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Antecedents and Consequences of Personal Financial Management Behavior: A Systematic Literature Review and Future Research Agenda

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Abstract

Purpose – The purpose of this paper is to investigate the current state of research on Personal Financial Management Behavior (PFMB), with a prime focus on its antecedents and the consequences. By analyzing the research trends, methods, determinants, and outcomes, the PFMB literature is synthesized, and agenda for future research is suggested. A framework is presented that portrays PFMB's antecedents and consequences and further specification of the mediation and moderation linkages.

Design/Methodology/approach – The review is based on 160 articles published during 1970-2020. It follows a systematic approach and presents the definitions and theories of PFMB, publication trends based on time, region, sample population, research designs, data collection and analysis techniques, along with antecedents and outcomes through content analysis.

Findings - The synthesis draws upon various factors affecting PFMB, such as demographics, socio-economic, psychological, social, cultural, financial experience, financial literacy (FL), and technological factors. The prominent outcomes of PFMB include financial satisfaction, relationship satisfaction, quality of life, financial success, happiness, financial vulnerability/resilience, and financial well-being. The future research agenda sums up the recommendations in the form of research questions on variables and their linkages, followed by methodological advancements.

Originality/value – This paper covers the scholarly work done in this area in the past 51 years. To the best of authors' knowledge, this is the first attempt to offer a most comprehensive and collective scholarship of this subject. It further gives an extensive future research agenda.

Keywords Systematic literature review, Personal financial management behavior, Financial management behavior, Financial behavior

Paper type: Literature review

1. Introduction

In today's modernized age with all facets of development, people own much more money than in the past. Robust financial health and overall well-being lead to the objectives of an individual's life (Boon *et al*., 2011). Furthermore, with an upsurge in cost of living, complexities in making financial choices, liberal credit, and social security reforms, it is imperative that people take charge of planning and managing their finances in their own best interest (Xu and Zia, 2012). *"Personal Financial Management Behavior (PFMB) is a process which assimilates all components of individuals' financial interest. These include cash flow management, investments, risk management, retirement planning, tax planning, and estate planning"* (Altfest, 2004, p.54). Robust PFMB would make individuals sense security and, eventually, financial freedom (Hilgert *et al*., 2003). Missteps in managing personal finances can have a profound long-term impact (Estelami, 2014). Recently, unsuccessful PFMB has been avidly concerned (Lusardi *et al*., 2020). Individuals lack knowledge of financial concepts due to which economic decisions made by them influence their current financial well-being and future saving goals (Schuchardt *et al*., 2007). Building from consumer financial narratives, perceived financial well-being is conceptualized as stress over current finances and a sense of security about achieving future financial goals (Netemeyer *et al.*, 2018).

Taking charge of finances does not only mean establishing a daily household budget but also saving and investing in building a shield for future expenses, either predictable (buying a house, car, or education) or unpredictable (loss of a job or health issues) along with assuring stress-free post-retirement years through a blanket financial plan (Kidwell and Turrisi, 2004; Copur and Gutter, 2019). In this study, PFMB is defined as a set of multi-dimensional behavioral indicators concerning the planning, implementation, and evaluation comprised in the areas of cash flow, credit, savings and investments, insurance, retirement and estate planning as well as income and money management within a household.

The pursuit of personal finance is interdisciplinary, having omnipresence in psychology, sociology, finance, economics, information technology, and family studies (Schuchartdt *et al*., 2007). Each discipline has diversified theories that offer diverse perspectives on individuals' and households' financial behavior and money management (Copur and Gutter, 2019). Furthermore, professionals, educators, government, and policymakers aim at developing programs that focus on providing knowledge and preparing "rational human beings" handle their finances in a better way. Nevertheless, in reality, behavioral economics, a blend of psychology and economics, endorses the part that psychological attributes play in personal financial decisions (Hilgert *et al*., 2003). Certain irrational behaviors such as carrying too much debt, not saving enough, and aggressive trading lead to "sub-optimal" decisions. There are significant other factors that connect to individual financial behavior such as demographics (Allgood and Walstad, 2013), socio-economic factors (Gorniak, 1999; Grable *et al*., 2009), social factors (shim *et al*., 2009), FL (Lusardi and Mitchell, 2007) and technological factors (Panos and Wilson, 2020). According to Organization for Economic Cooperation and Development (OECD), FL is defined as the "knowledge and understanding of financial concepts and risks, and the skills, motivation, and confidence to apply such knowledge and understanding in order to make effective decisions across a range of financial contexts, to improve the financial well-being of individuals and society, and to enable participation in economic life." (OECD, 2014). The voluminous prior evidence on PFMB has also concentered on its potential lifetime consequences in the form of financial well-being, security, or ultimate satisfaction (Mugenda *et al*., 1990; Vogler *et al*., 2008; Miotto and Parente, 2015; Dew *et al*., 2020). Such a multiplicity of literature from diverse fields has surfaced the need for a composite and systematic summarization of the existing body of knowledge on the subject. Hence, an under-researched yet significant area of PFMB interests an attempt to delve into the domain's collective scholarship. Continued research on financial behavior is needed to gain insights to inform future financial counseling and education efforts. Further, the topic is crucial for financial service professionals to take benefits of understanding financial management behavior in catering to the needs of their clients. Policymakers may use the information to advocate effective financial education programs to improve consumer financial well-being.

The leading aim of this paper is to compile the scholarly work on PFMB under one umbrella, fielding five principal inquiries:
RQ1: What are the existing definitions and theories of PFMB in the extant literature?
RQ2: What are the research trends in PFMB in terms of time, sample country, sample population, and structure (contents) of PFMB?
RQ3: What are the research methodologies, research designs, data collection techniques, and methods of data analysis that have been employed in PFMB research?
RQ4: What are the antecedents and consequences of PFMB?
RQ5: What are the gaps in the existing research on PFMB and scope for future research?

2. Rationale of the study

PFMB is a complex construct (Xiao and Tao, 2020), and for a considerable discernment of this construct, the subject was investigated broadly, following which the literature synthesis was unveiled. Based on the delineation that PFMB literature revolves around a plethora of its diverse antecedents and observable consequences, the scope of the review – the antecedents and consequences of PFMB – was decided. The extant reviews on PFMB (see Table I) focused on a single aspect of PFMB, with the majority embracing FL as a significant construct or varied widely in their review approach. In fact, the topic of PFMB is greatly overlapped with the literatures of FL (Boon *et al*., 2011). Huston (2010) conceptualized financial literacy as the knowledge of personal finance as well as the application of that knowledge. Mere knowledge of basic concepts of finance is futile unless it is reflected in financial behaviour (Atkinson and Messy, 2012). In fact, OECD measured FL as a combination of three constructs: financial knowledge, financial attitude, and financial behavior (OECD, 2011). Financial literacy and financial capability are used as synonyms (Kempson et al., 2006). People can be financially literate when they have knowledge, understanding, and skills to take care of their personal finances, but they cannot be called financially capable unless reflected in their actual behavior. There are several studies that provide evidence of financial behavior as an outcome of financial literacy (Lusardi and Mitchell, 2011a; Van Rooij *et al*., 2011; Kaiser and Menkhoff, 2017). For the purpose of this study, we considered PFMB construct as the outcome of financial literacy.

Further, we failed to track any paper putting forth a comprehensive synthesis of the PFMB literature to date. Figuring such deficiencies, this is the first attempt to provide a detailed review on PFMB, putting forth significant developments and trends in the field with antecedents and consequences as its prime focus. The review also suggests a future research agenda in this domain. This study will serve as a pool of up-to-date knowledge on PFMB for academicians. It would also help policymakers and financial educators design programs on PFM that would benefit society and the real economy.

(Insert Table I about here)

Primarily, the research methodology employed in the review has been delineated in the next section. The following section explicates the results relating to the existing definitions and theories of PFMB and research trends. Subsequently, a conceptual framework furnishes a detailed inquiry into the antecedents and consequences of PFMB. The gaps in the extant research and directions for future research are discussed in the next section. The later section expounds implications of the study, followed by wrapping up the study in the conclusion section.

3. Review method

This study pursues a systematic literature review method as a reliable, replicable, and scientific way of producing a stock of knowledge that is not subject to bias (Tranfield *et al*., 2003). To delve into the literature, a comprehensive review equipped with content analysis canvasses the state-of-the-art literature concerning the theories, concepts, factors, and outcomes of PFMB (Goyal and Kumar, 2021). To conduct the study, we have used the two largest databases of indexed articles: Web of Science by Clarivate Analytics and Scopus. These two multidisciplinary databases are acknowledged to provide extensive results and allow for advanced search options (Rebouças and Soares, 2020). The search was conducted in August 2020. We avoided limiting the search to a specific period to retrieve all relevant papers to date.

Personal finance is the subject of how individuals, households, consumers, and families procure, develop, and allocate financial resources to achieve their present and future financial goals (Hira and Mugenda, 1999). With an intent to not skip any crucial publication for consideration in this review, a comprehensive long string of appropriate search terms was used to run the search in title, abstract, and keywords. Table II shows the search string used for data retrieval. The search in two databases Scopus and Web of Science, yielded 1137 and 523 results, respectively. Limiting the search results to the English language resulted in 1063 and 515 items, totaling 1578. Subsequently, duplicates (n= 440) were removed, which derived 1138 items. Upon reading the abstracts, 245 articles were retained for full paper consideration based on the relevance to the subject of PFMB. Inclusion and exclusion criteria were put to limit the articles according to the scope of the review. Out of 245 papers on PFMB, 133 studies accorded with the theme of antecedents and consequences of PFMB. Further, the references of the full papers were also scanned, and 27 relevant records were identified, which were added manually to the list after reading abstracts. The complementary search is helpful in identifying the studies that might have been missed in the primary database search (Harari *et al.,* 2020). Finally, 160 papers corresponded to the scope of the review and were included for analysis. The study constitutes all the relevant book chapters, peer-reviewed journal articles, and reviews. The approach of Rashman (2009) was followed for the selection strategy. Figure 1 illustrates the mechanism of retrieval and selection of articles.

(Insert Table II and Figure 1 about here)

4. Results

This section recapitulates the diverse definitions of PFMB that various researchers have adopted. It intends to provide the readers with a bird's eye view of the concept of PFMB. The extant theories that have been conceived, tested, or applied during PFMB research are also encapsulated. Further**,** the review was methodized, and content analyzed in a way that sketches a map of current PFMB literature in the form of yearly publication trends, sample country trends, sample population, PFMB components, trends in research design, the conceptual framework, antecedents, and consequences of PFMB.

4.1 Definitions

PFMB has been construed and measured disparately in the extant literature, specifically variegated by the sample. For instance, research focusing on the determinants and outcomes of individuals' PFMB defines it as a set of behavioral components, such as budgeting, cash flow management, consumption, savings, investment, borrowing, or insurance (Joo and Grable, 2000; Dew and Xiao, 2011). On the other hand, studies focusing on the family financial management among couples have defined PFMB as income allocation within the household: pooled income or separate income or household allowance (Pahl, 1989). Similar studies also define PFMB as the division of labor and breadwinning role in a family (Vogler *et al*., 2006;

Kulic *et al*., 2020). The measures used in these studies, in terms of behavioral components, differ significantly by researchers. Therefore, the incongruity in the findings has cropped up. Such inconsistencies make our knowledge and understanding of PFMB blurry.

The concept of PFMB is also closely related to FL (Kebede *et al*., 2015). Classical economists implicitly assume that increases in financial knowledge will result in changes in financial management behaviors (Hilgert *et al*., 2003). However, empirical shreds of evidence pertinent to the impact of FL on financial behaviors are not irrefutable (Xu and Zia, 2012). Thus, it is necessary to understand the behavioral biases that go against the standard economic theory, moving individuals from rational agents to behavioral agents. Table III has been formed to provide the readers with a glimpse of the diverse definitions of PFMB figured out in the extant literature.

