9-8-2022

Financial Capability: A Systematic Conceptual Review, Extension, and Synthesis

Jing Jian Xiao

Jin Huang

Kirti Goyal

Satish Kumar

Citation:
Xiao, J. J., Huang, J., Goyal, K., & Kumar, S. (2022). Financial capability: A systematic conceptual review, extension, and synthesis. *International Journal of Bank Marketing*. Forthcoming. https://doi.org/10.1108/IJBM-05-2022-0185

Financial Capability: A Systematic Conceptual Review, Extension, and Synthesis

Jing Jian Xiao, Jin Huang, Kirti Goyal, Satish Kumar*

Jing Jian Xiao, Professor, Department of Human Development and Family Science, University of Rhode Island, Kingston, RI 02881, USA
xiao@uri.edu. *Corresponding Author**

Jin Huang, Professor, School of Social Work, Saint Louis University, Saint Louis, MO, USA
jin.huang@slu.edu

Kirti Goyal, Research Scholar, Department of Management Studies, Department of Management Studies, Malaviya National Institute of Technology Jaipur, Rajasthan, 302017, INDIA
2019rbm9185@mnit.ac.in

Satish Kumar, Associate Professor of Finance, Department of Management Studies, Malaviya National Institute of Technology Jaipur, Rajasthan, 302017, INDIA;
Faculty of Business and Design, Swinburne Univeristy of Technology, Jalan Simpang Tiga, 93350 Kuching, Sarawak, MALAYSIA
skumar.dms@mnit.ac.in

Acknowledgement: Dr. Huang is grateful for the support he received from the Ewing Marion Kauffman Foundation. The contents of this publication are solely the responsibility of the authors.

Financial Capability: A Systematic Conceptual Review, Extension, and Synthesis

Abstract

Purpose –This review aims to examine the literature on consumer financial capability. By analyzing the research trends, theories, definitions and themes, the literature on financial capability is synthesized, and agenda for future research is suggested. A framework is presented that portrays the antecedents as well as the outcomes of financial capability and their interlinkages.

Design/Methodology/approach – Following a systematic approach, the review is based on 215 articles published during 2007-March 2022, retrieved from Scopus. It presents the definitions and theories of financial capability, publication trend, influential articles, prominent authors, prolific journals, and countries publishing on financial capability. Using bibliographic coupling, the intellectual structure of the topic is explored, along with offering a framework through content analysis.

Findings - The bibliographic coupling analysis identifies four major clusters of research themes and capability theory appeared to be the most prominent theory. The synthesis draws upon five conceptual definitions of financial capability. Based on the discussion, in this review, financial capability is defined as an individual ability to apply appropriate financial knowledge, perform desirable financial behaviors, and take available financial opportunities for achieving financial wellbeing. A conceptual framework delineates the synthesized literature and propositions based on this framework and relevant research are proposed. Finally, directions for future research are discussed.

Originality/value – This paper is an attempt to offer a comprehensive synthesis of the scholarship on financial capability and its conceptualization. It further proposes an extensive future research agenda. The study has implications for financial services providers relating to retail bank marketing.

Keywords systematic literature review, financial capability, financial behavior, financial inclusion, financial literacy, financial wellbeing

Paper type: Literature review

1. Introduction

Financial capability is an important factor contributing to consumer wellbeing (Lusardi and Mitchell, 2014; Sherraden, 2013; Xiao, 2015), and is an emerging topic in consumer finance (Xiao and Tao, 2021). The literature on financial capability increased dramatically in recent years. Among 215 research papers on financial capability located in Scopus, only three were published in 2007-2009, but 111 in 2019-March 2022 (Figure 1). In general, financial capability can be considered a human capital leading to life successes (Heckman and Mosso, 2014). Financial capability and other human capitals alone cannot improve financial wellbeing without interactions with environmental factors such as financial services and public policies (Hill and Sharma, 2020). Specifically, financial capability has multiple meanings in the literature. Some researchers define financial capability and financial literacy as interchangeable concepts and others consider it a synonym for financial access, an important concept regarding financial inclusion. In the literature, these terms are used by researchers from diverse fields in different ways. Oftentimes, they are used with overlap contents. For example, financial literacy can narrowly mean financial knowledge or broadly financial capability to make effective decisions (Huston, 2010; Lusardi and Mitchell, 2014). Financial capability is also defined as an individual's ability to apply appropriate financial knowledge and perform desirable financial behaviors for achieving financial wellbeing (Xiao *et al.*, 2014) or refers to a combination of both personal ability and environment support (Johnson and Sherraden, 2007).

(Insert Figure 1 about here)

A set of reviews focused on financial capability, financial literacy, financial access, and financial education (Birkenmaier *et al.*, 2019; Caplan *et al.*, 2021; Collins and O' Rourke, 2010; Delgadillo, 2014; Fernandes et al., 2014; Goyal and Kumar, 2021; Hastings *et al.*, 2013; Huston, 2010; Kaiser and Menkhoff, 2017; Lusardi and Mitchell, 2014; Mahendru, 2020; Miller *et al.*, 2015; Prabhakar, 2019; Walstad *et al.*, 2017). Unlike aforementioned reviews, the purpose of this study is to bring together all of the scholarly work on financial capability under one roof with five objectives: 1) To analyze the trends and themes of financial capability research, 2) To examine the literature on financial capability with an emphasis on theoretical foundations of financial capability definitions and its conceptualization, 3) To propose an alternative definition of financial capability based on the literature review, 4) To develop a conceptual framework on the antecedents, construct, and outcomes of financial capability and propose relevant propositions, and 5) To suggest future research directions.

The review sheds light on the four research themes of financial capability, namely 1) financial capability, financial knowledge and financial satisfaction, 2) impact of financial literacy and financial education on financial capability, especially among young people, 3) impact of financial access on financial capability, and 4) propensity to plan, financial advice, financial experience, and financial capability.

The study further reviews the conceptualizations of financial capability and its underlying theoretical frameworks--the most prominent theory used in the literature is capability theory. By synthesizing the literature, we propose that financial capability is an individual's ability to apply appropriate financial knowledge, perform desirable financial behaviors, and take available financial opportunities for achieving financial wellbeing. We consider financial capability a higher-level concept that demonstrates interactions between three components, knowledge, behavior, and opportunity, and these three components are essential indicators of financial capability. Ideally, capability should be the result of interactions between the three components. The capability here refers to individual ability, which is a major difference from the concept of financial capability proposed by Sherraden (2013; see also Johnson and Sherraden, 2007). Instead, Sherraden applied the capabilities theory proposed by Sen, and argued that financial capability is not an individual trait but a combination of individual ability and external environmental opportunities (Sherraden, 2013).

This article contributes to the literature by sorting out definitions of financial capability and similar terms for researchers in diverse fields, proposing an alternative conceptual definition of financial capability, providing a broad framework for future research hypothesis developments, and inspiring future researchers to develop theories targeting specific topics in terms of consumer financial capability and wellbeing. The study has implications for retail bank marketing. Through basic products and services, the retail banking sector is well positioned to create financial opportunities to assist millions of clients in their money management and, as a result, increase their financial capability. This paper is relevant to any business organization interested in enhancing the financial capability of their clients, particularly those in the retail banking industry.

Primarily, the background of financial capability movement has been delineated in the next section. The following section explicates the research methodology employed in the review. Subsequently, the research trend in terms of the most prolific journals, prominent authors, and major countries publishing on financial capability, and the most cited articles on it have been listed, along with the major intellectual themes. The following section discusses the results relating to the existing definitions and theories of financial capability and proposes an alternative definition of financial capability. Subsequently, a conceptual framework specifies the antecedents and consequences of financial capability and propositions are offered based on the framework. The gaps in the extant research and directions for future research are discussed in the next section. The last section concludes.

2. Backgrounds of Financial Capability Movements

The international movement of promoting financial capability started from the United Kingdom (UK). In 2005, researchers under the commission of the UK Financial Service Authority began to study consumer financial capability motivated by several factors. First, in many developed countries, there was a shift that required consumers to be more responsible for income security, especially when they retire. Second, consumers face important borrowing decisions such as housing mortgage, education loans, and subprime loans but they lack the ability to deal with these financial services, and some of them misuse these loan products or lose control of debts. Third, inclusion in financial products and services is becoming an important policy issue faced by many regulators (Atkinson *et al.*, 2007).

The UK study was started in 2005 from the literature review and focus group research. Researchers found that people thought about financial capability in terms of *behavior* because some people possess the *knowledge* needed to make financially sound decisions but do not actually put it into practice. The concept of financial capability was initiated based on an understanding that financial knowledge itself is not sufficient to achieve financial wellbeing. In 2006, a national financial capability survey was completed in UK (Atkinson et al., 2007).

After the UK's initiative on promoting financial capability, other developed countries in Europe and other parts of the world, such as the United States (U.S.), Canada, Japan, etc., also followed suit. Then many developing countries such as China, Indonesia among others, also joined the movement (Messy and Monticone, 2016). For example, the U.S. started its first National Financial Capability Study (NFCS) in 2009 and continued it every three years (Mottola and Kieffer, 2017). Many U.S. studies reviewed here used data from the NFCS. The international movements of financial capability are supported by governments in many countries. For example, U.S. President Biden (2021) in his first three months in office issued the proclamation on national financial capability month.

3. Research Methodology

3.1. Data Identification and Retrieval

This research uses a systematic literature review process as a reliable, repeatable, and scientific means of generating a knowledge base (Tranfield *et al.*, 2003; Kumar et al, 2019). There are several types of systematic reviews such as structured review (Rosado-Serrano *et al.*, 2018), meta-analysis (Goyal *et al.*, 2022), and bibliometric review (Donthu *et al.*, 2021). A comprehensive review with content analysis depicts the state-of-the-art literature concerning the theories, concepts, factors, and outcomes of financial capability (Goyal and Kumar, 2021).

To conduct the study, we have used the largest platform of indexed articles i.e. Scopus. Scopus was chosen because its scope is a balance between quality and diversity; compared to Web of Science, it is more inclusive; and compared to Google Scholar, it is more selective (Donthu *et al.* 2021). We follow the guidelines given by Mukherjee et al. 2022 for conducting the bibliometric analysis. We used the search term "financ* capab*" to run the search in title, abstract, and keywords during March 2022. The search in Scopus yielded 1097 initial results. Further, we limited the search to the documents published between 2007-March 2022. The starting year of the literature search was set to 2007 because it was the first year that the concept of financial capability was formally published in academic journals. Two influential papers on financial capability were published in 2007 (Atkinson *et al.* 2007; Johnson and Sherraden, 2007), followed by many studies applying the financial capability definitions proposed in these two studies. This resulted in 960 documents. Limiting the search to the English language resulted in 924 items and further excluding the editorials resulted in 916 documents. Subsequently, duplicates (n= 9) were removed, which derived 907 items. Articles were limited by inclusion and exclusion criteria based on the subject of the review. On the initial screening, we found 350 articles on the topic of financial capability. These articles were shortlisted for full paper consideration. Only articles were included in the review study which dealt with consumer financial capability or related concepts such as financial literacy and financial access as antecedents of financial capability; or financial behavior, financial satisfaction and financial wellbeing as its outcomes. We excluded those articles which did not focus on financial capability of individuals, consumers or the households but pertained to firms and banks. Upon reading the abstracts and full paper, 215 articles were selected for our review. The approach of Rashman (2009) was followed for the selection strategy. Figure 2 illustrates the mechanism of retrieval and selection of articles.

(Insert Figure 2 about here)

3.2. Methods of Study

We identified research trends of financial capability in terms of the most prolific journals, prominent authors and most cited articles using Scopus database and compiled them using MS-excel. Thematic arrangement can show scholarly work characteristics, and a knowledge structure analysis can reveal study referencing patterns (Donthu *et al.*, 2021). As a result, we used VOSviewer and Gephi software (Baker *et al.*, 2020) to perform bibliographic coupling analysis (Kessler, 1963) to show the magnitude of intellectual associations among citing publications based on the degree of their standard references (Kessler, 1963). Bibliographic coupling is based on links; it identifies the level of overlap between citing texts, revealing the field's research fronts. This method is widely used in bibliometric analysis to explore the intellectual structures of the most influential documents in fields of research (Donthu *et al.* 2021; Goyal and Kumar, 2021; Kumar et al, 2017; and Kumar et al, 2022). The more frequently two articles cite a typical article, the more similar they are considered in the research domain (Weinberg, 1974).

This study also followed procedures used in previous systematic reviews that emphasize conceptual developments (Pansari and Kumar, 2017; Paul *et al.*, 2020). This type of review aims to identify a set of articles and focus on the conceptual development of a target concept, and then propose a framework and related propositions for future research (Pansari and Kumar, 2017). Researchers do not necessarily proceed to test those models and/or theoretical propositions in the same article (Paul and Criado, 2020). We applied manual content analysis on 215 articles to understand the theoretical underpinnings of the literature and various conceptual definitions of financial capability. Based on our in-depth analysis, we proposed an alternative definition of financial capability, laid out its conceptual framework, offered propositions and suggested an agenda for future research.

4. Trends and Themes of Financial Capability Research

4.1. Prolific Journals, Authors, and Countries Publishing on Financial Capability

Based on the data available in Scopus, the top publication outlets, top countries, and prominent authors publishing on financial capability are presented in Table 1. *Journal of Family and Economic Issues* ranks the first with 30 papers (14.15% of the total), whereas *Journal of Consumer Affairs* ranks second with 20 papers (9.43%). *International Journal of Consumer Studies* and *Journal of Financial Counselling and Planning* rank third with 11 papers (5.19%) each. These are premier journals in consumer sciences.

The analysis reveals that out of the papers under review (n=215), authors of 132 studies are from the US. Most of the papers on financial capability from the US are based on data from the National Financial Capability Study (NFCS). NFCS is a multi-year study that assesses Americans' financial capability at national level. In collaboration with the US Department of the Treasury and other government authorities, the FINRA Investor Education Foundation commissioned this national study. The first NFCS was done in 2009, and it was then repeated every three years after that. Its goal is to compare important indices of financial competence and see how they change when underlying demographic, behavioral, attitudinal, and financial literacy factors are considered.

Authors from other countries conducting research on financial capability are from UK with 21 publications, China with eight publications, and Australia and Canada with seven publications each. The finding shows that the research on financial capability is skewed towards the US, and less attention has been paid to the regions like Asia and Africa.

Table 1 also shows the most prolific authors, by total publications between 2007-March 2022. Julie Birkenmaier and Jing Jian Xiao have published the most on financial capability with 12 publications each, followed by Margaret S. Sherraden with 11 publications, Jin Huang with 10 publications, and Kyoung Tae Kim with 8 publications.

(Insert Table 1 about here)

4.2. Most Influential Articles on Financial Capability

Citations are a standard measure of an article's impact (Chabowski *et al.*, 2013). To identify the most influential articles, we considered the citations recorded in the Scopus database. Table 2 lists the 15 most frequently cited papers. Many of these papers will be mentioned with more details in other sections of this review.

(Insert Table 2 about here)

4.3. Themes of Financial Capability Research

We explored the major intellectual themes of scholarly work on financial capability using bibliographic coupling (Kessler, 1963). Our analysis shows that among 215 documents, 202 can be connected by bibliographic coupling; they are clustered into four major intellectual themes. Table 3 shows the clusters and the five most cited articles in each cluster.

(Insert Table 3 about here)

4.3.1. Cluster 1: Financial Capability and Financial Satisfaction

Cluster 1 is the largest cluster, containing 54 articles with 1485 citations. Articles in this cluster focus mainly on the relationship between financial capability and financial satisfaction. The cluster also deals with the examination of level of financial literacy and financial capability using NFCS and its impact on financial behavior.

The most cited paper by Lusardi and Mitchell (2011) examined the level of financial literacy in the US using NFCS and find it low among the young, women and less educated. As the second most cited, Robb and Woodyard (2011) show that both objective and subjective financial knowledge are positively associated with financial behavior, with subjective knowledge having a larger relative potential impact. As the third most cited, Xiao *et al.* (2014) demonstrate that desirable financial behavior is negatively while undesirable financial behavior is positively associated with financial satisfaction. Subjective financial literacy was also positively associated with financial satisfaction.

4.3.2. Cluster 2: Impact of Financial Literacy and Financial Education on Financial Capability, Notably of Young People

This cluster contains 51 articles with 765 citations. Articles in this cluster focus mainly on the effects of the interventions to improve financial capability particularly among the youth and emerging adults. The most cited article in this cluster is by Sherraden *et al.* (2011), demonstrating that children in primary school who participated in an innovative financial education program scored significantly higher on a financial literacy test than comparison group students in the same school, regardless of parent education and income. Another highly impactful article by Serido *et al.* (2013) proposes a developmental model of financial capability to understand the process by which young adults acquire the financial knowledge and behaviors needed to manage full-time adult social roles and responsibilities. Loke *et al.* (2015) examined the impact of the My Path Savings pilot on economically disadvantaged youth and found that the program is highly relevant to youth as it resulted in significant increases in financial knowledge, financial self-efficacy, and the frequency with which positive financial behaviors were carried out.

