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Financial decisions matter: promoting positive financial behaviour, financial satisfaction, and financial well-being

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Chapter 1

Introduction

Sound financial decision-making is essential in modern society, concerning positive financial behaviours, such as paying bills on time, active saving, and working toward financial goals. Whether people want to buy a house, finance an education, invest for wealth accumulation, or save for retirement, they must understand how to manage their money effectively. Today, people face several trends that are challenging their way of living and managing their money. In areas such as housing, education, healthcare, and pensions, people have to conduct their own research to help them make the best financial decisions possible. For example, in the Netherlands, every year people must decide about their own health insurance (Simonse, Van der Werf, & Wilmink, 2017). Likewise, in the United States, people need to choose their own pension plans (Lusardi, 2019). Moreover, financial service providers, such as commercial banks, credit unions, brokerage firms, and insurance companies offer an abundance of financial choices, leading to a choice overload, which, in turn, can result in confusion and difficulty in making financial decisions (Amagir, 2020). People must choose among investment and savings products that are more sophisticated than before, with varying interest rates and maturities. The financial landscape has also become increasingly dynamic because of technological advances (Simonse et al., 2017). Online shopping, for instance, enables people to access ample purchase opportunities, and can cause them to use and overextend credit (Credit Connect, 2020). People increasingly choose and purchase financial products online and use mobile banking apps (Simonse et al., 2017). These recent trends illustrate that people need to take on more financial responsibilities, and the decisions they make today can have a lasting impact on their future, thus putting much pressure on their financial decisions.

Although sound financial decision-making is important, many people are struggling with it. For example, in the United Kingdom, about one in six adults is over-indebted, suggesting that it is difficult for them to keep up with their bills and credit commitments

(MAS, 2018a). Moreover, two in five working age adults have less than £100 in savings (MAS, 2016a). Among the young, one in four adults live with financial problems (MAS, 2016b), and almost three-quarters of them have experienced mental health or well-being problems related to money at some point (MAS, 2018b). Similarly, in the Netherlands, one in three households has payment arrears (Van Dijk, 2016), and about one in five households has problematic debts (i.e., debts that cannot be repaid within three years) or are at great risk of getting into problematic debts (Westhof, De Ruig, & Kerckhaert, 2015). Survey findings reported by the National Institute for Family Finance Information (Nibud, 2017) also showed that one in five households does not have savings and one in three households cannot cover unanticipated expenses. The younger generation in the Netherlands forms no exemption to this pattern, as an increasing number of young people have debts and request professional help (Madern, 2014).

Adverse consequences of poor financial decisions

Poor financial decision-making carries substantial costs. From an individual standpoint, people who do not understand how financial markets work are unable to access banking and financial services and remain outside of these markets (Klapper & Lusardi, 2016). In addition, those who do not understand how interest compounding works might end up spending more on transaction fees, borrowing more, saving less, and incurring more interest rates on loans (Lusardi & De Bassa Scheresberg, 2013; Lusardi & Tufano, 2015; Stango & Zinman, 2009). When debts increase, scarce financial resources take a toll on several aspects of people's lives, such as their mental and physical health (Richardson, Elliott, & Roberts, 2013; Sweet, Nandi, Adam, & McDade, 2013; Van Dijk, Van der Werf, & Van Dillen, 2021). The societal consequences of financial problems are also severe. Studies have shown that more household debt is related to less economic growth, more

unemployment, and a higher likelihood of future banking crises (Jordà, Schularick, & Taylor, 2016; Mian, Sufi, & Verner, 2017). For example, it has been estimated that the financial problems of households in the Netherlands cost the Dutch society about €10 billion per year (Simonse et al., 2017). All the above suggests that sound financial decision-making is imperative, not only for individuals themselves and for their households, but for the society as well.

