

Financial capability research in Australia

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March 2020

To cite this report

Russell, R., Kutin, J. & Marriner, T. (2020) Financial Capability Research in Australia. RMIT University.

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<https://www.rmit.edu.au/about/schools-colleges/economics-finance-and-marketing>

Table of Contents

Executive summary.....	4
Key findings.....	4
Introduction.....	7
Context.....	7
Aim and Scope.....	9
About this report.....	9
Australian research landscape.....	10
Sources of evidence.....	10
Approach to the review.....	11
Evidence and findings.....	14
Topic 1: Financial wellbeing (FWB).....	14
Topic 2: Financial vulnerability and resilience.....	18
Topic 3: Financial capabilities.....	21
Topic 4: Financial decision-making.....	24
Topic 5: Retirement and superannuation.....	27
Topic 6: Financial education.....	32
Topic 7: Specific cohorts.....	37
Women.....	37
Older people.....	39
Younger people.....	40
CALD communities.....	42
Indigenous people and communities.....	44
People with disability & autistic individuals.....	46
Implications and conclusions.....	48
References.....	50
Appendices – Australian publications.....	58
Table references.....	80

Executive summary

The Australian Securities and Investments Commission (ASIC) requested that RMIT University provide them with a snapshot of the Australian research landscape relating to financial wellbeing and financial capabilities. This report reveals the topics where the research has concentrated, the knowledge gaps, challenges and where the research opportunities lie.

This report includes research published between 2015 and 2019. We found that papers were concentrated around seven topics: financial wellbeing, financial vulnerability and resilience, financial capabilities, financial decision-making, retirement and superannuation, financial education, and financial wellbeing in vulnerable population groups (women, older people, younger people, CALD communities, Indigenous Australians, and people with disability).

The strengths of the Australian research are:

- it is multi-disciplinary reflecting the multi-faceted views of money in our society
- there are several strong collaborative research teams
- there is a significant body of work on superannuation and retirement related topics
- national databases have been accessed to facilitate a large volume of research output relating to superannuation, retirement and financial literacy.

Key findings

The following are key findings that also include common themes on research gaps and opportunities in the Australian research landscape.

1. Measurement & methodologies

There is a lack of consistency in the use of terminology across the research areas related to financial wellbeing and financial capabilities. Financial literacy, financial capabilities, financial inclusion, financial resilience and financial wellbeing are all related but are distinct concepts that are not interchangeable. These terms do not supersede each other. Comparing findings across the research is challenging when each study uses different definitions and indicators.

Australian research has discovered a range of important correlations between factors associated with financial wellbeing, however the causes or the pathways that contribute to these associations are not well understood. The use of diaries or longitudinal methodologies to supplement cross-sectional analyses would provide a rich understanding of behaviours and decisions that lead to the outcomes measured using large datasets.

2. Improving resilience

Australians are better at managing money day-to-day than being prepared for unexpected expenses or retirement. Many Australians do not have enough savings to ensure they are financially resilient. There is significant under-insurance among low-income groups and insurance literacy is lacking generally. Further research into measuring or diagnosing

vulnerability before individuals and households reach financial crisis stage would be valuable.

There is growing research opportunity exploring the impact of insecure work and income volatility on financial vulnerability as work patterns change across Australia.

3. Focusing on subjective, psychological factors

There is evidence that subjective factors such as confidence, self-belief and positive attitudes are associated with behaviours conducive to financial wellbeing however, there is a scarcity of research focusing specifically on these factors. Changing behaviour also requires understanding people's values and motivation. We have an opportunity to explore the relationship between values and money, and how motivation can be best harnessed to encourage behaviour change. Having a better understanding and evidence of the importance of subjective factors can inform design of financial education initiatives.

4. Role of external factors in financial capabilities

Although more difficult to change, we know that a range of external factors have an impact on financial capability. Further research to understand the role of external factors such as social and cultural norms in developing financial capabilities should be prioritised. For example, changing norms within peer groups can help to change behaviours.

5. Encouraging engagement with retirement planning

There has been a concerted effort in understanding how to engage Australians to be more active in their retirement planning. Research has identified a complex relationship between consumer trust, interest and engagement levels with retirement funds. Understanding and identifying exactly what effective 'engagement' looks like would help to better understand motivations and other factors that sit behind apparent 'apathy' in retirement planning.

6. Improving effectiveness of financial education

Considerable research effort has resulted in recommendations for improving the content, delivery, and measurement of the effectiveness of financial education. Programs that are contextualised and incorporate cultural and individual needs into content and delivery are recommended. Financial education needs to be considered as more than just a program, or curricula at school: it is a lifelong journey that includes school, university, work, just-in-time, and tailored individual support. Measuring the effects of financial education will be more reliable when measurement tools better reflect individual goals and expectations of programs are realigned to meet the needs of individuals. There is also a gap in financial education initiatives designed for couples and families, people with disabilities.

7. Improving financial outcomes for specific cohorts

All specific cohorts that are prioritised in the National Financial Capability Research Roadmap require more research to understand the financial vulnerabilities experienced by each group. However, there is a particularly large gap in research that addresses the financial wellbeing and capabilities of people with disabilities. For example, there is

significant opportunity for research into the relationship between financial capabilities, financial situations and the National Disability Insurance Scheme (NDIS). Research into the effect of pain on financial decision-making, cognitive disability and neurodiversity is also limited. There is a lack of general knowledge about the 'real' cost of ill-health and varying strategies people employ to cope with these costs.

Introduction

The Australian Securities and Investments Commission (ASIC) requested that RMIT provide them with a snapshot of the Australian research landscape on topics relating to financial wellbeing and financial capabilities.

ASIC has developed and is implementing the National Financial Capability Strategy (the Strategy) (Australian Securities and Investments Commission, 2018). The aim of the Strategy is '*for all Australians to be in control of their financial lives*'. To achieve this aim, ASIC is specifically focusing on how to best facilitate the development of the population's financial capabilities in a way that will have the greatest effect on promoting financial wellbeing.

*The more we work together and grow the network of resources to support people to better manage money day-to-day, make informed money decisions, and plan for the future, the closer we come to realising our vision, which is for **all Australians to be in control of their financial lives**.*¹

This report will provide a scan or audit of the Australian research over the last 5 years to identify what we know and reveal where there are knowledge gaps that will help determine where future research efforts should be focused.

Context

Australia is unique – over the short- to medium-term past, the economy has been strong and gross domestic product, income and wealth have grown. However, wealth is inequitably distributed, and many Australians live in poverty (Muir, Hamilton, Noone, Marjolin, Salignac, & Saunders, 2017). The future, where jobs will continue to change, the financial system becomes more complex and reliance on natural resources will diminish at the same time as the population ages, will present issues for Australia the likes of which will be different to those encountered in the past. The Australian economy will suffer as the lower proportion of the population being of working age will mean an increased fiscal pressure on government unless the superannuation system is working well for most Australians.

The Australian superannuation system was established about 30 years ago to account for the financial challenges facing the ageing population in western economies. The idea was to create a vehicle where all employees could save for their retirement. The amount of money a person needs to retire is controversial and is reliant on income, lifestyle and life expectancy. However, most Australians have nowhere near the amount of money needed. Women in particular have superannuation balances far lower than men and in many cases inadequate to cover retirement.²

¹ <https://financialcapability.gov.au/strategy/#introduction>

² <https://www.superannuation.asn.au/ArticleDocuments/269/SuperStats-Aug2019.pdf.aspx?Embed=Y>

Australia has low household savings rates and high debt to income ratios resulting in high levels of financial vulnerability. The household saving rate in Australia decreased to 2.3% in the second quarter of 2019 from 3% in the first quarter of 2019. This is the lowest savings rate calculated for eleven years.³ In March 2018, Australia's household debt to income ratio was 187%,⁴ a level analysts called "extremely elevated" and "one of the highest in the world".⁵ The ratio in June 2019, had climbed further to 191%.⁶ In the period 2005-06 to 2017-18, the proportion of households with a debt 3 or more times household income rose from 23.4% to 28.4% which means there are an increasing proportion of households that are very sensitive to any changes in the economy.⁷

Increased insecurity of work is making it harder to manage money. Juggling expenses with insecure / contract / casual work requires more sophisticated capabilities than have ever been needed before. Prolonged drought and global warming mean that huge numbers of farmers may need to leave the land and grapple with the complexities of managing family intergenerational finance issues. How could these topics be covered in financial education?

The introduction and the rise of alternative credit type products and new ways of managing money such as the NDIS also present new challenges for Australians and those responsible for their financial education.

The emergence of new credit products using 'buy now pay later' platforms and complex consumer leases, tend to be confusing for the general public. Unfortunately, these products also tend to be accompanied by attractive sales pitches and at best, murky conditions and a regulatory environment that struggles to keep pace with advances. How can consumer education continue to evolve and 'keep pace' with developments? In ASIC's review of buy now pay later arrangements (completed in late 2018), they report that 'The consumer protections under the National Consumer Credit Protection Act 2009 (National Credit Act) do not apply to buy now pay later arrangements. This means that buy now pay later providers do not need to hold an Australian credit licence to provide these arrangements, nor comply with the responsible lending obligations.'⁸ This situation further compounds the difficulties consumers face with this type of product.

Individual consumer control over their disability support funding has been a fundamental shift to put the person at the centre of their care and provide them with control that has been very lacking pre NDIS.⁹ NDIS recipients need to understand how to pay for supports including how much and when. They need to understand the supports available and the costs each year and budget so there is no shortfall. They need to accept payment requests, keep

³ <https://www.abs.gov.au/ausstats/abs@.nsf/Latestproducts/5204.0Main%20Features22018-19?opendocument&tabname=Summary&prodno=5204.0&issue=2018-19&num=&view=>

⁴ <https://www.rba.gov.au/statistics/tables/xls/e02hist.xls>

⁵ <https://www.abc.net.au/news/2018-01-18/household-debt-extremely-elevated-and-tipped-to-grow/9340880>

⁶ <https://www.rba.gov.au/statistics/tables/xls/e02hist.xls>

⁷ <https://www.abs.gov.au/ausstats/abs@.nsf/mf/6523.0>

⁸ <https://download.asic.gov.au/media/4957540/rep600-published-07-dec-2018.pdf>

⁹ <https://choiceandcontrolaustralia.com.au/ndis/>

records and understand what to do with provider gap payments.¹⁰ How can we ensure that people with disability and their carers are able to manage this money for the best possible outcomes to be delivered? How can financial capability be built quickly for people with all types of disability? How can those with cognitive impairment be helped to understand their finances so they can use their money wisely? What sorts of checks and balances should be in the system?

Taking these factors into account – superannuation, household savings and debt, increase in insecure work, changes to credit and the impact of the NDIS, financial capability and wellbeing need to be researched in the Australian context to account for Australia’s uniqueness.

Aim and Scope

ASIC has formed a Financial Capability Research Steering Committee (the Research Steering Committee). This committee will provide independent advice to ASIC on the research priorities and opportunities related to building financial capabilities. The purpose of this report is to provide a research snapshot of what we know, reveal knowledge gaps and highlight opportunities for future research.

The report can serve as a springboard for the Steering Committee in helping to set a research agenda for financial capability research. This report serves as a follow-up to the ‘Building Financial Capability Research Together’ summit held in December 2018 with approximately 50 academics researching in the areas of financial wellbeing and capabilities. This report can be used to identify research synergies and strengthen collaboration between researchers.

About this report

This report is specifically designed to examine Australian research in the area of financial wellbeing and financial capability. These broad areas encompass a range of related topics that are represented in the literature collated for this report. The literature was categorised into seven topics related to financial wellbeing and capability. Each topic has been examined and the ‘Gaps and issues’ section presents the information, drawing out emerging themes that point to examples of promising approaches, opportunities to extend or deepen existing work, and areas where further work is needed to strengthen the evidence base.

¹⁰ <https://www.ndis.gov.au/participants/using-your-plan/self-management/paying-your-supports>

Australian research landscape

Research covering topics related to financial wellbeing and financial capabilities come from a wide range of disciplines. This is common when new research disciplines emerge. Research concentrations often arise from 'real world' problems which need a multi-disciplinary approach to find solutions. Understanding financial wellbeing, financial capabilities, behaviours and attitudes requires us to draw upon many sources, methodologies and theoretical frameworks. The research represented in this review comes from numerous disciplines including: accounting, actuarial studies, business, economics, education, finance, law, management, marketing, psychology, social policy, social sciences and sociology.

Having such a wide range of disciplines contributing to the research in financial capabilities, brings richness to the content and methodologies but presents challenges when attempting to arrive at consensus on definitions and measurement tools used in the research. Hence, comparing findings or building a solid evidence base on topics can be problematic.

There are some key hubs of research activity associated with the following universities and centres and these can be found in the appendix tables.

Sources of evidence

We used multiple sources of evidence to capture Australian publications on financial capability related research. This review encompasses information from both peer-reviewed and judiciously chosen grey literature published between 2015 and 2019 by Australian researchers and/or used Australian data.

