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## Impacts of Financial Literacy and Confidence on the Severity of Financial Hardship in Australia

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## Abstract

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## Keywords

Financial literacy, financial hardship, overconfidence, Australia.

## Cover Page Footnote

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# Impacts of Financial Literacy and Confidence on the Severity of Financial Hardship in Australia<sup>1</sup>

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## Abstract

Consumers in Australia and other developed countries are increasingly required to interact with providers of complex financial products and services, and to estimate, mitigate or absorb the risks that flow from their financial decisions. A range of debt-related problems in Australia have been attributed to low levels of financial literacy in the population. However, there has been limited research exploring the relationship between low financial literacy and the problem of financial hardship, where a consumer takes on payment obligations under a contract, but then becomes unable to meet them when they fall due. Drawing on a survey of Australians who recently experienced debt problems, this article examines the impact of financial literacy levels and levels of confidence in managing day-to-day spending on severity of financial hardship. The article also examines the impacts of financial literacy and confidence levels on the strategies employed to get by financially while in debt. The article shows that while there is no straightforward relationship between low financial literacy and severity of financial hardship, lower levels of financial literacy may reduce consumers' ability to avoid some of the more serious consequences of default, particularly if coupled with overconfidence about their ability to manage spending.

*JEL classification:* R20, D14, D10, M40.

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## <sup>1</sup> Acknowledgments

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## Introduction

Financial literacy has become a prominent feature of policy responses to what Berry (2015) describes as the financialisation of contemporary life in Australia and other developed countries. As part of this phenomenon, consumers are increasingly required to interact with providers of complex financial products and services, and to estimate, mitigate or absorb the risks that flow from their financial decisions. The Organisation for Economic Co-operation and Development (OECD) has promoted financial literacy education as a strategy for protecting consumers from the problems that may arise in the course of these interactions (OECD & INFE 2012). Numerous countries including Brazil, India, New Zealand, the UK and the US have since developed national strategies for financial literacy education (ASIC 2013). In 2011, the Australian Securities and Investments Commission (ASIC) — which represents Australia in the OECD’s International Network on Financial Education — released a National Financial Literacy Strategy for Australia (ASIC 2011a; Taylor & Wagland 2011). More recently, there has been a move to amend the language of this National Strategy from ‘financial literacy’ to ‘financial capability’ (ASIC 2017). An economic concept developed by Amartya Sen, ‘financial capability’ shifts the focus beyond individual knowledge and skills to encompass the ‘social context that enables or inhibits individual action’ (Landvogt 2006, p. 2).

Financial literacy is a crucial component of financial capability. While there is no ‘universally accepted’ definition of financial literacy (Huston 2010, p. 306), one widely used definition is ‘the knowledge and understanding of financial concepts, and the skills, motivation and confidence to apply such knowledge and understanding in order to make effective decisions across a range of financial contexts’ (OECD 2012, p. 13). The knowledge required by individual consumers to be financially literate will differ depending on their circumstances, as well as environmental factors specific to the society in which they live. In Australia, consumers are required to choose between an ever-diversifying range of credit products — including home mortgages and credit cards, as well as utility and telephone contracts, which are essentially credit products in that they allow consumers to accrue arrears in the form of unpaid bills. As a result, ASIC (2011a, p. 11) has stated that financial literacy in Australia requires an understanding of saving and budgeting; credit; insurance; investment basics; superannuation and retirement planning; comparing financial products; accessing financial advice; and avoiding conflicts of interest, scams and fraud.

In the media, a range of debt-related problems have been attributed to low levels of financial literacy, including rising rates of mortgage stress (Duke 2017); high levels of credit card debt among young Australians (Cameron 2018); and unmanageable household debt (Guest 2017; Heath 2017). Policymakers have suggested that increasing the financial literacy levels of Australian consumers has potential to reduce the incidence of debt problems (ASIC 2011a; Hall 2008), including the problem of ‘financial hardship’, where a consumer takes on payment obligations under a contract, but then becomes unable to meet them when they fall due (ABA 2015). Studies in the UK and the US have drawn connections between low levels of financial literacy and difficulties paying off debt (Gathergood 2012; Lusardi & Tufano 2015). There has, however, been limited research exploring the relationship between low financial literacy and financial hardship in Australia. Research on the role of behavioural biases such as overconfidence suggests that higher financial literacy levels may not

necessarily translate into better financial decisions (Willis 2008), making it difficult to predict the nature of the relationship between financial literacy and severity of financial hardship.

We sought to investigate this relationship by carrying out a survey of 1,101 Australians who had recently experienced financial hardship. In this article, we examine the impacts of financial literacy levels — together with respondents' levels of confidence in managing day-to-day spending — on the severity of their financial hardship. We measure severity of financial hardship by calculating (a) the number of types of debts respondents had trouble paying; and (b) the number of consequences of default — from harassment by debt collectors to utility disconnection to bankruptcy — they experienced after their debt problems began. We also examine the impacts of financial literacy and confidence levels on the strategies respondents employed to get by financially while in debt. The literature influencing our research is reviewed in the section 'Literature on the Relationship between Financial Literacy and Financial Hardship'. In the section 'Methodology', we introduce the questions developed by Lusardi and Mitchell (2011) that we employed to measure respondents' financial literacy levels, and in the section 'Survey Findings', we outline our results. In the section 'Further Analysis and Conclusions', we show that there is no straightforward relationship between low financial literacy and severity of financial hardship. Lower levels of financial literacy — if they are associated with low social and economic capital more generally — may limit the number of debts that may become a source of difficulty for consumers if they experience events such as illness, unemployment or relationship breakdown. However, lower levels of financial literacy may also reduce consumers' ability to avoid some of the more serious consequences of default, particularly if coupled with overconfidence about their ability to manage spending.

### **Literature on the Relationship between Financial Literacy and Financial Hardship**

The adoption of financial literacy education strategies in Australia and overseas has prompted the emergence of a significant body of research examining the relationship between financial literacy, consumer behaviours and financial outcomes. There is ongoing debate about the extent to which achieving improvements in financial literacy may lead to better decision-making and outcomes such as a reduction in the incidence and severity of financial hardship, and avoidance of serious consequences of default including bankruptcy.

