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Financial Literacy and Education: What We Know and Still Need to Learn*

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A B S T R A C T

This article provides a high-level overview of the 32 chapters in *The Routledge Handbook of Financial Literacy*. Among the observations are the importance of the definitions researchers and educators choose to guide their work in financial literacy, the importance of measurements that are consistent with the definitions, and the importance and challenges of customizing financial education to match the needs of the audience. The article also highlights a number of questions for future researchers to investigate.

Keywords: financial literacy, financial education

Ⅰ. Introduction

In 2021-2022, Gianni Nicolini, University of Rome, and I had the privilege of co-editing *The Routledge Handbook of Financial Literacy*. The book includes 32 chapters from 50 different authors; half of the authors were from outside the U.S. and represented 17 different countries. In this article, I share a high-level overview of what we learned about financial literacy from this project as well as questions I think financial literacy educators and researchers still need to address.

Ⅱ. What We Have Learned

A. About Financial Literacy

The definition of financial literacy that researchers choose matters. Cude (2022a), Haupt (2022), Lyons and Kass-Hanna (2022), and Nicolini (2022a) all describe the multitude of definitions of financial literacy previously used in research. Far too often researchers do not even define what they mean by financial literacy; when they do, there is little consensus across definitions about what "the" definition should be.

Yet, the definition a researcher chooses is important. For example, several researchers have used the Organisation for Economic Co-operation and Development's (OECD, 2020) definition:

> Financial literacy is a combination of financial awareness, knowledge, skills, attitudes and behaviors necessary to make sound financial decisions and ultimately achieve individual financial well-being. (p. 1)

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Research guided by the OECD's definition would likely be very different from research based on a narrower definition of financial literacy as, for example, objectively measured financial knowledge. In fact, Cude (2022a) argues that researchers should not describe work in which the sole focus is financial knowledge as financial literacy research.

Researchers have established that self-assessed knowledge (which some describe as confidence or self-efficacy) may be more important than objectively measured knowledge in explaining some consumer behaviors (Cude, 2022a; Walstad & Allgood, 2022). It is unclear, however, whether the explanation for this finding is because we have not yet arrived at an ideal, comprehensive objective measure of financial knowledge or because confidence in one's knowledge is truly a more important influence than one's objective knowledge.

Cude (2022a) also highlights the variety of terms related to financial literacy that are sometimes used as synonymous with financial literacy and other times defined as having a different meaning. These terms include financial capability, financial fragility, financial inclusion, financial resilience, and financial well-being. She argues for more precision in terminology in future research.

Among the alternatives to the term financial literacy, financial capability has captured attention internationally. For example, policymakers in both New Zealand and the United Kingdom have focused on financial capability. A report about financial capability in New Zealand defined financial capability as "a complex set of behaviours, knowledge and attitudes" (Te Ara Ahunga Ora Retirement Commission, 2021, p. 3). Sherraden (2013) defined financial capability as the ability "to understand, assess and act in their best interest" (p. 20). Both definitions are similar to some definitions of financial literacy. However, Sherraden distinguished financial capability from financial literacy when she stated that financial capability also requires access to "appropriate" financial products, suggesting a conceptualization of financial capability that is similar to what others have termed financial inclusion. The confusion in the use of terms is an obstacle to the advancement of research.

B. About Measurements of Financial Literacy

Following the need for researchers to define financial literacy, it is important that operational measurements of financial literacy be consistent with the definition chosen (Cude; 2022a; Nicolini, 2022a). Many studies have relied on single dimension measures of financial literacy, primarily financial knowledge. Frequently, researchers have used a limited number of items to measure knowledge, as in those studies that adopted Lusardi and Mitchell's (2008) Big Three measures. While the Lusardi and Mitchell measures may be useful in basic research when the goal is comparison across sectors, Cude (2022a), Haupt (2022), and Lyons and Kass-Hanna (2022) all make the case that we need more multi-dimensional measurements in future research. Cude and Haupt both argue that if the definition in research is multi-dimensional, to, for example, include attitudes and behaviors as well as knowledge, then the measures of financial literacy in that research must include the same dimensions. Haupt describes the multi-dimensional measurements in the OECD/INFE Toolkit that are consistent with the OECD's multi-dimensional definition of financial literacy to include knowledge, behavior, and attitudes. Lyons and Kass-Hanna make the case for measuring *digital* financial literacy, which they define using multiple dimensions to include the knowledge and skills to operate digital devices, conduct digital financial transactions, and for self-protection in the digital marketplace. Nicolini (2022a) highlights the greater flexibility that researchers have when they use a larger number of items to measure financial literacy.

Several chapter authors, including Lyons and Kass-Hanna (2022) and Nicolini (2022a), discuss methodological issues in measuring financial literacy. Nicolini describes the challenge presented in determining whether to include a "do not know" option as an answer choice. Offering that choice can reduce possible guessing. However, as Nicolini indicates, researchers have suggested that different groups of respondents, who differ in personality traits, may be more or less likely to choose the "do not know" option. In addition, those who lack confidence in their knowledge may be more likely to select "do not know" than those who have more confidence.

