

# Financial insight and behaviour of household consumers in Port Elizabeth

G.G. Rousseau & D.J.L. Venter

## ABSTRACT

Financial literacy is a crucial factor affecting individuals, households, financial institutions and the broader economy of South Africa (Oseifuah 2012: 23–24). Lack of financial literacy has been cited by various commentators (Brink 2011: 3, Schüssler 2014: 1–2; Dempsey 2015: 1–3) as the main reason for poor saving rates, increasing consumer debt and inadequate retirement planning among South Africans. The purpose of this study was to investigate the financial insight and behaviour of household consumers in Port Elizabeth. Economists have urged South Africans to start living within their means, improve their money management skills and ensure they eliminate debt, which can be viewed as the symptoms of mediocre financial insight and behaviour. Addressing these problems requires empirical evidence. A research model guided the investigation. A field survey (n = 560 consumers) was conducted in Port Elizabeth. The survey revealed six factors for financial behaviour and one for financial insight. The negative results for most factors confirmed the need for improved financial literacy of Port Elizabeth consumers. Significant relationships between demographical variables and financial behavioural factors were further observed for the sampled population. Educators and training facilitators should focus in their financial literacy programmes on financial planning, executing, vigilance, discipline, control and outsourcing personal financial services. Marketers and providers of credit should act responsibly when dealing with consumers with inadequate financial literacy.

**Key words:** Financial insight, behaviour, planning, vigilance, discipline, control, outsourcing, knowledge, illiteracy

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## Introduction

### Background

The financial literacy of consumers in South Africa is at an unacceptably low level, which puts them at risk of dire financial adversity (Dempsey 2015: 1–3). The key focus of this study was to gather empirical evidence of the actual extent of this problem by investigating household consumers' financial insight and behaviour. A heuristic model, based on the dimensions of financial literacy as determined in previous studies, guided the investigation and directed the formulation of hypotheses.

A number of studies have noted that financial literacy in South Africa is low (Tomlinson 1999: 40–43; Ramsamy 2012:16; Fatoki & Oni 2014: 409–414). Government, NGOs and aid organisations are increasingly focusing on financial literacy education as a tool for improving welfare. However, to date there is little rigorous evidence that financial education is effective (FLE 2012: 59). A pilot study commissioned by the Financial Services Board (FSB) in 2011 into the financial literacy of South Africans showed that 49% of the respondents who participated in the study (n = 3112) stated that they were unable to live within their means; 30% had encountered financial difficulty; 32% used some kind of saving system; and only 2% invested in trusts, stocks, shares, livestock or property as a form of saving (Brink 2011: 3). Another study among the youth, employing a sample of 424 final-year finance diploma students, found that they possessed a low level of financial literacy (Botha 2013: 411).

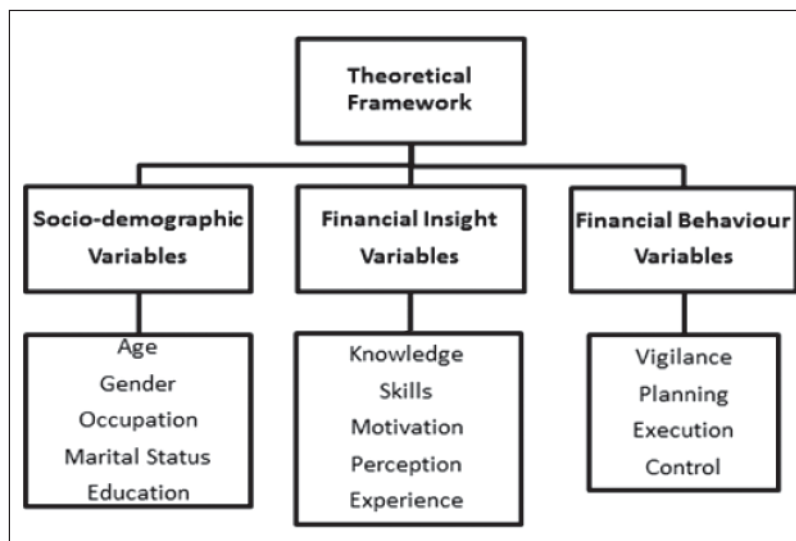
Huston (2010: 296–316) describes *financial literacy* as the measurement of how well individuals understand and use personal finance-related information to confidently make sound financial decisions. Brink (2011: 3) defines financial literacy as the ability to understand finance such as basic money principles of interest rates, and return credit management, banking, insurance and taxes. Robb and Woodyard (2011: 63) refer to four components of financial capability or literacy, namely making ends meet, planning ahead, managing financial products, financial knowledge and decision making. The Organisation for Economic Co-operation and Development (OECD 2005: 26) defines financial literacy as “the process by which financial consumers improve their understanding of financial products and concepts, and through information instruction and/or objective advice, develop the skills and confidence to become more aware of financial risk and opportunities, to make informed choices, to know where to get help and to take other effective actions to improve their financial well-being”. Lusardi and Mitchell (2007:157) used the OECD definition as a basis for their review of financial literacy. It is apparent from the above definition that financial insight and behaviour can be viewed as vital components

of financial literacy. The purpose of this investigation was not only to explore the financial insight of consumers in Port Elizabeth, but also to measure their financial behaviour. Furthermore, it is hoped that applying the heuristic model may make it possible to determine possible relationships between socio-demographic variables and financial insight and behaviour variables, for the sampled population.

## Literature review

### Heuristic model

For the purpose of this study, a heuristic model was constructed, based on previous research (Antonides, De Groot & Van Raaij 2012: 7–8; Kasper & Bloemer 2014: 297–303). The model is depicted in Figure 1.



**Figure 1:** Heuristic model linking socio-demographic variables with financial insight and behavioural variables, adopted from Antonides et al. (2012)

Before the variables in the model are explained in detail, it is necessary to clarify the key constructs, *financial insight* and *financial behaviour*. Insight is the capacity to gain a clear, intuitive understanding or perception of a specific cause and effect in a specific context (Colman 2009: 380). For the purpose of this study, *financial insight* was defined as a deep inspection or view of personal money matters. In this study, *financial behaviour* was regarded as the financial management which an individual or family is required to perform to obtain, budget, save and spend money over

time, taking into account financial risks and future life events (Kwok, Milevsky & Robinson 1994: 109–126).

