CONSUMER FINANCIAL PROTECTION BUREAU | UPDATED MARCH 2020

Building blocks to help youth achieve financial capability: Measurement guide

Consumer Financial Protection Bureau

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1. Introduction

To navigate the financial marketplace effectively, adults need both information and financial capability. Financially capable individuals have healthy money habits, stick to plans, and apply their knowledge and skills to successfully complete financial tasks. Financial capability is developed over time and is marked by stepping-stones – milestones – on the path to financial well-being. Financial well-being is characterized by being able to fully meet current and ongoing financial obligations, by feeling secure in one's financial future, and by having the financial freedom to make choices that allow enjoyment of life.[1]

In earlier research, the Consumer Financial Protection Bureau studied the childhood origins of financial capability and adult financial well-being. The resulting report, "Building blocks to help youth achieve financial capability: A new model and recommendations," (building blocks framework or building blocks report) examined when, where, and how youth typically acquire critical attributes, abilities, and opportunities that support the development of financial capability and well-being.[2] The report presented a developmentally informed, skills-based model designed to help program leaders, parents, caregivers, financial educators, education policy leaders, and other stakeholders to:

- Develop and test new and innovative financial education strategies.
- Refine existing financial education programs, resources, and curricula.
- Make evidence-informed financial education policy and funding decisions.
- Identify age-appropriate financial capability milestones.

This guide extends the building blocks report by providing these same stakeholders means of assessing young people's progress toward achievement of the financial capability milestones. This work is part of the CFPB's broader priorities to provide research that enhances financial

[1] Financial well-being: The goal of financial education, Consumer Financial Protection Bureau (2015), available at consumerfinance.gov/reports/financial-well-being/.

[2] Building Blocks to Help Youth Achieve Financial Capability: A new model and recommendations, Consumer Financial Protection Bureau (2016), available at consumerfinance.gov/data-research/research-reports/building-blocks-help-youth-achieve-financial-capability/.

education and financial capability from childhood through retirement. While a rich set of metrics exists for measuring adult financial capability and well-being—including the CFPB's Financial Well-Being Scale[3]—there has been significantly less research to develop equivalent constructs and metrics for youth. The 2016 building blocks report was a first step toward filling that gap and attaining the same depth of understanding of the development of financial capability in youth. That report examines young people's progress through key developmental stages as they advance toward becoming independent financial actors in adulthood. Providing a set of guidelines and measures that can be used to assess progress toward achieving the building block financial capability milestones—the objective of this guide—is an important component of a comprehensive list of research priorities identifying the most effective ways to build financial capability and well-being starting in youth. Commencing in Section 3.2 of this document, measurement tools and metrics are identified that measure children's progress toward various milestones in childhood financial development. The testing measures specified in the *selected measures* tables for the identified milestones can be found, and are each more fully explained in alphabetical order in the Appendix.

The measures in this guide were selected from existing research studies, databases, and evaluation tools based on their alignment with the milestones and their validity for each developmental stage. These measures represent promising means of assessing progress toward achievement of the milestones in youth. Some of the metrics have been used widely and tested by researchers in the relevant fields, while others are relatively new. For example, predictive validity (i.e., showing that the measure predicts future performance or success) can be challenging to establish because it generally entails following individuals over time. Predictive validity has been demonstrated for some, but not all, of the recommended measures.

1.1 Using the building blocks measurement guide

The measures can be used by youth financial educators, program leaders, or researchers to determine how financial education programs or lessons are contributing to youth financial capability. The data gathered in that process can then be used to track participants' progress

[3] Measuring financial well-being: A guide to using the Bureau's Financial Well-Being Scale, Consumer Financial Protection Bureau (2015) available at consumerfinance.gov/data-research/research-reports/financial-well-being/

over time, to provide evidence of programs' strengths, and to refine program offerings and curricula. The measures can also be used by researchers who wish to drill down into the building blocks framework, examining in more detail the connections between the childhood antecedents and adult drivers of financial well-being and, thereby, helping to establish predictive validity.

This guide begins in Section 2, with an introduction to the building blocks of financial capability framework—those abilities, attributes, and behaviors that support and promote the development of financial well-being in adulthood. In each subsequent section, the guide includes tables which provide guidance on assessing progress toward the development of each building block by age group by reviewing the relevant milestones and by presenting questions associated with each building block.

The guide goes on to present each building block and associated question with a selection of measurement tools and approaches to assess those attributes. Detailed information about each measure, including the format (e.g., survey, task, administrative data, interview, etc.), how it is administered, background information, sources, and special considerations for each identified measure can be found in alphabetical order in the Appendix.

Section 6 of the guide provides information on how the measures were selected and guidance on their use. This includes considerations on who will be completing the assessments, how the assessments will be administered, and if there are special considerations for assessing children. Finally, the guide concludes by connecting this work to the broader financial well-being research priorities and proposes next steps.

It is worth emphasizing that this guide does not provide suggestions as to how to help young people build the skills outlined in the milestones, nor does it seek to assess whether young people have the opportunities needed to develop and reinforce those skills. For example, although receiving an allowance may be a pathway to positive money management skills (one of the building blocks milestones), this guide provides metrics for assessing positive money management skills directly, not the means through which the skills were obtained. Possible methods for helping young people attain these and other skills and attributes related to the milestones are discussed in the original building blocks report.[4]

[4] Building Blocks to Help Youth Achieve Financial Capability: A new model and recommendations, Consumer Financial Protection Bureau (2016), available at consumerfinance.gov/data-research/research-reports/building-blocks-help-youth-achieve-financial-capability/.

Although most of the measures in this guide have been validated, they have not been independently tested by the CFPB, and the guide does not provide benchmarks as to what constitutes a "good score" for any of the metrics. This measurement guide includes links and references to third-party resources or content that readers may find helpful. The CFPB does not control or guarantee the accuracy of this third-party information. By listing these links and references, the CFPB is not endorsing and has not vetted these third-parties, the views they express, or the products or services they offer. Other entities and resources also may meet your needs.

2. Youth building blocks of financial capability

2.1 How was the youth building blocks of financial capability model developed?

The foundation for the building blocks framework was established in earlier CFPB research that identified the personal factors that seem to support financial well-being in adulthood.[5] These apparent personal drivers of adult financial well-being include deliberate behaviors, such as engaging in financial research, setting financial goals and making concrete plans to meet them, and following through on financial decisions. To perform these behaviors well, one must have factual knowledge and financial skills or "know-how." In addition, effective navigation of day-to-day financial life requires healthy money habits, norms, and rules of thumb.

Furthermore, adults with higher levels of financial well-being seem to have some notable personal traits and attitudes. These include:

- Impulse control and the ability to delay gratification in service of future rewards
- Perseverance in the face of obstacles
- Belief in their ability to manage money and achieve financial goals (financial self-efficacy)
- A tendency to make financial decisions in light of their own standards rather than in comparison to other people (internal frame of reference)

The building blocks research is not an exhaustive overview of every factor in the lives of children and young adults that contributes to financial capability. Indeed, many broad factors that contribute to adult financial well-being are outside the scope of the research. These include structural and contextual factors, such as having or lacking: abundant community economic

[5] Financial well-being: The goal of financial education, Consumer Financial Protection Bureau (2015), available at consumerfinance.gov/reports/financial-well-being/.

opportunity; quality educational opportunities; family income and wealth; access to affordable, safe, and appropriate financial products and services; and quality employment opportunities. These factors among others can play a significant role in financial outcomes and serve as critical enablers of an individual's ability to put the financial skills they have developed to use. However, this research focused on the areas where financial education efforts can most help to empower consumers—on the knowledge, skills, attitudes, and behaviors that may be influenced by financial education and other decision-making supports.

In 2016, the Bureau expanded upon the research of adult financial well-being by investigating how youth acquire the knowledge and skills, as well as the habits, norms, rules of thumb, and behaviors that support adult financial capability.[6] The results of that work, including the building blocks framework, appear in "Building blocks to help youth achieve financial capability: A new model and recommendations" (2016).[7]

2.2 What are the youth building blocks of financial capability?

The personal factors that comprise financial capability appear to stem from three interlocking components of youth development or "building blocks": executive function, financial habits and norms, and financial knowledge and decision-making skills. Children begin acquiring these building blocks of financial capability as early as preschool and continue to develop them as teens and young adults. Children and youth do not acquire the building blocks separately or in isolation. Instead, children, teens, and young adults accumulate them in an overlapping fashion during early childhood, middle childhood, and as teens and young adults. The building blocks are capabilities that support and catalyze the development of additional skills and capabilities.

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[6] The process used to identify these developmental origins of financial capability consisted of three stages: (1) analysis of the coded interview transcripts from the Bureau's adult financial well-being research to understand experiences in youth that contribute to financial identities and values; (2) extensive review of published research; (3) consultation with national experts representing perspectives from a variety of disciplines.

[7] Building Blocks to Help Youth Achieve Financial Capability: A new model and recommendations, Consumer Financial Protection Bureau (2016), available at consumerfinance.gov/data-research/research-reports/building-blocks-help-youth-achieve-financial-capability/. The research described in that report was conducted by Prosperity Now (formerly, the Corporation for Enterprise Development), under contract to the Bureau. Prosperity Now's research team also included academic experts in financial capability and educational and developmental psychology from the University of Wisconsin–Madison and the University of Maryland, Baltimore County, as well as ICF International.

1. **Executive function**—a set of cognitive processes used to plan for the future, focus attention, remember information, and juggle multiple tasks successfully. Executive function helps manage the flow of information in an individual's day-to-day life and keeps mental distractions at bay. It encourages the development of personal traits and social/emotional skills used to achieve financial well-being, such as perseverance, self-regulation, and the ability to prioritize future gain over current desires. (Perseverance is the willingness to continue doing something that is difficult or that you have not succeeded at before. Self-regulation, in the context of financial capability, is the ability to understand and control impulses, behavior, feelings, and thoughts in financial situations, and to respond wisely when facing financial challenges, for example, by persevering, or by delaying gratification.)

2. **Financial habits and norms**—the values, standards, routine practices, and rules of thumb used to routinely navigate an individual's day-to-day financial lives. One develops unconscious, automatic decision-making strategies based on attitudes, values, emotions, social norms, and contextual cues. Financial habits and norms come into play in financial capability because consumers use them to decide what is desirable, or even possible, as well as to guide day-to-day behaviors.

3. **Financial knowledge and decision-making skills**—familiarity with financial facts and concepts, as well as conscious and intentional decision-making skills. These include budding versions of skillful money management, financial planning, goal setting, and financial research.

2.3 When do children and youth acquire the building blocks of financial capability?

The three building blocks of financial capability are typically acquired at different rates over three broad developmental stages: early childhood (ages 3–5), middle childhood (ages 6–12), and the teen and young adult years (ages 13–21). The ages linked to the developmental stages are only broad estimates because individuals vary in their maturity level at each age, and many of the attributes and abilities span multiple periods. None of the buildings blocks of financial capability completely emerges during a single broad developmental age. Instead, children, teens, and young adults accumulate them in an overlapping fashion.

During early childhood (ages 3–5), executive function begins to develop rapidly through children's experiences with their environment. Executive function development continues

through middle childhood and into adolescence and young adulthood. During middle childhood (ages 6–12), as children have more experiences outside the home and begin to gain a sense of personal identity, financial habits and norms begin to form and continue to do so throughout adolescence. Children develop financial attitudes, habits, and norms by observing and interacting with parents and caregivers. They are also influenced by sources outside the home, including peers, people at school, community members, and media. This process is called financial socialization.[8] During the teen years and young adulthood (ages 13–21), explicit financial knowledge and decision-making skills become more relevant, especially for youth who begin to make purchases on their own and take on financial responsibilities such as earning money, opening a bank account, or borrowing for education. Young adults may act as "financial apprentices" to the adults in their lives, engage in experiential learning[9], and begin to develop firsthand knowledge and skills that they will use to make intentional financial decisions.

In summary:

1. Executive function develops significantly in early childhood and continues to develop throughout middle childhood and adolescence.
2. Financial habits and norms are the primary focus of financial development during middle childhood, though early norms and values begin to develop in early childhood and continue to grow into the teen and young adult years.
3. Financial knowledge and decision-making skills typically do not emerge until adolescence. However, children acquire underlying knowledge earlier. For example, they typically pick up basic numeracy in early childhood and simple money management knowledge and skills during middle childhood.

More information on the building blocks, the process through which they were identified, and the ways they may be acquired is provided in the building blocks report.[10]

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[8] *Financial socialization* occurs when youth pick up financial attitudes, habits, and norms from observing financial behaviors of parents, caregivers, peers, educators, media, or other influencers.

[9] *Experiential learning* is the process of deriving meaning from direct or hands-on experiences. Experiential learning opportunities encourage children and youth to take initiative, make decisions, experience the results of their choices, and learn through reflection.

[10] Building Blocks to Help Youth Achieve Financial Capability: A new model and recommendations, Consumer Financial Protection Bureau (2016), available at consumerfinance.gov/data-research/research-reports/building-blocks-help-youth-achieve-financial-capability/.

3. Assessing progress toward attaining the building blocks of financial capability in early childhood (ages 3 – 5)

3.1 What are the building blocks of financial capability milestones in early childhood?

Executive function is the primary building block most children acquire during early childhood. Executive function helps individuals plan, defer gratification, focus attention, remember information, and successfully juggle multiple tasks. These cognitive abilities support impulse control and future-oriented skills, which in turn provide a foundation for performing adult financial tasks such as setting financial goals, saving, and setting and following a budget. [11]

In addition to developing executive function, children as young as 3–5 years old can develop extremely basic knowledge and skills that support personal financial management later in life, including basic numeracy, the ability to sort or count, and familiarity with the concepts of

[11] Moffitt, Terrie E., Louise Arseneault, Daniel Belsky, Nigel Dickson, Robert J. Hancox, HonaLee Harrington, Renate Houts, Richie Poulton, Brent W. Roberts, Stephen Ross, Malcom R. Sears, W. Murray Thomson, and Avshalom Caspi, A gradient of childhood self-control predicts health, wealth, and public safety, *Proceedings of the National Academy of Sciences* 108, no. 7 (2011): 2693–2698.

buying and selling.[12,13] Young children are also forming attitudes about consumerism even before they start school. For instance, they may recognize store names, and they may see advertisements targeted to them.

External factors such as socioeconomic circumstances, limited access to a wide range of economic opportunities, and early experiences with adversity (e.g., abuse, neglect, or other stressors) can negatively affect executive function development.[14] For example, a child who grows up in an environment that does not consistently reward delayed gratification may not develop that skill. At the same time, studies have shown that interventions can reduce the effect of environmental stressors on executive function development and that children with the least executive functioning prior to intervention show the greatest improvement.[15,16,17,18]

The building blocks milestones in early childhood (ages 3 – 5) are summarized below.

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[12] Holden, Karen, Charles Kalish, Laura Scheinholtz, Deanna Dietrich, and Beatriz Novak, Financial literacy programs targeted on pre-school children: Development and evaluation, La Follette School Working Paper (2009), available at digital.library.wisc.edu/1793/36314.

[13] Whitebread, David, and Sue Bingham. *Habit Formation and Learning in Young Children* (London: Money Advice Service 2013).

[14] Blair, Clancy, and Cybele C. Raver, Child development in the context of adversity: Experiential canalization of brain and behavior, *American Psychologist* 67, no. 4 (2012): 309–318.

[15] Klingberg, Torkel, Elisabeth Fernell, Pernille J. Olesen, Mats Johnson, Per Gustafsson, Kerstin Dahlström, Christopher G. Gillberg, Hans Forssberg, and Helena Westerberg, Computerized training of working memory in children with ADHD—A randomized, controlled trial, *Journal of the American Academy of Child and Adolescent Psychiatry* 44, no. 2 (2005): 177–186.

[16] Lillard, Angeline, and Nicole Else-Quest, Evaluating Montessori education, *Science* 313 (2006): 1893–1894.

[17] Diamond, Adele, Executive functions, *Annual Review of Psychology* 64, no. 1 (2013): 135–168.

[18] Diamond, Adele, Activities and programs that improve children's executive functions, *Current Directions in Psychological Science* 21, no. 5 (2012): 335–341.

TABLE 1: BUILDING BLOCKS MILESTONES IN EARLY CHILDHOOD (AGES 3 – 5)

Building blocks	Associated auestions
Executive function	▪ Does the child begin to demonstrate self-regulation, persistence, and focus? ▪ Can the child demonstrate these qualities when using and managing limited resources like time, money, treats, or belongings?
Financial habits & norms	▪ Has the child developed basic values and attitudes around keeping (saving) and using (consuming) resources?
Financial knowledge & decision-making skills	▪ Does the child have early numeracy skills like counting and sorting? ▪ Does the child grasp basic financial concepts like money and trading?

3.2 How can the field of financial education measure progress toward the building blocks of financial capability milestones in early childhood?

Assessing preschool-age children presents a unique set of challenges. The measures presented below, with only a couple of exceptions, have been tested with—and often developed for—children under six.[19] Like all measures in the guide, these metrics were selected based on their alignment with the milestones, and represent promising approaches to assessing progress toward their achievement. A more detailed discussion of the process used to identify measures, as well as guidance for their use, can be found in Section 6 of this guide.

[19] Details on all of the measures in this guide, including the ages for which they have been used, are available in the Appendix.

3.2.1 Measures of executive function milestones in early childhood

Because executive function is so fundamental to many learning areas, numerous tools to assess executive function in young children exist. As noted above, the CFPB concentrates on measures that align as closely as possible with the particular building block milestone and age group. In the case of early childhood, the two milestones related to executive function are closely linked, with one assessing self-regulation, persistence, and focus in general, and the other asking that the child display these skills when managing limited resources. Because few measures directly assess young children's ability to manage resources of any kind, the metrics associated with that milestone tend to be more indirect indicators.

Given the overlap between the skills being measured in these two milestones, one could imagine using measures listed under one milestone to assess the other, possibly with some modification. There may also be benefits to assessing the two milestones together. The multi-faceted nature of executive function—which encompasses not only inhibitory (self-) control, but also working memory (the ability to hold and process several pieces of information at once) and cognitive flexibility (the ability to think of different ways to solve a problem)—provides support for using more than one approach to assess these milestones. The metrics in this guide could be combined with other measurement tools to assess global executive function if desired.[20]

The recommended measures for the early childhood executive function milestones appear in the table below. Detailed information about each measure, including the format (e.g., survey, task, administrative data, interview, etc.), how it is administered, background information, sources, and special considerations for each identified measure can be found in alphabetical order in the Appendix. For example, the more complete description of the "Children's behavior questionnaire (CBQ): Attentional focusing scale" that is identified in the next table appears alphabetically in the Appendix.

[20] See, for example, Espy, Kimberly Andrews, Melanie M. McDiarmid, Mary F. Cwik, Melissa Mea de Stalets, Arlena Hamby, and Theresa E. Senn, The contribution of executive functions to emergent mathematic skills in preschool children, *Developmental Neuropsychology* 26, no. 1 (2004): 465-486. The National Institutes of Health (NIH) Toolbox, available at nihtoolbox.org, contains measures of executive function for individuals ages 3 and up.

TABLE 2: SELECTED MEASURES OF EXECUTIVE FUNCTION MILESTONES IN EARLY CHILDHOOD (AGES 3 – 5)

Associated questions	Selected measures
Does the child begin to demonstrate self-regulation, persistence, and focus?	▪ Children's behavior questionnaire (CBQ): Attentional focusing scale ▪ Colorado child temperament inventory (CCTI): Attention span-persistence subscale ▪ Impulsivity ▪ Kansas reflection-impulsivity scale for preschoolers (KRISP)
Can the child demonstrate these qualities when using and managing limited resources like time, money, treats, or belongings?	▪ Children's behavior questionnaire (CBQ): Inhibitory control scale ▪ Preschool self-regulation assessment (PSRA) ▪ Task persistence measure

As shown in the Appendix, these measures consist primarily of parent/caregiver reports based on their everyday observations and experience with the child. The two exceptions are the Kansas reflection-impulsivity scale for preschoolers (KRISP) and the Task persistence measure, both of which involve the child participating in an activity that is facilitated and/or observed by an adult evaluator. Ideally, young children's progress toward the executive function milestones will be assessed by pairing one or more of the parent-caregiver surveys with a task-based assessment.[21]

3.2.2 Measures of financial habits & norms milestones in early childhood

Although there is evidence that children begin to acquire attitudes about money and consumerism in early childhood, few tools exist to assess the development of these attitudes. The tools that are available tend to measure children's awareness of money and consumerism, which may be a precursor to the development of values and attitudes.

[21] Isquith, Peter, Jennifer S. Crawford, Kimberly Espy, and Gerard Gioia, Assessment of executive function in preschool-aged children, *Mental Retardation and Developmental Disabilities Research Reviews* 11 (2005): 209-215.

The table below presents possible approaches to assessing children's acquisition of attitudes around saving and consuming. Details of each measure are provided in alphabetical order in the Appendix.

TABLE 3: SELECTED MEASURES OF FINANCIAL HABITS & NORMS MILESTONES IN EARLY CHILDHOOD (AGES 3 – 5)

Associated question	Selected measures
Has the child developed basic values and attitudes around keeping (saving) and using (consuming) resources?	▪ Consequences of advertising ▪ Perceptions of spending ▪ Saving attitudes scale for children (selected question)

3.2.3 Measures of financial knowledge & decision-making strategies milestones in early childhood

The financial knowledge and decision-making milestones for young children relate to the understanding of basic concepts tied to numeracy and to money. Many preschool math assessment tools exist, although few are available free of charge. From among the free options, the CFPB selected measures that directly assess the counting and sorting skills highlighted in the numeracy milestone. For the milestone related to financial understanding, the CFPB selected from the small set of approaches that have been used with preschool children. The measures appear in the table below, with details contained in the Appendix.

TABLE 4: SELECTED MEASURES OF FINANCIAL KNOWLEDGE & DECISION-MAKING SKILLS MILESTONES IN EARLY CHILDHOOD (AGES 3 – 5)

Associated questions	Selected measures
Does the child have early numeracy skills like counting and sorting?	▪ Counting-error detection ▪ Point-to-X task ▪ Sorting task
Does the child grasp basic financial concepts like money and trading?	▪ Stages of understanding of money and value

4. Assessing progress toward attaining the building blocks of financial capability in middle childhood (ages 6 – 12)

4.1 What are the building blocks of financial capability milestones in middle childhood?

During middle childhood, children typically begin to acquire money habits, norms, and values through a process called financial socialization.[22] Although financial socialization occurs through many different platforms including school, media, and peers, parents or caregivers are typically the primary agents of financial socialization during elementary and middle school ages.[23]

Children in this developmental stage observe how their parents or caregivers interact with finances, whether parents or caregivers are consciously teaching or not. Children might also receive an allowance or money as a gift, or perhaps have some input on the family's spending decisions.[24] As children have more firsthand experiences with acquiring, spending, and perhaps even saving small amounts of money, they begin to develop their sense of what is normal or

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[22] Whitebread, David, and Sue Bingham, *Habit Formation and Learning in Young Children* (London: Money Advice Service 2013).

[23] Danes, Sharon M., Parental perceptions of children's financial socialization, *Journal of Financial Counseling and Planning* 5 (1994): 127–146.

[24] Whitebread, David, and Sue Bingham, *Habit Formation and Learning in Young Children* (London: Money Advice Service 2013).

appropriate in money management. They also begin to form independent identities as they interact more frequently with people outside of their home environment. This lays the groundwork for developing a financial identity through the acquisition of financial values, habits, and norms.

Executive function and basic money management skills are also continuing to develop during middle childhood. Youth are beginning to grasp simple constructs, such as investments of time or money, and consider trade-offs, as well as more abstract concepts that underpin personal finance, such as managing a household budget.[25,26] For example, a youth in middle childhood who is allowed to decide whether to spend an allowance every week or to save for a large item is practicing critical goal-oriented financial planning and building self-confidence. Youth also begin to acquire basic financial knowledge that they will use to make purposeful financial decisions as adults.

The building blocks milestones in middle childhood (ages 6 – 12) are summarized below.

TABLE 5: BUILDING BLOCKS MILESTONES IN MIDDLE CHILDHOOD (AGES 6 – 12)

Building blocks	Associated questions
Executive function	▪ Does the child show the ability to plan ahead and delay gratification? ▪ Does the child show future orientation?
Financial habits & norms	▪ Does the child begin to show a positive attitude toward savings, frugality, planning, and self-control? ▪ Does the child begin to have positive financial habits, like planning and saving? ▪ Can the child make spending and saving decisions aligned with his or her goals and values? ▪ Is the child self-confident about completing age-appropriate financial tasks?

[25] Scheinholtz, Laura, Karen Holden, and Charles Kalish, Cognitive development and children's understanding of personal finance, *Consumer Knowledge and Financial Decisions: Lifespan Perspectives*, 29–47 (New York: Springer 2012).

[26] Whitebread, David, and Sue Bingham, *Habit Formation and Learning in Young Children* (London: Money Advice Service 2013).