Support for the proposition that improvements in financial literacy will enable consumers to avoid or mitigate financial hardship comes from studies identifying connections between improved financial literacy and certain positive financial behaviours. Such studies found that financially literate consumers were more likely to save for retirement (Agnew, Bateman & Thorp 2013; Lusardi & Mitchell 2011); invest in funds with lower fees (Hastings & Mitchell 2011); and demonstrate an understanding of risk diversification by including stocks in their investment portfolios (Van Rooij, Lusardi & Alessie 2011). Consumers with higher financial literacy levels were also less likely to engage in high-cost borrowing from fringe lenders (Lusardi & De Bassa Scheresberg 2013).

However, others have questioned the extent to which improvements in financial literacy translate into improved financial outcomes for consumers. As Huston (2010) notes, financial literacy levels measure only the 'human capital' that might assist consumers to navigate increasingly complex financial markets. They cannot account for the influence of other factors such as 'impulsiveness, behavioral biases, unusual preferences or external circumstances' on consumer decision-making (Huston 2010, p. 310). The role of biases in

particular has been the subject of a significant body of literature drawing on the fields of cognitive psychology and behavioural economics to show that consumers have imperfect self-control and a tendency towards overconfidence about their future capacity to meet payment obligations (Ali, McRae & Ramsay 2012; ASIC 2011b; Bar-Gill 2004; Capuano & Ramsay 2011; Mitchell & Utkus 2004). Consumers tend to underestimate the likelihood of events largely outside of their control — for example, business failure, illness, relationship breakdown or unemployment — that could impede this capacity or necessitate further borrowing (Bar-Gill 2004). They are also likely to overestimate their own levels of financial competence (Financial Literacy Foundation 2007), potentially leading to worse decision-making, as overconfident consumers are less likely to seek financial advice (De Zwaan et al. 2017). Underconfidence, however, is also a bias that can lead to inertia (ASIC 2011b), and, potentially, avoidant behaviours such as ignoring bills and default notices that may allow debt problems to escalate. As shown by Bar-Gill (2004), providers of credit cards and other financial products are adept at exploiting such biases. Attributing suboptimal financial behaviours such as the accrual of unmanageable debt to financial illiteracy can therefore be a way to blame consumers for their choices and deflect calls for stronger financial services regulation (Willis 2008). It may also be a way to deflect responsibility for systemic causes of financial disadvantage, such as limited access to employment, housing and education (Landvogt 2006), and thereby legitimise the retrenchment of the social safety net for carers, older people, people with disabilities and the unemployed.

While there is no shortage of assertions for and against the impact of financial literacy on financial behaviours, there has been little research exploring the relationship between debt problems and financial literacy in Australia. In the US, Lusardi and Tufano (2015) found that consumers with low levels of ‘debt literacy’ were more likely to engage in high-cost borrowing, and to report difficulties in paying off debt. In the UK, Gathergood (2012) found that while financial illiteracy was associated with non-payment of debt and unmanageable debt burdens, lack of self-control had a stronger role in explaining over-indebtedness. In Australia, a study by Mowle (2017) suggested that bankruptcy could not be attributed to any single factor, including low financial literacy, emphasising the role of events outside consumers’ control and high-pressure tactics employed by financial service providers. Earlier research also suggested that while a lack of financial skills and knowledge caused financial difficulty (and, in some cases, debt default) for a minority of consumers, the predominant causes were events outside consumers’ control and ‘unhealthy’ ways of thinking about finances, including overconfidence (ANZ 2005).

## **Methodology**

The literature detailed above makes it difficult to predict the nature of the relationship between financial literacy and financial hardship in Australia. This relationship is complicated by the influence of biases such as overconfidence, suggesting that an inquiry into the relationship between financial literacy levels and severity of financial hardship should also examine consumers’ levels of confidence in managing their finances. We have attempted to conduct such an inquiry by analysing the results of our survey of Australians who had recently experienced financial hardship. The survey was delivered through the research company Pureprofile, which maintains a database of panelists around Australia who complete online surveys in return for a small cash payment.

Our study received ethics approval in April 2015. In June 2015, Pureprofile advertised a link to the survey to approximately 36,000 members of its panel, receiving 1,101 completed

surveys. The survey comprised 52 mostly quantitative multiple-choice questions and took approximately 20 minutes to complete. The survey opened with a screener question intended to confirm that all respondents had, within the previous two years, been unable to pay a debt when it fell due. Respondents who answered ‘no’ were not permitted to participate. This was followed by a question asking respondents if they agreed to have their comments quoted in our published research, to which 85.0% of respondents gave their consent.

The survey included a series of demographic questions and asked respondents to indicate when they first started having trouble paying debt, and to identify the types and amounts of debt they had trouble paying. Respondents were asked whether they had experienced consequences of default including harassment or threatening behavior by a debt collector; legal action to enforce a debt against them in a court or tribunal; utility disconnection; and bankruptcy. Respondents were asked whether they had ever studied business, commerce or economics, and whether they ‘always’, ‘often’, ‘sometimes’, ‘rarely’ or ‘never’ felt confident managing their day-to-day spending. Respondents were also asked about the coping strategies they employed to get by financially.

The survey measured respondents’ financial literacy levels by employing the ‘Big Three’ financial literacy questions developed by Lusardi and Mitchell (2009). These questions have been used in multiple studies (for example, see Agnew, Bateman & Thorp 2013). The first of these questions evaluates the ability to perform a simple calculation related to compound interest rates. The second question tests understanding of inflation. The third question tests knowledge about risk diversification. These questions are as follows (with asterisks indicating the correct responses):

- (1) Suppose you had \$100 in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money to grow?

More than \$102 \*  
Exactly \$102  
Less than \$102  
Do not know  
Refused to answer

- (2) Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, how much would you be able to buy with the money in this account?

More than today  
Exactly the same  
Less than today \*  
Do not know  
Refused to answer

- (3) Please tell me whether this statement is true or false. ‘Buying a single company’s stock usually provides a safer return than a stock mutual fund’.

True  
False \*

Do not know  
Refused to answer

Following the approach taken by Agnew, Bateman and Thorp (2013), we modified the risk diversification question to ensure the terminology was relevant to the Australian context, asking respondents whether the following was true or false: ‘Buying shares in a single company usually provides a safer return than buying units in a managed share fund’.