All the variables depicted in the model were derived from previous research conducted in the Netherlands by Antonides et al. (2012:7–8) and Kasper and Bloemer (2014: 297–303). Apart from guiding the study by serving as a basis for the formulation of hypotheses and the construction of an instrument for measuring financial insight, it was hoped that the model would also help to identify strong and weak points in the financial behaviour of the sampled population.

### *Socio-demographic variables*

In the model, *age*, *gender*, *occupation*, *marital status* and *education* were regarded as key socio-demographic variables that could impact on financial insight directly and financial behaviour indirectly.

*Age*: Kasper and Bloemer (2014: 297–303) focused specifically on the financial knowledge and financial behaviour of the elderly. Data from a Dutch study was extracted and showed the following three clusters of seniors among the Dutch population: financially literate seniors, having much knowledge about financial issues and appropriate financial behaviour; financially illiterate but wise older seniors, having good and simple financial knowledge, but hardly any interest in financial matters; and lastly, financially illiterate and unwise younger seniors, lacking both appropriate financial management and knowledge. The authors concluded that most elderly in the Netherlands want more and better service, wish to avoid risks and long for trustworthy financial service providers. In their studies, Hung, Parker and Yoong (2009:16–17) also included age as a significant demographic predictor of financial literacy, and found that older individuals with high income revealed greater financial literacy and insight.

*Gender*: Gender differences in financial behaviour have been identified in previous studies. According to Robb and Woodyard (2011: 62), women are more likely to report the use of sound financial practices and insight. However, Clark, Burkhauser, Moon, Quinn and Smeeding (2004: 1–10) observed that women, in comparison with men, are mostly unprepared for their financial situation after the loss of their spouse. In a study for the Financial Board, Roberts and Struwig (2011: 1–7) found that only 27% of the respondents who were interviewed, indicated that they assumed sole responsibility for the daily management of their households. Men were generally more knowledgeable in choosing financial products, while those older than 70 years were familiar with fewer products on average. Oseifuah (2012: 23–24) investigated financial literacy among undergraduate students at the University of Venda. The

study revealed gender differences in financial literacy, with male accounting students likely to be more knowledgeable than their female counterparts.

*Occupation:* In a study on occupation, Fatoki (2014: 151–158) observed low levels of financial literacy among owners of new micro-enterprises. Most of the owners did not engage in formal financial planning, budgeting and control. Furthermore, most of the respondents did not have insurance policies to cover potential risk for their business. These results indicate that micro-entrepreneurs are weak in financial insight and information-related skills. According to Schüssler (2014: 1–2), short-term unsecured loans have been rising as a percentage of South African households' total debt package. He maintains that lower occupation households are more likely to have short-term unsecured debt.

*Marital status:* A study on the influence of marital status on financial insight by Voya (2011: 1–6) revealed that people who are married or living as married tend to demonstrate better savings behaviour and to be more financially confident than people who are single or divorced. Three-quarters (75%) of married respondents contributed to an employer-sponsored retirement savings plan, while 58% had additional retirement savings. Another study by Xiao (1996:21–29) found that marital status had a positive effect on the chances of owning cash-value life insurance. These results suggest better financial insight and behaviour among married couples.

*Education:* Birkholtz and Rousseau (2001: 133–147) investigated attitudes towards credit buying among the youth in Port Elizabeth, South Africa. The authors concluded that there was a serious need for education and training in personal money management at school level. Du Plessis and Rousseau (2007:203) warned that a lack of knowledge of and insight into personal money management would give rise to a body of future debtors in South Africa. Schüssler (2014: 1–4) echoed these sentiments, stating that financial literacy is a huge problem which needs to be addressed at school level. Knowledge -ased financial education remains a main shortfall for improved financial insight in South Africa.

### *Financial insight and knowledge variables*

*Financial insight variables* were categorised as follows: *knowledge* involves financial planning for the future, the importance of saving, the advantages and risks involved in borrowing money; *skills* relate to the ability to deal with money on a daily basis, responsibility in managing money mental accounting; *motivation* is the determination to provide for the future, manage personal finances and avoid debt; *perception* is awareness of the increasing cost of living, of unforeseen expenses and

of the danger of irresponsible spending; and *experience* refers to financial education, encounters with financial consultants, investment products and buying on credit.

*Knowledge:* Robb and Sharpe (2009: 25–43) analysed data collected from 6 520 students at a large Midwestern University in the USA and affirmed that financial knowledge is a significant factor in the credit card decisions of college students. The researchers found that students with higher levels of financial knowledge also had significantly higher credit card balances compared to those with lower levels of financial knowledge. Mitchell and Lusardi (2015:1–6) who conducted an international study at the Wharton School of Business Economics, found that almost one-third of wealth inequality can be explained by the financial knowledge gap, separating the well-to-do and the less so. Hung et al. (2009: 10–11) suggest that financial knowledge is likely to depend on skills, perceptions of knowledge, attitudes and environmental factors. These factors are of particular importance for financial insight in the South African context.

*Skills:* Regarding financial skills and knowledge, the above authors found that older people tended to be weaker than the younger generation, while men were more competent than women on financial matters. Nye and Hillyard (2013: 1–3) investigated the influence of quantitative literacy and material values on personal financial behaviour. Results from a diverse sample ( $n = 267$ ) of consumers confirmed that quantitative literacy (the individual's confidence in applying quantitative skills) is positively related to forward-looking behaviour. The impact of materialism on financial behaviour was largely mediated by impulsive consumption, a tendency to make frequent purchases without considering the financial consequences. Other financial skills include negotiating mortgage terms, navigating investment websites and reading financial reports (Hung et al. 2009: 9).