Building blocks	Associated questions
Financial knowledge & decision-making skills	▪ Does the child understand core basic financial processes and concepts? ▪ Has the child successfully managed money or other resources to reach his or her own goals?

4.2 How can the financial education field measure progress toward the building blocks of financial capability milestones in middle childhood?

Once children enter elementary school and learn to read and write, many more assessment tools become available. Students become accustomed to taking quizzes and tests, and it is fairly common for upper elementary students to complete surveys. Though not typical, early elementary students are sometimes asked to complete surveys as well. Care must be taken when designing and interpreting the results of surveys completed by children ages 6 to 12. Section 6 discusses these considerations.

4.2.1 Measures of executive function milestones in middle childhood

As in early childhood, the two milestones related to the development of executive function in middle childhood are closely related to one another, with one focusing on planning ahead and delaying gratification and the other looking at future orientation. As above, one could imagine using measures listed under one executive function milestone to assess the other, possibly with some modification. In particular, one might consider using one or more of the planning metrics to assess future orientation.

The recommended measures for the executive function milestones for 6 to 12 year olds appear in the table below. Detailed information about each measure can be found in alphabetical order in the Appendix.

TABLE 6: SELECTED MEASURES OF EXECUTIVE FUNCTION MILESTONES IN MIDDLE CHILDHOOD (AGES 6 – 12)

Associated question	Selected measures
Does the child show the ability to plan ahead and delay gratification?	▪ Children's ability to wait ▪ Children's deliberateness of planning ▪ Children's propensity to plan scale: Behavior ▪ Delay discounting task ▪ Early adolescent temperament questionnaire (EATQ): Activation control scale ▪ Fraction of money spent immediately ▪ Future orientation: Planning ahead subscale – Behavior ▪ Goal setting questionnaire ▪ Grit: Consistency of interest subscale ▪ Hard to avoid spending money ▪ Often get in a jam ▪ Temperament in middle childhood questionnaire (TMCQ): Impulsivity scale and inhibitory control scale
Does the child show future orientation?	▪ Future orientation: Time perspective subscale

4.2.2 Measures of financial habits & norms milestones in middle childhood

Financial socialization and the resulting development of financial attitudes, habits, values, and norms are the primary focus of financial development during middle childhood. Unlike early childhood, when financial attitudes and values can be challenging to measure, middle childhood opens up the possibility of additional assessment tools. Still, the milestones vary significantly in the number of measures that are available. For example, several measures assess 6 to 12 year olds' attitudes toward consumption or planning, but few measure their financial habits. Furthermore, the financial experiences of a kindergartener will differ significantly from those of a seventh grader. The CFPB therefore presents several measures and discusses each of them in more detail in the Appendix, where the CFPB also identifies the specific age ranges for which each metric was developed.

TABLE 7: SELECTED MEASURES OF FINANCIAL HABITS & NORMS MILESTONES IN MIDDLE CHILDHOOD (AGES 6 – 12)

Associated questions	Selected measures
Does the child begin to show a positive attitude toward savings, frugality, planning, and self-control?	▪ Big 5 personality: Conscientiousness ▪ Future orientation: Planning ahead subscale – Attitude ▪ Material values scale for children (MVS-c) ▪ Perceptions of spending ▪ Planning takes the fun out ▪ Saving attitudes scale for children ▪ Youth budgeting scale: Attitude ▪ Youth materialism scale
Does the child begin to have positive financial habits, like planning and saving?	▪ Account data ▪ Saving behavior ▪ Youth budgeting scale: Behavior ▪ Youth saving habits
Can the child make spending and saving decisions aligned with his or her goals and values?	▪ Actions in alignment with value ▪ Conformity disposition ▪ Perceived peer group pressures scale
Is the child self-confident about completing age-appropriate financial tasks?	▪ Financial capability scale for young adults (FCS-Y): Confidence ▪ General self-efficacy scales for youth ▪ Teen financial self-efficacy and attitude scales ▪ Youth budgeting scale: Confidence

4.2.3 Measures of financial knowledge & decision-making milestones in middle childhood

The financial knowledge and decision-making milestones for the middle childhood age group relate to children's understanding of basic financial concepts and their ability to manage resources to reach their goals. While financial knowledge can be measured relatively easily using existing measures like those in the table below, financial behaviors are more difficult to assess. Most children in this age range are just beginning to make some of their own decisions about money, so opportunities to assess these skills are limited. For this reason, children may

demonstrate competence in this area by successfully managing "other resources" to reach their goals. The goal attainment measure in the table below can be used to assess a variety of (financial or non-financial) goals. Details on the measures are provided in the Appendix.

TABLE 8: SELECTED MEASURES OF FINANCIAL KNOWLEDGE & DECISION-MAKING SKILLS MILESTONES IN MIDDLE CHILDHOOD (AGES 6 – 12)

Associated questions	Selected measures
Does the child understand core basic financial processes and concepts?	▪ Brief elementary financial quiz ▪ Financial fitness for life assessments
Has the child successfully managed money or other resources to reach his or her own goals?	▪ Goal attainment

5. Assessing progress toward attaining the building blocks of financial capability milestones for teens and young adults (ages 13 –21)

5.1 What are the building blocks of financial capability milestones for teens and young adults?

During adolescence and young adulthood, many individuals start making consequential financial decisions. For example, young adults may make small and bigger-ticket purchases, become employed, open bank accounts, sign leases, get their first credit cards, and grapple with paying for college. These new opportunities to earn, save, spend, and borrow money give youth the opportunities to hone their financial decision-making skills and to continue to develop the habits and attitudes that they began to acquire in earlier stages.

In addition, young adults start to learn and begin to make use of routine financial decision-making shortcuts or rules of thumb. In addition to laying subconscious pathways to ease decision making, these experiences can build young adults' financial self-confidence and their belief in their ability to successfully complete financial tasks (financial self-efficacy). Young adults who have begun to develop financial self-efficacy are more likely to act on the financial knowledge and skills they have learned because they believe it will be worthwhile to do so.

During the young adult years, cognitive faculties also continue to strengthen. Explicit financial knowledge and decision-making skills become more relevant, especially for youth who begin to make purchases on their own and take on financial responsibilities such as earning money, opening a bank account, or borrowing for education. This prepares teens and young adults to understand and use real-world and abstract financial knowledge and concepts, and to develop

and practice financial research and decision-making skills. Youth at this stage can learn how to find and recognize reliable financial information and how to compare financial products. Research into adult financial well-being suggests that these are critical skills.

Young adults consistently demonstrate a stronger orientation to the future than younger children do, and they tend to plan ahead more thoroughly and consistently.[27] However, some executive function skills, like self-regulation and the ability to stay focused, seem to develop at a slower pace and do not reach maturity until early adulthood. Therefore, young adults may display adult-level cognition in some settings but may have difficulty controlling impulses, particularly during highly tempting situations. By young adulthood, youth tend to have higher levels of self-control than they did as teens, in part because they have a stronger capacity to resist the pull of social and emotional influences and to focus on long-term goals.[28]

The building blocks milestones for teens and young adults (ages 13 – 21) are summarized below.

TABLE 9: BUILDING BLOCKS MILESTONES FOR TEENS AND YOUNG ADULTS (AGES 13 – 21)

Building blocks	Associated questions
Executive function	▪ Does the young adult demonstrate critical-thinking skills? ▪ Does the young adult demonstrate future orientation? ▪ Has the young adult demonstrated the ability to plan ahead and delay gratification?
Financial habits & norms	▪ Does the young adult have a positive attitude toward planning, saving, frugality, and self-control? ▪ Does the young adult demonstrate positive money management habits and decision-making strategies? ▪ Can the young adult make spending and saving decisions aligned with his or her goals and values? ▪ Does the young adult demonstrate appropriate financial self-efficacy?

[27] Steinberg, Laurence, Sandra Graham, Lia O'Brien, Jennifer Woolard, Elizabeth Cauffman, and Marie Banich, Age differences in future orientation and delay discounting, *Child Development* 80, no. 1 (2009): 28–44.

[28] Romer, Daniel, Angela L. Duckworth, Sharon Sznitman, and Sunhee Park, Can adolescents learn self-control? Delay of gratification in the development of control over risk taking, *Prevention Science* 11, no. 3 (2010): 319–330.

Building blocks	Associated questions
Financial knowledge & decision-making skills	▪ Does the young adult grasp advanced financial processes and concepts? ▪ Can the young adult successfully manage money or other resources to reach his or her own goals? ▪ Can the young adult identify trusted sources of information and process that information?

5.2 How can the financial education field measure progress toward the building blocks of financial capability milestones for teens and young adults?

For the purpose of measuring progress toward the building blocks milestones in teens and young adults, the CFPB limits the focus to young people who are not yet financially independent. For example, some students don't graduate from high school until they are 19 and many rely on their parents or caregivers for financial support for several years afterwards. People may continue to live at home in their early twenties, perhaps attending a local college and working part-time. Others may attend college away from home but continue to receive significant financial assistance from their families. For simplicity, the CFPB uses the term "young adult" or "teen" to refer to anyone ages 13 to 21 who is living primarily as a financial dependent.

Those who wish to assess the financial capability and well-being of financially *independent* young adults are directed to several other resources, including the CFPB's Financial Well-Being Scale and key outcomes for tracking progress in financial capability and empowerment programs, both developed by the CFPB, as well as numerous other metrics for adults.[29]

[29] Information about the Financial Well-Being Scale is available at https://www.consumerfinance.gov/data-research/research-reports/financial-well-being-scale/. The Bureau's report "Tracking success in financial capability and empowerment programs" can be found at https://www.consumerfinance.gov/data-research/research-reports/tracking-success-financial-capability-and-empowerment-programs/. Adult financial capability and well-being can also be assessed using many other tools including existing surveys, administrative data on things like bank

5.2.1 Measures of executive function milestones for young adults

Like the executive function milestones for middle childhood, those for young adults include future orientation, as well as the ability to plan ahead and delay gratification. In addition, young adults' ability to think critically is assessed. Some of the measures that were recommended for children ages 6 to 12 are also recommended for young adults, along with other metrics that are more specifically targeted to this age group. Given the connection between future orientation and planning/delaying gratification, measures that are listed under one milestone may also be appropriate for the other. Detailed information regarding the measures in the table below can be found in the Appendix.

TABLE 10: SELECTED MEASURES OF EXECUTIVE FUNCTION MILESTONES FOR YOUNG ADULTS (AGES 13 – 21)

Associated questions	Selected measures
Does the young adult demonstrate critical-thinking skills?	▪ Critical thinking tests ▪ Problem-solving strategy self-assessment
Does the young adult demonstrate future orientation?	▪ Ensure a financially secure future ▪ Future orientation: Time perspective subscale ▪ Time perspective questionnaire (TPQ)
Has the young adult demonstrated the ability to plan ahead and delay gratification?	▪ Academic diligence task (ADT) ▪ Delay discounting task ▪ Delaying gratification inventory (DGI): Money scale ▪ Early adolescent temperament questionnaire (EATQ): Activation control scale ▪ Goal setting questionnaire ▪ Often get in a jam ▪ Propensity to plan scale: Behavior ▪ Saving plan ▪ Sticking to plans

account ownership or use of high-cost financial services, and outcome measures like credit scores. See http://www.outcomeeval.org/ for an interactive financial literacy outcome evaluation tool.

Associated questions	Selected measures
	▪ Tower of London (planning) task

5.2.2 Measures of financial habits & norms milestones for young adults

Although an individual's ability to assess financial behaviors like positive money management skills improves as young adults make more independent financial decisions, most measures of adult financial capability and well-being are not yet fully appropriate for young adults who rely on their families for most of their financial support. As a result, many of the measures below are similar to those used in middle childhood, with some explicitly reflecting the wider range of financial experiences available to young adults. Others are designed for independent adults but contain questions that are appropriate for young adults who are beginning to assume some financial responsibility.

More information about each measure can be found in the Appendix.

TABLE 11: SELECTED MEASURES OF FINANCIAL HABITS & NORMS MILESTONES IN YOUNG ADULTS (AGES 13 – 21)

Associated questions	Selected measures
Does the young adult have a positive attitude toward planning, saving, frugality, and self-control?	▪ Adolescent money attitudes scale: Conscientiousness ▪ Big 5 personality: Conscientiousness ▪ Feel calmer by saving ▪ Material values scale (MVS) ▪ Money attitudes scale (MAS): Power-prestige ▪ Planning takes the fun out ▪ Propensity to plan scale: Attitude ▪ Reasons for saving
Does the young adult demonstrate positive money management habits and decision-making strategies?	▪ Account data ▪ Budgeting and tracking ▪ Credit card usage ▪ Financial responsibility ▪ Mindful shopping

Associated questions	Selected measures
	▪ Saving behavior ▪ Self-report habit index (SRHI) ▪ Spending choices ▪ Teen financial behaviors ▪ Youth saving habits
Can the young adult make spending and saving decisions aligned with his or her goals and values?	▪ Actions in alignment with values ▪ Conformity disposition ▪ Decisions to achieve goals ▪ Expected versus ideal choices ▪ Peer pressure inventory (PPI) ▪ Pressured to spend
Does the young adult demonstrate appropriate financial self-efficacy?	▪ Financial capability scale for young adults (FCS-Y): Confidence ▪ General self-efficacy scales for youth ▪ Good at managing money (self-report) ▪ Self-assessed financial knowledge ▪ Self-assessed problem-solving ability ▪ Teen financial self-efficacy and attitude scales

5.2.3 Measures of financial knowledge & decision-making strategies milestones for young adults

An individual's ability to measure financial knowledge improves during the young adult years, not only as young people tackle more advanced topics, but as their ability to communicate that knowledge on written quizzes and tests increases. Even teens and young adults who are financially dependent on others have opportunities to demonstrate successful money management, though the measures may not be as direct as they would be for financially independent adults.

In addition to the financial knowledge and decision-making milestones carried over from middle childhood, young adults are expected to find and process information, an important first step toward most major financial decisions like financing higher education or home ownership, where comparison shopping and investigating key terms and features can be improved through

research skills. Because few direct measures of financial research skills exist, most of the recommended measures are more general. These general measures could be placed in a financial context and could also be augmented or supported by the American Library Association's Information Literacy Competency Standard for Higher Education. The standards provide performance indicators and outcome measures that can be used to devise rubrics for assessing whether young adults "recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information."[30] Although the standards were designed for college students, many are appropriate for high school and some middle school students.

More details on the measures in the table below are available in the Appendix.

TABLE 12: SELECTED MEASURES OF FINANCIAL KNOWLEDGE & DECISION-MAKING STRATEGIES MILESTONES FOR YOUNG ADULTS (AGES 13 – 21)

Associated questions	Selected measures
Does the young adult grasp advanced financial processes and concepts?	▪ Brief financial literacy assessment ▪ Financial fitness for life assessments ▪ Financial IQ
Can the young adult successfully manage money or other resources to reach his or her own goals?	▪ Goal attainment
Can the young adult identify trusted sources of information and process that information?	▪ Cognitive reflection test (CRT) ▪ Consumer self-confidence: Information acquisition subscale ▪ Internet search and evaluation strategies ▪ Sources of information about money

The Program for International Student Assessment (PISA) is another tool for measuring students' financial knowledge and other related skills. PISA is an international assessment that measures 15-year-old students' reading, mathematics, and science literacy every three years. Recognizing the growing importance of and need for financial literacy in the current financial marketplace, a financial literacy assessment was included in 2012, 2015, and is planned for 2018

[30] Available at ala.org/Template.cfm?Section=Home&template=/ContentManagement/ContentDisplay.cfm&ContentID=33553

alongside the traditional reading, math, and science assessments. The PISA financial literacy assessment is not included in this guide because the knowledge questions are not made publicly available to preserve the ability to reuse items in future years. In contrast, the student questionnaire that accompanies the PISA assessment is released, and some of the metrics in this guide have been drawn from that survey.

6. Measure-selection process and guidance on their use

6.1 How were the measures identified and selected?

The research underlying the original building blocks report included a review of the relevant academic literature in the fields of consumer science, developmental psychology, and education, along with consultations with academic and practitioner experts in these and other related fields. It also involved a scan of youth development and financial education programs.[31] That work yielded a set of potential measures for many of the financial capability milestones in youth. To augment the list and fill in as many gaps as possible for this measurement guide, the CFPB conducted additional focused reviews of selected academic literature. The CFPB also studied program evaluations conducted by youth organizations and assessment guides created by nonprofits, educational institutions, and state governments. In addition, the CFPB reviewed a broad set of publicly available data sets and surveys to identify any items related to the building blocks framework for youth, and conducted additional consultations with experts in relevant fields to help identify other potential metrics. In all cases, the CFPB concentrated on identifying assessment tools that are available free of charge.

The measures that appear in this guide were selected from the set of potential measures based on the following criteria:

- How closely does the measure align with the desired construct?
- Has the measure been validated? Are there other indicators of quality?
- Does the measure require modification (e.g., for the target age group)?
- How easily can the assessment be administered?

[31] More details are provided in Appendix C of the report, available at consumerfinance.gov/data-research/research-reports/building-blocks-help-youth-achieve-financial-capability/.

These selection criteria are not intended to suggest that none of the measures in this guide require modification or that all are simple to administer. Because the CFPB weighed all four factors in making the determination as to whether to include each measure in the guide, some that scored highly on one factor (e.g., alignment with the milestone) may be lower on another factor (e.g., ease of use).

The list of measures in this guide is by no means exhaustive. In fact, for some of the milestones, like those related to executive function, for example, there are many other scales available. It is the belief of the CFPB that the measures highlighted here are promising means of assessing progress toward achievement of the milestones in youth. Some of the measures have been used widely by researchers in the relevant fields, while others are relatively new. Although most of the measures have been validated, the Burea has not independently tested any of the measures in this guide.

For each milestone, the CFPB sought to identify at least two measures, ideally that are assessed using different methods such as self-reports, observation by others, administrative data, or other approaches. Multi-method approaches have been shown to increase measurements' reliability and validity significantly.[32] It was not possible to identify multiple approaches or even multiple metrics for assessing every milestone, however. For example, self-report surveys are the only approach recommended for assessing young adults' attitude toward planning, saving, frugality, and self-control. More generally, the list of measures for ages 6 to 12 and 13 to 21 contains a disproportionate number of self-report surveys. This is due in part to the simplicity and low cost of administering surveys relative to observing, possibly tracking, and assessing behaviors directly. Because young people engage far less often with financial institutions, directly observing the behaviors of interest may necessitate creating simulated experiences which can be time and/or resource-intensive. Moreover, as discussed in Section 6.3, the focus of some milestones on attitudes lends itself to self-reports. When it is feasible, pairing self-reports with input from parents, caregivers, or teachers can be a helpful way to reduce the potential biases associated with purely self-reported data.

The milestone related to numeracy in early childhood (under the building block "financial knowledge and decision-making skills") is another example in which all recommended measures

[32] See, for example, Duckworth, Angela L., and Martin E. P. Seligman, Self-discipline outdoes IQ in predicting academic performance of adolescents. *Psychological Science* 16, no. 12 (2005): 939–944.

share the same approach. All three metrics are task-based and involve the child engaging in structured activities of various kinds. While these direct observations could be supplemented with parent/caregiver surveys that assess the child's numeracy skills,[33,34] surveys seem less appropriate as a stand-alone measure of numeracy. This further highlights the fact that the measures in this guide are not intended to be the only reliable means of assessing the milestones.

6.2 How should I choose which measure(s) to use?

The Appendix is designed to help readers determine which measures are best for their particular context. In addition to categorizing measures based on building block category (executive function, financial habits and norms, and financial knowledge and decision-making skills), specific milestone, and developmental stage (ages 3 to 5, 6 to 12, and 13 to 21), the Appendix provides information that is useful when considering the following types of questions.

Who will be completing the assessment?

Is the assessment to be completed by children and young adults themselves? Or will another source be used, like parents/caregivers, teachers, or perhaps administrative data? Readers may wish to consider how easily they can access potential groups of respondents and likely response rates (or, analogously, the ease of obtaining high quality data) when making this determination.

How will the assessment be administered and what resources are available?

Must the assessment be administered to an entire group or class at one time or is one-on-one administration possible? Who will be administering the assessment? Objective observation by a

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[33] In 2004, the National Institute for Early Education Research and High/Scope Educational Research Foundation recommended involving parents and teachers, who can offer perspectives on children's behavior in various contexts, in the assessment process. See Epstein, Ann S., Lawrence J. Schweinhart, Andrea DeBruin-Parecki, and Kenneth B. Robin, Preschool assessment: A guide to developing a balanced approach, *Preschool Policy Matters* (National Institute for Early Education Research and High/Scope Educational Research Foundation, July 2004).

[34] For example, the Head Start Family and Child Experiences Survey (FACES) asks parents how high their child can count (not at all, up to five, up to ten, up to twenty, up to fifty, up to 100 or more) and if the child had a pile of blocks, what the largest number is that s/he can tell the parent s/he has.

trained observer is typically the best way to assess very young children's skills. Are resources available to train (or hire trained) facilitators? Is equipment available for recording the assessments? Can supplies be purchased? Although the measures in the guide are free of charge, potential costs of implementation must be considered. Basic instructions for administering each tool are found in the Appendix, with more details provided in the resources themselves.

How much time is available, both for administration and scoring?

The measures in this guide range from single survey items that can be administered to an entire group in a matter of minutes to in-depth interviews that take 90 minutes or more for each child/young adult. Even within the category of surveys/scales and written tests there is large variation, with many tools containing 10 or fewer items but some containing 50 questions or more. Multiple-choice questions are relatively easy to score and analyze. Open-ended questions are more time consuming to process and may lead to lower response rates, depending on the context in which the survey or test is being administered. That said, open-ended questions allow a broader range of responses and may offer deeper insight into respondents' experiences, opinions, and skills. If desired, the closed-ended questions in this guide could be posed as open-ended questions, either in pilot testing to ensure that the response options are appropriate or to elicit more in-depth information.

Is it better to use one measure or several?

The selection of measures should be guided primarily by the specific objectives of the program, curriculum, etc., along with the age of the young people being assessed. Although the measures in this guide are grouped into three developmental stages, some measures are not ideal for the full age range to which they correspond. For example, some measures in the young adult or teen category (ages 13 to 21) are best for young people who are beginning to take a bit more financial responsibility. Likewise, some measures for middle childhood (ages 6 to 12) are best for children over 7.

If more than one measure is well-suited for the particular goals and age group, using multiple metrics can help to provide a more complete picture of the child's or young adult's attitudes or skills. This is especially true for multi-faceted concepts like executive function. The potential challenge to using multiple approaches is the possibility of conflicting results. Readers should carefully consider in advance how they will handle this, should it occur. Is one of the metrics the primary focus, with the others used to test for robustness? If the measures are completed by different people (e.g., a self-report by a child accompanied by a parent report), is one source

more reliable or of greater interest? The context can also be an important factor here. For example, children typically do not behave at home the same way they behave at school. Ideally, assessments will be conducted in the environment of interest.

What if parents or caregivers want to assess their children's progress?

Although the Appendix does not list parents or caregivers as possible administrators of the assessments, many of the measures in this guide can be used by parents or caregivers as well. As noted above, children typically behave differently in different contexts, which could mean children will demonstrate different results for task-based measures evaluated at home. Parents or caregivers should also be aware that children and young adults may be especially likely to give their parents or caregivers "the answer they're looking for." In other words, social desirability bias, which is discussed in more detail in Section 6.3, could be severe.

6.3 Are there any special considerations when assessing children?

Children's experiences influence all aspects of their development, including their personalities and attitudes. Using the measures in this guide to compare progress toward achievement of the building block milestones across children without taking these differences into account may not provide an accurate assessment. Consider measures of attitude toward frugality and consumption, for example. The belief that more money will bring happiness likely indicates something different for a child living in poverty than for a wealthy child. Thus, children's circumstances may need to be taken into account when interpreting their responses.

Avoiding cross-child comparison and focusing instead on each individual child's progress over time (or surrounding an intervention) mitigates some of these concerns, as noted above. Tracking individuals' progress also establishes a unique benchmark for each child or young adult, reducing the need to set uniform targets or define a "good score." This guide does not provide benchmarks for any of the measures, although in a few cases benchmarking data may be available elsewhere. Readers could also consider setting their own benchmarks if desired based on the population they serve and the objectives of the program or curriculum.