4.3.3. Cluster 3: Impact of Financial Access on Financial Capability

This cluster contains 50 articles with 569 citations. The papers are mainly centered on the importance of financial access rather than only financial knowledge to improve financial capability which may ultimately improve financial behavior. The most cited article in this cluster is by Johnson and Sherraden (2007), arguing that financial capability is achieved when individuals not only obtain financial knowledge and skills, but also gain access to financial tools and institutions. Another highly cited article in this cluster is Huang *et al.* (2013), demonstrating the effect of financial knowledge on financial decisions related to college savings is moderated by institutional features, such as incentives, information and access. Another highly cited article by Friedline and West (2016) shows that financial capability that combines financial education with financial inclusion via a savings account, gives an opportunity to translate knowledge into practice.

4.3.4. Cluster 4: Propensity to Plan, Financial Advice, Financial Experience, and Financial Capability

This cluster contains 47 articles with 334 citations. The articles in this cluster mainly focus on the propensity to plan, financial advice and financial experience as the indicators of financial capability that contribute to consumer financial satisfaction and wellbeing. The most cited article in this cluster is Xiao and O'Neill (2018b), demonstrating that the propensity to plan is positively associated with financial capability factors, and financial planning is a desirable financial behavior to improve financial satisfaction. The second highly cited article is Moreland (2018), showing that obtaining advice is positively associated with financial behaviors while controlling for other relevant variables, including two measures of financial knowledge. Another highly cited paper by Kim *et al.* (2019) reveals that financial knowledge is positively associated with performing positive short-term and long-term financial behaviors.

5. Conceptual Definitions and Theoretical Foundations of Financial Capability

In the existing literature, financial capability has been defined and measured in different ways. Financial knowledge, financial inclusion or financial access, financial behavior, and financial confidence are all linked to financial capability (Xiao *et al.*, 2014). Table 4 shows some of the most recently used definitions of financial capability found among 52 published studies in 2018-22 that explicitly defined financial capability. Based on our analysis, we have identified five conceptual definitions that are used in the financial capability research. After describing these definitions, we discuss their theoretical foundations and propose an alternative conceptual definition of financial capability.

5.1. Conceptual Definitions for Financial Capability

5.1.1. The Behavior Definition

The behavior definition is the first definition in the modern literature of financial capability based on a national survey commissioned by the UK Financial Service Authority (Atkinson *et al.*, 2007). Financial capability is defined as desirable behaviors which could be indicated in four domains: managing money, planning ahead, choosing products, and staying informed (Atkinson *et al.*, 2007). Researchers have identified six consumer clusters based on these dimensions and provided policy implications to help consumers improve financial capability. This framework is used by researchers to develop a program entitled MINDSPACE that encourages consumers to improve financial behaviors by changing contexts (Dolan *et al.*, 2012). This definition is used often by economists and consumer scientists.

5.1.2. The Knowledge Definition

In the research literature, financial literacy and financial capability are interchangeable terms in some fields such as economics and consumer science (Lusardi and Mitchell, 2014; Xiao and Porto, 2017). Financially capable consumers are considered to have high levels of financial knowledge. The earliest research paper on financial literacy was published by Lusardi and Mitchell in 2007, which is not in the paper pool of this review but highly relevant to this review. In that paper and also many of Lusardi's later papers, financial literacy means financial knowledge. Later scholars realize that financial literacy can be defined either narrowly as financial knowledge or broadly as including both financial knowledge and the application of financial knowledge (Huston, 2010). In fact, in a survey paper, Lusardi and Mitchell (2014) define financial literacy as "peoples' ability to process economic information and make informed decisions about financial planning, wealth accumulation, debt, and pensions (p.6)," which implies that financial literacy refers to both financial knowledge and financial behavior. In recent years, the financial literacy literature has grown rapidly (see a recent review by Goyal and Kumar, 2021). In many of these studies, both narrow and broad definitions of financial literacy are used, but most studies define financial literacy as financial knowledge (e.g., Lusardi and Mitchell, 2007, 2011). The three financial literacy questions initially used in Lusardi and Mitchell's earlier publications are now called the "big three" and used in many studies. They also developed a theoretical economic utility model to describe how demand for financial knowledge is developed over the lifecycle (Lusardi *et al.*, 2017). The knowledge definition is used commonly by researchers in economics, business, and consumer science.

5.1.3. The Knowledge-Behavior Definition

Xiao *et al.* (2014) defines financial capability as the ability to apply appropriate financial knowledge and perform desirable financial behavior for achieving financial wellbeing. This definition can be considered a combination between the behavior definition (Atkinson *et al.*, 2007) and the knowledge definition (Lusardi and Mitchell, 2007). Xiao *et al.* (2014, 2015) developed two strategies to measure the knowledge-behavior based financial capability. First, they used five indicators, objective financial knowledge, subjective financial knowledge, number of non-risky (desirable) financial behaviors, number of risky (undesirable) financial behaviors, and perceived financial capability (Xiao *et al.*, 2014). This five-indicator measure then was extended into an index of financial capability (Xiao *et al.*, 2015). This definition was used in studies on potential effects of financial education on financial capability (Xiao and O'Neill, 2016) and potential contributions of financial capability to financial wellbeing (Xiao and Porto, 2017). In the literature, some researchers also used a more specific term of "financial management behavior" (Dew and Xiao, 2011; see also Goyal *et al.*, 2021). In this article, the two terms, financial behavior and financial management behavior, are the same conceptually, meaning desirable financial behaviors. The knowledge-behavior definition is used often in consumer science.

5.1.4. The Outcome Definition

Taylor (2011) asserts that "financial capability reflects people's knowledge of financial matters, their ability to manage their money and to take control of their finances (p.298)," which is conceptually similar to the previously mentioned definition, emphasizing both knowledge and behavior. However, the measurement of financial capability in Taylor (2011) reflects a new component for financial capability, financial outcome. Using data from the British Household Panel Survey (BHPS), seven items include: having difficulty paying for accommodation, having to borrow to meet housing payment, having to cut back to meet housing payment, more than two months behind rent/mortgage, managing finances well and living comfortably, better off or worse off, and having any savings. These items are then formed as a single indicator of financial capability (Taylor, 2011). The outcome focused definition is also used by other researchers. For example, the financial asset range is used to measure financial capability with Chinese data (Cui *et al.*, 2019). The outcome definition is used often by economists.

5.1.5. The Ability-Opportunity Definition

The financial capability definitions discussed above focus on the dynamics among financial knowledge, behaviors, and outcomes from the individual perspective. Different from the above four, the ability-opportunity definition proposed by Sherraden (Johnson and Sherraden, 2007, Sherraden, 2013) emphasizes structural forces and their interactions with individual factors. This definition suggests the importance of external opportunities available for consumers besides individual abilities, especially disadvantaged consumers. Sherraden (2013) conceptualizes financial capability as an individual's ability and opportunity to act in their financial self-interest. Financial capability is referred to as a combination or interaction of individual ability (e.g., knowledge and skills) and access to financial services and products (e.g., bank accounts, loan and credit, and retirement savings accounts). An individual must be financially literate - have financial knowledge and skills - but also have access to financial products and services that enable them to improve their financial wellbeing.

Under this lens, financial literacy as individuals' abilities, includes both knowledge and skills. Financial literacy is helpful but not sufficient for consumers. Participation in economic life should maximize life chances and enable people to lead fulfilling lives. This requires knowledge and skills, ability to act on that knowledge, and the opportunity to act. Based on this definition, financial access is an important factor that could be conceptualized and measured at three levels. It may be considered an objective environmental condition indicating all available service opportunities for certain populations (e.g., the number of bank branches and banking products in low-income communities), an ability-opportunity interaction process measured by individual behaviors to choose among available opportunities (e.g., opening one specific bank account among all available products), and an outcome status showing achieved opportunities (e.g., having a bank account and other financial assets) (Huang *et al.*, 2013). By introducing structural factors into the concept of financial capability, the ability-opportunity approach shows that external conditions could be the target of the interventions to improve financial capability. This definition is widely used by researchers in social work.

(Insert Table 4 about here)

5.2. Theoretical Foundations of Financial Capability Definitions

Our review also pertains to the theories applied and tested by extant literature. Shedding light on the different theoretical approaches adopted in a particular research domain constitutes an essential exercise in building new contextual theories or extending current theories (Whetten, 1989). Table 5 lists theories that have been applied, though it is not exhaustive. Rather, it encapsulates theories that can be traced to existing studies. Our content analysis of 215 studies shows that authors have applied various theories to build a foundation for empirical investigations of financial capability. Of these, capability theory is most common, cited in 15 research papers; it is followed by theory of planned behavior used in 9 papers, and consumer socialization theory, used in 8 papers.

(Insert Table 5 about here)

The initial conceptualization of financial capability in the UK (Atkinson *et al.*, 2007) takes a grounded theory approach and inductive reasoning to collect qualitative data from individuals through focus groups. This approach provides important insights into understanding individual's perceptions of their finances and financial wellbeing. Built on individual qualitative data, such conceptualization processes focus on individual-level factors (e.g., financial behaviors) in given structural and environmental constraints in defining financial capability. This theoretical strategy affects subsequent models of financial capability with an emphasis on consumer financial knowledge, behavior, and/or outcomes (e.g., Huston, 2010; Taylor, 2011; Xiao *et al.*, 2014).

Another observation on the development of financial capability conceptualization is that it has expanded from one single component construct (e.g., knowledge or behavior) to multiple connected components (e.g., knowledge, behavior, and outcomes). Individual-level financial capability has been constructed into a comprehensive measure containing several components, their interactions, and a theoretical pathway to financial wellbeing (i.e., from obtaining knowledge, applying knowledge in behaviors, to achieving financial outcomes).

The financial capability definitions with a focus on individual factors (i.e., knowledge, behavior, knowledge-behavior, and outcome) are consistent with logics specified by an economic model of human development proposed by Heckman and Mosso (2014). The core of the Heckman-Mosso model is skill formation (e.g., cognitive development), individual efforts (e.g., practices), and individual performance (e.g., test score). The Heckman-Mosso model includes cognitive skills, noncognitive skills, and health as three parts of individual skills, argues that individual skills are one key determinant of their efforts, and further suggests that both skills and efforts affect individual performance (i.e., skills→efforts→performance). There are a variety of other factors affecting all of these three concepts simultaneously (e.g., parenting and public investment on skills, anticipated reward on efforts, and environmental incentives on performance).

While it does not intend to explain individual financial capability development directly, the Heckman-Mosso model is consistent with the conceptualization of financial capability in the knowledge, behavior, knowledge-behavior, and outcome approaches. Applying this framework, financial knowledge can be considered part of individual skills, financial behaviors represent individual efforts, and financial outcomes can be referred to as individual performance. The knowledge approach mainly addresses skill formation, and the behavior approach solely emphasizes efforts. The knowledge-behavior approach combines both skill formation and efforts, while the outcome approach is mainly interested in performance. This human development system proposed by Heckman and Mosso can incorporate all related constructs proposed in these four definitions.

The theoretical foundation of the ability-opportunity definition, however, is based on a capabilities approach proposed by Sen (1985, 1993) and Nussbaum (2000), another human development model. According to Sen and Nussbaum, capabilities are individuals' real freedom to achieve important "functionings." In the context of consumer finance, functionings could be referred to as being financially secure and healthy, and financial capability thus is people's real opportunities to achieve such functionings. Financial capability, as freedom and opportunities, is not only limited to individual ability (such as knowledge and behaviors), but also determined by structural and external conditions generating all available financial services and products for individuals. These external conditions shape individual opportunities to achieve financial wellbeing and should be part of financial capability.

Both individual and structural perspectives in financial capability definitions reflect a recurrent debate on the importance of the person versus the environment on individual capability and wellbeing. In fact, by linking to modern behavioral economics theory, the Heckman-Mosso model also intends to incorporate external conditions (as opportunities) and individual efforts evoked by external conditions to explain individual performance. In the human development system defined by Heckman and Mosso, a variety of individual performance outcomes is considered a set of possible "functionings" in Sen's capabilities approach. These financial "functionings" are consequences of the interactions among external conditions, and individual knowledge and efforts.

5.3. The Proposed Definition: A Knowledge-Behavior-Opportunity (KBO) Approach

Five existing conceptual definitions of financial capability and the underlying theories supporting these definitions suggest that the concept mainly deals with the dynamic relationships among several factors at the individual level (i.e., financial knowledge, financial behaviors, and financial outcomes) as well as financial opportunities available from their environments. Overall, the relationships among these factors could be specified as that the acquisition and application of financial knowledge lead to desirable financial behaviors, and both financial knowledge and behaviors contribute to financial outcomes. In addition, the chained effects from financial knowledge, behaviors, and outcomes always interact with external conditions. These definitions differ from each other on which aspect of individual factors they emphasize, and whether and how they allow these factors to interact with financial opportunities in the environment. The ability-opportunity approach (Sherraden, 2013) is the only definition which explicitly clarifies this internal-external interaction, arguing that the combination of financial knowledge and financial access affects both financial behaviors and outcomes.

Based on these existing definitions and theories, we propose an alternative conceptual definition of financial capability that focuses on three components: knowledge, behavior, and opportunity, or the KBO definition. This new definition attempts to incorporate key components of previous conceptual definitions such as knowledge, behavior, and opportunity. In this definition, financial capability refers to *an individual's ability to apply appropriate financial knowledge, perform desirable financial behaviors, and take available financial opportunities for achieving financial wellbeing*. It is an extension of the knowledge-behavior definition (Xiao *et al.*, 2014) and incorporates the element of "opportunity" of the ability-opportunity definition (Johnson and Sherraden, 2007; Sherraden, 2013, Sherraden *et al.*, 2017). In this definition, we add opportunity for access besides knowledge and behavior. The new definition acknowledges the importance of opportunity, similar to the Sherraden definition but it emphasizes the personal perspective of opportunity, the ability to know available opportunities, to act on available opportunities, and even better, to create new opportunities, which is different from the Sherraden definition. The new definition implies that financial capability can be demonstrated by interactions between these three factors, knowledge, behavior, and opportunity.

In reality, interactions between individual and environmental factors cannot be separated, and they happen throughout the whole process. Financial access opportunities can be identified in the construct, antecedents, and outcomes of financial capability (Huang et al., 2013). For example, financial service access can be an environmental factor, such as government encouraged, bank offered special matched accounts available for low income consumers (e.g. Individual Development Account) in many states in the U.S. Financial service access can also be an indicator of financial wellbeing such as having a bank account. In addition, if a person is aware of a special bank account available for special populations, such as the Individual Development Account for qualified low-income consumers (knowledge), and takes action to use it (behaviors) for achieving financial wellbeing, access related knowledge and behavior can then be considered indicators of financial capability. To emphasize this important feature, we include *opportunity* in the new definition.

To summarize, we consider financial capability a concept at a higher level that shows interactions between three components, knowledge, behavior, and opportunity. We emphasize that the capability refers to individual ability, which is a major difference from the concept of Sherraden (2013). In this new definition, we believe three keywords representing capability are knowledge, behavior, and opportunity. Since capability is hard to be observed directly, we use these three factors as indicators of it. Ideally, capability should be shown through interactions of the three factors.

This new definition incorporates components of all previous definitions except for financial outcomes. We believe separating the concept of outcome and its possible determinants may help clarify conceptualization processes and also help develop better measurements. In previously mentioned theories, Heckmen and Masso (2014) consider performance as the outcome. Sen (1985) considers "functionings" as the outcome. In the literature of consumer finance, financial wellbeing is the outcome (Xiao and Porto, 2017). To better understand human behavior and their consequences, separating outcomes from their determinants can help clarify logical relationships between these concepts and develop better measurements in future research.

To synthesize the literature and further future research on financial capability, we have constructed a framework describing associations between the construct, antecedents, and outcomes of financial capability. Antecedents of financial capability include two major categories, background and intervention. Outcomes of financial capability include financial wellbeing, wellbeing indicators of other life domains, and overall wellbeing. All these factors can be measured by both objective and subjective indicators. Their relationships are shown in Figure 3. This framework is used to develop propositions, synthesize the research literature on financial capability, and identify research gaps.

(Insert Figure 3 about here)

6. Propositions and Syntheses

In this section, we present propositions based on this new definition of financial capability, describe existing research literatures related to these propositions, and identify research gaps. These propositions can be used as guidelines in future research for developing specific hypotheses. Table 6 presents reference papers categorized based on the propositions.

(Insert Table 6 about here)

Proposition 1: There are background differences in financial capability

Antecedents of financial capability have two categories: background and intervention. Background refers to consumer characteristics at individual, family, community, and country levels. Intervention means any external effort that helps target populations enhance capabilities and improve wellbeing. Proposition 1 states that financial capability (i.e., financial knowledge, behavior, and opportunity) varies among consumers with different characteristics.

For example, previous research shows consumer background differences in financial behaviors in a set of studies on alternative financial services (AFS; e.g., payday loan and pawnshop) that typically charge extremely high interest rates, consumers with disadvantaged characteristics are more likely to use them (Caplan *et al.*, 2017). Research also shows background differences in other financial behaviors, including saving and investment management, use of formal financial services, and financial planning. For example, Arcangelis and Joxhe, (2015) find the immigration status differences in saving behavior in the UK. Partners who earn more are more likely to be responsible for managing savings and investments as well as paying monthly bills (L'Esperance, 2020). Age and gender differences are found in planning ahead, managing money, choosing products and staying informed in Malaysia (Mokhtar *et al.*, 2020). In addition, psychological factors such as attitudes, social norms, and perceived behavioral control are associated with calculating retirement savings needs (Magwegwe and Lim, 2021). While materialism has no direct effect on responsible financial behavior, cognitive impulsiveness fully mediates the relationship between materialism and responsible financial behavior among young adults in Croatia (Lučić *et al.*, 2021).