Lyons and Kass-Hanna (2022) recommend that researchers consider weighting when the financial literacy measure includes multiple dimensions but a different number of items to measure each dimension. They also recommend robustness checks such as the Cronbach's alpha statistic when constructing new multi-dimensional measures of financial literacy.

C. About Financial Education

Cude (2022a) argues that financial literacy and financial education are two different concepts, although sometimes they are used synonymously. Perhaps this confusion in terminology dates back to the 2005 OECD definition of financial literacy as "*the process* by which financial consumers/investors improve their understanding of financial products and concepts and, through information, instruction and/or objective advice, develop the skills and confidence to become more aware of financial risks and opportunities, to make informed choices, to know where to go for help, and to take other effective actions to improve their financial well-being" (emphasis added). Today, Cude distinguishes between financial literacy and financial education in this way: Financial literacy is "a component of human capital that includes knowledge, skills, attitudes, and confidence related to financial decision-making" (2022, p. 5). Financial education is "a diverse set of interventions designed to change one or more of the components of financial literacy" (2022, p. 5).

The book chapters provide a broad overview of financial education (and financial literacy) across the globe, including in the U.S. (Cude, 2022b), Canada (Letkiewicz, 2022), Central America and the Caribbean (Danns & Danns, 2022), South America (Carrillo Rivero, 2022), Western Europe (Arrondel et al., 2022), Northern Europe (Raijas, 2022), Eastern Europe (Cwynar, 2022), Africa (Anong et al., 2022), Asia (Xiao, 2022), and Australia and New Zealand (Worthington & West, 2022).

Some countries, including the United States (Cude, 2022b), Canada (Letkiewicz), Australia, New Zealand (Worthington & West), Mexico (Danns & Danns), Denmark (Raijas), and Africa (Anong et al.), have collected their own data to inform their financial education efforts. Others rely on external and multinational data sources, primarily the Standard and Poor's Global Financial Literacy Survey; surveys by the OECD, including the PISA (Programme for International Student Assessment); the European Consumer Payment Report; the Global Findex Database of the World Bank; the Financial Inclusion Insights surveys; or work from the Asian Development Bank Institute. Research by academic scholars also informs financial education strategies in some countries; using a bibliometric analysis, Goyal and Kumar (2020) identified the top five countries from which financial literacy research originates as the U.S., England, Australia, Germany, and Italy. However, there are scholars in many countries who are engaged in research about financial literacy and/or financial education. Data about not only financial knowledge but also financial attitudes and behaviors facilitate the creation of a more targeted financial education strategy.

Financial education strategies are diverse. However, many emphasize promotion of desired knowledge, skills, and attitudes from an early age, often through the schools, as in the U.S. (Cude, 2022b; Henager & Kabaci, 2022); Canada (Letkiewicz, 2022); the Bahamas and Belize (Danns & Danns, 2022); Spain, Sweden, Switzerland, Norway, and Finland (Arrondel et al., 2022); and in Brunei, Malaysia, Russia, and some Middle East countries (Xiao, 2022). Many countries, including Italy (Arrondel et al.); the U.S. (Cude); Canada (Letkiewicz); Denmark, Finland, and Norway (Raijas, 2022) have built one or more websites as a component of their financial education strategy. Many also declare a week or month (e.g., April is Financial Literacy Month) to focus attention to their efforts. Financial education strategies often include targeted approaches for specific groups, such as women or the elderly, or those who face unique situations, such as immigrants in Sweden (Raijas) and Indigenous peoples in Australia (Worthington & West, 2022).

Bartholomae and Fox (2022) note that attempts in the empirical literature to establish a causal link between financial education, financial literacy, and financial outcomes have produced, at best, mixed results. They argue that we need much more rigor in financial education evaluation. Bartholomae and Fox describe randomized control trials as the "gold standard" in program evaluation, while noting that not all education programs are suited to this type of evaluation.

Bartholomae et al. (2022), Henager and Kabaci (2022), Anong et al. (2022), Okech et al. (2022), Carrillo Rivero (2022), and Worthington and Marzuki (2022) all emphasize the importance of customizing financial education to the needs of the audience. Henager and Kabaci focus on financial education in schools. Three chapters highlight the needs of unique audiences: consumers in less-developed countries (Anong et al.), victims of human trafficking (Okech et al.), and those who practice the Islamic faith (Worthington & Marzuki). Carrillo Rivero notes that an individual who finds it difficult to finance daily needs, a common issue in developing countries, may define "long term" differently than an individual who is more financially stable. She attributes the lack of financial literacy in South

America, in part, to the lack of social, labor, and economic inclusion. Anong et al. describe the ineffectiveness of financial education efforts in South Africa as related to the failure to adapt the programs to "address the real-life challenges of the dualistic economies that prevail" (p. 433). In developing countries, the majority of adults use informal options, such as microfinance institutions, individual money lenders, and family members, instead of formal financial services to conduct many of their transactions. A financial education initiative built around that reality would be very different than a traditional financial education program in a more economically developed country.