6.3.1 Special considerations in early childhood (ages 3 – 5)

Assessing children, especially those who are very young, can present challenges. Apart from the obvious inability to read and write, very young children often have very short attention spans and can be heavily influenced by their environment. Formal assessments should be brief and are best administered one-on-one in a setting with minimal distractions, by an examiner who has experience with the instrument. Informal or play-based assessments should ideally be conducted by the teacher or program leader (or another adult who interacts with the child regularly) in a familiar setting like a classroom or playground.[35,36] Because best practices in observational research dictate that the observer not interfere with or influence the child's behavior, teachers may want to tell the child being assessed that they have to work on something else and can't talk or play right now.[37] Observers should document children's behavior as specifically and objectively as possible, with a clear understanding of what to look for and how their observations are to be recorded.[38]

In addition to the standard indicators of reliability and validity, other aspects of a measure's performance come into play for preschool-age children.[39] The measure clearly needs to be developmentally appropriate. In addition, it ideally has predictive validity, meaning that performance on the assessment is correlated with performance on a related assessment in the

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[35] Guddemi, Marcy, and Betsy J. Case, *Assessing Young Children* (Pearson Education, Inc. 2004). [Originally published as: Guddemi, M. P. (2003). The important role of quality assessment in young children ages 3–8. In J. Wall, and G. Walz (Eds.) (2003). Measuring up: Assessment issues for teachers, counselors, and administrators. Greensboro, NC: ERIC Counseling and Student Services Clearinghouse.]

[36] Epstein, Ann S., Lawrence J. Schweinhart, Andrea DeBruin-Parecki, and Kenneth B. Robin, Preschool assessment: A guide to developing a balanced approach, *Preschool Policy Matters* (National Institute for Early Education Research and High/Scope Educational Research Foundation, July 2004).

[37] Waters, Janet, Observation guidelines (2017) available at https://www.capilanou.ca/programs-courses/psychology/student-resources/research-guidelines/Observation-Guidelines/.

[38] Waters, Janet, Observation guidelines (2017) available at https://www.capilanou.ca/programs-courses/psychology/student-resources/research-guidelines/Observation-Guidelines/.

[39] Reliability is an indication of a measure's stability and internal consistency. Measures with strong reliability provide the same results over and over when used in the same types of circumstances. Internal consistency reflects whether the different items in a scale behave similarly. Internal consistency is typically measured using Cronbach's alpha, which ranges from 0 to 1 with higher values indicating stronger internal consistency across items. Reliability is one part of validity, a multi-faceted concept that captures the degree to which a measurement tool actually measures what is intended. Overall validity is typically established by providing different types of evidence that the measure captures what it claims to (e.g., face validity, content validity, convergent validity, discriminant validity, etc.).

future. [40] Some, but not all of the metrics in this measurement guide have met this standard. It is the hope of the CFPB that this guide will encourage researchers to examine in more detail the connections between the building blocks and adult drivers of financial well-being, thereby establishing predictive validity.

6.3.2 Special considerations in middle childhood (ages 6 – 12)

Many of the measures recommended for children ages 6 to 12 are surveys administered to the children themselves. Although surveys have been used successfully in this age range, it is important to remember that children do not process survey questions the way adults do. Because their cognitive skills are more limited, children may not fully understand certain questions and, more problematic, may not realize that they don't understand. In addition, responding to questions requires executive function skills (holding the question in memory, decoding its meaning, computing a response) that are still developing. While a few surveys have been designed for early elementary students, many recommend waiting until at least age 7. [41]

This advice stems from the significant growth in cognitive and noncognitive skills that occurs between ages 5 and 7. [42] Moreover, very young children may be more likely to view themselves in an unrealistically positive light, reducing the value of their responses. The CFPB therefore recommends supplementing self-report surveys with parent/caregiver or teacher reports when administering the surveys recommended in this guide to children under 7.

For children 7 and older, several factors must be considered. Are the questions easy for a child to understand? If the child is confused by a question, are they likely to take the time to think it

[40] Fuchs, Marek, The reliability of children's survey responses: The impact of cognitive functioning on respondent behavior, *Proceedings of Statistics Canada Symposium 2008 Data Collection: Challenges, Achievements and New Directions* (2008).

[41] de Leeuw, Edith D., Improving data quality when surveying children and adolescents: Cognitive and social development and its role in questionnaire construction and pretesting, *Report Prepared for the Annual Meeting of the Academy of Finland: Research Programs Public Health Challenges and Health and Welfare of Children and Young People* (2011).

[42] Morrison, Frederick J., Lisa Smith, and Maureen Dow-Ehrensberger. Education and cognitive development: A natural experiment, *Developmental Psychology* 31, no. 5 (1995): 789-799.

through or will they provide a superficial answer?[43] Is the reading level appropriate for the child or will the adult administering the survey read it aloud? Will the child feel pressure to provide an answer that pleases the person administering the survey?

Although these concerns can never be eliminated, they should be managed carefully in an effort to ensure the quality of the assessment data. This includes formatting questions in a way that will be clear to children (e.g., keeping questions short, emphasizing the "here and now") and avoiding any hint of suggestion.[44] Although the surveys in this guide use only verbal (written) responses, survey responses could be replaced with visual scales (e.g., happy and sad faces) for younger children.[45] If children are not ready for written surveys of any kind, surveys can be replaced with interviews in which children are able to clarify the question and think out loud when formulating a response. Both the thought process and final answer can be recorded to offer insight into the child's true opinion. Another option is to replace or supplement self-report surveys with observer reports, as noted above. This could be especially valuable for children under 10, who still have questionable abilities to respond reliably.[46]

Administrative data provide an alternative to surveys. Account data, for example, can begin to be used in this age range, but it can be challenging to obtain. In addition, in the case of financial data like account activity, it is often difficult to determine which transactions are initiated by the child and which transactions are made by parents or caregivers, possibly without the child's knowledge.

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[43] Read, Janet C., and Stuart MacFarlane, Using the Fun Toolkit and other survey methods to gather opinions in child computer interaction, *Proceedings of the 2006 Conference on Interaction Design and Children* (2006): 81-88.

[44] de Leeuw, Edith D., Improving data quality when surveying children and adolescents: Cognitive and social development and its role in questionnaire construction and pretesting, *Report Prepared for the Annual Meeting of the Academy of Finland: Research Programs Public Health Challenges and Health and Welfare of Children and Young People* (2011).

[45] Read, Janet C., and Stuart MacFarlane, Using the Fun Toolkit and other survey methods to gather opinions in child computer interaction, *Proceedings of the 2006 conference on Interaction design and children* (2006): 81-88.

[46] de Leeuw, Edith D., Improving data quality when surveying children and adolescents: Cognitive and social development and its role in questionnaire construction and pretesting, *Report Prepared for the Annual Meeting of the Academy of Finland: Research Programs Public Health Challenges and Health and Welfare of Children and Young People* (2011).

6.3.3 Special considerations for teens and young adults (ages 13 – 21)

While some of the concerns from middle childhood persist into the early young adult years, assessment tools similar to those designed for adults are commonly used on young adults, and research has shown that young people age 14 and over can provide reliable survey responses.[47] That said, self-reported data can have limitations regardless of the age of the respondent.

Biased reporting can result from a desire to "look good," which can lead respondents to over-report positive behaviors and under-report negative ones, for example. This type of social desirability bias has been shown to have both negative and positive effects across studies and constructs.[48] The effect of social desirability can be reduced by ensuring anonymity and/or confidentiality (e.g., using anonymous self-administered surveys), but complete anonymity limits accountability and may reduce accuracy as well.[49] Open-ended questions may reduce social desirability bias in sensitive questions,[50] and a social desirability scale can be administered along with the survey of interest to assess the probable extent of the bias.

Respondents can also differ in their frames of reference (e.g., one could have a particularly harsh mindset and another, a particularly lenient one), resulting in a lack of comparability referred to as "reference bias." Despite these potential concerns, research supports the notion that self-reports are better suited than other tools for measuring internal states and feelings.[51]

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[47] Fuchs, Marek, The reliability of children's survey responses: The impact of cognitive functioning on respondent behavior, *Proceedings of Statistics Canada Symposium 2008 Data Collection: Challenges, Achievements and New Directions* (2008).

[48] See, for example, Moorman, Robert H., and Philip M. Podsakoff, A meta-analytic review and empirical test of the potential confounding effects of social desirability response sets in organizational behavior research, *Journal of Occupational and Organizational Psychology* 65 (1992): 131-149.

[49] Lelkes, Yphtach, Jon A. Krosnick, David M. Marx, Charles M. Judd, and Bernadette Park, Complete anonymity compromises the accuracy of self–reports, *Journal of Experimental Social Psychology* 48, no. 6 (2012): 1291-1299.

[50] Sudman, Seymour, and Norman M. Bradburn, *Response Effects in Surveys: A Review and Synthesis* (Chicago: National Opinion Research Center, ALDINE Publishing Company 1974).

[51] Duckworth, Angela L., and David Scott Yeager, Measurement matters: Assessing personal qualities other than cognitive ability for educational purposes, *Educational Researcher* 44, no. 4 (2015): 237–251.

7. Conclusion

Measuring young people's progress toward achieving key financial capability milestones is essential to assessing whether financial education programs are deepening a youth's understanding of the process through which individuals attain financial well-being. This guide extends the research underlying the CFPB's "building blocks" financial capability developmental model[52] by providing program leaders, teachers, researchers, policymakers, and other stakeholders metrics for assessing progress over three broad developmental stages: early childhood (ages 3 – 5), middle childhood (ages 6 – 12), and the teen and young adult years (ages 13 – 21).

This work is part of the CFPB's broader priorities to provide research that enhances financial education and financial capability from childhood through retirement. It is one component of a comprehensive youth research prioritization that can highlight promising areas for future research. One recommended line of study is the assessment of "what works" in the field of financial education. The CFPB hopes this guide will make it easier for stakeholders to document short-term outcomes, by measuring progress toward achievement of the building block milestones, and long-run positive steps towards financial well-being, by drilling down into the building blocks framework to deepen the understanding of the connections between the childhood antecedents and adult drivers of financial well-being. Furthermore, it is the hope of the CFPB that providing these metrics facilitates coordination and collective action in promoting the development of financial capability in children and young adults. To that end, the CFPB encourages all who use the metrics in this guide—whether to measure progress toward achievement of a single building block milestone or to link the milestones to later adult outcomes—to share their findings with us and with others.

A final reminder is in order. While the measures cited in this guide represent promising approaches to assessing progress toward attaining the building blocks of financial capability, they are by no means the only approach. Moreover, failure to identify significant effects using these metrics need not imply that a program or curriculum is ineffective. There are other possible explanations for a lack of demonstrated gains including a restrictively small sample size, inadequate variation in the values of the measure within the particular sample, insufficient

[52] Building blocks to help youth achieve financial capability: A new model and recommendations (2016), available at consumerfinance.gov/data-research/research-reports/building-blocks-help-youth-achieve-financial-capability/.

exposure to the program, or simply a mismatch between the program's objectives and the building blocks milestones. Even when there is close alignment with the milestones, not every measure will be ideally suited to every context, and some positive outcomes can take time to develop. Further research, along the lines described above, is needed to begin to identify the best ways to measure progress toward attaining the building blocks in different settings or contexts.

APPENDIX A:

This Appendix provides detailed information on each measure presented in the body of the measurement guide. Measures are listed here in alphabetical order, and each entry indicates the building block category to which the measure corresponds (executive function, financial habits and norms, and financial knowledge and decision-making skills), along with the associated milestone(s) and developmental stage(s) (ages 3 to 5, 6 to 12, and 13 to 21). Each entry also includes information on the measure's format, how it is administered, and other background information. For guidance on how to select measures based on the information provided in this Appendix, see Section 6.2.

This Appendix includes links and references to third-party resources or content that readers may find helpful. The CFPB does not control or guarantee the accuracy of this third-party information. By listing these links and references, the CFPB is not endorsing and has not vetted these third-parties, the views they express, or the products or services they offer. Other entities and resources also may meet your needs.

Potential measures were identified through a review of the relevant academic literature in several fields—including consumer science, developmental psychology, and education—along with consultations with academic and practitioner experts, a review of publicly available data sets and surveys, and a scan of existing program evaluations and assessment guides. From the set of potential measures, the CFPB selected tools that are developmentally appropriate for the desired age group, align well with the milestones, and are available free of charge, prioritizing metrics that are relatively easy to administer.

TABLE 13: ACADEMIC DILIGENCE TASK (ADT)

Building block	Executive function
Age group(s)	Ages 13 to 21
Milestone(s)	Has the young adult demonstrated the ability to plan ahead and delay gratification?
Format	Computer-based task
Completed by	Young adult/teen

Administered by	Teacher, program leader, researcher, or other adult
Measure details	Students view a split screen and must choose whether to spend time doing "boring" practice math problems that they are told are important, or using the other half of the screen to play Tetris or watch YouTube videos. The 20-minute task is broken down into five 4-minute intervals. Measures of productivity (the number of math problems solved correctly) and time on task (the fraction of time spent on math problems) are computed. The ADT is available free of charge at https://angeladuckworth.com/research/academic-diligence-task/.
Relation to milestone	Direct (delay of gratification)
Relation to money or personal finance	Indirect
Background and testing	Galla et al. (2014) developed the Academic diligence task (ADT) and tested it on 921 high school seniors. The ADT demonstrated convergent and discriminant validity with related and unrelated constructs, respectively, as well as incremental predictive validity for academic performance and attainment.
Special considerations	Requires computer access (runs in any flash-enabled browser). Originally tested on high school seniors but likely appropriate for the full age group (13 to 21).
Source(s)	Galla, Brian M., Benjamin D. Plummer, Rachel E. White, David Meketon, Sidney K. D'Mello, Angela L. Duckworth, *The academic diligence task (ADT): Assessing individual differences in effort on tedious but important schoolwork*, Contemporary Educational Psychology 39,314–325 (2014).

TABLE 14: ACCOUNT DATA

Building block	Financial habits & norms
Age group(s)	Ages 6 to 12 and 13 to 21
Milestone(s)	Does the child begin to have positive financial habits, like planning and saving? (6 to 12)

	Does the young adult demonstrate positive money management habits and decision-making strategies? (13 to 21)
Format	Administrative data
Completed by	N/A
Administered by	Financial institution
Measure details	Administrative data on account activity provide direct insight into financial behaviors and are not subject to self-reporting biases. Relevant measures include bank account data (e.g., deposits, withdrawals, balances) and credit card account data (e.g., payment of bills on time, payment of balances in full each month, outstanding carried balances).
Relation to milestone	Direct
Relation to money or personal finance	Direct
Background and testing	Bank account data have been used to assess financial behavior in people of all ages, including children (see, for example, https://www.treasury.gov/resource-center/financial-education/Documents/AFCO%20Youth%20Research%20Brief.pdf).
Special considerations	Administrative data have an advantage in terms of accuracy (relative to self-reported data), but may be difficult to obtain. Transaction data can be very noisy, making it difficult to draw conclusions, especially in smaller samples. It may also be impossible to disentangle deposits made by children themselves from those made by their parents or caregivers, perhaps without the child's knowledge.
Source(s)	N/A

TABLE 15: ACTIONS IN ALIGNMENT WITH VALUES

Building block	Financial habits & norms
Age group(s)	Ages 6 to 12 and 13 to 21
Milestone(s)	Can the child make spending and saving decisions aligned with his or her goals and values?
Format	Survey/scale; possibly combined with observational (or administrative) data
Completed by	Child; possibly with parent, teacher, or other adult observer at follow up
Administered by	Teacher, program leader, researcher, or other adult
Measure details	Respondents complete an age-appropriate values assessment and their behavior is measured against those values on one or more future dates using self-, parent-, or teacher-report surveys or other observational or administrative data (e.g., from a bank or a school). Possible values assessments include: Material values scale for children (MVS-c) for ages 6 to 12, included in this guide Material values scale (MVS) for ages 13 to 21, included in this guide Portrait values questionnaire (PVQ) for ages 13 to 21, with some questions appropriate for younger children. The PVQ-21 measures power/prestige as well as other general values by providing 21 descriptions (or "portraits") of unidentified/fictional people and asking respondents to indicate how much the person being described is like them using a 6-point scale. (The PVQ-21 is available at https://www.researchgate.net/publication/312444842_A_proposal_for_measuring_value_orientations_across_nations, pp. 43-44.) If using self-reports at follow up, survey items could focus on particular behaviors and/or on how easily the child/young adult can stick to their values (e.g., using the "Hard to avoid spending money" measure).
Relation to milestone	Direct

Relation to money or personal finance	Indirect
Background and testing	"Actions in alignment with values" describes a general approach, rather than a specific assessment tool. The CFPB is not aware of any particular prior use of this specific approach. The Material values scale for children (MVS-c), a possible assessment for baseline values, was developed by Opree et al. (2011) and tested on children ages 8 to 11. The Material values scale (MVS) was developed by Richins (2004). See the MVS and MVS-c appendix entries for more details. The Portrait values questionnaire (PVQ) was developed by Schwartz et al. (2001) and tested on multiple samples of adults and adolescents, establishing test-retest reliability and construct, convergent, and discriminant validity.
Special considerations	Provides a framework within which a detailed plan that fits the context and objectives of the particular program, intervention, or curriculum would need to be developed. When assessing values, important to rely on self-assessment as others will simply infer values from behavior.
Source(s)	Opree, Suzanna J., Moniek Buijzen, Eva A. van Reijmersdal, and Patti M. Valkenburg, *Development and validation of the Material Values Scale for children (MVS-c)*, Personality and Individual Differences 51, no. 8, 963-968 (2011). Richins, Marsha L., *The Material Values Scale: Measurement properties and development of a short form*, Journal of Consumer Research 31, no. 1, 209–219 (2004). Schwartz, Shalom H., Gila Melech, Arielle Lehmann, Steven Burgess, Mari Harris, and Vicki Owens, *Extending the cross-cultural validity of the theory of basic human values with a different method of measurement*, Journal of Cross-Cultural Psychology 32, no. 5, 519-542 (2001).

TABLE 16: ADOLESCENT MONEY ATTITUDES SCALE: CONSCIENTIOUSNESS

Building block	Financial habits & norms
Age group(s)	Ages 13 to 21

Milestone(s)	Does the young adult have a positive attitude toward planning, saving, frugality, and self-control?
Format	Survey/scale
Completed by	Young adult/teen
Administered by	Teacher, program leader, researcher, or other adult
Measure details	In this 4-item scale, respondents report how often they adopt the attitude or approach described in the following statements using a 4-point scale (0 = never, 1 = seldom, 2 = sometimes, 3 = frequently, 4 = always): I help my parents save money by being thrifty and frugal. When my parents buy me things, I try to “pay them back" by helping them out. I am cautious, even when spending my parents' money. I feel personal responsibility when spending my parents' money.
Relation to milestone	Direct
Relation to money or personal finance	Direct
Background and testing	Beutler and Gudmunson (2012) developed two money attitude scales for high school students, one measuring conscientiousness (used here) and the other measuring entitlement. Items were generated using class discussions and student focus groups, along with a literature review. Small pilots were conducted (60 students ages 13 to 15 and 90 adolescents ages 14 to 16), after which the scales were refined and validated on a sample of 265 high school students. Reliability was established and the scales’ relation to other scales was explored.
Special considerations	Designed for high school students ages 13 and up but likely appropriate for older youth who are at least partially financially dependent (see definition of “young adult” and “teen” in Section 5.2). “Parent” could be replaced with broader, more inclusive language if desired.

Source(s)	Beutler, Ivan F., and Clinton G. Gudmunson. *New Adolescent Money Attitude Scales: Entitlement and Conscientiousness*, Journal of Financial Counseling and Planning 23, no. 2, 18-31 (2012).

TABLE 17: BIG 5 PERSONALITY: CONSCIENTIOUSNESS

Building block	Financial habits & norms
Age group(s)	Ages 6 to 12 and 13 to 21
Milestone(s)	Does the child begin to show a positive attitude toward savings, frugality, planning, and self-control? (6 to 12) Does the young adult have a positive attitude toward planning, saving, frugality, and self-control? (13 to 21)
Format	Survey/scale
Completed by	Child/young adult (and/or parent/caregiver or teacher if needed)
Administered by	Teacher, program leader, researcher, or other adult
Measure details	Several different variants of the Big 5 assessment exist. In one 10-item version of the Big 5 conscientiousness scale, respondents indicate their agreement with each of the following statements on a 5-point scale (1=disagree, 2 = slightly disagree, 3 = neutral, 4 = slight agree, 5 = agree): I… Am always prepared. Pay attention to details. Get chores done right away. Like order. Follow a schedule. Am exacting in my work. Leave my belongings around. R Make a mess of things. R Often forget to put things back in their proper place. R Shirk my duties. R

	Items followed by an R are reverse-scored (meaning 1 = agree and 5 = disagree).
Relation to milestone	Direct (planning and self-control)
Relation to money or personal finance	Indirect
Background and testing	The Big 5 (or five-factor) model of personality traits is well-established and has been shown to hold for people of all ages including preschool-aged children (see Shiner and DeYoung, 2013, for a discussion). Several instruments exist to assess the Big 5 traits including a widely-used version developed and validated by Costa and McCrae (1985). Many other researchers have proposed and tested variants of the tool, all of which are designed to assess the same five personality factors (openness, conscientiousness, extraversion, agreeableness, and neuroticism). Self-reports are sometimes replaced with reports by parents, caregivers, or teachers for very young children, and Maćkiewicz and Cieciuch (2016) developed and tested a pictoral version for children ages 7 to13. Borghans et al. (2008) summarize evidence of the predictive validity of Big 5 conscientiousness (and other dimensions) for educational and labor outcomes. The Big 5 personality inventory from which the items presented here were obtained (Q's 3, 8, 13, 18, 23, 28, 33, 38, 43, 48) is available free of charge from https://openpsychometrics.org/printable/big-five-personality-test.pdf. IPIP also provides a free 20-item Big 5 conscientiousness scale at http://ipip.ori.org/newBigFive5broadKey.htm#Conscientiousness.
Special considerations	N/A
Source(s)	Borghans, Lex, Angela Lee Duckworth, James J. Heckman and Bas ter Weel, *The economics and psychology of personality traits*, Journal of Human Resources 43, no. 4, 972-1059 (2008). Costa, Paul T., Jr., and Robert R. McCrae, *The NEO Personality Inventory manual* (Odessa, FL: Psychological Assessment Resources 1985). Maćkiewicz, Marta, and Jan Cieciuch. *Pictorial personality traits questionnaire for children (PPTQ-C)—A new measure of*

	children's personality traits, Frontiers in Psychology 7, article 498 (2016). Shiner, Rebecca and Colin DeYoung, *The structure of temperament and personality traits: A developmental perspective*, in P. Zelazo (Ed.), Oxford Handbook of Developmental Psychology 113-141 (New York: Oxford University Press 2013).

TABLE 18: BRIEF ELEMENTARY FINANCIAL KNOWLEDGE ASSESSMENT

Building block	Financial knowledge & decision-making skills
Age group(s)	Ages 6 to 12
Milestone(s)	Does the child understand core basic financial processes and concepts?
Format	Multiple-choice quiz
Completed by	Child
Administered by	Teacher, program leader, researcher, or other adult
Measure details	Children answer 13 multiple-choice financial knowledge questions assessing familiarity with financial concepts like budgeting, income, saving, and paying rent, as well as financial calculations and knowledge of prices. Sample items include "Suppose you have $100 in a bank account that pays an interest rate of 10% per year. How much would you have in this bank account at the end of 2 years if you leave your account alone? (a) Exactly $102, (b) Exactly $120, (c) Less than $120, (d) More than $120, (e) Don't know or not sure" and "Which is closest to the cost of one ticket to a newly released movie at a regular movie theater? (a) $1, (b) $10, (c) $50, (d) $75, (e) $100, (f) Don't know." The score can be computed by adding the number of correct responses or using Item Response Theory (IRT). Questions and scoring information can be downloaded at https://centerforfinancialsecurity.files.wordpress.com/2016/09/validityreliabilitymeasures_final.pdf.
Relation to milestone	Direct

Relation to money or personal finance	Direct
Background and testing	These quiz questions were developed by Batty et al. (2015a) based on established sources such as the Council for Economic Education, the Federal Reserve financial literacy test, the Florida curriculum standards, Lusardi, Mitchell, and Cuerto (2010), and Batty, Collins, Odders-White (2015a) and were tested using children in grades 3 through 5. The Council for Economic Education also publishes longer assessments to accompany their Financial Fitness for Life program for upper elementary (grades 3 through 5) and middle school, which are included in this guide.
Special considerations	Not likely appropriate for the youngest children in this age group (below age 7 or 8). Some questions may be challenging even for older children and could be omitted or modified as needed (e.g., the interest calculation question above could be replaced with the more basic interest calculation question that appears in the "brief financial literacy assessment" in this guide). Initially developed for an evaluation of My Classroom Economy, a classroom economic system that teaches personal finance through experiential learning. Some questions therefore reflect the specific focus of that program.
Source(s)	Batty, Michael, J. Michael Collins, and Elizabeth Odders-White, *Validity and reliability of elementary student financial education outcome measures*, University of Wisconsin-Madison Center for Financial Security (2015a) available at https://centerforfinancialsecurity.files.wordpress.com/2016/09/validityreliabilitymeasures_final.pdf. Lusardi, Annamaria, Olivia S. Mitchell, and Vilsa Curto, *Financial literacy among the young*, Journal of Consumer Affairs 44, no. 2, 358-380 (2010).