Some studies demonstrate consumer background differences in financial knowledge. For example, gender difference in financial knowledge is found among American consumers (Chen and Garand, 2018). Income differences in financial knowledge are found in India (Banerjee, 2016). Immigrants have significantly lower levels of financial knowledge than their Canadian-born counterparts (Khan *et al.*, 2021). Personal finance knowledge among African-American adults lags that of whites (Yakoboski *et al.*, 2020). Lower self-confidence on tax literacy is related to certain demographics in Australia (Chardon *et al.*, 2016).

Previous research also shows consumer background differences in financial capability. Sociodemographic factors are associated with financial capability of survivors of human trafficking (Okech *et al.*, 2018). Gender moderates associations among financial literacy, money attitudes, financial strains and financial capability in Malaysia (Sabri *et al.*, 2017). General domain identity processes affect financial capabilities both directly and indirectly among Lithuanian students (Vosylis *et al.*, 2020).

Age differences in financial capability are found in the general population (Xiao *et al.*, 2015). Gen Y has the highest average score in financial literacy and financial capacity than other age groups in Thailand (Amonhaemanon and Vora-Sitta, 2021). Research finds that older people access less traditional sources of financial information (Hean *et al.*, 2013). Older adults overestimate their financial knowledge (Khan *et al.*, 2017). Whites have a higher level of financial capability across all indicators than other racial/ethnic minority groups (Kim and Xiao, 2021). Low income older Asian Americans perceive little need to improve their financial knowledge and management skills because they have "no money to manage" (Nam *et al.*, 2019). A qualitative research study in Denmark shows that older people (aged 69–85 years) living in relative poverty are familiar with being thrifty and have a practical sense of making ends meet (Brünner, 2018).

Researchers have explored financial capability of special populations such as business owners (Silva et al., 2010), microfinance clients (Chidambaranathan and Guha, 2020), foster care youth (Peters *et al.*, 2016), student loan holders (Xiao *et al.*, 2020), and inmates (Mielitz and Marcum, 2020). In particular, a set of studies have examined financial capability among people with health problems, such as people with a neurodegenerative disease (Bangma *et al.*, 2021), mentally disabled persons (Lazar *et al.*, 2016), mental health consumers (Caplan, 2014), mental health court participants (Cuddeback *et al.*, 2017), youth with Autism Spectrum Disorder (ASD) (Cheak-Zamora *et al.*, 2017), people with substance use disorders (Jones-Sanpei and Nance, 2020), and disabled youth (Deng and Meng, 2013) and adults (Xiao and O'Neill, 2022).

In sum, many demographic characteristics such as gender, age, and race, are examined in terms of financial knowledge, financial behavior, and financial capability. Research on psychological, social, community, and country differences in financial capability are limited and should be expanded. These are consistent with the Heckman-Mosso model which suggests that skills, efforts, and performance are affected by a variety of background inputs. Background differences also create different circumstances and contexts for vulnerable consumers (Hill & Sharma, 2020).

Proposition 2: There are background differences in consumer wellbeing

Consumer wellbeing indicators can be financial, other life domain, and overall wellbeing (Xiao, 2015). Previous research shows background differences in consumer financial wellbeing. Financial wellbeing can be measured by both subjective indicators such as financial satisfaction and objective indicators such as employment, and amounts of spending, savings, and debt. Financial wellbeing implies that consumers have adequate resources to live a comfortable life (Xiao, 2015).

Research shows gender, ethnic, and marital status differences in financial outcomes and satisfaction (Fan and Babiarz, 2019; Nam *et al.*, 2016). Generation Y females who are members of ethnical minorities are at the greatest risk of being financially vulnerable (Nejad and O'Connor, 2016). Recent cohorts of American elders hold more debt and face more financial insecurity than in the past (Lusardi *et al.*, 2020). Family composition and income are associated with the total amount of household savings (West *et al.*, 2017). Cognitive and financial experiences positively influence financial satisfaction (Sithole et al., 2021). Resident registration status and employment type are associated with the range of financial assets, an indicator of financial welling in China (Cui *et al.*, 2019).

A few studies examine consumer background differences in wellbeing of other life domains. Sociodemographic factors are associated with non-U.S. born mothers' parenting stress across early childhood in fragile families (Xu *et al.*, 2018). Being least satisfied with financial situation is associated with having negative expectations of the future (West and Cull, 2020).

Proposition 3: Interventions contribute to financial capability

Interventions in this review mean that parents and organizations provide consumers information, education, and other assistance through various channels to help them improve financial capability. Much of the previous research focuses on family financial socialization and financial education.

Family financial socialization refers to parents teaching children about money management through direct teaching or indirect influence (e.g., children observe parents' behaviors) that improve children's financial knowledge, behavior, opportunity, and capability. Research shows how parents affect the formation of financial behavior (Shim *et al.*, 2010) and financial identity-processing styles among young adults (Shim *et al.*, 2013). Emerging adults who have received greater parental financial instruction engage in more sound financial behavior (Jorgensen *et al.*, 2017b). Young adults who received an allowance as children report modestly higher levels of financial responsibility (Collins and Odders-White, 2021). Parental financial socialization may contribute to financial knowledge, behavior and opportunity for youth and adults (Wu *et al.*, 2017; Zhao and Zhang, 2020) and experimental research shows a significant association between visiting a bank with a parent or other family member and an understanding of financial services, the knowledge of opportunity (Wu *et al.*, 2017). Parental socialization is also associated with financial capability among adolescents (Zhu, 2020). Qualitative interviews show themes in parental financial socialization reported by college students' parents, grandparents, and themselves as imagined future parents (LeBaron *et al.*, 2018). Based on qualitative research, a conceptual framework to understand the financial socialization process among young adults is proposed (Marchant and Harrison, 2020). A UK qualitative research shows the limited number of financial socialization agents through the voices of emerging adults (Marchant and Harrison, 2020).

Financial education can be offered in schools, colleges/universities, communities, and workplaces. Previous research suggests positive impacts of financial education on financial knowledge, behavior, opportunity, and capability. For consumers, attending financial education classes voluntarily can be considered taking available opportunities. The U.S. data show positive associations between financial education and financial capability (Xiao and O'Neill, 2016). Positive associations between financial education and financial literacy among various income and education groups are also found (Wagner, 2019). Financial education is associated with short-term and long-term financial behaviors (Wagner, 2019) and insurance advice seeking behavior (Xiao and Porto, 2019). Financial education is used to construct financial access status with bank account ownership and financial accesses related to healthy financial behaviors (Friedline and West, 2016). Rejecting financial education opportunities is disadvantageous to obtaining proper financial knowledge (Kim and Mountain, 2019). Receiving financial education from both school and workplace has positive associations with having emergency funds (Nam and Loibl, 2021). A financial education intervention has made positive impacts on objective financial knowledge and financial self-efficacy but a negative one on financial behaviors among adolescents in Hong Kong (Zhu, 2020). Both channels (financial education and financial socialization) have positive associations with increased financial knowledge levels with different impact magnitudes (Shim *et al.*, 2010). However, a large-scale financial education program in Mexico City shows only a minimal impact on financial capability measured by knowledge and behavior (Bruhn *et al.*, 2014).

Research shows that elementary school children who participated in the innovative financial education program has scored significantly higher on a financial literacy test taken in fourth grade than comparison group students (Sherraden *et al.*, 2011). Experimental research has found that financial education in elementary school improves students' financial capability measured by financial knowledge, behavior, and attitudes (Batty *et al.*, 2015). Financial education mandates in schools significantly reduce the likelihood and frequency of payday borrowing (Harvey, 2019). MyPath Savings, a financial education program targeting disadvantaged youth, increases youth's financial knowledge, financial self-efficacy, and positive financial behaviors (Loke *et al.*, 2015). The Ghana YouthSave Experiment among junior high students for exploring youth responses when offered opportunities to save for their education shows that treatment effects are significant only for attending the program but not saving behavior (Ansong *et al.*, 2019). Through experimental research in Rwanda, students in the financial education treatment group exhibit increased general financial capability, self-reported savings behavior, and other positive outcomes (Shephard *et al.*, 2017).

Some financial education programs are developed for special populations such as prisoners (Richel, 2017), woman prisoners (Sanders, 2016), human trafficking survivors (Tsai et al., 2017), and Latinos (Barros Lane and Pritzker, 2016). Researchers document courses integrating financial capability for special purposes such as adding a solution-focus brief therapy component (Elliot and Kim, 2013), adopting a curriculum in financial capability and asset building (FCAB) at four historically Black colleges and universities (HBCUs) (Rochelle *et al.*, 2017), infusing FCAB in a community organization course (Doran and Bagdasaryan, 2018), and infusing an FCAB curriculum in social work courses in minority-serving baccalaureate colleges and universities (Sherraden *et al.*, 2017). Note that effectiveness of financial education on financial capability is a controversial topic and some studies show little or no effects of financial education on financial knowledge or financial behavior (Willis, 2008).

Besides financial socialization and financial education, *public policy* interventions for improving consumer financial capability are also reported in the literature such as service access, financial counseling, and laws. Consumers taking these services are considered showing their ability to take available opportunities. Research shows interactive effects between financial knowledge and access to intervention treatment status (Huang *et al.*, 2013). The evaluation of financial capability services provided in a workforce development program shows that people living at or below poverty levels of income may need more intensive financial support services than counseling can provide (Collins and Nafziger, 2019). Four years after implementation of the Child Development Account, asset- and debt-product uses are higher among young mothers in the treatment group than their counterparts in the control group (Huang et al., 2021).

Researchers argue that financial media should be considered a key player by policy-makers if they want to bolster financial capability (Knowles and Schifferes, 2020). Phone apps could be designed to improve financial capability through the recommendation of financial goals (Bunnell *et al.*, 2020). However, a review of four research projects shows that there is no clear rigorous evidence that the interventions that use a financial capability approach to promote retirement savings improve individual financial behaviors or financial outcomes (Birkenmaier *et al.*, 2021).

The literature also documents *capacity building* of intervention workforces, such as social workers who help consumers improve financial capability. Researchers describe practices of Financial Capabilities Development (FCD) programs in South Africa (Engelbrecht and Ornellas, 2019), a participatory action research training project in rural Colombia (de Jong et al., 2019), and perceptions of social work students on their educational needs (Loke *et al.*, 2017). Also, research shows perceptions of young people on organizations in promoting financial capability in Finland (Luukkanen and Uusitalo, 2014), and assessments of social workers who have completed a continuing education course on financial capability (Frey *et al.*, 2015). Social work faculty are most likely to teach about financial-related public policies and programs, and least likely to teach about financial products and services, and financial management and practice (Huang *et al.*, 2020). The Financial Capability and Asset Building (FCAB) for All Grand Challenge provides an impetus to increase financial content in social work education (Birkenmaier *et al.*, 2020).

Much existing research focuses on financial socialization and financial education as interventions. More research is needed to examine other intervention channels. In addition, the effectiveness of financial education is a debated subject in the field of financial capability, and more rigid research is needed for this important topic. Many interventions are attempting to create opportunities for consumers with limited resources. Research on how needed consumers are finding, using, or even participating in creating these opportunities is limited and should be encouraged.

Proposition 4: Interventions contribute to consumer wellbeing

Research evidence shows government sponsored programs have positive impacts on consumer wellbeing. Again, for consumers, their participations in these services show their abilities to take available opportunities. Interactions between intervention treatment status and financial knowledge suggests that access to the Child Development Account (CDA) moderates the association between financial knowledge and asset accumulation (Huang *et al.*, 2015b). Research demonstrates the effectiveness of an asset-building nonprofit's innovative financial coaching-based approach to the government sponsored Family Self-Sufficiency program (Geyer *et al.*, 2019). The government sponsored Home Ownership Program (HOP) participants exhibit significantly greater earnings growth during the program, enhanced economic security, and rates of home buying (Santiago *et al.*, 2017). Research documents positive impacts of financial counseling as policy responses on financial capability of low-income households in Australia (Brackertz, 2014). Employee financial wellness programs are reaching a population that experiences financial exclusion, though evidence is mixed concerning how these services help workers with LMI resolve key financial challenges (Despard *et al.*, 2020).

Parental financial socialization is also helpful for improving consumer wellbeing directly. Parental financial socialization is associated with young adults' life outcomes and wellbeing (Shim *et al.*, 2010). Both family financial socialization and school financial education are negatively associated with worry about student loan debt (Fan and Chatterjee, 2019).

Financial education also contributes to consumer wellbeing directly and indirectly. Research shows that financial education is positively associated with financial satisfaction directly and indirectly through enhanced financial capability (Xiao and Porto, 2017). Financial empowerment increases (Farnsworth *et al.*, 2011) and changes in career choices are found among students aged 16-19 years old who completed a financial capability course in the UK (Shi *et al.*, 2019).

Proposition 5: Financial capability factors correlate each other

Based on the definition of financial capability used in this review, key elements are knowledge, behavior, and opportunity. These elements are assumed to be interacted to demonstrate financial capability. The existing literature shows some support for this proposition. For example, financial knowledge is positively associated with financial behavior, desirable financial behaviors enhance each other, and financial behaviors show a hierarchical pattern.

Research suggests that financial knowledge may enhance desirable financial behaviors. Both objective and subjective financial knowledge are associated with desirable financial behaviors (Robb and Woodyard, 2011) and being a saver (Kim and Yuh, 2018). Financial knowledge shows effects on individuals' financial management behavior in Malaysia (Loke, 2017) and short-term and long-term financial behaviors among young adults in the U.S. (Kim *et al.*, 2019). People who score higher on the financial literacy questions are much more likely to plan for retirement (Lusardi and Mitchell, 2011). Knowledge shows differences in channels used among mutual fund internet investors in Finland (Pellinen *et al.*, 2011). The testing of a measurement model among youth in Ghana finds three factors representing financial capability, money management (financial behavior), financial service awareness (financial knowledge), and financial service actions (financial behavior) (Despard and Chowa, 2014). Qualitative research on consumer empowerment shows context change and cognition change play roles in improving financial capability among the young in Finland (Luukkanen and Uusitalo, 2019). Both financial literacy and investment experience are positively associated with investing in cryptocurrencies (Zhao and Zhang, 2021). Four waves of NFCS data show that subjective financial knowledge, financial confidence, and savings account ownership are predictors of having an emergency fund (Despard *et al.*, 2020). Objective financial knowledge score is negatively while subjective financial knowledge score is positively related to mobile payment use (Li *et al.*, 2020). Subjective financial knowledge and several other factors are positively associated with individual investors' adoption of robo-advisors (Fan and Chatterjee, 2020).

Based on existing research, financial knowledge may discourage undesirable behaviors. Financial literacy is negatively associated with high-cost borrowing behaviors (Chatterjee, 2013) and the use of payday loans (Kim and Lee, 2018). Individuals with lower objective financial knowledge and those who are overconfident in their self-assessed knowledge level are more likely to utilize AFS instruments (Robb *et al.*, 2015). Individuals who incorrectly answer loan related questions are more likely to use an interest-only mortgage (Seay *et al.*, 2017). However, fringe finance users do not have lower levels of financial capability than those who do not use fringe finance in Canada (Lamb, 2016).

Financial knowledge and financial behavior may form different consumer profiles. The heterogeneity of alternative financial services (AFS) use by constructing a typology of financial knowledge and behaviors is found in adults (Birkenmaier and Fu, 2016a). Financial knowledge may enhance financial capability. Adolescents who rate themselves as financially literate and those living in close proximity to a bank are more likely to report higher capabilities in Kenya (Kagotho *et al.*, 2018).

Financial behaviors may correlate with each other. Seeking advice is positively associated with financial behaviors (Moreland, 2018). Financial capability along with several other factors may affect investing behavior positively in the Tehran stock exchange (Nosratabadi et al., 2019). Greater financial achievement attitudes and power attitudes are associated with fewer responsible spending behaviors among college students in the US and Portugal (Jorgensen *et al.*, 2017a). Financial behaviors are assumed to be in a hierarchical pattern (i.e., financial behavior types change when consumers have more resources) and budgeting behavior is more important for low- income consumers (Xiao & O'Neill, 2018a, 2018b).

Seeking robo-advisory may be associated with carrying a credit card debt (Bai, 2021). Seeking professional advice is positively associated with short- and long-term financial behavior (Fan, 2021). Having access to mainstream financial services is more strongly associated with the three financial-planning behaviors than participating in financial education in the workplace (Nam and Loibl, 2021). The likelihood of budgeting depends on attitudes toward finance, reliance on professional advice, financial knowledge, and confidence in Canada (Georgieva *et al.*, 2021). Financial confidence regarding debt-related issues is tied to debt attitudes and behavior (Bialowolski *et al.*, 2021). A propensity to plan is positively associated with appropriate credit card management behaviors and negatively associated with irresponsible behaviors among US millennials (Lee and Kim, 2020). Financial capability can be improved by increasing individuals' financial knowledge, financial behavior and promoting their inclusion in financial services in Albania (Çera *et al.*, 2020).