Benefits of sound financial decisions

Sound financial decisions may increase people's financial satisfaction and financial well-being. To illustrate, people who pay their (credit card) bills on time can freely spend the remaining money on any items they want (Joo & Grable, 2004; Robb & Woodyard, 2016). Likewise, people who set aside money for emergencies or a rainy day create a financial buffer to support both positive life events, such as further education, and (unexpected) negative life events like unemployment or work disability (Joo & Grable, 2004; Robb & Woodyard, 2016; Xiao, Chen, & Chen, 2014). Whereas people who effectively manage their credit know when they can take a loan and for what amount (Robb & Woodyard, 2016). The same goes for people who review their credit report frequently to ensure that they have a good financial reputation (Robb & Woodyard, 2016). These sound financial decisions can help people to lead better (financial) lives and, thereby, increase their financial satisfaction and financial well-being. The difference between financial satisfaction and financial well-being is that the former relates to current financial circumstances only, whereas the latter covers both current and future financial circumstances. Evidence indeed supports a positive relation between sound financial decisions, and both financial satisfaction and financial well-being (CFPB, 2015).

Making sound financial decisions provides people with more financial room to enjoy life, for example, by spending more free time with family and friends, eating healthy and exercising, affording comfortable housing, and taking holidays, which help them to improve their overall quality of life (see e.g., Allen, 2020). Poor financial decisions, on the other hand, may lead to financial problems and negative consequences for mental and physical health, as discussed earlier. By gaining insights into the factors that influence financial decisions, policymakers, educators, practitioners, and service providers, among others, can identify strategies that decrease the adverse consequences of poor financial decisions and/or increase the benefits of sound financial decisions.

The present dissertation

We posit that, to make sound financial decisions, three sets of factors are crucial: (a) objective and subjective financial knowledge, (b) attitude toward money and future orientation, and (c) control skills. Below, we elaborate on these factors.

Objective and subjective financial knowledge

People's financial decision-making should benefit from having sufficient objective and subjective financial knowledge. Objective financial knowledge involves understanding how the financial landscape works, including money, financial concepts, products, services, risks, and opportunities. A lack of said knowledge can put people at risk of financial insecurity (Khan, Rothwell, Cherney, & Sussman, 2017) and poverty (Askar, Ouattara, & Zhang, 2020). Conversely, as widely documented, objective financial knowledge can lead to sound financial decisions, such as to put money aside in an emergency fund, pay bills on time, not overdraw a checking account, not use high-cost borrowing methods, and plan for retirement (Arifin, 2017; De Bassa Scheresberg, 2013; Robb & Woodyard, 2011).

Subjective financial knowledge refers to how people evaluate their own knowledge, which relates to people's confidence in their financial knowledge. Thus, it is not necessarily grounded in people's actual financial knowledge. Notably, research has claimed that subjective financial knowledge is a stronger predictor of sound financial decisions than objective financial knowledge (Allgood & Walstad, 2013; Anderson, Baker, & Robinson, 2017). This may be explained by confident people making more proactive financial decisions to prevent financial issues (see e.g., Atlas, Lu, Micu, & Porto, 2019). And if such issues arise, they may be more prompted to seek for counselling or advice to resolve them rapidly. Nevertheless, people are often unable to assess their knowledge accurately (Courchane & Zorn, 2005), such that they may be over-confident or under-confident about the financial knowledge they possess and, accordingly, about their capacity to engage in positive financial behaviors. Such (in)accurate perceptions of people's financial knowledge can be studied by comparing their objective and subjective knowledge, which has been done in recent studies (e.g., Lind et al., 2020).

Financial education serves as a tool to increase both objective and subjective financial knowledge. In fact, many large countries, including most members of the Organization for Economic Co-operation and Development (OECD), have implemented financial education programs to contribute to broader social matters, such as financial inclusion and financial stability (OECD, 2015). Overall, these programs currently aim at more than five billion people in sixty countries, and an increasing number of countries is committing to this cause (Kaiser, Lusardi, Menkhoff, & Urban, 2020). Previous research has found that adults who have received financial education at an early age were better able to manage their money wisely later in life than those who did not (CYFI, 2013). In line with this finding, the OECD (2005, 2014) has recommended to provide financial education at a young age during formal schooling (i.e., as part of school curricula). Following this recommendation, the Netherlands,

for example, has started to embed financial education in their school program (age 4 to 18). Several organizations like the National Institute for Family Finance Information (Nibud) and the Money Wise platform (Wijzer in geldzaken) have built educational programs to promote sound financial decision-making. In the school year 2016/2017, about 21,000 classes ordered the modules of a large-scale national financial education program, suggesting a reach of about 450,000 pupils in primary school (Simonse, 2017).