TABLE 19: BRIEF FINANCIAL LITERACY ASSESSMENT

Measure name	Brief financial literacy assessment
Building block	Financial knowledge & decision-making skills
Age group(s)	Ages 13 to 21

Milestone(s)	Does the young adult grasp advanced financial processes and concepts?
Format	Multiple-choice quiz
Completed by	Young adult/teen
Administered by	Teacher, program leader, researcher, or other adult
Measure details	Respondents answer the following six questions that assess financial knowledge: Suppose you had $100 in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money to grow? (more than $102, exactly $102, less than $102, don't know, prefer not to say) Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, how much would you be able to buy with the money in this account? (more than today, exactly the same, less than today, don't know, prefer not to say) If interest rates rise, what will typically happen to bond prices? (they will rise, they will fall, they will stay the same, there is no relationship between bond prices and the interest rate, don't know, prefer not to say) Suppose you owe $1,000 on a loan and the interest rate you are charged is 20% per year compounded annually. If you didn't pay anything off, at this interest rate, how many years would it take for the amount you owe to double? (less than 2 years, at least 2 years but less than 5 years, at least 5 years but less than 10 years, at least 10 years, don't know, prefer not to say) Buying a single company's stock usually provides a safer return than a stock mutual fund. (true, false, don't know, prefer not to say)
Relation to milestone	Direct
Relation to money or personal finance	Direct

Background and testing	These questions come from the National Financial Capability Study, a survey of adults that covers many areas of financial capability. Financial knowledge is assessed using these six questions (M6 through M10 and M31 from the survey), some of which were developed by Lusardi and Mitchell and used in the 2004 Health and Retirement Survey and elsewhere to assess financial literacy. (See http://gflec.org/wp-content/uploads/2015/04/3-Questions-Article2.pdf.)
Special considerations	These or similar questions have been asked of high school students; thus, they are likely developmentally appropriate for the full age group (13 to 21), though the content may be less relevant for young teens.
Source(s)	Lusardi, Annamaria, and Olivia S. Mitchell, *The economic importance of financial literacy: Theory and evidence*, Journal of Economic Literature 52, no. 1, 5-44 (2014). National Financial Capability Study, FINRA Investor Education Foundation, available at http://www.usfinancialcapability.org/about.php

TABLE 20: BUDGETING AND TRACKING

Measure name	Budgeting and tracking
Building block	Financial habits & norms
Age group(s)	Ages 13 to 21
Milestone(s)	Does the young adult demonstrate positive money management habits and decision-making strategies?
Format	Survey
Completed by	Young adult/teen
Administered by	Teacher, program leader, researcher, or other adult
Measure details	Respondents answer the following open-ended and multiple-choice questions: Regardless of whether or not you are always able to follow it, do you have some kind of written budget or spending plan? Y/N

	If so, please describe that budget or spending plan. How often do you make changes to that budget or spending plan, and why? Please describe how you use that budget or spending plan to guide your expenses for the coming month. Which of the following statements best describes how you keep track of your income? (I keep a record of my income as it comes in. I have a general idea of my income, but do not keep a record as it comes in. I do not keep track of my income.) Which of the following statements best describes how you keep track of your spending? (I keep a record of my spending as it occurs. I have a general idea of my spending, but do not keep a record as it occurs. I do not keep track of my spending.)
Relation to milestone	Direct
Relation to money or personal finance	Direct
Background and testing	These questions come from the Success Measures financial capability outcome indicators and evaluation tools for youth ages 14 to 24. They were developed by a team with input from practitioners, researchers, public agencies, and others in the form of surveys and working groups, as well as a comprehensive review of the literature. The tools were field-tested by community organizations across the U.S.
Special considerations	Scoring of open-ended questions is more involved than scoring multiple-choice questions and often entails the development of scoring rubrics and use of text analysis tools to find key words or themes.
Source(s)	Anders, Jessica, Sarah Graddy, Margaret Grieve, and Deborah Visser, *Measuring Outcomes of Financial Capability Programs: Success Measures Tools for Practitioners* (Washington, DC: NeighborWorks America 2011) available at http://www.successmeasures.org/sites/all/files/FinancialCapabilityOnlineFinalOct2011.pdf.

TABLE 21: CHILDREN'S ABILITY TO WAIT

Measure name	Children's ability to wait

Building block	Executive function
Age group(s)	Ages 6 to 12
Milestone(s)	Does the child show the ability to plan ahead and delay gratification?
Format	Survey
Completed by	Teacher; accompanied by self-reports for students in grades 3 and up
Administered by	School/district administrator or researcher
Measure details	For teachers: On a scale from 1 to 4, how well does each of the following statements describe the student's behavior? Would you say 1 = none of the time, 2 = a little of the time, 3 = most of the time, or 4 = all of the time? Waited in line patiently Sat still when s/he was supposed to Waited for what s/he wanted For students: These questions are about different ways students may behave in school. Please mark the box that best describes you (not at all like me, a little like me, somewhat like me, a lot like me). I can wait in line patiently. I sit still when I'm supposed to. I can wait my turn to talk in class. Formatted surveys with instructions are available in Appendices B and C of the Child Trends report.
Relation to milestone	Indirect (captures self-control related to delay of gratification)
Relation to money or personal finance	Indirect
Background and testing	Child Trends reviewed existing measures for five social and emotional skills including self-control. They modified existing metrics as needed to closely align with the target constructs and age group (grades kindergarten through 5) and used input from

	teachers and experts in relevant fields along with the results of pilot testing to further refine and finalize the instruments.
Special considerations	Could consider administering the self-report survey to second graders, as well. See the discussion in Section 6.3.2 for guidance.
Source(s)	Child Trends, *Measuring Elementary School Students' Social and Emotional Skills: Providing Educators with Tools to Measure and Monitor Social and Emotional Skills that Lead to Academic Success* (2014) available at https://www.childtrends.org/publications/measuring-elementary-school-students-social-and-emotional-skills-providing-educators-with-tools-to-measure-and-monitor-social-and-emotional-skills-that-lead-to-academic-success/

TABLE 22: CHILDREN'S BEHAVIOR QUESTIONNAIRE (CBQ): ATTENTIONAL FOCUSING SCALE

Building block	Executive function
Age group(s)	Ages 3 to 5
Milestone(s)	Does the child begin to demonstrate self-regulation, persistence, and focus?
Format	Survey/scale
Completed by	Parent/caregiver or teacher
Administered by	Program leader, school/district administrator, or researcher

Measure details	Adult respondents indicate their level of agreement with 9 statements based on their child's behavior in the past six months on a 7-point scale (1 = extremely untrue of your child, 2 = quite untrue of your child, 3 = slightly untrue of your child, 4 = neither true nor false of your child, 5 = slightly true of your child, 6 = quite true of your child, 7 = extremely true of your child). My child: When picking up toys or other jobs, usually keeps at the task until it's done. When practicing an activity, has a hard time keeping her/his mind on it. R Will move from one task to another without completing any of them. R When building or putting something together, becomes very involved in what s/he is doing, and works for long periods. Has difficulty leaving a project s/he has begun. Is easily distracted when listening to a story. R Sometimes becomes absorbed in a picture book and looks at it for a long time. Has a hard time concentrating on an activity when there are distracting noises. R Items followed by an R are reverse-scored (meaning 1 = extremely true and 7 = extremely untrue). The full list of items and scoring instructions can be downloaded free of charge upon request at https://research.bowdoin.edu/rothbart-temperament-questionnaires/request-forms/.
Relation to milestone	Direct
Relation to money or personal finance	Indirect
Background and testing	The Children's behavior questionnaire (CBQ) was developed and tested for children ages 3 to 7. Rothbart et al. (2001) summarize research that establishes the CBQ's validity and reliability across several different samples. A form of the CBQ attentional focusing scale by Putman and Rothbart (2006) is used in the Early Child Longitudinal Study, Kindergarten class (ECLS-K). See https://nces.ed.gov/pubs2017/2017285.pdf.
Special considerations	N/A

Source(s)	Putnam, Samuel P., and Mary K. Rothbart, *Development of short and very short forms of the children's behavior questionnaire*, Journal of Personality Assessment 87, no. 1, 102-112 (2006). Rothbart, Mary K., Stephan A. Ahadi, Karen L. Hershey, Phillip Fisher, *Investigations of temperament at three to seven years: The children's behavior questionnaire*, Child Development 72, no. 5, 1394-1408 (2001).

TABLE 23: CHILDREN'S BEHAVIOR QUESTIONNAIRE (CBQ): INHIBITORY CONTROL SCALE

Measure name	Children's behavior questionnaire (CBQ): Inhibitory control scale
Building block	Executive function
Age group(s)	Ages 3 to 5
Milestone(s)	Can the child demonstrate these qualities when using and managing limited resources like time, money, treats, or belongings?
Format	Survey/scale
Completed by	Parent/caregiver or teacher
Administered by	Program leader, school/district administrator, or researcher
Measure details	Adult respondents indicate their level of agreement with 13 statements based on their child's behavior in the past six months using a 7-point scale (1 = extremely untrue of your child, 2 = quite untrue of your child, 3 = slightly untrue of your child, 4 = neither true nor false of your child, 5 = slightly true of your child, 6 = quite true of your child, 7 = extremely true of your child). Sample items that appear particularly relevant include "[My child] prepares for trips and outings by planning things s/he will need" and "[My child] is usually able to resist temptation when told s/he is not supposed to do something." The full list of items and scoring instructions can be downloaded free of charge upon request at https://research.bowdoin.edu/rothbart-temperament-questionnaires/request-forms/.

Relation to milestone	Indirect (evaluates children's ability to self-regulate by suppressing inappropriate responses and resisting temptation and thus is an indirect indicator of ability to self-regulate, persist, and focus when managing limited resources like time, money, treats, or belongings)
Relation to money or personal finance	Indirect
Background and testing	The Children's behavior questionnaire (CBQ) was developed and tested for children ages 3 to 7. Rothbart et al. (2001) summarize research that establishes the CBQ's validity and reliability across several different samples. A form of the CBQ inhibitory control scale by Putman and Rothbart (2006) is used in the Early Child Longitudinal Study, Kindergarten class (ECLS-K). See https://nces.ed.gov/pubs2017/2017285.pdf.
Special considerations	N/A
Source(s)	Putnam, Samuel P., and Mary K. Rothbart, *Development of short and very short forms of the children's behavior questionnaire*, Journal of Personality Assessment 87, no. 1, 102-112 (2006). Rothbart, Mary K., Stephan A. Ahadi, Karen L. Hershey, Phillip Fisher, *Investigations of temperament at three to seven years: The children's behavior questionnaire*, Child Development 72, no. 5, 1394-1408 (2001).

TABLE 24: CHILDREN'S DELIBERATENESS OF PLANNING

Measure name	Children's deliberateness of planning
Building block	Executive function
Age group(s)	Ages 6 to 12
Milestone(s)	Does the child show the ability to plan ahead and delay gratification?
Format	Observed task
Completed by	Child, with adult facilitator (1:1)

Administered by	Teacher, program leader, researcher, or other adult; evaluated by trained raters
Measure details	Children are asked to complete a long-lookahead maze. The adult administering the assessment reads the following instructions: "What I want you to do is to start here (experimenter points to the start) and try to find a way out (points to the exit). But I want you to get out without getting caught in any dead ends (points to a dead end). Can you show me another dead end in this maze? (Child points to a dead end). Great. Now, can you show me how to get out? (Gives child pen). Remember, try not to get caught in any dead ends" (Gardner and Rogoff, 1990, p. 481). Sessions are recorded at an angle that allows full view of the maze, the child's expression, and the direction of their gaze. Two raters view each recording and assess the child's deliberation on a 5-point scale with anchor points at 1, 3, and 5 and intermediate values of 2 and 4 used in rare cases when raters could not distinguish between two scores (1 = child did not pause to search ahead for a route and did not glance ahead of the pen while drawing; 3 = child looked ahead or traced a route some distance before drawing; 5 = child found, or appeared to believe he or she had found, a complete solution to the maze before drawing). Mazes are shown in Figure 1 of Gardner and Rogoff (1990). Some later studies use mazes on touch screens.
Relation to milestone	Direct (planning ahead)
Relation to money or personal finance	Indirect
Background and testing	Gardner and Rogoff (1990) examined the planning strategies of 89 children ages 4 to 9 who were asked to solve short- and long-look ahead mazes. They found that planning strategies were generally stable over time and were adapted to suit the structure of the maze, suggesting that long-look ahead mazes with instructions that emphasize accuracy can be used to elicit and assess deliberateness of planning.
Special considerations	Administered 1:1. Requires video equipment to record sessions. Requires trained raters to evaluate children's performance.

	Developed for children through age 9 but likely appropriate for the full age group (6 to 12).
Source(s)	Gardner, William, and Barbara Rogoff, *Children's deliberateness of planning according to task circumstances*, Developmental Psychology 26, no. 3, 480-487 (1990).

TABLE 25: CHILDREN'S PROPENSITY TO PLAN SCALE: BEHAVIOR

Measure name	Children's propensity to plan scale: Behavior
Building block	Executive function
Age group(s)	Ages 6 to 12
Milestone(s)	Does the child show the ability to plan ahead and delay gratification?
Format	Survey (partial scale)
Completed by	Child
Administered by	Teacher, program leader, researcher, or other adult
Measure details	Respondents answer the following questions on a 5-point scale (1 = never/not at all, 2 = rarely/a little, 3 = sometimes/some, 4 = often/quite a bit, 5 = very often/a lot): How often do you set goals for yourself? How often do you set goals for the next few days for what you want to achieve? How often do you have a plan for how your free time will be used in the next few days?
Relation to milestone	Direct
Relation to money or personal finance	Indirect
Background and testing	These items come from a 4-item scale developed by Batty et al. (2015a) for children in grades 3 through 5. The reliability and validity of the full scale were established in a small sample of 43 children ages 9 to 11.

Special considerations	Not likely appropriate for the youngest children in this age group (below age 7 or 8). Validated as part of a scale that includes an additional item. If both attitudes and behavior are of interest, the remaining item in the scale ("How much better does it make you feel to have your free time planned out for the next few days?") could be added to form a single 4-item scale as originally conceived.
Source(s)	Batty, Michael, J. Michael Collins, and Elizabeth Odders-White, *Validity and reliability of elementary student financial education outcome measures*, University of Wisconsin-Madison Center for Financial Security (2015a) available at https://centerforfinancialsecurity.files.wordpress.com/2016/09/validityreliabilitymeasures_final.pdf.

TABLE 26: COGNITIVE REFLECTION TEST (CRT)

Measure name	Cognitive reflection test (CRT)
Building block	Financial knowledge & decision-making skills
Age group(s)	Ages 13 to 21
Milestone(s)	Can the young adult identify trusted sources of information and process that information?
Format	3-question quiz
Completed by	Young adult/teen
Administered by	Teacher, program leader, researcher, or other adult

Measure details	Below are three items that vary in difficulty. Answer as many as you can. (1) A bat and a ball cost $1.10 in total. The bat costs $1.00 more than the ball. How much does the ball cost? _____ cents (Answer: 5 cents) (2) If it takes 5 machines 5 minutes to make 5 widgets, how long would it take 100 machines to make 100 widgets? _____ minutes (Answer: 5 minutes) (3) In a lake, there is a patch of lily pads. Every day, the patch doubles in size. If it takes 48 days for the patch to cover the entire lake, how long would it take for the patch to cover half of the lake? _____ days (Answer: 47 days)
Relation to milestone	Indirect (measures young adults' ability to suppress "fast" or automatic System 1 thinking in favor of the more deliberate or "slow" System 2 thinking needed to seek out and process financial information to avoid mistakes)
Relation to money or personal finance	Indirect
Background and testing	Frederick (2005) developed the Cognitive reflection test (CRT) and tested it on 3,428 individuals across 35 separate studies. The questions are designed to elicit an immediate "intuitive" response that is incorrect and must be suppressed in favor of further reflection. Most respondents were college students, but young adults and older adults were included as well. Frederick (2005), along with some of the many researchers who have used the CRT, established the CRT's predictive validity and reliability.
Special considerations	Items in the Cognitive reflection test (CRT) are becoming more broadly known, diminishing the efficacy of the tool. Several authors (e.g., Toplak et al, 2013; Thomson and Oppenheimer, 2016) have developed updated versions of the CRT in an attempt to combat the problem of familiarity with the original questions.
Source(s)	Frederick, Shane, *Cognitive reflection and decision making*, Journal of Economic Perspectives 19, no. 4, 25-42 (2005). Thomson, Keela S., and Daniel M. Oppenheimer, *Investigating an alternate form of the cognitive reflection test*, Judgment and Decision Making 11, no. 1, 99-113 (2016).

	Toplak, Maggie E., Richard F. West, and Keith E. Stanovich, *Assessing miserly information processing: An expansion of the cognitive reflection test*, Thinking & Reasoning 20, no. 2, 147-168 (2014).

TABLE 27: COLORADO CHILD TEMPERAMENT INVENTORY (CCTI): ATTENTION SPAN-PERSISTENCE SUBSCALE

Measure name	Colorado child temperament inventory (CCTI): Attention span-persistence subscale
Building block	Executive function
Age group(s)	Ages 3 to 5
Milestone(s)	Does the child begin to demonstrate self-regulation, persistence, and focus?
Format	Survey/scale
Completed by	Parent/caregiver
Administered by	Program leader, researcher, or other adult
Measure details	Parents/caregivers rate their agreement with the following statements on a 5-point scale (1 = not at all like the child, 5 = a lot like the child): Plays with a single toy for long periods of time. Child persists at a task until successful. Child goes from toy to toy quickly. R Child gives up easily when difficulties are encountered. R With a difficult toy, child gives up quite easily. R Items followed by an R are reverse-scored (meaning 1 = a lot like the child and 5 = not at all like the child). Item responses are summed to produce a single scale score.
Relation to milestone	Direct
Relation to money or personal finance	Indirect

Background and testing	Rowe and Plomin (1977) conducted an analysis of two existing temperament structures – one from the New York Longitudinal Study and the other called EASI (emotionality, activity, sociability, and impulsivity) – and merged them to create the Colorado childhood temperament inventory (CCTI). The CCTI is designed for children ages 1 to 6, and Rowe and Plomin (1977) tested it on 91 sets of twins, establishing internal consistency and test-retest reliability. Subsequent research (e.g., McClelland et al., 2013) established the predictive validity of the CCTI attention span-persistence subscale by linking scores in preschool to later outcomes of interest.
Special considerations	N/A
Source(s)	McClelland, Megan M., Alan C. Acock, Andrea Piccinin, Sally Ann Rhea, and Michael C. Stallings, *Relations between preschool attention span-persistence and age 25 educational outcomes*, Early Childhood Research Quarterly 28, no. 2, 314–324 (2013). Rowe, David C., and Robert Plomin, *Temperament in early childhood*, Journal of Personality Assessment 41, no. 2, 150-156 (1977).

TABLE 28: CONFORMITY DISPOSITION

Measure name	Conformity disposition
Building block	Financial habits & norms
Age group(s)	Ages 6 to 12 and 13 to 21
Milestone(s)	Can the child make spending and saving decisions aligned with his or her goals and values? (6 to 12) Can the young adult make spending and saving decisions aligned with his or her goals and values? (13 to 21)
Format	Survey (read aloud to younger children)
Completed by	Child/young adult
Administered by	Teacher, program leader, researcher, or other adult

Measure details	Children/young adults are provided (in writing or read aloud to younger children) a series of stories or vignettes in which "a few kids in [their] neighborhood" or "a couple of [their] best friends" are encouraging them to participate in an activity that is negative (e.g., cheating, taking candy from a store without paying, trespassing) or that is neutral or positive but not what the child wants to do (e.g., go bowling when they want to go to a movie or helping a friend's brother with homework when they want to help a sick child). Children/young adults are asked which activity they would choose and how confident they are in that choice on a 6-point scale, with 1 representing absolute certainty that they would not participate in the peer-sponsored activity and 6 representing absolute certainty that they would participate in the peer-sponsored activity (i.e., would conform). They are told that no one will see their answers. Lower scores indicate lower conformity disposition.
Relation to milestone	Indirect (ability to resist peer pressure supports making choices aligned with one's own goals and values rather than the goals and values of others)
Relation to money or personal finance	Indirect (non-financial vignettes) and/or direct (vignettes with a financial theme)
Background and testing	Berndt (1979) developed and tested this measure of peer conformity on two samples of children/young adults (n=251 and 273) in grades 3, 6, 9, and 11 or 12. Internal consistency/reliability was established for all but prosocial conformity. Other researchers have since created updated vignettes (e.g., Santor et al., 2000, Table II, p. 172).
Special considerations	May not be appropriate for the youngest children in this age group (below age 7 or 8). Vignettes involving negative behaviors may be especially prone to social desirability bias (in which respondents provide answer that make them look good), particularly if the child is responding directly to the survey administrator. Ideally, children/young adults will respond anonymously in writing, even if the survey is read to them. They should be assured that their responses will not be seen by the teacher, program leader, etc.

Source(s)	Berndt, Thomas J., *Developmental changes in conformity to peers and parents*, Developmental Psychology 15, no. 6, 608-616 (1979). Santor, Darcy A., Deanna Messervey, and Vivek Kusumakar, *Measuring peer pressure, popularity, and conformity in adolescent boys and girls: Predicting school performance, sexual attitudes, and substance abuse*, Journal of Youth and Adolescence 29, no. 2, 163-182 (2000).

TABLE 29: CONSEQUENCES OF ADVERTISING

Measure name	Consequences of advertising
Building block	Financial habits & norms
Age group(s)	Ages 3 to 5
Milestone(s)	Has the child developed basic values and attitudes around keeping (saving) and using (consuming) resources?
Format	View an ad, followed by an interview
Completed by	Child, with adult interviewer (1:1)
Administered by	Trained interviewer (ideally), with assistance from a teacher, program leader, or other adult
Measure details	Preschoolers are shown an ad for a fictitious but generally familiar toy (e.g., a new toy in an existing line) and then are asked to choose between playing with a child who has the advertised toy but is “not so nice” or playing with a child who is “nice” but does not have the toy.
Relation to milestone	Indirect (assesses relative weight put on material goods versus intangibles)
Relation to money or personal finance	Indirect
Background and testing	Goldberg and Gorn (1978) developed and refined this approach in a series of pilot studies involving 10, and eventually 40, preschool students ages 4 and 5.

Special considerations	Requires the development of a fictitious advertisement (a video "TV" ad was used in the original study, but a print ad would likely be acceptable). Administered 1:1. Ideally, conducted by a set of trained interviewers.
Source(s)	Goldberg, Marvin E., and Gerald J. Gorn, *Some unintended consequences of TV advertising to children*, Journal of Consumer Research 5, no. 1, 22–29 (1978).

TABLE 30: CONSUMER SELF-CONFIDENCE: INFORMATION ACQUISITION SUBSCALE

Measure name	Consumer self-confidence: Information acquisition subscale
Building block	Financial knowledge & decision-making skills
Age group(s)	Ages 13 to 21
Milestone(s)	Can the young adult identify trusted sources of information and process that information?
Format	Survey/scale
Completed by	Young adult/teen
Administered by	Teacher, program leader, researcher, or other adult
Relation to milestone	Direct
Relation to money or personal finance	Direct
Background and testing	Bearden et al. (2001) developed the Consumer self-confidence scale using existing studies along with exploratory interviews with 43 adult consumers, followed by input from 14 experts. The scale was further refined using two samples of 221 and 204 non-student adults and tested for reliability and discriminant validity on a sample of 252 undergraduate students.
Special considerations	Tested on adults (including college students) but likely developmentally appropriate for the full age group (13 to 21), though the content may be less relevant for young teens.

Source(s)	Bearden, William O., David M. Hardesty, and Randall L. Rose, *Consumer self-confidence: refinements in conceptualization and measurement*, Journal of Consumer Research 28, no. 1, 121–134 (2001).