*Motivation and perception:* In this regard, according to Ozmete and Hira (2011: 386–404), one of the most important decisions an individual can make is choosing a sound financial behaviour plan that will enable an individual or family to achieve their life goals. The authors analysed various financial behaviour models and concluded that changes in people's financial plans are hampered by perceived barriers such as threat, susceptibility and severity of change. Regarding e-banking adoption by rural customers in South Africa, Masocha, Chiliya and Zindiye (2011:1857–1863) found that the majority of respondents were motivated to bank with a bank that uses advanced modern banking technologies. Respondents perceived e-banking to increase service quality, which promoted the clients' propensity to advocate their banks to other clients.

*Experience:* Present financial literature suggests that personal involvement and experience in money management among South Africans is poor (Roberts & Struwig

2011: 1–7). In a study for the Financial Services Board, they (2011) found that only 27% of the respondents interviewed, indicated that they assumed sole responsibility for the daily money management in their households. It was found that coloured and black households were less likely than white and Indian respondents to have a budget. The findings also suggested that South Africans on average only had small reserves to draw upon in face of a sudden loss of income. Men were generally more experienced in choosing financial products than women, suggesting better financial insight.

*Financial behaviour variables* were categorised as follows: *vigilance*, which refers to seeing beyond tomorrow, financial risk perception and staying informed about financial matters; *planning* refers to provision for retirement, pension schemes and additional investments and insurance; *executing* refers to organising spending patterns, paying bills on time, following a household budget and savings plan; and *control* refers to knowing one's financial balance, income and expenditure and living within one's means.

*Vigilance*: Antonides et al. (2012: 7–8) reported on the basis of their longitudinal study in the Netherlands that Dutch consumers were generally vigilant about their financial insight and behaviour. Only a small percentage (15%) of the sample (n = 4 280) were unconcerned about financial matters. Another study by Kasper and Bloemer (2014: 297–303) found that 42% of respondents older than 50 years were highly vigilant about savings, paying bills on time and knowledge of their own financial balance. According to Xiao (1996: 21–29), households in which the head indicated willingness to take at least average risks, were more likely than their less risk-tolerant counterparts to own assets other than trusts.

*Planning*: The negative impact of employees' poor financial planning and behaviour on employers has been widely researched (Brown 1993: 1–5; Brown 1997: 29–38; Garman, Leech & Grable 1996: 157–168). All these authors reported that personal financial problems of workers negatively affect their employers. Because of poor financial planning by employees, employers are often forced to incur compensatory costs relating to insurance premiums, hospital bills, production downtime and additional training on personal financial management. Garman et al. (1996: 157–168) stated that among human resource executives, the financial illiteracy of workers was the most critical unaddressed workplace issue. The proportion of workers experiencing financial problems, according to the authors, could be as high as 40 to 50% in some circumstances. In South Africa, owing to restricted income, many blue-collar employees are unable to engage in future planning, resulting in poor financial behaviour (Brink 2011: 1–3).

*Execution:* Research in South Africa (Brink 2011: 1–3; Mishi, Vacu & Chipote 2012: 1–2) suggests that financial execution is substandard. In a study by these authors involving a sample of 3 112 respondents, 49% said they were unable to live within their means. Only 32% indicated some form of saving, while 2% invested in trusts, stocks or shares. Most rural respondents indicated reluctance to use bank services as they were not fully aware of its advantages. According to Palmer (2015:1–3), the main problem with financial execution for middle-aged adults is that they use their retirement fund to help adult children’s transition to financial independence. Another demand on middle-aged adult households’ financial execution is providing for ageing parents who need assistance. These trends are also becoming a serious problem in South Africa owing to stringent financial conditions for families.

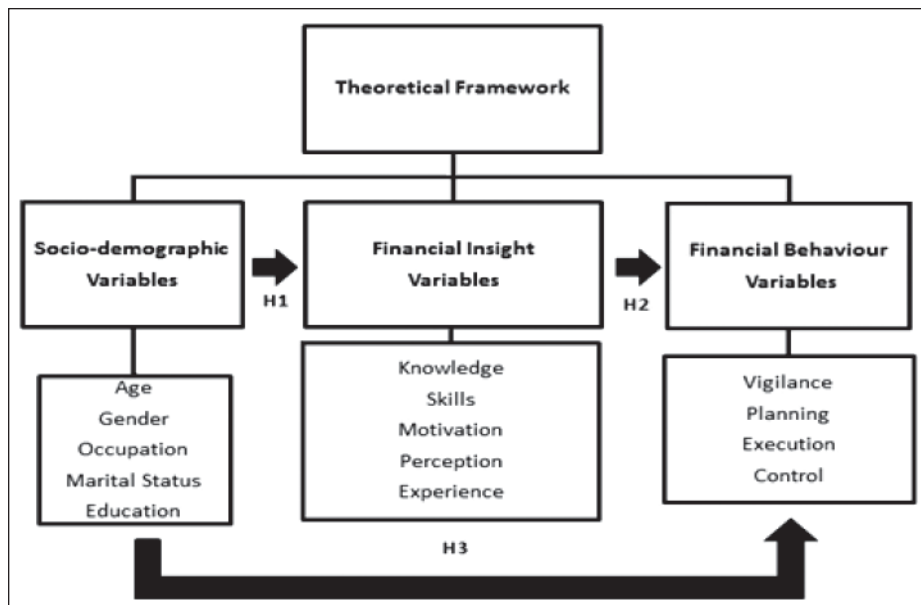
*Control:* According to Palmer (2015: 1–5), savings need to be a priority for emergencies and retirement with at least 10% of a household’s income. Xiao (1996: 21–29) maintains that financial asset ownership is determined by the effects of family income and life cycle stages. Financial control variables such as savings, bonds and trusts are also determined by family size, the household head’s age and employment status, apart from income.

The present study worked within the previously adopted theoretical framework of financial insight and behaviour of consumers in the Netherlands (Antonides et. al 2008), depicted in Figure 1. Whereas the present model does not allow for the exploration of all possible variables, strides have been made in the inclusion and examination of relevant variables of financial insight and behaviour, applicable to South African conditions. Figure 2 indicates three proposed hypotheses linking variables in the model.

