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Financial literacy and numeracy: exploring the skills and knowledge needed to survive in complex financial systems

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Research shows that even before the pandemic many people were financially vulnerable, in the sense that they were struggling to 'make ends meet' relying on loans to cover even day-to-day costs. This paper outlines literature research undertaken to support a European funded project, called Money Matters, that aims to develop resources to help improve the financial literacy skills and knowledge of families defined as disadvantaged or financially vulnerable. Developing financial literacy skills, knowledge and behaviours is identified as one way to support families who feel insecure about their financial situations. The paper examines what is meant by financial literacy, the knowledge, skills, and pedagogies, and identifies a considerable range of factors related to financial vulnerability and points to the challenges of developing the wide range of necessary skills and knowledge, including numeracy, that families need to survive in an economy with complex financial tools on limited resources.

Key words: Financial literacy, financial vulnerability, family learning, money, financial numeracy.

Introduction

This research supports a project funded through Erasmus + called Money Matters, that seeks to help disadvantaged families develop their financial literacy skills and knowledge. Building on a variety of skills from 6 partner organisations across Europe it aims to develop the financial literacy skills of a network of educators trained to use a pedagogic approach that includes the whole family utilising both online games and apps as well as comic book resources to help achieve greater financial wellbeing.

Developing financial literacy skills, knowledge and behaviours are promoted by many international organisations to support people in overcoming financial disadvantage. Producing resources to support families identified as vulnerable in the development of their financial literacy skills requires the combination of many different sets of knowledge, skills and related pedagogies including financial literacy, numeracy and literacy skills, family learning approaches and digital technologies developments. This paper limits its focus to exploring the notion of financial literacy, financial vulnerability as well as approaches taken in current financial education in the UK aimed at families. The research explores the role of numeracy and how it contributes to the development of financial literacy skills and knowledge. It moves on to consider the challenge of developing the wide range of necessary skills and knowledge, including numeracy, needed by those experiencing financial vulnerability and challenges in their everyday lives.

Financial skills, knowledge, and behaviours

Many countries and international organisations promote the development of people's financial skills and knowledge as important for inclusion in society and as a way of countering financial vulnerability, thus encapsulating the twin aims of empowering citizens but also contributing to the

overall stability of current financial systems (OECD/INEF, 2020). When identifying essential financial skills, the Organisation for Economic Development International Network for Financial Education (OECD/INEF) and the European Union (EU), tend to use the term financial literacy, while the United Kingdom (UK) and the World Bank (2013) use the term financial capability, although often these terms seem to be used interchangeably.

Essentially both financial capability and financial literacy are similar in their range of characteristics and look at the skills and knowledge needed by individuals to function within Western economies. By 2018 both the OECD/INEF, the EU and the UK include wellbeing as a key aspect of financial literacy and consider how to develop the resilience to achieve this. Arguing improving financial literacy is pertinent during times of economic volatility, suggesting financial resilience consists of developing

‘...a financial cushion, coping with a financial shortfall and stress, and behavioural traits promoting long-term planning and saving, keeping control over money, taking care with expenditure, and avoiding financial fraud’ (OECD/INEF, 2020, p. 7)

However, Storchi and Johnson (2016) argue that developing financial wellbeing is not simply about improving how people access financial services and support or identifying ‘optimal behaviours’. Rather they posit people in different social, cultural, and economic environments may have different financial and wellbeing goals. Hence people may access the same resources but use them in different ways, reflecting their own notions of wellbeing. Given that nearly half of the population in the UK are benefit dependent or on low incomes (Money Advice Service, 2016) their notions of wellbeing may be very different to someone who has the resources to consider long term investments.

Storchi and Johnson (2016) also argue that a simple lack of money may affect people’s decisions more than lack of financial knowledge.

What is financial vulnerability?

Research shows that significant numbers of people were already struggling financially before the COVID-19 pandemic and now, given the impact on the world economy, are under even more financial pressure (Lusardi, Hasler, & Yakoboski, 2020; OECD/INEF, 2020; Social Metrics Commission, 2020). There are many ways to describe people in difficult financial situations who are ‘struggling to make ends meet’ and experiencing feelings of insecurity relating to debt and savings. In this article we use the term financial vulnerability termed by Gal, Grotlüschen, Tout and Kaiser (2020) to describe people who might be identified as financially fragile, financially stressed, squeezed, or struggling.

When families who are already financially vulnerable are caught up in unexpected single negative events, such as the loss of employment or being furloughed, they can be left in difficult positions with a limited number of options available to them to help overcome their problems. Certainly, the COVID-19 pandemic could be identified as one such significant negative event with long term implications for many families who have little or no savings or ‘back up money’ (Kelly, Smith & Kaye, 2022) to support them during this time. While debt consolidation and restructuring may be one

option, more often other more precarious choices are used including short-term 'pay day' loans with excessive interest rates or the overuse of credit cards with minimum repayments (Gathergood, 2012).

