credit (26 per cent vs 21 per cent), being a smart shopper (15 per cent vs 10 per cent), budgeting (19 per cent vs 12 per cent), and providing a regular allowance (28 per cent vs 19 per cent). These tail end responses may explain why women report higher frequencies of conversations than men but lack translation of learning in this manner into higher levels of confidence with finances and financial knowledge as they progress through the lifecycle. Another reason may include bias in remembering historical occurrences. Scores were averaged over the seven questions to create an engagement (*FREQ*) factor for each respondent.

<insert Table 3 here>

Empirical Results

We first test the dependent and independent covariates for multicollinearity using Variance Inflation Factors (VIFs). The VIF scores ranged from 1.07 to 1.93. As a rule of thumb, VIFs greater than ten warrant further examination, but there is no issue here as the VIFs are universally very small (O'Brien, 2007). Second, we run the canonical correlation for males and females separately, using bootstrap with 1,000 repetitions. Tests of the general fit of the model, such as Roy's largest root test are significant for both cohorts.

Table 4 contains the canonical loadings for the dependent and independent variates for only the first canonical function for females. In the first dependent variate, *FINLI* has the highest loading (0.830), followed by *FINLC* (0.542) and *FINLD* (-0.413). The loadings indicate a strong degree of intercorrelation among *FINLI* and *FINLC*, providing a rank of 1 and 2 respectively. *FINLD* was the question that less students responded correctly, indicating that this question providing more unique information about the respondent in terms of their financial literacy knowledge, and thus the negative

coefficient. The dependent variates are positively associated with the financial socialisation independent variates (proportion of standardised variance with opposite variate is 0.013).

The extraction of the independent variates in canonical correlation is to maximize the predictive objectives, so it is not surprising that the three variables with similar loadings are *ENG* (0.604) and *CONF* (0.730) as increases in these variables are recognized in the literature to contribute most to financial literacy. However, for females, *FREQ* (-0.691) has a negative coefficient, meaning that this metric provides more unique information about the financial socialisation of the respondent. For females, being confident with finances and engaging with financial information across sources is positively related, and positively associated with financial knowledge (proportion of standardised variance is 0.007).

<insert Table 4 here>

Table 5 includes the cross-loadings for the three canonical functions. The cross-loadings involve correlating each of the original observed dependent variables directly with the independent variable, and vice versa. For the first canonical function, we can see that the first three dependent variables exhibit a moderate positive correlation with the independent canonical variate: 0.827, 0.894, and 0.278 respectively. By squaring these terms, we find the percentage of the variance for each of the variables explained by the others. The results show that 68.3 percent of the variance in responses to the question on compound interest, 80.0 percent of inflation responses, and 7.7 percent of diversification responses is explained by the first function.

In terms of the independent variables cross-loadings, we can see that *CONF* has a correlation of 0.756 with the dependent canonical variate, followed by *ENG* (0.383) and *FREQ* (-0.398). From the squared cross-loadings, we can see that approximately 57.2 percent of the variance in *CONF* is explained by the dependent variate. This is followed by 15.8 per cent for *FREQ* and 14.7 per cent for *ENG.*

<insert Table 5 here>

Tables 6 and 7 repeat the results for the male sample. Males also have a negative canonical loading coefficient for *FINLD*, although it is only -0.008 as compared to -0.413 for females. Differences exist for financial socialisation canonical loadings. Males have two negative canonical loadings, the first for *ENG* (-0.159) and the second for *CONF* (-0.039), and *FREQ* is positive (0.826). For males, *ENG* and *CONF* provide unique information to *FREQ* when it comes to associations with financial literacy metrics. For females, it is *FREQ* that provides unique information.

<insert Table 6 and 7 here>

This is an interesting finding regarding gender differences. Assuming that the ability to understand the benefit of diversification (*FINLD*) as differentiating students with higher levels of knowledge (negative coefficient for both men and women), then for men it is *ENG* and *CONF* associated with higher financial knowledge and for women it is *FREQ* (negative coefficients). Thus, different pathways may exist for men and women to improving financial literacy. For women, frequency of conversations in the home during childhood may be more influential that other external sources of information. For men, having a high level of self-confidence and external information may

show a continuum of seeking financial knowledge improvement. More research on these potential pathways would help inform practitioners of how financial knowledge of women can be improved.