## Hypotheses

In the model presented in Figure 2, it is hypothesised that relationships exist between *socio-demographic* variables and *financial insight* variables (H1), between *financial insight* variables and *financial behaviour* variables (H2) and between *socio-demographic* variables and *financial behaviour* variables (H3). In the model, *age*, *gender*, *occupation* and *marital status* as well as *education* were regarded as key socio-demographic variables that could impact on financial insight directly and financial behaviour indirectly.





**Figure 2:** Variables captured in the present study with proposed hypotheses linking variables in the model

In the model presented in Figure 2, it is hypothesised that relationships exist between *socio-demographic* variables and *financial insight* variables (H1), between *financial insight* variables and *financial behaviour* variables (H2) and between *socio-demographic* variables and *financial behaviour* variables (H3). In the model, *age*, *gender*, *occupation* and *marital status* as well as *education* were regarded as key socio-demographic variables that could impact on financial insight directly and financial behaviour indirectly.

## Research methodology

The study followed a quantitative non-experimental design using a self-reported survey approach to gather specific information from respondents as the primary data for empirical analysis (Malhotra 2010: 268).

## Measuring instrument

A 40-item questionnaire was constructed as a measuring instrument. The items were derived from the literature and related to the variables in the research model. The first 24 items focused on *financial insight* variables, while the last 16 items related to *financial behavioural* variables. The questionnaire concluded with questions pertaining to *socio-demographic* variables as shown in the model. A verbal anchored

five-point Likert scale (ranging from disagree completely to agree completely) was used to detect respondents' views on the items in the questionnaire.

### Research participants and procedure

A non-probability sample (n = 560) was drawn from respondents in the Nelson Mandela Metro during February 2015. Sixty graduate students from the Nelson Mandela Metropolitan University (NMMU) conducted the fieldwork as part of a practical assignment. All the fieldworkers received a proper briefing on sample selection and interview procedures. They were instructed to interview respondents at home, at work or at a shopping mall. Convenience sampling (willingness to be interviewed) was used to select respondents to participate in the study. Each fieldworker had the option to interview up to ten respondents from various age and gender groups. On completion of their fieldwork, they had to write a one-page report on their fieldwork experience. From these reports, it was clear that respondents did not experience difficulty answering the questionnaire as they were simple, straightforward items to answer and had undergone testing in a pilot study. The questionnaire took less than five minutes to complete.

Table 1 presents the demographic profile of the sample (n = 560). From the table it can be seen that there were slightly more females in the sample than males. The largest proportion of respondents were employed full time and single. Furthermore, the sample was relatively young (43% between the ages of 20 and 29) and most of the respondents (91%) had at least a matric certificate.

**Table 1:** Survey sample demographic profile

<b>Gender (n = 552)</b>			<b>Age (n = 556)</b>		
Male	254	46%	20–29	241	43%
Female	298	54%	30–39	87	16%
<b>Employment status (n = 546)</b>			40–49	101	18%
Pensioner	50	9%	50–59	62	11%
Unemployed	149	27%	60+	65	12%
Employed part time	97	18%	<b>Education (n = 552)</b>		
Employed full time	250	46%	<Matric	49	9%
<b>Marital status (n = 551)</b>			Matric	181	33%
Married/cohabitating	220	40%	Diploma	97	18%
Divorced/separated	31	6%	Degree	155	28%
Widowed	30	5%	Post-graduate	70	13%
Single	270	49%			

## Data analysis

Microsoft Excel and the statistical software program Statistica Version 12 were used to calculate descriptive and inferential statistics and to perform exploratory factor analysis. Analysis of variance (ANOVA) was also conducted to determine the relationships between the demographic variables and financial insight and behavioural factors

## Research findings

### Validity

The authors achieved content validity of the survey questionnaire by ensuring that for each variable in the proposed model, a set of appropriate items was included. The face validity of the items was assessed by asking a financial expert in the Department of Industrial Psychology to evaluate the clarity and appropriateness of the items in the questionnaire.

### Exploratory factor analysis (EFA)

Table 2 shows the EFA results for the financial insight and behavioural items. Seven factors were extracted from the data. The first six factors were classified as *financial behaviour*, and included *financial planning*, *financial executing*, *vigilance*, *financial discipline*, *financial control* and *outsourcing financial services*. The last factor, *financial knowledge*, was the only one relating to *financial knowledge*. The factor loadings on the indicated factors were all significant, ranged between 0.429 and 0.768, given that for a sample size of 560, factor loadings greater than 0.300 are deemed significant (Hair, Black, Babin, Anderson & Tatham 2006: 128).

**Table 2:** Exploratory factor analysis (EFA) results (n = 560)

<b>Construct: Behaviour</b>		
<b>Factor</b>	<b>Item</b>	<b>Loading</b>
<b>FB1.Planning</b>	I review my financial portfolio annually.	0.768
	I have a detailed financial plan for retirement.	0.746
	I feel competent in calculating my long-term investments.	0.727
	I complete my income tax forms on my own.	0.682
	I regard my pension scheme sufficient to provide for retirement.	0.553

Table 2 continued

## Financial insight and behaviour of household consumers in Port Elizabeth

Table 2 continued

<b>FB2.Executing</b>	I often worry about my finances.	0.715
	Come end of the month, I seldom have money left over.	0.706
	I often have to borrow money from others to make ends meet.	0.683
	The cost of living makes it difficult for my household to save money.	0.573
	I sometimes regret the financial decisions made due to lack of knowledge.	0.531
<b>FB3.Vigilance</b>	I am unaware of the latest investment products on the market.	0.738
	I read financial reports in newspapers and magazines to stay informed.	0.684
	I listen regularly to financial programmes on radio and television.	0.670
	In today's uncertain economic environment, I am alert to financial matters.	0.543
<b>FB4.Discipline</b>	I keep a strict view on my spending patterns	0.684
	I follow a strict household budget which I draw up regularly.	0.677
	I have taught myself to follow a regular savings programme in life.	0.658
	As a child I learnt to spend my pocket money wisely.	0.656
	Self-discipline helps me to refrain from impulse buying.	0.429
<b>FB5.Control</b>	In my experience, saving rather than borrowing money is preferable.	0.703
	One should always be aware that things can get worse in the future.	0.652
	Buying on credit can be dangerous for my financial management.	0.575
	When taking big financial decisions it is always better to sleep on it.	0.539
<b>FB6.Outsourcing</b>	I leave personal future planning and investments to the experts.	0.731
	It is better to use experts to manage one's investment portfolios.	0.688
	More people should manage their own financial matters.	0.562
<b>Construct: Insight</b>		
<b>FI.Knowledge</b>	Commission paid to financial consultants for managing private investments must be negotiable.	0.775
	I view investment in shares on the stock exchange as dangerous.	0.642
<b>Total percentage variance explained = 55.5%</b>		