Table 1. Sources of evidence

Source	Description
ASIC Research Summit	The ASIC RMIT Financial Capability Research Summit included research mapping activity.
Research indexing databases	Searches using keywords on Web of Science, Google Scholar and EconLit
Financial Capability Australia research archive¹¹	FCA have created an online repository of publications that focus on financial capability, financial wellbeing and financial education. Only Australian publications were accessed.
University web pages of academic profiles	University web page profiles of academics who have been identified as researching in the area of financial literacy, or financial capabilities.

¹¹ <https://financialcapability.gov.au/research/>

Approach to the review

To ensure a strong representation of Australian publications on financial wellbeing, financial capabilities and related topics for the compilation of this review, we employed the following process:

Step 1: Identification of financial capability researchers

There are several key hubs of financial capability research activity in Australia. In 2018 the websites of these hubs were used to confirm and update a list of academics whose research was related to financial capability and financial wellbeing.¹² Snowballing techniques were used to ensure people outside these organisations were included as appropriate.

Step 2: ASIC RMIT Research Summit ‘Building Financial Capabilities Together’

Academics identified in Step 1 were invited to attend the ASIC-RMIT inaugural research summit ‘Building Financial Capabilities Together’ (the Summit) in December 2018 (96 invitees, 51 attendees).

At the Summit we conducted a research mapping exercise and asked the attendees to identify their current research projects, targeted cohorts and topics related to financial capability (29 responses). We used this data to initiate the process of forming research concentration areas.

Following the summit, journal articles and reports by the invited list of academics were sourced by searching research databases and university profile pages.

Step 3: Online information searches

In 2019 we updated the search to capture recent publications using keyword searches. The following keywords were used in database and internet literature searches for reports and research papers:

- Budgeting
- Financial behaviour
- Financial capability
- Financial decision-making
- Financial education
- Financial literacy
- Financial resilience
- Financial shocks
- Financial vulnerability/vulnerable
- Financial wellbeing
- Money management
- Savings.

¹² Owned by the report authors from a previous search conducted in mid-2018.

Inclusion criteria:

- Published in the period 2015-2019
- English language
- Using Australian data and / or authored by an Australian researcher

Searches were conducted of the online databases Web of Science and EconLit. Additional searches were conducted using Google, Google scholar and the Financial Capability Australia research archive¹³ which is an online repository of publications that focus on financial capability, financial wellbeing and financial education. Reference lists in journal articles and reports were examined to identify additional sources of information.

We found 11 papers on financial wellbeing, 8 papers on financial vulnerability and resilience, 8 papers on financial capabilities, 9 on financial decision-making, 21 on superannuation and retirement, 21 on financial education. Within the specific cohorts - 6 papers on women, 5 on older people, 7 on young people, 6 on CALD communities, 8 on Indigenous Australians, and 3 that focussed on people with disabilities (some papers were counted more than once; see Appendices).

For each identified publication that met the inclusion criteria for the evidence base, the following information was compiled in several tables for future reference and as a record of the papers examined for this review (see Appendices).

- Authors
- Organisational affiliation
- Source type e.g. journal article, report etc
- Description of data sources including whether primary data or secondary data¹⁴
- Cohort sample.

Step 4: Study review

Each publication was then reviewed to identify their contribution to the fields of financial wellbeing and financial capabilities. As the review progressed, seven topics emerged as being representative of the research concentrations. The concentrations are not equally distributed across topics drawing attention to where further research is warranted. In forming the topics we were also cognisant of the priority areas of ASIC that were identified in the National Financial Capability Research Roadmap. The seven topics are:

1. Financial wellbeing
2. Financial vulnerability and resilience
3. Financial capabilities
4. Financial decision-making
5. Retirement and superannuation

¹³ <https://financialcapability.gov.au/research/>

¹⁴ Primary data is data collected by the authors, e.g. their own survey, interviews or focus discussion groups. Secondary data has been collected by other authors or centres and reanalysed for the purposes of the report or journal article.

6. Financial education
7. Financial wellbeing in specific population groups:
 - Women
 - Older people
 - Younger people
 - CALD communities
 - Indigenous Australians
 - People with disability

Limitations

While the review methodology was designed to provide a representation of the Australian research relevant to financial wellbeing and financial capabilities since 2015, it is not exhaustive.

The literature audit is a combination of inductive and deductive methods i.e. we started with our list of Summit invitees of Australian researchers and then included an online database search of relevant terms.

Unless paper titles or abstract included the specific search terms, they may have been missed and we may not have comprehensively captured individual researchers' publication records.

As researchers compiling this review, we are also cognisant of existing international research that has been valuable to our understanding of financial capabilities and financial wellbeing. Although this report is deliberately focused on the Australian research, international research has contributed to our analytic insights.

Evidence and findings

This section of the report explores seven topics that represent the breadth of Australian research related to financial wellbeing and financial capability. Each topic section includes what we know from the papers, presents emerging themes and opportunities for future research.

Topic 1: Financial wellbeing (FWB)

There has been a cluster of studies conducted internationally and in Australia with the aim of defining financial wellbeing and identifying the factors that are associated with it.

International models of financial wellbeing have been developed in: Norway – UK (Kempson, Finney & Poppe, 2017); USA – (CFPB, 2015, 2017 & 2018); and the UK (Hayes, Evans & Finney, 2016). In Australia, three major studies have contributed to what we know about financial wellbeing in the Australian context: Muir, Hamilton, Noone, Marjolin, Salignac & Saunders, 2017; ANZ, 2018; and Comerton-Forde et al., 2018, Haisken-DeNew et al., 2019 & CBA-MI, 2019.¹⁵ There has also been analysis using secondary data exploring relationships between household factors and financial wellbeing (Brown & Gray, 2016). This review primarily focusses on the findings from the Australian empirical studies.

What do we know?

There are two views of financial wellbeing. The two views share a temporal dimension but differ in the other elements included. One view combines objective and subjective components of an individual's financial life into the concept of financial wellbeing. The objective elements include meeting day-to-day expenses, meeting future expenses, and coping with unexpected financial events. The subjective elements include feeling in control, feeling financially comfortable, feeling financially secure, feeling in control of your money, and being satisfied with financial situation. Financial wellbeing is defined as being able to meet current and ongoing expenses and commitments, being financially comfortable to be able to make choices to allow one to enjoy life, feeling secure about the financial future, and having resilience to cope with financial adversity¹⁶.

The other view sees financial wellbeing as an individual's purely subjective assessment of their financial situation. The idea is that there are objective facts of financial life (e.g., meeting day-to-day expenses, being able to absorb a financial shock, and having assets). Then there is the individual's cognitive and affective assessment of these objective facts (e.g., feeling in control of finances, believing you can enjoy life because of your financial situation, and believing you are on track for your financial future). Financial wellbeing is this subjective assessment and can be compared to the objective facts. In this way, we can see

¹⁵ The CBA-MI studies incorporate several separate papers all relating to the joint research between CBA and Melbourne Institute. They are: Comerton-Forde, Ip, Ribar, Ross, Salamanca and Tsalias (2018); Haisken-DeNew, Ribar, Salamanca, Nicastro & Ross, 2019; CBA-MI, 2019).

¹⁶ This definition is a summary of the combined definitions from the Australian studies.

whether the individual's financial wellbeing is calibrated with their objective financial situation. If not, we can examine whether they are over or under worried about their finances. In this view, financial wellbeing is defined as the perception of being able to sustain current and anticipated desired living standards and financial freedom (Brüggen, Hogreve, Holmlund, Kabadayi, & Löfgren). There is a current and a future component to financial wellbeing. Current money management stress is feeling the struggle to manage today's financial obligations and having a sense that you cannot enjoy life because of your financial situation while expected future financial security is a belief that you are prepared for future financial obligations and that you are securing your financial future (Netemeyer, Warmath, Fernandes, & Lynch 2017).

There are clear similarities between these views with the only difference being that one view combines objective facts and subjective assessments while the other examines these as two different constructs with financial wellbeing including only the subjective assessment.

Components of financial wellbeing

The conceptual definitions of the Australian FWB models include objective, subjective and temporal dimensions.

Table 2: Components of FWB models

Objective	Subjective	Temporal
Meeting day-to-day expenses	Feeling in control	Day-to-day
Meeting future expenses	Feeling financially comfortable	Life events
Coping with unexpected financial events (financial resilience)	Feeling financially secure	Future
	Feeling in control of your money	
	Being satisfied with financial situation	

Determinants of financial wellbeing

In line with the international research, the Australian studies have found that financial wellbeing is influenced in varying degrees by:

- *External conditions* – macro-economic, financial inclusion, social support, public programs, social and cultural norms
- *Household factors* – income and financial resources, financial situation, social capital, health of household members
- *Individual characteristics* – Financial knowledge, skills, behaviours, attitudes, psychological traits, health

- *Temporal factors* – life stages and life events.

Factors associated with financial wellbeing

Having an understanding about factors that contribute to financial wellbeing is important. This allows for development of effective policies, interventions, and financial education and support that create the circumstances, facilitate behaviours and attitudes needed to foster financial wellbeing. Equally, understanding the circumstances, behaviours and attitudes that negatively impact financial wellbeing allows identification of issues that may, with appropriate input, be modifiable to improve financial wellbeing.

Positive associations

- *Financial behaviours, capabilities & traits*: having a saving habit; spending restraint; planning; delayed gratification; budgeting either mentally or formally; being financially organised; good understanding of finances and financial products, always paying off credit card balance
- *Health*: Good general and mental health
- *External conditions*: social contact; community and government support
- *Household characteristics*: Employment; income (to some extent) and good financial situation, owning a home, partnered/couple relationships.

Negative associations

- *Economic and household situations*: relationship breakdown, job loss, ill health, disabilities that impact work, decline in financial situation, and unpaid care responsibilities that impact work, debts other than mortgage
- *Individual financial behaviours and capabilities* that serve as warning signs or indicators of lower financial wellbeing are: overspending, finding finance confusing, having difficulties in paying rent or mortgage and having a car or personal loan.

Financial wellbeing levels of Australians

We know how Australians fare in terms of their financial wellbeing. By using an adapted scale from the Kempson et al., (2017) FWB model, Australians have an average score of **59 out of 100** (ANZ, 2018). The CBA-MI (2019) study found Australians to have a median reported financial wellbeing score of **55 out of 100** and a median observed financial wellbeing score of **57.9 out of 100**.¹⁷

Overall, the studies show that Australians are better at managing and meeting every-day financial commitments than meeting unexpected expenses (financial resilience) or being financially secure for the future. Australians worry about not being able to provide for their family's future, meet health expenses or having enough to live on in retirement.

¹⁷ The CBA-MI study matched survey data (reported) with bank transaction data (observed)

Gaps and issues

- Measuring financial wellbeing and its components is challenging as there is a lack of consistency in the terminology, concepts and measurement tools used. The terms financial literacy, capabilities, skills, and behaviours are used differently across studies, sometimes interchangeably.
- The Australian studies have identified a range of important associations with financial wellbeing, however the causes or the pathways that contribute to these associations are not well understood.
- We don't have a clear understanding how and to what degree external factors such as government policies, social and community support impact the individual factors associated with financial wellbeing.

Opportunities

- Develop consistent, accurate definitions and measures by consensus. Consistent (consensus) definitions would enable meaningful comparisons between groups and over time and promote reliability in research.
- Reaching a national consensus on the measurement of financial wellbeing would pave the way for the creation of a national data set and / or the better alignment of existing datasets such as HILDA and ABS to include consistent measures.
- Identify and understand causal factors and pathways that contribute to positive or negative associations with financial wellbeing.
- Undertaking a financial diaries project in the Australian context would provide a rich understanding of consumer contexts, events that impact financial wellbeing within a household and decisions / behaviours made along the journey that impact outcomes.
- More accurately characterising and defining the relationships between the social and individual factors included in the financial wellbeing models would greatly assist our understanding of the impacts of external factors (Bowman, Banks, Fela, Russell & de Silva, 2017). We could explore the use of scenario planning and econometric modelling to estimate the effect of changes in the macro and or policy environments related to financial wellbeing.

Topic 2: Financial vulnerability and resilience

There is a growing body of research that is furthering our understanding of the level and nature of financial resilience in Australia. Having financial resilience is one of the major components of financial wellbeing, so it is important we understand what enhances financial resilience and decreases financial vulnerability. We also know from the financial wellbeing studies that Australians perform weaker in the component of financial resilience than in managing day-to-day. Financial resilience is defined as ‘an individual’s ability to access and draw on internal capabilities and appropriate, acceptable and accessible external resources and supports in times of financial adversity’ (Salignac, Marjolin, Reeve & Muir, 2019).

What do we know?

Understanding financial vulnerability

- Financial vulnerability and financial resilience occupy opposite ends of a spectrum (Salignac et al., 2019). Reducing financial vulnerability should lead to increased financial resilience. Vulnerability and resilience are multi-dimensional and involve the same mix of indicators: economic resources, knowledge of and confidence in using financial products (subjective and objective), proactive financial behaviours and social capital.

Levels of financial vulnerability & resilience in Australia

- There are over two million Australian adults experiencing high levels of financial vulnerability (NAB & CSI, 2018; Salignac et al., 2019). A significant proportion of Australians report experiencing anxiety about not being able to meet an unexpected expense (NAB Behavioural & Industry Economics, 2019; ME, 2019) indicating a concerning level of vulnerability among Australian households.
- Some research shows that the levels of financial resilience in Australia have increased slightly from 2016 to 2018. The increase has been attributed to increased levels of financial knowledge and improved behaviours (NAB & CSI, 2018).