(Insert Table III about here)

4.2 Extant Theories Employed

Plenty of theories have been impelled by the authors to predicate their research on PFMB and to set the background for empirical investigations on factors influencing it. Figure 2 shows the evolution of theories related to PFMB from the period 1930-2010. The concept of PFMB is primarily based on behavioral finance theories, out of which Theory of Planned Behavior (TPB) is the most prominent one (Ajzen, 1991). It recognizes the psychological aspects by examining the attitude-behavior relationship. According to the TPB, amid other factors, attitude frames behavior, which in turn shapes behavior. The TPB has been endorsed in a wide range of behaviors, including saving (Copur and Gutter, 2019). Another theory, which is the Theory of Reasoned Action (TRA), proposes that the behavior is regulated by an individual's intent to perform the behavior. Intention is determined by attitudes and subjective norms (Ajzen and Fishbein, 1975).

Another intermittent theory that has been ingeniously applied in the literature is the Theory of Consumer Socialization (TCS), especially concerning youth financial learning (Shim *et al*., 2009, 2010). The TCS provides a framework that delineates the financial socialization agents (teachers, parents, peers, and the media) determining an individual's financial behavior (Moschis, 1987). Shim *et al*. (2010) contemplated two learning modalities: observational learning and formal learning. Social Learning Theory (SLT) highlights observational learning's role in determining financial behavior (Bandura and Walters, 1977). Observational learning is also explained by the Social Cognitive Theory (Bandura, 1989). The theory proposes that observation of others interacts with one's own behavior and one's cognitive process to influence that individual's behavior.

Further, the life cycle hypothesis of savings explains the PFMB by assuming that individuals consume a uniform portion of their income over the life cycle and are not born with inheritance and die without leaving a bequest (Ando and Modigliani, 1963). Thus, individuals at a young age tend to borrow to acquire education. Individuals in their middle age are expected to pay off debts and save for the future. During their retirement years, they are expected to utilize their accumulated assets. However, many retired people still save and intend to transfer their accumulated wealth to the next generation. A study by Mugenda *et al*. (1990) focused on the Family Resource Management System Model proposed by Deacon and Firebaugh (1988). The Family Resource Management System Model was conceptualized as composed of inputs, throughputs, and outputs. The input component of the family managerial system was composed of material resources (income, savings, and net worth) and human resources (education and knowledge). The throughput component was comprised of transformation processes which included money management practices and communication. The output component was characterized by satisfaction with financial status and quality of life.

A plethora of other theories forms the ground for various antecedents (discussed later in the paper) of PFMB. Table IV features the theories that have been applied in the extant literature on PFMB, but in no way is the number exhaustive. Therefore, it aims to present the capsulation of theories (in chronological order) that have been traced from the existing studies.

(Insert Table IV and Figure 2 about here)

4.3 Trend of publication in time

Figure 3 illustrates the progression of publications in PFMB research. Although the research on PFMB exists since the 1970s, it is notable that the gigantic emergence of PFMB research can be seen only during the last decade (2011-2020). Personal finance, a topic of consideration from institutional and consumers' viewpoints, is rather a recent trend (Schuchardt *et al*., 2007). The concept of PFMB can be traced back around two centuries in the name of home economics (Gross *et al*., 1980), with barely any attention from economists and business faculty predominantly. The setting up of Financial Counseling and Planning (FCP) offers a ground for personal finance researchers to "generate knowledge, publish information, educate professionals, and provide research programs" (Reynolds and Abdel-Ghany, 2001, p.382). Another event that changed the scenario was introducing the phrase "household finance" by Campbell (2006), who emphasized the fusion of this crucial topic into the vast finance area. Also, a scholar from a consumer science background viewed this topic from consumers' perspective and used the term "consumer finance" (Xiao, 2008). Professor Tufano viewed this term from a business perspective (Tufano, 2009). In current years, household finance, family finance, consumer finance, personal finance, and individual finance promote research on this topic (Xiao and Tao, 2020). The increasing interest in PFMB and its significant visibility in the research recently can be attributed to the increasing power of money with the individuals, liberal credit policies, shift from defined benefit to defined contribution plans, and lack of money management skills among the individuals (Lusardi *et al*., 2010; Xu and Zia, 2012). The global financial crisis of 2008, characterized by high consumer debt and inadequate savings, expressed a "teachable moment" for the society at large and called for a policy focus on efficient conventions in FL and consumer protection (OECD, 2009). The government and financial educators are working hand in hand to increase the awareness of the vitality of PFMB. The continued research pieces of evidence pertinent to discerning personal financial behavior are indeed required.

(Insert Figure 3 about here)

4.4 Sample country and population

The analysis reveals that out of the total number of studies under review (n=160), 144 studies derived their samples from single countries. Five studies were based on the data collected from multiple countries, and eleven studies are not country-specific (see table V). By "Not country-specific," the authors mean that the studies are either purely conceptual or review. After further delving into the geographical location of the sample taken into each study (n=144), it was found that most of the PFMB studies have been conducted in the American region (n=62). However, this finding may partly be because just 47% of the US adults report maintaining a budget and tracking their expenses (Consumer Financial Literacy Survey, 2020). According to the National Financial Educators Council (NFCC), the average debt of the US college graduating students increased from $18550 (in 2004) to $28950 (in 2014). Alarmingly, 54% of Americans say that they have not set aside three months' worth of living expenses in case of an emergency (Yakoboski *et al*., 2020). Next, the studies took place in the Europe region (n=26) and the Asia region (n=22). The finding also remarks that the research on PFMB is skewed towards developed countries like the US and the UK. Less attention has been paid to the regions like

Asia, Australia, and Africa. The results recommend a need to study PFMB in developed as well as developing economies as the subject holds importance across the globe.

Upon manually scrutinizing the sample population in the studies (Figure 4), it was discovered that the adult population (irrespective of a particular age group or a population cohort) was used as a sample in most of the studies (n=52). Further, 26 studies were conducted on young adults, including college students. The effect of various factors on young adults' financial practices has been extensively studied as they enter adulthood with bad experience managing their finances (Lusardi *et al*., 2010). Personal finance is a sub-discipline of household finance (Schuchartdt *et al*., 2007), and therefore, studies on couples (n=20) and households are manifold (n=14). On similar grounds, the low-income population is the most vulnerable when it comes to financial management as they have to deal with the scarcity of financial resources. Thus, PFMB studies on a low income are noticeable (n=16). "No specific sample" means that the studies are either purely conceptual or review and thus do not include any sample. Results reveal that far fewer studies have been performed on women, older adolescents, professionals, and government employees, signaling a research gap.

(Insert Table V and Figure 4 about here)

4.5 PFMB structure (Contents and measures)

Each of the components of PFMB is vital for overall financial well-being (Xiao, 2008; Riitsalu and Murakas, 2019). Upon manual segregation of the extant literature on PFMB, it was discerned that different researchers measured PFMB through the inclusion of different components as a financial management behavior scale. This shows a non-consensus on the measurement and a lack of a comprehensive measure of PFMB (Dew and Xiao, 2011). Extending the analysis of studies further exposits that there are too many "conceptualizations" of PFMB. For instance, in couples' or household finances, PFMB is conceptualized as the income organization or money management method among couples (pooled income, independent income, or allowance). Contrarily, in the case of an individual's finances, PFMB manages finances in the multiple domains of savings, investment, credit, insurance, retirement, etc. Another interesting finding is that there are some studies ("Not specific") (n=37) in which the researchers have not specified the specific domain in which the PFMB is assessed. Notably, consumption, asset management, wealth accumulation, mortgage repayment, tax planning, estate planning, fintech, and charitable giving are distinct themes found in the literature. Such an exploration could help researchers and policymakers give an eye view on measures related to PFMB, which are not much paid attention to. It should be noted that the studies might have included more than one PFMB component. Figure 5 exhibits the number of studies published on various themes (contents) of PFMB.

Few validated financial management behavior scales exist in the literature. A snapshot of the most popular existing PFMB scales is shown in Table VI. Most of the scales lack psychometric validation except the one developed by Dew and Xiao (2011) and are based on selective financial management behaviors. The OECD measure includes a thorough instrument for measuring financial behaviours. It has been validated and used in many countries around the world. While the inclusion of all the domains of financial management is important to be included in the scale, the development of generalized sample measure is crucial.

(Insert Figure 5 and Table VI about here)

4.6 Trends in research designs

In this section, we manually segregated the studies based on the research method, research design, data collection technique, and data analysis approach (see table VII):

1) empirical studies include research articles that are based on observation, experiments, and measurement of phenomena;

2) conceptual studies include research articles that comprise of the development of some concept, framework or are theoretical;
3) quantitative studies include research articles that are based on statistical, numerical, or mathematical analysis of survey or secondary data;
4) qualitative studies include research articles that are based on the collection and analysis of non-numerical data through focus groups, interviews, first- hand information, etc.;
5) modeling and analytical methodology - based articles rest only on mathematical derivations or simulated/created datasets.

Of 160 studies, 145 are empirical, six are conceptual, five are literature reviews, three are modeling based and analytical, and one is a mixed study (empirical + conceptual). Of the 145 empirical studies, 121 studies used quantitative research design, 18 studies used qualitative methods, and six were based on a mixed-method approach (both qualitative and quantitative methods). There exists a dearth of conceptual studies on the subject.

Further comprehensive analysis shows that most empirical studies are based on surveys (n=113); just one study was based on archival data. Seven studies were based on laboratory experimentation. As identified in the previous section, research on PFMB is in an emerging phase, and that the majority of the publications have taken place in the last few years. Despite this, the focus is on quantitative empirical research methods compared to qualitative methods. This might result in biased, inconsistent, and ambiguous research findings. More qualitative studies are essential to delve deeply into the subject and identify the insightful determinants of PFMB.

As we classify the articles based on data analysis approaches to identify the most prominent techniques/tools, it was discerned that regression is the most frequently applied technique, and OLS regression is the most popular type of regression used. Apart from regression, SEM has been used by some researchers. SEM is a comprehensive approach based on the confirmatory measurement used to assess the models related to psychological studies (Anderson and Gerbing, 1988). Researchers have also applied correlation widely to analyze the relationships. Other techniques applied include descriptives, ANOVA, Chi-Square test, t-test, factor analysis, discriminant analysis, mathematical models, and MANOVA.

(Insert Table VII about here)

5. The conceptual framework

The research done on the subject revolves around the antecedents that are likely to influence PFMB and its consequences, which are either positive, negative, or insignificant. It is an absolute need of the hour to realize the vitality of the concept of PFMB and advance the arguments on its determinants and terminal outcomes. This review proposes an integrated framework that connects various disjointed theoretical fragments. The model (see figure 6) calibrates the peculiar findings and gives a direction to future research.

(Insert Figure 6 about here)

5.1 Antecedents of PFMB

Over the past few decades, PFMB has stemmed as a process, which is of paramount concern for an individual. Therefore, it is crucial to know the various expediting factors of PFMB. On an extensive inquiry of the literature, it was identified that myriads of factors impact financial behavior. Such factors are demographic and socio-economic characteristics, psychological and personality factors, social factors, FL, professional financial advice, environmental factors, technological factors, circumstantial factors, cultural factors, and financial experience, among others (Table VIII).

PFMB can differ between population sub-groups according to marital status, income, occupation, gender, education, and family structure (Perry and Morris, 2005; Grable *et al*., 2009; Loke 2017a; Sachitra *et al*., 2019; Bapat, 2020). In comparison to the work done on demographics and socio-economic factors, research on psychological factors underlying personal financial planning behavior is in an elementary stage (Joo and Grable, 2004; Xiao and Porto, 2019). Based on the existing body of literature, various psychological factors have been accounted for. Behavioral finance theories have acknowledged psychological disposition in determining PFMB (Copur and Gutter, 2019). In the last decade, various researchers have investigated the relationship between financial socialization and financial behavior (Shim *et al*., 2009; Bamforth *et al*., 2018; Antoni *et al*., 2019). Parents are essential socialization agents in how children learn about money and develop financial management behavior, often incidentally (by observation and participation) and through lessons delivered intentionally by parents (Moschis, 1987).