Conclusion

Financial socialisation involves money conversations in the home, school and with friends. There is strong evidence suggesting that there are discrepancies between how men and women are financially socialised. Specifically, how girls and boys may experience different financial conversations and experiences growing up resulting in different financial knowledge, identities, behaviours and attitudes as adults. Although men and women have similar money management issues, they often face them in different ways and women continue to show lower levels of financial knowledge. The literature highlighted gender differences in financial matters communicated by parents and schools, and debates regarding the societal expectations of men versus women.

This study contributes to the literature by examining the relationship between the decomposed measures of financial literacy and financial socialisation. Accordingly, we provide a gendered insight into components that are (negatively) associated through canonical loadings, i.e. diversification and frequency of conversations for women, and diversification and engagement and confidence for men. We assert that men and women have different pathways to improving their financial literacy knowledge that needs further investigation.

Descriptive statistics highlight further evidence of gender differences in financial confidence, the source of financial information and the frequency of discussions about money matters in the home. Specifically, women indicate learning most from life experiences, parents and the internet. Unfortunately, formal education like university and schooling do not rate highly. Women also report higher rates of 'Always' and 'Never' responses when asked about frequency of discussions with influencers, indicating a divide between women that may be explained by other factors not explored in this study, such as culture or risk taking (West & Worthington, 2014). Recommendations for future research include additional personal attributes, and longitudinal analysis to provide evidence of causation of financial socialisation experiences with financial literacy and financial outcomes.

This is important work for several reasons. As women comprise half of the population, their ability to make financial decisions is important for societal outcomes. Consider the shift in retirement provision from the public to the private individual and onus on individuals to choose investment profiles in their superannuation accounts. Further, the intergenerational transfer of knowledge and attitudes to financial decision-making by important role models such as mothers adds weight to the need to intervene with education, legislation and other tools to address the gender gap. The analyses show financial educators and policymakers that more attention needs to focus on teaching concepts of diversification and inflation. It also provides insight into women's self-assessed confidence, where they source financial information from and how frequently they have had money conversations in the home, compared to men.

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Appendix

Figure 1. Conceptual Model
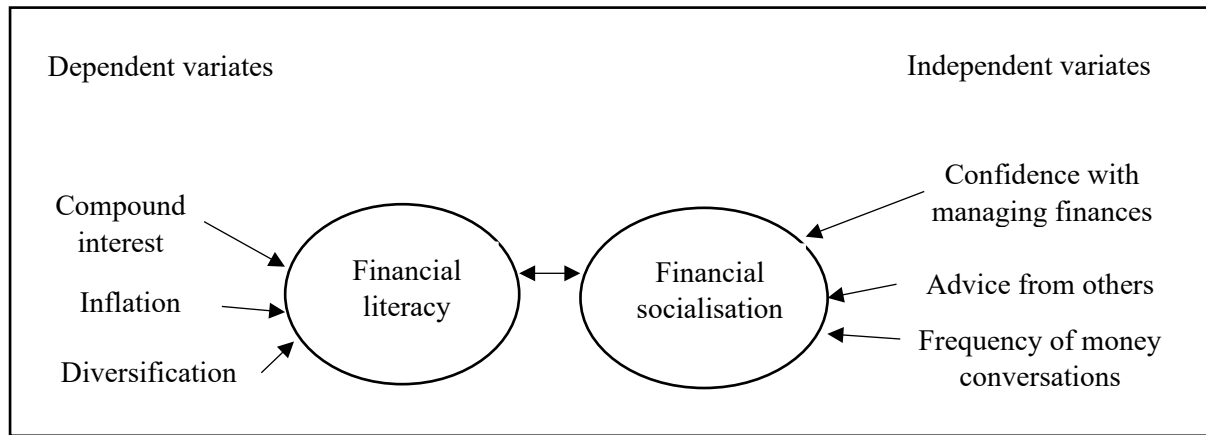
Table 1. Descriptive statistics of personal characteristics