We employed a combination of statistical methodologies to analyse the survey results. First, we utilised inferential statistical procedures to test for differences between sub-groups within the sample and determine whether these were statistically significant. The test of differences between sub-groups was the *chi-square* test of independence, which compared percentages of respondents who ticked a box to indicate agreement to a proposition, or to identify as correct a personal characteristic. Secondly, to test the impact of a range of demographic factors on respondents’ financial literacy and confidence levels, we employed multiple regression analysis. Thirdly, we used multi-dimensional analysis (or more specifically, principal components analysis utilising varimax rotation) to simplify the data by creating scales for further analysis. Data reduction factors were then formed from sets of highly correlated variables to produce scales representing the coping strategies employed by respondents to get by financially. The Financial Confidence Score — a much simpler measure — was calculated by assigning a value from 1 for ‘never’ to 5 for ‘always’ to the answers selected by respondents in response to the question ‘how often do you feel confident in managing your spending?’. Finally, while the composition of scales reflected the need for grammatical intelligibility and logical coherence between the items, consistency was achieved by ensuring high inter-correlation of the items using the *Cronbach’s alpha* measure.

## Survey Findings

### Demographics of our sample

A total of 63.6% of respondents were female, and 36.4% were male. The average age of respondents was 50.6 years. Sixty four per cent lived in an urban area of Australia. Three per cent identified as Aboriginal or Torres Strait Islander. Only 20.5% were born overseas. Of this group, 36.7% were born in the UK and 11.5% were born in New Zealand. Only 16.8% of this group spoke a language other than English at home. Respondents born overseas had, on average, been in Australia for 34.2 years.

The largest proportions of respondents were employed on a permanent full-time basis (25.6%); retired (18.4%); employed on a casual part-time basis (12.9%); employed on a permanent part-time basis (9.4%); unemployed (8.8%); self-employed or working in a family business (6.4%); and caring for a child or another person (7.9%).<sup>6</sup> Of those respondents who had an income, the median gross income was \$26,000 per annum, or \$31,200 and \$26,000 per annum for male and female respondents respectively. The most common income sources were wages paid by an employer (50.5%), and a social security income paid by Centrelink (43.4%).<sup>7</sup> Centrelink payments were the only source of income for 31.9% of respondents.

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<sup>6</sup> When asked about their employment situation, respondents were invited to tick any or all of a number of response options that applied to them, and hence the percentages for this question may add up to more than 100 percent.

<sup>7</sup> When asked about their income source, respondents were invited to tick any or all of a number of response options that applied to them, and hence the percentages for this question may add up to more than 100 percent.

Forty eight per cent of respondents lived in a home that they owned; 34.0% per cent were renting privately; and 10.7% were renting in public or community housing.

### **Duration, type and severity of financial hardship in our sample**

The majority of our sample indicated that their debt problems had begun ‘1–2 years ago’ (22.8%), ‘2–5 years ago’ (22.6%), or ‘more than 5 years ago’ (27.4%). Only 15.5% of respondents started having trouble paying debt ‘6 months–1 year ago’, and 11.6% said ‘less than 6 months ago’. Over half (56.3%) estimated the amount of debt they had trouble paying as being under \$5,000, while only 11.1% estimated this amount as being over \$20,000. The most common types of debt that respondents had trouble paying in the previous two years were electricity or gas bills (55.4%); credit card bills (45.1%); phone or internet bills (34.8%); water bills (26.7%); and council rates (22.9%). Less common types of debt included medical or dental bills (18.0%); insurance premiums (16.4%); mortgage repayments (15.4%); rent (14.8%); personal loans (9.3%); fines (8.2%); childcare or school fees (8.1%); car loans (6.4%); and payday loans (2.0%).

By adding up the number of types of debt that each respondent had trouble paying, we developed our first measure of severity of financial hardship. The percentages of respondents who selected between one and eight or more debt types are shown in Table 1. Thirty one per cent of respondents had trouble paying only one type of debt. However, 19.6% had trouble paying five or more debt types, suggesting that their financial hardship was more severe.

**Table 1: Number of debt types respondents had trouble paying**

<b>Number of debt types</b>	<b>% of all respondents (n = 1,101)</b>
One	30.9
Two	20.5
Three	17.4
Four	11.6
Five	7.4
Six	5.0
Seven	3.7
Eight or more	3.5

Our second measure of severity of financial hardship evaluated the extent to which respondents’ debt problems had escalated to the point of having some of the more serious consequences of default. Only small proportions of respondents had experienced disconnection of their electricity or gas service (6.1%), water supply restriction (4.4%) or disconnection of their phone or internet service (13.5%) due to inability to pay. Nine per cent had experienced legal action to enforce a debt against them in a court or tribunal, and 4.0% had been bankrupt. Meanwhile, 19.7% had experienced harassment or threatening behaviour by a debt collector. The percentages of respondents who experienced between zero and four

or more such consequences are shown in Table 2. While 70.1% of respondents did not experience any such consequences, 15.2% had experienced at least one, and 14.7% had experienced two or more, suggesting that their financial hardship was more severe.

**Table 2: Number of consequences of default experienced by respondents**

<b>Number of consequences</b>	<b>% of all respondents (n = 1,101)</b>
Zero	70.1
One	15.2
Two	7.7
Three	3.9
Four or more	3.1

### **Financial literacy levels in our sample**

Respondents’ average score for all three of our financial literacy questions — referred to as their ‘Financial Literacy Score’ — was 62.5%. A comparison of average Financial Literacy Scores for a selection of demographic sub-groups is shown in Table 3.

**Table 3: Comparing average Financial Literacy Scores for different demographic groups**

<b>Demographic group</b>	<b>Average Financial Literacy Score (%)</b>
Male	70.8
**	
Female	57.9
Aged under 45	55.9
**	
Aged 55 and over	69.5
University degree holders	68.7
**	
Non-degree holders	60.2
Home owners	65.2
**	
Renters	59.6
Born in Australia	60.7
**	

Born overseas	69.6
Aboriginal or Torres Strait Islander	36.4
**	
Not Aboriginal or Torres Strait Islander	63.3
<b>All respondents</b>	<b>62.5</b>

\*\* These differences are statistically significant at the 0.01 level.

Just 30.9% of respondents answered all three financial literacy questions correctly. A concerning 10.8% were not able to answer any of the questions correctly. Most respondents (79.0%) were able to answer the first of the three questions correctly, showing that their numeracy skills allowed them to perform a simple calculation relating to compound interest rates. Only 66.1% could answer the second question correctly, suggesting that a substantial minority of our sample did not understand the concept of inflation. Only 42.4% answered the third question correctly.