Attitude toward money and future orientation

Even when people have both financial knowledge and confidence, they still can make poor financial decisions. After all, these decisions depend also on whether or not people remain up-to-date with changing conditions in their financial environment, especially those resulting from several recent trends, as described earlier. This is where a positive attitude toward money comes in, referring to a positive mindset or view that people have toward their finances, which helps them to see money as an instrument to meet their financial goals and attain financial success (Tracy, 2021). Generally, people with a more positive attitude toward money are more likely to actively seek money-related information to expand their skill set. As a result, they can more readily identify sound financial decisions, such as saving money and paying bills on time. Indeed, prior studies have shown that a positive attitude toward money is related to sound financial decisions, such as budgeting and saving (Hong, 2005; Kim, 2003).

Furthermore, many decisions concern the future, which is often uncertain. It is, therefore, important to know how focused people are on the future. When people take into account the future consequences of their current actions, this can help them to recognize and take sound financial decisions, such as saving and investing money (Metcalf & Zimbardo, 2016; Thorstad & Wolff, 2018). Research suggests that more future-oriented people are more

likely to have savings (Rabinovich & Webley, 2007), participate in savings programs (Howlett, Kees, & Kemp, 2008), and invest in the future (Thorstad & Wolff, 2018). Whereas those who are less future-oriented are more likely to borrow money (Webley & Nyhus, 2001) and have debt (Lea, Webley, & Walker, 1995).

Control skills

Even if people have all aforementioned factors, they can still feel tempted to make financial decisions that are satisfying in the short term, but might be harmful in the long run. Control skills, whether actual or perceived, may protect people against such temptations and subsequent poor financial decision-making. In the following, we address four control skills: spending self-control, perceived behavioural control, executive functions, and financial self-efficacy.

Spending self-control—the ability to monitor and regulate purchase impulses (Haws, Bearden, & Nenkov, 2012)—can help people work toward achieving their financial goals. For example, it can help to avoid buying impulse items that people do not necessarily need (e.g., luxury brand shoes or high fashion clothes), and thereby prevent possible credit overextension. Studies have shown that people with spending self-control are more likely to engage in sound financial decisions, such as paying bills on time, keeping track of expenses, and saving for long-term goals (Barbić, Lučić, & Chen, 2018; Strömbäck et al., 2017).

Likewise, perceived behavioural control (i.e., the degree of control one experiences, to perform a behaviour) can help people to make financial decisions that might benefit their distant financial goals, such as saving money. According to existing evidence, more perceived behavioural control is associated with higher intentions to plan financially for retirement (Zhang & Lee, 2016) and lower credit card bills (Kennedy, 2013).

Executive functions regard mental processes or cognitive abilities or skills that enable people to perform goal-directed behavior (Diamond, 2013). More specifically, these skills help people to stay focused on a task despite internal and external distractions, remember details, deal with multiple tasks, come up with different approaches to solve a problem, and acquire, hold on to, and process flows of information (CFPB, 2020; Drever et al., 2015). Consequently, people with good executive functions could be more likely to prepare and stick to a budget, set financial goals, and choose when to buy or save money—all examples of sound financial decisions. Nevertheless, to date, empirical findings regarding the relation between executive functions and sound financial decisions have been inconclusive. Whereas some researchers found a positive relation (Drever et al., 2015), others showed no significant relation (Strömbäck, Skagerlund, Västfjäll, & Tinghög, 2020).