Parameter	Women			Men		
	Proportion of Total Sample (N=266)	Mean	Standard Deviation	Proportion of Total Sample (N=154)	Mean	Standard Deviation
AGEC What age category are you in?	266	*1.82*	*1.06*	154	*1.18*	*1.22*
0- Prefer not to answer	-			0.36		
1- 23 or younger	0.53			0.32		
2- 24 to 29	0.23			0.18		
3- 30 to 39	0.17			0.10		
4- 40 to 49	0.05			0.02		
5- 50 to 59	0.02			0.01		
6- 60 or over	0.00			0.01		
INCOME What is your current annual income, including paid work, government benefits and other financial support?	266	*2.66*	*1.46*	154	*1.58*	*1.76*
0- Don't know/prefer not to answer	0.08			0.43		
1- $0	0.05			0.04		
2- $1- $19,999	0.38			0.31		
3- $20,000-$39,999	0.26			0.10		
4- $40,000-$59,999	0.11			0.05		
5- $60,000-$79,999	0.06			0.01		

	0.04			0.03		
6- $80,000-$99,999	0.04			0.03		
7-Above $100,000	0.01			0.03		

Table 2. Descriptive Statistics of the Financial Literacy Parameters

	Women			Men		
Financial Literacy Parameters	Proportion of Total Sample (N=266)	Mean	Standard Deviation	Proportion of Total Sample (N=154)	Mean	Standard Deviation
FINLC If you invested $100 today and the interest rate was 2% per year your bank account balance after five years would be exactly $102	*266*	*1.05*	*0.97*	*154*	*1.14*	*0.97*
0- Don't know/prefer not to answer	0.45			0.41		
1- Yes	0.06			0.04		
2- No	0.50			0.55		
FINLI After 1 year you would be able to buy more than today if you invested $100 in your bank account today at an interest rate of 1% per year when inflation is 2% per year.	*266*	*0.71*	*0.89*	*154*	*0.90*	*0.96*
0- Don't know/prefer not to answer	0.58			0.51		
1- Yes	0.13			0.08		
2- No	0.29			0.41		
FINLD Buying shares in a single company usually provides a safer return than buying units in a managed share fund.	*266*	*0.52*	*0.85*	*154*	*0.60*	*0.90*
0- Don't know/prefer not to answer	0.71			0.68		
1- Yes	0.06			0.04		
2- No	0.23			0.28		

Table 3. Descriptive Statistics of Financial Socialisation Parameters

	Women			Men		
Financial Socialisation Parameters	Proportion of Total Sample (N=266)	Mean	Standard Deviation	Proportion of Total Sample (N=154)	Mean	Standard Deviation
CONF- I am confident I can manage my finances	*266*	*3.54*	*1.12*	*154*	*3.81*	*1.02*
0- Don't know/prefer not to answer	0.01			0.01		
1- Does not describe me at all	0.05			0.01		
2- Describes me very little	0.09			0.07		

3-Somewhat describes me	0.31			0.28		
4- Describes me very well	0.33			0.34		
5- Describes me completely	0.21			0.29		
ENGAGEMENT: To date, how much have you learnt about managing your money from the following:						
PAR- Parents	*266*	*3.26*	*0.94*	*154*	*2.77*	*1.49*
0- Don't know/prefer not to answer	-			0.17		
1- None	0.06			0.05		
2- Not much	0.16			0.12		
3-Some	0.24			0.23		
4- A lot	0.54			0.44		
FRI- Friends	*266*	*2.40*	*0.92*	*154*	*1.98*	*1.15*
0- Don't know/prefer not to answer	0.01			0.16		
1- None	0.17			0.14		
2- Not much	0.34			0.31		
3-Some	0.38			0.35		
4- A lot	0.10			0.05		
PSCH- Primary School	*266*	*1.54*	*0.76*	*154*	*1.36*	*0.98*
0- Don't know/prefer not to answer	0.02			0.19		
1- None	0.54			0.41		
2- Not much	0.35			0.28		
3-Some	0.06			0.10		
4- A lot	0.03			0.03		
HSCH- High School	*266*	*1.86*	*0.87*	*154*	*1.77*	*1.12*
0- Don't know/prefer not to answer	0.02			0.16		
1- None	0.37			0.24		
2- Not much	0.36			0.30		
3-Some	0.22			0.26		
4- A lot	0.03			0.04		
UNI- University	*266*	*2.07*	*1.05*	*154*	*1.99*	*1.33*
0- Don't know/prefer not to answer	0.02			0.17		
1- None	0.35			0.22		
2- Not much	0.29			0.23		
3-Some	0.22			0.22		
4- A lot	0.12			0.16		
BOOK- Books	*266*	*2.33*	*1.10*	*154*	*2.02*	*1.38*
0- Don't know/prefer not to answer	0.03			0.18		
1- None	0.24			0.22		
2- Not much	0.24			0.17		
3-Some	0.33			0.25		
4- A lot	0.15			0.18		
MED- Media	*266*	*2.50*	*0.93*	*154*	*2.17*	*1.30*
0- Don't know/prefer not to answer	0.01			0.17		
1- None	0.15			0.12		