Some countries do have financial organisations that are committed to working with families in debt, to help plan a way out of distressful situations (Lusardi, Hasler & Jakoboski, 2020; Financial Capability Lab, 2018). However, research also points out that financially vulnerable families have little awareness, or confidence, in accessing financial organisations and support that is available to them. Hence families with low levels of financial literacy, who are experiencing debt, struggle to get out of the cycle of debt (Financial Capability Lab, May 2018), reinforcing the notion of a financial environment that appears to provide limited effective support that might help overcome vulnerability.

Factors influencing financial vulnerability

Psychological research tends to focus financial literacy more on individual personality types, linking those with problems of self-control to the use of quick access but high-cost solutions such as 'pay day' loans (Gathergood, 2012). Exploring the wider notion of vulnerability Gal, Grotlüschen, Tout and Kaiser (2020) identify that financial vulnerability is linked to debt and identify numeracy skills as key to understanding complex financial decision making.

The OECD (2013) found that in many countries, women displayed lower financial knowledge than men and identified as being less confident in their financial knowledge. The report argues that barriers to women developing financial literacy are often linked to their socio-economic position in society and the different social norms around finance expected between men and women. However, women tend to live longer than men but on average earn less which suggests deeper structural barriers within societies that women experience. Hence Gal, Grotlüschen, Tout and Kaiser (2020) point to gender as important issue when researching financial literacy and vulnerability. Further research identifies other factors linking lower levels of financial literacy to financial vulnerability, including being 'young, a single parent, in poor health, unemployed and with low income' (West & Worthington, 2018, p 331), having a disability (Lusardi, Hasler & Jakoboski, 2020), as well as age and limited digital capabilities (OECD/INEF, 2020). The number of factors identified in relation to financial vulnerability points to the need for a variety of approaches to develop relevant and useful financial skills and knowledge.

Financial vulnerability is a global issue. Research by the OECD/INEF (2020) found that 42% of individuals responding to their survey, across 26 countries from Asia, Europe, and Latin America, felt 'financially stressed', in that they worry about meeting their everyday living expenses. Lusardi, Hasler and Jakoboski (2020) point to 27% of the US population being 'financially fragile', in that they would have difficulty 'coming up with \$2000 in an emergency, and this was in January 2020 before the pandemic hit. The Money Advice Service (2016) report indicates that well before the 2020 COVID crisis, nearly half of the population of the UK were either on very low incomes, benefit dependant or heavily reliant on credit. This 'squeezed' group are often working nonetheless have 'significant financial commitments but little provision for coping with sudden changes such as unexpected bills, being made redundant, unexpected medical costs.

Baron's (2015) research with marginalised communities in Canada reinforces the notion of increased financial vulnerability amongst the most disadvantaged in society. She argues living in communities where there is a low median income, where unemployment is common, income is low and there is

little surplus available for long-term savings or investments as contributing to financial vulnerability. A financial environment where temporary contracts and low levels of pay are common, such as in the UK, also contributes to in-work poverty, meaning many families struggle to make ends meet relying on benefits and food banks to get by (Beatty, Bennet & Hawkins, 2021). When considering financial education for disadvantaged groups the notion of putting aside money for savings and long-term investments may be relevant but less of a day-to-day priority.

Financial education-developing financial skills and knowledge

Still the OECD/INEF argues that the main factor hindering possible resolutions of family debt is the lack of key financial literacy skills. Focusing on individuals' behaviours Lusardi (2019) argues financial education is needed to help people counteract ineffective spending and expensive borrowing by learning about financial planning and debt management. Lusardi, Hasler and Yakoboski (2020) recognise that people who are financially vulnerable are hardest hit during economic crises yet they still argue that financial education is important for the well-being of individuals as well as the whole of society. Hence it should be provided in schools, workplaces and in the community, targeting different age groups related to different financial imperatives. However, Willis (2008) posits the issue of financial vulnerability is more systemic and not easily solved through financial education courses. He identifies the current economic environment as made up of complex financial products and services that are constantly changing, making financial vulnerability a consequence of such financial systems rather than an individual problem of skills deficit and behaviour.

While Willis (2008) continues to see little value in financial education in schools, others argue the notion of financial literacy development in later life is less effective pointing to research that shows most people's financial behaviours and habits are developed while very young and become fixed (Whitebread and Bingham, 2013). However, Mundy (2011) posits that 'financial teachable moments' happen at particular times throughout life when big changes happen, such as when a baby is expected, going to college, getting married or divorced. Kelly, Moulton, and Stone (2014) identified one such 'teachable moment' when a significant change occurred in the UK benefit system during the introduction of Universal Credit. Adults experienced a dramatic change in their benefit payments from weekly cash payments to monthly online payments, requiring claimants to develop digital as well as financial skills to access and manage their money.