Another most critical factor of PFMB is FL. Academic work has concluded that FL is an antecedent to various healthy financial behaviors such as saving (Pak and Chatterjee, 2016), borrowing (Allgood and Walstad, 2013), investment (Hastings and Mitchell, 2020), and overall personal financial planning (Boon *et al*., 2011). As with many areas of personal finance, there is little appreciation of precisely how individuals rearrange their portfolios around and during major life events. These are often difficult to plan (West and Worthington, 2019), such as loss of a job, major disability, or long-term illness, divorce/remarriage, starting a family or sudden inheritance. Regarding technological factors, information about financial products and services digitally may also influence financial behavior (Bapat, 2019). Financial advisors are a critical source for improving financial behaviors and well-being among clients and communities (Moreland, 2018).

(Insert Table VIII about here)

5.1.1 Indirect effects (Mediators and moderators)

In figure 6 of the study, the potent insights from the literature review have been assembled to provide the readers with an outline of the variables and relationships encompassing PFMB.

The direct influence of a determinant on behavior is reported in table VIII, but many factors indirectly influence PFMB. Most of the allied literature on psychology proposes that the relationship between attitude and behavior might be influenced by a third variable, FL (Eagly and Chaiken, 1993). Barbic *et al*. (2019) found that FL moderates (interaction effect) the relationship between financial attitude and behavior (β=-0.0850, $p<0.01$). The attitude-behavior relationship weakens as the FL increases. Moreover, in the study conducted by Topa *et al*. (2018), Need for Cognitive Closure (NCC) is found to moderate the relationship between Investment Literacy and financial management behavior where the effect was high at the high level of NCC and weak at a low level of NCC. NCC is a socio-psychological term that refers to an individual's inclination for a fixed answer to a question rather than ambiguity and confusion (Webster and Kruglanski, 1994). The differences in NCC may influence an individual's capacity to process information and their decision-making.

Further, upon exploring cross-cultural conceptualization of human behavior, a negative interaction was found between Korean and financial knowledge (p=.055) on financial management behavior (Grable *et al*., 2009). Although greater than p<.05 but less than p<.10, it indicates a meaningful relationship. In a similar study, it was also found that the culture does not exert an influence (no significant interactions) on the relationship of Locus of Control (LOC) and income with financial behavior. LOC relates to the magnitude to which an individual's success or failure results from their actions (Perry and Morris, 2005). Another variable, excessive lifestyle, which is related to overspending habits, moderates the relationship between PFMB and youth bankruptcy awareness (Azmi *et al*., 2019) in such a way that the relationship is more substantial in case of a lower excessive lifestyle (β= 0.109, p<0.05). Bapat (2020) found that financial risk tolerance moderates the relationship between financial knowledge, financial attitude, internal LOC, and financial management behavior. Another psychological construct of perceived control is to moderate the budgeting intention (Kidwell and Turrisi, 2004). Individual self-regulation would also moderate the relationship between differences in future orientation and investment in a high-risk mutual fund, $F(1,83)=10.03$, p<.01 (Howlett *et al*., 2008). This means that high future-oriented individuals had a less favorable attitude towards risky investment when self-regulation was high. Materialism is defined as "the importance ascribed to the ownership and acquisition of material goods in achieving major life goals or desired states" (Richins, 2004, p.210). Higher materialism results in higher money management-related stress, but time perspective is found to moderate this relationship (Ponchio *et al*., 2019).

Besides moderating effects, mediation effects have also been hypothesized in the literature. In the study by Bapat (2020), financial attitude fully mediates the relationship between financial knowledge and financial management behavior (β=0.372, 0.533, p<0.05). Barbic *et al*. (2019) also affirm a significant indirect relationship between FL and financial management behavior through financial attitude mediation. This finding focuses on the need to incorporate psychological facets to transform financial knowledge into financial behavior through financial attitude. A study by Ho and Lee (2020) has found that students who accredit power distance still exhibit positive financial behavior if they have a positive financial attitude as a mediator in the relationship (β=0.12, p<0.01). Power distance is a cultural disposition in which less powerful members of the society accept that power is unevenly distributed (Hofstede, 2001). Higher power distance is likely to result in negative financial behavior (Ho and Lee, 2020). Another psychological construct that completely mediates the relationship between procrastination and financial behavior is financial self-efficacy (β= -0.262, p<0.05) (Gamst-Klaussen *et al*., 2019). Therefore, financial self-efficacy, which means an individual's abilities to achieve a financial goal, is critical to financial health. The relationship between investment literacy and financial management behavior is also mediated by investment advice use (Topa *et al*., 2018). Studies by Perry and Morris (2005) and Grable *et al*. (2009) reveal that LOC mediates the relationship between FL and financial management behavior. The indirect effect of subjective financial knowledge also exists in the relationship between self-esteem and financial behavior (Tang and Baker, 2016).

5.2 Consequences of PFMB

Table IX furnishes a detailed content analysis of the consequences of PFMB as explored in the literature. It is noteworthy that the researchers' focus in the domain has primarily been on figuring out the antecedents of PFMB. Most of the empirical investigations have considered PFMB as an outcome, and the resultant variable outcomes of such behavior have not received much attention. The existing work exposits that financial behavior can influence financial satisfaction (Mugenda *et al*., 1990; Gunay *et al*., 2015). To examine the causal relationships of factors that influence money management tasks, Mugenda *et al*. (1990) remarked upon the finding that "net worth, savings, debt payments and lack of financial difficulties" are the main predictors of financial satisfaction. Joo and Grable (2004) identified that financial behaviors are closely associated with an individual's financial stress levels. Good financial behaviors are also the predictors of happiness in life through relationship satisfaction mediation (Spuhlera and Dew, 2019). The concept of FL, financial capability, and PFMB are greatly connected (Xiao *et al*., 2014). Financial capability is having financial knowledge and performing financial behaviors through financial access (Taylor, 2011). Financial capability through desirable financial behaviors results in financial satisfaction (Xiao *et al*., 2014; Xiao and O'Neill, 2018b).

Borrowing and insurance behaviors positively influence relationship quality between partners and their subjective financial well-being (Baryła-Matejczuk *et al*., 2020). These dimensions are closely connected to the psychological aspects of satisfaction of routine basic needs. The evidence of such life gains can help service providers motivate clients to perform better financial behaviors. Such behaviors are also the predictors of making defaults in payments and saving for the future (Miotto and parente, 2015).

(Insert Table IX about here)

6. Agenda for future research

Although emerging research on PFMB encompasses sizable contributions in the late years, the literature's coalescence has brought to light profound gaps in understanding of the subject. Such gaps build the momentum for future theory development and research on PFMB. Table X sums up the recommended agenda for different propositions in the form of research questions on variables and their linkages, followed by empirical advancements on methods and measures.

6.1 Theoretical development

This section describes how various theories can be applied to PFMB and how future research can be developed to better comprehend financial behavior, which provides useful information for policymakers. Due to its interdisciplinary nature, the profession of personal finance has various theories to choose from (Schuchardt *et al*., 2007). The collective scholarship on the behavioral complexities of PFMB happens to come from several interdisciplinary fields, such as behavioral economics, economic psychology, behavioral finance, sociology, family studies, technology, couples' finances, and consumer research. Future research should be focussed on how theoretical approaches can be used in multiple disciplines can inform PFMB.

The traditional life-cycle hypothesis assumes that individuals are well-informed and behave rationally by smoothing consumption and saving over their life-cycle (Ando and Modigliani, 1963). Notwithstanding, our analysis acknowledges that individuals confront many behavioral biases that are not predicted by the standard theory. Such interplay of psychological attributes must be backed up by the various theories specific to the personal finance domain. In addition to this, the majority of the studies have focused on attitudinal, normative, controlling, and experiential perceptions about financial decisions (Lee and Hanna, 2014; Barbic *et al*., 2019). Triandis (1994) emphasizes the cultural dimensions that are often overlooked by others in the field. There is a need to develop socio-psychological theories to support behavioral biases due to culture and other social factors. The TTM assumes that self-efficacy plays a significant role in behavior change (Prochaska and DiClemente, 1982). Hence, individuals who doubt their capabilities to handle finances are more likely to reduce effort, making them more susceptible to unhealthy financial behaviors like impulse purchases (Gamst-Klaussen *et al*., 2019). Relevant theories must be used to identify the stage at which people are willing and able to alter their behavior.

Further, as our review suggests, the TPB and the TTM have been tested on certain financial behaviors (Xiao *et al*., 2004a; Xiao *et al*., 2004b) and certain groups of population (Kidwell and Turrisi, 2004; Copur and Gutter, 2019; Bapat, 2020). Further, FL leads to desirable financial behaviors (Hilgert *et al*., 2003; Lusardi and Mitchell, 2007), but there is some evidence where financial education has been found to have weaker or insignificant effects on financial behaviors (Fernandes *et al*., 2014). It is of great interest for financial educators to know the influence of financial education on behavior change. While the work that financial education is expected to do has been identified, the role of theory in aiding educators to perform such a role has still not been established. The scholarly work to date creates a promising ground for exploring financial education's theoretical fragments, financial behavior, and life satisfaction.

TCS has been applied to determine the influence of parent-child financial socialization processes on adolescents' or young adults' money management practices (Shim *et al*., 2009). The majority of the studies have focused on parental influence in general rather than specific socialization practices (Sundarasen and Rahman, 2017; Fulk and White, 2018). Such specific domains can be identified through specific realms in social learning theories (Xiao *et al*., 2011). Other socialization agents, such as peers and media, need further exploration.

The behavior theories reviewed in this paper have been applied in various scientific research studies. Researchers in consumer finance could make use of this line of research to inform financial educators and consumers. Future research should also determine how financial education, financial behavior, and quality of life are related.

6.2 Empirical advancement

6.2.1 Antecedents of PFMB

The empirical work done on the antecedents of PFMB is considerable. The research stream stressed the importance of psychological factors in better comprehending the positive or negative financial outcomes, either directly or indirectly (Hoffmann and Mcnair, 2019). Given the established relationships, it is critical to understand the processes through which such factors differentially relate to a set of financial outcomes, and for that, theoretical synthesis is fundamental. For instance, saving is a financial decision made within a social context, is based on life-cycle stages and the psychological attributes of the savers (Copur and Gutter, 2019). However, there is a limited research using a comprehensive method to understand the multiple factors that affect financial behavior. PFMB is undoubtedly one of the most prolific research areas in personal finance, yet Copur and Gutter (2019) and Bapat (2020) state that not much is known about the determinants of PFMB.

Notwithstanding the preponderance of studies on PFMB determinants, there are still some issues that constitute entry points for new research in the area. First, there seems different results on the same constructs (negative or positive or insignificant relationships) relating to the impact of factors on various financial behaviors such as income level (Perry and Morris, 2005 vs. Grable *et al*., 2009), education (Gorniak, 1999 vs. Loke, 2017a), household size (Mugenda *et al*., 1990 vs. Borda and Kowalczyk-Rólczyńska, 2016), perceived Control/self-Control (Kidwell and Turrisi, 2004 vs. Zulfaris *et al*., 2020), LOC (Bapat, 2020 vs. Grable *et al*., 2009), personality traits (Xu *et al*., 2015 vs. Harrison and Chudry, 2011), financial education (Fulk and White, 2018 vs. Fernandes *et al*., 2014), and objective FL (Bapat, 2019 vs. Pak and Chatterjee, 2016). Such contradictions need re-investigations. Further, the tested effects of demographics on financial outcomes are not unusual, but the research has discounted how demographics indirectly affect financial outcomes via financial socialization processes (Shim *et al*., 2009, 2010). The tenets of consumer socialization theory could advance explanations for individual differences in FL and resulting financial behavior (Moschis, 1987, Gudmunson and Danes, 2011). Additional research on hierarchical financial behavior needs to be conducted with other financial behavior such as saving, investing, borrowing, and retirement (Xiao and O'Neill, 2018a). More research is required to examine the relationship between fintech and various consumer financial topics since fintech has changed the overall ecological environment of consumer finance in many ways (Xiao and Tao, 2020). Lastly, as with many areas of personal finance, there is little appreciation of precisely how individuals rearrange their portfolios around and during major life events (West and Worthington, 2019), such as loss of job, major disability or long-term illness, divorce/remarriage, starting a family or sudden inheritance.