TABLE 31: COUNTING-ERROR DETECTION

Measure name	Counting-error detection
Building block	Financial knowledge & decision-making skills
Age group(s)	Ages 3 to 5
Milestone(s)	Does the child have early numeracy skills like counting and sorting?
Format	Structured activity assessed by observer
Completed by	Child, with adult facilitator (1:1)
Administered by	Teacher, program leader, researcher, or other adult
Measure details	Children's understanding of counting concepts and awareness of (un)essential features is assessed by having them watch a puppet count a line of chips or checkers alternating in color (e.g., red and blue or black). The child is given the following instructions orally (Gelman and Meck, 1983): "This is my friend, Mr. Horse (Lion) and he would like you to help in playing the game. Mr. Horse is going to count the things on the table but Mr. Horse is just learning how to count and sometimes he makes mistakes. Sometimes he counts in ways that are OK but sometimes he counts in ways that are not OK and that are wrong. It is your job to tell him after he finishes counting if it was OK to count the way he did or not OK. So remember you have to tell him if he counts in a way that is OK or in a way that is not OK and wrong." Gelman and Meck (1983) use set sizes of 6, 8, 12, and 20 for four year olds and set sizes of 6 and 12 for three year olds. Each child experienced 6 trials: 2 with correct counting, 2 with pseudo-error counting, and 2 with in-error counting. In correct counting, the puppet moves in a line from beginning to end, touching each item (e.g., a row of chips or checkers) in sequence. Pseudo-error counting involves the puppet first counting all of the

	chips/checkers of one color and then moving back to count the other color, ultimately arriving at an accurate count. In-error counting involves skipping an item or double-counting an item. Moore et al. (2016) divided correct counting into two different categories – left to right counting and right to left counting. If children label a counting sequence as OK or not OK before the puppet is finished counting, the trial is started again. The score is the percentage of trials correctly identified as OK or not OK.
Relation to milestone	Direct
Relation to money or personal finance	Indirect
Background and testing	Gelman and Meck (1983) tested this approach on a small sample of preschool children (12 three year olds and 12 four year olds) of various races and ethnic backgrounds. Children's comments during the trials were noted and suggested that children were paying attention and that most implicitly understood the one-to-one counting principle and results confirmed that it is easier for young children to identify counting errors than to count independently. The approach has been used by several other researchers (e.g., Moore et al., 2016, on a sample of 112 children ages 3 to 5).
Special considerations	Administered 1:1. Requires simple props.
Source(s)	Gelman, Rochel and Elizabeth Meck, *Preschoolers' counting: Principles before skill*, Cognition 13, 343–359 (1983). Moore, Alex M., Kristy van Marle, and David C. Geary, *Kindergarteners' fluent processing of symbolic numerical magnitude is predicted by their cardinal knowledge and implicitly understanding of arithmetic 2 years earlier*, Journal of Experimental Child Psychology 150, 31-47 (2016).

TABLE 32: CREDIT CARD USAGE

Measure name	Credit card usage

Building block	Financial habits & norms
Age group(s)	Ages 13 to 21
Milestone(s)	Does the young adult demonstrate positive money management habits and decision-making strategies?
Format	Survey
Completed by	Young adult/teen
Administered by	Teacher, program leader, researcher, or other adult
Measure details	Respondents answer the following multiple-choice questions: Do you currently have any credit cards in your name? Y/N (If "N," the survey is complete.) Which of the following statements best describes the monthly payments you typically make when you receive your credit card bill(s)? (Less than the minimum amount that appears on the bill; the minimum amount that appears on the bill; more than the minimum amount, but less than the full balance; the full balance, that is, the entire bill) Below is a list of experiences people sometimes have when they use credit cards. Please indicate whether or not you have done each of these during the past 12 months by answering "yes" or "no" for each one. Pay a late fee on a credit card Reach your limit on a credit card Receive a phone call or letter about an overdue credit card bill
Relation to milestone	Direct
Relation to money or personal finance	Direct
Background and testing	These questions come from the Success Measures financial capability outcome indicators and evaluation tools for youth ages 14 to 24. They were developed by a team with input from practitioners, researchers, public agencies, and others in the form of surveys and working groups, as well as a comprehensive review of the literature. The tools were field-tested by community organizations across the U.S.

Special considerations	Only useful for young people age 18 and over with verifiable, independent income or assets per the Credit Card Accountability Responsibility and Disclosure (Credit CARD) Act.
Source(s)	Anders, Jessica, Sarah Graddy, Margaret Grieve, and Deborah Visser, *Measuring Outcomes of Financial Capability Programs: Success Measures Tools for Practitioners* (Washington, DC: NeighborWorks America 2011) available at http://www.successmeasures.org/sites/all/files/FinancialCapabilityOnlineFinalOct2011.pdf.

TABLE 33: CRITICAL THINKING TESTS

Measure name	Critical thinking tests
Building block	Executive function
Age group(s)	Ages 13 to 21
Milestone(s)	Does the young adult demonstrate critical-thinking skills?
Format	Written assessments (essay and/or multiple choice)
Completed by	Young adult/teen
Administered by	Teacher, program leader, researcher, or other adult
Measure details	Several free assessment tools exist, as well as many that require a fee for use (and are, therefore, not included in this guide). These tools take different forms. Essay test: Students read a letter to the editor and respond to it (in letter form), defending their position. The letter, instructions, and a scoring rubric are available at http://faculty.education.illinois.edu/rhennis/tewctet/Ennis-Weir_Merged.pdf. Multiple-choice tests: In two different 72-item tests, respondents answer yes," "no," or "maybe" for each item. Sample items include "Suppose you know that Bill is next to Sam. Then would this be true? Sam is next to Bill" and "Suppose you know that the pit is inside of the mouth of the fox and the cherry is inside the mouth of the fox. Then would this be true? The pit is inside the

	cherry." Both tests are available at: http://faculty.education.illinois.edu/rhennis/infocornelldedtests.htm
Relation to milestone	Direct
Relation to money or personal finance	Indirect
Background and testing	Essay test: The Ennis-Weir critical thinking essay test (Ennis and Weir, 1985) was designed for high school and college students but has been administered to upper-elementary and middle school students, as well. The test has been widely used and its reliability has been established. Evidence of "situational validity" is presented here: http://faculty.education.illinois.edu/rhennis/supplewmanual1105.htm. Multiple-choice tests: The Cornell class-reasoning test (Form X) and the Cornell conditional-reasoning test (Form X) were developed by Ennis et al. (1965) for students in grades 4 through 14 (college undergraduates). A thorough discussion of the development and testing of these instruments on students in grades 4 through 12—including evidence of content validity, construct validity, and test-retest reliability—can be found here: https://files.eric.ed.gov/fulltext/ED003818.pdf.
Special considerations	N/A
Source(s)	Ennis, Robert H., William L. Gardiner, John Guzzetta, Richard Morrow, Dieter Paulus, and Lucille Ringel, Cornell Critical Thinking Test Series, Illinois Critical Thinking Project, Department of Educational Policy Studies, University of Illinois at Urbana-Champaign (1964). Ennis, Robert H., and Eric Weir, The Ennis-Weir Critical Thinking Essay Test (Pacific Grove, CA: Midwest Publications 1985).

TABLE 34: DECISIONS TO ACHIEVE GOALS

Measure name	Decisions to achieve goals
Building block	Financial habits & norms

Age group(s)	Ages 13 to 21
Milestone(s)	Can the young adult make spending and saving decisions aligned with his or her goals and values?
Format	Survey item
Completed by	Young adult/teen
Administered by	Teacher, program leader, researcher, or other adult
Measure details	Respondents rate their agreement with the following statement on a 4-point scale (1 = not at all like you, 2 = a little like you, 3 = mostly like you, 4 = very much like you): You make decisions to achieve your goals.
Relation to milestone	Direct
Relation to money or personal finance	Indirect
Background and testing	Oman et al. (2002) developed and tested measures of a variety of youth developmental assets as part of the Healthy, Empowered and Responsible Teens of Oklahoma City (HEART of OKC) project funded by the Centers for Disease Control and Prevention (CDC). Assets were identified using input collected from interviews, focus groups, and secondary data sources. A literature review and pilot studies helped to identify and refine measures for each asset, including simplifying language to a sixth-grade reading level or below. The primary study included 1350 youth (mean age 15.4) and established the predictive validity of the scales for risk behaviors. This item comes from the 6-item Responsible Choices Scale.
Special considerations	Validated as part of a scale, not as an individual item.
Source(s)	Oman, Roy F., Sara K. Vesley, Kenneth R. McLeroy, Vicki Harris-Wyatt, Cheryl B. Aspy, Sharon Rodine, and Ladonna Marshall, *Reliability and validity of the youth asset survey (YAS)*, Journal of Adolescent Health 31, 247-255 (2002).

TABLE 35: DELAY DISCOUNTING TASK

Building block	Executive function
Age group(s)	Ages 6 to 12 and 13 to 21
Milestone(s)	Does the child show the ability to plan ahead and delay gratification? (6 to 12) Has the young adult demonstrated the ability to plan ahead and delay gratification? (13 to 21)
Format	Interview, survey, or computerized task
Completed by	Child/young adult (possibly 1:1 with adult facilitator)
Administered by	Teacher, program leader, researcher, or other adult
Measure details	There are many different ways to administer the delay discounting task, sometimes referred to as a "monetary choice procedure." In all cases, the objective is to determine how heavily respondents discount future rewards. Those with large "discount rates" are less likely to delay gratification. Participants' preferences between receiving a larger benefit later or a smaller benefit now are determined. This often occurs by asking respondents what amount of money they would demand today in place of a fixed payment (e.g., $1000) at some future date. For example, Romer et al. (2010) asked 14 to 22 year olds whether they would accept a hypothetical payment of $500 today in lieu of a payment of $1000 in 6 months. The hypothetical payment is then raised or lowered based on the response until the lowest value the person will accept is determined. Steinberg et al. (2009) used a responsive, computer-based task to determine the hypothetical payment that was equivalent to $1000 at a future date for respondents ages 10 to 30. “Pencil and paper” versions also exist. (See, for example, Kirby et al., 1999). The delay discounting task can be modified for children by using choices between smaller toys or prizes now and larger prizes later. For example, in one variation, 8 to 12 year olds are given the choice each week for twelve weeks to either spend points immediately on a small prize now or save them for a larger prize. The fraction of points that each child saved is a measure of the child's ability to delay gratification (Bruce et al., 2011).

Relation to milestone	Direct (delay gratification)
Relation to money or personal finance	Direct (using monetary choice) or indirect (using prizes)
Background and testing	The delay discounting task is widely used, and many studies have established the reliability and validity of various forms of the task.
Special considerations	Computer-based versions are likely easier to administer (do not require 1:1 interaction) but require access to technology and may necessitate the purchase of software (some free versions are available). May require prizes or treats (for modified version for children).
Source(s)	Bruce, Amanda S., W.R. Black, J.M. Bruce, M. Daldalian, L.E. Martin, and A.M. Davis, *Ability to delay gratification and BMI in preadolescence*, Obesity 19, no. 5, 1101-1102 (2011). Kirby, Kris N., Nancy M. Petry, and Warren K. Bickel, *Heroin addicts have higher discount rates for delayed rewards than non-drug-using controls*, Journal of Experimental Psychology: General 128, no. 1, 78-98 (1999). Romer, Daniel, Angela L. Duckworth, Sharon Sznitman, and Sunhee Park, *Can adolescents learn self-control? Delay of gratification in the development of control over risk taking*, Prevention Science 11, no. 3, 319-330 (2010). Steinberg, Laurence, Sandra Graham, Lia O'Brien, Jennifer Woolard, Elizabeth Cauffman, and Marie Banich, *Age differences in future orientation and delay discounting*, Child Development 80, no. 1, 28–44 (2009).

TABLE 36: DELAYING GRATIFICATION INVENTORY (DGI): MONEY SCALE

Building block	Executive function
Age group(s)	Ages 13 to 21
Milestone(s)	Has the young adult demonstrated the ability to plan ahead and delay gratification?
Format	Survey/scale

Completed by	Young adult/teen
Administered by	Teacher, program leader, researcher, or other adult
Measure details	Respondents rate their level of agreement with 7 items using a 5-point scale (1 = strongly disagree and 5 = strongly agree, mid-range values were not labeled): When I am able to, I try to save away a little money in case an emergency should arise. It is hard for me to resist buying things I cannot afford. R I try to spend my money wisely. I cannot be trusted with money. R When someone gives me money, I prefer to spend it right away. I manage my money well. I enjoy spending money the moment I get it. R Items followed by an R are reverse-scored (meaning 1 = strongly agree and 5 = strongly disagree).
Relation to milestone	Direct (delay gratification)
Relation to money or personal finance	Direct
Background and testing	The full inventory, developed by Hoerger et al. (2011), includes 35 items covering 5 domains. Measures were tested and refined across 4 studies using internet pools of thousands of participants from around the world. Internal consistency, construct validity, and test-retest reliability were established.
Special considerations	Designed for adults, but most questions likely appropriate for the full age group (13 to 21).
Source(s)	Hoerger, Michael, Stuart W. Quirk, and Nathan C. Weed, *Development and validation of the delaying gratification inventory*, Psychological Assessment 23, no. 3, 725–738 (2011).

TABLE 37: EARLY ADOLESCENT TEMPERAMENT QUESTIONNAIRE (EATQ): ACTIVATION CONTROL SCALE

Measure name	Early adolescent temperament questionnaire (EATQ): Activation control scale
Building block	Executive function
Age group(s)	Ages 6 to 12 and 13 to 21
Milestone(s)	Does the child show the ability to plan ahead and delay gratification? (6 to 12) Has the young adult demonstrated the ability to plan ahead and delay gratification? (13 to 21)
Format	Survey/scale
Completed by	Child/young adult and/or parent
Administered by	Teacher, program leader, researcher, or other adult
Measure details	Respondents rate the following eight items based on how true they are for them (or for their child in the case of parent reports) on a 5-point scale (1 = almost always untrue, 2 = usually untrue, 3 = sometimes true, sometimes untrue, 4 = usually true, 5 = almost always true): I have a hard time finishing things on time. R I do something fun for a while before starting my homework, even when I'm not supposed to. R When someone asks me to do something, I do it right away, even if I don't want to. If my friends are mad at me, I try to stay away from them. R I finish my homework before the due date. I tend to be on time for school and appointments. If I have a hard assignment to do, I get started right away. I put off working on projects until right before they're due. R The EATQ Inhibitory control scale is an additional alternative. Especially relevant questions include "It's hard for me not to open presents before I'm supposed to" and "I stick with my plans and goals." The full list of items and scoring instructions for the EATQ can be downloaded free of charge upon request at

	https://research.bowdoin.edu/rothbart-temperament-questionnaires/request-forms/.
Relation to milestone	Indirect (measures self-control related to performing an action one would prefer to avoid, which links to the ability to stick to plans and delay gratification)
Relation to money or personal finance	Indirect
Background and testing	The original Early adolescent temperament questionnaire (EATQ), which consists of multiple scales, was developed by Capaldi and Rothbart (1992) who tested it using over 200 adolescents ages 11 to 14 and established the reliability and validity of the scales. The revised version by Ellis and Rothbart (2001) is designed to better measure self-regulation and was tested on 177 adolescents ages 10 to 16 as well as 62 parents. The reliability and convergent validity of the revised self-report and parent scales were established.
Special considerations	Tested on ages 10 to 16 but likely appropriate for the full age group (6 to 21), particularly if supplemented with or replaced by parent reports for young children. Some questions not appropriate for young adults who aren't in school.
Source(s)	Ellis, Lesa K., and Mary K. Rothbart, *Revision of the early adolescent temperament questionnaire*, Biennial Meeting of the Society for Research in Child Development (2001).

TABLE 38: ENSURE A FINANCIALLY SECURE FUTURE

Building block	Executive function
Age group(s)	Ages 13 to 21
Milestone(s)	Does the young adult demonstrate future orientation?
Format	Survey

Completed by	Young adult/teen
Administered by	Teacher, program leader, researcher, or other adult
Measure details	Respondents report how often the following applies to them on a 4-point scale (almost never, sometimes, often, and almost always): I study to ensure that my future will be financially secure.
Relation to milestone	Direct
Relation to money or personal finance	Indirect
Background and testing	This item was administered to 15 (and 16) year olds as part of the Program for International Assessment (PISA) student questionnaire and the Educational Longitudinal Study of 2002 (ELS:2002).
Special considerations	Only appropriate for students.
Source(s)	Education Longitudinal Study of 2002, National Center for Education Statistics, available at https://nces.ed.gov/surveys/els2002/index.asp.
	Organisation for Economic Cooperation and Development, Program for International Student Assessment (PISA) available at http://www.oecd.org/pisa/.

TABLE 39: ENSURE A FINANCIALLY SECURE FUTURE

Measure name	Expected versus ideal choices
Building block	Financial habits & norms
Age group(s)	Ages 13 to 21
Milestone(s)	Can the young adult make spending and saving decisions aligned with his or her goals and values?
Format	Survey
Completed by	Young adult/teen

Administered by	Teacher, program leader, researcher, or other adult
Measure details	Respondents are presented the following hypothetical scenario: Suppose you win ten certificates, each of which can be used (once) to receive a "dream restaurant night." On each such night, you and a companion will get the best table and an unlimited budget for food and drink at a restaurant of your choosing. There will be no cost to you: all payments, including gratuities, come as part of the prize. The certificates are available for immediate use, starting tonight, and there is an absolute guarantee that they will be honored by any restaurant you select if they are used within a two-year period; however, any that remain are valueless. They are then asked to respond to the following questions: (a) From your current perspective, how many of the ten certificates would you ideally like to use in year 1 as opposed to year 2? (b) Some people might be tempted to depart from their ideal allocation in (a). Which of the following best describes you (please mark only one): I would be strongly/somewhat tempted to keep more certificates for use in the second year than would be ideal; I would have no temptation in either direction (skip to d); I would be somewhat/strongly tempted to use more certificates in the first year than would be ideal. (c) If you were to give in to your temptation, how many certificates do you think you would use in year 1 as opposed to year 2? (d) Based on your most accurate forecast of how you think you would actually behave, how many of the nights would you end up using in year 1 as opposed to year 2? The difference between the answers in (d) and (a) measure the gap between ideal choices and likely actions.
Relation to milestone	Indirect (ability to act in accordance with one's preferences supports making choices aligned with one's goals and values)
Relation to money or personal finance	Indirect
Background and testing	Ameriks et al. (2007) developed these questions, which were included in a survey sent to TIAA-CREF participants, a sample with above-average wealth and education. Their final sample included 1,520 responses and demonstrated convergent validity.

	A modified version of the measure was used on a sample of residents in a homeless shelter (Halafir and Linardi, 2017).
Special considerations	Developed for adults but likely appropriate for the full age group (13 to 21).
Source(s)	Ameriks, John, Andrew Caplin, John Leahy, and Tom Tyler, *Measuring self-control problems*, American Economic Review 97, no. 3, 966-972 (2007). Halafir, Elif Incekara and Sera Linardi, *Awareness of low self-control: Theory and evidence from a homeless shelter*, Journal of Economic Psychology 61, 39–54 (2017).

TABLE 40: FEEL CALMER BY SAVING

Building block	Financial habits & norms
Age group(s)	Ages 13 to 21
Milestone(s)	Does the young adult have a positive attitude toward planning, saving, frugality, and self-control?
Format	Survey item
Completed by	Young adult/teen
Administered by	Teacher, program leader, researcher, or other adult
Measure details	Respondents rate their agreement with the following statement using a 3-point scale (mostly true, mostly not true): I would feel calmer if I could save more.
Relation to milestone	Direct (saving)
Relation to money or personal finance	Direct
Background and testing	This question comes from the Success Measures financial capability outcome indicators and evaluation tools for youth ages 14 to 24. They were developed by a team with input from practitioners, researchers, public agencies, and others in the form of surveys and working groups, as well as a comprehensive

	review of the literature. The tools were field-tested by community organizations across the U.S.
Special considerations	N/A
Source(s)	Anders, Jessica, Sarah Graddy, Margaret Grieve, and Deborah Visser, *Measuring Outcomes of Financial Capability Programs: Success Measures Tools for Practitioners* (Washington, DC: NeighborWorks America 2011) available at http://www.successmeasures.org/sites/all/files/FinancialCapabilityOnlineFinalOct2011.pdf.

TABLE 41: FINANCIAL CAPABILITY SCALE FOR YOUNG ADULTS (FCS-Y): CONFIDENCE

Building block	Financial habits & norms
Age group(s)	Ages 6 to 12 and 13 to 21
Milestone(s)	Is the child self-confident about completing age-appropriate financial tasks? (6 to 12) Does the young adult demonstrate appropriate financial self-efficacy? (13 to 21)
Format	Survey (scale item)
Completed by	Child/young adult
Administered by	Teacher, program leader, researcher, or other adult
Measure details	Respondents answer the following question on a 3-point scale (not at all confident, somewhat confident, very confident): How confident are you in your ability to achieve a financial goal you set for yourself today?
Relation to milestone	Direct
Relation to money or personal finance	Direct

Background and testing	This question comes from the 6-item Financial capability scale for young adults (FCS-Y), a modified version of the Financial capability scale (FCS) that was created for individuals ages 18 to 22. The FCS-Y was validated against the CFPB's Financial Well-Being Scale and 5 financial literacy questions from the National Financial Capability Study. See https://fyi.uwex.edu/financialcoaching/files/2017/03/FCS-Y_technical_note.pdf for details.
Special considerations	Tested on young people ages 18 to 22 but likely appropriate for children in grades 3 and up. Validated as part of a scale, not as an individual item. If financial behavior is also of interest and the target population is beginning to assume some financial responsibility, the full 6-item FCS-Y could be used.
Source(s)	Financial Capability Scale, University of Wisconsin-Madison Center for Financial Security and Annie E Casey Foundation, available at https://fyi.uwex.edu/financialcoaching/measures/.

TABLE 42: FINANCIAL FITNESS FOR LIFE ASSESSMENTS

Measure name	Financial fitness for life assessments
Building block	Financial knowledge & decision-making skills
Age group(s)	Ages 6 to 12 and 13 to 21
Milestone(s)	Does the child understand core basic financial processes and concepts? (6 to 12) Does the young adult grasp advanced financial processes and concepts? (13 to 21)
Format	Written assessments (tests and quizzes)
Completed by	Child/young adult
Administered by	Teacher, program leader, researcher, or other adult
Measure details	The Financial Fitness for Life curriculum includes assessment materials for grades K through 12. Multiple-choice tests covering concepts ranging from opportunity cost to taxes are available for

	upper elementary students (40-item test), middle school students (50-item test), and high school students (50-item test). Materials are available for download at https://www.econedlink.org/resources/FFFL-UE-Manual-110404.pdf (upper elementary); https://www.econedlink.org/resources/FFFL-MS-Manual-110404.pdf (middle school); https://www.econedlink.org/resources/FFFL-HS-Manual-110404.pdf (high school). Access to additional assessments, including those for early elementary students, can be requested at http://fffl.councilforeconed.org/ and may require payment.
Relation to milestone	Direct
Relation to money or personal finance	Direct
Background and testing	With support from Bank of America, the Council for Economic Education partnered with experts to develop a set of personal finance curricula that correlate with state and national standards for grades K through 12 and include assessments.
Special considerations	N/A
Source(s)	Financial Fitness for Life Personal Finance Lessons for Grades K-12 (New York: Council for Economic Education). Walstad, William B., and Ken Rebeck, Financial Fitness for Life Upper Elementary Test Examiner's Manual (New York: National Council on Economic Education 2005). Walstad, William B., and Ken Rebeck, Financial Fitness for Life Middle School Test Examiner's Manual (New York: National Council on Economic Education 2005). Walstad, William B., and Ken Rebeck, Financial Fitness for Life High School Test Examiner's Manual (New York: National Council on Economic Education 2005).

TABLE 43: FINANCIAL IQ

Building block	Financial knowledge & decision-making skills
Age group(s)	Ages 13 to 21

Milestone(s)	Does the young adult grasp advanced financial processes and concepts?
Format	28-question true-false quiz
Completed by	Young adult/teen
Administered by	Teacher, program leader, researcher, or other adult
Measure details	Respondents answer 28 true-false questions covering a variety of topics including credit (e.g., "Creditors are required to tell you the APR that you will pay when you get a loan"), saving (e.g., "If you have a savings account at a bank, you may have to pay taxes on the interest you earn"), investment (e.g., "Mutual funds pay a guaranteed rate of return"), and mortgages (e.g., "If the interest rate on an adjustable-rate mortgage loan goes up, your monthly mortgage payments will also go up"). The full set of questions (with answers) is available at https://www.federalreserve.gov/pubs/bulletin/2003/0703lead.pdf (on page 313).
Relation to milestone	Direct
Relation to money or personal finance	Direct
Background and testing	The Federal Reserve commissioned a set of financial questions to be added to the University of Michigan's Surveys of Consumers (administered to adults). Questions were based in part on existing surveys and were reviewed by researchers.
Special considerations	Not likely appropriate for middle school students (only high school and beyond).
Source(s)	Hogarth, Jeanne M., and Marianne Hilgert, *Financial knowledge, experience, and learning preferences: Preliminary results from a new survey on financial literacy*, Consumer Interest Annual, Proceedings of the American Council on Consumer Interests 2002 Annual Conference (2002) available at http://www.consumerinterests.org/assets/docs/CIA/CIA2002/hogarth-hilgert_financial%20knowledge.pdf.