## Reliability of the scores

The reliability of the scores derived from the measuring instrument was assessed by calculating Cronbach's coefficient alpha for the factors emerging from the data analysis. The reliability values are depicted in Table 3 and can be regarded as good for the first four factors and FB.Behaviour, but disappointing for FB5.Control, FB6.Outsourcing and FI.Knowledge. However, bearing in mind the exploratory nature of the study, the reliability values were acceptable, although the results would need to be interpreted with caution.

**Table 3:** Cronbach's alpha coefficients for the factors

Factor	items	alpha
FB1.Planning	5	0.79
FB2.Executing	5	0.71
FB3.Vigilance	4	0.76
FB4.Discipline	3	0.71
FB5.Control	4	0.55
FB6.Outsourcing	5	0.38
FB.Behaviour*	–	0.70
FI.Knowledge	2	0.34
* FB.Behaviour is the average of FB1 to FB4.		

## Correlations between factors

Table 4 shows the correlations between the factors. Correlations flagged red are statistically significant at the .05 significance level (absolute value greater than 0.083). Correlations greater than 0.30 (flagged in italic bold) are considered practically significant (Gravetter & Wallnau 2009).

The strong positive correlations between *financial behaviour* and the first four factors were to be expected, given that these four factors were averaged to calculate *financial behaviour*. As indicated in Table 4, *financial planning* correlated positively and significantly (both statistically and practically) with *financial vigilance* and *financial discipline*. *Vigilance* correlated positively and significantly with *financial discipline*. None of the behaviour factors correlated with *knowledge*, the sole insight factor. There was thus no evidence in support of the research hypothesis relating to a theorised positive relationship between financial insight and financial behaviour.

**Table 4:** Pearson product moment correlations for the factors

	<b>FB1</b>	<b>FB2</b>	<b>FB3</b>	<b>FB4</b>	<b>FB5</b>	<b>FB6</b>	<b>FB</b>	<b>FI</b>
FB1.Planning	–	.265	<b>.537</b>	<b>.464</b>	.033	.042	<b>.807</b>	.015
FB2.Executing	.265	–	.194	.238	-.131	-.012	<b>.568</b>	-.133
FB3.Vigilance	<b>.537</b>	.194	–	<b>.485</b>	.098	.066	<b>.778</b>	-.050
FB4.Discipline	<b>.464</b>	.238	<b>.485</b>	–	.216	.028	<b>.734</b>	.069
FB5.Control	.033	-.131	.098	.216	–	.131	.071	.132
FB6.Outsourcing	.042	-.012	.066	.028	.131	–	.044	.029
FB.Behaviour	<b>.807</b>	<b>.568</b>	<b>.778</b>	<b>.734</b>	.071	.044	–	-.034
FI.Knowledge	.015	-.133	-.050	.069	.132	.029	-.034	–

### Descriptive statistics for the factors

Table 5 reflects the descriptive statistics for the factors. It is evident that *financial control* obtained the highest mean score, followed by *financial discipline*. These two factors were the only ones for which a positive (between 3.4 and 5.0) mean score was observed. All the other factors obtained neutral mean scores, that is, between 2.6 and 3.4. *Financial planning* obtained the lowest mean score, which was an unexpected result given the abundant evidence from research pertaining to consumers’ poor financial planning efforts (Roberts & Struwig 2011).

**Table 5:** Central tendency and dispersion statistics for the factors (n = 560)

<b>Factor</b>	<b>Mean</b>	<b>S.D.</b>	<b>Minimum</b>	<b>Quartile 1</b>	<b>Median</b>	<b>Quartile 3</b>	<b>Maximum</b>
FB1.Planning	2.87	1.02	1.00	2.20	2.80	3.60	5.00
FB2.Executing	2.91	0.85	1.00	2.40	3.00	3.40	5.00
FB3.Vigilance	3.17	0.96	1.00	2.50	3.25	3.81	5.00
FB4.Discipline	3.57	0.80	1.20	3.00	3.60	4.20	5.00
FB5.Control	4.29	0.62	2.00	4.00	4.50	4.75	5.00
FB6.Outsourcing	3.13	0.80	1.00	2.67	3.00	3.67	5.00
FB.Behaviour	3.13	0.66	1.24	2.68	3.14	3.60	4.70
FI.Knowledge	3.14	0.93	1.00	2.50	3.00	4.00	5.00

## Relationships between factors and demographic variables

ANOVA was conducted to determine the significance of the relationships between the factors and the demographic variables. The results are summarised in Table 6.

**Table 6:** ANOVA results: factors by demographic variables–p-values (n = 529)

Effect Factor	Employment	Age	Gender	Marital status	Education
FB1.Planning	<.0005	<.0005	.131	.421	.001
FB2.Executing	.257	.029	.007	.921	<.0005
FB3.Vigilance	.008	.172	.027	.800	.001
FB4.Discipline	.143	.268	.671	.038	.057
FB5.Control	.140	.180	.088	.270	.602
FB6.Outsourcing	.129	.848	.442	.458	.819
FB.Behaviour	<.0005	.013	.028	.769	<.0005
FI.Knowledge	.343	.696	.450	.020	.010

Significant relationships ( $p < 0.05$ ) were observed between the demographic variables and all the factors except for *FB5.Control* and *FB6.Outsourcing*. It was found, for example, that *FB1.Planning* was significantly related to employment, age and education.