Future researchers can advance more work on: socio-demographic and economic factors such as occupation, household size, homeownership, family structure, generational complexity, and gender disparities within couples; psychological factors such as self-regulation, negative emotions, distrust, cognitive style, motivation, perceived ability, planning horizon, financial optimism, self-other orientation, framing effect, emotional intelligence, and procrastination; social factors such as financial socialization through peers, colleagues, and media; environmental factors; technological factors; financial experience; financial resources and financial vulnerability. It is essential to know how financial socialization and education vary by gender, life stage, race, socio-economic status, education, and ethnicity (Schuchardt *et al*., 2009). Riitsalu and Murakas (2019) findings show that objective financial knowledge is less related to financial well-being than subjective financial knowledge and financial behavior. Additional research is required to explore antecedents of financial knowledge as such skills are pivotal for good financial behavior (Grable *et al*., 2009). Future studies need to be careful when getting insights from the perspective of personal, behavioral, and environmental factors and may consider including specific individual behaviors (Bapat, 2019).

6.2.2 Mediators

The pathways between various factors and proper financial management behavior are major research questions that need to be addressed. Financial attitude mediates the relationship between FL and financial behavior (Barbic *et al*., 2019; Bapat, 2020). First, the mediating relationship of financial attitude between financial socialization and financial behavior needs to be tested as financial socialization influences FL (shim *et al*., 2010). Future research should also consider additional psychological factors as mediators between demographics and financial behavior. LOC plays a mediating role in the relationship between financial knowledge and financial behavior (Perry and Morris, 2005), but such an effect may differ for different groups of people. The interplay among various psychological factors is also an exciting research area as they are interrelated (Bapat, 2020). Apart from gender and power in couples' finances (Pepin, 2019; Cineli, 2020), the interactions of social categorizations such as race/ethnicity or socioeconomic status may be useful to understand couples' financial systems and relational outcomes.

6.2.3 Moderators

There are inconsistent results regarding the moderating effects of FL on the relationship between financial attitude and financial behavior. In general, the relationship tends to be firm with high FL and weak with low FL (Eagly and Chaiken, 1993). Nevertheless, in some cases, the moderating effect is negative, i.e., when FL is high, the attitude-behavior relationship weakens (Barbic *et al*., 2019). Such findings propel deeper inquiry. Research reveals that financial advice influences financial management behavior (Topa *et al*., 2018; Moreland, 2018). The interaction effects of such advice with FL and financial behavior would be an exciting research proposition. The moderating role of culture on FL and behavior has been tested in Korea (Grable *et al*., 2009). Such a relationship needs to be explored in other countries as well. The moderating role of additional psychological factors in changing the relationship between demographics, FL, social factors, and financial behavior needs to be incorporated in future studies. Findings suggest that electronic banking positively affects financial behavior (Bapat, 2019). Information about financial products and services digitally may also influence financial behavior. There is also a relationship between FL and fintech. Low FL leads to low adoption of fintech (Morgan and Trinh, 2019). However, how fintech may influence FL is another compelling future research area.

6.2.4 Consequences of PFMB

It is apparent from Figure 6 that a major chunk of PFMB literature has targeted antecedents, and research on its consequences is minuscule. Further exploration is encouraged on the psychological and sociological aspects of financial attitudes and behaviors and their relationship with financial satisfaction (Xiao *et al*., 2014; Spuhlera and Dew, 2019). Such studies will help consumer and family economists better understand the motives, drives, and effects that determine individuals' quality of life. Not many studies have empirically confirmed that the amount of money that one makes is less important than the money that one spends (Shim *et al*., 2009). There has been a continuous debate on the linear relationship between income and happiness (an indicator of subjective well-being) in longitudinal data (Stevenson and Wolfers, 2013). Notably, PFMB and financial access are essential for overall financial well-being yet have not been much explored (Birkenmaier and Fu, 2019). Better financial behavior may result in better financial access and better financial status (Gunay *et al*., 2015). Again, there is a causality issue implying that financial access succeeds financial behavior and vice-versa (Xiao *et al*., 2010). In addition to this, other terminal outcomes such as financial resilience in times of emergencies warrant equal attention in the research (Lusardi *et al*., 2020). According to Salignac *et al*. (2019, p. 5), "Financial resilience is an individual's ability to access and draw on internal capabilities and appropriate, acceptable and accessible external resources and supports in times of financial adversity." Future research should explore how the economic shocks transform exposure to risk and risk management preferences both at the individual and household levels (Schuchardt *et al*., 2009).

6.3 Methodological Expansion

6.3.1 PFMB measurement

Following the gap of a very few validated financial management behavior scales in the research, there is a need for the researchers to establish financial behaviors inventory covering all areas of behaviors (Dew and Xiao, 2011). Unfortunately, most of the existing studies measure financial behaviors as per their convenience and lack a comprehensive composition. Such a reliable and validated inventory would be advantageous for financial educators and policymakers when evaluating financial education programs' influence on financial behavior, financial satisfaction, and quality of life. To comment on the robustness of existing measures, such scales must be scrutinized and used at different places and situations and on various samples. This process may contribute to the maturity of the construct and its measurement. Further research should also focus on developing scales that might reflect desirable financial management behaviors, are relevant, and based on respondents' age or life situation. For instance, a retired person might not opt for “long-term savings.” Thus, PFMB is an umbrella term that incorporates multiple behaviors related to individuals, households, and consumers (Xiao and Tao, 2020). Application of other methods such as Factor analysis is also desirable.

6.3.2 Methods

Extant literature shows that quantitative methods have been predominantly applied to understand PFMB so far. Upon scrutinizing the sample countries in our review, we find that the PFMB research should be focused equally on developing economies due to changing the financial markets landscape (Xu and Zia, 2012). Further, our more in-depth inquiry into the various research methods applied in the extant research spotlights eminent gaps in the methodology and possible contributions to enriching knowledge in this area. Future research should be extended to incorporate more conceptual papers focusing on the better conceptualization of the PFMB construct. There is a dearth of studies collecting data from secondary sources and the studies that are qualitative. Theoretical roots of PFMB point out that consumers who are high on money ethics, risk aversive, and future-oriented are more likely to show positive financial behavior. Qualitative research is needed to understand such complex frameworks grounded in psychology. Most of the studies are survey-based (Boon *et al*., 2011), and case-study and interview-based research are lacking. The use of an alternative qualitative approach over quantitative methods may help gain a holistic understanding of the influence exerted by various factors on PFMB and how, in turn, PFMB influences other outcomes. Qualitative research (e.g., interviews and focus groups) would be useful to dig in the role of attitudes and intentions. Additional methodologies could be applied to examine the factors involved into the field of family financial issues. The researchers have used various data analysis approaches, but regression has been most commonly used by most of them. SEM should be applied in future studies. The mixed method of empirical research (both quantitative and qualitative) has not been often used in PFMB research. Mixed methods are useful in discerning contradictory findings between quantitative and qualitative studies and a better understanding participants' experiences. The mixed methodology can improve study robustness since the usage of the quantitative techniques improves the validity of the research. Future research can include mixed methods, as well. Besides, it is suggested to the researchers to critically compare their findings with varied outcomes of previous results while examining the relationship between various factors and PFMB, positive or negative or insignificant. Moreover, in order to understand the influence of attitudes and socialization process over time and gain better insights on cause-and-effect relationships, future studies using longitudinal data sets are needed (Copur and Gutter, 2019).

(Insert Table X about here)

7. Implications

The results of the study indicate that the determinants and outcomes of short-term and long-term personal financial planning are manifold. These findings have several implications for financial planners who play a significant role in promoting consumer financial well-being. Improving responsible financial management behavior has been a challenge for financial counselors. This study contributes to the academic platform by providing the fundamentals of PFMB under one umbrella. In addition to making academic contributions, the findings can be utilized by business professionals and financial service providers to understand the consumers' PFMB. It will empower them to develop financial strategies and appropriate financial products and services to meet consumers' life goals while creating wealth and money for them and giving potential business growth to the professionals. Such a study can be important to the young working professionals who find themselves at the crossroads while making economic decisions. Understanding how money and its literacy influence well-being will help financial advisors to guide individuals in gravitating towards prudent economic decision-making. There is a prompt need to develop an appropriate scale of PFMB. A strong comprehensive measure could assist researchers and practitioners in various domains. Appropriate measurement of financial behavior may have implications on physical health, mental health, and life satisfaction (Xiao *et al.,* 2009).

Further, financial education is one of the educators' primary agendas, social groups, policymakers, businesses, and the government (Fernandes *et al*., 2014). Financially stable households and individuals are better able to achieve their well-being as well as foster economic growth. Financial educators' goal is not only imparting financial knowledge to the students but also modifying their financial behavior for ultimate financial success (Hilgert *et al*., 2003). To develop financial, educational programs focusing on behavioral change, personal/consumer finance researchers need to understand better how such behaviors are shaped and modified into desirable actions.

In the wake of the global crisis of 2008, policymakers have shown concern about financial illiteracy and how people handle their finances. The COVID-19 has undeniably led to an aberrant health crisis and has sparked a global financial crisis, which is even worse than the 2008 financial crisis. The novel virus's financial repercussions could be long-lived and develop a long haul in the form of fragilities in the structure. Having emergency funds, investing wisely, conservative borrowing, insurance coverage, and setting financial goals are some of the life-saving skills that can provide financial resilience in a crisis. The present study can help policymakers, financial educators, consumers, and researchers unbundle the strategies to challenge yet another crisis and take away lessons for future action courses.

8. Conclusion

The panorama of financial decisions confronted during the life course is considerably astounding (Yakoboski *et al*., 2020). Individuals need to make a myriad of decisions relating to their finance, such as consumption, cash flow, saving, investment, borrowing, retirement, tax planning, estate planning, and insurance. However, all financial decisions are intrinsically intertwined and often involve a trade-off. How efficiently individuals manoeuvre personal financial decisions rests partly on their financial knowledge and money management skills (Lusardi and Mitchell, 2007) and partly on behavioral, cultural, demographic, sociological, economic, and technological factors. Therefore, understanding the evolution of the literature on personal financial decision-making over time counts significantly at both levels, individual and society. To this end, this review was undertaken to gauge the antecedents and consequences of PFMB primarily across the depth and breadth of the subject. The research trends were also examined to deliver the most comprehensive retrospective on the dynamic nuances of PFMB. Like other studies, this review is not clear of limitations. Although we have attempted to ensure that the terms used in the search represent the broad scope of the area, there might be a few studies missing because of the absence of any related term in the search criteria. Secondly, although the search has taken cognizance of maximal studies on the subject, searching other databases can fetch added results. Further, it focuses on the studies published in the English language only, without considering the issues in other languages, which may have comprehended diverse views and arguments about PFMB. Abiding by the review's scope, the research trends have been analyzed only for 160 studies about the antecedents and the consequences of PFMB. Nonetheless, PFMB is most critical in an average individual's life yet underserved discipline from an academic viewpoint.