TABLE 44: FINANCIAL RESPONSIBILITY

Building block	Financial habits & norms
Age group(s)	Ages 13 to 21
Milestone(s)	Does the young adult demonstrate positive money management habits and decision-making strategies?
Format	Survey
Completed by	Young adult/teen
Administered by	Teacher, program leader, researcher, or other adult
Measure details	Respondents indicate the level of responsibility they take for various financial activities: How much responsibility do you currently take for… Paying your rent or mortgage? Paying your bills? Managing your money? Would you say: Somebody else does this for me all of the time, somebody else does this most of the time, I do this half of the time, I do this most of the time, or I am completely responsible for this all of the time? If desired, these items could be augmented with the following more detailed questions: Do you currently own a car, truck or other vehicle? Y/N If so, do you currently have a loan on that vehicle? Y/N If so, during the past 12 months, how often did you make your vehicle loan payment(s) on time and in full? (Always, usually, sometimes, rarely, never) Do you currently have a student or educational loan with a bank, credit union, or other financial institution? Y/N If so, are payments on that student or education loan currently due, or is the loan deferred, that is, repayment is not yet required? (Payments are due, loan is deferred) If payments are due, during the past 12 months, how often did you make your student or educational loan payment on time and in full? (Always, usually, sometimes, rarely, never)

Relation to milestone	Indirect (first set of questions) and direct (additional questions)
Relation to money or personal finance	Direct
Background and testing	The first set of questions comes from the "Responsibilities" section of the Panel Study of Income Dynamics (PSID) Transition to Adulthood supplement (https://psidonline.isr.umich.edu/CDS/questionnaires/ta-11/ta11.pdf), administered to PSID families' children ages 18 and up. The optional set of questions (below, "if desired") comes from the Success Measures financial capability outcome indicators and evaluation tools for youth ages 14 to 24. They were developed by a team with input from practitioners, researchers, public agencies, and others in the form of surveys and working groups, as well as a comprehensive review of the literature. The tools were field-tested by community organizations across the U.S.
Special considerations	Only relevant for young adults who are beginning to assume some responsibility for their own or their family's finances; several items likely appropriate only for those age 18 and up.
Source(s)	Anders, Jessica, Sarah Graddy, Margaret Grieve, and Deborah Visser, *Measuring Outcomes of Financial Capability Programs: Success Measures Tools for Practitioners* (Washington, DC: NeighborWorks America 2011) available at http://www.successmeasures.org/sites/all/files/FinancialCapabilityOnlineFinalOct2011.pdf. Panel Study of Income Dynamics Transition to Adulthood supplement, public use dataset, Survey Research Center, Institute for Social Research, University of Michigan, available at https://psidonline.isr.umich.edu/CDS/questionnaires/ta-11/ta11.pdf.

TABLE 45: FRACTION OF MONEY SPENT IMMEDIATELY

Building block	Executive function
Age group(s)	Ages 6 to 12

Milestone(s)	Does the child show the ability to plan ahead and delay gratification?
Format	Survey question
Completed by	Parent
Administered by	Program leader, researcher, or other adult
Measure details	Children's preference for spending is measured by asking parents "which part (in percentages) of the money your child is given does he or she spend immediately?" In two-parent/guardian households, the respondents' scores are averaged.
Relation to milestone	Direct
Relation to money or personal finance	Direct
Background and testing	This item comes from the Dutch National Bank (DNB) Household Survey and was used by Webley and Nyhus (2006).
Special considerations	N/A
Source(s)	Webley, Paul, and Ellen K. Nyhus, *Parents' influence on children's future orientation and saving*, Journal of Economic Psychology 27, no. 1, 140–164 (2006).

TABLE 46: FUTURE ORIENTATION: PLANNING AHEAD SUBSCALE – ATTITUDE

Building block	Financial habits & norms
Age group(s)	Ages 6 to 12
Milestone(s)	Does the child begin to show a positive attitude toward savings, frugality, planning, and self-control?
Format	Survey/scale
Completed by	Child
Administered by	Teacher, program leader, researcher, or other adult

Measure details	Respondents select the statement that best describes them from the pair of contrasting statements below and then rate the extent to which the selected statement fits ("really true for me" or "sort of true for me"): Some people think that planning things out in advance is a waste of time BUT other people think that things work out better if they are planned out in advance. Scoring proceeds from left to right on a scale from 1 to 4, meaning that strong agreement with the left-hand statement corresponds to 1 point and strong agreement with the right-hand statement corresponds to 4 points.
Relation to milestone	Direct
Relation to money or personal finance	Indirect
Background and testing	This item comes from the 5-item planning ahead subscale of Steinberg et al.'s (2009) future orientation scale, which consists of 15 items grouped into three subscales covering time perspective, anticipation of future consequences, and planning ahead. Items were generated by experts in adolescent psychosocial development and were pilot tested on small samples of high school and college students. The reliability and convergent validity of the full 15-item scale and the reliability of the planning ahead subscale were demonstrated in a sample of over 900 individuals ages 10 to 30. The full scale, formatted for use, is available on pages 43 to 44 of Steinberg et al.
Special considerations	Validated as part of a scale, not as an individual item. If both attitudes and behavior are of interest, could be combined with Future orientation: Planning ahead subscale – Behavior (in this guide) to form a 5-item subscale as originally conceived.
Source(s)	Steinberg, Laurence, Sandra Graham, Lia O'Brien, Jennifer Woolard, Elizabeth Cauffman, and Marie Banich, *Age differences in future orientation and delay discounting*, Child Development 80, no. 1, 28–44 (2009).

TABLE 47: FUTURE ORIENTATION: PLANNING AHEAD SUBSCALE – BEHAVIOR

Building block	Executive function
Age group(s)	Ages 6 to 12
Milestone(s)	Does the child show the ability to plan ahead and delay gratification?
Format	Survey/scale
Completed by	Child
Administered by	Teacher, program leader, researcher, or other adult
Measure details	For each of the items, respondents select the statement that best describes them from a pair of contrasting statements and then rate the extent to which the selected statement fits ("really true for me" or "sort of true for me"): Some people like to plan things out one step at a time BUT other people like to jump right into things without planning them out beforehand. R Some people are always making lists of things to do BUT other people find making lists of things to do a waste of time. R Some people make decisions and then act without making a plan BUT other people usually make plans before going ahead with their decisions. Some people like to take big projects and break them down into small steps before starting to work on them BUT other people find that breaking big projects down into small steps isn't really necessary. The score is the average across the items, with scoring from left to right on a scale from 1 to 4, meaning that strong agreement with the left-hand statement corresponds to 1 point and strong agreement with the right-hand statement corresponds to 4 points. Items followed by an R are reverse-scored.
Relation to milestone	Direct
Relation to money or personal finance	Indirect

Background and testing	These items come from the 5-item planning ahead subscale of Steinberg et al.'s (2009) future orientation scale, which consists of 15 items grouped into three subscales covering time perspective, anticipation of future consequences, and planning ahead. Items were generated by experts in adolescent psychosocial development and were pilot tested on small samples of high school and college students. The reliability and convergent validity of the full 15-item scale and the reliability of the planning ahead subscale were demonstrated in a sample of over 900 individuals ages 10 to 30. The full scale, formatted for use, is available on pages 43 to 44 of Steinberg et al.
Special considerations	Validated as part of a scale, which includes an additional item. If both attitudes and behavior are of interest, could be combined with Future orientation: Planning ahead subscale – Attitude (in this guide) to form a 5-item subscale as originally conceived.
Source(s)	Steinberg, Laurence, Sandra Graham, Lia O'Brien, Jennifer Woolard, Elizabeth Cauffman, and Marie Banich, *Age differences in future orientation and delay discounting*, Child Development 80, no. 1, 28–44 (2009).

TABLE 48: FUTURE ORIENTATION: TIME PERSPECTIVE SUBSCALE

Building block	Executive function
Age group(s)	Ages 6 to 12 and 13 to 21
Milestone(s)	Does the child show future orientation? (6 to 12) Does the young adult demonstrate future orientation? (13 to 21)
Format	Survey/scale
Completed by	Child/young adult
Administered by	Teacher, program leader, researcher, or other adult

Measure details	For each of the items, respondents select the statement that best describes them from a pair of contrasting statements and then rate the extent to which the selected statement fits ("really true for me" or "sort of true for me"). The 5 items in the time perspective subscale are: Some people spend very little time thinking about how things might be in the future BUT other people spend a lot of time thinking about how things might be in the future. Some people would rather be happy today than take their chances on what might happen in the future BUT other people will give up their happiness now so that they can get what they want in the future. Some people would rather save their money for a rainy day than spend it right away on something fun BUT other people would rather spend their money right away on something fun than save it for a rainy day. R Some people often think what their life will be like 10 years from now BUT other people don't even try to imagine what their life will be like in 10 years. R Some people take life one day at a time without worrying about the future BUT other people are always thinking about what tomorrow will bring. The score on the subscale is the average across the 5 items, with scoring from left to right on a scale from 1 to 4, meaning that strong agreement with the left-hand statement corresponds to 1 point and strong agreement with the right-hand statement corresponds to 4 points. Items followed by an R are reverse-scored.
Relation to milestone	Direct
Relation to money or personal finance	Indirect
Background and testing	The 5-item time perspective subscale comes from Steinberg et al.'s (2013) future orientation scale, which consists of 15 items covering time perspective, anticipation of future consequences, and planning ahead. Items were generated by experts in adolescent psychosocial development and were pilot tested on small samples of high school and college students. The reliability and convergent validity of the full 15-item scale was demonstrated in a sample of almost 1000 individuals ages 10 to

	30. The reliability of the time perspective subscale was also tested, and although alpha was slightly below conventional cutoffs, factor analysis offered support for the subscale. The full scale, formatted for use, is available on pages 43 to 44 of Steinberg et al.
Special considerations	N/A
Source(s)	Steinberg, Laurence, Sandra Graham, Lia O'Brien, Jennifer Woolard, Elizabeth Cauffman, and Marie Banich, *Age differences in future orientation and delay discounting*, Child Development 80, no. 1, 28–44 (2009).

TABLE 49: GENERAL SELF-EFFICACY SCALES FOR YOUTH

Building block	Financial habits & norms
Age group(s)	Ages 6 to 12 and 13 to 21
Milestone(s)	Is the child self-confident about completing age-appropriate financial tasks? (6 to 12) Does the young adult demonstrate appropriate financial self-efficacy? (13 to 21)
Format	Surveys/scales (interviews for younger children)
Completed by	Child/young adult
Administered by	Teacher, program leader, researcher, or other adult
Measure details	Ages 8 and up (possibly younger children in interview format): Harter's 36-item Self-Perceptions profile for children (SPPC) covers 5 domains (each its own subscale) plus a separate global self-worth. Items are presented in a structured alternative format in which children first choose the statement that is most like them and then indicate the degree of similarity ("really true for me" or "sort of true for me"). All items, along with instructions for administering and scoring, are in the manual, available at https://portfolio.du.edu/SusanHarter/page/44210. Ages 12 and up:

	Respondents rate their agreement with the following statements using a 4-point scale (1 = not at all true, 2 = hardly true, 3 = moderately true, 4 = exactly true): I can always manage to solve difficult problems if I try hard enough. If someone opposes me, I can find the means and ways to get what I want. It is easy for me to stick to my aims and accomplish my goals. I am confident that I could deal efficiently with unexpected events. Thanks to my resourcefulness, I know how to handle unforeseen situations. I can solve most problems if I invest the necessary effort. I can remain calm when facing difficulties because I can rely on my coping abilities. When I am confronted with a problem, I can usually find several solutions. If I am in trouble, I can usually think of a solution. I can usually handle whatever comes my way. Scoring and other guidance can be found at https://www.midss.org/sites/default/files/faq_gse.pdf. Bandura (2006) also provides sample children's self-efficacy questionnaires covering a variety of domains (p. 326).
Relation to milestone	Indirect (focuses on general self-efficacy rather than financial self-efficacy)
Relation to money or personal finance	Indirect
Background and testing	Harter's Self-Perception profile for children (SPPC) was tested primarily on students in grades 3 through 8. Twelve of the 36 total items (representing the global self-worth and social categories) appear in the National Longitudinal Survey of Youth (NLSY79) child supplement as part of the "What I am like" section administered to children ages 8 and older until 1994 (now 12 and over). See https://www.nlsinfo.org/content/cohorts/nlsy79-children/topical-guide/assessments/what-i-am-likeself-perception-profile for details. The profile covers 5 domains – scholastic,

	social, athletic, physical, and behavioral conduct – and global self-worth. Schwarzer and Jerusalem's (1995) 10-item General Self-Efficacy Scale has been widely used on adults and young adults (ages 12 and up) and translated into many languages. See https://www.midss.org/sites/default/files/faq_gse.pdf for details regarding reliability and validity in different contexts.
Special considerations	May be a better fit than financial self-efficacy scales for children and young adults with limited experience with money. Would require modification for use with children under 8.
Source(s)	Bandura, Albert, Guide for creating self-efficacy scales, in F. Pajares and T. Urdan (Eds.), *Self-efficacy beliefs of adolescents* (Greenwich, CT: Information Age Publishing 2006). Harter, Susan, Self-perception profile for children: Manual and questionnaires, University of Denver (1985, 2012) available at https://portfolio.du.edu/SusanHarter/page/44210. Schwarzer, Ralf, and Matthias Jerusalem, Generalized self-efficacy scale, in J. Weinman, S. Wright, and M. Johnston (Eds.) *Measures in Health Psychology: A User's Portfolio. Causal and Control Beliefs* 35-37 (Windsor, UK: NFER-NELSON 1995).

TABLE 50: GOAL ATTAINMENT

Building block	Financial knowledge & decision-making skills
Age group(s)	Ages 6 to 12 and 13 to 21
Milestone(s)	Has the child successfully managed money or other resources to reach his or her own goals? (6 to 12) Can the young adult successfully manage money or other resources to reach his or her own goals? (13 to 21)
Format	Surveys and/or interviews
Completed by	Child/young adult, possibly supplemented with adult reports
Administered by	Teacher, program leader, researcher, or other adult

Measure details	There are several ways to assess goal attainment. One simple approach is to ask young people to articulate their goals (e.g., at the beginning of the year) and to administer a follow-up survey some time later (e.g., at the end of the year) in which they self-assess their success at achieving the goal identified earlier. Missouri 4H provides a template for this type of activity that can be downloaded at http://4h.missouri.edu/personalgoals.aspx. Younger children may need additional support identifying goals. For example, an adult might show them pictures of children performing tasks well or poorly and ask which pictures are like them (Missiuna and Pollack, 2000). Then the child could select a task they'd like to improve on, using the set of photos for which they viewed themselves as less competent as a guide/starting point. Adult (observer) surveys that evaluate the child's or young adult's success at achieving the stated goals could supplement the self-reports and may be especially helpful for early elementary students. For young adults, one could compare self-assessed intentions (rather than specific goals) to subsequent behavior (Xiao et al., 2011). For maximal alignment with the milestones, goals and intentions would relate to the management of financial or other resources. This could take place in the context of a simulated classroom economy.
Relation to milestone	Direct or indirect (depending on selected goal)
Relation to money or personal finance	Direct or indirect (depending on selected goal)
Background and testing	Goal-setting exercises have been used with children as young as 5 years old (e.g., Missiuna and Pollack, 2000). The 4H template was designed for young people ages 8 to 18. Xiao et al.'s (2011) measure of financial behavioral intention captures respondents' stated willingness/plans to engage in positive activities like budgeting and saving in the next 12 months.
Special considerations	A general approach; additional planning would be required.
Sources	Missouri 4-H, University of Missouri Extension, Progress toward personal goals, available at http://4h.missouri.edu/personalgoals.aspx

	Missiuna, Cheryl, and Nancy Pollock, *Perceived efficacy and goal setting in young children*, Canadian Journal of Occupational Therapy. Revue Canadienne d'Ergothérapie. 67, 101-109 (2000). Xiao, Jing J., Chuanyi Tang, Joyce Serido, and Soyeon Shim, *Antecedents and consequences of risky credit behavior among college students: Application and extension of the Theory of Planned Behavior*, Journal of Public Policy and Marketing 30, no. 2, 239–245 (2011).

TABLE 51: GOAL SETTING QUESTIONNAIRE

Measure name	Goal setting questionnaire
Building block	Executive function
Age group(s)	Ages 6 to 12 and 13 to 21
Milestone(s)	Does the child show the ability to plan ahead and delay gratification? (6 to 12) Has the young adult demonstrated the ability to plan ahead and delay gratification? (13 to 21)
Format	Survey
Completed by	Child/young adult
Administered by	Teacher, program leader, researcher, or other adult
Measure details	Respondents rate 19 items based on how well they describe them (1 = not very like me and 5 = very like me; intermediate values are not labeled). Items assess the extent to which goals are meaningful, focused on personal improvement, and data-based. The questionnaire is available for download at http://www.researchcollaboration.org/uploads/GoalSettingQuestionnaireInfo.pdf.
Relation to milestone	Direct
Relation to money or personal finance	Indirect

Background and testing	The scale was developed for use with middle and high school students by the Research Collaboration lab at the University of Kansas Center for Research on Learning based on an extensive review of existing work in the area.
Special considerations	Not likely appropriate for the youngest children in the 6 to 12 group (below age 7 or 8).
Source(s)	Gaumer Erickson, Amy S., Jane H. Soukup, Patricia M. Noonan, Kasey M. Monroe, and Linda McGurn, Goal Setting Questionnaire (Lawrence, KS: University of Kansas, Center for Research on Learning 2017) available at http://www.researchcollaboration.org/uploads/GoalSettingQuestionnaireInfo.pdf.

TABLE 52: GOOD AT MANAGING MONEY (SELF-REPORT)

Measure name	Good at managing money (self-report)
Building block	Financial habits & norms
Age group(s)	Ages 13 to 21
Milestone(s)	Does the young adult demonstrate appropriate financial self-efficacy?
Format	Survey
Completed by	Young adult/teen
Administered by	Teacher, program leader, researcher, or other adult
Measure details	Respondents complete 3 items, each with its own response options: On a scale of 1 to 7, where 1 means “Not At All Well” and 7 means “Extremely Well”: How good are you at managing money? Please indicate if you feel that the following statement is mostly true or mostly not true: I consider myself a “smart spender.” If we were to ask the people who know you the best, how much like you would they say each of the following is? (Very much like you, somewhat like you, not much like you) I know a lot about money and finances. I am good at saving money for things I really want.

Relation to milestone	Direct
Relation to money or personal finance	Direct
Background and testing	The first question comes from the "Responsibilities" section of the Panel Study of Income Dynamics (PSID) Transition to Adulthood supplement (https://psidonline.isr.umich.edu/CDS/questionnaires/ta-11/ta11.pdf), administered to PSID families' children ages 18 and up. The remaining questions come from the Success Measures financial capability outcome indicators and evaluation tools for youth ages 14 to 24. They were developed by a team with input from practitioners, researchers, public agencies, and others in the form of surveys and working groups, as well as a comprehensive review of the literature. The tools were field-tested by community organizations across the U.S.
Special considerations	N/A
Source(s)	Anders, Jessica, Sarah Graddy, Margaret Grieve, and Deborah Visser, Measuring Outcomes of Financial Capability Programs: Success Measures Tools for Practitioners (Washington, DC: NeighborWorks America 2011) available at http://www.successmeasures.org/sites/all/files/FinancialCapabilityOnlineFinalOct2011.pdf. Panel Study of Income Dynamics Transition to Adulthood supplement, public use dataset, Survey Research Center, Institute for Social Research, University of Michigan, available at https://psidonline.isr.umich.edu/CDS/questionnaires/ta-11/ta11.pdf.

TABLE 53: GRIT: CONSISTENCY OF INTEREST SUBSCALE

Building block	Executive function
Age group(s)	Ages 6 to 12
Milestone(s)	Does the child show the ability to plan ahead and delay gratification?
Format	Survey/scale
Completed by	Child

Administered by	Teacher, program leader, researcher, or other adult
Measure details	Respondents are instructed to rate 4 items on a 5-point scale (1 = not at all like me, 2 = not much like me, 3 = somewhat like me, 4 = mostly like me, 5 = very much like me): I often set a goal but later choose to pursue a different one. R I have been obsessed with a certain idea or project for a short time but later lost interest. R I have difficulty maintaining my focus on projects that take more than a few months to complete. R New ideas and projects sometimes distract me from previous ones. R Items followed by an R are reverse-scored (meaning 1 = very much like me and 5 = not at all like me).
Relation to milestone	Indirect (longer-term focus, which relates to planning ahead and delaying gratification)
Relation to money or personal finance	Indirect
Background and testing	Duckworth and Quinn's (2009) short grit scale has 8 items, 4 from each of 2 subscales: consistency of interest and perseverance of effort. Duckworth and Quinn tested the short grit scale on several different samples of adults and children/young adults (e.g., ages 10 to 15 in one sample). Their results demonstrate the internal consistency of the full scale and both subscales, as well as the convergent validity of the consistency of interest subscale and the test-retest reliability and predictive validity of the full scale.
Special considerations	Not likely appropriate for the youngest children in this age group (below age 7 or 8). Some items may require simplified wording for children under age 10.
Source(s)	Duckworth, Angela L., and Patrick D. Quinn, *Development and validation of the short grit scale (Grit–S)*, Journal of Personality Assessment 91, no. 2, 166-174 (2009).

TABLE 54: HARD TO AVOID SPENDING MONEY

Building block	Executive function

Age group(s)	Ages 6 to 12
Milestone(s)	Does the child show the ability to plan ahead and delay gratification?
Format	Survey
Completed by	Child
Administered by	Teacher, program leader, researcher, or other adult
Measure details	Respondents answer the following question related to their ability to delay gratification and resist temptation in a financial context using a 5-point scale: How hard is it for you to avoid spending any money you have right away? (not at all, a little, somewhat, very, extremely)
Relation to milestone	Direct (delay gratification)
Relation to money or personal finance	Direct
Background and testing	This item appears in Batty et al. (2015b) for use with fourth and fifth graders. Batty et al. (2015a) tested its reliability and validity as part of their financial self-control scale using a small sample of 43 children ages 9 to 11. It has not been validated as a single item.
Special considerations	For the youngest children in the age range, "fraction of money spent immediately" (found in this guide) may be more appropriate.
Source(s)	Batty, Michael, J. Michael Collins, and Elizabeth Odders-White, *Validity and reliability of elementary student financial education outcome measures*, University of Wisconsin-Madison Center for Financial Security (2015a) available at https://centerforfinancialsecurity.files.wordpress.com/2016/09/validityreliabilitymeasures_final.pdf. Batty, Michael, J. Michael Collins, and Elizabeth Odders-White, *Experimental evidence on the effects of financial education on elementary school students' knowledge, behavior, and attitudes*, Journal of Consumer Affairs 49, no. 1, 69–96 (2015b).

TABLE 55: IMPULSIVITY

Building block	Executive function
Age group(s)	Ages 3 to 5
Milestone(s)	Does the child begin to demonstrate self-regulation, persistence, and focus?
Format	Survey item
Completed by	Parent/caregiver
Administered by	Program leader, researcher, or other adult
Measure details	Adult observers rate their agreement with the following statement on a 3-point scale (1 = often true, 2 = sometimes true, 3 = not true), based on the child's behavior over the previous three months: He/she is impulsive, or acts without thinking.
Relation to milestone	Direct
Relation to money or personal finance	Indirect
Background and testing	This item comes from the Behavior problems index (BPI), which appears in the National Longitudinal Survey of Youth (NLSY79) and the Panel Study of Income Dynamics Child Development Supplement (PSID-CDS), as well as the National Health Interview Survey (NHIS) and the National Survey of America's Families (NSAF). The BPI was created by Peterson and Zill (1986) based on existing child behavior scales. The BPI includes 28 questions and has been used for children ages 3 and up.
Special considerations	N/A
Source(s)	Zill, Nicholas, and James L. Peterson, Behavior Problems Index (Washington, DC: Child Trends 1986).

TABLE 56: INTERNET SEARCH AND EVALUATION STRATEGIES

Building block	Financial knowledge & decision-making skills

Age group(s)	Ages 13 to 21
Milestone(s)	Can the young adult identify trusted sources of information and process that information?
Format	Task coupled with interview
Completed by	Young adult, with adult interviewer (1:1)
Administered by	Teacher, program leader, researcher, or other adult
Measure details	Students are given a research problem and are asked to find and evaluate source material on the internet. If desired, students may be given a list of possible sites, including those that contain questionable references or unreasonable claims. The interviewer sits next to the student while they "think aloud," describing their next step and rationale. Interviewers record the types of comments the student makes, the different evaluation strategies the student uses, and the amount of time the student spends reading text on web sites of different quality. This information is then analyzed to assess the student's evaluation skills on two main dimensions: credibility and relevance. Details are provided in Kiili et al. (2008). Students could also be asked the following question: “Do you think there is a difference between information found in books and information found on the Web, and why?’’
Relation to milestone	Direct
Relation to money or personal finance	Indirect or direct (if the research topic is related to money)

Background and testing	Kiili et al. (2008) used a "think aloud" protocol (in one-on-one interviews lasting approximately 1 hour and 45 minutes) to study the web evaluation strategies of 25 students ages 16 and 17. Kiili et al. computed students' time spent on 7 different internet actions (e.g., formulating a query, browsing search results, reading texts, etc.) and analyzed students' comments for evidence that they were evaluating the credibility and relevance of the information found online (see Table 1, pp. 82-83, for categories). Similarly, Kuiper et al. (2008) study the web search and evaluation strategies of 82 fourth grade students. Their Table 4 (p. 684) lists the strategies they examined. The additional question (regarding differences between the web and books) comes from Kuiper et al. They phrased it as a half-open question, with possible responses "No, there is no difference," "Yes, there is a difference," and "I don't know," followed by an open-ended explanation.
Special considerations	Administered 1:1. Scoring of (optional) open-ended question is more involved than scoring multiple-choice questions and often entails the development of scoring rubrics and use of text analysis tools to find key words or themes.
Source(s)	Kiili, Carita, Leena Laurinen, and Miika Marttunen, *Students evaluating internet sources: From versatile evaluators to uncritical readers*. Journal of Educational Computing Research 39, no. 1, 75-95 (2008). Kuiper, Els, Monique Volman, and Jan Terwel, *Integrating critical Web skills and content knowledge: Development and evaluation of a 5th grade educational program*, Computers in Human Behavior 24, 666-692 (2008).