### Financial confidence levels in our sample

Most respondents felt confident about their ability to manage money day-to-day. When asked to assess the extent to which they felt confident in managing their spending, 26.9% of respondents said ‘always’; 32.6% said ‘often’; and 33.0% said ‘sometimes’. Only 5.3% said ‘rarely’, 1.6% said ‘never’, and 0.6% said ‘do not know’. By assigning a score to these responses — from 1 for ‘never’ to 5 for ‘always’ — we created a measure referred to as the ‘Financial Confidence Score’. The average Financial Confidence Score for our sample was 3.78. A comparison of Financial Confidence Scores for several demographic sub-groups is shown in Table 4.

**Table 4: Comparing average Financial Confidence Scores for different demographic groups**

Demographic group	Average Financial Confidence Score
Aged under 45	3.62
**	
Aged 55 and over	4.00
Home owners	3.89
**	
Renters	3.70
<b>All respondents</b>	<b>3.78</b>

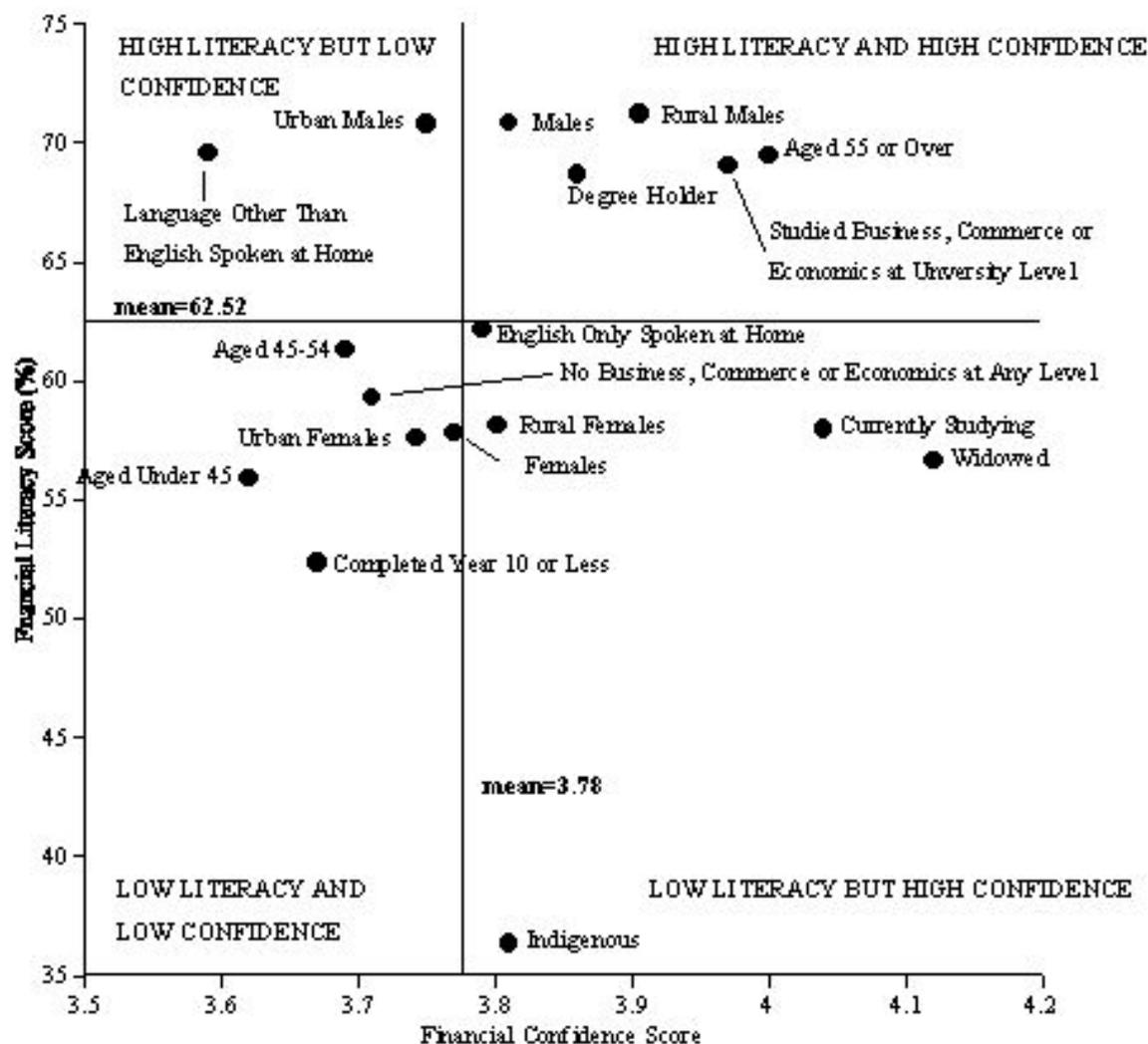
\*\* These differences are statistically significant at the 0.01 level.

### Relationship between financial literacy and confidence

For respondents as a whole, there was a correlation ( $r=0.2026$ ; statistically significant at the 0.01 level) between levels of financial literacy and confidence. This can be seen in Figure 1,

where we compare the relationship between Financial Literacy Scores and Financial Confidence Scores for a selection of demographic groups.

Figure 1: Relationship Between Financial Literacy and Financial Confidence



For 60.4% of our sample — represented within the upper right and lower left quadrants in Figure 1 — having a higher Financial Literacy Score was associated with having a higher Financial Confidence Score. Respondents aged 55 and over scored above average in terms of both financial literacy (69.5%) and confidence (4.00). By contrast, respondents aged under 45 scored below average in terms of both financial literacy (55.9%) and confidence (3.62). Respondents who had a formal education level of Year 10 or less also scored below average in terms of both financial literacy (52.4%) and confidence (3.67).

However, 23.8% of our sample — represented within the upper left quadrant in Figure 1 — had a below-average Financial Confidence Score that was not in proportion to their fairly high Financial Literacy Score. The primary group in this category were respondents from households where languages other than English were spoken, who scored well above average in terms of financial literacy (69.6%), but below average in terms of confidence (3.59). Male respondents living in urban areas also fell into this category, scoring

above average in terms of financial literacy (57.6%), but slightly below average in terms of confidence (3.74).