Tables 7 to 11 show significant ( $p < 0.05$ ) post hoc results for the significant ANOVAs ( $p < 0.05$  in Table 6) by demographic variable for the various factors. In these tables, statistically significant differences between demographic groups are indicated by lower case letters in the “Scheffé  $p < .05$ ” column. Cohen’s  $d$  statistics reflect the practical significance of these differences and were interpreted as practically significant if  $d$  was greater than or equal to 0.20 (Gravetter & Wallnau 2009).

It is evident in Table 7 that when it comes to *financial planning*, full-time employed consumers have significantly higher scores than those who are unemployed and who are employed on a part-time basis. With regard to *financial vigilance*, the results indicate that consumers who are employed on a full-time basis are significantly more financially vigilant than unemployed consumers and those employed part time.. This could be due to the fact that unemployed consumers have given up hope of finding a job and are therefore also less financially vigilant.

**Table 7:** Significant post hoc results for the factors by employment status

Factor	Mean values				Scheffé p < .05	Cohen's d
	a. Pensioner	b. Unemployed	c. Part time	d. Full time		
Financial planning	3.24	2.21	2.63	3.28	ab; ac; bc; bd; cd	1.21; 0.69; 0.48; 1.18; 0.70
Financial vigilance	3.24	2.82	3.01	3.42	bd; cd	0.67; 0.44
Financial behaviour	3.35	2.81	2.97	3.34	ab	0.22

**Table 8:** Significant post hoc results for factors by age group

Factor	Mean values					Scheffé p < .05	Cohen's d
	a. 20–29	b. 30–39	c. 40–49	d. 50–59	e. 60+		
Financial planning	2.38	3.19	3.14	3.42	3.30	ab; ac; ad; ae	0.88; 0.83; 1.13; 1.04
Financial behaviour	2.91	3.25	3.21	3.42	3.43	ab; ac; ad; ae	0.37; 0.32; 0.56; 0.59

With regard to age, Table 8 shows that consumers in the age groups 20 to 29 scored significantly lower than those in the older age groups (30–39, 40–49, 50–59 and 60+) on *financial planning* and *financial behaviour*. These results suggest that younger respondents might be less aware of the importance of financial planning for their future. This supports the results of Botha (2013: 411) and Du Plessis and Rousseau (2007: 203).

**Table 9:** Significant post hoc results for factors by gender – t-test p < .05

Factor	Mean values		Cohen's d
	Male	Female	
Financial executing	3.07	2.78	0.29
Financial vigilance	3.33	3.02	0.30
Financial behaviour	3.25	3.02	0.22



The results reflected in Table 9 indicate that male consumers consistently scored higher than female consumers on *financial executing*, *financial vigilance* and *financial behaviour*. These results suggest that males tend to be more competent on financial matters than females. This therefore supports the findings of Clark et al. (2004: 1–10), Roberts et al. (2011: 1–7) and Mitchell and Lusardi (2015: 1–6), which suggest that women are mostly unprepared for financial matters and less knowledgeable in this regard than their male counterparts.

**Table 10:** Significant post hoc results for factors by marital status

Factor	Mean values				Scheffé p < .05	Cohen's d
	a. Married/ cohabitating	b. Divorced	c. Widowed	d. Single		
Financial discipline	3.71	3.55	3.91	3.42	ad; cd	0.30; 0.51

Regarding marital status, the results provided in Table 10 show that single consumers were significantly less concerned with *financial discipline* than the other three categories (married/cohabitating, divorced and widowed). This could be due to the fact that single consumers have fewer family responsibilities, directly or indirectly, compared to married, divorced or widowed consumers. These findings support those of Birkholtz and Rousseau (2001:133–147), Lusardi, Mitchell and Curto (2010:1–2), which indicate that young and, by implication, single consumers are less accountable for their financial actions and tend not to understand the consequences of their financial decisions for risk diversification, inflation and interest rates.

**Table 11:** Significant post hoc results for factors by education level

Factor	Mean values					Scheffé p < .05	Cohen's d
	a. <Matric	b. Matric	c. Diploma	d. Degree	e. Post-grad		
Financial planning	2.60	2.55	3.24	2.94	3.16	ac; ae; bc; bd; be	0.72; 0.58; 0.75; 0.38; 0.64
Financial executing	2.41	2.81	2.87	3.05	3.30	ac; ad; ae; be; ce	0.51; 0.60; 0.91; 0.50; 0.48
Financial vigilance	2.98	2.89	3.25	3.32	3.55	ae; bc; bd; be	0.59; 0.39; 0.42; 0.69
Financial behaviour	2.85	2.94	3.24	3.24	3.41	ac; ad; ae; bc; bd; be	0.44; 0.37; 0.58; 0.33; 0.30; 0.49
Financial insight	3.16	3.29	3.15	3.08	2.80	be	0.51

As far as education is concerned, the results in Table 11 show that consumers with a higher education (diploma, degree or postgraduate degree) were significantly more aware of the importance of *financial planning* compared to those with only a matric certificate or less than matric. Educational level is thus related to financial planning. These results support those of Schüssler (2014:1-2), which suggest that financial illiteracy should be addressed at school level.

Furthermore, the results suggest that educational level is significantly related to *financial execution*, *financial vigilance* and *financial behaviour*. It would seem that respondents with a degree or postgraduate degree are more competent in conducting financial planning than those with less than matric, matric or only a diploma certificate. These results once again emphasise the lack of financial literacy at school level, as reported by Birkholtz and Rousseau (2001: 133–147). This further supports the notion by Schüssler (2014: 1–2) that financial illiteracy is a huge problem in South Africa and should be addressed at school level.

Regarding *financial insight*, Table 11 indicates a strange scoring pattern among consumers. Consumers with a matric certificate seemed to exhibit significantly more *financial insight* than those with a postgraduate degree. This observation might indicate an element of arrogance about financial insight and behaviour among postgraduates, stemming from material affluence compared to the less educated “matric only” consumers. This result could support that of Robb and Sharpe (2009: 25–43) suggesting that students with higher levels of financial knowledge also had significantly higher credit card balances compared to those with lower levels of financial knowledge. This could result in more careful spending among the latter.