TABLE 57: KANSAS REFLECTION-IMPULSIVITY SCALE FOR PRESCHOOLERS (KRISP)

Building block	Executive function
Age group(s)	Ages 3 to 5
Milestone(s)	Does the child begin to demonstrate self-regulation, persistence, and focus?

Format	Task
Completed by	Child, with adult facilitator (1:1)
Administered by	Teacher, program leader, researcher, or other adult
Measure details	For each trial, children are shown a sample line drawing and are asked to select the drawing that matches it exactly from a set of 4 to 6 similar drawings. Twelve to 16 trials are conducted and scored based on and accuracy (total number of possible errors – number of actual errors). All materials, including a training manual, are available at https://my.vanderbilt.edu/cogselfregulation/files/2013/12/SR-Measure-Training-Manual-final-without-DCCS-cards.pdf.
Relation to milestone	Direct
Relation to money or personal finance	Indirect
Background and testing	The Kansas reflection-impulsivity scale for preschoolers (KRISP) was developed by Wright (1971) for use with 3 to 8 year olds, based on the Matching Familiar Figures Test. Wright conducted initial tests of reliability and validity (https://files.eric.ed.gov/fulltext/ED075087.pdf) and many other researchers have contributed to that evidence (e.g., Lipsey et al., 2017, demonstrate test-retest reliability, predictive validity, and concurrence with teacher ratings, providing "a firm empirical basis for the use of" the KRISP measure). In addition to accuracy, researchers often examine reaction times. There is less empirical support for the quality of that metric, however.
Special considerations	Administered 1:1.
Source(s)	Lipsey, Mark W., Kimberly Turner Nesbitt, Dale C. Farran, Nianbo Dong, Mary Wagner Fuhs, and Sandra Jo Wilson, *Learning-related cognitive self-regulation measures for prekindergarten children: A comparative evaluation of the educational relevance of selected measures*. Journal of Educational Psychology 109, no. 8, 1084-1102 (2017). Wright, J. C., *Kansas Reflection-Impulsivity Scale for Preschoolers (KRISP)* (St. Louis: CEMREL, Inc. 1971).

TABLE 58: MATERIAL VALUES SCALE (MVS)

Building block	Financial habits & norms
Age group(s)	Ages 13 to 21
Milestone(s)	Does the young adult have a positive attitude toward planning, saving, frugality, and self-control?
Format	Survey/scale
Completed by	Young adult/teen
Administered by	Teacher, program leader, researcher, or other adult
Measure details	Respondents rate their agreement with the following 9 statements using a 5-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree): I admire people who own expensive homes, cards, and clothes. The things I own say a lot about how well I'm doing in life. I like to own things that impress people. I try to keep my life simple, as far as possessions are concerned. R Buying things gives me a lot of pleasure. I like a lot of luxury in my life. My life would be better if I owned certain things I don't have. I'd be happier if I could afford to buy more things. It sometimes bothers me quite a bit that I can't afford to buy all the things I'd like. Items followed by an R are reverse-scored (meaning 1 = strongly agree and 5 = strongly disagree).
Relation to milestone	Direct (frugality)
Relation to money or personal finance	Direct
Background and testing	Richins (2004) shortened Richins and Dawson's (1992) Material Value Scale (MVS) after conducting in-depth analysis of the original scale and its 18 items. Richins documents the reliability and validity of the 9-item scale used here as well as a shorter 6-

	item scale and a longer 15-item version. He also finds that the social desirability bias on the responses to these scales is not severe.
Special considerations	Designed for college students and other adults, but likely appropriate for the full age group (13 to 21). Care must be taken when interpreting responses from young adults living in poverty, for whom agreement with the final 3 statements may simply reflect need.
Source(s)	Richins, Marsha L., *The material values scale: Measurement properties and development of a short form*, Journal of Consumer Research 31, no. 1, 209–219 (2004).

TABLE 59: MATERIAL VALUES SCALE FOR CHILDREN (MVS-C)

Building block	Financial habits & norms
Age group(s)	Ages 6 to 12
Milestone(s)	Does the child begin to show a positive attitude toward savings, frugality, planning, and self-control?
Format	Survey
Completed by	Child
Administered by	Teacher, program leader, researcher, or other adult
Measure details	Respondents answer the following 6 questions using a 4-point scale (1 = no, not at all, 2 = no, not really, 3 = yes, a little, 4 = yes, very much): Do you think it's important to own expensive things? Does buying expensive things make you happy? Do you think it's important to own expensive brands? Would you be happier if you owned more clothes that are expensive? Do you think children who have expensive things are more fun than other children? Do you think children who have a lot of things are more fun than other children?

Relation to milestone	Direct (frugality)
Relation to money or personal finance	Direct
Background and testing	Opree et al. (2011) adapted Richins and Dawson's Material values scale (MVS) for use in children. The scale was validated with children aged 8 to 11, and assesses materialism across three domains: material centrality, material happiness, and material success. In addition to the 6-item scale there is a longer 18-item scale and a shorter 3-item scale.
Special considerations	N/A
Source(s)	Opree, Suzanna J., Moniek Buijzen, Eva A. van Reijmersdal, and Patti M. Valkenburg, *Development and validation of the Material Values Scale for children (MVS-c)*, Personality and Individual Differences 51, no. 8, 963-968 (2011).

TABLE 60: MINDFUL SHOPPING

Building block	Financial habits & norms
Age group(s)	Ages 13 to 21
Milestone(s)	Does the young adult demonstrate positive money management habits and decision-making strategies?
Format	Survey
Completed by	Young adult/teen
Administered by	Teacher, program leader, researcher, or other adult
Measure details	Respondents indicate how frequently they engage in each of the following behaviors (response options are often, sometimes, rarely, and never): I comparison shop when I make purchases. I make an effort to buy things on sale if I don't need them right away. I use coupons when I make purchases.

	I use an affinity card to get discounts or specials when I purchase things at places like grocery or drug stores. I shop at a thrift store or second-hand shop. I buy something I want, but really don't need, without giving it a lot of thought.
Relation to milestone	Direct
Relation to money or personal finance	Direct
Background and testing	These items come from the Success Measures financial capability outcome indicators and evaluation tools for youth ages 14 to 24. They were developed by a team with input from practitioners, researchers, public agencies, and others in the form of surveys and working groups, as well as a comprehensive review of the literature. The tools were field-tested by community organizations across the U.S.
Special considerations	Item about comparison shopping could also be used to measure financial knowledge and decision-making skills milestone "Can the young adult identify trusted sources of information and process that information?"
Source(s)	Anders, Jessica, Sarah Graddy, Margaret Grieve, and Deborah Visser, *Measuring Outcomes of Financial Capability Programs: Success Measures Tools for Practitioners* (Washington, DC: NeighborWorks America 2011) available at http://www.successmeasures.org/sites/all/files/FinancialCapabilityOnlineFinalOct2011.pdf.

TABLE 61: MONEY ATTITUDES SCALE (MAS): POWER-PRESTIGE

Building block	Financial habits & norms
Age group(s)	Ages 13 to 21
Milestone(s)	Does the young adult have a positive attitude toward planning, saving, frugality, and self-control?
Format	Survey/scale

Completed by	Young adult/teen
Administered by	Teacher, program leader, researcher, or other adult
Measure details	Respondents indicate how frequently the following statements apply to them using a 7-point scale (1 = never, 2 = very seldom, 3 = seldom, 4 = sometimes, 5 = often, 6 = very often, 7 = always): Although I should judge the success of people by their deeds, I am more influenced by the amount of money they have. I use money to influence other people to do things for me. In all honesty, I own nice things in order to impress others. I seem to find that I show more respect to people with more money than I have. I behave as if money were the ultimate symbol of success. People I know tell me that I place too much emphasis on the amount of money a person has as a sign of success. I must admit that I sometimes boast about how much money I make.* I must admit that I purchase things because I know they will impress others. I try to find out if other people make more money than I do.* * For young adults, could replace “make” with “have.”
Relation to milestone	Direct (frugality)
Relation to money or personal finance	Direct
Background and testing	Yamauchi and Templer (1982) developed and refined the 29-item Money attitudes scale (MAS), which includes the power-prestige subscale used here and three other subscales, using pilot testing and analysis of 62 possible items. They demonstrate the internal consistency, test-retest reliability, and convergent validity of the subscales. The full scale and scoring instructions are available in Yamauchi and Templer (1982).
Special considerations	Tested on individuals ages 17 and up but likely appropriate for the full age group (13 to 21).

Source(s)	Yamauchi, Kent T., and Donald I. Templer, *The development of a money attitude scale*, Journal of Personality Assessment 46, no. 5, 522-528 (1982).

TABLE 62: OFTEN GET IN A JAM

Building block	Executive function
Age group(s)	Ages 6 to 12 and 13 to 21
Milestone(s)	Does the child show the ability to plan ahead and delay gratification? (6 to 12) Has the young adult demonstrated the ability to plan ahead and delay gratification? (13 to 21)
Format	Survey item
Completed by	Child/young adult
Administered by	Teacher, program leader, researcher, or other adult
Measure details	Respondents rate their agreement with the following statement on a 4-point scale (1 = strongly agree, 2 = agree, 3 = disagree, 4 = strongly disagree): I often get in a jam because I do things without thinking.
Relation to milestone	Indirect (does not ask about planning explicitly, but addresses failure to think ahead)
Relation to money or personal finance	Indirect
Background and testing	This item is one of six questions related to risk-taking and planning that appear in the National Longitudinal Survey of Youth (NLSY79) Children and Young Adult surveys. Unlike many propensity to plan measures, it has been administered to children (ages 10 and up). See https://www.nlsinfo.org/content/cohorts/nlsy79-children/topical-guide/attitudes/attitudes-expectations for details.
Special considerations	Not likely appropriate for the youngest children in this age group (below age 7 or 8).

Source(s)	Bureau of Labor Statistics, U.S. Department of Labor, National Longitudinal Survey of Youth 1979 Child and Young Adult Surveys, Center for Human Resource Research, The Ohio State University (2014).

TABLE 63: PEER PRESSURE INVENTORY (PPI)

Building block	Financial habits & norms
Age group(s)	Ages 13 to 21
Milestone(s)	Can the young adult make spending and saving decisions aligned with his or her goals and values?
Format	Survey
Completed by	Young adult/teen
Administered by	Teacher, program leader, researcher, or other adult
Measure details	For 53 items, respondents choose between a pair of statements and then indicate how much their friends encourage them to engage in the selected activity (a little, somewhat, a lot). If they don't feel any pressure from friends, they mark "no pressure" and do not choose a statement. For example, the first item on the inventory reads, "How strong is the pressure from your friends to study hard, do your homework, etc. [statement 1] or to not study or do homework [statement 2]?" The full peer pressure inventory is available for free download at https://website.education.wisc.edu/prsg/wp-content/uploads/2014/09/ppi84_w_loadings.pdf.
Relation to milestone	Indirect (ability to resist peer pressure supports making choices aligned with one's own goals and values rather than the goals and values of others)
Relation to money or personal finance	Indirect
Background and testing	Brown et al. (1986) developed and tested the Peer pressure inventory (PPI), first on a pilot sample and then using a sample of over 1,000 students in grades 7 through 12. Brown et al. (among others) demonstrate its reliability and convergent consistency and

	provide evidence that social desirability bias does not have a significant effect.
Special considerations	Contains more items than most surveys in this guide and will therefore take longer to administer.
Source(s)	Brown, B. Bradford, Donna R. Clasen, and Sue Ann Eicher, *Perceptions of peer pressure, peer conformity dispositions, and self-reported behavior among adolescents*, Developmental Psychology 22, no. 4, 521-530 (1986).

TABLE 64: PERCEIVED PEER GROUP PRESSURES SCALE

Measure name	Perceived peer group pressures scale
Building block	Financial habits & norms
Age group(s)	Ages 6 to 12
Milestone(s)	Can the child make spending and saving decisions aligned with his or her goals and values?
Format	Survey
Completed by	Child
Administered by	Teacher, program leader, researcher, or other adult
Measure details	Respondents indicate how often other children make them feel as if they should do 18 specific things (e.g., dress in certain clothes, play with certain people, be "tough" and get into fights, be really good at school work, work hard, etc.) on a 4-point scale (1 = never, 2 = sometimes, 3 = often, and 4 = always). The content of all 18 items is described in Table 3 of Banerjee and Dittmar (2008, p. 23).
Relation to milestone	Indirect (ability to resist peer pressure supports making choices aligned with one's own goals and values rather than the goals and values of others)
Relation to money or personal finance	Indirect

Background and testing	The Perceived peer group pressures scale was developed by Banerjee and Dittmar (2008) as a measure of social comparison in elementary school children ages 7 to 11. They used pilot testing to select the 18 items from a pool and then demonstrate the reliability and validity of the scale.
Special considerations	N/A
Source(s)	Banerjee, Robin, and Helga Dittmar, *Individual differences in children's materialism: The role of peer relations*. Personality and Social Psychology Bulletin 34, no. 1, 17-31 (2008).

TABLE 65: PERCEPTIONS OF SPENDING

Building block	Financial habits & norms
Age group(s)	Ages 3 to 5 and 6 to 12
Milestone(s)	Has the child developed basic values and attitudes around keeping (saving) and using (consuming) resources? (3 to 5) Does the child begin to show a positive attitude toward savings, frugality, planning, and self-control? (6 to 12)
Format	Story with interview
Completed by	Child, with adult interviewer (1:1)
Administered by	Teacher, program leader, researcher, or other adult
Measure details	Children read or are told a story about Casey, a child who visits either a candy store or a book store. In some scenarios Casey buys candy or a book and in some cases Casey does not. After reading/hearing the story, the children are asked whether or not Casey bought anything. If they answer correctly, the interviewer asks them to respond to two questions using a 7-point scale: “Do you think Casey has a lot of money?” (reverse-scored) and “How poor do you think Casey is?” Finally, the interviewer asks open-ended questions about why Casey did or did not buy anything. Children who understand that refraining from spending is not necessarily an indicator of poverty have more developed concepts of wealth and how it is acquired.

Relation to milestone	Indirect
Relation to money or personal finance	Direct
Background and testing	Kappes (2016) designed and implemented this approach on a sample of 75 children ages 4 to 12 to understand how refraining from spending changes children's perceptions of wealth.
Special considerations	Administered 1:1 but could be replaced with a written survey for older children.
Source(s)	Kappes, Heather, *Signaling versus accumulating wealth: For children, refraining from spending implies poverty*, in P. Moreau and S. Puntoni (Eds.) Advances in Consumer Research, Volume 44 133-138 (Duluth, MN: Association for Consumer Research 2016).

TABLE 66: PLANNING TAKES THE FUN OUT

Building block	Financial habits & norms
Age group(s)	Ages 6 to 12 and 13 to 21
Milestone(s)	Does the child begin to show a positive attitude toward savings, frugality, planning, and self-control? (6 to 12) Does the young adult have a positive attitude toward planning, saving, frugality, and self-control? (13 to 21)
Format	Survey item
Completed by	Child/ young adult
Administered by	Teacher, program leader, researcher, or other adult
Measure details	Respondents rate their agreement with the following statement on a 4-point scale (1 = strongly agree, 2 = agree, 3 = disagree, 4 = strongly disagree): I think that planning takes the fun out of things.
Relation to milestone	Direct

Relation to money or personal finance	Indirect
Background and testing	This item is one of six questions related to risk-taking and planning that appear in the National Longitudinal Survey of Youth (NLSY79) Children and Young Adult surveys. Unlike many propensity to plan measures, it has been administered to children (ages 10 and up).
Special considerations	Not likely appropriate for the youngest children in this age group (below age 7 or 8).
Source(s)	Bureau of Labor Statistics, U.S. Department of Labor, National Longitudinal Survey of Youth 1979 Child and Young Adult Surveys, Center for Human Resource Research, The Ohio State University (2014).

TABLE 67: POINT-TO-X TASK

Building block	Financial knowledge & decision-making skills
Age group(s)	Ages 3 to 5
Milestone(s)	Does the child have early numeracy skills like counting and sorting?
Format	Tasks
Completed by	Child, with adult facilitator (1:1)
Administered by	Teacher, program leader, researcher, or other adult
Measure details	Children are shown cards or pieces of paper each containing two pictures depicting different numbers (from 1 to 6) of the same item (e.g., balloons, flowers, dogs) or shape (e.g., stars, squares). See Figure 1 of Wynn (1992, p. 230) and Figure 1 of Levine et al. (2010, p. 1313) for samples. Numbers of items can be varied based on the child's ability. For example, it is easier to distinguish 3 from 1 than 3 from 2. Table 1 of Wynn (1992, p. 230) and Table 2 of Levine et al. (2010, p. 1313) show possible number combinations.

Relation to milestone	Direct
Relation to money or personal finance	Indirect
Background and testing	Wynn (1992) used the Point-to-X task with very young children (ages 2 and 3) to examine whether children know that a number word refers to a particular numerosity before they can map it to the correct numerosity. The task has been used in many other studies to assess children's understanding of the meaning of number words (e.g., Levine et al., 2010).
Special considerations	Administered 1:1.
Source(s)	Levine, Susan C., Linda Whealton Suriyakham, Meredith L. Rowe, Janellen Huttenlocher, and Elizabeth A. Gunderson, *What counts in the development of young children's number knowledge?* Developmental Psychology 46, no. 5, 1309-1319 (2010). Wynn Karen, *Children's acquisition of the number words and the counting system*, Cognitive Psychology 24, 220–251 (1992).

TABLE 68: PRESCHOOL SELF-REGULATION ASSESSMENT (PSRA)

Building block	Executive function
Age group(s)	Ages 3 to 5
Milestone(s)	Can the child demonstrate these qualities when using and managing limited resources like time, money, treats, or belongings?
Format	Tasks
Completed by	Child, with adult facilitator (1:1)
Administered by	Trained facilitator (training materials available)

Measure details	The Preschool self-regulation assessment (PSRA) consists of several structured tasks. Although not every activity is related to managing limited resources, some assess children's ability to self-regulate in relation to treats and "surprises." For example, in the "toy wrap" activity, the child is asked not to peek while the assessor wraps a "surprise" and then makes the child wait 1 minute to open it. Similarly, "snack delay" asks children to wait before consuming an M&M candy. These and other tasks appear to assess self-regulation related to the delay of gratification. Another task assesses children's ability to sort toys according to the picture on each bin, which is related to early numeracy (a financial knowledge milestone). A toolkit, including scripts, assessor reports, etc. can be downloaded here: http://steinhardt.nyu.edu/ihdsc/csrp/psra.
Relation to milestone	Direct
Relation to money or personal finance	Indirect
Background and testing	The PSRA was developed by Smith-Donald et al. (2007) for use in field studies, based on existing laboratory-based tasks. Evidence of the tool's validity was gathered from pilot testing using 63 children ages 2 to 5 from Head Start programs.
Special considerations	Administered 1:1 by a trained facilitator (training materials available at http://steinhardt.nyu.edu/ihdsc/csrp/psra).
Source(s)	Smith-Donald, Radiah, C. Cybele Raver, Tiffany Hayes, and Breeze Richardson, *Preliminary construct and concurrent validity of the Preschool self-regulation assessment (PSRA) for field-based research*, Early Childhood Research Quarterly 22, 173–187 (2017).

TABLE 69: PRESSURED TO SPEND

Building block	Financial habits & norms
Age group(s)	Ages 13 to 21
Milestone(s)	Can the young adult make spending and saving decisions aligned with his or her goals and values?

Format	Survey item
Completed by	Young adult/teen
Administered by	Teacher, program leader, researcher, or other adult
Measure details	Respondents indicate how often they have the following experience (response options are often, sometimes, rarely, and never): I am pressured to spend money in order to maintain my circle of friends.
Relation to milestone	Indirect (reflects the extent to which young adults are influenced by others to possibly deviate from their own goals)
Relation to money or personal finance	Direct
Background and testing	This item comes from the Success Measures financial capability outcome indicators and evaluation tools for youth ages 14 to 24. The tools were developed by a team with input from practitioners, researchers, public agencies, and others in the form of surveys and working groups, as well as a comprehensive review of the literature. The tools were field-tested by community organizations across the U.S.
Special considerations	N/A
Source(s)	Anders, Jessica, Sarah Graddy, Margaret Grieve, and Deborah Visser, Measuring Outcomes of Financial Capability Programs: Success Measures Tools for Practitioners (Washington, DC: NeighborWorks America 2011) available at http://www.successmeasures.org/sites/all/files/FinancialCapabilityOnlineFinalOct2011.pdf.

TABLE 70: PROBLEM-SOLVING STRATEGY SELF-ASSESSMENT

Measure name	Problem-solving strategy self-assessment
Building block	Executive function
Age group(s)	Ages 13 to 21

Milestone(s)	Does the young adult demonstrate critical-thinking skills?
Format	Survey
Completed by	Young adult/teen
Administered by	Teacher, program leader, researcher, or other adult
Measure details	Respondents rate their level of agreement with the following statements related to their typical approach to problem-solving/decision-making using a 5-point scale (1 = strongly agree, 2 = agree, 3 = neither agree nor disagree, 4 = disagree, 5 = strongly disagree; plus don't know): When you have a problem to solve, one of the first things you do is get as many facts about the problem as possible. When you are attempting to find a solution to a problem, you usually try to think of as many different ways to approach the problem as possible. When making decisions, you generally use a systematic method for judging and comparing alternatives. After carrying out a solution to a problem, you usually try to analyze what went right and what went wrong. When making decisions, you usually go with your "gut feeling" without thinking too much about the consequences of each alternative.
Relation to milestone	Direct
Relation to money or personal finance	Indirect
Background and testing	These items appear in the National Longitudinal Study of Adolescent to Adult Health (Add Health) and were administered to individuals in grades 7 through 12 in the initial wave.
Special considerations	N/A
Source(s)	Harris, Kathleen Mullan, and J. Richard Udry, National Longitudinal Study of Adolescent to Adult Health (Add Health), 1994-2008 [Public Use], Carolina Population Center, University of North Carolina-Chapel Hill available at http://www.cpc.unc.edu/projects/addhealth.

TABLE 71: PROPENSITY TO PLAN SCALE: ATTITUDE

Building block	Financial habits & norms
Age group(s)	Ages 13 to 21
Milestone(s)	Does the young adult have a positive attitude toward planning, saving, frugality, and self-control?
Format	Survey (partial scale)
Completed by	Young adult/teen
Administered by	Teacher, program leader, researcher, or other adult
Measure details	Respondents agree (1 point) or disagree (0 points) with two items related to attitudes for each of four scales measuring propensity to plan time and propensity to plan money in the long run and the short run. The attitude-related items for the propensity to plan for money in the short run (long run) scale are as follows: I like to look to my budget for the next few days (1-2 months) in order to get a better view of my spending in the future. It makes me feel better to have my finances planned out in the next few days (1-2 months). Items for the two propensity to plan time scales can be found in Appendix B of Lynch et al. (2010).
Relation to milestone	Direct
Relation to money or personal finance	Direct (money scale) and indirect (time scale)
Background and testing	These items come from Lynch et al.'s (2010) propensity to plan money scales, designed for adults. Lynch et al. developed and validated four six-item scales: two that measure propensity to plan for time in the short run (1-2 days) and the long run (1-2 months) and two that measure propensity to plan for money in the short run and the long run. Their process involved multiple rounds of testing and refining using different samples of adults (including undergraduate and graduate students) and demonstrated the scales' internal consistency, test-retest reliability, and discriminant, convergent, and predictive validity.

Special considerations	Validated as part of a scale, which includes additional items. If both attitudes and behavior are of interest, could be combined with Propensity to plan scale: Behavior (in this guide) to form a 6-item scale as originally conceived. Designed for adults; some items may not be appropriate for younger teens.
Source(s)	Lynch, John G., Jr., Richard G. Netemeyer, Stephen A. Spiller, and Alessandra Zammit, *A generalizable scale of propensity to plan: The long and the short of planning for time and for money*, Journal of Consumer Research 37, no. 1, 108–128 (2010).