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Table I. A summary of extant reviews on PFMB

Author(s)	Focus of the Review	Article Type
Lusardi and Mitchell (2007)	Levels of FL and the linkage of FL with retirement preparedness	Review + Conceptual
Schuchardt (2007)	History of personal finance and summary of conceptual foundation	Review
Xiao *et al*. (2011)	Review of few theories on PFMB	Review
Hastings *et al*. (2013)	Impact of financial education on FL and financial outcomes	Review
Fernandes *et al*. (2014)	Impact of FL and financial education on financial behaviour	Meta-analysis
Kebede *et al*. (2015)	FL and personal financial management	Review
Kumar *et al*. (2018)	Women's retirement financial planning	Systematic literature review
Sonnenberg (2018)	Psychology of household money management	Review
Xiao and Tao (2020)	Definition and the scope of consumer finance/Household finance/Personal finance	Review + Conceptual

Table II. Database and search string used for data retrieval

Database	Search String
Scopus and Web of Science	"personal financ* management" OR "personal financ* behavi?r*" OR "personal financ* planning" OR "personal financ* management behavi?r*" OR "financ* management behavi?r*" OR "manag* personal financ*" OR "personal financ* decision*" OR "personal financ* outcome*" OR "household financ* management" OR "household financ* behavi?r*" OR "household financ* planning" OR "famil* financ* management" OR "famil* financ* planning" OR "famil* financ* behavi?r*" OR "individual financ* management" OR "individual financ* planning" OR "individual financ* behavi?r*" OR "consumer financ* behavi?r*" OR "consumer financ* planning" OR "consumer financ* management" OR "money management"

Table III. Definitions of PFMB

Author(s)	**Definitions**
Deacon and Firebaugh (1988)	Performance of behaviours regarding planning, implementing, and evaluating decisions associated with cash, credit management, investments, insurance, and retirement and estate planning.
Pahl (1989)	It is defined as the income allocation within the household: female whole wage system, male whole wage system, joint pooling, household allowance or independent money management.
Altfest (2004)	It is a process which incorporates all components which are of financial interest to the individuals. These comprise of cash flow management, investments, risk management, retirement planning, tax planning and estate planning.
Schuchardt *et al*. (2007)	It consists of tools like financial statements, checking and savings accounts, debt instruments, mortgages and investment vehicles.
Joo (2008)	Efficient personal financial behavior is corollary to positive financial well-being and failing in managing personal finances can lead to severe long term consequences.
Dew and Xiao (2011)	The financial behaviors include consumption, cash flow management, savings and investment, credit and insurance.

Table IV. A Summary of Theories Used

S. No.	Theory	Origin	Example Citations
1	Motives Theory	Keynes (1936)	Copur and Gutter (2019)
2	Maslow's Need Hierarchy Theory	Maslow (1943)	Spuhlera and Dew (2019)
3	Role Theory	Waller and Hill (1951)	Kerkmann *et al*. (2000)
4	Modern Portfolio Theory	Markowitz (1952)	Guzman and Paswan (2019)
5	Social Exchange Theory	Thibault and Kelley (1959)	Kerkmann *et al*. (2000)
6	Life Cycle Hypothesis	Ando and Modigliani (1963)	Copur and Gutter (2019); Bialowolski (2019); Panos and Wilson (2020)
7	Asset Pricing Models	Sharpe (1964)	Guzman and Paswan (2019)
8	Efficient Market Hypothesis	Fama (1970)	Guzman and Paswan (2019); Kusairi *et al*. (2019)
9	Rational Behavior Theory	Ajzen and Fishbein (1973)	Lee and Hanna (2014)
10	Theory of Reasoned Action	Fishbein and Ajzen (1975)	Kidwell and Turrisi (2004)
11	Self- Efficacy Concept	Bandura (1977)	Xiao et al. (2014); Gamst-Klaussen *et al*. (2019)
12	Social Learning Theory	Bandura and Walters (1977)	Sachitra *et al*. (2018)
13	Prospect Theory	Kahneman and Tversky (1979)	Cho *et al*. (2016)
14	Theory of Self Control	Thaler and Shefrin (1981)	Xiao and Porto (2019)
15	Transtheoretical Model of Change	Prochaska and DiClemente (1982)	Bapat (2020)
16	Theory of Mental Accounting	Thaler (1985)	Antonides *et al*. (2011); Miotto and Parente (2015)
17	Theory of consumer Socialization	Moschis (1987)	Fulk and White (2018); Antoni *et al*. (2019)
18	Rational Expectations Theory	Sargent (1987)	Guzman and Paswan (2019); Kusairi *et al*. (2019)
19	Family Resource Management Model	Deacon and Firebaugh (1988)	Mugenda *et al*. (1990)
20	Social Cognitive Theory	Bandura (1989)	Copur and Gutter (2019); Asandimitra and Kautsar (2019)
21	Theory of Planned Behavior	Ajzen (1991)	Kidwell and Turrisi (2004); Copur and Gutter (2019); Barbic *et al*. (2019); Bapat (2020)
22	Theory of Social Behavior	Triandis (1994)	Kidwell and Turrisi (2004)
23	Hofstede's Cultural Value Dimensions	Hofstede (2001)	Ho and Lee (2020)
24	Couples and Finances Theory	Archuleta (2008)	Baryła-Matejczuk *et al*. (2020)

Table V. Top regions and top countries in PFMB research based on sample segregation

	Single Country (n=144)		Multi Country (n=5)	No country Specific (n=11)
Region	**Country**	**Number of Publications**		
America	US	60		
	Brazil	1		
	Canada	1		
Europe	UK	17		
	Poland	5		
	Turkey	4		
Asia	Malaysia	10		
	India	6		
	China	3		
	Indonesia	3		
Australia	Australia	4		
	New Zealand	1		
Africa	South Africa	3		

Table VI. Most prominent existing PFMB scales

Existing Scales of PFMB	**Variables**	**Reference**
Frequency of Financial Management Scale	Planning regarding usage of money; Tracking spending; Written budget	Fitzsimmons *et al.* (1993)
Financial Management Behaviors Scale	Consumption; Credit; Cash; Saving; Investment; Risk; Capital; Retirement	Porter & Garman (1993)
The Prochaska-Cue Inventory of Financial Management Style (PIFS)	Estate planning; Insurance; Financial record keeping; Budgeting; Saving; Investing	Prochaska-Cue (1993)
Household Financial Management Practices Index	Cash flow management; Credit management; Savings; Investment	Hilgert *et al.* (2003)
Financial Behavior Scale	Planning; Saving; Budgeting; Cutting down spending; Credit management	Kim *et al.* (2003)
Financial Behavior Scale	Budgeting; Saving; Controlling spending	Perry and Morris (2005)
College Student Financial Literacy Survey (Financial behavior)	Budgeting; Tracking spending; Savings; Borrowing; Insurance	Jorgensen (2007)
Executive Personal Finance Scale	Impulse control; Organization; Planning; Motivational drive	Spinella *et al.* (2007)
Financial Behavior Scale	Cash management; Credit Management; Saving	Xiao *et al.* (2008)
The Financial Management Behavior Scale	Consumption; Credit; Cash; Saving; Investment	Dew and Xiao (2011)
Money Management Scale	Basic financial management tendencies	Garðarsdóttir and Dittmar (2012)
OECD/INFE Financial Behavior Scale	Consumption; Cash flow management; Long term financial goal setting; Responsible budgeting; Active saving; Borrowing	Atkinson and Messy (2012)

Table VII. Classification of 160 studies based on research methods, research designs, data collection approach and data analysis tools

Research Method	Research Design	Data Collection Technique	Data Analysis Approach	Sub Classification in Analysis tool	Example Citations
Empirical (n=145)	Quantitative(n=121)	Survey(n=113)	Descriptive		Hilgert *et al*. (2003); Mandell (2008); Boon *et al*. (2011); Lusardi *et al*. (2020)
			Correlation		Scannell (1990); Grable *et al*. (2009); McHugh and Ranyard (2012); Eberhardt *et al*. (2019)
			ANOVA (Analysis of Variance)		Lai and Tan (2009); Nejad and Javid (2018); Xiao and O'Neill (2018b)
			T-Test		Lai and Tan (2009); Grable *et al*. (2009); Van Deventer *et al*. (2014)
			Chi-Square Test		Mullis and Schnittgrund (1982); Mandell and Klein (2009)
			Regression	Multiple Regression	Godwin and Carroll (1986); Perry and Morris (2005); Harrison and Chudry (2011); Guzman et al. (2019)
				Logistic Regression	Gorniak (1999); Fulk and White (2018); Pepin (2019)
				Linear Regression	Kidwell and Turrisi (2004); Henchoz *et al*. (2019); Birkenmaier and Fu (2019)
				OLS (Ordinary Least Squares Regression)	Kidwell *et al*. (2003); Wiepking and Bekkers (2010); Xiao and Porto (2019); Bapat (2020)
				Hierarchical Regression	Hayhoe *et al*. (2012); Gunay *et al*. (2014); Hoffman and McNair (2019)
				Sobel Regression	Grable *et al*. (2009)
				Probit Regression	Allgood and Walstad (2013); Hanna *et al*. (2015); Loke (2017a)

				Logit Regression	Lea *et al*. (1995); Pak and Chatterjee (2016); Hastings and Mitchell (2020)
				Cox Regression	Grinstein *et al*. (2012)
				Tobit Regression	Grinstein *et al*. (2011); West and Worthington (2019)
				SUR(Seemingly Unrelated)Regression	Farrell *et al*. (2016)
				Hybrid Panel Regression	Lott (2017)
			SEM (Structural Equation Modeling)		Joo and Grable (2004); Shim *et al*. (2010); Barbic *et al*. (2019); Dew *et al*. (2020)
			Factor Analysis (EFA (Exploratory Factor Analysis); CFA (Confirmatory Factor Analysis)		Pak and Chatterjee (2016); Sundarasen and Rahman (2017); Vosylis and Erentaite (2019); Antoni *et al*. (2019)
			Discriminant Analysis		Grable (2000); Arifin (2017)
			Mathematical Model		Bialowolski (2019); Feng *et al*. (2019)
		Archival (n=1)	Regression	OLS (Ordinary Least Squares) Regression	Klopocka (2017)
		Laboratory (n=7)	Descriptive		Cho *et al*. (2016)
			Correspondence Analysis		Sonnenberg *et al*. (2011)
			ANOVA (Analysis of Variance)		Bailey and kinerson (2005); Cho *et al*. (2016); Gerrans and Heaney (2019)
			MANOVA (Multivariate Analysis of Variance)		Howlett *et al*. (2008)
			Regression	OLS (Ordinary Least Squares) Regression	Cho *et al*. (2012); Skimmyhorn (2016)
				Linear Regression	Gerrans and Heaney (2019)
	Qualitative (n=18)	In-Depth Interviews/ Focus			Mugenda *et al*. (1990); Bharucha (2018)

		Groups			
	Mixed (n=6)	Survey + Interviews/ Focus groups	Regression	Linear Regression	Miotto and parente (2015)
				Logistic Regression	Cho *et al*. (2012); Cineli (2020)
				Multiple Regression	Asandimitra and Kautsar (2019)
				OLS (Ordinary Least Squares) Regression	Cho *et al*. (2012)
			SEM (Structural Equation Modeling)		Bapat (2019)
			Factor Analysis EFA (Exploratory Factor Analysis);CFA (Confirmatory Factor Analysis)		Miotto and Parente (2015); Bapat (2019)
			Chi-Square Test		Vogler *et al*. (2008)
Conceptual (n=6)					Nuspl (1972); McKenna *et al*. (2003); Stendardi *et al*. (2006); Xiao (2008); Dolan *et al*. (2012); Van Raaij (2016)
Literature Review (n=5)					Lusardi and Mitchell (2007); Xiao *et al*. (2011); Hastings *et al*. (2013); Fernandes *et al*. (2014)
Modelling and Analytical (n=3)	Quantitative	Survey	Bayesian Two-part Latent Variable Regression Model		Feng *et al*. (2019)
			Fixed Effects Regression; Simulation		Lusardi *et al*. (2017)
			Probit Regression		Calvet *et al*. (2007)
Mixed (Empirical + Conceptual) (n=1)	Mixed	Survey	Descriptive		Doda (2014)

Table VIII. Summary table of the antecedents of PFMB and their established relationships