More concerningly, 15.8% of respondents — represented within the lower right quadrant in Figure 1 — had an above-average Financial Confidence Score that was not matched to their fairly low Financial Literacy Score. This category of respondents may be described as *financially overconfident*. For example, respondents who identified as Aboriginal or Torres Strait Islander scored slightly above average in terms of confidence (3.81), but below average in terms of financial literacy (36.4%) (although, as only 3.0% of our sample fell into this category, these results should be treated with caution). Respondents who were currently studying also scored slightly below average in terms of financial literacy (58.0%), but well above average in terms of confidence (4.04). Widowed respondents also scored slightly below average in terms of financial literacy (56.7%), but well above average in terms of confidence (4.12). While male and female respondents had similar confidence levels (3.81 and 3.77 respectively), male respondents had much higher financial literacy levels (70.8%, compared to 57.9% for female respondents). Female respondents living in rural areas in particular fell within the overconfident category; their average Financial Literacy Score (58.1%), however, was comparable with that of urban females (57.6%).

### **Impact of financial literacy and confidence on severity of financial hardship**

#### *Severity of financial hardship as measured by number of debt types*

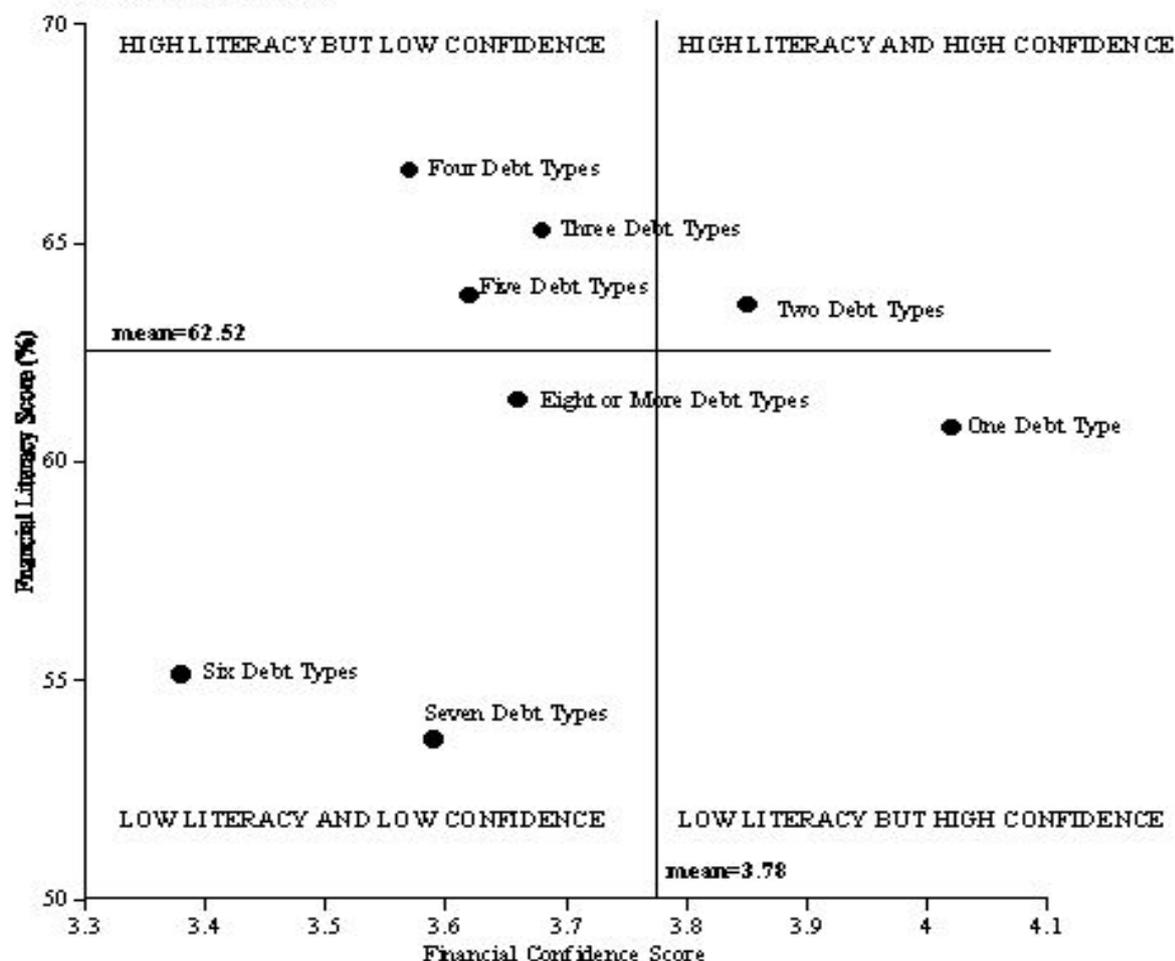
We used multiple regression analysis to determine whether respondents' Financial Literacy Scores or Financial Confidence Scores had an impact on severity of financial hardship as measured by the number of debt types respondents had trouble paying. In doing so, we controlled for the impact of other variables. The results for those variables that had a statistically significant impact on number of debt types — that is, those with a p-value of 0.05 or below in the column marked 'Sig' — are shown in the first five rows in Table 5. We have arranged these variables from greatest to lowest in terms of the significance of their impact on number of debt types. The relative impact of each variable is measured by the absolute value of the standardized beta value in the column marked 'Beta'. The variable that had the greatest impact on number of debt types was respondents' Financial Confidence Score. Having a lower Financial Confidence Score was associated with a higher number of debt types (as shown by the negative coefficient in the column marked 'Coef'). Being female was associated with a higher number of debt types, as was having dependent children living in the same household. Meanwhile, being older and being born overseas was associated with fewer debt types. As for the variables in the final three rows in Table 5 — including respondents' Financial Literacy Score — their impact on number of debt types was not statistically significant at the requisite level of 0.05 or below. However, the positive coefficient in the column marked 'Coef' may be evidence to suggest an association between higher financial literacy levels and a higher number of debt types.

**Table 5: Regression results for impact on number of debt types respondents had trouble paying**

<b>Variable</b>	<b>Coef</b>	<b>SEB</b>	<b>Beta</b>	<b>T-stat</b>	<b>Sig</b>
Financial Confidence Score	-0.3056	0.0648	-0.1461	-4.7170	0.0000
Female	0.5506	0.1305	0.1323	4.2190	0.0000
Age	-0.0184	0.0056	-0.1141	-3.2710	0.0011
Dependent children	0.4239	0.1401	0.0917	3.0260	0.0025
Born overseas	-0.3954	0.1598	-0.0804	-2.4750	0.0135
Financial Literacy Score	0.0038	0.0020	0.0616	1.9100	0.0563
Education level of Year 10 or less	-0.2985	0.1682	-0.0566	-1.7750	0.0761
Did not study business, commerce or economics	-0.2198	0.1312	-0.0521	-1.6760	0.0941

A breakdown of the relationship between financial literacy, confidence and severity of financial hardship is shown in Figure 2, which shows separate trends for (a) respondents who had trouble paying between one and four types of debt; and (b) respondents who had trouble paying five or more types of debt, whose financial hardship was, according to this measure, more severe. For respondents in category (a), Financial Confidence Scores declined as the number of debt types went up from one to four — but their Financial Literacy Scores increased. For respondents in category (b), Financial Literacy Scores decreased as the number of debt types went up from five to seven — but then went up significantly for respondents who had trouble paying eight or more types of debt. As the number of debt types rose from six to eight or more, Financial Confidence Scores also increased.