A fourth and final control skill we address here is financial self-efficacy, which encompasses belief in one's abilities to meet financial goals (e.g., saving for retirement or paying bills on time). It can influence several aspects of people's life, including their goals, choices, determination to accomplish tasks while coping with challenges, and negative or positive patterns of thought (Noor, Batool, & Arshad, 2020). Therefore, people with a high sense of financial self-efficacy may take steps to accomplish their financial goal, for example, by preparing a budget and sticking to it, spending less, and saving more. Prior work has demonstrated that greater financial self-efficacy is related to fewer financial problems, and more savings and investment products, but less debt-related products (Farrell, Fry, & Risse, 2016; Lapp, 2010).

Overview of conducted studies

In line with the aforementioned arguments, we conducted four empirical studies that focus on the relations between, on the one hand, financial knowledge, psychological factors

(i.e., attitude toward money, future orientation, and control skills), and positive financial behaviours, and, on the other hand, financial satisfaction and financial well-being.

In Chapter 2, we tested the effectiveness of two modules (Responsible Spending module and Performing Transactions module) of the national financial education program for primary schools in the Netherlands. This study was carried out from October 2016 to March 2017 and covered 124 randomly selected schools including 2,650 pupils between the ages of 9 and 13 years in the fifth grade. In Chapter 3, we tested the extent to which the four different combinations of high and low objective and subjective financial knowledge and different types of positive financial behaviours contribute to financial well-being. This study involved the OECD Financial Literacy Questionnaire (OECD/INFE, 2018), was completed in April-May 2015, and included 1,080 respondents aged 18 to 79 years. In Chapter 4, we tested the extent to which objective and subjective financial knowledge, future orientation and attitude toward money, and spending self-control and perceived behavioural control predict positive financial behaviours, and, in turn, contribute to financial satisfaction. This study included publicly available data from the Financial Capability Survey (MAS, 2018b) commissioned by the Money Advice Service (MAS), and included 2,133 respondents aged 18 to 64 years who completed the survey online between April and June 2018, and had indicated that they—personally or jointly—managed their household’s financial decisions. In Chapter 5, we shifted our focus specifically to control skills, thereby testing the extent to which executive functions and financial self-efficacy predict positive financial behaviours and, in turn, contribute to financial well-being. This study was completed during 10-12 December 2020 through the online platform Prolific (www.prolific.com) and included 411 respondents who lived in the UK, were a native English speaker, and were responsible (personally or jointly) for their households’ day-to-day financial decisions. In Chapter 6, we provide a summary of

the four empirical chapters and present an overall conclusion including the key takeaways from the present dissertation.

References

- Allen, T. A. (2020, January 25). The importance of learning to make sound financial decisions early in life. *Tyler Allen*. <https://tylerallen.com/the-importance-of-learning-to-make-sound-financial-decisions-early-in-life/>
- Allgood, S., & Walstad, W. B. (2013). How economists allocate time to teaching and research. *American Economic Review*, 103(3), 654–658.
<https://doi.org/10.1257/aer.103.3.654>
- Amagir, A. (2020). Financial education in the Netherlands. In K. De Witte, O. Holz, & K. De Beckker (Eds.), *Financial Education: Current Practices and Future Challenges* (pp. 143–170). Waxmann Verlag GmbH. <http://eufin.org/docs/Financial-education-in-the-Netherlands.pdf>
- Anderson, A., Baker, F., & Robinson, D. (2017). Precautionary savings, retirement planning and misperceptions of financial literacy. *Journal of Financial Economics*, 126(2), 383–398. <https://doi.org/10.1016/j.jfineco.2017.07.008>
- Arifin, A. Z. (2017). The influence of financial knowledge, control and income on individual financial behavior. *European Research Studies Journal*, 20(3A), 635–648.
<https://doi.org/10.35808/ersj/734>
- Askar, M. W., Ouattara, B., & Zhang, Y. (2020). *Financial literacy and poverty reduction: The case of Indonesia* (ADB Working Paper No. 1097). Asian Development Bank Institute. <https://www.adb.org/publications/financial-literacy-poverty-reduction-case-indonesia>
- Atlas, S. A., Lu, J., Micu, P. D., & Porto, N. (2019). Financial knowledge, confidence, credit use, and financial satisfaction. *Journal of Financial Counseling and Planning*, 30(2), 175–190. <https://doi.org/10.1891/1052-3073.30.2.175>