Typology	**Factor (Antecedent)**	**Sub-Factor**	**Citations**	**Association with PFMB**
Demographic And Socio-Economic	Age		Allgood and Walstad (2013); Chandra *et al.* (2017); Loke (2017a); Eberhardt *et al.* (2018); Sachitra *et al.* (2019); Bapat (2020)	Positive
	Marital Status		Mugenda *et al.* (1990); Pepin (2019); Sachitra *et al.* (2019)	Positive
	Gender		Stendardi et al. (2006)*; Lee and Hanna (2014); Doda (2014); Chandra *et al.* (2017); Loke (2017a); Bharucha (2018); Cho *et al.* (2016)	Significant
	Income		Mugenda *et al.* (1990); Perry and Morris (2005); McHugh and Rob Ranyard (2012); Gunay *et al.* (2014); Loke (2015); Rodrigues *et al.* (2016)	Positive
			Grable *et al.* (2009)	Insignificant
	Education		Gorniak (1999); McHugh and Rob Ranyard (2012); Gunay *et al.* (2014); Chandra *et al.* (2017); Loke (2017a)	Positive
			Loke (2015)	Insignificant
	Job Status		Gorniak (1999); Lai and Tan (2009); Gunay *et al.* (2014)	Positive
	Household Size		Mugenda *et al.* (1990); Calvet *et al.* (2007)	Positive
			Borda and Kowalczyk-Rólczyńska (2016)	Negative
	Occupation		Bapat (2020)	Positive
	Race/ Ethnicity		Hanna et al. (2015); Loke (2017a)	Significant
	Family Income		Gorniak (1999); Sachitra et al. (2019)	Positive
	Family Structure		Scannell (1990); Borda and Kowalczyk-Rólczyńska (2016)	Positive
	Generational Complexity (Nuclear/ Joint family)		Singh and Bhandari (2012)	Significant
	Length of Marriage		Godwin and Carroll (1986)	Positive

	Home Ownership		Copur and Gutter (2019)	Positive
	Life Cycle		Mullis and Schnittgrund (1982); Nuspl (1972)*; Miotto and Parente (2015)	Significant
	Earning Disparities between Partners		Vogler *et al*. (2006); Sonnenberg *et al*. (2011); Lott (2017); Kulic et al. (2019); Pepin (2019); Cineli (2020)	Significant
	Gender Egalitarian Beliefs		Cineli (2020)	Significant
	Gender of the higher earner between Partners		Pepin (2019)	Significant
	Relationship Type		Vogler *et al*. (2006); Lyssens-Danneboom and Mortelmans (2014); Lott (2017)	Significant
	Female Labour Market Participation		Godwin and Carroll (1986); Vogler *et al*. (2006); Bharucha (2018)	Significant
	Contribution to Family Income/ Breadwinning Role		Lyssens-Danneboom and Mortelmans (2014); Bharucha (2018); Kulic *et al*. (2019)	Significant
Psychological	Cognitive Abilities	Numeracy Experience Based Knowledge	Eberhardt *et al*. (2018); Topa *et al*. (2018)	Positive
	Financial Risk Tolerance		Grable (2000); Joo and Grable (2000); Bailey and Kinerson (2005); Bapat (2020)	Positive
	Financial Attitude		Kidwell *et al*. (2003); Kidwell and Turrisi (2004); Gunay *et al*. (2014); Barbic *et al*. (2019); Bapat (2020); Ho and Lee (2020)	Positive
	Self -Regulation		Howlett *et al*. (2008)	Positive
	Locus of Control		Bapat (2020); Kidwell *et al*. (2003); Lea *et al*. (1995); Arifin (2017); Perry and Morris (2005); McNair *et al*. (2016)	Positive
			Grable *et al*. (2009)	Negative
	Financial Self		Farrell *et al*. (2016); Gamst-Klaussen *et al*. (2019);	Positive

	Efficacy		Asandimitra and Kautsar (2020)	
	Negative Emotions		Eberhardt *et al*. (2018)	Positive
	Distrust		Hayhoe *et al*. (2012)	Positive
	Cognitive Style	Analytical, Intuitive	Guzman and Paswan (2019) Guzman and Paswan (2019)	Positive Insignificant
	Mental Budgeting		Antonides *et al*. (2011); Xiao and O'Neill (2018a)	Positive
	Motivation		Eberhardt *et al*. (2018)	Positive
	Anxiety		McHugh and Rob Ranyard (2012); Hayhoe *et al*. (2012); Sachitra *et al*. (2019); Grable *et al*. (2020)	Negative
	Self Esteem		Hira and Mugenda (1999); Tang and Baker (2016); Sachitra *et al*. (2019)	Positive
	Affect		Kidwell *et al*. (2003); Kidwell and Turrisi (2004)	Positive
	Materialism		Gardarsdóttir and Dittmar (2012)	Insignificant
			Norvilitis *et al*. (2006); McNair *et al*. (2016)	Significant
	Past Behavior		Kidwell *et al*. (2003); Kidwell and Turrisi (2004)	Positive
	Subjective Norm		Kidwell and Turrisi (2004); Copur and Gutter (2019)	Positive
	Perceived Control/Self- Control		Kidwell and Turrisi (2004); Miotto and Parente (2015); Barbic *et al*. (2019)	Positive
			Zulfaris *et al*. (2020)	Negative
	Perceived Ability		Kidwell *et al*. (2003)	Positive
	Preference for Credit		Miotto and Parente (2015)	Positive
	Planning Horizon		Copur and Gutter (2019)	Positive
	Impulsiveness		Kidwell *et al*. (2003); Copur and Gutter (2019)	Negative
	Propensity to Plan		Miotto and Parente (2015); Xiao and O'Neill (2018b)	Positive
	Financial Optimism		Gorniak (1999)	Positive
	Financial Threat		Gorniak (1999)	Negative
	Achievement Orientation		Gorniak (1999)	Positive
	Attitudes Towards Money		Lea *et al*. (1995); Gorniak (1999); Norvilitis *et al*. (2006); Harrison and Chudry (2011); Sundarasen and Rahman (2017); Henchoz *et al*. (2019)	

	Time Orientation/ Present Bias		Lea *et al*. (1995); Antonides *et al*. (2011); Xiao and Porto (2019); Guzman and Paswan (2019); Hastings and Mitchell (2020)	Positive
			Howlett *et al*. (2008)	Negative
	Framing Effect		Cho et al. (2016)	Significant
	Self- Confidence		Kłopocka (2016); Chandra *et al*. (2017); Białowolski (2019); Sachitra *et al*. (2019)	Positive
	Emotional Intelligence		Asandimitra and Kautsar (2020)	Positive
	Self-Other Orientation		Guzman and Paswan (2019)	Positive
	Psychological Type	Extravert; Introvert; Sensing; Intuitive; Thinking; Feeling; Judging; Perceiving	McKenna *et al*. (2003)*	Significant
	Procrastination		Gamst-Klaussen *et al*. (2019)	Negative
Personality			Xu *et al*. (2015); Gerrans and Heaney (2016); Xu *et al*. (2017)	Positive
			Harrison and Chudry (2011)	Negative
Social	Family Financial Socialization		Lea *et al*. (1995); Shim *et al*. (2009); Grinstein-Weiss *et al*. (2011); Cho *et al*. (2012); Grinstein-Weiss *et al*. (2012); Sundarasen and Rahman (2017); Fulk and White (2018); Vosylis and Erentaite (2019); Sachitra *et al*. (2019); Antoni *et al*. (2019); Lebaron *et al*. (2020)	Positive
	Peer Influence		Bamforth *et al*. (2018); Zulfaris *et al*. (2020)	Negative
Financial Literacy	Objective FL		Hilgert *et al*. (2003); Norvilitis *et al*. (2006); Lusardi and Mitchell (2007)*; Howlett *et al*. (2008); Lusardi (2008); Lusardi and Mitchell (2008); Grable *et al*. (2009);	Positive

			Antonides *et al*. (2011); Harrison and Chudry (2011); Boon *et al*. (2011); Lusardi and Mitchell (2011b); Hastings et al. (2013)*; Allgood and Walstad (2013); Lee and Hanna (2014); Navickas *et al*. (2014); Arifin (2017); Loke (2017a); Lusardi *et al*. (2017); Nejad and Javid (2018); Topa *et al*. (2018); Grable *et al*. (2019); Bapat (2019); Sachitra *et al*. (2019); Feng *et al*. (2019); Barbic *et al*. (2019); Bapat (2020); Bialowolski *et al*. (2020); Zulfaris *et al*. (2020); Lusardi *et al*. (2020); Hastings and Mitchell (2020)	
			Pak and Chatterjee (2016)	Negative
	Subjective FL		Sundarasen and Rahman (2017)	Positive
Environmental		Genetic	Xu et al. (2017)	Significant
Financial Education			Godwin and Carroll (1986); Mandell and Klein (2009); Skimmyhorn (2016); Gerrans and Heaney (2016); Fulk and White (2018); Ho and Lee (2020); Mandell (2008);	Positive
			Fernandes *et al*. (2014)	Insignificant
Professional Financial Advice			Topa *et al*. (2018); Moreland (2018); Bapat (2019)	Positive
Technological	Fin-Tech		Bapat (2019); Panos and Wilson (2020)	Positive
Communication			Mugenda *et al*. (1990)	Positive
Financial Information			McHugh and Rob Ranyard (2012); Asandimitra and Kautsar (2020)	Positive
Financial Experience			Lee and Hanna (2014)	Positive
Financial Resources			Rodrigues *et al*. (2016)	
Situational			Miotto and Parente (2015); West and Worthington (2019)	Significant
Cultural			Grable *et al*. (2009); Henchoz *et al*. (2019)	Significant
Financial Vulnerability			Hoffman and McNair (2019)	Negative

Note: The studies marked with * are conceptual and not empirical, but contribute towards the literature conceptually. Also, the directionality of relationships (positive or negative) has been reported as mentioned in the studies. All the studies do not report the direction of the association, ergo, only significance/insignificance has been reported. Different studies on a single sub-factor might have shown either positive, negative or insignificant results which implies a non-consensus.

Table IX. Summary table of the consequences of PFMB and their established relationships

Outcome Variable (Consequence)	**Citations**	**Association with PFMB**
Financial Satisfaction	Mugenda *et al*. (1990); Scannell (1990); Joo and Grable (2004); Xiao *et al*. (2014); Gunay *et al*. (2015); Xiao and Porto (2017); Xiao and O' Neill (2018b); Spuhlera and Dew (2019)	Positive
Quality Of Life	Mugenda *et al*. (1990); Dew *et al*. (2020)	Positive
Relationship Satisfaction	Clearwater and Harvey (1988); Vogler *et al*. (2008); Bharucha (2018); Kulic *et al*. (2019); Baryła-Matejczuk *et al*. (2020)	Positive
Financial Status	Gunay *et al*. (2015)	Positive
Financial Access	Birkenmaier and Fu (2019)	Positive
Financial Vulnerability/Financial Fragility	Daud et al. (2019); Lusardi *et al*. (2020)	Negative
Financial Well-Being	Xiao (2008)*; Xiao *et al*. (2015); Xiao (2015)*; Xiao and O' Neill (2016); Xiao and Porto (2017); Riitsalu and Murakas (2018); Baryła-Matejczuk *et al*. (2020)	Positive
Financial Anxiety	Vosylis and Erentaite (2019)	Negative
Happiness	Spuhlera and Dew (2019)	Positive
Net Worth	Titus *et al*. (1989)	Positive
Financial Resilience	Lusardi *et al*. (2020)	Positive

Note: The studies marked with * are conceptual and not empirical, but contribute towards the literature conceptually. Out of 160 studies, this table contains those studies that relate to the consequences of PFMB.