Factors associated with financial vulnerability:

- Over-indebtedness is strongly associated with financial vulnerability (Bourova, Anderson, Ramsay & Ali, 2019). Relying on high cost short-term loans (payday loans) are an indicator of financial vulnerability. Around 7% of Australians have payday loans (NAB Behavioural & Industry Economics, 2019) and of all debts, these loans are reported to cause people the most stress.
- Work insecurity, income volatility and low levels of income are associated with financial vulnerability (Bowman & Banks, 2018).
- There is no clear relationship between levels of financial hardship (vulnerability), financial confidence and financial literacy. However, there is some evidence that people with high levels of debt are likely to have lower levels of financial literacy (Bourova et al., 2019).

- Older Australians who experience multiple health conditions are more likely to be financially vulnerable. They are more likely to be financially excluded, have higher levels of consumer debt and struggle with meeting ongoing out-of-pocket health expenses (Temple & Williams, 2018).
- Mental health issues and a pessimistic outlook are strongly associated with financial vulnerability. People with lower incomes, and those from non-English speaking backgrounds (NESB) had lower levels of resilience and higher levels of vulnerability (Salignac et al., 2019).
- Insurance literacy is low in Australia, with inadequate product knowledge, lack of trust in providers and lack of awareness of risk mitigation strategies (Driver, Brimble, Freudenberg & Hunt). Insurance literacy is distinct from general financial literacy and specialist education on insurance could reduce susceptibility to anchoring effects (Lin, Bruhn & William, 2019)
- Lower-income households are significantly under or non-insured. Contributing to this high level of under or non-insurance are a lack of appropriate, affordable insurance products, lack of trust in insurance companies and a high level of complexity in the insurance process. Inadequate asset protection leaves many Australians vulnerable to unexpected loss (Russell, Priday, & Pedell, 2014; Banks & Bowman, 2017).
- Australians have low levels of household savings. Programs aimed at improving saving behaviour have helped to develop financial resilience in low-income households. There are also macroeconomic benefits of large-scale savings interventions (Russell, Stewart & Cull, 2015).
- Certain psychological characteristics have been shown to mediate the effect of financial vulnerability on financial outcomes. A savings mindset (personal savings orientation – PSO) and financial self-efficacy are important characteristics to develop within consumers. Including a focus on developing these particular psychological characteristics has the potential to improve the effect of interventions (Hoffmann & McNair, 2019).

Gaps and issues

- We don't have a clear understanding of the multiple pathways that lead people to critical stages of vulnerability. There is also inadequate focus on the connections between social and economic policies and household vulnerability.
- Insurance literacy is low among Australians leaving consumers without appropriate asset protection. There is widespread lack of product knowledge, low level of trust in providers and little awareness of risk mitigation strategies. This situation is compounded for lower-income households where there is significant risk of under or non-insurance. The asset protection needs of lower-income households are not met and not well understood.

- Many Australians do not have enough savings to ensure they are financially resilient.

Opportunities

- Review and revise financial vulnerability in Australia applying insights from the recent US work by O'Connor et al., (2019). Devising an easy to use diagnostic tool to assess vulnerability before an individual or household reaches crisis stage. A diagnostic tool could also be used in financial education programs.
- Undertaking scenario and econometric modelling to explore the connections between changes in social and economic policies and household vulnerability, indebtedness, income volatility and the effect these factors have on individual financial capabilities and behaviours.
- Research and develop ways to improve insurance literacy, particularly for 'at-risk' groups. Research and develop ways to encourage innovative approaches in insurance products that are suitable for low-income consumers.
- Research the best methods for encouraging Australians to develop rainy day saving behaviours. This should include investigation of the potential benefits of investing in social marketing initiatives. Saving for a 'rainy day' has been shown to be a strong motivator - How can we scale-up this behaviour? Include a focus on developing a savings mindset to strengthen the behaviour.

Topic 3: Financial capabilities

Financial capabilities involve shared sets of behaviours, individual traits and external factors that contribute to a person's financial wellbeing. Financial capabilities that are most important to financial wellbeing are being able to manage money day-to-day, planning and saving for the long-term and financial decision-making.

FWB studies in Australia have shown that individual financial capabilities significantly contribute to financial wellbeing (ANZ, 2018; Comerton-Forde et al., 2018, Haisken-DeNew et al., 2019 & CBA-MI, 2019).

What do we know?

What behaviours are most important?

The Australian FWB studies found the following behaviours are strongly associated with financial wellbeing

- Active saving. Savings have also been shown to have psychological benefits in addition to tangible outcomes. It builds confidence, provides a sense of security, reduces stress and has the power to shift time orientation towards the future (Russell, Stewart, & Cull, 2015).

Differences in financial literacy (knowledge) affects how much people save. Across income groups, people with lower levels of financial literacy save less. Understanding the concept of diversification is positively affected with how much people save and this is reflected in varying income groups (Brockman & Michayluk, 2015).

People had more liquid savings if they had a positive attitude toward saving, if they had savings goals and if they viewed themselves as financially capable (Gerhard, Gladstone & Hoffmann, 2018). Personality characteristics such as extroversion and agreeableness were associated with less savings, as was having an optimistic outlook on life (Gerhard et al. 2018).

- Spending restraint or financial discipline
- Living within one's means
- Not borrowing for everyday expenses
- Managing debt
- Planning and budgeting

What skills contribute to financial capability?

The skills that are important to financial capabilities include:

- Research – how you find, process and use relevant information (Vyvyan, Blue & Brimble, 2014)
- Numeracy – mathematical capabilities (Sawatzki, 2017)

- Problem solving – financially we are in this situation, how do we move forward? (Sawatzki, 2017)

Planning and goal setting (Comerton-Forde et al., 2018; CBA-MI, 2019; Vyvyan, et al., 2014). What psychological factors impact on financial capability?

- Financial self-efficacy (Russell et al, 2016)
- Not being impulsive (ANZ, 2018)
- Self-belief and confidence (ANZ, 2018; Vyvyan et al., 2014)
- Internal locus of control (ANZ, 2018)
- Future orientation (ANZ, 2018; Vyvyan et al., 2014)
- Positive attitude towards money (Muir et al., 2017)

Other factors that affect financial capabilities

Technology

- Having adequate levels of digital literacy is also important to developing financial capabilities. Technology, such as the use of apps, and insights from behavioural economics including nudges can play an important role in developing capabilities of low-income individuals (Good Shepherd Microfinance Advisory Services, 2019). Although the Muir et al., (2017) study found no correlation between the use of budgeting apps and financial wellbeing, the use of technology in assisting money management behaviours can be further explored. Digital literacy is certainly important in being able to research and acquire information needed to make financial decisions or to find where to seek further advice.

Income

- Households and individuals on low incomes employ a range of capabilities that help mitigate financial hardship. These strategies, skills and behaviours are not usually captured with financial capability measures. Social-financial connectedness measure includes utilising sharing platforms, family, friends and informal economies and bartering. Individual saving strategies included use of shop-a-dockets, loyalty cards, monitoring sales, catalogues and employing self-control techniques (Snow, Vyas & Brereton, 2017).

Gaps and issues

- We don't know enough about the contribution of subjective knowledge and capabilities. Improvements to people's financial capabilities can occur through increased confidence, self-belief and relevant support.
- We know motivation and other psychological traits are critical to behaviour change. Further research on how to harness people's motivation, at varying times, when encouraging behaviours that impact financial wellbeing would contribute to understanding how and when to provide interventions to help build capabilities.

- A range of household factors have an impact on financial capability. Individuals need opportunity and a context conducive to developing financial capabilities. Which household factors contribute to better financial capabilities?
- Measurement of knowledge, skills and behaviours are inconsistent and perhaps measuring variables that are not relevant to what we know contribute to financial wellbeing. Should we still be using the Lusardi & Mitchell (2011) financial literacy questions given recent learnings regarding the type of knowledge that contributes to financial wellbeing?

Opportunities

- Developing people's confidence and self-belief in their capabilities is just as important as objective knowledge and capabilities. How can we best do this and how can these more subjective elements be incorporated into all models of financial capability interventions and successfully measured?
- What role does motivation play in financial behaviour change? Understanding when people are more (or less) motivated to undertake changes to their financial behaviours will facilitate success of interventions.
- Research to improve understanding of how best to leverage and work with external influences that impact on financial capabilities. This work should extend to further exploration into the role of social networks, using sharing platforms and skill sets (e.g. human computer interaction) required to build social-financial connectedness (Snow et al., 2017).
- Psychological characteristics influence household saving behaviour differently across various groups of individuals. These differences should be considered when designing interventions to improve saving behaviour (Gerhard, Gladstone & Hoffmann, 2018).
- It is timely to revisit the indicators used to measure financial literacy (knowledge), behaviours and skills. The big 3 literacy questions have been used for 10 years and it may be time to reconsider these as the 'go to' questions.

Topic 4: Financial decision-making

We make financial decisions every day—some are small decisions, while others are larger, require more knowledge and skills and have longer-term consequences. Decisions may be made once or many times. Financial decision-making is a capability that underpins day-to-day money managing, planning for the future and needed to help cope with financial adversity. Ideally, some financial behaviours should become a habit—such as saving—so the same level of skills and cognitive resources are not required every pay day for saving to occur—other financial behaviours and strategies will require more complex decision-making capabilities. The frequency of decision-making will influence development of capabilities. Skills improve with practice.

The research relating to financial decision-making is intertwined with other topics in this review such as financial wellbeing and retirement and superannuation.

What do we know?

Seeking financial advice

- Consumers are unsure how to choose ‘good’ financial advisors, what credentials they should have and if the credentials advertised are meaningful. It is also difficult for consumers to know how to judge the quality of advice especially on complex issues (Agnew, Bateman, Eckert, Ishakov, Louviere & Thorp, 2019).
- Financial advisor anxiety can deter people from seeking financial advice when needed. A financial advisor anxiety scale has been developed to help diagnose this issue (Gerrans & Hershey, 2017).

Factors influencing financial decision-making

- In financial decision-making within couple relationships, physical and mental health of partners along with cognitive abilities and personality can affect financial decision-making capabilities. Studies that explore household decision-making need to obtain data from both partners because there is a difference in responses between male and female decision-makers (Johnston et al., 2016).
- Emotions play an important role in individual and household financial decision-making (Russell et al., 2016). How people decide on credit options when experiencing financial hardship can be influenced by emotions such as shame, guilt or anger (Marston, Banks & Zhang, 2017).
- Life events significantly contribute to financial decision-making especially in the wealth portfolio that includes the family home. Job loss, retirement and death of a spouse are events that can predictably or unpredictably lead to transitioning out of the family home (West & Worthington, 2018a).
- Some people have a disconnection between their present and future. For some its due to the enormity of what they know they should save or have in their

superannuation; others view themselves as passive to the process and therefore mentally 'check out' thinking the 'system' or fund will take care of things. The complexity and difficulty in sourcing understandable information are barriers to planning (Cheah, Foster, Heaney, Higgins, Oliver, O'Neill & Russell, 2015).

- How information is portrayed in communication materials has been found to influence investment decision-making (Aspara, Chakravarti & Hoffmann, 2015).

Gaps and issues

It can be difficult for consumers to access the information and support they need from financial advisors when making financial decisions for a variety of reasons such as:

- Lack of knowledge about financial advisors (who to go to, what their qualifications are or should be).
- Lack of trust or too much trust (is the advice 'sound' and how do you know if it is or not?)
- Affordability. Australians on average to low incomes are unable to afford formal financial advice and are more likely to rely on family and friends for information. Australians are willing to pay 'something' but not the price range currently on offer (OEE et al., 2016).
- Assistance is often needed at crisis points in life and many consumers may be less likely to reach out for support at these times due to emotional distress.
- Non-economic factors such as personal characteristics of household members and social context have been found to play an important part in influencing decision-making however, there are significant gaps in understanding these factors in the Australian context. Financial decision-making is not always (rarely is) made in isolation.
- The most commonly used measurement tools in financial decision-making studies (e.g. cross-sectional studies) observe financial decisions in isolation.

For example, the proportion of people who appear to have made a 'decision' to not contribute to a retirement fund is identified in a dataset—and then associations with available variables such as gender, income, household type etc are made to arrive at a particular finding, such as that women or people living on low incomes, make poor financial decisions (or no decision) regarding their retirement.

Studies on financial decision-making rarely include an attempt to understand consumer decision pathways. This limits our understanding of the pathways to financial decisions and hence, the role of various factors that affect a person's financial capabilities, bifurcation points, choice constraints and time points where interventions could possibly work.