Most existing research focuses on the association between financial knowledge and behavior, which can be continued with more rigid research methodologies. More research is needed to study the associations between financial behaviors, associations between financial behaviors and other behaviors such as health behaviors, and if financial behaviors follow a hierarchical pattern. Research on how financial knowledge and financial behavior interact to take and even create opportunities is limited and can be expanded in the future.

Proposition 6: Financial capability factors contribute to consumer wellbeing

Research shows that financial capability contributes to financial wellbeing. Financial capability is positively associated with financial satisfaction (Xiao *et al.*, 2014). Propensity to plan contributes to financial capability and financial satisfaction (Xiao and O'Neil, 2018b). Consumers who are more financially knowledgeable or more confident in their financial ability are more likely to report having emergency funds (Babiarz and Robb, 2014). In South Africa, financial capability is associated with having emergency savings (Reyers, 2019). Consumers' self-assessed financial capability is related to financial outcomes (Johnson and Lamdin, 2015). Investors' financial literacy with other demographic and behavior variables have impacts on the diversity of assets included in their portfolios in Turkey (Mouna and Jarboui, 2015). Financial capability along with other demographic variables influence financial wellbeing in Malaysia (Sabri and Zakaria, 2015). Digital financial capability may increase business ownership in China (Luo and Zeng, 2020; Luo *et al.*, 2021). Financial capability, financial advice, financial anxiety, and electronic payment system usage have a direct positive effect on an individual's financial satisfaction (Khan and Akhtar, 2020). Financial literacy and financial access both impact financial wellbeing of people with disabilities (McGarity *et al.*, 2020). Factors such as knowledge, attitude, control are associated with financial satisfaction via one or more positive financial behaviors (Luo and Zeng, 2020). Financial knowledge along with several psychological factors contribute to perceived financial wellbeing in Brazil (Ponchio et al. (2019). Both financial knowledge and financial behavior contribute to financial wellbeing in Estonia (Riitsalu and Murakas, 2019). However, researchers find inconsistent associations between financial literacy and financial wellbeing (Schmeiser and Seligman, 2013).

Financial self-efficacy and financial behavior contribute to subjective financial wellbeing among young adults in Finland (Ranta and Salmela-Aro, 2018). A literature review summarizes the relationship between college student financial capability (financial behavior, literacy, and self-efficacy) and financial wellness (Montalto *et al.*, 2019). Financial capability mediates the effect of economic hardship on wellbeing among young adults in Finland (Ranta *et al.*, 2020).

Research suggests that consumers with higher levels of financial knowledge, behavior, opportunity, and capability are less likely to have negative financial outcomes. Financial access and financial functioning are negatively associated with the risk of experiencing economic hardship among low income older Asian immigrants (Huang *et al.*, 2015a). Both financial access and financial management are negatively correlated with material hardship (Huang *et al.*, 2016). Money attitude and financial capability each contribute independently to the risk of experiencing adverse financial outcomes (von Stumm *et al.*, 2013). Holding a student loan is negatively related to financial wellness (Henager and Wilmarth, 2018); however, having student loan debt is not significantly associated with financial satisfaction (Robb *et al.*, 2019). After the addition of financial capability and belief measures, no relationship is found between holding a mortgage in retirement and financial satisfaction (Seay *et al.*, 2015). Financial capability is negatively associated with financial stress (Xiao and Kim, 2021). Among homeowners, having a mortgage is negatively associated with financial satisfaction (Tharp *et al.*, 2020). Results suggest that desirable financial behaviors are important for consumers with the least financial access (Birkenmaier and Fu, 2020).

Higher levels of financial capability may contribute to wellbeing of other life domains and general wellbeing. Effects of financial capability in general and financial behaviors in particular are found on food security (Millimet *et al.*, 2018). Changing financial behaviors is ultimately associated with changes in financial and overall wellbeing among young adults (Serido *et al.*, 2013). Financial capability is positively associated with subsequent self-reported measures of physical and mental health (Bialowolski *et al.*, 2021). Perceived financial capability is significantly associated with subjective wellbeing (Fan *et al.*, 2021). However, research implies that current efforts to improve broader welfare outcomes through financial literacy and inclusion interventions may still be too narrowly framed (Fu, 2020).

Although much existing research shows financial capability contributes to financial wellbeing, more research is needed to explore financial capability's associations with other life domains of wellbeing and overall wellbeing. For example, a study out of this reviewed paper pool shows financial behavior contributes to financial wellbeing and academic wellbeing, and both domain wellbeing indicators contribute to overall wellbeing of college students (Xiao et al., 2009).

7. Directions for Future Research

The literature of financial capability is still growing. To further research on this important research topic, in the following we provide suggestions for future research in three aspects: topics, theories, and contexts.

7.1. Topics

Section 6 presents propositions based on the literature on financial capability. These propositions are supported by some empirical studies, and research gaps regarding research topics are also revealed. In the following, we briefly discuss possible research topics related to financial capability for future research.

Backgrounds and financial capability. Consumer background differences in financial capability are still interesting topics. Some consumer attributes such as gender and age are always worthwhile to further explore with new dependent variables in terms of financial knowledge, behavior, opportunity, and capability. Future research could also explore more dimensions of consumer backgrounds such as psychological, social, and cultural factors. International comparisons of financial capability are also important research topics to explore.

Interventions on financial capability. Interventions offered by family, school, workplace, government, and nonprofit are important topics for future research. Interventions such as family financial socialization, financial education, and other policy supported initiatives for helping disadvantaged consumers should be described and evaluated in research papers. To make interventions more effective and efficient, more program evaluation research should be conducted. Various research methods including both qualitative and quantitative approaches can be used to collect rich information about these topics.

Financial capability interactions. A plethora of research has examined the association between knowledge and behavior. Some research has also addressed the issue of endogeneity between financial knowledge and financial behavior and provided approaches such as instrument variable, propensity score matching, and difference in difference approaches to address this issue (Lusardi and Mitchell, 2014). Studies focusing on cultural differences in financial capability and its consequences are rare in the literature, which can be another direction for future research. More research could be conducted to examine how consumers take advantage of opportunities provided by public policies benefiting their interests and providing them access to financial services and products. How to measure financial capability directly is also an interesting future research topic, especially how to use objective indicators to directly measure this important concept. Future research should also examine the interactions between different types of financial behaviors and between financial behaviors and other domain behaviors such as health behaviors to see if desirable behaviors within the finance domain or between domains enhance each other and if the assumption of a financial behavior hierarchy is valid.

Financial capability on consumer wellbeing. Some research has been done to connect financial capability to consumer financial wellbeing and overall wellbeing. Future research could be more comprehensive to cover more dimensions of financial wellbeing such as earning, spending, borrowing, insuring, and saving/investing. More future research could also be conducted to explore how financial capability contributes to other life domain wellbeing and overall wellbeing.

7.2. Theories

As discussed before, the international movement to promote financial capability is motivated by socioeconomic demands from policy perspectives, and the conceptualization of financial capability and empirical research can be explained by some economic and psychological theories (Heckman and Mosso, 2014; Hill and Sharma, 2020). Based on the new conceptual definition of financial capability proposed in this review, financial capability is considered a consumer ability, and a theory addressing how the ability is developed and maintained could be used to explain the development of financial capability (Grossman, 1972; Heckman and Mosso, 2014). In addition, researchers focusing on behaviors use the theory of planned behavior (Ajzen, 1991). Researchers emphasizing knowledge develop the theory focusing on the lifespan development of knowledge based on the standard economic utility theory (Lusardi and Mitchell, 2017). Researchers focusing on the ability-opportunity interaction emphasize the importance of environment citing the capability theory proposed by Sen (1993). Researchers using the knowledge-behavior definition utilize the theory of self-efficacy (Bandura, 1982). Since behavior is an important component of financial capability, theories related to behavior change such as the transtheoretical model of behavior change (TTM) (Prochaska *et al.*, 1992) can also be considered in future research. In addition, since the new definition includes another important element, opportunity, which is relevant to public policy formation, relevant theories in political science can also be considered.

7.3. Contexts

In the literature of financial capability, several populations are paid special attention by researchers such as the young (i.e., children, youth, and young adults) and financially disadvantaged consumers (Walstad *et al*, 2017). Young generations are the future of society that should be equipped with adequate financial capability to survive and thrive in the increasingly complex financial markets. Emphasizing the development of financial capability of young generations is a good social investment. As discussed in Lusardi and Mitchell (2014), even though some of them will not be rich and participate in capital markets in their later life, the training at a young age still adds wealth to the economy. Improving financial capability among disadvantaged consumers is critical to achieve social justice. Public policies should be encouraged to provide more opportunities for disadvantaged consumers to have access to financial services and products and participate in financial markets (Sherraden, 1991). Encouraging more consumers who are traditionally excluded from financial markets will benefit not only these consumers but also companies serving them and the whole economy.

Finally, the recent COVID-19 pandemic created unprecedented challenges for consumers. Because of the economic downturn caused by the worldwide crisis, many consumers have lost jobs or reduced incomes and are facing much larger financial challenges to live a normal life. In this circumstance, consumers need to enhance financial capability to learn how to make a living and use available resources efficiently. How to describe, measure, and evaluate financial capability during large scale crises and how to manage limited resources to live through the crises can be new research topics for researchers on financial capability.

8. Conclusion

Individual choice and responsibility for picking acceptable and advantageous financial goods and services have expanded in recent years, raising the danger of making poor decisions. Financial capability initiatives are becoming increasingly important in this environment. The goal of this systematic review was to assess the current state of knowledge on financial capability. The research trends were examined to deliver the most comprehensive retrospective on the dynamic nuances of financial capability scholarship. Besides unravelling the intellectual structure of the financial capability research, this review looked at a variety of financial capability definitions and proposed an alternative definition according to which financial capability is defined as an individual ability to apply appropriate financial knowledge, perform desirable financial behaviors, and take available financial opportunities for achieving financial wellbeing. This review paves a way forward for future researchers to undertake primary research and learn how retail banking providers are assisting consumers in improving their financial capability through their products and services, as well as how this is understood and regulated in the industry.

This review, like previous studies, has some limitations. Despite our best efforts to guarantee that the search terms reflect the vast extent of the field, there may be a few studies that are missing due to the lack of any related phrases in the search parameters. Second, while the search took into account the most recent studies on the issue, checking other databases can yield more results. Furthermore, it only considers studies published in English, ignoring publications in other languages that may have included diverse viewpoints and arguments about financial capability. The research trends were assessed solely for 215 studies about the financial capability and closely related concepts, as per the review's scope.

Keeping the limitations of this review paper in mind, findings of this article have implications for practitioners in bank marketing and other financial services. When marketing strategies are developed, practitioners should be aware of important components of consumer financial capability that are financial literacy, financial behavior, and financial opportunity. Marketers could develop strategies for improving consumer financial capability from these aspects when promoting their financial products to benefit both consumer and company interests. Marketers may also use the information summarized about antecedents of financial capability to better segment the markets for their products and provide effective marketing interventions for helping consumers improve their financial capability. Marketers may also pay attention to outcomes of financial capability, relate their promotional strategies with consumer financial wellbeing, other life domain wellbeing, and overall wellbeing, develop and promote financial products that meet consumer real needs and improve consumer wellbeing. Marketing strategies that consider both company and consumer wellbeing will be helpful for sustainable development and success of any banks and other financial service companies.

References

Ajzen, I. (1991), "The theory of planned behavior", *Organizational Behavior and Human Decision Processes,* Vol. 50 No. 2, pp. 179-211.

Amonhaemanon, D., and Vora-Sitta, P. (2020), "From financial literacy to financial capability: A preliminary study of difference generations in informal labor market", *Journal of Asian Finance, Economics and Business,* Vol. 7 No. 12, pp. 355-363. doi: 10.13106/JAFEB.2020.VOL7.NO12.355

Ansong, D., Chowa, G., Masa, R., Despard, M., Sherraden, M., Wu, S., and Osei-Akoto, I. (2019), "Effects of youth savings accounts on school attendance and academic performance: Evidence from a youth savings experiment", *Journal of Family and Economic Issues,* Vol. 40 No. 2, pp. 269-281. http: //doi:10.1007/s10834-018-9604-5

Arcangelis, G. D., and Joxhe, M. (2015), "How do migrants save? Evidence from the British household panel survey on temporary and permanent migrants versus natives", *IZA Journal of Migration,* Vol. 4 No. 1. doi:10.1186/s40176-015-0034-y

Atkinson, A., McKay, S., Collard, S., and Kempson, E. (2007), "Levels of financial capability in the UK", *Public Money and Management,* Vol. 27 No. 1, pp. 29-36. doi:10.1111/j.1467-9302.2007.00552.x

Babiarz, P., & Robb, C. A. (2014). Financial literacy and emergency saving. *Journal of Family and Economic Issues, 35*(1), 40-50. doi:10.1007/s10834-013-9369-9

Bai, Z. (2021). Does robo-advisory help reduce the likelihood of carrying a credit card debt? evidence from an instrumental variable approach. *Journal of Behavioral and Experimental Finance, 29.* doi:10.1016/j.jbef.2021.100461

Bandura, A. (1982), "Self-efficacy mechanism in human agency", *American Psychologist,* Vol. 37 No. 2, p. 122.

Banerjee, M. M. (2016), "We routinely borrow to survive": Exploring the financial capability of income-poor people in India", *Social Work (United States),* Vol. 61 No. 4, pp. 349-358. doi:10.1093/sw/sww045

Bangma, D. F., Tucha, O., Tucha, L., De Deyn, P. P., and Koerts, J. (2021), "How well do people living with neurodegenerative diseases manage their finances? A meta-analysis and systematic review on the capacity to make financial decisions in people living with neurodegenerative diseases", *Neuroscience and Biobehavioral Reviews,* Vol. 127, pp. 709-739. doi:10.1016/j.neubiorev.2021.05.021

Barros Lane, L., and Pritzker, S. (2016), "Toward culturally sensitive financial education interventions with Latinos", *Journal of Community Practice,* Vol. 24 No. 4, pp. 410-427. doi:10.1080/10705422.2016.1233476

Batty, M., Collins, J. M., and Odders-White, E. (2015), "Experimental evidence on the effects of financial education on elementary school students' knowledge, behavior, and attitudes", *Journal of Consumer Affairs,* Vol. 49 No. 1, pp. 69-96. doi:10.1111/joca.12058

Białowolski, P., Cwynar, A., & Cwynar, W. (2021). Decomposition of the financial capability construct: A structural model of debt knowledge, skills, confidence, attitudes, and behavior. *Journal of Financial Counseling and Planning,* Vol.32, No. 1, pp. 5-20. doi:10.1891/JFCP-19-00056

Bialowolski, P., Weziak-Bialowolska, D., Lee, M. T., Chen, Y., VanderWeele, T. J., and McNeely, E. (2021), "The role of financial conditions for physical and mental health. evidence from a longitudinal survey and insurance claims data", *Social Science and Medicine,* Vol. 281. doi:10.1016/j.socscimed.2021.114041

Biden, J. R. (2021), "A proclamation on National Financial Capability Month, 2021", https://www.whitehouse.gov/briefing-room/presidential-actions/2021/03/31/a-proclamation-on-national-financial-capability-month-2021/

Birkenmaier, J., and Fu, Q. (2016a), "Who uses alternative financial services? A latent class analysis of consumer financial knowledge and behavior", *Journal of Social Service Research,* Vol. 42 No. 3, pp. 412-424. doi:10.1080/01488376.2016.1147519

Birkenmaier, J., and Fu, Q. (2020), "Financial behavior and financial access: A latent class analysis", *Journal of Financial Counseling and Planning,* Vol. 31 No. 2, pp. 179-192. doi:10.1891/JFCP-18-00067

Birkenmaier, J., Kim, Y., and Maynard, B. (2021), "Financial outcomes of interventions designed to improve retirement savings: A systematic review", *Journal of Gerontological Social Work,* Vol. 64 No. 3, 238-256. doi:10.1080/01634372.2020.1865496

Birkenmaier, J., Lane, L. B., Callahan, C., and Hageman, S. A. (2020), "Course models for increased competency for practice integrated with financial capability and asset building", *Journal of Social Work Education,* doi:10.1080/10437797.2020.1714522

Birkenmaier, J., Maynard, B., and Kim, Y. (2019), "PROTOCOL: Interventions designed to improve financial capability by improving financial behavior and financial access: A systematic review", *Campbell Systematic Reviews,* Vol. 15 No. 1-2, pp. 1-12. doi:10.1002/cl2.1020

Brackertz, N. (2014), "The impact of financial counselling on alleviating financial stress in low income households: A national Australian empirical study", *Social Policy and Society,* Vol. 13 No. 3, pp. 389-407. doi:10.1017/S1474746413000511

Bruhn, M., Lara Ibarra, G., and McKenzie, D. (2014), "The minimal impact of a large-scale financial education program in Mexico City", *Journal of Development Economics,* Vol. 108, pp. 184-189. doi:10.1016/j.jdeveco.2014.02.009

Brünner, R. N. (2018), "Making ends meet in financial scarcity in old age", *International Journal of Ageing and Later Life,* Vol. 12 No. 2, pp. 1-28. doi:10.3384/IJAL.1652-8670.18391

Bunnell, L., Osei-Bryson, K. -., and Yoon, V. Y. (2020), "FinPathlight: Framework for an multiagent recommender system designed to increase consumer financial capability", *Decision Support Systems,* Vol. 134. doi:10.1016/j.dss.2020.113306

Caplan, M. A. (2014), "Financial coping strategies of mental health consumers: Managing social benefits", *Community Mental Health Journal,* Vol. 50 No. 4, pp. 409-414. doi:10.1007/s10597-013-9674-7

Caplan, M. A., Birkenmaier, J., and Bae, J. (2021), "Financial exclusion in OECD countries: A scoping review*", *International Journal of Social Welfare,* Vol. 30 No. 1, pp. 58-71. doi:10.1111/ijsw.12430

Caplan, M., Kindle, P. A., and Nielsen, R. B. (2017), "Do we know what we think we know about payday loan borrowers? Evidence from the survey of consumer finances", *Journal of Sociology and Social Welfare,* Vol. 44 No. 4, pp. 19-43.