Table X. Research agenda for PFMB

Research Gap		Future Research Questions	References
Conceptualization	1	Whether PFMB is a part of finance, a topic within family or consumer sciences or it is a standalone topic of research?	Altfest (2004); Schuchardt *et al*. (2007)
	2	What is the scope of personal finance construct and how can it be defined universally?	Schuchardt *et al*. (2007); Xiao and Tao (2020)
	3	What are the different terms used for "personal finance"?	Xiao and Tao (2020)
Theories	4	How can theoretical approaches used in multiple disciplines can inform the stage at which people are willing and able to alter their various financial behaviors?	Schuchardt *et al*. (2007); Xiao (2008); Gamst-Klaussen *et al*. (2019)
	5	What is the theoretical foundation for the linkage between financial education, personal financial behavior and life satisfaction?	Xiao (2008); Xiao *et al*. (2011); Fernandes *et al*. (2014)
	6	Develop socio-psychological theories as such to support behavioral biases due to culture and other social factors.	Triandis (1994)
	7	Apply the TPB and the TTM on diversified behaviors and populations.	Kidwell and Turrisi (2004); Bapat, (2020)
Antecedents of PFM	8	What are the processes through which various demographic and socio-economic, social, psychological, cultural, situational and technological factors differentially relate to a set of financial outcomes?	Copur and Gutter (2019)
	9	What are the possible factors and sub-factors of PFMB?	Copur and Gutter (2019), Bapat (2020)
	10	Re-examine through future research the impact of various factors on financial management behaviors such as income level, education, household size, self-control, personality traits, LOC, financial education and FL.	Mugenda *et al*. (1990); Gorniak (1999); Kidwell and Turrisi (2004); Perry and Morris (2005); Grable et al. (2009); Xu *et al*. (2015); Pak and Chatterjee (2016); Zulfaris *et al*. (2020)
	11	Examine the relationship between fintech and various consumer financial topics.	Xiao and Tao (2020)

	12	What are the antecedents of financial knowledge (Objective vs subjective) as a pivotal factor for sound financial behavior?	Grable *et al*. (2009)
	13	Explore the hierarchical financial behavior on other behaviors (other than budgeting) such as saving, investing, borrowing, etc.	Xiao and O' Neill (2018a)
Mediators of PFM	14	How demographics indirectly affect financial outcomes via financial socialization processes?	Shim *et al*. (2009, 2010)
	15	What are the pathways between various factors and sound financial management behavior?	Barbic *et al*. (2019)
	16	What is the effect of a mediating relationship of financial attitude between financial socialization and financial behavior?	Shim *et al*. (2010)
	17	What is the effect of psychological factors as mediators between demographics and financial behavior?	Bapat (2020)
Moderators of FPM	18	What are the interactions of social categorizations such as race/ethnicity or socio-economic status in couples' financial systems and relational outcomes?	Pepin (2019); Cineli (2020)
	19	Re-examine the moderating effects of FL on the relationship between financial attitude and financial behavior.	Eagly and Chaiken, (1993); Barbic *et al*. (2019)
	20	What are the interaction effects of professional financial advice with FL and financial behavior?	Topa *et al*. (2018)
	21	What is the moderating role of culture on FL and behavior?	Grable *et al*. (2009)
	22	What is the moderating role of additional psychological factors in changing the relationship between demographics, FL, social factors and financial behavior?	Miotto and Parente (2015)
	23	How use of fin-tech may influence FL level and its interaction effect towards financial behavior?	Bapat (2019); Morgan and Trinh (2019)
Consequences of PFM	24	Whether there is an existence of linear relationship between income, PFM and happiness?	Stevenson and Wolfers, 2013
	25	Whether relationship exists between financial attitude, financial behavior and financial satisfaction?	Xiao *et al*. (2014); Spuhlera and Dew (2019)
	26	Examine the relationship between financial behavior, financial access and financial well-being.	Birkenmaier and Fu (2019)

	27	Does FL and better financial behavior results in financial resilience?	Lusardi *et al*. (2020)
	28	What are the consequences of PFM behavior?	Xiao *et al*. (2014)
Measures of PFM	29	How can the construct of PFMB be measured/ Which financial behaviors constitute it?	Xiao (2008); Dew and Xiao (2011)
	30	Develop age or life situations specific PFMB scales.	Xiao (2008)
Research methodology	31	Extend the research to include more conceptual papers focusing on better conceptualization of the PFMB construct.	Schuchardt *et al*. (2007)
	32	Add studies that are qualitative in nature and collect data from secondary sources as well.	Boon *et al*. (2011); Navickas *et al.* (2014)
	33	Use of SEM in future studies and mixed methodology of research.	Miotto and Parente (2015); Birkenmaier and Fu (2019); Bapat (2020);
	34	How can the causality issue between FL and financial behaviour be resolved?	Lusardi and Mitchell (2014)
	35	How can the causality issue between FL and financial experience be resolved?	Frijns *et al*. (2014)
	36	Explore the causality issue between financial behavior and financial access.	Xiao *et al*. (2010)