2- Not much	0.28			0.23		
3-Some	0.44			0.34		
4- A lot	0.12			0.14		
JOB-Job	*266*	*2.67*	*1.05*	*154*	*2.16*	*1.45*
0- Don't know/prefer not to answer	0.03			0.20		
1- None	0.14			0.13		
2- Not much	0.19			0.23		
3-Some	0.43			0.19		
4- A lot	0.22			0.25		
EXP- Life Experiences	*266*	*3.59*	*0.69*	*154*	*2.95*	*1.46*
0- Don't know/prefer not to answer	0.01			0.17		
1- None	0.01			0.02		
2- Not much	0.04			0.02		
3-Some	0.27			0.28		
4- A lot	0.67			0.51		
INT- Internet	*266*	*2.86*	*0.87*	*154*	*2.45*	*1.39*
0- Don't know/prefer not to answer	0.01			0.17		
1- None	0.10			0.08		
2- Not much	0.18			0.14		
3-Some	0.42			0.36		
4- A lot	0.29			0.25		
POD- Podcasts	*266*	*1.47*	*1.02*	*154*	*1.41*	*1.19*
0- Don't know/prefer not to answer	0.11			0.25		
1- None	0.53			0.36		
2- Not much	0.18			0.17		
3-Some	0.12			0.17		
4- A lot	0.05			0.05		
BLOG- Finance Blogs	*266*	*1.52*	*1.14*	*154*	*1.48*	*1.28*
0- Don't know/prefer not to answer	0.12			0.25		
1- None	0.53			0.38		
2- Not much	0.15			0.12		
3-Some	0.10			0.17		
4- A lot	0.10			0.09		
SM- Social Media Groups	*266*	*1.50*	*0.96*	*154*	*1.32*	*1.06*
0- Don't know/prefer not to answer	0.21			0.09		
1- None	0.45			0.54		
2- Not much	0.19			0.21		
3-Some	0.10			0.13		
4- A lot	0.05			0.04		
SEM- Public Seminar or Class	*266*	*1.36*	*0.99*	*154*	*1.27*	*1.10*
0- Don't know/prefer not to answer	0.14			0.25		
1- None	0.56			0.43		
2- Not much	0.17			0.16		
3-Some	0.09			0.12		
4- A lot	0.05			0.05		

FA- Financial Adviser or Counsellor	*266*	*1.50*	*1.16*	*154*	*1.32*	*1.20*
0- Don't know/prefer not to answer	0.15			0.28		
1- None	0.51			0.38		
2- Not much	0.13			0.14		
3-Some	0.12			0.13		
4- A lot	0.09			0.06		
ENG- Averaged engagement with financial advice	*266*	*2.96*	*0.97*	*154*	*2.50*	*1.34*
FREQUENCY: While growing up at home, how often did your family do any of the following:						
DFM- Discussed family financial matters with me.	*266*	*2.82*	*1.25*	*154*	*2.40*	*1.47*
0- Don't know/prefer not to answer	-			0.16		
1- Never	0.18			0.12		
2- Rarely	0.23			0.18		
3- Sometimes	0.29			0.30		
4- Often	0.19			0.18		
5- Always	0.11			0.06		
DSAV-Discussed the importance of saving	*266*	*3.57*	*1.23*	*154*	*3.03*	*1.72*
0- Don't know/prefer not to answer	-			0.17		
1- Never	0.09			0.05		
2- Rarely	0.10			0.10		
3- Sometimes	0.22			0.16		
4- Often	0.33			0.31		
5- Always	0.26			0.21		
DOWN- Discussed my own spending	*266*	*3.01*	*1.26*	*154*	*2.57*	*1.57*
0- Don't know/prefer not to answer	0.00			0.16		
1- Never	0.13			0.09		
2- Rarely	0.24			0.17		
3- Sometimes	0.24			0.29		
4- Often	0.25			0.18		
5- Always	0.14			0.12		
DCRED- Discussed the use of credit	*266*	*2.55*	*1.29*	*154*	*2.07*	*1.50*
0- Don't know/prefer not to answer	0.01			0.18		
1- Never	0.26			0.21		
2- Rarely	0.23			0.21		
3- Sometimes	0.26			0.21		
4- Often	0.15			0.12		
5- Always	0.09			0.06		
DSS- Discussed how to be a smart shopper	*266*	*3.17*	*1.36*	*154*	*2.64*	*1.64*
0- Don't know/prefer not to answer	0.00			0.16		