Çera, G., Khan, K. A., Mlouk, A., & Brabenec, T. (2020). Improving financial capability: The mediating role of financial behaviour. *Economic Research-Ekonomska Istrazivanja,* doi:10.1080/1331677X.2020.1820362

Chabowski, B.R., Samiee, S. and Hult, G.T.M. (2013), "A bibliometric analysis of the global branding literature and a research agenda", *Journal of International Business Studies*, Vol. 44 No. 6, pp.622-634.

Chardon, T., Freudenberg, B., and Brimble, M. (2016), "Are Australians under or over confident when it comes to tax literacy, and why does it matter?", *E-Journal of Tax Research,* Vol. 14 No. 3, pp. 650-682.

Chatterjee, S. (2013), "Borrowing decisions of credit constrained consumers and the role of financial literacy", *Economics Bulletin,* Vol. 33 No. 1, pp. 179-191.

Cheak-Zamora, N. C., Teti, M., Peters, C., and Maurer-Batjer, A. (2017), "Financial capabilities among youth with Autism Spectrum Disorder", *Journal of Child and Family Studies,* Vol. 26 No. 5, pp. 1310-1317. doi:10.1007/s10826-017-0669-9

Chen, Z., and Garand, J. C. (2018), "On the gender gap in financial knowledge: Decomposing the effects of don't know and incorrect responses", *Social Science Quarterly,* Vol. 99 No. 5, pp. 1551-1571. doi:10.1111/ssqu.12520

Chidambaranathan, M., and Guha, S. (2020), "Can behavioral biases improve the financial capability of microfinance clients in the tribal states of India?", *Strategic Change,* Vol. 29 No. 5, pp. 589-606. doi:10.1002/jsc.2367

Collins, J. M., and Nafziger, M. (2019), “Evaluating financial capability services provided in a workforce development program”, *Journal of Consumer Affairs,* Vol. 53 No. 4, pp. 1775-1796. doi:10.1111/joca.12262

Collins, J. M., and O’Rourke, C. M. (2010), “Financial education and counseling -still holding promise”, *Journal of Consumer Affairs,* Vol. 44 No. 3, pp. 483– 498. https://doi.org/10.1111/j.1745-6606.2010.01179.x

Collins, J. M., and Odders-White, E. (2021), “Allowances: Incidence in the US and relationship to financial capability in young adulthood”, *Journal of Family and Economic Issues,* doi:10.1007/s10834-020-09748-y

Cuddeback, G. S., Blank Wilson, A., Despard, M. R., Tomar, N., and Chowa, G. (2017), “Financial insecurity and risk experiences of justice involved persons with severe mental illness”, *Social Work in Mental Health,* Vol. 15 No. 6, pp. 615-631. doi:10.1080/15332985.2016.1267069

Cui, X., Xiao, J. J., and Yi, J. (2019), “Employment type, residential status and consumer financial capability: Evidence from China Household Finance Survey”, *Singapore Economic Review,* Vol. 64 No. 1, pp. 57-81. doi:10.1142/S0217590817430032

de Jong, G., Fajardo Rojas, M. A., and Almeyda, G. (2019), “Grounding participatory action research in rural Colombia: A demonstration study on youth financial inclusion”, *International Journal of Lifelong Education,* Vol. 38 No. 2, pp. 184-197. doi:10.1080/02601370.2019.1579262

Delgadillo, L. M. (2014), “Financial clarity: Education, literacy, capability, counseling, planning, and coaching”, Family *and Consumer Sciences Research Journal,* Vol. 43 No. 1, pp. 18-28. doi:10.1111/fcsr.12078

Deng, S., and Meng, Y. (2013), “Financial access and economic participation of youth with disabilities in China: An exploratory study”, *China Journal of Social Work,* Vol. 6 No. 2, pp. 177-189. doi:10.1080/17525098.2013.797358

Despard, M. R., and Chowa, G. A. N. (2014), “Testing a measurement model of financial capability among youth in Ghana”, *Journal of Consumer Affairs,* Vol. 48 No. 2, pp. 301-322. doi:10.1111/joca.12031

Despard, M. R., Frank-Miller, E., Fox-Dichter, S., Germain, G., and Conan, M. (2020), “Employee financial wellness programs: Opportunities to promote financial inclusion?”, *Journal of Community Practice,* Vol. 28 No. 3, pp. 219-233. doi:10.1080/10705422.2020.1796878

Despard, M. R., Friedline, T., and Martin-West, S. (2020), “Why do households lack emergency savings? the role of financial capability”, *Journal of Family and Economic Issues,* Vol. 41 No. 3, pp. 542-557. doi:10.1007/s10834-020-09679-8

Dew, J., and Xiao, J. J. (2011), “The financial management behavior scale: Development and validation”, *Journal of Financial Counseling & Planning,* Vol. 22 No. 1, pp. 43-59.

Dolan, P., Elliott, A., Metcalfe, R., and Vlaev, I. (2012), “Influencing financial behavior: From changing minds to changing contexts”, *Journal of Behavioral Finance,* Vol. 13 No. 2, pp. 126-142. doi:10.1080/15427560.2012.680995

Donthu, N., Kumar, S., Mukherjee, D., Pandey, N., and Lim, W. M. (2021), “How to conduct a bibliometric analysis: An overview and guidelines”, *Journal of Business Research,* Vol. 133, pp. 285–296. https://doi.org/10.1016/j.jbusres.2021.04.070

Doran, J. K., and Bagdasaryan, S. (2018), “Infusing financial capability and asset building content into a community organizing class”, *Journal of Social Work Education,* Vol. 54 No. 1, pp. 122-134. doi:10.1080/10437797.2017.1404523

Elliott, W., and Kim, J. S. (2013), “The role of identity-based motivation and solution-focus brief therapy in unifying accounts and financial education in school-related CDA programs”, *Children and Youth Services Review,* Vol. 35 No. 3, pp. 402-410. doi:10.1016/j.childyouth.2012.12.016

Engelbrecht, L. K., and Ornellas, A. (2019), “Financial capabilities development: Essential discourse in social work”, *International Journal of Social Economics,* Vol. 46 No. 10, pp. 1234-1246. doi:10.1108/IJSE-02-2019-0076

Fan, L. (2021). A conceptual framework of financial advice-seeking and short- and long-term financial behaviors: An age comparison. *Journal of Family and Economic Issues, 42*(1), 90-112. doi:10.1007/s10834-020-09727-3

Fan, L., and Babiarz, P. (2019), “The determinants of subjective financial satisfaction and the moderating roles of gender and marital status”, *Family and Consumer Sciences Research Journal,* Vol. 47 No. 3, pp. 237-259. doi:10.1111/fcsr.12297

Fan, L., and Chatterjee, S. (2019), “Financial socialization, financial education, and student loan debt”, *Journal of Family and Economic Issues,* Vol. 40 No. 1, pp. 74-85. doi:10.1007/s10834-018-9589-0

Fan, L., and Chatterjee, S. (2020), “The utilization of robo-advisors by individual investors: An analysis using diffusion of innovation and information search frameworks”, *Journal of Financial Counseling and Planning,* Vol. 31 No. 1, pp. 130-145. doi:10.1891/JFCP-18-00078

Fan, L., Chatterjee, S., and Kim, J. (2021), “An integrated framework of young adults’ subjective well-being: The roles of personality traits, financial responsibility, perceived Financial Capability, and race”, *Journal of Family and Economic Issues,* Vol. 43 No. 1, pp. 66-85. doi:10.1007/s10834-021-09764-6

Farnsworth, V., Davis, P., Kalambouka, A., Ralph, S., Shi, X., and Farrell, P. (2011), “Students' production of curricular knowledge: Perspectives on empowerment in financial capability education”, *Education, Citizenship and Social Justice,* Vol. 6 No. 2, pp. 153-167. doi:10.1177/1746197911410372

Fernandes, D., Lynch, J. G., and Netemeyer, R. G. (2014), “Financial literacy, financial education, and downstream financial behaviors”, *Management Science,* Vol. 60 No. 8, pp. 1861–1883. https://doi.org/10.1287/ mnsc.2013.1849

Frey, J. J., Svoboda, D., Sander, R. L., Osteen, P. J., Callahan, C., and Elkinson, A. (2015), “Evaluation of a continuing education training on client financial capability”, *Journal of Social Work Education,* Vol. 51 No. 3, pp. 439-456. doi:10.1080/10437797.2015.1043195

Friedline, T., and West, S. (2016), “Financial education is not enough: Millennials may need financial capability to demonstrate healthier financial behaviors”, *Journal of Family and Economic Issues,* Vol. 37 No. 4, pp. 649-671. doi:10.1007/s10834-015-9475-y

Fu, J. (2020), “Ability or opportunity to act: What shapes financial well-being?”, *World Development,* Vol. 128, p.104843. doi:10.1016/j.worlddev.2019.104843

Georgieva, V., Nitani, M., & Riding, A. (2021). Budgeting and gender: Employees and self-employed. *Family and Consumer Sciences Research Journal,* doi:10.1111/fcsr.12398

Geyer, J., Freiman, L., Lubell, J., and Villarreal, M. (2019), “Using the family self-sufficiency program to help families with housing assistance improve earnings, credit score, and debt levels: A quasi-experimental analysis”, *Journal of Consumer Affairs,* Vol. 53 No. 3, pp. 796-824. doi:10.1111/joca.12246

Goyal, K., and Kumar, S. (2021), “Financial literacy: A systematic review and bibliometric analysis”, *International Journal of Consumer Studies,* Vol. 45 No. 1, pp. 80-105. doi:https://doi:10.1111/ijcs.12605

Goyal, K., Kumar, S., and Xiao, J. J. (2021), “Antecedents and consequences of personal financial management behavior: A systematic literature review and future research agenda. *International Journal of Bank Marketing,* Vol. 39 No. 7, pp. 1166-1207. doi: https://doi.org/10.1108/IJBM-12-2020-0612

Goyal, K., Kumar, S., Xiao, J. J., and Colombage, S. (2021), “The Psychological antecedents of personal financial management behavior: a meta-analysis”, *International Journal of Bank Marketing,* (forthcoming).doi: https://doi.org/10.1108/IJBM-02-2022-0088

Grossman, M. (1972), “On the concept of health capital and the demand for health”, *Journal of Political Economy,* Vol. 80 No. 2, pp. 223-255.

Harvey, M. (2019), “Impact of financial education mandates on younger consumers' use of alternative financial services”, *Journal of Consumer Affairs,* Vol. 53 No. 3, pp. 731-769. doi:10.1111/joca.12242

Hastings, J. S., Madrian, B. C., and Skimmyhorn, W. L. (2013)”, Financial literacy, financial education, and economic outcomes”, *Annual Review of Economics,* Vol. 5 No. 1, pp. 347–373. https://doi.org/10.1146/annurev-econo mics-082312-125807

Hean, S., Worswick, L., Fenge, L., Wilkinson, C., and Fearnley, S. (2013), “Keeping informed during times of economic downturn: The trusted amateur as a preferred source of financial

information", *Public Money and Management,* Vol. 33 No. 1, pp. 23-30. doi:10.1080/09540962.2013.744891
Heckman, J. J., and Mosso, S. (2014), "The economics of human development and social mobility", *Annual Review of Economics*, Vol. 6 No. 1, pp. 689-733.
Henager, R., and Wilmarth, M. J. (2018), "The relationship between student loan debt and financial wellness", *Family and Consumer Sciences Research Journal,* Vol. 46 No. 4, pp. 381-395. doi:10.1111/fcsr.12263
Hill, R. P., and Sharma, E. (2020), "Consumer vulnerability", *Journal of Consumer Psychology,* Vol. 30 No. 3, pp. 551-570. doi: https://doi.org/10.1002/jcpy.1161
Huang, J., Nam, Y., and Lee, E. J. (2015a), "Financial capability and economic hardship among low-income older Asian immigrants in a supported employment program", *Journal of Family and Economic Issues,* Vol. 36 No. 2, pp. 239-250. doi:10.1007/s10834-014-9398-z
Huang, J., Nam, Y., and Sherraden, M. S. (2013), "Financial knowledge and child development account policy: A test of financial capability", *Journal of Consumer Affairs,* Vol. 47 No. 1, pp. 1-26. doi:10.1111/joca.12000
Huang, J., Nam, Y., Sherraden, M., and Clancy, M. (2015b), "Financial capability and asset accumulation for children's education: Evidence from an experiment of child development accounts", *Journal of Consumer Affairs,* Vol. 49 No. 1, pp. 127-155. doi:10.1111/joca.12054
Huang, J., Nam, Y., Sherraden, M., and Clancy, M. M. (2016), "Improved financial capability can reduce material hardship among mothers", *Social Work (United States),* Vol. 61 No. 4, pp. 313-320. doi:10.1093/sw/sww052
Huang, J., Sherraden, M. S., Sherraden, M., and Johnson, L. (2021), "Experimental effects of child development accounts on financial capability of young mothers", *Journal of Family and Economic Issues,* doi:10.1007/s10834-021-09774-4
Huang, J., Sherraden, M., Johnson, L., Birkenmaier, J., Loke, V., and Hageman, S. (2020), "Preparing social work faculty to teach financial capability: Where we stand", *Journal of Social Work Education,* doi:10.1080/10437797.2020.1714524
Huston, S. J. (2010), "Measuring financial literacy", *Journal of Consumer Affairs*, Vol. 44 No. 2, pp. 296-316.
Jayasinghe, M., Selvanathan, E. A., & Selvanathan, S. (2020). The financial resilience and life satisfaction nexus of indigenous Australians. *Economic Papers, 39*(4), 336-352. doi:10.1111/1759-3441.12296
Johnson, E., and Sherraden, M. S. (2007), "From financial literacy to financial capability among youth", *Journal of Sociology and Social Welfare,* Vol. 34 No. 3, pp. 119-145.
Johnson, M. A., and Lamdin, D. J. (2015), "Gauging the financial capability of Americans", *Business Economics,* Vol. 50 No. 3, pp. 135-146. doi:10.1057/be.2015.24
Jones-Sanpei, H. A., and Nance, R. J. (2020), "Financial capability in addiction research and clinical practice", *Substance use and Misuse,* Vol. 56 No. 2, pp. 214-223. doi:10.1080/10826084.2020.1853776
Jorgensen, B. L., Foster, D., Jensen, J. F., and Vieira, E. (2017a), "Financial attitudes and responsible spending behavior of emerging adults: Does geographic location matter?", *Journal of Family and Economic Issues,* Vol. 38 No. 1, pp. 70-83. doi:10.1007/s10834-016-9512-5
Jorgensen, B. L., Rappleyea, D. L., Schweichler, J. T., Fang, X., and Moran, M. E. (2017b), "The financial behavior of emerging adults: A family financial socialization approach", *Journal of Family and Economic Issues,* Vol. 38 No. 1, pp. 57-69. doi:10.1007/s10834-015-9481-0
Kagotho, N., Ssewamala, F. M., Patak-Pietrafesa, M., & Byansi, W. (2018). Testing the financial capability framework: Findings from YouthSave-impact study Kenya. *Social Work (United States), 63*(1), 67-74. doi:10.1093/sw/swx056
Kaiser, T., and Menkhoff, L. (2017), "Does financial education impact financial literacy and financial behavior, and if so, when?", Policy Research working paper, no. WPS 8161, Washington, DC: World Bank Group.
Kessler, M.M. (1963), "Bibliographic coupling between scientific papers", American documentation, Vol. 14 No. 1, pp.10-25.