Opportunities

- What does the average consumer need when making financial decisions? What information, delivery mechanism and support do consumers need and what are the barriers to accessing this when required (for example at the time of major life events)? This research would be expected to lead to interventions to increase awareness of how the financial advice process works which would help to reduce anxiety and encourage people to seek advice.
- How can we develop tailored individual advice that is accessible, affordable and trustworthy? Is there potential for a 'medi-care' model for finances e.g. 'money-care'?
- Australian research into the non-economic factors that influence financial decision-making would shed light on other issues important to effective financial decision-making.
- What impact does household member health and wellbeing – physical and mental, emotions and anxiety – have on financial decision-making?
- What role does social context play in financial decision-making?
 - How can we measure the effect of social and cultural norms?
 - The perceptions of our families and peers, the norms of the community we live in will naturally shape financial values and goals and therefore our financial decisions.
- How does imperfect optimisation affect financial decision-making?
 - Not accurately evaluating the 'consideration set' of choices will affect the quality of financial decision-making.
 - People on lower incomes have a constrained set of choices. Even so, influencing factors such as marketing can affect decisions by swaying consumers to put too much weight on some attributes and not enough on others.
 - The level of complexity involved in a choice can cause inaction – also considered a choice.
- What is the role of consumers' biased judgements and preferences in financial decision making?
 - How does a consumer's natural inclination to loss aversion influence financial decision-making?
 - How does consumer tendency to focus on the present at the expense of the future influence financial decision-making?
- Conducting Australian research into consumer financial decision-making pathways, will provide researchers with a more informed view on how best to assist consumers' financial decision-making with the most effective resources at the most effective time.

Topic 5: Retirement and superannuation

In Australia, retirement and superannuation are high priority research areas and represent a large proportion of research output covered in this review. This is due to data availability through the variety of superannuation databases and other datasets such as HILDA and those created by the ABS.

What do we know?

Australians in general are under-prepared for a comfortable retirement. While we are confident in this statement, the reasons behind this are complex and not as clearly identified. There is more to the issue than consumers not knowing how much retirement funding they need. The complexity around superannuation rules and retirement policies are constantly changing and there is confusion in knowing how individuals should best optimise their financial situations. There are low levels of consumer literacy superannuation (Chardon, Brimble & Freudenberg, 2016) which is reported to be due to insufficient curricula at school and university levels, inadequate engagement, high level of complexity in the topic area, changing policies that discourage consumers to engage.

In addition to low literacy levels on superannuation and retirement, the impacts of cognitive decline, ill health, caring responsibilities on financial decision-making for older people are enormous (see Topic 7 for more references).

What works to improve engagement?

- 'Nudges' work. Simple changes to the way superannuation organisations communicate with their fund members has shown promising results in improving engagement, savings and choice allocation (Smyrnis, Bateman, Dobrescu, Newell & Thorp, 2019).
- Modifying the placement and design of key information on statements can affect financial decision-making (Foster, Ng & Wee, 2015).
- Using Time Perspective (TP) in the design of an online training program for people planning for retirement contributes to improved goal setting behaviour (Earl & Burbury, 2019).

What are the factors that influence decisions about retirement saving?

- Saving preferences and use of longevity products or alternative retirement drawdown strategies are significantly influenced by the expectation of life events and factors such as:
 - health
 - unexpected expenses in the future
 - being able to provide an inheritance to their family
 - wanting to enjoy life in the present (Alonso-Garcia, Bateman, Bonekamp, van Soest & Stevens, 2018).

- Voluntary contributions to retirement saving funds are influenced by:
 - age
 - financial status
 - employment characteristics
 - past saving habits and retirement planning are positively associated with voluntary retirement savings while affordability, false beliefs and lack of awareness inhibit making voluntary contributions (Feng, 2018).
- There is some evidence that increased savings for retirement could be triggered by an income increase or when debts have been paid down. Providing a nudge or a trigger at these times could encourage retirement savings (Brockman & Michayluk, 2016).
- Journey mapping can help to identify where the negative interactions occur and can inform effective interventions at the right time. Viewing retirement as a journey within an integrated retirement ecosystem rather than isolated interactions with each of the elements within the ecosystem, for example superannuation fund or financial advisor can help identify critical points for intervention (Altschwager & Evans, 2018).
- The factors that influence or disrupt the ‘ideal’ journey are:
 - life events
 - inadequacy of information
 - inability to perceive the future self
 - competing priorities
 - lack of trust in institutions
 - mis-aligned expectations and assumptions
 - emotional factors such as fear and uncertainty.

Measuring the Deviation from a Balanced Time Perspective (DBTP) provides valuable insights to people’s behaviour regarding their propensity to plan for their future. Having a healthy balance between the time perspectives of the past, present and future and being able to adapt one’s perspective as needed is important to our wellbeing now and in the future. DBTP can negatively impact a person’s propensity to plan for their retirement (Mooney, Earl, Mooney & Bateman, 2017; Earl, Bednall & Muratore, 2015).

- Superannuation members’ investment decisions are influenced by their workplace peers’ behaviour especially of the same gender (Gerrans, Moulang, Feng & Strydom 2018).
- People with higher levels of financial literacy have a better understanding of retirement products. Numeracy skills have a more direct relationship with the

likelihood of risk-sensitive allocation sequences than general financial literacy (Bateman, Eckert, Ishkakov, Louviere, Satchell & Thorp, 2018).

- Passive retirement plan members are more risk averse, younger, less wealthy and more likely to be female. While plan executives think that passive members are uninterested in retirement savings, passive members say they trust their plans, and lack skill rather than interest (Butt, Donald, Foster, Thorp & Warren, 2018).
- There is a complex relationship between members' levels of trust, interest and engagement with retirement funds. Low trust can mean higher engagement and high trust can be related to low levels of engagement (Deetlefs, Bateman, Dobrescu, Newell & Thorp, 2019).
- It is important to consider the household decision-making context when modelling retirement behaviour of couples. Women may delay their retirement if their partner stays in the workforce longer or retire earlier to undertake caring duties (Warren, 2015).

Advice seeking behaviours

There is some ambiguity in the findings from the literature in this section.

- Predictors of advice seeking behaviour among superannuation fund members are gender (female); age (older); balance (larger); and experience (longer). So older, wealthier females are more likely to be engaged with their superannuation fund than men (Clark, Fiaschetti & Gerrans, 2019).
- The main determinants of member engagement with superannuation funds are financial literacy, age and the value of superannuation. Gender may not be as significant a predictor as shown by some research (de Zwaan, Brimble & Stewart, 2015).

The gender gap in retirement savings

- The gender gap in retirement savings begins early in the paid working lives of men and women and continues over time. The bifurcation point for women's financial disadvantage is earlier rather than later (Feng, Gerrans, Moulang, Whiteside & Strydom 2019).

Calculating adequacy of retirement savings can be contentious

- Using the income replacement ratio as a means of assessing adequacy of retirement savings is problematic. Household income, retirement savings balance and net worth are not good proxies for adequacy of retirement savings. In assessing retirement savings, all pillars of retirement income should be considered not just dedicated retirement accounts and social security payments (Burnett, Davis, Murawski, Wilkins & Wilkinson, 2018).

Gaps and issues

- There are barriers to average consumers seeking financial advice. The barriers are affordability, lack of trust and not knowing how to distinguish between 'good' and 'bad' advice. Australians are most likely to seek advice from family and friends. There is a tendency for people to think of retirement as an 'event' that will happen when they are older. People are not sure when they should seek advice, for which problems or life events. The lack of access to tailored individual advice is a barrier to average consumers being able to reach their financial goals and optimise their financial wellbeing.
- Higher level of engagement with retirement planning and in particular superannuation funds is a desired behaviour for Australians in general. There have been successful trials that have indicated that careful consideration in communication design can help. However, there is emerging evidence that non-engagement may not necessarily signal apathy or low levels of financial literacy.
- There is a complex relationship between members levels of trust, interest and engagement with their retirement fund. Deetlefs et al. (2019) have found that low trust can mean higher engagement and high trust can be related to low levels of engagement.

Opportunities

- What type of interventions at what stage of the retirement journey will have the most positive effects?
- Interventions that include understanding a person's time perspective can help to improve a person's motivation to plan for retirement. What do these interventions entail?
- How long do the observed positive effects of 'nudges' last?
- What follow-ups are needed to sustain engagement, improve savings and maintain currency in understanding of investment choices?
- How are retirement plan members using Product Disclosure Statement information? Is it being used as it is intended by the regulator? (Bateman, Dobrescu, Newell, Ortmann & Thorp, 2016).
- The relationship between trust and engagement as it relates to individuals' involvement in retirement planning requires further exploration to determine:
 - What is engagement? How is it measured? How should it be measured in light of the associations between trust and engagement?
 - Why do passive members of retirement funds not engage?
 - What are the impacts of non-engagement?

- Are different cohorts guided differently by ‘trust’ in retirement planning?
 - How is ‘trust’ bestowed? Who is trustworthy?
 - How does an organisation or individual become ‘trustworthy’ in the eyes of the consumer?
- Superannuation is supposed to be universal but approximately 30% of adults have no superannuation. Research looking closely at the 30% to explore in more detail the retirement funding plans and options of adults with no superannuation coverage. What are the impacts of lack of mandatory superannuation contributions by directors of small businesses and those earning less than \$450 per month?

Topic 6: Financial education

The central belief that underpins the policy for financial education within schools and in the community is equity. Financial education has a rightful place beside other curricula that facilitates development of vital life skills. Schools and other education institutions provide an opportunity for children and young people from a wide range of social contexts to learn about money. Financial education is becoming a mandatory component of school curricula in many countries, including the USA, UK and Australia.¹⁸

Following on from the financial education opportunities provided in schools and universities, many community organisations, workplaces, financial institutions, and government bodies play an important part in further developing and reinforcing financial capabilities. Financial education for adults is provided in a variety of forms – traditional, online, coaching and also ‘just-in-time’ opportunities to assist people at different life stages and at the time of specific life events.

Effective financial education to support the financial capabilities of individuals and families can play a central role in developing financial wellbeing of Australians.

What do we know?

What does a good financial education program contain? How is it delivered? When?

- Financial knowledge alone contributes very little to financial wellbeing, and or changes in financial behaviour.
 - Programs that seek a wider impact than simply increasing knowledge will be more effective in changing behaviour.
 - Programs that incorporate what we know about human biases (behavioural economic principles) will have more chance of success.
- The 10 principles that can enhance program design are:
 - use rules of thumb
 - make good behaviour easy
 - intervene just-in-time
 - strengthen self-control
 - build personal human connections, role modelling, face to face programs, social pressure
 - make the money transactions visible when instructing children
 - use real life scenarios relevant to cohort
 - support practice with product
 - skills that enable people to ask for help, problem-solving skills, having conversations about money
 - Ensure it reaches people – incentives work (EY, 2019).

¹⁸ <https://www.australiancurriculum.edu.au/resources/curriculum-connections/portfolios/consumer-and-financial-literacy/>

- One holistic model of financial education proposed by Brimble and Blue (2015) identifies the importance of personal support, development of cognitive processes and engagement with professional expertise from related industry sectors in the design of financial education.

The importance of context

- Financial education works best when it is context-sensitive. For example, an implicit or explicit aim that points to wealth accumulation is contradictory to the Indigenous ways of living (Blue & Pinto, 2017) and other collective societies and may also be insensitive to individuals living with financial hardship.
- Financial education programs designed for Indigenous people need to embed Indigenous methodologies and knowledges into the design of the program (Daniels, Buli, Davis, O'Mally & Pasco, 2019).
- A praxis approach to financial education should incorporate principles of ethics, caring and an awareness of how financial decisions affect others. By moving away from a 'one size fits all' model of financial education, a praxis approach would consider contextual factors such as socio-economics, individual abilities, gender, cultural values and ethics (Blue & Grootenboer, 2019; Blue, 2019).
- There are expectations that financial literacy education should be realigned to better reflect reality. One proposed model includes 4 stages:
 - 1) Knowledge and skills that underpin financial decision-making such as numeracy, IT, literacy and financial systems
 - 2) Financial knowledge needed to develop financial skills and behaviours
 - 3) The skills needed to implement the knowledge - how to follow through
 - 4) Specific financial knowledge that is relevant to each circumstance and context (Blue & Brimble, 2014).

Educating children about money

- Developing students' self-respect and confidence in their own strengths provides a necessary foundation for financial skill building (Vyvyan, Blue & Brimble, 2014; Blue et al. 2014).
- By embedding economic, political, social and cultural issues into mathematics, financial literacy education and pre-service teacher learning, students will have a wider lens with which to view the use of money. In the classroom, collaborative engagement with peers when undertaking financial mathematical tasks enabled a more compassionate approach to financial education (Blue, O'Brien & Makar, 2018).
- Teachers are not necessarily equipped to teach financial literacy even if they consider themselves to be financially literate. Teachers require more professional development to increase their confidence in teaching financial literacy curricula.

Teaching students how to make financial decisions – identifying options, comparing and contrasting should be a core part of the curriculum (Sawatzki & Sullivan, 2017).

- There is a strong association between numeracy and financial capabilities which means developing numerical skills and capabilities in children will contribute to their financial problem-solving skills.
 - Choosing appropriate problem contexts when teaching financial literacy in schools is an important consideration for teachers.
 - Using financial problems or scenarios is useful in encouraging mathematical skill development in children (Sawatzki & Sullivan, 2018; Attard, 2016).
 - Problem contexts that are easily recognised and experienced by students are useful to their learning but there is scope to introduce unfamiliar contexts if students feel these situations have relevance to their post-school lives (Sawatzki, 2017).
- The Australian Tax Office is developing a Youth Education Strategy to improve young people's level of understanding about tax and superannuation. This is the result of several factors:
 - Significant proportions of parents of school children have low levels of knowledge and confidence about finances, particularly tax and superannuation and report that they feel unable to help their children learn about these topics.
 - Most parents are under the impression that tax and superannuation are not taught at school (Rutley, Bishop & Gurney, 2018; Sawatzki & Zmood, 2018).
- There is evidence that financial education delivered to university students face-to-face and online contributes to higher levels of financial literacy.
 - Stronger program effects result from the face-to-face format (Gerrans, Ooi & Wright, 2017).
 - Personal finance courses offered at university had positive financial literacy outcomes for students. Female students had lower levels of financial literacy – reported and objective (Gerrans & Heaney, 2019).