- Barbić, D., Lučić, A., & Chen, J. M. (2018). Measuring responsible financial consumption behaviour. *International Journal of Consumer Studies*, 43(1), 102–112.
<https://doi.org/10.1111/ijcs.12489>
- CFPB (Consumer Financial Protection Bureau). (2015). *Financial well-being: The goal of financial education* (Report). Consumer Financial Protection Bureau.
https://files.consumerfinance.gov/f/201501_cfpb_report_financial-well-being.pdf
- CFPB (Consumer Financial Protection Bureau). (2020). *Executive function* (Report). Consumer Financial Protection Bureau. <https://www.consumerfinance.gov/consumer-tools/educator-tools/youth-financial-education/learn/executive-function/>
- Courchane, M. & Zorn, P. (2005, June 1). *Consumer literacy and credit worthiness* [Paper presentation]. Wisconsin Department of Financial Institutions, Task Force on Financial Literacy, Wisconsin, United States.
https://www.researchgate.net/profile/Marsha_Courchane/publication/5042561_Consumer_literacy_and_creditworthiness/links/547dfd7f0cf241bf4b5b9c1b.pdf
- Credit Connect. (2020, December 9). Online shopping debt on the rise. *Credit Connect*.
<https://www.credit-connect.co.uk/consumer-news/online-shopping-debt-on-the-rise/>
- CYFI (Child and Youth Finance International). (2013). *Children, youth, and finance: From momentum to action* (Report No. 1). Child and Youth Finance International.
<http://childfinanceinternational.org/resources/publications/children-youth-finance-from-momentum-to-action.pdf>
- De Bassa Scheresberg, C. (2013). Financial literacy and financial behavior among young adults: Evidence and implications. *Numeracy*, 6(2), 1–21.
<https://dx.doi.org/10.5038/1936-4660.6.2.5>
- Diamond, A. (2013). Executive functions. *Annual Review of Psychology*, 64, 135–168.
<http://dx.doi.org/10.1146/annurev-psych-113011-143750>

- Drever, A. I., Odders-White, E., Kalish, C. W., Else-Quest, N. M., Hoagland, E. M., and Nelms, E. N. (2015). Foundations of financial well-being: Insights into the role of executive function, financial socialization, and experience-based learning in childhood and youth. *Journal of Consumer Affairs*, 49, 13–38.
<https://doi.org/10.1111/joca.12068>
- Farrell, L., Fry, T. R. L., & Risse, L. (2016). The significance of financial self-efficacy in explaining women's personal finance behaviour. *Journal of Economic Psychology*, 54, 85–99. <https://doi.org/10.1016/j.joep.2015.07.001>
- Haws, K. L., Bearden, W. O., & Nenkov, G. Y. (2012). Consumer spending self-control effectiveness and outcome elaboration prompts. *Journal of the Academy of Marketing Science*, 40(5), 695–710. <https://doi.org/10.1007/s11747-011-0249-2>
- Hong, E. (2005). A study on the money attitudes and the spending behaviors of middle, high, and college students. *Journal of the Korean Home Management Association*, 23(5), 103–121.
- Howlett, E., Kees, J., & Kemp, E. (2008). The role of self-regulation, future orientation, and financial knowledge in long-term financial decisions. *Journal of Consumer Affairs*, 42(2), 223–242. <https://doi.org/10.1111/j.1745-6606.2008.00106.x>
- Joo, S., & Grable, J. E. (2004). An exploratory framework of the determinants of financial satisfaction. *Journal of Family and Economic Issues*, 25(1), 25–50.
<https://doi.org/10.1023/B:JEEI.0000016722.37994.9f>
- Jordà, Ò., Schularick, M., & Taylor, A. M. (2016). The great mortgaging: Housing finance, crises and business cycles. *Economic Policy*, 31(85), 107–152.
<https://doi.org/10.3386/w20501>