Khan, K. A., and Akhtar, M. A. (2020), "Electronic payment system use: A mediator and a predictor of financial satisfaction", *Investment Management and Financial Innovations,* Vol. 17 No. 3, pp. 246-262. doi:10.21511/imfi.17(3).2020.19

Khan, M. N., Ferrer, I., Lee, Y., and Rothwell, D. W. (2021), "Examining the financial knowledge of immigrants in Canada: A new dimension of economic inequality", *Journal of Ethnic and Migration Studies,* doi:10.1080/1369183X.2020.1870443

Khan, M. N., Rothwell, D. W., Cherney, K., and Sussman, T. (2017), "Understanding the financial knowledge gap: A new dimension of inequality in later life", *Journal of Gerontological Social Work,* Vol. 60 No. 6-7, pp. 487-503. doi:10.1080/01634372.2017.1317311

Kim, K. T., & Lee, J. (2018), "Financial literacy and use of payday loans in the United States", *Applied Economics Letters,* Vol. 25 No. 11, pp. 781-784. doi:10.1080/13504851.2017.1366635

Kim, K. T., and Xiao, J. J. (2021), "Racial/ethnic differences in consumer financial capability: The role of financial education", *International Journal of Consumer Studies,* Vol. 45 No. 3, pp. 379-395. doi:10.1111/ijcs.12628

Kim, K. T., & Yuh, Y. (2018), "Financial knowledge and household saving: Evidence from the survey of consumer finances", *Family and Consumer Sciences Research Journal,* Vol. 47 No. 1, pp. 5-24. doi:10.1111/fcsr.12270

Kim, K. T., Anderson, S. G., and Seay, M. C. (2019), "Financial knowledge and short-term and long-term financial behaviors of millennials in the United States", *Journal of Family and Economic Issues,* Vol. 40 No. 2, pp. 194-208. doi:10.1007/s10834-018-9595-2

Kim, N., and Mountain, T. P. (2019), "Financial knowledge and "don't know" response", *Journal of Consumer Affairs,* Vol. 53 No. 4, pp. 1948-1969. doi:10.1111/joca.12275

Knowles, S., and Schifferes, S. (2020), "Financial capability, the financial crisiand trust in news media", *Journal of Applied Journalism and Media Studies,* Vol. 9 No. 1, pp. 61-83. doi:10.1386/ajms_00011_1

Kumar, S., Colombage, S. and Rao, P. (2017), "Research on capital structure determinants: a review and future directions", *International Journal of Managerial Finance,* Vol. 13 No. 2, pp. 106-132.

Kumar, S., Tomar, S. and Verma, D. (2019), "Women's financial planning for retirement: Systematic literature review and future research agenda", *International Journal of Bank Marketing,* Vol. 37 No. 1, pp. 120-141.

Kumar, S., Lim, W. M., Sivarajah, U., & Kaur, J. (2022). "Artificial Intelligence and Blockchain Integration in Business: Trends from a Bibliometric-Content Analysis". *Information Systems Frontiers,* pp.1-26. doi.org/10.1007/s10796-022-10279-0

L'Esperance, M. (2020), "Does responsibility for financial tasks influence credit knowledge and behavior? Evidence from a panel of US couples", *Journal of Family and Economic Issues,* Vol. 41 No. 2, pp. 377-387. doi:10.1007/s10834-019-09641-3

Lamb, L. (2016), "Financial exclusion and financial capabilities in Canada", *Journal of Financial Economic Policy,* Vol.8 No. 2, pp. 212-227. doi:10.1108/JFEP-06-2015-0037

Lazar, C. M., Black, A. C., McMahon, T. J., Rosenheck, R. A., Ries, R., Ames, D., and Rosen, M. I. (2016), "All-data approach to assessing financial capability in people with psychiatric disabilities", *Psychological Assessment,* Vol. 28 No. 4, pp. 362-371. doi:10.1037/pas0000179

LeBaron, A. B., Hill, E. J., Rosa, C. M., and Marks, L. D. (2018), "Whats and hows of family financial socialization: Retrospective reports of emerging adults, parents, and grandparents", *Family Relations,* Vol. 67 No. 4, pp. 497-509. doi:10.1111/fare.12335

Lee, S. T., & Kim, K. T. (2020). Propensity to plan, financial knowledge, overconfidence, and credit card management behaviors of millennials. *Family and Consumer Sciences Research Journal, 49*(2), 123-143. doi:10.1111/fcsr.12381

Li, B., Hanna, S. D., and Kim, K. T. (2020), "Who uses mobile payments: Fintech potential in users and non-users", *Journal of Financial Counseling and Planning,* Vol. 31 No. 1, pp. 83-100. doi:10.1891/JFCP-18-00083

Loke, V., Birkenmaier, J., and Hageman, S. A. (2017), “Financial capability and asset building in the curricula: Student perceptions”, *Journal of Social Work Education,* Vol. 53 No. 1, pp. 84-98. doi:10.1080/10437797.2016.1212751

Loke, V., Choi, L., and Libby, M. (2015), “Increasing youth financial capability: An evaluation of the Mypath savings initiative”, *Journal of Consumer Affairs,* Vol. 49 No. 1, pp. 97-126. doi:10.1111/joca.12066

Loke, Y. (2017), “The influence of socio-demographic and financial knowledge factors on financial management practices of Malaysians”, *International Journal of Business and Society,* Vol. 18 No. 1, pp. 33-50. doi:10.33736/ijbs.488.2017

Lučić, A., Uzelac, M., and Previšić, A. (2021), “The power of materialism among young adults: Exploring the effects of values on impulsiveness and responsible financial behavior”, *Young Consumers,* doi:10.1108/YC-09-2020-1213

Luo, Y., and Zeng, L. (2020), “Digital financial capabilities and household entrepreneurship”, *Economic and Political Studies,* Vol. *8* No. 2, pp. 165-202. doi:10.1080/20954816.2020.1736373

Luo, Y., Peng, Y., and Zeng, L. (2021), “Digital financial capability and entrepreneurial performance”, *International Review of Economics and Finance,* Vol. 76, pp. 55-74. doi:10.1016/j.iref.2021.05.010

Lusardi, A., Hasler, A. and Yakoboski, P.J. (2021), “Building up financial literacy and financial resilience”, *Mind & Society,* Vol. 20 No. 2, pp.181-187.

Lusardi, A., and Mitchell, O. S. (2007), “Baby boomer retirement security: The roles of planning, financial literacy, and housing wealth”, *Journal of Monetary Economics*, Vol. 54 No. 1, pp. 205-224.

Lusardi, A., and Mitchell, O. S. (2011), “Financial literacy and retirement planning in the United States”, *Journal of Pension Economics and Finance,* Vol. 10 No. 4, pp. 509-525. doi:10.1017/S147474721100045X

Lusardi, A., and Mitchell, O. S. (2014), “The economic importance of financial literacy: Theory and evidence”, *Journal of Economic Literature*, Vol. 52 No. 1, pp. 5-44.

Lusardi, A., Michaud, P. C., and Mitchell, O. S. (2017), “Optimal financial knowledge and wealth inequality”, *Journal of Political Economy*, Vol. 125 No. 2, pp. 431-477.

Lusardi, A., Mitchell, O. S., and Oggero, N. (2020), “Debt and financial vulnerability on the verge of retirement”, *Journal of Money, Credit and Banking,* Vol. 52 No. 5, pp. 1005-1034. doi:10.1111/jmcb.12671

Luukkanen, L., and Uusitalo, O. (2014), “Young people's perceptions of the responsibilities of organizations promoting financial capability”, *International Journal of Consumer Studies,* Vol. 38 No. 2, pp. 192-199. doi:10.1111/ijcs.12082

Luukkanen, L., and Uusitalo, O. (2019), “Toward financial capability—Empowering the young”, *Journal of Consumer Affairs,* Vol. 53 No. 2, pp. 263-295. doi:10.1111/joca.12186

Magwegwe, F. M., and Lim, H. (2021), “Factors associated with the ownership of individual retirement accounts (IRAs): Applying the theory of planned behavior”, *Journal of Financial Counseling and Planning,* Vol. 32 No. 1, pp. 116-130. doi:10.1891/JFCP-19-00023

Mahendru, M. (2020), “Financial well-being for a sustainable society: A road less travelled”, Qualitative Research in Organizations and Management: An International Journal, Vol. 16 No. 3/4, pp. 572-593. doi:10.1108/QROM-03-2020-1910

Marchant, C., and Harrison, T. (2020), “Emerging adults' financial capability: A financial socialization perspective”, *International Journal of Consumer Studies,* Vol. 44 No. 2, pp. 99-110.

Marron, D. (2014), “Informed, educated and more confident”: financial capability and the problematization of personal finance consumption”, *Consumption Markets & Culture,* Vol. 17 No. 5, pp.491-511.

McGarity, S. V., Okech, D. O., Risler, E., and Clees, T. J. (2020), “Assessing financial capability among people with disabilities”, *Journal of Social Work,* Vol. 20 No. 5, pp. 657-672. doi:10.1177/1468017319860308

Messy, F. A., and Monticone, C. (2016), “Financial education policies in Asia and the Pacific”, OECD Working Papers on Finance, Insurance and Private Pensions No. 40. Paris: OECD Publishing. doi: http://dx.doi.org/10.1787/5jm5b32v5vvc-en

Mielitz, K. K. S., and Marcum, C. (2020), “A consideration for increasing post-release financial success”, *American Journal of Criminal Justice,* Vol. 45 No. 5, pp. 955-969. doi:10.1007/s12103-019-09515-2
Miller, M., Reichelstein, J., Salas, C., and Zia, B. (2015), “Can you help someone become financially capable? A meta-analysis of the literature”, *World Bank Research Observer,* Vol. 30 No. 2, pp. 220-246. doi:10.1093/wbro/lkv009
Millimet, D. L., McDonough, I. K., and Fomby, T. B. (2018), “Financial capability and food security in extremely vulnerable households”, *American Journal of Agricultural Economics,* Vol. 100 No. 4, pp. 1224-1291. doi:10.1093/ajae/aay029
Mokhtar, N., Sabri, M. F., and Ho, C. S. F. (2020), “Financial capability and differences in age and ethnicity”, *Journal of Asian Finance, Economics and Business,* Vol. 7 No. 10, pp. 1081-1091. doi:10.13106/jafeb.2020.vol7.no10.1081
Montalto, C. P., Phillips, E. L., McDaniel, A., and Baker, A. R. (2019), “College student financial wellness: Student loans and beyond”, *Journal of Family and Economic Issues,* Vol. 40 No. 1, pp. 3-21. doi:10.1007/s10834-018-9593-4
Moreland, K. A. (2018). Seeking financial advice and other desirable financial behaviors. *Journal of Financial Counseling and Planning, 29*(2), 198-207. doi:10.1891/1052-3073.29.2.198
Mottola, G. R., and Kieffer, C. N. (2017), “Understanding and using data from the national financial capability study”, *Family and Consumer Sciences Research Journal,* Vol. 46 No. 1, pp. 31-39. doi:10.1111/fcsr.12227
Mouna, A., and Jarboui, A. (2015), “Financial literacy and portfolio diversification: An observation from the Tunisian stock market”, *International Journal of Bank Marketing,* Vol. 33 No. 6, pp. 808-822. doi:10.1108/IJBM-03-2015-0032.
Mukherjee, D., Lim, W. M., Kumar, S., & Donthu, N. (2022) “Guidelines for advancing theory and practice through bibliometric research”. *Journal of Business Research,* Vol.148, pp. 101-115. https://doi.org/10.1016/j.jbusres.2022.04.042
Nam, Y., & Loibl, C. (2021). Financial capability and financial planning at the verge of retirement age. *Journal of Family and Economic Issues, 42*(1), 133-150. doi:10.1007/s10834-020-09699-4
Nam, Y., Huang, J., and Lee, E. J. (2016), “Ethnic differences in financial outcomes among low-income older Asian immigrants: A financial capability perspective”, *Journal of Community Practice,* Vol. 24 No. 4, pp. 445-461. doi:10.1080/10705422.2016.1233474
Nam, Y., Sherraden, M. S., Huang, J., Lee, E. J., and Keovisai, M. (2019), “Financial capability and economic security among low-income older Asian immigrants: Lessons from qualitative interviews”, *Social Work (United States),* Vol. 64 No. 3, pp. 224-232. doi:10.1093/sw/swz015
Nejad, M. G., and O'Connor, G. (2016), “An intersectional approach to evaluating consumer financial literacy”, *Journal of Financial Services Marketing,* Vol. 21 No. 4, pp. 308-324. doi:10.1057/s41264-016-0014-1
Nosratabadi, S., Fathi, Z., & Shoul, A. (2019). Investigating the effect of the framework of individual and group acts on the stock trading activities in Tehran Stock Exchange. *Cogent Business and Management, 6*(1) doi:10.1080/23311975.2019.1699310
Nussbaum, M. (2000), “Women and human development: The capabilities approach”, Cambridge: Cambridge University Press.
O'Donnell, N., & Keeney, M. (2010), “Financial capability in Ireland and a comparison with the UK”, *Public Money and Management,* Vol. 30 No. 6, pp. 355-362. doi:10.1080/09540962.2010.525004
Okech, D., McGarity, S. V., Hansen, N., Burns, A. C., and Howard, W. (2018), “Financial capability and sociodemographic factors among survivors of human trafficking”, *Journal of Evidence-Informed Social Work,* Vol. 15 No. 2, pp. 122-135. doi:10.1080/23761407.2017.1419154
Overton, L., and Fox O’Mahony, L. (2018), “Stakeholder conceptions of later-life consumer vulnerability in the financial services industry: Beyond financial capability?”, *Journal of Consumer Policy,* Vol. 41 No. 3, pp. 273-295. doi:10.1007/s10603-018-9375-2
Pansari, A., and Kumar, V. (2017), “Customer engagement: The construct, antecedents, and consequences”, *Journal of the Academy of Marketing Science,* Vol. 45 No. 3, pp. 294-311. doi: https://doi.org/10.1007/s11747-016-0485-6

Paul, J., and Criado, A. R. (2020), "The art of writing literature review: What do we know and what do we need to know?", *International Business Review*, p. 101717.
Pellinen, A., Törmäkangas, K., Uusitalo, O., and Raijas, A. (2011), "Measuring the financial capability of investors: A case of the customers of mutual funds in Finland", *International Journal of Bank Marketing,* Vol. 29 No. 2, pp. 107-133. doi:10.1108/02652321111107611
Peters, C. M., Sherraden, M., and Kuchinski, A. M. (2016), "From foster care to adulthood: The role of income", *Journal of Public Child Welfare,* Vol. 10 No. 1, pp. 39-58. doi:10.1080/15548732.2015.1090940
Ponchio, M. C., Cordeiro, R. A., & Gonçalves, V. N. (2019). "Personal factors as antecedents of perceived financial well-being: evidence from Brazil." *International Journal of Bank Marketing*, Vol. 37 no. 4, pp. 1004-1024. doi: 10.1108/IJBM-03-2018-0077
Prabhakar, R. (2019), "Financial inclusion: A tale of two literatures", *Social Policy and Society,* Vol. 18 No. 1, pp. 37-50. doi:10.1017/S1474746418000039
Prochaska, J. O., DiClemente, C. C., and Norcross, J. C. (1992), "In search of how people change: Applications to addictive behaviors", *American Psychologist,* Vol. 47 No. 9, pp. 1102-1114.
Raj, A. (2020), "Financial literacy among women in Kaushambi: An overview of rural India", *Finance India,* Vol. 34 No. 2, pp. 731-742.
Ranta, M., and Salmela-Aro, K. (2018), "Subjective financial situation and financial capability of young adults in Finland", *International Journal of Behavioral Development,* Vol. 42 No. 6, pp. 525-534. doi:10.1177/0165025417745382
Ranta, M., Punamäki, R. -., Chow, A., and Salmela-Aro, K. (2020), "The economic stress model in emerging adulthood: The role of social relationships and financial capability", *Emerging Adulthood,* Vol. 8 No. 6, pp. 496-508. doi:10.1177/2167696819893574
Rashman, L., Withers, E. and Hartley, J. (2009), "Organizational learning and knowledge in public service organizations: a systematic review of the literature", *International Journal* of Management Reviews, Vol. 11 No. 4, pp. 463-494.
Reyers, M. (2019). Financial capability and emergency savings among South Africans living above and below the poverty line. International Journal of Consumer Studies, 43(4), 335-347. doi:10.1111/ijcs.12520
Richel, K. (2017), "Simulating money management and life skills with prison populations", *Journal of Extension,* Vol. 55 No. 1.
Riitsalu, L., & Murakas, R. (2019). "Subjective financial knowledge, prudent behaviour and income: The predictors of financial well-being in Estonia." *International Journal of Bank Marketing*, Vol. 37 no. 4, pp. 934-950. doi: 10.1108/IJBM-03-2018-0071
Robb, C. A., & Woodyard, A. S. (2011), "Financial knowledge and best practice behavior", *Journal of Financial Counseling and Planning,* Vol. 22 No. 1, pp. 60-70.
Robb, C. A., Babiarz, P., Woodyard, A., and Seay, M. C. (2015), "Bounded rationality and use of alternative financial services", *Journal of Consumer Affairs,* Vol 49 No. 2, pp. 407-435. doi:10.1111/joca.12071
Robb, C. A., Chatterjee, S., Porto, N., and Cude, B. J. (2019), "The influence of student loan debt on financial satisfaction", *Journal of Family and Economic Issues,* Vol. 40 No. 1, pp. 51-73. doi:10.1007/s10834-018-9599-y
Robson, J., and Peetz, J. (2020), "Gender differences in financial knowledge, attitudes, and behaviors: Accounting for socioeconomic disparities and psychological traits", *Journal of Consumer Affairs,* Vol. 54 No. 3, pp. 813-835. doi:10.1111/joca.12304
Rochelle, M., McClendon, G., Sherraden, M., Brackett, M., Wright, M., Jordan, T., . . . Birkenmaier, J. (2017), "Adopting a financial capability and asset-building curriculum at historically black colleges and universities", *Journal of Human Behavior in the Social Environment,* Vol. 27 No. 5, pp. 367-384. doi:10.1080/10911359.2017.1291391
Rosado-Serrano, A., Paul, J., and Dikova, D. (2018), "International franchising: A literature review and research agenda", *Journal of Business Research,* Vol. 85, pp. 238–257.
Sabri, M. F., and Zakaria, N. F. (2015), "The influence of financial literacy, money attitude, financial strain and financial capability on young employees' financial well-being", *Pertanika Journal of Social Sciences and Humanities,* Vol. 23 No. 4, pp. 827-848.