Measuring the outcomes of financial education

- There is a need to design more effective measurement tools and approaches that can deal with the variance within programs and cohorts while producing comparable measures.
- Schools need a rigorous assessment tool developed for the Australian context, so they can monitor and assess the learning needs of their students to ensure programs are designed to suit the socio-cultural context (Sawatzki et al., 2017).

Gaps and issues

- Recipients of financial education may derive greater benefit if programs were developed from a holistic framework that is better tailored to meet the needs of individuals. Recommendations reject a 'one size fits all' approach and call for more consideration to context, culture, individual needs and follow-up initiatives.

Opportunities

Conducting research that better links what we know about financial wellbeing to financial education will provide a more informed view on the content, skill development and outcomes expected from programs.

Areas to be considered for further research:

- How could a holistic framework that accounts for the varied contexts, cohort needs, goals and outcomes be developed, delivered and evaluated?
- Would a tailored approach that involves working with realistic expectations and assisting participants with finding 'sustainable pathways' improve financial education (Brimble & Blue, 2015)?
- Is there a role for a financial coaching model as a supplementary, (not alternative), method of building financial capabilities?
- What place do the effects of social and cultural norms have in program curricula? How could our money management models be made more inclusive of cultural strengths and differences in household finances?
- Would attainment of participant goals as a result of financial education be a better measure of success than program goals?
- What are the opportunities for utilising other mediums such as blogs to provide 'just-in-time' financial education to consumers? (Hoffmann & Otteby, 2018)
- How can parents be assisted to engage their children in financial conversations and skill building at home? What are the barriers that parents face in engaging their children in money conversations and skill development? Can a social marketing campaign help to raise awareness and help motivate parents to engage this behaviour?
- Follow-up to financial education interventions are likely to extend the value of the outcomes. What type of follow-ups work best, what are viable?

School-based financial education research questions:

- Are teachers who are expected to deliver financial literacy education in schools prepared for their role? Are they in a position to meet policy objectives? (Blue, Grootenboer & Brimble, 2014; Sawatzki, Zmood, Forsyth & Downton, 2017).

- What do school communities, families and young people identify as the most relevant and urgent learning needs of students? (Sawatzki et al., 2017)
- Do students receive adequate financial education in practical, life and work ready topics such as tax and superannuation? (Rutley, Bishop & Gurney, 2018)
- How could managing money within relationships be better developed and 'normalised' within high school and post-secondary education programs?

Topic 7: Specific cohorts

Women

Women experience greater levels of financial hardship, are more vulnerable to poverty, especially in older age, and more likely to experience financial abuse across all age groups than men. The underpinning reason is inequality across a range of spheres – all are well known and well documented.

The Lusardi & Mitchell (2011) measures of financial literacy have been used widely in a large number of studies. Results consistently show that women have lower levels of financial literacy than men. While undoubtedly the results are accurate (as measured), are they meaningful? And are they pointing to the interventions that will make a difference to reducing the gap in financial outcomes between men and women?

Are the tools used in attempts to show the differences between men and women's financial capabilities steeped in an implicit gender bias simply in the way they ask questions and the standpoint from which the questions are developed? Consideration should be given to whether these measures are still the best ones to use given more recent research into the drivers of financial wellbeing.

What do we know?

- Women's financial lives are strongly influenced by relationships, life-goals and emotions. Women trade-off their own financial security to meet the immediate needs of family (Russell, Kutin, Green, Banks & Di Iorio, 2016).
- Women's age and education levels do not explain the gender gap in financial literacy. Variables that are more important are labour market factors such as sector, occupation industry, union membership and labour market status (Preston & Wright, 2019).
- Women's financial disadvantage begins early. The gender gap in retirement savings begins early in an individual's paid working life and continues over time (Feng, Gerrans, Moulang, Whiteside & Strydom 2019).
- Women's financial satisfaction/wellness is influenced by their economic status (that is household income, asset and debt levels) whereas for men, the influence was not their economic status, but their level of financial knowledge. How much they know about finances is more important to their financial wellness than their actual financial situation (Gerrans, Speelman, & Campitelli, 2014).
- Being female and a sole parent is associated with low levels of financial literacy and financial wellbeing (West & Worthington, 2018b; Russell et al., 2016).
- Women living in regional locations experience different financial capability challenges than those in metropolitan areas. Challenges include: reduced access to financial information and advice, limited employment opportunities (and income is often

lower), higher levels of financial stress especially for women involved in family businesses (e.g. farming) (Russell, Green, Rankin & Kutin, 2017).

- Almost 16% of women in Australia have experienced economic abuse (Kutin, Russell & Reid, 2017).
- How money is managed in the household within intimate relationships contributes to our understanding of gender equality and women's financial independence and helps us to understand the prevalence of economic abuse. There has been a slight decrease in the proportion of couples who have joint bank accounts. Most couples have a combination of joint and separate accounts however dual separate accounts are increasing in popularity. The factors that affect account arrangements within a household are, resources, transaction costs, relationship history, gender-role attitudes and family backgrounds (Huang, Perales, & Western, 2019).

Gaps and issues

- While we have a rich evidence base describing the financial gender gap, levels of financial literacy, there remains a range of deeper research questions to be answered. There have been concerted efforts across the sectors to increase the financial literacy of women, encourage greater engagement with superannuation funds and to encourage greater levels of agency in their financial outcomes. There has been little evidence that these initiatives are working at scale. We need to ask why not? Clearly different approaches need to be taken to address the inequities in women's financial outcomes.

Opportunities

- Research has shown there is a financial literacy disparity between men and women and the gender gap stems from childhood and teen years.
 - What can be done in households to prevent financial literacy differences in adulthood?
 - What factors are important in improving the financial outcomes of women?
- Low levels of financial literacy are associated with women. We need to look beyond this finding to explore the reasons, pathways and conditions that create this association.
 - Opportunities lie in exploring the underlying causes and addressing the structural and systemic issues that contribute to the disparity in financial outcomes between men and women.
- Women living in regional and rural areas require specialised focus.
 - What are the financial capability needs of this cohort and how can they be best met for women in these locations?

- Economic abuse is an emerging field of research. What strategies should be used to build women's financial capabilities to:
 - Help prevent economic abuse
 - Help women recover from economic abuse.

Older people

Despite older people in Australia having an average financial wellbeing score that is above the national average (Russell, Kutin, Stewart & Cai, 2018), this result masks the financial hardship experienced by a significant minority of older Australians. As with many other western nations, the ageing population makes it critical to create the structures and provide the interventions needed to enable older people to be free of financial stress and live a comfortable life.

What do we know?

- Older people with poor health, especially multiple health problems, are far more likely to have:
 - lower levels of financial wellbeing
 - lower incomes, less assets and more consumer debt
 - cash-flow difficulties
 - experience financial exclusion and have trouble meeting ongoing out-of-pocket health care costs (Temple & Williams, 2018).
- Older people find choosing appropriate home care packages confusing. The environment and structure of the system for aged care package delivery can impact the older person's capabilities to make an appropriate financial choice. Poor communication, complex language and lack of transparency in fees and charges are the main issues faced by older people when choosing a home care package (Lowies, Helliar, Lushington & Whait, 2019).
- Older people feel disengaged from the financial services and require greater access to services within the community (Lowies et al., 2019).
- The rate and extent of cognitive decline including dementia in older people is problematic given the rise in numbers of aged Self-Managed Superannuation Fund (SMSF) trustees. It is well known that financial capabilities are strongly associated with cognitive capacity. There are concerns for the financial wellbeing of older people experiencing cognitive decline who are making financial decisions about their financial assets in their SMSF or retirement portfolios (Earl, Gerrans, Asher & Woodside, 2015).
- Higher levels of financial literacy among older people is associated with good health, higher education levels, higher paying occupations and outright home ownership (Xue, Gepp, O'Neill, Stern & Vanstone, 2018).

- Higher levels of financial wellbeing among older people is associated with home ownership, living in a couple household and having received financial advice from their parents when growing up. People in this cohort are also less likely to have a long-term health condition and are also less likely to have ever been divorced from a long-term partner (Russell et al., 2018).

Gaps and issues

- Older people are required to take more responsibility for the financial aspects of their retirement than ever before. Ensuring they have the knowledge, skills and capacity to manage their assets (and care decisions) appropriately will become more important over time as the population ages.

Opportunities

Research questions relating to older people and their financial capability include:

- How can we ensure that older people have the financial capabilities (not just financial literacy) to make complex decisions about aged care needs and provisions?
- What support is needed for older people with cognitive decline when managing their retirement assets including their SMSF and other assets?
- Should health professionals have a role in identification of older people who may be experiencing health conditions (or taking medications) resulting in a compromised ability to manage their finances? Who will be responsible for ensuring older people receive appropriate, timely assistance to manage their financial needs?
- Are the general financial capability indicators appropriate for cohorts such as older people? If so, how can we use these indicators to assess the needs of older people in promoting financial wellbeing?

Younger people

International research has a large body of research that focuses on the financial capabilities of young people, stages of development and the important influencing factors that contribute to healthy financial management practices (CFPB, 2015). In Australia, research has concentrated on school and university students to determine the appropriate components to be considered when designing financial education (see Topic 6 of this report for more information on school and university-based education research).

What do we know?

- Personal finance courses have positive financial literacy outcomes for students. Female students show lower levels of financial literacy – reported and objective (Gerrans & Heaney, 2019).

- For students who had completed a personal finance course at university, small positive financial literacy effects were sustained over a 3-year period, but sustained effects were not found for financial behaviours (Gerrans, 2017).
- Parents play an important role in the financial socialisation of young people (Gerrans & Heaney, 2019; Ali, Anderson, McRae & Ramsay, 2014; Bamforth, Jebarajakirthy & Geursen, 2017).
- Year 11 students have an average financial literacy score of 62.8 out of 100 (range between 24.2 and 100). Students living in regional areas are more likely to have lower scores (Ali et al., 2014).
- Younger people who have positive attitudes towards finances have higher levels of financial literacy although there are differences between their confidence levels in financial knowledge and objective levels (Ali et al., 2014).
- Peers and socialising pressures are significant influencers in young people's money management behaviour (Bamforth, Jebarajakirthy & Geursen, 2017).
- For students, high stress levels affected their abilities to restrain spending. Self-identity was a psychological factor that was also found to be important in determining their money management behaviour. The desire to be independent and balancing that with being able to meet their expenses as students was shown to be difficult for many (Bamforth et al., 2017).
- There are diverse money management attitudes and behaviours among young people. Three categories have been identified (Bamforth & Geursen, 2017):
 - Conservative money management behaviour – minimising risk, using tried and tested management approaches learned from trusted others (parents, mentors etc)
 - Creative money management behaviour – managing risk but willing to adapt traditional money management practices to suit their needs and context.
 - Entrepreneurial money managers – not concerned with risk and are focused on achieving their goals in whatever way they see possible in accessing resources, opportunities and creating solutions.

Gaps and issues

- Younger people's socialisation experiences at home, school and university are critical to developing their financial capabilities and positive attitudes towards money. Parents are not always well-equipped to create the socialisation experiences that lead to positive financial behaviours in adulthood. There is no 'formal' or recommended parental template that can be used.
- There is a lack of guidance for young people in dealing with money within a relationship. Most programs or guides focus on individual skills and behaviours.

- We don't know enough about the money management behaviour of young people, how they adopt new technologies, their propensity to save and attitudes to retirement. With home ownership becoming less of an option for long-term financial security, what are the strategies that are relevant to young people?
- Interventions at this time can play an important role to creating a solid foundation of behaviours, habits and attitudes that will predict how they manage their money in adulthood.

Opportunities

Research questions relating to younger people and their financial capability include:

- There are significant differences in financial knowledge generally and knowledge of consumer rights between students living in regional and metropolitan areas. What are the financial capability needs of younger people living in regional and rural areas? Where are the gaps and differences between their development experiences and younger people living in metropolitan locations?
- How can parents be assisted to make the most of their roles as significant influencers of their children's financial capabilities?
- Young people are vulnerable to financial conflict and potential economic abuse in relationships (Kutin, Reid & Russell, 2019). How can financial capability interventions be inclusive of relationship context?
- How can interventions take account of the varying values (identities) that drive money management behaviour?
- Can social marketing help to create effective message campaigns that can help young people adopt the behaviours that will contribute to their financial wellbeing?

CALD communities

Australia is a racially diverse country with multi-culturalism hard-wired into our economic, political and social spheres. There are constantly changing patterns of migration and countries of origin. Migration to Australia is dependent upon global economic and political factors. Having access to financial education is a matter of equity. We have a monetised society and every person has the right to understand it and have the skills to participate in it to enable them to achieve their financial goals in their new country.