- Kaiser, T., Lusardi, A., Menkhoff, L., & Urban, C. J. (2020). *Financial education affects financial knowledge and downstream behaviors* (NBER Working Paper No. 27057). National Bureau of Economic Research. <https://www.nber.org/papers/w27057>
- Khan, M. N., Rothwell, D. W., Cherney, K., & Sussman, T. (2017). Understanding the financial knowledge gap: A new dimension of inequality in later life. *Journal of Gerontological Social Work*, 60(7), 1–17.
<https://doi.org/10.1080/01634372.2017.1317311>
- Kim, K. (2003). Money attitudes and personal finance of college students. *Journal of Consumption Culture*, 6(3), 33–50.
- Klapper, L., & Lusardi, A. (2016). Financial literacy and financial resilience: Evidence from around the world. *Financial Management*, 49(3), 589–614.
<https://doi.org/10.1111/fima.12283>
- Kennedy, B. P. (2013). *The theory of planned behavior and financial literacy: A predictive model for credit card debt?* [Doctoral dissertation, Marshall University]. Marshall Digital Scholar.
<http://mds.marshall.edu/cgi/viewcontent.cgi?article=1480&context=etd>
- Lapp, W. M. (2010). *Behavior models for prosperity: A statistical assessment of savings and behavioral change* (EARN Research Brief). Earned Assets Resource Network.
https://www.earn.org/wp-content/uploads/2015/03/5_-_Behavioral_Models_for_Prosperty-A_Statistical_Assessment_of_Savings_and_Behavioral_Change-1.pdf
- Lea, S., Webley, P., & Walker, E. (1995). Psychological factors in consumer debt: Money management, economic socialization, and credit use. *Journal of Economic Psychology*, 16, 681–701. [https://doi.org/10.1016/0167-4870\(95\)00013-4](https://doi.org/10.1016/0167-4870(95)00013-4)

- Lind, T., Ahmed, A., Skagerlund, K., Strömbäck, C., Västfjäll, D., & Tinghög, G. (2020). Competence, confidence, and gender: The role of objective and subjective financial knowledge in household finance. *Journal of Family and Economic Issues*, 41(2), 626–638. <https://doi.org/10.1007/s10834-020-09678-9>
- Lusardi, A. (2019). Financial literacy and the need for financial education: Evidence and implications. *Swiss Journal of Economics and Statistics*, 155(1), 1–8. <https://doi.org/10.1186/s41937-019-0027-5>
- Lusardi, A., & De Bassa Scheresberg, C. (2013). *Financial literacy and high-cost borrowing in the United States* (NBER Working Paper No. 18969). National Bureau of Economic Research. <https://ideas.repec.org/p/nbr/nberwo/18969.html>
- Lusardi, A., & Tufano, P. (2015). Debt literacy, financial experiences, and overindebtedness. *Journal of Pension Economics and Finance*, 14(4), 332–368. <https://doi.org/10.1017/S1474747215000232>
- Madern, T. (2014). *Overkoepelende blik op de omvang en preventie van schulden in Nederland* [Overarching look at the size and prevention of debts in the Netherlands]. (Report). Nationaal Instituut voor Budgetvoorlichting [National Institute for Family Finance Information]. <https://www.nibud.nl/beroepsmatig/overkoepelende-blik-op-de-omvang-en-preventie-van-schulden-nederland-2014/#:~:text=De%20samenleving%20kan%20miljoenen%20besparen,van%20zijn%2035%2Djarig%20bestaan>
- MAS (The Money Advice Service). (2016a). *Low savings levels put millions at financial risk* [Press Release]. <https://www.moneyadviceservice.org.uk/en/corporate/press-release-low-savings-levels-put-millions-at-financial-risk#:~:text=The%20research%2C%20launched%20today%20by,to%20them%20at%20any%20time.>