## Hypothesis testing

In terms of the hypotheses formulated and based on the model, limited support was found for H1 (*a relationship exists between socio-demographic variables and financial insight variables*). Only one socio-demographic variable, *educational level*, differed significantly between matric and postgraduate consumers (see Table 11).

Regarding H2 (*a relationship exists between financial insight variables and financial behavioural variables*), no support for this hypothesis was observed (see Table 4).

The third hypothesis, H3 (*a relationship exists between socio-demographic variables and financial behavioural variables*), was accepted. The authors did find significant relationships between various socio-demographic variables (employment level, age, gender, marital status and education) and financial planning, financial execution and financial vigilance variables (see Table 6).

## Discussion

The main purpose of this exploratory study was to investigate levels of financial insight and behaviour among consumers with various demographical backgrounds in Port Elizabeth. A conceptual model derived from previous research guided the investigation. A multi-cultural, non-probability convenience sample of 560 respondents participated in a survey, which was conducted in various suburbs and townships of the Metro during February 2015. A questionnaire adopted and modified from a previous study conducted in the Netherlands (Antonides et al. 2008: 7–8) was used for data collection. The instrument showed reasonable reliability for use in South Africa.

The results of an exploratory factor analysis revealed six factors for financial behaviour, namely planning, executing, vigilance, discipline, control, outsourcing and one for financial insight, namely knowledge. Strong positive correlations between the first four factors (financial planning, executing, vigilance and discipline) emerged from the data analysis. No support could be found for the research hypothesis pertaining to a theorised positive relationship between financial insight and financial behaviour.

The post hoc results by demographics revealed significant relationships for financial planning, executing, vigilance, discipline, outsourcing, insight and financial behaviour. These results confirmed the influence of employment level, age, gender, marital status and education on financial behaviour and insight of consumers in Port Elizabeth. Consumers who were employed full-time and elderly, married and male consumers with a postmatric qualification obtained the highest mean scores on financial behaviour.

The main conclusion drawn from the empirical research supported the literature that financial illiteracy among a large section of the population in South Africa, and specifically in Port Elizabeth, remains a main concern for the country. Lack of financial behaviour and insight is particularly prevalent among unemployed, young and single consumers with a low education. Since South Africa's population is relatively young and the unemployment level among the youth is extremely high, the need for financial education and training, especially among the youth, (tomorrow's consumers) must become a priority.

### Practical implication for educators

Educators at school level and training facilitators for businesses should focus in financial literacy programmes on financial planning, financial executing, vigilance, discipline, control and the pros and cons of outsourcing personal financial services.

These factors would hopefully increase financial behaviour and insight among those exposed to such interventions.

### Practical implications for marketers

Marketers promoting financial services and banks, advertising credit and loan facilities should be responsible in their dealings with clients. Owing to certain clients' lack of financial knowledge, marketers should not promote unrealistic attractive credit and loan offers to clients who cannot afford them. The poorer section of the population is especially vulnerable to unsecured loans and credit card misuse.

### Limitations and implications for further research

This study is no different from others in that researchers need to be aware of limitations because they affect the generalisability and external validity of the findings. Bearing in mind the exploratory nature of the study, the measuring instrument needs to be refined in follow-up studies. Only one variable, "knowledge" emerged for the factor *insight*. More items need to be added to the questionnaire to measure the remaining variables for insight, portrayed in the model. Furthermore, "one-shot" studies usually lack generalisability – hence the need for a follow-up investigation to confirm the tentative results obtained in the present study. In terms of the sampling technique and geographic scope of this study, another limitation was that it would not be possible to generalise the results to other populations.

### Conclusion

Despite its limitations, the findings of this study emphasised the serious lack of financial literacy among consumers in Port Elizabeth, based on their present financial behaviour and insight. The present findings should provide a guideline for benchmark topics that need to be addressed in future education and training programmes. Such topics should include the factors that emerged from this study.

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## References

- Antonides, G., De Groot, I.M. & Van Raaij, W.F. 2008. *Resultaten financieel insight van Nederlanders*. Den Haag: Centiq Ministerie van Financiën.
- Birkholtz, M. & Rousseau, G.G. 2001. 'Attitudes towards credit buying among the youth: an exploratory study', *South African Journal of Economics and Management Science* 4(1): 133–147.
- Botha, M. 2013. A comparative analysis of financial literacy of final year diploma students in different fields of study at the University of Johannesburg. [Online] Available at <http://ujdigispace.uj.ac.za/handle/10210/8856>. Accessed: 10 May 2015.
- Brink, N. 2011. 'Lack of financial literacy in South Africa', *HR FUTURE*: 3–5. [Online] Available at <http://hrfuture.net/news/lack-of-financial-literacy-in-south-africa.php?Itemid=812>. Accessed: 2 October 2015.
- Brown, R.C. 1979. The need for employee financial counselling. *Financial Counseling: Assessing the state of the art*: 29–38. Blacksburg, Virginia.
- Brown, R.C. 1993. Financial worries in the workplace. R.J. Tobacco Company. RJR Employee Counseling. Winston Salem unpublished manuscript.
- Clark, R.L., Burkhauser, R.V., Moon, M., Quinn, J.F. & Smeeding, T.M. 2004. *The economics of an aging society*: New York: Wiley-Blackwell.
- Colman, A. M. 2009. *Oxford Dictionary of Psychology*. New York: Oxford University Press.
- Dempsey, P. 2015. 'Planning for the financial implications of the service generation', *Cover Publications*, 11, February: 1–3. Cape Town. [Online] Available at <http://www.cover.co.za/investment/planning-for-the-financial-implications-of-the-sandwich-generation>.
- Du Plessis, P.J. & Rousseau, G.G. 2007. *Buyer behaviour: understanding consumer psychology and marketing*. 4th edition. Cape Town: Oxford University Press.
- Fatoki, O. 2014. 'The financial literacy of micro enterprises in South Africa', *Journal of Social Science*, 40(2): 151–158.
- Fatoki, O. & Oni, O. 2014. 'Financial literacy studies in South Africa: current literature and research opportunities', *Mediterranean Journal of Social Sciences*, 5(20): 409–414.
- Financial Literacy and Education. 2012. 'South Africa Old Mutual financial education study'. *Russia Trust Fund for Financial Literacy and Education*, 59. World Bank, Washington, DC: World Bank Group.
- FLE, *vide* Financial Literacy and Education.
- Garman, E.T., Leech, I.E. & Grable, J.E. 1996. *The negative impact of poor employee poor personal financial behaviours on employers*. Scranton, PA: Association for Financial Counseling and Planning Education.