There are an increasing number of humanitarian crises occurring in the world, and these, along with the consequent increasing global migration, calls for a focus on ensuring new

arrivals¹⁹ to Australia are equipped with the knowledge and skills required to integrate effectively from a financial perspective.

Financial exclusion is higher among migrant groups who have cultural and religious needs that are not met by mainstream financial services and products. We need more research and practice in better meeting the diverse financial needs of CALD communities.

What do we know?

- The lack of financial products and services compliant with Shariah law contributes to financial exclusion among Muslim communities (Sain, Rahman & Khanam, 2018).
- CALD cohorts are eager to learn about the financial system in Australia and would like more assistance with their financial decision-making but find it difficult to access. There are lower levels of utilisation of financial products and services among CALD communities (Zuhair, Wickremasinghe & Natoli, 2015).
- There are four stages to settlement for new arrivals that all require varying financial products and services (see Zuhair et al., 2015 for details of stages).
- Having access to safe and affordable products will help prevent new arrivals being vulnerable to fringe lenders and expensive consumer leases that can cause long-term financial harm (Bourova et al., 2019).
- New arrivals and migrants from NESBs require specific support to safely navigate utility contracts and to acquire even basic goods without falling prey to scams and high cost financial products (Bourova et al., 2019).
- Remittances are a significant financial obligation for migrants. Transaction costs vary widely across remittance product providers and increasing migrants' financial literacy levels could help save in this expenditure (Karunaratne & Gibson, 2014).
- Peer education models for the delivery of financial education for migrant and refugee women produces positive outcomes for participants (Watson & Kenway, 2018).
- There is evidence of financial abuse among female Indian migrants when they are denied choice or participation in decision-making about their money being used for remittances being sent back to the husband's family (Singh, 2019).
- Attitude, religion and ethnicity play significant roles in the relationship between income and savings (Hamin, Tung, Bauman & Hoadley, 2018).

Gaps and issues

- CALD members of the community have specific needs to enable them to operate within the financial system in Australia. Services and interventions should take

¹⁹ For the purpose of this review, new arrivals will encompass migrants, people on temporary visas, student visas, refugees and asylum seekers.

account of their existing strengths and cultural needs. Finding out what CALD communities need, providing the products and services that are compliant with cultural and religious beliefs should be the starting point in creating opportunities for migrants and new arrivals to better integrate into the financial system.

- Application of a gender lens to interventions is required to ensure women are provided with information that empowers them to benefit from the financial opportunities in their new country.

Opportunities

- There is significant scope for research into the financial capability needs of CALD communities. Keeping in mind that the CALD communities are not homogenous and interventions and approaches need to be context-sensitive and tailored to meet the specific cultural and/or religious beliefs of each group.
 - How can financial education be best delivered to CALD communities? Are there opportunities to bundle with existing settlement programs?
 - What ongoing support is needed by new arrivals and migrants as they progress through their settlement process?
 - How can we ensure the financial needs of women migrants and new arrivals are met within the household and within the community?
 - How are remittance obligations met within households? Are there equitable financial decision-making models that can be promoted?
- There is little data if any that captures the financial capabilities of new arrivals and migrants or their financial products and service needs – i.e. What proportion require Shariah compliant financial products? Australian government data records English proficiency levels, job skills and education levels but the abilities to use our financial services are not considered. There is scope to include an agreed measure into ABS or Department of Home Affairs data collection processes.

Indigenous people and communities

Financial capabilities and wellbeing of indigenous individuals and communities is complex. Approaches to addressing the issues faced can be highly controversial.

There is a need for increased specialised financial capability research undertaken collaboratively with indigenous people.

What do we know?

- Indigenous communities in receipt of mining royalties require autonomy in financial practices rather than increased regulation. Financial management capacity building within the communities is critical to their autonomy (Blue & O'Faircheallaigh, 2018).
- The focus on individual wealth accumulation is culturally inappropriate as an underlying aim of financial education initiatives for indigenous people (Blue & Pinto, 2017; Wagland & Taylor, 2015).

- Indigenous views and use of money are influenced by historical, cultural and familial factors and is distinctive from the Anglo-Celtic views and use of money. Learning about money in Indigenous communities needs to be more strongly linked to cultural knowledge of managing shared resources (Godinho, 2014; Wagland & Taylor, 2015; Godinho, Venugopal, Singh, & Russell, 2017).
- Financial products and concepts are not well understood by Indigenous people especially those living in remote communities. Analogies work well in explaining financial matters with Indigenous clients of financial capability services. Patience is a critical trait needed when delivering financial capability programs in indigenous settings. The concept of reciprocity is core to the local economies of Indigenous communities (Louth & Goodwin-Smith, 2018).
- Defining financial wellbeing for Indigenous people is complex and involves navigating culture and spirituality, family and community, land and sea, health, lores and ceremony. Financial wellbeing is not necessarily linked to material wellbeing. The aim for improving financial wellbeing in Indigenous communities is to situate it so it can link with the cultural and economic self, encompassing families and whole communities (Daniels, Buli, Davis, O'Mally, & Pasco, 2019).
- Access to microfinance alone won't alleviate poverty. Microfinance providers need to build financial capability and resilience building supports into their service offering (Godinho, Eccles & Thomas, 2018).
- About half (49%) of Indigenous people across Australia, cities, regional and remote areas experience severe financial stress, compared to 11% of the general population. More than three-quarters give money to family. Seventy-five percent have difficulty getting help from financial services and the use of pay day loans is high (Weier, Dolan, Powell, Muir & Young, 2019).

Gaps and issues

- Indigenous members of the community have specific needs relating to the building of financial literacy and capability as a result of their different world view, culture and their complex and traumatic history.
- Living remotely, being in receipt of large sums of money (mining royalties) and managing the complexities associated with the Indue card²⁰ all present particular financial management issues for Indigenous individuals and communities.

Opportunities

Research questions to further our knowledge and understanding of Indigenous Australians and financial capability include:

²⁰ <https://www.humanservices.gov.au/individuals/services/centrelink/cashless-debit-card>

- How can Indigenous people and communities be supported to autonomously manage their money?
- How can financial education programs and definitions of financial wellbeing incorporate aspects of world view, culture, spirituality, family, social and political complexity and traumatic history? How do indigenous people see these issues?
- Given the high rates of severe financial stress among Indigenous people, how can programs improve this situation?
- How can programs tackle the need to give money to family? The sociodemographic factors associated with poverty, alcohol and other drug use, incarceration?
- How can getting help from financial services be made more likely? What are the barriers?

People with disability & autistic individuals

In Australia, approximately 36% of households include a person identifying as having a disability (ABS, 2015). In terms of prevalence of autistic individuals, there has been a steep increase of 40% in diagnoses of autism in Australia between 2014 and 2018 with one in 70 people estimated to be autistic²¹. Financial inclusion and wellbeing for all is reliant on consideration of the financial capability needs of people with disability and their carers. The introduction of the National Disability Insurance Scheme (NDIS) has provided a framework for people with disability to exercise choice and control over their lives. The UN Convention of the Rights of Persons with Disability (UNCRPD) insist that people with disability be afforded the opportunity to access and develop capabilities to enable participation in society. Providing relevant and appropriately delivered financial education is a critical step towards fulfilling the mandate of the NDIS and complying with the principles of the UNCRPD. Removing barriers so people with disability and autistic individuals can readily access opportunities is a responsibility that should be foremost in designing financial education that is targeted at these individuals.

What do we know?

- People with cognitive and intellectual disabilities have the most challenges in understanding and using money (Russell, Kutin, Stewart & Rankin, 2017).
- Clients with psychosocial disabilities, those who are unable to self-manage their NDIS plans report poorer outcomes from the NDIS (Mavromaras, Moskos & Mahuteau, 2016)
- Those administering the NDIS – the Local Area Coordinators (LACs) are not always equipped to assist with helping people develop the financial capabilities needed to manage their plans (Russell, Kutin, Stewart & Rankin, 2017).
- People with disability and neurodiversity (autism) face higher risk of exploitation, scams and financial abuse (Kutin et al., 2017; Russell, Cai & Hall, 2017).

²¹ <https://www.autismspectrum.org.au/about-autism/what-is-autism>

- Autistic individuals are keen to develop financial capabilities and see it as critical to achieving and maintaining independence (Russell, Cai & Hall, 2017)

Gaps and issues

- There is a large gap in Australian research that explores the financial needs, capabilities of people with disabilities and autistic individuals. There is significant opportunity for research into the relationship between financial capabilities, financial situations and NDIS.

Opportunities

Research questions relating to people with disability, autism and financial capabilities include:

- What are the financial capability needs of people with disability and autistic individuals (taking into account the high level of diversity of conditions and situations)?
- How can measures of the financial inclusion / financial capabilities be incorporated into relevant national data collection processes?
- How can people with disability access the financial education needed?
- Is there scope for the NDIA to incorporate financial capability development into their staff and client programs?

Implications and conclusions

This report provides a scan of the Australian research on financial wellbeing and financial capabilities. The research reflects a wide range of disciplines providing a rich picture of the financial wellbeing and capabilities of Australians. This representative review of Australian research provides several clear priorities for future research. Embedded in these points are implications for financial education and other interventions aimed at developing financial capabilities.

Measurement

There is wide variance in the interpretation, labelling and measuring of factors associated with financial capabilities and financial wellbeing. The lack of a consistent language makes it difficult to assess interventions that are aimed at improving people's financial wellbeing with any certainty. Consistency of terms is critical for measurement of meaningful and comparable outcomes.

The development of a set of definitions and measurement items relating to financial capabilities and wellbeing would enable surety in comparing outcomes across studies.

Government and social support

Financial wellbeing studies show that government and social support contribute to financial wellbeing. There are implications for further research on policy, structural and systemic factors that impact or interact with financial capabilities. Co-designing policies and community and social support initiatives would ensure cohorts obtain maximal effect on their financial capabilities and assist in bringing scale to interventions.

Understanding pathways to financial decisions

Most of the research conducted in Australia provides robust results on the outcomes of people's decisions – whether it be about retirement, use of credit or engagement with superannuation funds. While we know the outcomes of decisions made (or not made) we are less clear about the pathways to those decisions. Understanding the behaviours and choices that lead to the decisions that underpin the outcomes that are measured have implications for the support and interventions needed before the critical decisions are made.

Including longitudinal studies and diary approaches to complement the cross-sectional research on financial wellbeing outcomes would help with identifying the everyday enablers and barriers to financial wellbeing.

Role of social norms and external environment

We know about the individual skills, knowledge and behaviours, that contribute to financial wellbeing. Financial education is primarily aimed at the individual. It would be worthwhile to explore how we can measure the impact of external factors such as social and cultural norms on our behaviours, capabilities and financial wellbeing. Successful pathways to behaviour change include changing capabilities and 'norms. There is scope for designing financial education to include how social norms and our external environment impact our financial behaviours but also how individuals can play a role in changing norms within their peer groups.

Exploring values, attitudes and motivations

If adoption of positive financial behaviours is the goal, we need to know more about how the financial behaviour change takes place. The simplistic rational approach, more knowledge = changed behaviour does not hold true. There is, therefore, opportunity to explore how values, attitudes and motivation contribute to people's abilities to change their financial behaviours. We also need to recognise that these values, attitudes and motivations will differ across cultures, peer groups, households and individuals. Researching these factors have direct implications for the design of financial education programs.

Incorporating social marketing

There are many disciplines represented in the research output relating to financial wellbeing and financial capabilities. The underlying aim of much of the research is to understand how Australians can improve their financial capabilities. Improving financial capability involves modifying financial behaviours that detract from financial wellbeing and strengthening and adopting behaviours that contribute to financial wellbeing. It is feasible, that increased representation from social marketing research could help to promote behaviour change. Greater use of psychographic segmenting, especially the use of values, rather than just demographics has the potential to improve the success of interventions. Recruiting social marketers to this space could be a valuable addition to financial capability research.

Better meeting the needs of vulnerable cohorts

There is very little Australian research on the financial capability and service needs of people with disability and autistic individuals. The needs of vulnerable people with disability and autism are diverse and extend across the spectrum encompassing physical, cognitive, social and emotional challenges. The introduction of the NDIS has created an environment in which financial capabilities are even more important for people with disability, autistic individuals, carers and NDIS providers. The research in this area is inadequate and there are direct implications for design of appropriate financial education interventions to meet the needs of these vulnerable cohorts.