- MAS (The Money Advice Service). (2016b). *One in six adults struggling with debt worries* [Press Release]. <https://www.moneyadviceservice.org.uk/en/corporate/one-in-six-adults-struggling-with-debt-worries>
- MAS (The Money Advice Service). (2018a). *Levels of over-indebtedness in the UK* (Document). The Money Advice Service. <https://www.moneyadviceservice.org.uk/en/corporate/a-picture-of-over-indebtedness-in-the-uk>
- MAS (The Money Advice Service). (2018b). *Money worries have left two in three Brits worried about loved one's mental health* [Press Release]. <https://www.moneyadviceservice.org.uk/en/corporate/press-release--money-worries-have-left-two-in-three-brits-worried-about-loved-ones-mental-health>
- Metcalf, B. R., & Zimbardo, P. (2016). Time perspective theory. In H. L. Miller (Ed.), *Encyclopedia of theory in psychology* (pp. 937–939). Sage. <https://doi.org/10.4135/9781483346274.n320>
- Mian, A., Sufi, A., & Verner, E. (2017). Household debt and business cycles worldwide. *The Quarterly Journal of Economics*, 132(4), 1755–1817. <https://doi.org/10.1093/qje/qjx017>
- National Institute for Family Finance Information (Nibud). (2017). *Geld achter de hand makkelijker maken: Nibud-visiedocument over het stimuleren van sparen* [Making financial buffers easier: Nibud vision document on stimulating savings]. (Report). Nationaal Instituut voor Budgetvoorlichting [National Institute for Family Finance Information]. <https://www.nibud.nl/beroepsmatig/geld-hand-makkelijker-maken-2017/>

Noor, N., Batool, I., & Arshad, H. M. (2020). Financial literacy, financial self-efficacy and financial account ownership behavior in Pakistan. *Cogent Economics & Finance*, 8(1), 1–17. <https://doi.org/10.1080/23322039.2020.1806479>

OECD (Organization for Economic Co-operation and Development). (2005). *Recommendation on principles and good practices for financial education and awareness* (Report). Organization for Economic Co-operation and Development. <http://www.oecd.org/finance/financial-education/35108560.pdf>

OECD (Organization for Economic Co-operation and Development). (2014). *PISA 2012 results: Students and money: Financial literacy skills for the 21st century*. (Report). Organization for Economic Co-operation and Development. https://www.oecd-ilibrary.org/education/pisa-2012-results-students-and-money-volume-vi_9789264208094-en

OECD (Organization for Economic Co-operation and Development). (2015). *National strategies for financial education* (Policy Handbook). Organization for Economic Co-operation and Development. <https://www.oecd.org/finance/National-Strategies-Financial-Education-Policy-Handbook.pdf>.

OECD/INFE (Organization for Economic Co-operation and Development/International Network on Financial Education). (2018). *Toolkit for measuring financial literacy and financial inclusion* (Report). Organization for Economic Co-operation and Development. <https://www.oecd.org/finance/education/2018-INFE-FinLit-Measurement-Toolkit.pdf>

Rabinovich, A., & Webley, P. (2007). Filling the gap between planning and doing: Psychological factors involved in the successful implementation of saving intention. *Journal of Economic Psychology*, 28(4), 444–461. <https://10.1016/j.joep.2006.09.002>