Figure 2: Relationship Between Number of Debt Types, Financial Literacy and Financial Confidence



*Severity of financial hardship as measured by number of consequences of default*

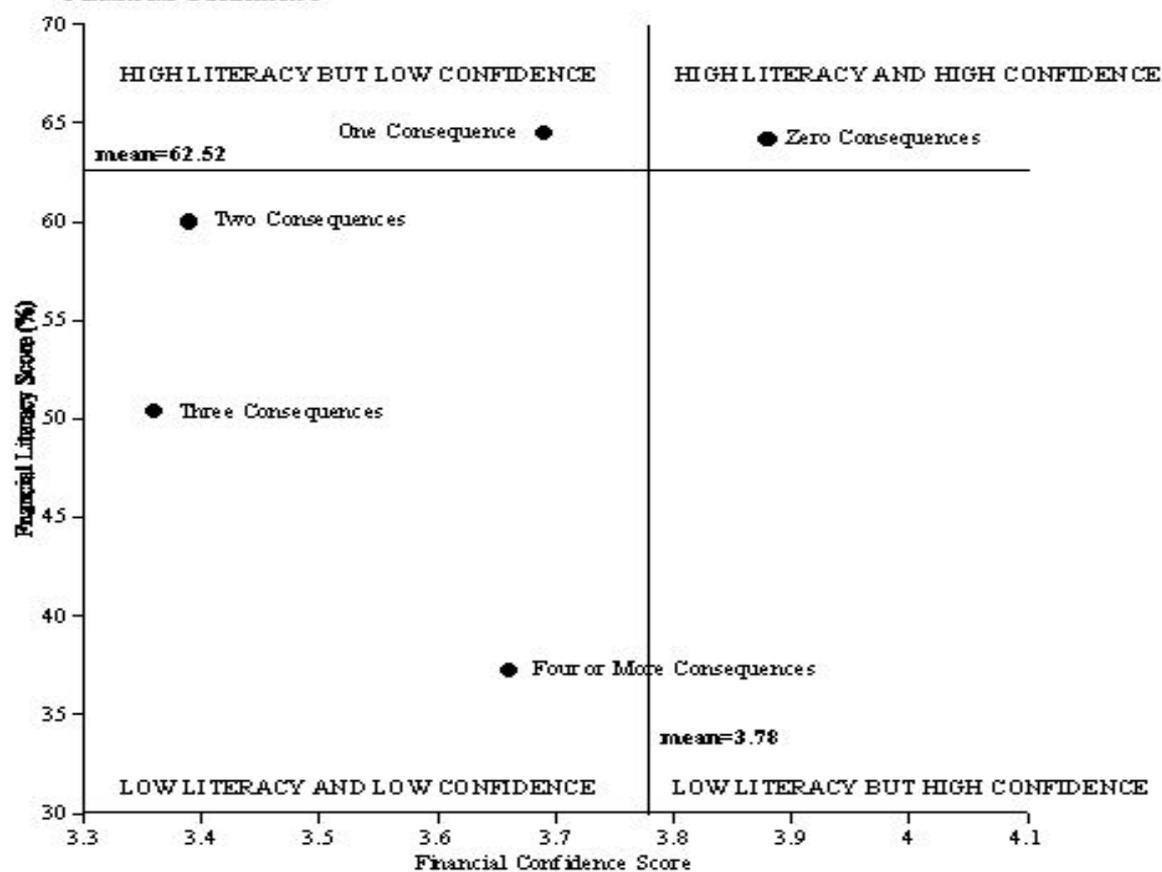
We also employed multiple regression analysis to determine whether respondents' Financial Literacy Scores or Financial Confidence Scores had an impact on severity of financial hardship as measured by the number of consequences of default they experienced. Again, we controlled for the impact of other variables, with the results of those variables that had a significant impact on number of consequences — that is, those with a p-value of 0.05 or below in the column marked 'Sig' — shown in Table 6. As with Table 5, we have arranged these variables in order from greatest to lowest in terms of the significance of their impact. The relative impact of each variable is measured by the absolute value of the standardised beta value in the column marked 'Beta'. The variable with the most significant impact on number of consequences was identifying as Aboriginal or Torres Strait Islander, which was associated with a higher number of consequences, as was providing financial support to someone other than a partner or child under 18. Meanwhile, home ownership was associated with fewer consequences. The number of consequences experienced by respondents also went down as age, Financial Literacy Scores and Financial Confidence Scores went up. Having studied business, commerce or economics was associated with a higher number of consequences, while being female was associated with fewer consequences.

**Table 6: Regression results for impact on number of consequences of default experienced by respondents**

<b>Variable</b>	<b>Coef</b>	<b>SEB</b>	<b>Beta</b>	<b>T-stat</b>	<b>Sig</b>
Aboriginal or Torres Strait Islander	1.2927	0.1861	0.2039	6.9450	0.0000
Financially supporting someone	0.7636	0.1237	0.1822	6.1750	0.0000
Home ownership	-0.2575	0.0645	-0.1205	-3.9900	0.0001
Age	-0.0090	0.0029	-0.1045	-3.1550	0.0017
Financial Literacy Score	-0.0028	0.0010	-0.0839	-2.7410	0.0062
Financial Confidence Score	-0.0932	0.0328	-0.0836	-2.8400	0.0046
Studied business, commerce or economics	0.1863	0.0665	0.0828	2.8020	0.0052
Female	-0.1474	0.0662	-0.0663	-2.2280	0.0261

A breakdown of the relationship between financial literacy, confidence and severity of financial hardship is also shown in Figure 3. Financial Literacy Scores dropped as the number of consequences of default went up from one to four or more. Financial Confidence Scores steeply declined with the experience of one to two consequences, and slightly when the number of consequences went up to three. However, for respondents who had experienced four or more consequences, confidence levels rose. Together with the findings shown in Figure 2, this suggests that respondents experiencing the most severe financial hardship — involving the largest number of debt types and consequences — were overconfident about their ability to manage spending.