Customized financial education can be difficult to achieve. Bartholomae et al.'s (2022) chapter about adult education includes best practices that could be helpful to anyone planning financial education.

There are many challenges associated with financial education as Cude (2022b) and Carrillo Rivero (2022) highlight. Among these are a lack of consensus about what the objectives of financial education "should" be. For example, if financial literacy is composed of knowledge, attitudes, and behaviors, should all financial education attempt to influence all three? And, if so, should that effort be in a single campaign or in separate campaigns? Notions about the appropriate objectives also likely vary based on which sector is initiating the financial education. Carrillo Rivero comments that private sector participants in financial education tend to focus on the segment of the population and the developments of capacities that are most related to the business objective. Thus, in Carrillo Rivero's example, fintech companies, investment companies, and microfinance companies would each prioritize different financial education objectives.

Other challenges in financial education that Cude (2022b) and Carrillo Rivero (2022) identify include limited coordination among and across sectors that finance and deliver financial education, ensuring that financial education content keeps pace with changing marketplace practices, identifying ways to reach as many people as possible with limited resources, maintaining continuity in financial education strategies, and determining not only how to improve digital skills and knowledge but also the limits of virtual financial education.

Ⅲ. What We Still Need to Learn

Each of the 32 chapters in the book generates multiple research questions for the thoughtful reader. A selection of those questions follows along with references to the book chapters most relevant to each question.

A number of questions relate to definition and measurement. For example:

- What *should* be the definition of financial literacy? What methods to measure that definition of financial literacy are most reliable and valid (Cude, 2022a; Haupt, 2022; Nicolini, 2022a)?
- How should we define and measure financial literacy in the digital age? Lyons and Kass-Hanna (2022) argue for a separate definition and measurement of *digital* financial literacy.
- Is numeracy a component of financial literacy or an influence on financial literacy (Cude, 2022a; Darriet et al., 2022)? Must consumers be numerate to be financially literate? What are the most valid and reliable measures of numeracy?
- What are best practices to customize measures of financial literacy to account for cultural and economic differences (Anong et al., 2022; Nicolini, 2022b)?

Important research questions about financial education include:

- How can we increase participation in financial education (Bartholomae & Fox, 2022)?
- How should we update financial education to include digital technology and fintech (Morgan, 2022)?
- How can we best incorporate gamification into financial education (Kalmi & Silvonen, 2022)?
- Does financial education really have the quite limited effect that has been demonstrated in research? How can we improve financial education to have a more direct effect on the desired outcomes? How can we improve the ways in which we evaluate financial education (Bartholomae & Fox, 2022)?
- Is improving financial education the most realistic path to better financial outcomes? Or, should we embrace other approaches? For example, perhaps we should work toward better brain development in infants which may lead to improved financial decision making; providing more professional and technical assistance, such as counseling or software,

to consumers; and/or improving enforcement of anti-fraud, anti-discrimination, and antitrust laws (Willis, 2022).

Other interesting questions that future researchers might explore are broader:

- What are the most important influences on financial literacy in different life stages (Choi & Cude, 2022; Drever & Else-Quest, 2022; Serido, 2022)?
- How does financial literacy influence a host of decisions, including electoral participation and choice (Fornero et al., 2022)?
- How has COVID affected financial literacy, especially financial attitudes and behaviors, and the importance of financial literacy (Fornero et al., 2022)?
- How can we better incorporate behavioral finance into efforts to influence financial literacy (Ferreira et al., 2022)?
- Should we focus more on the outcomes, such as financial well-being and financial inclusion, that we hope to achieve by improving financial literacy than on measuring financial literacy? For example, perhaps research about financial well-being (Warmath, 2022) will provide greater insights than yet another study measuring a population's financial literacy. The U.S. Consumer Financial Protection Bureau has defined financial well-being as a perception of one's current and future financial situation and created a measurement instrument using psychometric methods (Consumer Financial Protection Bureau, 2018). Another important outcome of financial literacy is financial inclusion (Grohmann & Menkhoff, 2022), which is generally defined as access to formal financial services. The World Bank has created measures of financial inclusion. At the basic level, the measure is ownership of an account; second and third order levels of inclusion measure active use of an account and rational use of an account, respectively (Grohmann & Menkhoff, 2022).

Ⅳ. Conclusions

A reader of *The Routledge Handbook of Financial Literacy* will likely generate their own knowledge as well as a list of potential questions for future research. That was among the editors' goals. We sought to produce a book that would be useful to scholars who are new to the topic of financial literacy, to experienced researchers who want to enrich their knowledge, to policymakers seeking a broader understanding and an international perspective, and to practitioners who seek knowledge of best practices as well as innovative approaches. The many authors who contributed to this project made our goals achievable.

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