- Gravetter, F.J. & Wallnau, L.B. 2009. *Statistics for behavioral sciences* 8th edition. Belmont, CA: Wadsworth.
- Hair, J.F., Black, W.C., Babin, B.J., Anderson, R.E. & Tatham, R.L. 2006. *Multivariate data analysis*. Upper Saddle River, NJ: Pearson Education.
- Hung, A.A., Parker, A.M. & Yoong, J.K. 2009. *Defining and measuring financial Literacy*. Rand Labor and Population Working Paper, WR-708. [Online] Available at [https://www.rand.org/content/dam/rand/pubs/working\\_papers/2009/RAND\\_WR708.pdf](https://www.rand.org/content/dam/rand/pubs/working_papers/2009/RAND_WR708.pdf)
- Huston, S.J. 2010 'Measuring financial literacy', *Journal of Consumer Affairs*, 44(2): 296–316.
- Kasper, H. & Bloemer, J. 2014. 'Diversity in financial knowledge and financial behavior of the elderly', *Proceedings: ANZMAC Conference*. Brisbane, Australia, 1–3 December.
- Kwok, H., Milevsky, M. & Robinson, C. 1994. 'Asset allocation, life expectancy and shortfall', *Financial Services Review*, 3(2): 109–126.
- Lusardi, A. & Mitchell, O.S. 2007. 'Financial literacy and retirement planning: new evidence from the RAND American Life Panel', MRRC Working paper no. 2007–157.
- Lusardi, A., Mitchell, O. & Curto, V. 2010. Financial literacy among the young: evidence and implications for consumer policy. [Online] Available at [http://www.dartmouth.edu/~alusardi/Papers/Financial\\_literacy\\_young.pdf](http://www.dartmouth.edu/~alusardi/Papers/Financial_literacy_young.pdf).
- Malhotra, N.K. 2010. *Marketing research: an applied orientation* 6th edition. Englewood Cliffs NJ: Prentice Hall.
- Masocha, R., Chilya, N. & Zindiye, S. 2011. 'E-banking adoption by customers in the rural milieus of South Africa: a case of Alice, Eastern Cape, South Africa', *African Journal of Business Management*, 5(5): 1857–1863.
- Mishi, S., Vacu, N.P. & Chipote, P. 2012. Impact of financial literacy in optimizing financial inclusion in rural South Africa: case study of the Eastern Cape. [Online] Available at <http://www.econrsa.org/workshops/papers/2012/impact-financial-literacy-optimising-financial-inclusion-rural-south-africa-0>.
- Mitchell, O.S. & Lusardi, A. 2015. 'Three questions with implications for your future', Wharton Digital Press, 11 February. [Online] Available at <http://www.knowledge.wharton.upenn.edu/article/three-questions-major-implications-financial-well/>.
- Nye, P. & Hillyard, C. 2013. 'Personal financial behaviour: the influence of quantitative literacy and material values', *Numeracy*, 6(1): 3.
- OECD, vide Organisation for Economic Cooperation and Development.
- Organisation for Economic Cooperation and Development. 2005. *Improving financial literacy: analysis of issues and policies*. [Online] Available at <http://www.oecd.org/finance/financial-education/improvingfinancialliteracyanalysisofissuesandpolicies.htm>
- Oseifuah, E.K. 2012. Financial literacy among South African undergraduate students. CYFI Regional Meeting for Africa, Abuja, Nigeria, 23–24 October. [Online] Available at [www.childfinanceinternational.org](http://www.childfinanceinternational.org).
- Ozmete, E. & Hira, T. 2011. 'Conceptual analysis of behavioural theories/models: application to financial behaviour', *European Journal of Social Sciences*, 18(3): 386–404.

- Palmer, K. 2015. 'The biggest pitfalls for middle-aged adults', *USNEWS*, 14 January. [Online] Available at <http://money.usnews.com/money/personal-finance/articles/2015/01/14/the-biggest-financial-pitfalls>.
- Ramsamy, D. 2012. *A review of the current state of borrower education for the purposes of affordable housing finance in South Africa*. Cape Town: UCT Graduate School of Business.
- Robb, C.A. & Sharpe, D.L. 2009. 'Effect of personal financial knowledge on college students' credit card behaviour', *Journal of Financial Counselling and Planning*, 20(1): 25–43.
- Robb, C.A. & Woodyard, A.S. 2011. 'Financial knowledge and best practice behavior'. *Journal of Financial Counseling and Planning*, 22(1): 60–70.
- Roberts, B. & Struwig, J. 2011. *Financial literacy in South Africa*. Report for FSB. Pretoria: HSRC.
- Schüssler, M. 2014. 'Financial health of South African households'. *Moneyweb*, 15: 1–2. [Online] Available at <http://www.moneyweb.co.za/moneyweb-safm-market-update/financial-health-of-south-african-households>.
- StatSoft Inc. 2014. STATISTICA (data analysis software system), version 12. [www.statsoft.com](http://www.statsoft.com).
- Tomlinson, M. 1999. 'Ensuring mortgage repayment in South Africa', *Housing Finance International*: 40–43.
- Voya Financial. 2014. *Marital status, money and retirement*: 1–6. [Online] Available at <http://www.limra.com/Secure-Retirement-Institute/News-Center/T>.
- Xiao, J.J. 1996. 'Effects of family income and life cycle stages on financial asset ownership', *Journal of Financial Counselling and Planning* (7):21–30.
- Zia, B. & Cole, S. 2012. South Africa Old Mutual Financial Education Study. *Financial Literacy and Education*. Washington, DC: The World Bank.