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Appendices – Australian publications

Publications have been coded to the following themes:

FC = Financial capabilities

FDM = Financial decision-making

FE = Financial education

FV&R = Financial vulnerability and resilience

FW = Financial wellbeing

S&R = Superannuation & retirement

SC-ATSI = Specific cohorts – Indigenous Australians

SC-CALD = Specific cohorts – CALD (cultural and linguistically diverse)

SC-DIS = Specific cohorts – People with disabilities and autistic individuals

SC-O = Specific cohorts – Older people

SC-W = Specific cohorts – Women

SC-Y = Specific cohorts – Younger people

Table A 1. Australian publications

Citation	Title	Affiliation (first author only)	Source type	Data source	Cohort (sample)	Theme
Agnew, Bateman, Eckert, Iskhakov, Louviere, and Thorp (2016)	First impressions matter: An experimental investigation of online advice.	ARC Centre of Excellence in Population Ageing	Journal article	Primary data Recruited from PureProfile online panel	1,271 Australian adults	FDM
Ali, Anderson, McRae, and Ramsay (2014)	The financial literacy of young Australians: An empirical study and implications for consumer protection and ASIC's National Financial Literacy Strategy	University of Melbourne	Journal article	Primary data Survey Victorian secondary schools	207 Year 11 students (aged 16-17)	SC-Y
Alonso-García, Bateman, Bonekamp, van Soest, and Stevens (2018)	Saving preferences after retirement	ARC Centre of Excellence in Population Ageing Research	Working paper	Primary data / experimental design LISS Panel and CentERpanel	1,437 Dutch adults aged 50 – 64 983 Australian adults aged 50 – 64	S&R
Altschwager and Evans (2018)	The customer journey through retirement planning	Melbourne Business School	Report	Primary data Focus groups recruited nationally through market research company. In-depth interviews	168 focus groups participants nationally representative across regional, metro states and territories 69 Key informants	S&R

Citation	Title	Affiliation (first author only)	Source type	Data source	Cohort (sample)	Theme
ANZ (2018)	Financial wellbeing: A survey of adults in Australia	ANZ	Report	Primary data Survey – data collected by YouGovGalaxy and research by Prescience Research	3,578 Australian adults	FW
Aspara, Chakravarti, and Hoffmann (2015)	Focal versus background goals in consumer financial decision-making	Aalto University, Finland	Journal article	Primary data Experimental	92 Students	FDM
Attard (2016)	Financial literacy as a tool to increase opportunity and engagement with mathematics for students from low-socioeconomic areas	Western Sydney University	Report	Primary data Case studies	4 schools	FE
Bamforth and Geursen (2017)	Categorising the money management behaviour of young consumers	Swinburne University of Technology	Journal article	Primary data Focus groups	40 Undergraduate students aged 18-24	SC-Y
Bamforth, Jebarajakirthy, and Geursen (2017)	Undergraduates' responses to factors affecting their money management behaviour: some new insights from a qualitative study	Swinburne University of Technology	Journal article	Primary data Focus groups	40 Undergraduate students aged 18-24	SC-Y

Citation	Title	Affiliation (first author only)	Source type	Data source	Cohort (sample)	Theme
Bateman, Dobrescu, Newell, Ortmann, and Thorp (2016)	As easy as pie: how retirement savers use prescribed investment disclosures	UNSW	Journal article	Primary data Experimental 4 treatment groups	230 University staff members and students	S&R
Bateman, Eckert, Iskhakov, Louviere, Satchell, and Thorp (2016)	Individual capability and effort in retirement benefit choice	UNSW	Journal article	Primary data experimental design Survey PureProfile online panel	854 Middle aged Australians	S&R
Bateman, Eckert, Iskhakov, Louviere, Satchell, and Thorp (2017)	Default and naïve diversification heuristics annuity choice	UNSW	Journal article	Primary data Survey / PC task	Not indicated	S&R
Blue (2019)	Financial literacy education with an Aboriginal community: Identifying critical moments for enabling praxis	QUT	Journal article	Primary data Case study interviews	19 Members of an Aboriginal community in Canada	FE
Blue and Brimble (2014)	Reframing the expectations of financial literacy education: bringing back the reality	Griffith University	Journal article	Conceptual paper	n/a	FE
Blue and Grootenboer (2019)	A praxis approach to financial literacy education	QUT	Journal article	Conceptual paper	n/a	FE

Citation	Title	Affiliation (first author only)	Source type	Data source	Cohort (sample)	Theme
Blue and Pinto (2017)	Other ways of being: challenging dominant financial literacy discourses in Aboriginal context	Griffith University	Journal article	Case study	Canadian Aboriginal Community	FE SC-ATSI
Blue, Grootenboer, and Brimble (2014)	Financial literacy education in the curriculum: Making the grade or missing the mark?	Griffith University	Journal article	Conceptual paper	n/a	FE
Blue, O'Brien, and Makar (2018)	Exploring the classroom practices that may enable a compassionate approach to financial literacy education	Griffith University	Journal article	Primary data Case study	29 Students in Year 4 primary school classroom in Qld, low SES, rural school	FE
Bourova, Anderson, Ramsay, and Ali (2018)	Impacts of financial literacy and confidence on the severity of financial hardship in Australia	University of Melbourne	Journal article	Primary data Pureprofile database	1,101 Australian adults who were struggling with debt	FV&R
Bourova, Ramsay, and Ali (2019)	'It's easy to say "don't sign anything"': Debt problems among recent migrants from a non-English-speaking background.	University of Melbourne	Journal article	Focus groups	4 focus groups with 21 consumer advocates from three community organisations	SC-CALD

Citation	Title	Affiliation (first author only)	Source type	Data source	Cohort (sample)	Theme
Bowman and Banks (2018)	Hard times: Australian households and financial insecurity	Brotherhood of St Laurence	Report	Primary data Interviews Survey panel – 8 surveys over a 4-month period (diaries approach)	145 Australian low-income households	FV&R
Bowman, Banks, Fela, Russell, and de Silva (2016)	Understanding financial wellbeing in times of insecurity	Brotherhood of St Laurence	Working paper	Conceptual	n/a	FW
Brimble and Blue (2015)	A holistic approach to financial literacy education	Griffith University	Journal article	Conceptual paper	n/a	FE
Brockman and Michayluk (2015)	How does financial literacy affect the savings decision? Working paper.	Centre for International Finance and Regulation, Melbourne Law School	Report	Primary data Survey PureProfile sample Panel	5,234 Australian adults	FC
Brockman and Michayluk (2016)	What triggers people to save for retirement	Centre for International Finance and Regulation, Melbourne Law School	Report	Primary data Interviews survey	Australian & US adults 68 Interviewed 4,825 Surveyed	S&R
Brown and Gray (2016)	Household finances and wellbeing in Australia: An empirical analysis of comparison effects	University of Sheffield	Journal article	Secondary data HILDA	27,530 Australians aged 16-93	FW

Citation	Title	Affiliation (first author only)	Source type	Data source	Cohort (sample)	Theme
Burnett, Davis, Murawski, Wilkins, and Wilkinson (2018)	Measuring the adequacy of retirement savings	University of Melbourne	Journal article	Secondary data HILDA	Australian adults aged 40+	S&R
Butt and Khemka (2015)	The effect of objective formulation on retirement decision making	ANU	Journal article	Secondary data Monte carlo model UBS AU Bank Bill All Maturities Index and S&P /ASX200 Accumulation Index 1993 - 2012	Monetary data	S&R
Butt, Donald, Foster, Thorp, and Warren (2018)	One size fits all? Tailoring retirement plan defaults	ANU	Journal article	Primary data Interviews Survey PureProfile online panel	28 Plan executives 1,053 Australian adults aged 18-75 surveyed	S&R
CBA-MI (2019)	Improving the financial wellbeing of Australians	Commonwealth Bank of Australia (CBA) & Melbourne Institute: Applied Economic & Social Research, Melbourne University (CBA-MI).	Report	Primary data and secondary data Survey and CBA banking transaction data	5,682 CBA customers	FW
Chardon, Brimble, and Freudenberg (2016)	Tax and superannuation literacy: Australian and New Zealand perspectives	USQ	Journal article	Discussion paper using results of existing analyses of national financial literacy data	n/a	FE

Citation	Title	Affiliation (first author only)	Source type	Data source	Cohort (sample)	Theme
Cheah, Foster, Heaney, Higgins, Oliver, O'Neill, and Russell (2015)	Discussions on long-term financial choice	ANU	Journal article	Primary data Focus groups recruited through a commercial company	48 Australian adults	FDM
Clark, Fiaschetti, and Gerrans (2019)	Determinants of seeking advice within defined contribution retirement savings schemes	University of Oxford	Journal article	Secondary data Mercer (Australia) Super Trust	567,451 Australian employees (members of a superannuation fund)	S&R
Comerton-Forde, Ip, Ribar, Ross, Salamanca, and Tsiaplias (2018)	Using survey and banking data to measure financial wellbeing	CBA-MI	Report	As above	As above	FW
Daniels, Buli, Davis, O'Mally, and Pasco (2019)	Yarnin Money	Indigenous Consumer Assistance Network (ICAN) Ecstra foundation	Report	Primary data Evaluation survey Interviews Community focus groups	113 Indigenous participants surveyed 10 Interviews 16 Focus group participants	FE SC-ATSI
de Zwaan, Brimble, and Stewart (2015)	Engagement with superannuation: Is there really a gender gap	QUT	Journal article	Primary data survey	551 Australian adults	S&R

Citation	Title	Affiliation (first author only)	Source type	Data source	Cohort (sample)	Theme
de Zwaan, Palm, Liu, and Chardon (2017)	Overconfidence in financial literacy: implications for planners	QUT	Journal article	Primary data Survey	363 Australian adults	FC
Deetlefs, Bateman, Dobrescu, Newell, Ortmann, and Thorp (2019)	Engagement with retirement savings: it is a matter of trust	UNSW	Journal article	Primary data Survey & admin data UniSuper	1,756 Australian UniSuper members	S&R
Driver, Brimble, Freudenberg, and Hunt (2018)	Insurance literacy in Australia: not knowing the value of personal insurance	Griffith University	Journal article	Primary data Interviews	30 Financial planners 40 Consumers	FV&R
Earl and Burbury (2019)	Trialing an online intervention to improve retirement planning goal setting and goal specificity	Macquarie University	Journal article	Primary data / experimental design	40 Australian adults aged between 45-77	S&R
Earl, Bednall, and Muratore (2015)	A matter of time: Why some people plan for retirement and others do not	UNSW	Journal article	Primary data Survey – 3 wave longitudinal	367 Australians aged 45+	S&R

Citation	Title	Affiliation (first author only)	Source type	Data source	Cohort (sample)	Theme
Earl, Gerrans, Asher, and Woodside (2015)	Financial literacy, financial judgement and retirement self-efficacy of older trustees of self-managed superannuation funds	UNSW	Journal article	Primary data Survey – recruited via advertisement in National Seniors Australia – e-letter	81 Older Australians	SC-O
EY (2019)	How do we really build financial capability? 10 principles for financial interventions	EY	Report	Conceptual paper	n/a	FE
Feng (2018)	Voluntary retirement savings: The case of Australia	Monash University	Journal article	Secondary data SEARS, SIH, HILDA	Australians aged 25-60 8,664 SEARS data 27,451 SIH data 5,350 HILDA data	S&R
Feng, Gerrans, Moulang, Whiteside, and Strydom (2019)	Why women have lower retirement savings: The Australian case	UWA	Journal article	Secondary data Mercer (Australia) Super Trust	21,499 Australian employees (members of a superannuation fund)	S&R SC-W
Foster, Ng, and Wee (2015)	Presentation format and financial literacy: accessibility and accessibility of retirement savings accounts	UTS	Journal article	Primary / experimental design Sourced from MyOpinions survey company	577 Australian adults	S&R

Citation	Title	Affiliation (first author only)	Source type	Data source	Cohort (sample)	Theme
Gerhard, Gladstone, and Hoffmann (2018)	Psychological characteristics and household savings behaviour: The importance of accounting for latent heterogeneity	Maastricht University, The Netherlands	Journal article	Secondary data Household survey administered by an independent charity in the UK in 2013	3,382 UK adults	FC
Gerrans (2017)	Longer-term impacts of university level undergraduate financial literacy education	UWA	Report	Primary data Quasi-experimental	University students enrolled in a personal finance course 282 in the treatment group 200 in the control group	FE SC-Y
Gerrans and Heaney (2019)	The impact of undergraduate personal finance education on individual financial literacy, attitudes and intentions	UWA	Journal article	Primary data Quasi-experimental	University students enrolled in a personal finance course. 282 in the treatment group 200 in the control group	FE SC-Y
Gerrans and Hershey (2017)	Financial advisor anxiety, financial literacy, and financial advice seeking	UWA	Journal article	Primary data Recruited from an online commercial panel provider	2,282 Australians aged 40+	FDM

Citation	Title	Affiliation (first author only)	Source type	Data source	Cohort (sample)	Theme
Gerrans, Moulang, Feng, and Strydom (2018)	Individual and peer effects in retirement savings investment decisions	UWA	Journal article	Secondary data Mercer (Australia) Super Trust	28,031 Australian employees (members of a superannuation fund)	FDM S&R
Gerrans, Ooi, and Wright (2017)	Teaching financial literacy at university: online and face-to-face evaluations	UWA	Report	Primary data Pre and post evaluation	1,200 University students (personal finance)	FE SC-Y
Gerrans, Speelman, and Campitelli (2014)	The relationship between personal financial wellness and financial wellbeing: A structural equation modelling approach	UWA	Journal article	Primary data Commercial survey company administered survey by telephone.	505 Australians (WA)	FW
Godinho (2014)	Money, financial capability and well-being in Indigenous Australia	RMIT University	PhD thesis	Primary data	146 Adults from Indigenous communities in remote, regional and urban Australia	SC-ATSI
Godinho, Eccles, and Thomas (2018)	Beyond Access: The role of microfinance in enabling financial empowerment and wellbeing for Indigenous clients: lessons from remote Australia	Good Shepherd Microfinance	Journal article	Conceptual discussion paper using evaluation examples	NILS clients, providers and stakeholders	SC-ATSI