Figure 3: Relationship Between Number of Consequences, Financial Literacy and Financial Confidence



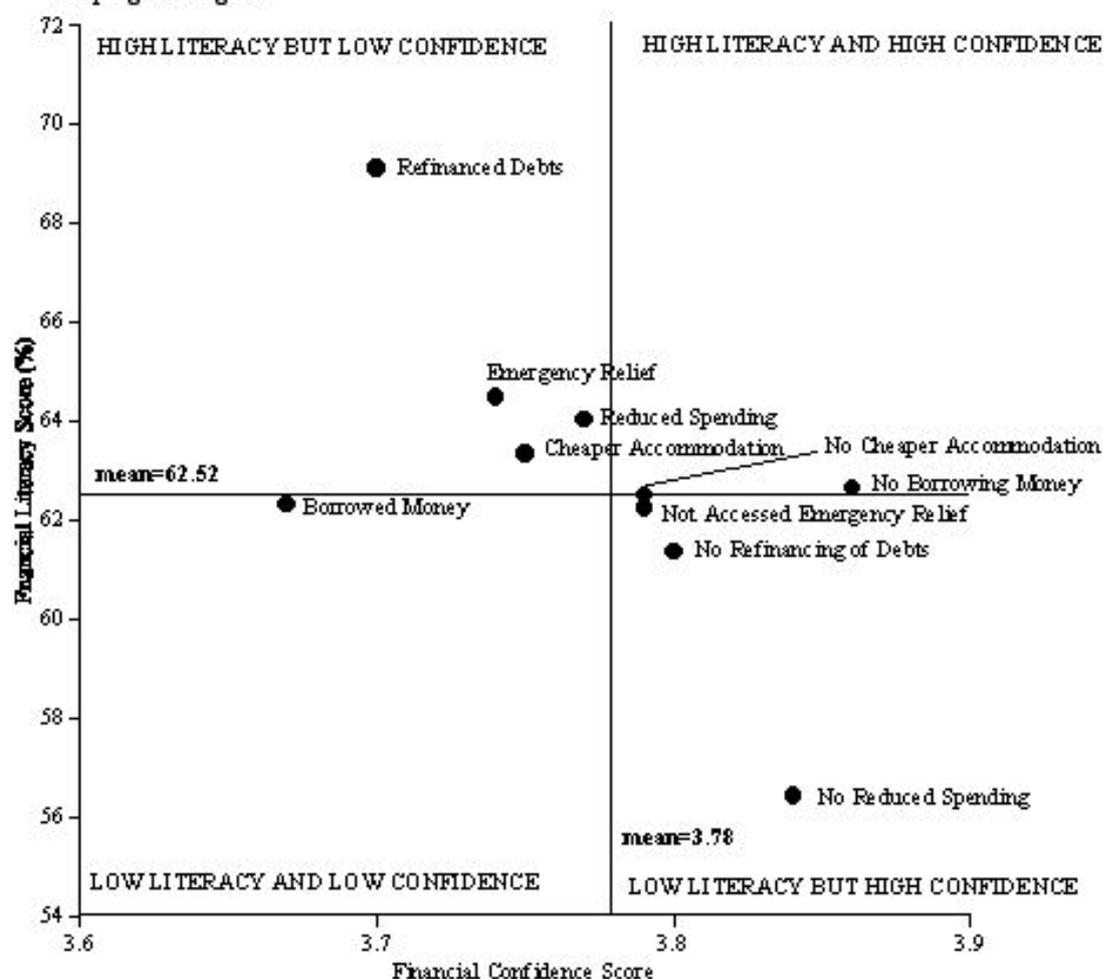
### Impact of financial literacy and confidence on strategies used to get by financially

After their debt problems began, respondents employed a range of coping strategies to get by financially. We have grouped these strategies into five categories.<sup>8</sup> The first category, 'reduced spending', comprised measures such as reducing spending on food (57.8%); respondents' own recreation activities (56.8%); energy or water use (55.5%); phone or internet use (43.7%); medical care (32.5%); driving or taking public transport (32.3%); or their children's extracurricular activities (9.0%). The second category, 'borrowed money', comprised measures such as borrowing from family or friends (33.6%); pawning personal belongings (15.4%); and borrowing from a payday lender (6.3%). The third category, 'refinanced debts', comprised measures such as consolidating debts (10.2%); and refinancing a home loan (6.5%). The fourth category, 'emergency relief', comprised measures such as seeking emergency relief (10.4%); and obtaining energy vouchers from a charity organisation (5.7%). The fifth category, 'cheaper accommodation', comprised measures such as moving into cheaper ongoing accommodation (such as a cheaper rental property) (8.6%); temporary accommodation (4.5%); and selling a home or another significant asset (7.3%).

<sup>8</sup> The 26 items did not load cleanly into clear factors, but were arranged by reliability analysis and correlations. The 'reduced spending' items returned a standardised *Cronbach's alpha* of 0.7912; the three 'borrowed money' items returned a standardised *Cronbach's alpha* of 0.3946; the two 'refinanced debts' items returned a correlation *r* figure of 0.1541 (significant at the 0.001 level); the two 'emergency relief' items returned a correlation *r* figure of 0.4273 (significant at the 0.001 level); and the three 'cheaper accommodation' items returned a standardised *Cronbach's alpha* of 0.3297.

The relationship between financial literacy, confidence and selecting — or not selecting — any of these categories of coping strategies is shown in Figure 4. Respondents who took measures in the ‘refinanced debts’ category had the highest average financial literacy levels, while those who did not take any measures in the ‘reduced spending’ category had the lowest financial literacy levels. Respondents who took measures in the ‘refinanced debts’ and ‘reduced spending’ categories had significantly higher financial literacy levels than those who did not take either of these measures. There was little difference in financial literacy levels between respondents who took measures in the ‘borrowed money’, ‘cheaper accommodation’ and ‘emergency relief’ categories and those who did not. Not utilising each one of the five categories of coping strategies was associated with financial overconfidence. Respondents who did utilise each one of these categories had below-average confidence levels, with those who ‘borrowed money’ scoring lowest in terms of confidence.