Sabri, M. F., Abdullah, N., Zenhendel, M., and Ahmad, S. Y. (2017), "Moderation effect of gender on financial literacy, money attitude, financial strains and financial capability", *Malaysian Journal of Consumer and Family Economics,* Vol. 20, pp. 83-101.
Sanders, C. K. (2016), "Promoting financial capability of incarcerated women for community reentry: A call to social workers", *Journal of Community Practice,* Vol. 24 No. 4, pp. 389-409. doi:10.1080/10705422.2016.1233161
Santiago, A. M., Galster, G. C., and Smith, R. J. (2017), "Evaluating the impacts of an enhanced family self-sufficiency program", *Housing Policy Debate,* Vol. 27 No. 5, pp. 772-788. doi:10.1080/10511482.2017.1295093
Schmeiser, M. D., and Seligman, J. S. (2013), "Using the right yardstick: Assessing financial literacy measures by way of financial well-being", *Journal of Consumer Affairs,* Vol. 47 No. 2, pp. 243-262. doi:10.1111/joca.12010
Seay, M. C., Preece, G. L., and Lec, V. C. (2017), "Financial literacy and the use of interest-only mortgages", *Journal of Financial Counseling and Planning,* Vol. 28 No. 2, pp. 168-180. doi:10.1891/1052-3073.28.2.168
Seay, M., Asebedo, S., Thompson, C., Stueve, C., and Russi, R. (2015), "Mortgage holding and financial satisfaction in retirement", *Journal of Financial Counseling and Planning,* Vol. 26 No. 2, pp. 200-216. doi:10.1891/1052-3073.26.2.200
Sen. A. (1985), "Commodities and capabilities. Amsterdam: North-Holland".
Serido, J., Shim, S., and Tang, C. (2013), "A developmental model of financial capability: A framework for promoting a successful transition to adulthood", *International Journal of Behavioral Development,* Vol. 37 No. 4, pp. 287-297. doi:10.1177/0165025413479476
Shephard, D. D., Kaneza, Y. V., and Moclair, P. (2017), "What curriculum? Which methods? A cluster randomized controlled trial of social and financial education in Rwanda", *Children and Youth Services Review,* Vol. 82, pp. 310-320. doi: 10.1016/j.childyouth.2017.09.011
Sherraden, M. (1991), "Assets and the poor: A new American welfare policy", Armonk, NY: ME Sharpe.
Sherraden, M. S. (2013), "Building blocks of financial capability", Financial Education and Capability: Research, Education, Policy, and Practice, pp. 3-43.
Sherraden, M. S., Johnson, L., Guo, B., and Elliott III, W. (2011), "Financial capability in children: Effects of participation in a school-based financial education and savings program", *Journal of Family and Economic Issues,* Vol. 32 No. 3, pp. 385-399. doi:10.1007/s10834-010-9220-5
Sherraden, M., Birkenmaier, J., McClendon, G. G., and Rochelle, M. (2017), "Financial capability and asset building in social work education: Is it the big piece missing?", *Journal of Social Work Education,* Vol. 53 No. 1, pp. 132-148. doi:10.1080/10437797.2016.1212754
Shi, X., Prevett, P., Farnsworth, V., Kwong, K. C., Wan, W., He, F., . . . Zhen, L. (2019), "Modeling changes to survey response items over time in a Britain financial literacy education study", *Journal of Financial Counseling and Planning,* Vol. 30 No. 1, pp. 56-66. doi:10.1891/1052-3073.30.1.56
Shim, S., Barber, B., Card, N., Xiao, J. J., and Serido, J. (2010), "Financial socialization of first-year college students: The roles of parents, work, and education", *Journal of Youth and Adolescence.* Vol. 39, pp. 1457–1470.
Shim, S., Serido, J., Bosch, L., and Tang, C. (2013), "Financial identity-processing styles among young adults: A longitudinal study of socialization factors and consequences for financial capabilities", *Journal of Consumer Affairs,* Vol. 47 No. 1, pp. 128-152. doi:10.1111/joca.12002
Silva, M., Bent, R., and Seaman, C. (2010), "Measuring the financial capability of minority ethnic business owners in Scotland", *International Journal of Entrepreneurship and Small Business,* Vol. 9 No. 2, pp. 213-226. doi:10.1504/IJESB.2010.030622
Sithole, N., Sullivan Mort, G., and D'Souza, C. (2021), "Financial well-being of customer-to-customer co-creation experience: A comparative qualitative focus group study of savings/credit groups", *International Journal of Bank Marketing,* Vol. 39 No. 3, pp. 381-401. doi:10.1108/IJBM-07-2020-0413
Taylor, M. (2011), "Measuring financial capability and its determinants using survey data", *Social Indicators Research,* Vol. 102 No. 2, pp. 297-314. doi:10.1007/s11205-010-9681-9

Taylor, M. P., Jenkins, S. P., and Sacker, A. (2011), “Financial capability and psychological health”, *Journal of Economic Psychology,* Vol. 32 No. 5, pp. 710-723. doi:10.1016/j.joep.2011.05.006

Tharp, D. T., Seay, M., Stueve, C., and Anderson, S. (2020), “Financial satisfaction and homeownership”, *Journal of Family and Economic Issues,* Vol. 41 No. 2, pp. 255-280. doi:10.1007/s10834-019-09652-0

Tranfield, D., Denyer, D. and Smart, P. (2003), “Towards a methodology for developing evidence-informed management knowledge by means of systematic review”, *British journal of management*, Vol. 14 No. 3, pp.207-222.

Tsai, L. C., Seballos-Llena, I. F., and Castellano-Datta, R. A. (2017), “Participatory assessment of a matched savings program for human trafficking survivors and their family members in the Philippines”, *Forum: Qualitative Social Research,* Vol. 18 No. 2, Article 11.

von Stumm, S., Fenton O'Creevy, M., and Furnham, A. (2013), „Financial capability, money attitudes and socioeconomic status: Risks for experiencing adverse financial events”, *Personality and Individual Differences,* Vol. 54 No. 3, pp. 344-349.

Vosylis, R., Žukauskienė, R., and Crocetti, E. (2020), “Linking identity processes to spending self-control capacities in emerging adulthood: The mediating role of self-regulatory identity functions”, *Emerging Adulthood,* Vol. 8 No. 5, pp. 404-411. doi:10.1177/2167696818820204

Wagner, J. (2019), “Financial education and financial literacy by income and education groups”, *Journal of Financial Counseling and Planning,* Vol. 30 No. 1, pp. 132-141. doi:10.1891/1052-3073.30.1.132

Walstad, W., Urban, C., J. Asarta, C., Breitbach, E., Bosshardt, W., Heath, J., O’Neill, B., Wagner, J. and Xiao, J. J. (2017), “Perspectives on evaluation in financial education: Landscape, issues, and studies”, *The Journal of Economic Education*, Vol. 48 No. 2, pp. 93-112.

Weinberg, B.H. (1974), “Bibliographic coupling: A review”, *Information Storage and Retrieval*, Vol. 10 No. 5-6, pp.189-196.

West, S., Banerjee, M., Phipps, B., and Friedline, T. (2017), “Coming up short: Family composition, income, and household savings”, *Journal of the Society for Social Work and Research,* Vol. 8 No. 3, pp. 355-377. doi:10.1086/693047

West, T., and Cull, M. (2020), “Future expectations and financial satisfaction”, *Economic Papers,* Vol. 39 No. 4, pp. 318-335. doi:10.1111/1759-3441.12292

Whetten, D. A. (1989), “What constitutes a theoretical contribution?”, *Academy of Management Review,* Vol. 14 No. 4, pp. 490-495.

Willis, L. E. (2008), “Against financial-literacy education”, *Iowa Law Review,* Vol. 94 No. 1, pp. 197-285.

Wu, S., Despard, M. R., and Chowa, G. (2017), “The role of parents in introducing children to financial services: Evidence from Ghana-YouthSave”, *Journal of Family and Economic Issues,* Vol. 38 No. 3, pp. 453-462. doi:10.1007/s10834-017-9519-6

Xiao, J. J. (2015), “*Consumer economic wellbeing*”, Springer, New York, NY.

Xiao, J. J., and Kim, K. T. (2021), “The able worry more? debt delinquency, financial capability, and financial stress”, *Journal of Family and Economic Issues,* Vol. 43 No. 1, pp. 138-152. doi:10.1007/s10834-021-09767-3

Xiao, J. J., and O'Neill, B. (2016), “Consumer financial education and financial capability”, *International Journal of Consumer Studies,* Vol. 40 No. 6, pp. 712-721. doi:10.1111/ijcs.12285

Xiao, J. J., & O'Neill, B. (2018a). Mental accounting and behavioral hierarchy: Understanding consumer budgeting behaviour. *International Journal of Consumer Studies, 42*(4), 448-459. doi:10.1111/ijcs.12445

Xiao, J. J., & O'Neill, B. (2018b). Propensity to plan, financial capability, and financial satisfaction. *International Journal of Consumer Studies, 42*(5), 501-512. doi:10.1111/ijcs.12461

Xiao, J. J., & O’Neill, B. (2022). Disability type, financial capability, and risky asset holding. *Journal of Disability Policy Studies, 32*(4), 269-279.

Xiao, J. J., and Porto, N. (2017), “Financial education and financial satisfaction: Financial literacy, behavior, and capability as mediators”, *International Journal of Bank Marketing,* Vol. 35 No. 5, pp. 805-817. doi:10.1108/IJBM-01-2016-0009

Xiao, J. J., and Porto, N. (2019), “Financial education and insurance advice seeking”, *Geneva Papers on Risk and Insurance: Issues and Practice,* Vol. 44 No. 1, pp. 20-35. doi:10.1057/s41288-018-0108-1

Xiao, J. J., and Tao, C. (2021), “Consumer finance / household finance: The definition and scope”, *China Finance Review International,* Vol. 11 No. 1, pp. 1-25. doi:10.1108/CFRI-04-2020-0032

Xiao, J. J., Chen, C., and Chen, F. (2014), “Consumer financial capability and financial satisfaction”, *Social Indicators Research,* Vol. 118 No. 1, pp. 415-432. doi:10.1007/s11205-013-0414-8

Xiao, J. J., Chen, C., and Sun, L. (2015), “Age differences in consumer financial capability”, *International Journal of Consumer Studies,* Vol. 39 No. 4, pp. 387-395. doi:10.1111/ijcs.12205

Xiao, J. J., Porto, N., and Mason, I. M. (2020), “Financial capability of student loan holders who are college students, graduates, or dropouts”, *Journal of Consumer Affairs,* Vol. 54 No. 4, pp. 1383-1401. doi:10.1111/joca.12336

Xiao, J. J., Tang, C., and Shim, S. (2009), “Acting for happiness: Financial behavior and life satisfaction of college students”, *Social Indicators Research,* Vol. 92 No. 1, pp. 53-68.

Xu, Y., Wang, X., Ahn, H., and Harrington, D. (2018), “Predictors of non-U.S. born mothers’ parenting stress across early childhood in fragile families: A longitudinal analysis”, *Children and Youth Services Review, Vol.* 89, pp. 62-70. doi:10.1016/j.childyouth.2018.04.012

Yakoboski, P. J., Lusardi, A., and Hasler, A. (2020), “Financial literacy and wellness among african-americans: New insights from the personal finance (P-fin) index”, *Journal of Retirement,* Vol. 8 No. 1, pp. 22-31. doi:10.3905/JOR.2020.1.070

Zhao, H., and Zhang, L. (2021), “Financial literacy or investment experience: Which is more influential in cryptocurrency investment?”, *International Journal of Bank Marketing,* doi:10.1108/IJBM-11-2020-0552

Zhao, H., & Zhang, L. (2020). “Talking money at home: the value of family financial socialization.” *International Journal of Bank Marketing*, Vol. 38 no. 7, pp. 1617-1634. doi: 10.1108/IJBM-04-2020-0174

Zhu, A. Y. F. (2020), “Impact of financial education on adolescent financial capability: Evidence from a pilot randomized experiment”, *Child Indicators Research,* Vol. 13 No. 4, pp. 1371-1386. doi:10.1007/s12187-019-09704-9

Table 1. Top journals, top countries, and top authors publishing on financial capability

Journal	TP	Country	TP	Author	TP
Journal of Family and Economic Issues	30	United States	132	Birkenmaier J.	12
Journal of Consumer Affairs	20	United Kingdom	21	Xiao J.J.	12
International Journal of Consumer Studies	11	China	8	Sherraden M.S.	11
Journal of Financial Counseling and Planning	11	Australia	7	Huang J.	10
International Journal of Bank Marketing	9	Canada	7	Kim K.T.	8
Family and Consumer Sciences Research Journal	7	Malaysia	6	Fan L.	7
Journal of Social Work Education	5	South Korea	6	Nam Y.	7
Social Work (United States)	5	Czech Republic	5	Despard M.R.	6
Economic Papers	4	Finland	5	Porto N.	6
Children And Youth Services Review	3	Hong Kong	3	Friedline T.	5

Note (s): This table shows the top 10 journals, countries, and authors publishing on financial capability between 2007-March 2022. TP=Total publications.

Table 2. Top cited publications on financial capability

Study	Title	TC
Lusardi and Mitchell (2011)	Financial literacy and retirement planning in the United States	274
Johnson and Sherraden (2007)	From financial literacy to financial capability among youth	221
Robb and Woodyard (2011)	Financial knowledge and best practice behavior	157
Xiao *et al.* (2014)	Consumer financial capability and financial satisfaction	155
Xiao and O'Neill (2016)	Consumer financial education and financial capability	104
Atkinson *et al.* (2007)	Levels of financial capability in the UK	101
Xiao and Porto (2017)	Financial education and financial satisfaction: Financial literacy, behavior, and capability as mediators	96
Sherraden *et al.* (2011)	Financial Capability for All: Training Human Service Professionals to Work with Vulnerable Families	95
Miller *et al.* (2015)	Can you help someone become financially capable? A meta-analysis of the literature	80
Serido *et al.* (2013)	A developmental model of financial capability: A framework for promoting a successful transition to adulthood	76
Babiarz and Robb (2014)	Financial Literacy and Emergency Saving	74
Goyal and Kumar (2021)	Financial literacy: A systematic review and bibliometric analysis	71
Taylor *et al.* (2011)	Financial capability and psychological health	59
Xiao *et al.* (2015)	Age differences in consumer financial capability	53
Huang *et al.* (2013)	Financial Knowledge and Child Development Account Policy: A Test of Financial Capability	46

Note (s): This table shows the most influential articles on financial capability published between 2007-March 2022. TC=Total citations.

Table 3. Intellectual structure of studies on financial capability published between 2007-March 2022

Cluster	Focus	TP	TC	Most cited articles			
				Author	Title	Year	TC
1	*Financial capability, financial knowledge and financial satisfaction*	54	1485	Lusardi and Mitchell (2011)	Financial literacy and retirement planning in the United States	2011	274
				Robb and Woodyard (2011)	Financial knowledge and best practice behavior	2011	157
				Xiao *et al*. (2014)	Consumer financial capability and financial satisfaction	2014	155
				Xiao and O'Neill (2016)	Consumer financial education and financial capability	2016	104
				Atkinson *et al*. (2007)	Levels of financial capability in the UK	2007	101
2	*Impact of financial literacy and financial education on financial capability, notably of young people*	51	765	Sherraden *et al*. (2011)	Financial Capability in Children: Effects of Participation in a School-Based Financial Education and Savings Program	2011	95
				Serido *et al*. (2013)	A developmental model of financial capability: A framework for promoting a successful transition to adulthood	2013	76
				Loke *et al*. (2015)	Increasing youth financial capability: An evaluation of the mypath savings initiative	2015	42
				Jorgensen *et al*. (2017)	The Financial Behavior of Emerging Adults: A Family Financial Socialization Approach	2017	42
				Shim *et al*. (2013)	Financial identity-processing styles among young adults: A longitudinal study of socialization factors and consequences for financial capabilities	2013	40
3	*Impact of financial access on financial capability*	50	569	Johnson and Sherraden (2007)	From financial literacy to financial capability among youth	2007	221
				Huang *et al*. (2013)	Financial Knowledge and Child Development Account Policy: A Test of Financial Capability	2013	46
				Friedline and West (2016)	Financial Education is not Enough: Millennials May Need Financial Capability to Demonstrate Healthier Financial Behaviors	2016	44

				Rothwell *et al*. (2016)	Building Financial Knowledge Is Not Enough: Financial Self-Efficacy as a Mediator in the Financial Capability of Low-Income Families	2016	26
				Huang *et al*. (2015b)	Financial capability and asset accumulation for children's education: Evidence from an experiment of child development accounts	2015	25
4	*Propensity to plan, financial advice, financial experience, and financial capability*	47	334	Xiao and O'Neill (2018)	Propensity to plan, financial capability, and financial satisfaction	2018	39
				Moreland (2018)	Seeking financial advice and other desirable financial behaviors	2018	31
				Kim *et al*. (2019)	Financial Knowledge and Short-Term and Long-Term Financial Behaviors of Millennials in the United States	2019	30
				Mouna and Jarboui (2015)	Financial literacy and portfolio diversification: an observation from the Tunisian stock market	2015	25
				Krische (2019)	Investment Experience, Financial Literacy, and Investment-Related Judgments	2019	19

Note (s): This table shows classification of articles into four major clusters based on thematic clustering and the most cited articles in each cluster. TP= Total Publications; TC=Total Citations.