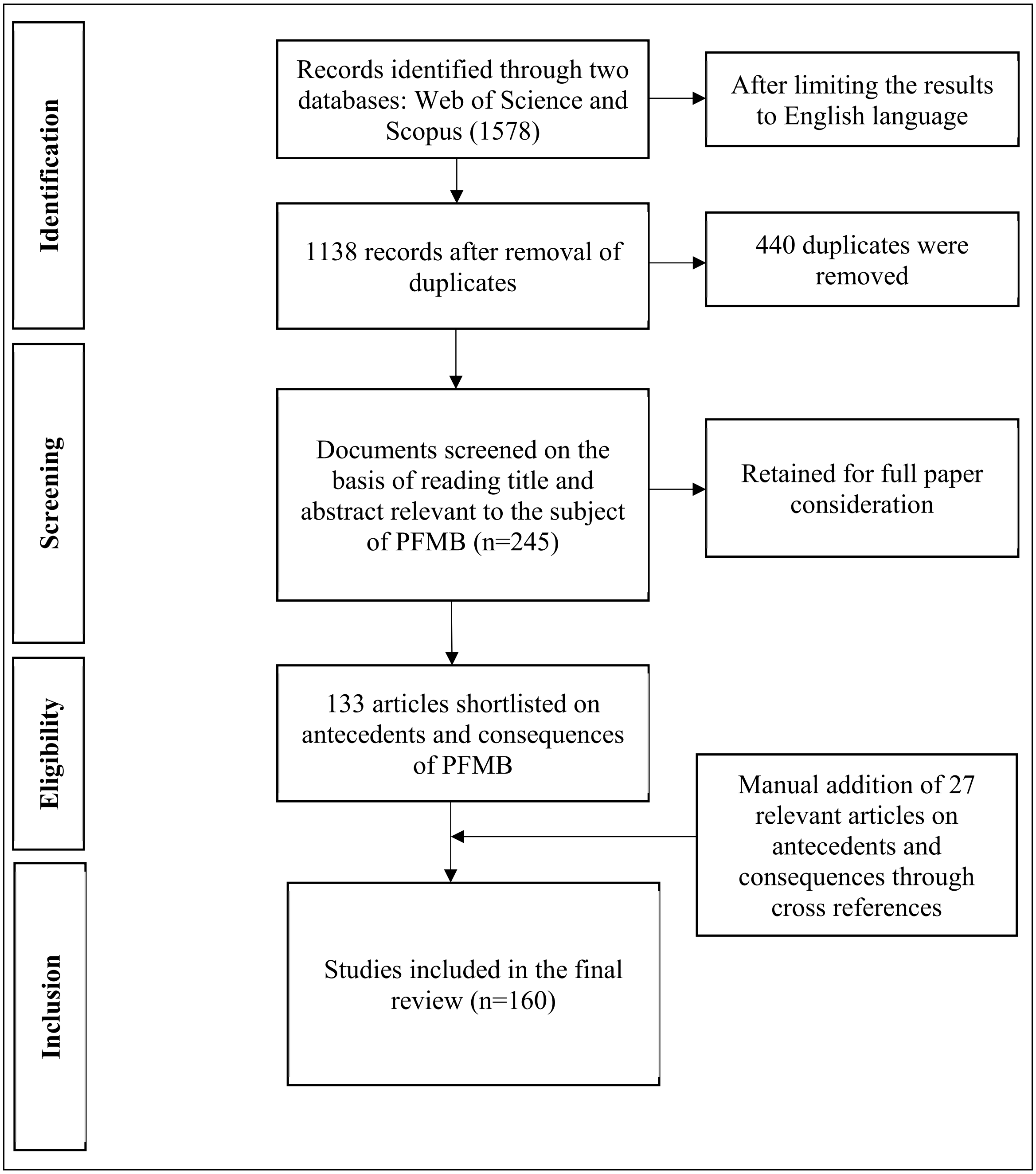

Figure 1. Retrieval and selection of articles

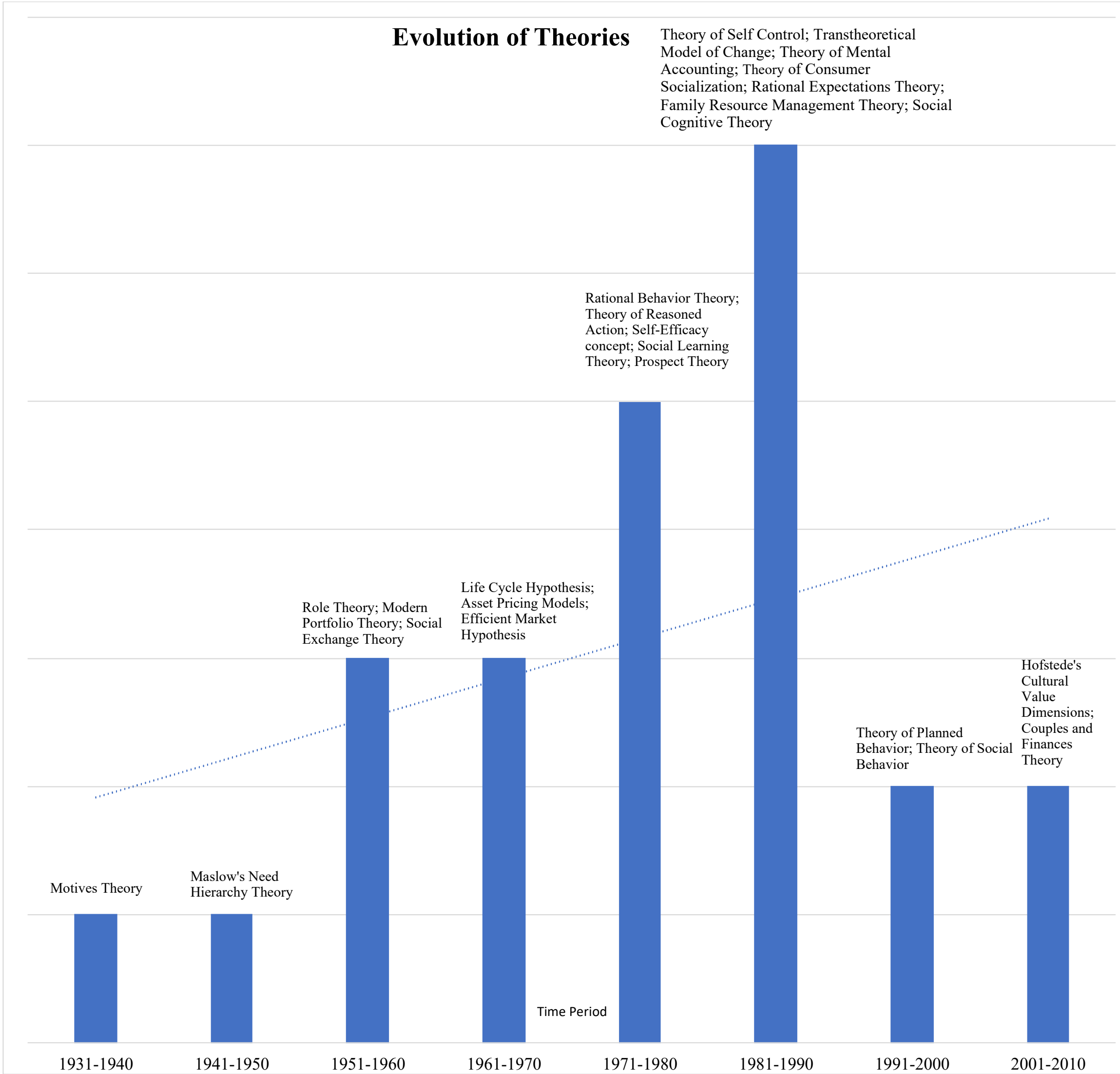

Figure 2. Evolution of theories on PFMB

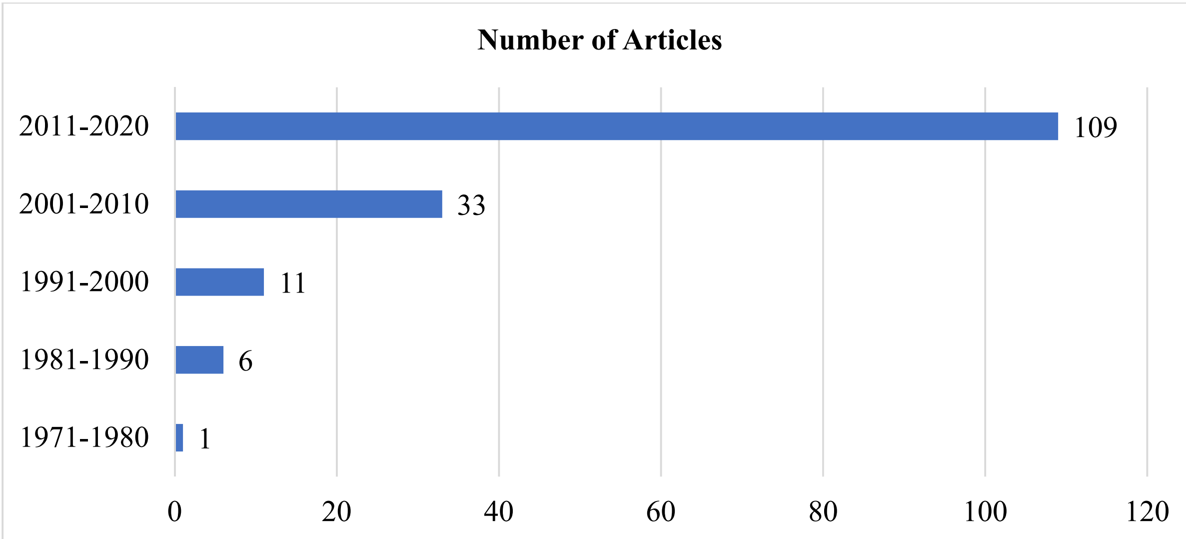

Figure 3. Publication trend of 160 articles

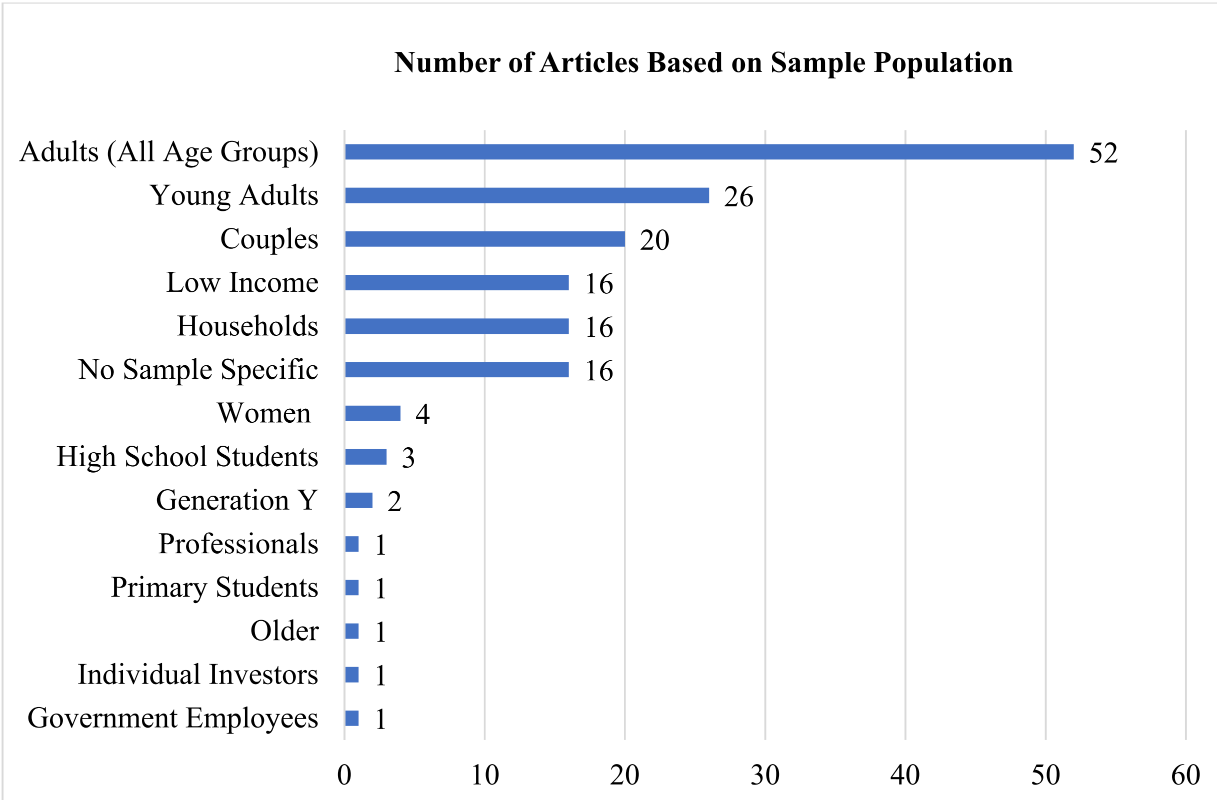

Figure 4. Overview of sample population used in 160 studies

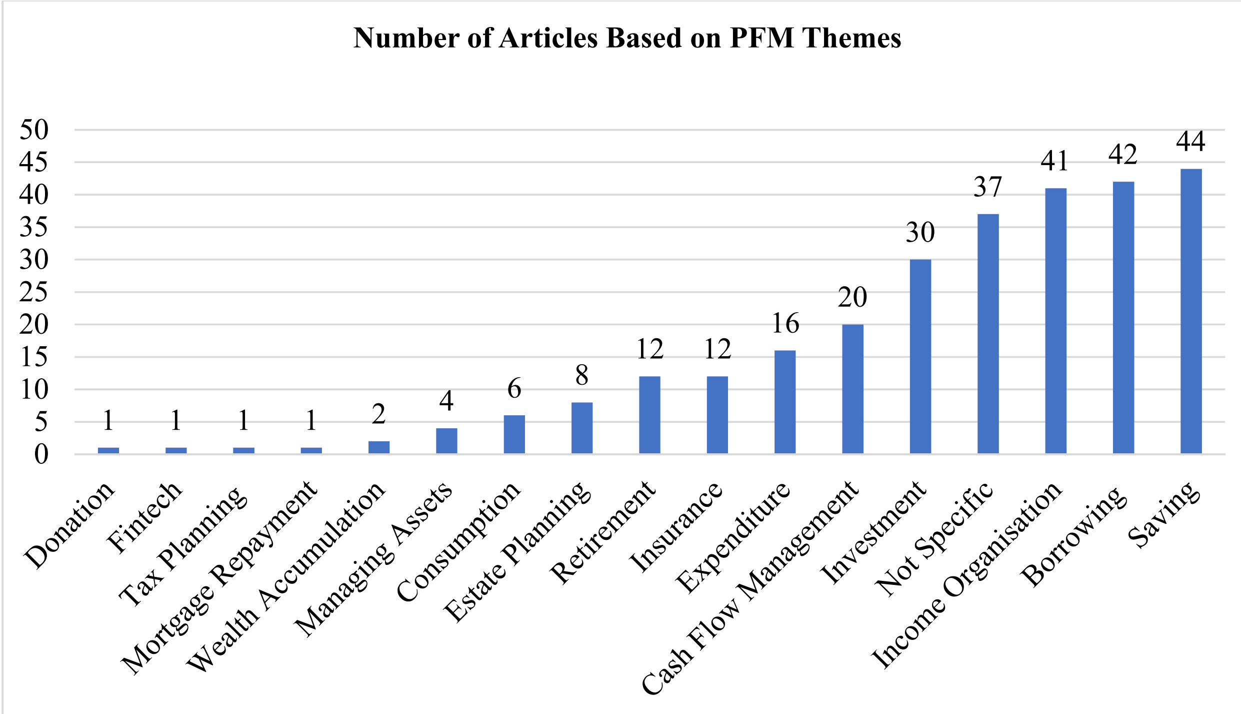

Figure 5. Number of publications based on PFMB themes across 160 studies

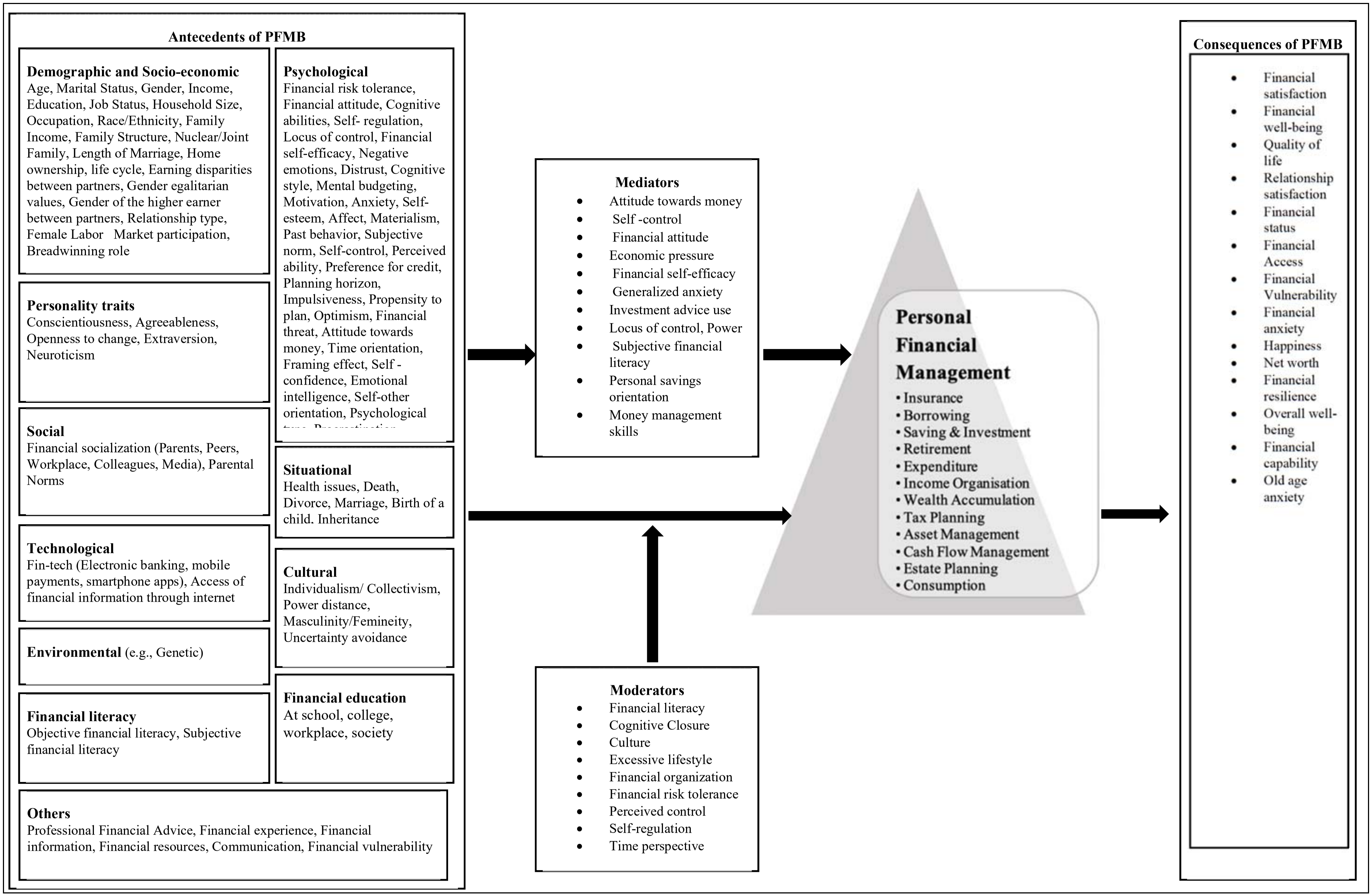

Figure 6. A framework of antecedents and consequences of PFMB