1- Never	0.15			0.10		
2- Rarely	0.16			0.18		
3- Sometimes	0.24			0.21		
4- Often	0.24			0.22		
5- Always	0.20			0.14		
DBUD- Discussed how to budget	*266*	*2.99*	*1.37*	*154*	*2.52*	*1.63*
0- Don't know/prefer not to answer	-			0.17		
1- Never	0.19			0.12		
2- Rarely	0.20			0.16		
3- Sometimes	0.23			0.24		
4- Often	0.20			0.18		
5- Always	0.18			0.13		
DREG- Provided me with a regular allowance	*266*	*2.58*	*1.39*	*154*	*2.31*	*1.62*
0- Don't know/prefer not to answer	0.02			0.18		
1- Never	0.28			0.19		
2- Rarely	0.20			0.16		
3- Sometimes	0.24			0.21		
4- Often	0.14			0.16		
5- Always	0.12			0.11		
FREQ- The averaged frequency of conversations about money	*266*	*2.16*	*0.49*	*154*	*1.89*	*0.97*

Table 4. Calculation of the Redundancy Indices for the Canonical Functions, Females

Variate/Variables	Canonical Loading	Canonical Loading Squared	Average Share of Loading	Rank in Loading Share
Dependent variables				
FINLC	0.542	0.294	25.5%	2
FINLI	0.830	0.690	59.8%	1
FINLD	-0.413	0.170	14.8%	3
Dependent variate		1.154		
Independent variables				
ENG	0.604	0.365	26.5%	3
FREQ	-0.691	0.477	34.7%	2
CONF	0.730	0.533	38.8%	1
Independent variate		1.376		
Canonical correlation coefficient	0.160			
Squared canonical correlation coefficient	0.025			

Proportion of standardised variance	With Own Variate	With Opposite Variate	
Dependent variate	0.520	0.013	
Independent variate	0.292	0.007	
Roy's largest root test of significance of all canonical correlations	0.026	*	

Table 5. Canonical Cross-Loadings, Female

Parameter	Function	Function Cross-Loading Squared
Correlations between the independent variables and dependent canonical variates		
FINLC	0.827	0.683
FINLI	0.894	0.800
FINLD	0.278	0.077
Correlations between dependent variables and independent canonical variates		
ENG	0.383	0.147
FREQ	-0.398	0.158
CONF	0.756	0.572

Table 6. Calculation of the Redundancy Indices for the Canonical Functions, Male

Variate/Variables	Canonical Loading	Canonical Loading Squared	Average Share of Loading	Rank in Loading Share
Dependent variables				
FINLC	0.346	0.119	16.2%	2
FINLI	0.785	0.616	83.8%	1
FINLD	-0.008	0.000	0.0%	3
Dependent variate		0.735		
Independent variables				
ENG	-0.159	0.025	3.6%	2
FREQ	0.826	0.681	96.2%	1
CONF	-0.039	0.002	0.2%	3
Independent variate		0.708		
Canonical correlation coefficient	0.224			
Squared canonical correlation coefficient	0.0503			

Proportion of standardised variance	With Own Variate	With Opposite Variate	
Dependent variate	0.6503	0.0327	
Independent variate	0.4699	0.0236	
Roy's largest root test of significance of all canonical correlations	0.053	**	

Table 7. Canonical Cross-Loadings, Male

Parameter	Function	Function Cross-Loading Squared
Correlations between the independent variables and dependent canonical variates		
FINLC	0.825	0.680
FINLI	0.967	0.936
FINLD	0.579	0.335

Correlations between dependent variables and independent canonical variates

ENG	0.651	0.423
FREQ	0.993	0.986
CONF	0.019	0.000