Figure 4: Relationship Between Financial Literacy, Financial Confidence and Coping Strategies



### Further Analysis and Conclusions

In this article, we analyse the results of a survey of Australians who had recently experienced financial hardship. Our sample included home owners who had completed a university degree, and had incomes above the median income for Australians as a whole. However, the median personal income for our sample (\$26,000 per annum) was lower than that for the Australian population (\$34,424 per annum in 2016) (ABS 2017). Women, people living in

rural or regional areas and renters were over-represented in our sample (see ABS 2016; ABS 2017). People born overseas were under-represented, comprising only 20.5% of respondents, compared to 33.3% of the Australian population (ABS 2017).

A comparison with earlier studies where the Big Three financial literacy questions were asked suggests that Australians who recently experienced financial hardship have only slightly lower financial literacy levels than Australian adults generally, as surveyed by Agnew, Bateman and Thorp (2013). Compared to American adults surveyed by Lusardi and Mitchell (2009), our respondents actually performed well in terms of their understanding of basic numeracy and compound interest. Seventy nine per cent of respondents answered the compound interest question correctly, compared with 83.11% of Australian adults and 69.0% of American adults. However, while the proportion of our sample that answered the inflation question correctly (66.1%) was again only slightly smaller compared to 69.34% of Australian adults, it was significantly smaller compared to 87.1% of American adults. As for the risk diversification question, just 42.4% of our respondents answered it correctly — compared with 54.69% of Australian adults and 74.9% of American adults.

A comparison between different demographic sub-groups within our sample suggests an association between higher financial literacy levels and a greater degree of economic and social capital. Respondents who were male, aged 55 and over, university degree holders, and home owners had higher financial literacy levels than respondents who were female, aged under 45, not degree holders, and renters. These findings are consistent with Australian and overseas surveys, which suggest that men, older people, and people with a university degree tend to score higher on the Big Three financial literacy questions by comparison to younger people, women and people with a high school education or a diploma from a vocational tertiary education institution (Agnew, Bateman & Thorp 2013; Lusardi & Mitchell 2011; Lusardi & Mitchell 2014; Wilkins & Lass 2018). The most recent ANZ survey of adult financial literacy in Australia (2015), which employed a far broader range of financial literacy measures, also found lower financial literacy levels among young people, people with an education level of Year 12 or less, and people with lower levels of income and assets. The relationship between financial literacy and gender was more complex. Women scored lower than men on financial knowledge, numeracy and choosing financial products, yet higher on keeping track of finances, and lower on attitudes such as impulsivity, which were associated with suboptimal financial behaviours including not monitoring expenses and using payday loans (ANZ 2015).

There was no association between low levels of financial literacy in our sample and greater severity of financial hardship as measured by the number of types of debt respondents had trouble paying. Rather, for respondents who had trouble paying between one and four types of debt, higher financial literacy levels were actually associated with higher numbers of debt types. Most surprisingly, respondents' financial literacy levels rose as the number of debt types went up between seven and eight or more. These findings should be interpreted with caution; as shown in Table 5, the impact of financial literacy levels on number of debt types was not statistically significant. One possible explanation for these trends is that the most financially literate individuals — who are more likely to belong to groups with higher levels of social and economic capital — may have access to a greater range of financial products and services. For example, Tennant, Wright and Jackson (2009) found that consumers deemed to have inadequate financial literacy tended to have lower levels of debt, while those with higher financial literacy levels were 'better equipped to cope with moderate amounts of debt' (p. 15). Yet consumers who are generally able to cope with a broader range

of debt obligations may also find themselves unable to maintain repayments when faced with unforeseen expenses or a disruption to their income as a result of events outside their control, such as illness, unemployment or relationship breakdown.

There did appear to be a relationship between low financial literacy levels and severity of financial hardship as measured by the number of consequences of default experienced by respondents. Respondents who had experienced one consequence had similar financial literacy levels to those who had experienced zero, even though the debt problems of the former had clearly escalated beyond negotiating over payment with a creditor. Yet as the number of consequences went up from one to four or more, financial literacy levels fell significantly. Again, lower levels of economic and social capital may have made it more difficult for respondents with lower levels of financial literacy to seek financial or legal advice, exercise their consumer rights or take other measures to avoid consequences such as utility disconnection or legal action against them in a court or tribunal. As shown in Figure 4, the group who scored by far the lowest in terms of financial literacy comprised respondents who did not take any measures to reduce their spending — perhaps because their income was too low to allow them to cut down their expenditure any further.

Respondents' levels of financial confidence were another major influence on the severity of their financial hardship — in some cases, more so than financial literacy levels. Surprisingly — given their recent experience of falling behind with debt — confidence levels among our respondents were only slightly lower than those of Australian adults generally. Most respondents (59.5%) 'always' or 'often' felt confident in managing their day-to-day spending. Similarly, 65.0% of participants in a survey conducted by ANZ (2018) were confident in their ability to manage their money day-to-day. Generally, higher confidence levels within our sample were correlated with higher financial literacy levels and vice versa. However, 15.8% of our sample had above-average confidence levels that were not matched to their below-average financial literacy levels. This suggests a connection between overconfidence and risk of financial hardship. There also appears to be a connection between overconfidence and severity of debt problems, as shown by the fact that respondents' confidence levels actually increased as the number of types of debt they had trouble paying went up from six to eight or more; and as the number of consequences of default they experienced went up from three to four or more (at which point their financial literacy levels fell significantly). Overconfidence was also associated with not employing any coping strategies in the 'reduced spending', 'refinanced debts' and 'emergency relief' categories.

Further research is necessary to examine the relationship between the incidence and severity of financial hardship and a broader range of measures of financial literacy. For example, it would be beneficial to know more about the relationship between debt problems of particular type and magnitude and inadequate ability in areas covered by the most recent financial literacy survey by ANZ (2015), such as planning ahead and choosing financial products, or behavioural biases such as lack of self-control. Further research on the relationship between debt problems and levels of confidence in areas beyond the basic management of day-to-day spending could also shed light on the significance of the fact that in our sample, overconfident respondents experienced the most severe financial hardship, and yet forewent strategies that might have enabled them to mitigate their debt problems. However, our findings do suggest that there is no straightforward relationship between low financial literacy and severity of financial hardship. Lower levels of financial literacy — if they are associated with low social and economic capital more generally — may actually limit the number of debts that may become a source of difficulty for consumers if they

experience events such as illness, unemployment or relationship breakdown. However, lower levels of financial literacy may also reduce consumers' ability to avoid some of the more serious consequences of default, particularly if coupled with overconfidence about their ability to manage spending.

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