- Richardson, T., Elliott, P., & Roberts, R. (2013). The relationship between personal unsecured debt and mental and physical health: A systematic review and meta-analysis. *Clinical Psychology Review*, 33(8), 1148–1162.
<https://doi.org/10.1016/j.cpr.2013.08.009>
- Robb, C. A., & Woodyard, A. S. (2011). Financial knowledge and best practice behavior. *Journal of Financial Counseling and Planning*, 22(1), 60–70.
- Robb, C. A., & Woodyard, A. S. (2016). Consideration of financial satisfaction: What consumers know, feel and do from a financial perspective. *Journal of Financial Therapy*, 7(2), 41–61. <https://doi.org/10.4148/1944-9771.1102>
- Simonse, O. (2017). *Do education materials contribute to the financial capability of primary school students? Effectiveness study of financial education for the seventh grade* (Report). Wijzer in geldzaken [Money Wise platform].
https://www.wijzeringeldzaken.nl/platform-wijzeringeldzaken/publicaties/Contribution_of_education_materials_to_financial_capability_primary_school_students.pdf
- Simonse, O., Van der Werf, M., & Wilmink, G. (2017). *Effective ways to advance responsible financial behaviour* (Report). Wijzer in geldzaken [Money Wise platform]. https://www.wijzeringeldzaken.nl/platform-wijzeringeldzaken/publicaties/Effective_ways_to_advance_responsible_financial_behaviour.pdf
- Stango, V., & Zinman, J. (2009). Exponential growth bias and household finance. *Journal of Finance*, 64(6), 2807–2849. <https://doi.org/10.2139/ssrn.1081633>
- Strömbäck, C., Lind, T., Skagerlund, K., Västfjäll, D., & Tinghög, G. (2017). Does self-control predict financial behavior and financial well-being? *Journal of Behavioral and Experimental Finance*, 14, 30–38. <https://doi.org/10.1016/j.jbef.2017.04.002>

- Strömbäck, C., Skagerlund, K., Västfjäll, D., & Tinghög, G. (2020). Subjective self-control but not objective measures of executive functions predicts financial behavior and well-being. *Journal of Behavioral and Experimental Finance*, 27, 1–19.
<https://doi.org/10.1016/j.jbef.2020.100339>
- Sweet, E., Nandi, A., Adam, E., & McDade, T. (2013). The high price of debt: Household financial debt and its impact on mental and physical health. *Social Science & Medicine*, 91, 94–100. <https://doi.org/10.1016/j.socscimed.2013.05.009>
- Thorstad, R., & Wolff, P. (2018). A big data analysis of the relationship between future thinking and decision-making. *PNAS Proceedings of the National Academy of Sciences of the United States of America*, 115(8), E1740–1748. <https://doi.org/10.1073/pnas.1706589115>
- Tracy, B. (2021). How to develop a positive money mindset. *Brian Tracy International*. <https://www.briantracy.com/blog/financial-success/how-to-develop-a-positive-money-mindset/>
- Van Dijk, W. W. (2016). *Grip op mentaal budget* [Grip on mental budget] (Inaugural Lecture). Leiden University.
<https://scholarlypublications.universiteitleiden.nl/handle/1887/51669>
- Van Dijk, W. W., Van der Werf, M., & Van Dillen, L. F. (2021). *The Psychological Inventory of Financial Scarcity (PIFS): A psychometric evaluation*. Manuscript submitted for publication.
- Webley, P., & Nyhus, E. K. (2001). Life-cycle and dispositional routes into problem debt. *British Journal of Psychology*, 92(3), 423–446.
<https://10.1348/000712601162275>

- Westhof, F., De Ruig, L., & Kerckhaert, A. (2015). *Huishoudens in de rode cijfers 2015: Over schulden van Nederlandse huishoudens en preventiemogelijkheden* [Households in red numbers 2015: About debts of Dutch households and possible prevention methods] (Report). Panteia.
<https://www.financieelgezondewerknemers.nl/bibliotheek/Rapporten/huishoudens-in-de-rode-cijfers-2015.pdf>
- Xiao, J. J., Chen, C., & Chen, F. (2014). Consumer financial capability and financial satisfaction. *Social Indicators Research*, 118(1), 415–432.
<https://doi.org/10.1007/s11205-013-0414-8>
- Zhang, M. J., & Lee, S. S. (2016). A study on behavioral intention for financial retirement preparation to apply theory of planned behavior: Focusing on consumers in their 20s and 30s. *Journal of Korean Home Management Association*, 34(5), 53–68.
<https://doi.org/10.7466/JKHMA.2016.34.5.53>