Financial literacy, numeracy skills and family learning

Researchers (Baron, 2015; Skagerlund, Lind, Strömbäck, Tinghög and Västfjäll, 2018) argue that mathematics is the driving force behind becoming financially literate and has a dual effect on the population's skill, raising both mathematical skills and knowledge and financial literacy levels.

Research also suggests the focus and reasons for developing financial and numeracy skills change over time. In families with younger children, Skwarchuk, Sowinski, and LeFevre (2014) identify both formal and non-formal activities in the home as important because they develop different aspects of literacy and numeracy skills. In numeracy, formal activities tended to develop symbolic skills such as number skills, whereas informal activities such as games and cooking tended to influence attitudes towards mathematics activities. When developing mathematical skills and attitudes in younger children Ramani and Siegler (2015) highlight the importance of the social context of home learning

and the contribution informal activities, such as cooking and shopping, make to acquiring new skills, such as helping to develop a sense of size, weight, volume and even ratio. Whitebread and Bingham (2013) also posit that young children respond to social and emotional interactions with parents, grandparents and carers and enjoy joining in with adult financial practices such as shopping, where they can be given responsibilities for spending and budgeting. They see learning within the family as key in the development of younger children's financial 'habits of mind' arguing they develop 'executive functions' of mind that influence more specific financial understandings which come later. They posit that 2- to 3-year-olds can be encouraged to start counting, comparing sizes and quantities helping them develop language. By 7 years old they start to have a sense of 'value' and equivalences so, for example, they can understand that a small 5 pence piece is equivalent to 5 big pennies, so value is not indicated by the size of the coin. With older children it might be useful to link discussions around income, expenditure, and affordability to the impact of purchases on wider society and the environment. Where price can relate to where the item is made, working conditions of those producing the items and the cost to the environment in the making and transportation of the item. Gal, Grotlüschen, Tout and Kaiser (2020) point to the need for good numeracy skills to support financial skills later in life in order to understand credit, compare utility bill offers and undertake more complex longer term financial planning needed for retirement or taxation. Indeed, they argue that the term financial numeracy should be used rather than financial literacy to emphasise the importance of those underpinning skills.

But the Money Advice Service (2016) points to a wider range of skills that enable or inhibit financial well-being, these include financial confidence, digital engagement, and the ability to seek advice and guidance. Two current large scale financial education programmes aimed at supporting families in the UK focus on the psychological and emotional aspects of finances highlighting the importance of talking about money. They also reason those early financial habits learned from parents influence children in their attitudes to money later in life. (Campaign for Learning, 2021; Made of Money, 2021).

Marta Civil (2016) points to the importance of ensuring learning is centred on families' lives and their lived experiences. In her work with excluded people in US society, she argues it is important to view the parents not just as adult learners but also as 'funds of knowledge'. Using this approach Civil posits teaching and learning should focus 'our attention on the culturally situated everyday practices of the learners. It should be grounded in a dynamic view of culture as lived experiences' (2016, p 46) hence financial education needs to start from what the learners view as important in their daily lives, which may differ from that of the educator or trainer. This awareness is important when developing resources with diverse families who may be identified as financially disadvantaged or vulnerable.

Conclusions

The notion of financial vulnerability can vary greatly in different contexts but encompasses individuals and families who are struggling to make ends meet financially, and who have little 'back-up money' or no safety net when confronted with a loss of income or a new necessary expense. Research into financial vulnerability identifies a wide range of influential factors including psychological dispositions such as lack of self-confidence or self-control, while others point to

vulnerability linked to gender, age, income, and disability. Further research considers the financial context as a significant contributing factor such as belonging to local marginalised communities while others point to the complexity of the wider social and economic systems that people find increasingly difficult to navigate. More research into what is most important to different groups identified as disadvantaged is essential.

The US and the UK, two so-called developed economies, have at least a quarter of their populations in financial stress. The dominant thinking across many western countries is that improving a family's financial literacy skills and knowledge will enable them to reduce debt and increase their long-term financial security. While helping people understand the choice and methods of calculations of financial transactions in an economic system can be helpful, the research points to the difficulties of following orthodoxies of saving money for future negative events if families find themselves on low incomes and unable or unwilling to seek financial advice available.

Research also points to strong links between financial literacy and numeracy skills, however current online teaching programmes in the UK tend to focus on psychological and emotional relationships with money. Research into marginalised communities highlights the need to develop resources in the Money Matters project that are relevant to people's lives, starting from the learners' input and experiences, which may or may not necessarily focus on all the financial literacy advice currently promoted through dominant orthodoxies. This requires the teaching and learning approaches used in the resources to be flexible and respond to learners' priorities while still enabling participants to develop a better understanding of their current financial situation and possibilities for the future.

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