Table 4. Frequencies of Financial Capability Definitions in 2018-2022

Definition	Frequency
Ability-opportunity definition	22
Knowledge-Behavior definition	15
Knowledge definition	5
Behavior definition	4
Outcome definition	4
Other (financial responsibility, financial choices, etc.)	2

Note: among 52 published studies in 2018-22 that explicitly defined financial capability.

Table 5. A summary of theories used/discussed/tested in the sample studies on financial capability

Theory	TP	Reference study title (Most cited)	Sample citation
Capability Theory	15	From financial literacy to financial capability among youth	Johnson and Sherraden (2007)
Theory of Self Efficacy	9	Consumer financial capability and financial satisfaction	Xiao *et al.* (2014)
Consumer Socialization Theory	8	The Financial Behavior of Emerging Adults: A Family Financial Socialization Approach	Jorgensen *et al.* (2017)
Economic Theory	5	Informed, educated and more confident: financial capability and the problematization of personal finance consumption	Marron (2014)
Social Cognitive Theory	5	A developmental model of financial capability: A framework for promoting a successful transition to adulthood	Serido *et al.* (2013)
Institutional Theory of Saving	3	Financial Knowledge and Child Development Account Policy: A Test of Financial Capability	Huang *et al.* (2013)
Theory of Bounded Rationality	2	Financial Knowledge and Short-Term and Long-Term Financial Behaviors of Millennials in the United States	Kim *et al.* (2019)
Other prominent theories: Consumer Choice Theory; Empowerment Theory; Emerging Adulthood Theory; Experiential Learning Theory; Financial Decision Theory; Hope Theory; Human Capital Theory; Identity Theory; Life-Cycle Theory; Propensity to Plan Theory; Social Learning			

Note (s): This table shows a snapshot of major theories used in 215 studies. Some studies did not specifically mention the theory used.

Table 6. Propositions and the reference publications between 2007-March 2022

Category	**Reference citation**
P1: Background differences in financial capability	Background differences in financial behaviors: Lučić *et al.* (2021); Mokhtar *et al.* (2020) *Background differences in financial knowledge*: Banerjee (2016); Chen and Garand (2018); Khan *et al.* (2021); Overton and Fox O'Mahony (2018); Yakoboski *et al.* (2020) *Background differences in financial capability:* Khan *et al.* (2017); Kim and Xiao (2021); Lazar *et al.* (2016); O'Donnell and Keeney (2010); Okech *et al.* (2018); Raj (2020); Robson and Peetz (2020); Sabri *et al.* (2017); Silva *et al.* (2010); Xiao & O'Neill (2022); Xiao *et al.* (2015); Xiao *et al.* (2020)
P2: Background differences in consumer well-being	*Background and financial wellbeing:* Cui *et al.* (2019); Fan and Babiarz (2019); Nam *et al.* (2016); Nejad and O'Connor (2016) *Background and other domain wellbeing:* Taylor *et al.* (2011); West and Cull (2020)
P3: Intervention to financial capability	*Financial socialization:* Collins and Odders-White (2021); Jorgensen *et al.* (2017b); LeBaron *et al.* (2018); Marchant and Harrison (2020); Shim *et al.* (2013); Wu *et al.* (2017); Zhao and Zhang, (2020) *Financial education:* Doran and Bagdasaryan (2018); Friedline and West (2016); Harvey (2019); Kim and Mountain (2019); Loke *et al.* (2015); Rochelle *et al.* (2017); Sherraden, MS *et al.* (2011); Wagner (2019); Xiao and O'Neill (2016); Xiao and Porto (2019); Zhu (2020) *Other interventions:* Birkenmaier *et al.* (2021); Bunnell *et al.* (2020); Collins and Nafziger (2019); Huang *et al.* (2013); Huang *et al.* (2021) *Capacity building:* Birkenmaier *et al.* (2020); Frey *et al.* (2015); Loke *et al.* (2017); Luukkanen and Uusitalo (2014)
P4: Intervention to consumer well-being	*Public policy to wellbeing*: Brackertz (2014); Despard *et al.* (2020); Huang *et al.* (2015b) *Financial socialization to wellbeing:* Shim *et al.*, 2010; Fan and Chatterjee (2019) *Financial education to wellbeing:* Farnsworth *et al.* (2011); Xiao and Porto (2017)
P5: Financial Capability factors interactions	*Knowledge to behavior:* Birkenmaier and Fu (2016a); Chatterjee (2013); Despard and Chowa (2014); Despard *et al.* (2020); Kim and Lee (2018); Kim and Yuh (2018); Kim *et al.* (2019); Lamb (2016); Loke (2017); Lusardi and Mitchell

	(2011); Luukkanen and Uusitalo (2019); Pellinen *et al.* (2011); Roa *et al.* (2019); Robb and Woodyard (2011); Seay *et al.* (2017); Zhao and Zhang (2021) *Knowledge to capability:* Kagotho *et al.* (2018) *Behavior correlations:* Bialowolski *et al.* (2021); Çera *et al.* (2020); Fan (2021); Jorgensen *et al.* (2017a); Lee and Kim (2020); Moreland (2018); Nam and Loibl (2021); Xiao and O'Neill (2018a, b)
P6: Financial Capability to consumer well-being	*Capability to financial wellbeing*: Babiartz and Robb (2014); Birkenmaier and Fu (2020); Henager and Wilmarth (2018); Huang *et al.* (2015a); Huang *et al.* (2016); Johnson and Lamdin (2015); Khan and Akhtar (2020); Luo and Zeng (2020); Luo *et al.* (2021); McGarity *et al.* (2020); Montalto *et al.* (2019); Mouna and Jarboui (2015); Ponchio et al. (2019); Ranta and Salmela-Aro (2018); Ranta *et al.* (2020); Reyers (2019); Riitsalu and Murakas, (2019); Robb *et al.* (2019); Sabri and Zakaria (2015); Seay *et al.* (2015); Tharp *et al.* (2020); von Stumm *et al.* (2013); Xiao and O'Neil (2018b); Xiao *et al.* (2014) *Capability to other domain wellbeing and general wellbeing:* Bialowolski *et al.* (2021); Fan *et al.* (2021); Millimet *et al.* (2018); Serido *et al.* (2013)

Note (s): This table shows the propositions and the reference studies relevant to each category of propositions.

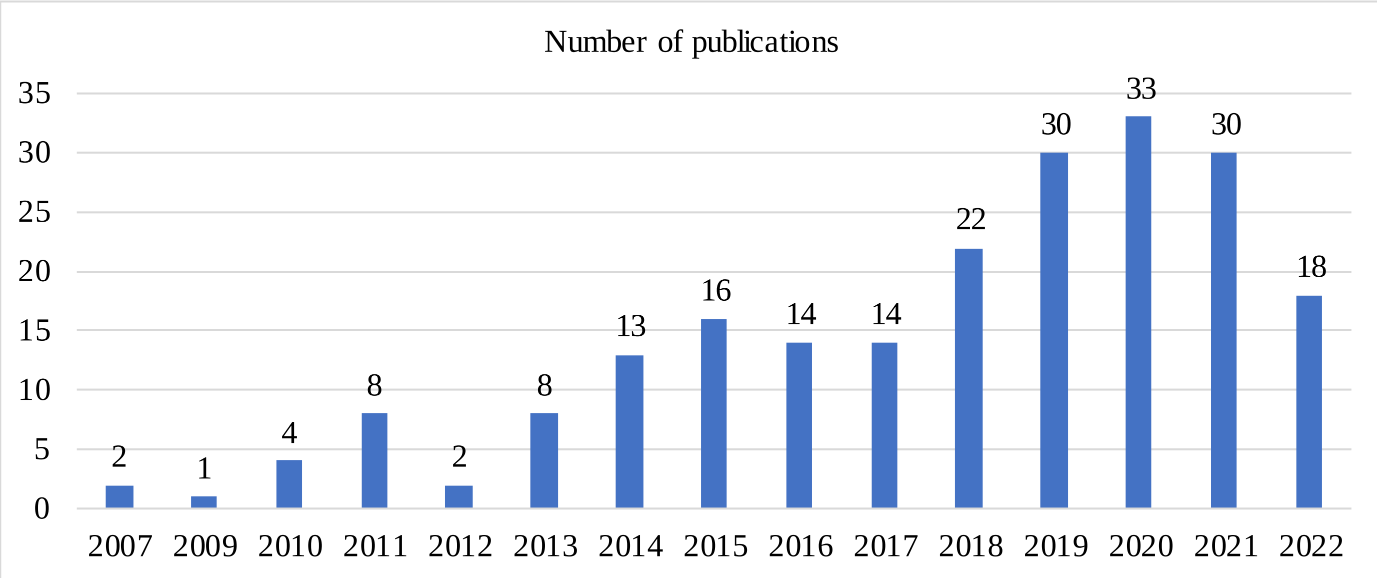

Figure 1. Publication trend of 215 articles. Note that the number of 2022 is only from January to March.

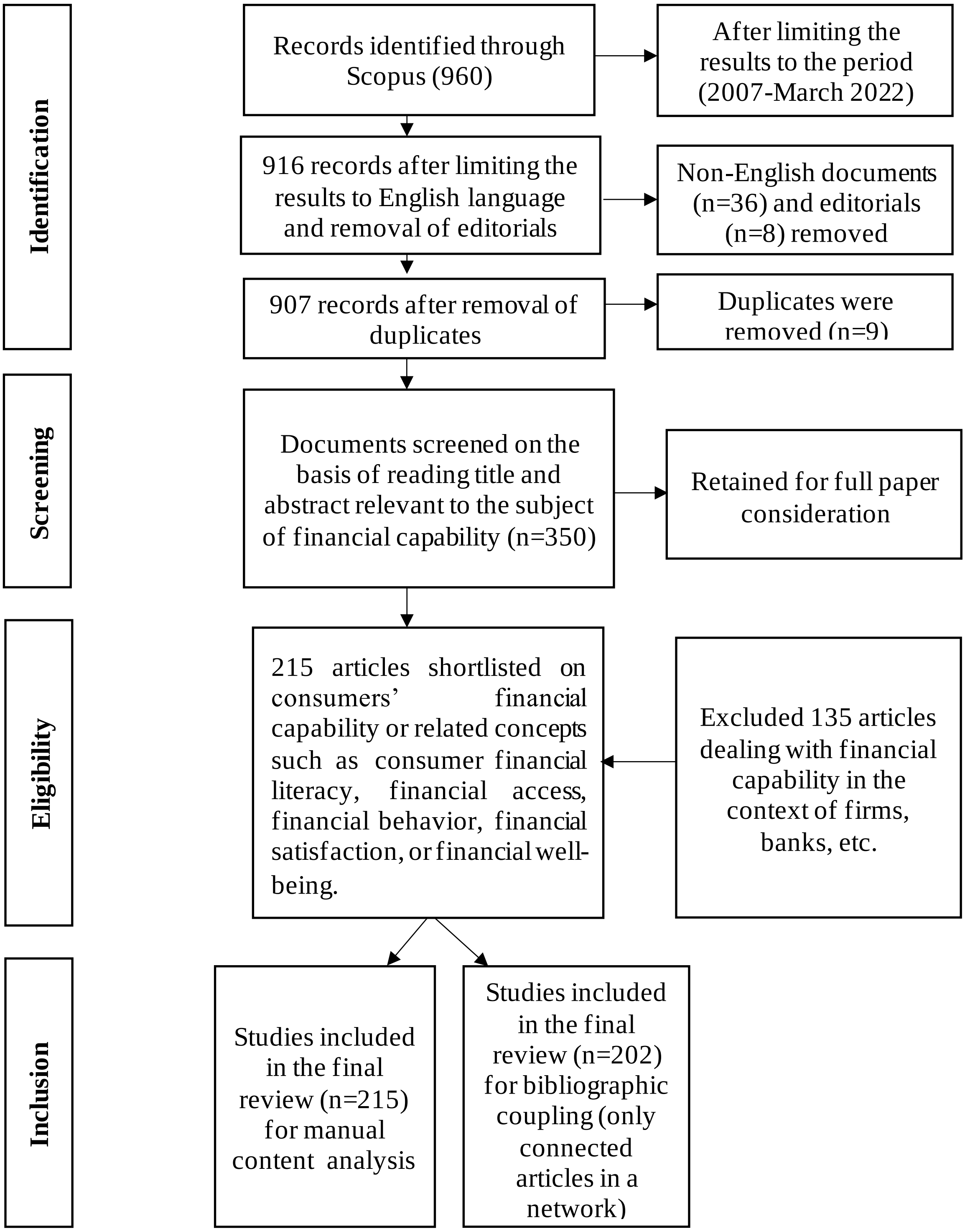

Figure 2. Data retrieval and selection of article

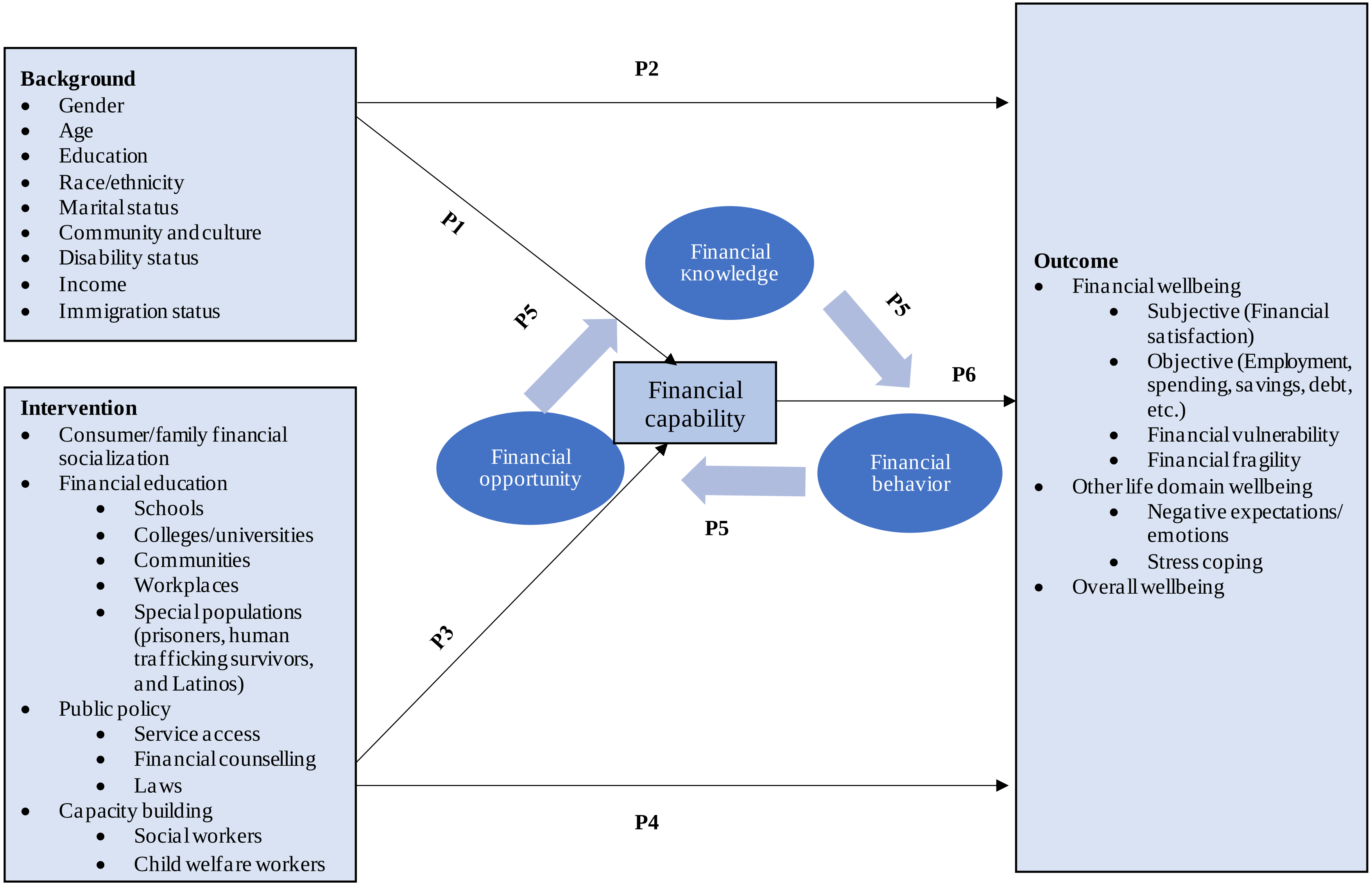

Figure 3. The conceptual framework of financial capability