Citation	Title	Affiliation (first author only)	Source type	Data source	Cohort (sample)	Theme
Godinho, Venugopal, Singh, and Russell (2017)	When exchange logics collide: insights from remote Indigenous Australia	RMIT University	Journal article	Primary data Case study	2 Remote Indigenous communities	SC-ATSI
Good Shepherd Microfinance Advisory Services (2019)	Conversations to capability	Good Shepherd Microfinance	Report	Primary data Living lab method / co-design	22 NILS clients	FC
Haisken-DeNew, Ribar, Salamanca, Nicastro, and Ross (2019)	Improving the Commonwealth Bank of Australia – Melbourne Institute Observed Financial Wellbeing Scale	CBA-MI	Report	As above	As above	FW
Hamin, Tung, Baumann, and Hoadley (2018)	Customers' savings rate and share of wallet: the moderating role of religion and ethnicity / immigrant generation vis-a-vis attitude as mediator	Krida Wacana Christian University, Jakarta & UTS	Journal article	Primary data survey	755 Australian, Canadian, and Chinese adults	SC-CALD
Hoffmann and Otteby (2017)	Personal finance blogs: helpful tool for consumers with low financial literacy or preaching to the choir?	University of Adelaide	Journal article	Primary data Amazon Mechanical Turk (Mturk)	239 Online labour market (representative of the US internet users)	FE

Citation	Title	Affiliation (first author only)	Source type	Data source	Cohort (sample)	Theme
Hoffmann and McNair (2019)	How does consumers' financial vulnerability relate to positive and negative financial outcomes? The mediating role of individual psychological characteristics	University of Adelaide Business School	Journal article	Primary data Online incentivised panel (N = 396)	Adults in USA	
Huang, Perales, and Western (2019)	To pool or not to pool? Trends and predictors of banking arrangements within Australian couples	ARC Centre of Excellence for Children and Families over the Life Course	Journal article	Secondary data HILDA	15,379 Australian adults (7,054 couples)	FC
Karunaratne and Gibson (2014)	Financial literacy and remittance behaviour of skilled and unskilled groups in Australia	University of Melbourne	Journal article	Primary data Survey	209 Sri Lankan migrants 379 Pacific Island migrants	SC-CALD
Kutin (2019)	Exploring how economic abuse manifests in young adult relationships	RMIT University	PhD thesis	Primary data Interviews	24 practitioners and 24 young adults	SC-Y
Kutin, Reid, and Russell (2019)	What is this thing called money? Economic abuse in young adult relationships	RMIT University	Journal article	Primary data Interviews	24 Australian young adults age 18-29 24 Key experts	SC-W SC-Y

Citation	Title	Affiliation (first author only)	Source type	Data source	Cohort (sample)	Theme
Kutin, Russell, and Reid (2017)	Economic abuse between intimate partners in Australia: Prevalence, health status, disability and financial stress	RMIT University	Journal article	Secondary data ABS Personal Safety Survey	17,050 Australian adults	SC-DIS SC-W SC-Y
Lin, Bruhn, and William (2019)	Extending financial literacy to insurance literacy: a survey approach	Taylor Fry, Sydney	Journal article	Primary data Survey	120 Postgraduate students	FV&R
Louth and Goodwin-Smith (2018)	“You can’t just come in like a fly and take-off” an evaluation report on client and staff experiences of the delivery of CatholicCare NT’s Financial Wellbeing and Capability program	Flinders University	Report	Primary data Evaluation Co-design Interviews Focus groups Yarning / storytelling	24 CatholicCare staff 44 Program clients	SC-ATSI
Lowies, Helliar, Lushington, and Whait (2019)	The financial capability of older people	UniSA	Report	Primary data Interviewees sourced from aged care providers	62 Older Australians aged 65+	SC-O
Marston, Banks, and Zhang (2017)	The role of human emotion in decisions about credit: policy and practice consideration	University of Queensland	Journal article	Primary data Interviews Recruited through advertisement and financial counsellors, lenders, community groups	112 Low-income Australians	FDM

Citation	Title	Affiliation (first author only)	Source type	Data source	Cohort (sample)	Theme
ME Bank (2019)	Household financial comfort report	ME Bank, Melbourne	Report	Primary data Online survey with (14th wave of data)	1,500 Australian adults	FW
Mooney, Earl, Mooney, and Bateman (2017)	Using balanced time perspective to explain well-being and planning in retirement	Flinders University	Journal article	Primary data Survey	127 Australian retirees aged 52-91	S&R
Muir, Hamilton, Noone, Marjolin, Salignac, and Saunders (2017)	Exploring financial wellbeing in the Australian context	Centre for Social Impact & Social Policy Research Centre, University of New South Wales (NSW)	Report	Primary data Focus groups Interviews Experts Survey	Australian adults 72 focus group & interview participants 821 Surveyed 11 Experts	FW
NAB and CSI (2018)	Financial security and the influence of economic resources. Financial resilience in Australia	NAB & Centre for Social impact	Report	Primary data Survey administered by Roy Morgan Research using OzPanel.	2,062 Representative Australian adults	FV&R
NAB Behavioural & Industry Economics (2019)	NAB Australian Wellbeing Survey Q2	NAB	Report	(not indicated)	(not indicated)	FW
OEE, PFRC, IFF, NIBUD, Russell, Kutin, and Jorgensen (2016)	Study on access to comprehensive financial guidance for consumers	OEE	Report	Primary data Multi-country Survey In-depth interviews	Financial advisors (multi-country including Australia) 203 Surveyed 42 Interviewed	FDM

Citation	Title	Affiliation (first author only)	Source type	Data source	Cohort (sample)	Theme
Preston and Wright (2019)	Understanding the gender gap in financial literacy: evidence from Australia	UWA	Journal article	Secondary data HILDA	16,886 Australian adults	SC-W
Russell, Cai, and Hall (2017)	Financial wellbeing of autistic individuals	RMIT University	Report	Primary data Focus groups	16 Autistic individuals 10 Carers of autistic individuals	SC-DIS
Russell, Green, Rankin, and Kutin (2017)	Promoting women's financial wellbeing in regional Australia. Evaluation of 10thousandgirl's Regional Women's Financial Literacy Roadshow. Report for 10thousandgirl.	RMIT University	Report	Primary data Survey Interviews	Australian women living in regional areas 615 Surveyed 14 Stakeholder interviews	SC-W
Russell, Kutin, Green, Banks, and Di Iorio (2016)	Women and money in Australia: Across the generations	RMIT University	ARC Report	Primary data	114 Participants in 12 focus groups 2,190 Australian women surveyed (representative sample)	SC-W
Russell, Kutin, Stewart, and Cai (2018)	Financial wellbeing: Older Australians	RMIT University	Report	Secondary data ANZ FWB database of adult Australians	732 Older Australians aged 65+	SC-O

Citation	Title	Affiliation (first author only)	Source type	Data source	Cohort (sample)	Theme
Russell, Kutin, Stewart, and Rankin (2017)	MoneyMinded impact report with a focus on financial wellbeing in a disability services context	RMIT University	Report	Primary data Survey Interviews Focus groups	107 MoneyMinded facilitators working with people with disability surveyed 14 Expert interviews 16 NDIA Local Area Coordinators focus group participants	SC-DIS
Russell, Priday, and Pedell (2014)	Exploring the asset protection needs of Australians living on low-incomes: A living lab pilot	RMIT University	Report	Primary data Living lab methodology	22 Individuals living on low incomes 12 Community organisation staff	FV&R
Russell, Stewart, and Cull (2015)	Saver Plus: a decade of impact	RMIT University	Report	Primary data Bank transaction data Survey	14,934 Saver Plus participants	FV&R FC
Rutley, Bishop, and Gurney (2018)	Teaching the youth: Kantar Public research report	Kantar Public	Report	Primary data Focus groups In-depth interviews Survey	4 focus groups, Sydney, Melbourne and Toowoomba 6 In-depth interviews 1,506 surveyed Australian parents and wider community	FE

Citation	Title	Affiliation (first author only)	Source type	Data source	Cohort (sample)	Theme
Sain, Rahman, and Khanam (2018)	Financial exclusion and the role of Islamic finance in Australia: A case study in Queensland	University of Southern Queensland	Journal article	Primary data Survey	251 Adults from Muslim communities in Queensland	SC-CALD
Salignac, Hamilton, Noone, Marjolin, and Muir (2019)	Conceptualizing financial wellbeing: An ecological life-course approach	Kedge Business School, France & UNSW	Journal article	Primary data Focus groups and interviews	Australian adults 54 Focus group participants 18 Interviewed	FW
Salignac, Marjolin, Reeve, and Muir (2019)	Conceptualising and measuring financial resilience: a multidimensional framework	Kedge Business School, France & UNSW	Journal article	Primary data Survey administered by Roy Morgan using OzPanel	1,496 Australian adults aged 18+	FV&R
Sawatzki (2017)	Lessons in financial literacy task design: authentic, imaginable, useful	Monash University	Journal article	Primary data Design research conducted in Darwin schools	Primary school students and teachers including 14 teachers; 300+ year 5 & 6 students	FE
Sawatzki and Sullivan (2017)	Teachers' perceptions of financial literacy and the implications for professional learning	Monash University	Journal article	Primary data Design research	35 Victorian primary school teachers from 16 schools	FE

Citation	Title	Affiliation (first author only)	Source type	Data source	Cohort (sample)	Theme
Sawatzki and Sullivan (2018)	Shopping for shoes: Teaching students to apply and interpret mathematics in the real world	Monash University	Journal article	Primary data Design research conducted in a suburban Australian primary school	Primary school children – composite class of year 5/6 students, teachers and researchers	FE
Sawatzki and Zmood (2018)	The case for teaching and learning about taxation and superannuation at school	University of Canberra	Report	Research review	n/a	FE
Sawatzki, Zmood, Forsyth, and Downton (2017)	Exploring secondary commerce teachers' opportunities and readiness to teach consumer, economic and financial literacy	Monash University	Report	Primary data recruited through Victorian Commercial Teachers' Association	128 Victorian teachers	FE
Singh (2019)	The daughter-in-law questions remittances: changes in the gender of remittances among Indian migrants to Australia	RMIT University	Journal article	Primary data Interviews & participant observation	203 Indian migrants to Australia	SC-CALD SC-W
Snow, Vyas, and Brereton (2017)	Sharing, saving and living well on less: supporting social connectedness to mitigate financial hardship	University of Southampton	Journal article	Primary data Interviews	26 Australian adults	FC
Temple and Williams (2018)	Financial wellbeing of older Australians with multiple health conditions.	University of Melbourne	Journal article	Secondary data ABS General Social Survey	6,012 Australians aged 50+	SC-O

Citation	Title	Affiliation (first author only)	Source type	Data source	Cohort (sample)	Theme
Voigt, Murawski, Speer, and Bode (2019)	Hard decisions shape the neural coding of preferences	University of Melbourne	Journal article	Primary data experimental	22 Australian adults	FDM
Vyvan, Blue, and Brimble (2014)	Factors that influence financial capability and effectiveness: Exploring financial counsellors' perspectives	Griffith University	Journal article	Primary data Focus groups	18 Financial counsellors	FC
Wagland and Taylor (2015)	The conflict between financial decision-making and Indigenous Australian Culture	WSU	Journal article	Secondary data/ Review paper	n/a	SC-ATSI
Warren (2015)	Retirement decisions of couples in Australia: the impact of spousal characteristics and preferences	Melbourne Institute of Applied Economic and Social Research, Melbourne University	Journal article	Secondary data HILDA couple-year observations	916 Australians aged 55-70 living with a spouse or partner	S&R
Watson and Kenway (2018)	Let's talk money evaluation report	Women's health in the North Financial literacy Australia Bluebird Consultants	Report	Primary data Evaluation Interviews Focus group	12 Migrant, refugee women 5 Peer educators	SC-CALD

Citation	Title	Affiliation (first author only)	Source type	Data source	Cohort (sample)	Theme
Weier, Dolan, Powell, Muir, and Young (2019)	Money stories: Financial resilience among Aboriginal and Torres Strait Islander Australians	CSI- UNSW	Report	Primary data Survey	620 Indigenous Australians	SC-ATSI
West and Worthington (2018)	Life events and portfolio rebalancing of the family home	Griffith University	Journal article	Secondary data HILDA waves 1-10	20,702 Australian adults	FDM
West and Worthington (2018b)	Synthesizing an index of financial literacy using not-for-purpose survey data	Griffith University	Journal article	Secondary data HILDA (2001-2010)	13,526 Australian adults	SC-W
Xue, Gepp, O'Neill, Stern, and Vanstone (2018)	Financial literacy amongst elderly Australians	Bond University	Journal article	Primary data Survey (National Seniors Australia)	3,484 Australians aged 55+	SC-O
Zuhair, Wickremasinghe, and Natoli (2015)	Migrants and self-reported financial literacy	Victoria University	Journal article	Primary data Survey	Adults from three migrant communities 22 African 43 Asian 18 European	SC-CALD

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