TABLE 72: PROPENSITY TO PLAN SCALE: BEHAVIOR

Building block	Executive function
Age group(s)	Ages 13 to 21
Milestone(s)	Has the young adult demonstrated the ability to plan ahead and delay gratification?
Format	Survey (partial scale)
Completed by	Young adult/teen
Administered by	Teacher, program leader, researcher, or other adult
Measure details	Respondents agree (1 point) or disagree (0 points) with two items related to behavior for each of four scales measuring propensity to plan time and propensity to plan money in the long run and the short run. The behavior-related items for the propensity to plan for money in the short run (long run) scale are as follows: I set financial goals for the next few days (1-2 months) for what I want to achieve with my money. I decide beforehand how my money will be used in the next few days (1-2 months). I actively consider the steps I need to take to stick to my budget in the next few days (1-2 months). I consult my budget to see how much money I have left for the next few days (1-2 months).

	Items for the two propensity to plan time scales can be found in Appendix B of Lynch et al. (2010).
Relation to milestone	Direct
Relation to money or personal finance	Direct (money scale) and indirect (time scale)
Background and testing	These items come from Lynch et al.'s (2010) propensity to plan money scales, designed for adults. Lynch et al. developed and validated four six-item scales: two that measure propensity to plan for *time* in the short run (1-2 days) and the long run (1-2 months) and two that measure propensity to plan for *money* in the short run and the long run. Their process involved multiple rounds of testing and refining using different samples of adults (including undergraduate and graduate students) and demonstrated the scales' internal consistency, test-retest reliability, and discriminant, convergent, and predictive validity.
Special considerations	Validated as part of a scale, which includes additional items. If both attitudes and behavior are of interest, could be combined with Propensity to plan scale: Attitude (in this guide) to form a 6-item scale as originally conceived. Designed for adults; some items may not be appropriate for younger teens.
Source(s)	Lynch, John G., Jr., Richard G. Netemeyer, Stephen A. Spiller, and Alessandra Zammit, *A generalizable scale of propensity to plan: The long and the short of planning for time and for money*, Journal of Consumer Research 37, no. 1, 108–128 (2010).

TABLE 73: REASONS FOR SAVING

Building block	Financial habits & norms
Age group(s)	Ages 13 to 21
Milestone(s)	Does the young adult have a positive attitude toward planning, saving, frugality, and self-control?
Format	Survey

Completed by	Young adult/teen
Administered by	Teacher, program leader, researcher, or other adult
Measure details	Below is a list of situations for which people sometimes save money. Please indicate how important it is to you to save money for each of them (very important, important, somewhat important, not very important, not at all important): Saving money for the coming 2 to 5 years Saving money for 10 or more years into the future Saving money for significant family festivities, such as a wedding, quinceañera, bar mitzvah, or family reunion Saving money for significant holidays, such as Christmas, Diwali, or Chinese New Year Saving money for significant community activities, such as a potlatch, powwow, or street fair Saving money for possible future emergencies Saving money for a rental security deposit Saving money for large purchases, such as a car, furniture, or appliances Saving money for your education Saving money so you can treat yourself to something special every once in a while Responses to these questions collectively provide an indication of the extent to which the respondent values saving.
Relation to milestone	Direct
Relation to money or personal finance	Direct
Background and testing	These items come from the Success Measures financial capability outcome indicators and evaluation tools for youth ages 14 to 24. They were developed by a team with input from practitioners, researchers, public agencies, and others in the form of surveys and working groups, as well as a comprehensive review of the literature. The tools were field-tested by community organizations across the U.S. The Success Measures tool that included these items also listed other possible reasons for saving.

Special considerations	N/A
Source(s)	Anders, Jessica, Sarah Graddy, Margaret Grieve, and Deborah Visser, Measuring Outcomes of Financial Capability Programs: Success Measures Tools for Practitioners (Washington, DC: NeighborWorks America 2011) available at http://www.successmeasures.org/sites/all/files/FinancialCapabilityOnlineFinalOct2011.pdf.

TABLE 74: SAVING ATTITUDES SCALE FOR CHILDREN

Measure name	Saving attitudes scale for children
Building block	Financial habits & norms
Age group(s)	Ages 3 to 5 and 6 to 12
Milestone(s)	Has the child developed basic values and attitudes around keeping (saving) and using (consuming) resources? (3 to 5) Does the child begin to show a positive attitude toward savings, frugality, planning, and self-control? (6 to 12)
Format	Survey/scale; interview for young children
Completed by	Child, with adult interviewer (1:1) for young children
Administered by	Teacher, program leader, researcher, or other adult
Measure details	Respondents answer the following questions using 5-point scales: How often do you find it easy to save? (Never, almost never, sometimes, most of the time, always) Is it good to save money? (Not at all, a little bit, somewhat, very, extremely) Some kids feel that saving money is only for adults. How often do you feel that way? (Never, almost never, sometimes, most of the time, always) Some kids feel they don't need to save money, because their parents will buy them the things they like. How often to you feel that way? (Never, almost never, sometimes, most of the time, always)

	Some kids feel they don't need to save money, because the money their parents give them is for spending. How often to you feel that way? (Never, almost never, sometimes, most of the time, always) Children ages 3 to 5 are asked only one of the questions (orally): "Is it good to save money?" with response options modified (not at all, a little bit, very).
Relation to milestone	Direct
Relation to money or personal finance	Direct
Background and testing	The first three questions come from a composite scale of savings attitudes used by Batty et al. (2015) on fourth and fifth graders. The final two questions appear in the same study as an indicator of students' beliefs about financial responsibility and also reveal attitudes about saving.
Special considerations	Administered 1:1 for young children.
Source(s)	Batty, Michael, J. Michael Collins, and Elizabeth Odders-White, *Experimental evidence on the effects of financial education on elementary school students' knowledge, behavior, and attitudes*, Journal of Consumer Affairs 49, no. 1, 69–96 (2015b).

TABLE 75: SAVING BEHAVIOR

Building block	Financial habits & norms
Age group(s)	Ages 6 to 12 and 13 to 21
Milestone(s)	Does the child begin to have positive financial habits, like planning and saving? (6 to 12) Does the young adult demonstrate positive money management habits and decision-making strategies? (13 to 21)
Format	Survey item
Completed by	Child/young adult
Administered by	Teacher, program leader, researcher, or other adult

Measure details	Respondents answer the following question:
	Which of these statements about saving money best applies to you? Response options (choose only one): (1) I save the same amount of money each week or month, (2) I save some money each week or month, but the amount varies, (3) I save money only when I have some to spare, (4) I save money only when I want to buy something, (5) I do not save any money, (6) I have no money so I do not save.
Relation to milestone	Direct
Relation to money or personal finance	Direct
Background and testing	This item was administered to 15 (and 16) year olds as part of the Program for International Assessment (PISA) financial literacy background questionnaire.
Special considerations	May not be appropriate for the youngest children in the age group (under 7 or 8).
Source(s)	Organisation for Economic Cooperation and Development, Program for International Student Assessment (PISA) available at http://www.oecd.org/pisa/.

TABLE 76: SAVING PLAN

Building block	Executive function
Age group(s)	Ages 13 to 21
Milestone(s)	Has the young adult demonstrated the ability to plan ahead and delay gratification?
Format	Survey
Completed by	Young adult/teen
Administered by	Teacher, program leader, researcher, or other adult
Measure details	Respondents answer the following open-ended questions:

	Some people have a general plan for how they save money, while other people do not. Do you happen to have a plan that guides how you set aside money for savings? If so, please describe your plan for setting aside money as savings. Regardless of whether or not you are putting aside money as savings right now, do you have some kind of plan for saving in the future? This could be either a formal written plan or an informal sense of how you would like to save. If so, please describe that plan, including for what purpose you expect to save money and for whom you will be saving money.
Relation to milestone	Direct (ability to plan)
Relation to money or personal finance	Direct
Background and testing	These questions come from the Success Measures financial capability outcome indicators and evaluation tools for youth ages 14 to 24. They were developed by a team with input from practitioners, researchers, public agencies, and others in the form of surveys and working groups, as well as a comprehensive review of the literature. The tools were field-tested by community organizations across the U.S.
Special considerations	Scoring of open-ended questions is more involved than scoring multiple-choice assessments and often entails the development of scoring rubrics and use of text analysis tools to find key words or themes.
Source(s)	Anders, Jessica, Sarah Graddy, Margaret Grieve, and Deborah Visser, Measuring Outcomes of Financial Capability Programs: Success Measures Tools for Practitioners (Washington, DC: NeighborWorks America 2011) available at http://www.successmeasures.org/sites/all/files/FinancialCapabilityOnlineFinalOct2011.pdf.

TABLE 77: SELF-ASSESSED FINANCIAL KNOWLEDGE

Building block	Financial habits & norms
Age group(s)	Ages 13 to 21

Milestone(s)	Does the young adult demonstrate appropriate financial self-efficacy?
Format	Survey
Completed by	Young adult/teen
Administered by	Teacher, program leader, researcher, or other adult
Measure details	Respondents rate their overall understanding of personal-finance and money-management concepts and practices on a scale ranging from 0 (not financially knowledgeable) to 4 (very financially knowledgeable).
Relation to milestone	Direct
Relation to money or personal finance	Direct
Background and testing	Used by Shim et al. (2009) and Xiao et al. (2011) to assess the subjective financial knowledge of college students.
Special considerations	Designed for college students but likely appropriate for the full age group (13 to 21).
Source(s)	Shim, Soyeon, Jing J. Xiao, Bonnie L. Barber, and Angela C. Lyons, Pathways to life success: A conceptual model of financial well-being for young adults, *Journal of Applied Developmental Psychology* 30 (2009): 708-723. Xiao, Jing J., Chuanyi Tang, Joyce Serido, and Soyeon Shim, *Antecedents and consequences of risky credit behavior among college students: Application and extension of the Theory of Planned Behavior*, Journal of Public Policy and Marketing 30, no. 2, 239–245 (2011).

TABLE 78: SELF-ASSESSED PROBLEM-SOLVING ABILITY

Building block	Financial habits & norms
Age group(s)	Ages 13 to 21

Milestone(s)	Does the young adult demonstrate appropriate financial self-efficacy?
Format	Survey
Completed by	Young adult/teen
Administered by	Teacher, program leader, researcher, or other adult
Measure details	Respondents evaluate their problem-solving abilities using the following two items: On a scale of 1 to 7, where 1 means “Not At All Well” and 7 means “Extremely Well," how good are you at solving problems you encounter? Compared to other people, how good are you at logical, analytic thinking on a scale of 1 to 7, where 1 means “A Lot Worse than Other People” and 7 means “A Lot Better than Other People"?
Relation to milestone	Indirect (self-efficacy for problem solving)
Relation to money or personal finance	Indirect
Background and testing	These two items are from the Panel Study of Income Dynamics (PSID) Transition to Adulthood supplement (https://psidonline.isr.umich.edu/CDS/questionnaires/ta-11/ta11.pdf), administered to PSID families’ children ages 18 and up. One item comes from the "Responsibilities" section and the other from the "Self" section.
Special considerations	Designed for individuals 18 and up but likely appropriate for the full age group (13 to 21).
Source(s)	Panel Study of Income Dynamics Transition to Adulthood supplement, public use dataset, Survey Research Center, Institute for Social Research, University of Michigan, available at https://psidonline.isr.umich.edu/CDS/questionnaires/ta-11/ta11.pdf.

TABLE 79: SELF-REPORT HABIT INDEX (SRHI)

Building block	Financial habits & norms

Age group(s)	Ages 13 to 21
Milestone(s)	Does the young adult demonstrate positive money management habits and decision-making strategies?
Format	Survey
Completed by	Young adult/teen
Administered by	Teacher, program leader, researcher, or other adult
Measure details	Respondents rate their level of agreement with 12 different statements relating to "Behavior X" using a 7-point scale with endpoints agree (=1) and disagree (=7). Sample items include "Behavior X is something I do frequently," "Behavior X is something I do automatically, "Behavior X is something I do without thinking," and "Behavior X is something I would find hard not to do." All 12 items in the index can be found in the appendix of Verplanken and Orbell (2003). For the purpose of assessing the milestones, "Behavior X" could be planning out how to spend money, checking one's budget, saving part of every paycheck or allowance payment, etc.
Relation to milestone	Direct (if financial behaviors are used)
Relation to money or personal finance	Direct (if financial behaviors are used)
Background and testing	Verplanken and Orbell (2003) developed and tested the SRHI using multiple samples of undergraduate students, demonstrating its internal consistency, test-retest reliability, and convergent validity.
Special considerations	Tested on college students but likely appropriate for the full age group (13 to 21).
Source(s)	Verplanken, Bas, and Sheina Orbell, *Reflections on past behavior: A self-report index of habit strength*, Journal of Applied Social Psychology 33, no. 6, 1313-1330 (2003).

TABLE 80: SORTING TASK

Building block	Financial knowledge & decision-making skills
Age group(s)	Ages 3 to 5
Milestone(s)	Does the child have early numeracy skills like counting and sorting?
Format	Structured activity assessed by observer
Completed by	Child with adult facilitator (1:1)
Administered by	Teacher, program leader, researcher, or other adult
Measure details	Children are asked to sort cards with different features into corresponding boxes (e.g., "big kitty" into "big kitty" box, "little kitty" into "little kitty" box, sorting by color or shape, and sorting based on the presence or absence of a border on the card). A detailed protocol, along with a list of required materials and suggestions for troubleshooting, is presented in Zelazo (2006). A card sorting test is also included in the National Institutes of Health (NIH) Toolbox at nihtoolbox.org.
Relation to milestone	Direct
Relation to money or personal finance	Indirect
Background and testing	Card sorting tests are widely used to assess the executive function skill of task switching (also called set shifting) in young children ages 2 (or 3) and up. These tests can also be used to assess children's ability to sort, recognizing that a key feature of sorting tests used to measure executive function, like the Dimensional Change Card Sort (DCCS) described in Zelazo (2006) and available in the NIH Toolbox, is the change in the sorting criterion midway through the task. For example, children may be asked to sort cards with blue stars, red stars, blue squares, and red squares by color and then be asked to switch and sort by shape. This feature may or may not be desirable in a simple test of sorting ability.
Special considerations	Administered 1:1. Requires cards for sorting.

Source(s)	Zelazo, Philip D., *The dimensional change card sort (DCCS): A method of assessing executive function in children*, Nature Protocols 1, no. 1, 297–301 (2006).

TABLE 81: SOURCES OF INFORMATION ABOUT MONEY

Building block	Financial knowledge & decision-making skills
Age group(s)	Ages 13 to 21
Milestone(s)	Can the young adult identify trusted sources of information and process that information?
Format	Survey
Completed by	Young adult/teen
Administered by	Teacher, program leader, researcher, or other adult
Measure details	Respondents are given the following instructions: Below is a list of ways in which people sometimes get information about saving money. Please indicate whether or not you use these sources when you are looking for information you can trust about saving money by answering “yes” or “no” for each one. Workshops or training sessions Financial institutions, such as banks and credit unions One-on-one sessions with a financial counselor Publications, such as books, newspapers, and magazines Family members and relatives Friends and neighbors Church or faith community Online through the internet Some other source (specify: _____) These items help to assess whether or not respondents are seeking out financial information from sources they trust. If resources permit, these yes/no questions could be augmented with open-ended written or interview questions that explore respondents’ thinking/rationale.

Relation to milestone	Direct
Relation to money or personal finance	Direct
Background and testing	These items come from the Success Measures financial capability outcome indicators and evaluation tools for youth ages 14 to 24. They were developed by a team with input from practitioners, researchers, public agencies, and others in the form of surveys and working groups, as well as a comprehensive review of the literature. The tools were field-tested by community organizations across the U.S.
Special considerations	Scoring of open-ended questions (if added) is more involved than scoring multiple-choice assessments and often entails the development of scoring rubrics and use of text analysis tools to find key words or themes.
Source(s)	Anders, Jessica, Sarah Graddy, Margaret Grieve, and Deborah Visser, Measuring Outcomes of Financial Capability Programs: Success Measures Tools for Practitioners (Washington, DC: NeighborWorks America 2011) available at http://www.successmeasures.org/sites/all/files/FinancialCapabilityOnlineFinalOct2011.pdf.

TABLE 82: SPENDING CHOICES

Building block	Financial habits & norms
Age group(s)	Ages 13 to 21
Milestone(s)	Does the young adult demonstrate positive money management habits and decision-making strategies?
Format	Survey
Completed by	Young adult/teen
Administered by	Teacher, program leader, researcher, or other adult
Measure details	Respondents answer the following question:

	If you don't have enough money to buy something you really want (e.g., an item of clothing, sports equipment), what are you most likely to do? Response options (choose only one): (1) Buy it with money that really should be used for something else, (2) try to borrow money from a family member, (3) try to borrow money from a friend, (4) save up to buy it, (5) not buy it.
Relation to milestone	Direct
Relation to money or personal finance	Direct
Background and testing	This item was administered to 15 (and 16) year olds as part of the Program for International Assessment (PISA) financial literacy background questionnaire.
Special considerations	N/A
Source(s)	Organisation for Economic Cooperation and Development, Program for International Student Assessment (PISA) available at http://www.oecd.org/pisa/.

TABLE 83: STAGES OF UNDERSTANDING OF MONEY AND VALUE

Building block	Financial knowledge & decision-making skills
Age group(s)	Ages 3 to 5
Milestone(s)	Does the child grasp basic financial concepts like money and trading?
Format	Interview that includes structured play
Completed by	Child, with adult interviewer (1:1)
Administered by	Teacher, program leader, researcher, or other adult
Measure details	The adult begins by showing the child coins and bills of different denominations to check for recognition. In the first activity, the interviewer asks, "If I go to a store with just this money [holding one of the coins or bills up], can I buy… (...a chocolate candy, a comic book, a doll, a real car)?"

	In the second activity, the child plays the customer and then the storekeeper in a transaction to purchase/sell a chocolate or a comic book. The interview is recorded (audio only) and assessed (ideally by an evaluator who does not know the child or the child's age) at one of 5 levels of understanding using the descriptions on page 1180 of Berti and Bombi (1981). In a related activity, children can be shown a real dollar bill and a play dollar bill and asked which they'd rather have. Later, the interviewer can ask the child why the real dollar is valuable but the play dollar is not.
Relation to milestone	Direct
Relation to money or personal finance	Direct
Background and testing	The first two activities come from Betri and Bombi (1981), whose sample included 80 children ages 3 to 8. The final activity is discussed in Schug (1987).
Special considerations	Administered 1:1 (and evaluated by another adult who ideally does not know the child). Requires audio recording equipment and simple props.
Source(s)	Berti, Anna E., and Anna S. Bombi, *The development of the concept of money and its value: A longitudinal study*, Child Development 52, no. 4, 1179-1182 (1981). Schug, Mark C., *Children's understanding of economics*, The Elementary School Journal 87, no. 5, 506-518 (1987).

TABLE 84: STICKING TO PLANS

Building block	Executive function
Age group(s)	Ages 13 to 21
Milestone(s)	Has the young adult demonstrated the ability to plan ahead and delay gratification?
Format	Survey
Completed by	Young adult/teen

Administered by	Teacher, program leader, researcher, or other adult
Measure details	Respondents answer the following multiple-choice and open-ended questions: There are times when people put aside money for a certain reason, but end up using it for something else. When you save money for a particular purpose, how often do you find yourself spending it on something else? (Often, sometimes, rarely, never) We are interested in how you think you would react to different hypothetical situations involving financial matters. You just received $50 from a relative for your birthday. You thought you might get some money, but you didn't know how much it would be. You had planned to save it so that you had extra money over the summer. The day after your birthday, you are hanging out with friends and end up in a music store. An artist you like a lot has just released a new CD, and it's on sale for $20. What would you do? Why would you do that? You are with two of your friends at a video rental store looking for something to watch at home. You had planned to spend $5 for the rental, and your friends were going to cover the money for snacks. The group can't decide on what movie to rent, and someone suggests going to the theater to see the new IMAX film. Tickets are $12. You have $15 dollars on you, but that money has to last you for the coming week. What would you do? Why would you do that?
Relation to milestone	Direct (ability to plan)
Relation to money or personal finance	Direct
Background and testing	These questions come from the Success Measures financial capability outcome indicators and evaluation tools for youth ages 14 to 24. They were developed by a team with input from practitioners, researchers, public agencies, and others in the form of surveys and working groups, as well as a comprehensive review of the literature. The tools were field-tested by community organizations across the U.S.
Special considerations	Questions will need updating to improve relevance. Scoring of open-ended questions is more involved than scoring multiple-choice assessments and often entails the development

	of scoring rubrics and use of text analysis tools to find key words or themes.
Source(s)	Anders, Jessica, Sarah Graddy, Margaret Grieve, and Deborah Visser, Measuring Outcomes of Financial Capability Programs: Success Measures Tools for Practitioners (Washington, DC: NeighborWorks America 2011) available at http://www.successmeasures.org/sites/all/files/FinancialCapabilityOnlineFinalOct2011.pdf.

TABLE 85: TASK PERSISTENCE MEASURE

Building block	Executive function
Age group(s)	Ages 3 to 5
Milestone(s)	Can the child demonstrate these qualities when using and managing limited resources like time, money, treats, or belongings?
Format	Task
Completed by	Child, with adult observer
Administered by	Teacher, program leader, researcher, or other adult; one adult acts as the observer
Measure details	Children are observed during multiple (Kranz and Scarth, 1979, used seven) 3-minute intervals performing tasks of their own selection (i.e., during free play) that involve using their hands to interact with something tangible. The adult observer maintains a distance of 5 to 10 feet from the child, keeping time and recording the number of seconds the child stays on task (i.e., actively manipulates the tangible play material) in each 3-minute interval. Longer times indicate higher persistence. The tasks available to children could be manipulated to assess their ability to self-regulate, focus, and persist when resources are limited.
Relation to milestone	Indirect or direct (depending on selected tasks)
Relation to money or personal finance	Indirect

Background and testing	Krantz and Scarth (1979) used this approach on 39 preschool students ages 28 to 56 months. They assessed inter-observer reliability and found that correlations across observers exceeded 90%.
Special considerations	Requires an observer (in addition to a teacher/program leader in a classroom or group setting).
Source(s)	Krantz, Murray, and Linda Scarth, *Task persistence and adult assistance in the preschool*, Child Development 50, no. 2, 578-581 (1979).

TABLE 86: TEEN FINANCIAL BEHAVIORS

Building block	Financial habits & norms
Age group(s)	Ages 13 to 21
Milestone(s)	Does the young adult demonstrate positive money management habits and decision-making strategies?
Format	Survey
Completed by	Young adult/teen
Administered by	Teacher, program leader, researcher, or other adult
Measure details	Respondents rate how frequently they engage in the following behaviors using a 4-point scale (1 = never, 4 = all the time, intermediate values not labeled). How often do you? Track how you spend your money Use a personal budget to plan how you spend your money Ask yourself if it is a need or a want before making a purchase Save a portion of your income
Relation to milestone	Direct
Relation to money or personal finance	Direct

Background and testing	Loke et al. (2015) adapted the items above from the Personal Finance Skills and Behavior Scale of Harder + Company (2009) and used them on a sample of 14 to 18 year olds.
Special considerations	N/A
Source(s)	Harder + Company, Junior Achievement Presents: The NEFE High School Financial Planning Program (Boston: JA Worldwide 2009). Loke, Vernon, Laura Choi, and Margaret Libby, *Increasing youth financial capability: An evaluation of the MyPath savings initiative*, Journal of Consumer Affairs 49, no. 1, 97-126 (2015).

TABLE 87: TEEN FINANCIAL SELF-EFFICACY AND ATTITUDE SCALES

Building block	Financial habits & norms
Age group(s)	Ages 6 to 12 and 13 to 21
Milestone(s)	Is the child self-confident about completing age-appropriate financial tasks? (6 to 12) Does the young adult demonstrate appropriate financial self-efficacy? (13 to 21)
Format	Surveys/scales
Completed by	Child/ young adult
Administered by	Teacher, program leader, researcher, or other adult
Measure details	Respondents indicate how sure are they that they can effectively do each of the following in a responsible manner during their lifetimes on a 4-point scale (1 = not sure at all, 2 = not very sure, 3 = somewhat sure, 4 = very sure): (1) use credit, (2) invest their money, (3) budget their money, (4) spend their money, and (5) save their money. Participants indicate the extent to which they agree with the following statements on a 5-point scale (1 = strongly disagree, 5 = strongly agree): “I am in control of my money”; “I am comfortable doing business with a bank or credit union”; “I feel confident about making decisions that deal with money”; and “I think it is ‘cool’ to be able to manage my money well.”

Relation to milestone	Direct
Relation to money or personal finance	Direct
Background and testing	Loke et al. (2015) adapted the 5-item financial self-efficacy scale from the 2010 Junior Achievement/Allstate "Teens and Personal Finance" survey, which was designed for 12 to 17 year olds. Loke et al. documented the reliability of the scale on a sample of young adults ages 14 to 18. Loke et al. created the attitudes scale using items adapted from an evaluation of the Money Smart Curriculum (FDIC 2007) and previous evaluations of the MyPath Savings initiative.
Special considerations	Items related to spending and saving (items 4 and 5 above) likely appropriate for the full age group (6 to 21). Item related to budgeting (item 3 above) likely appropriate for ages 8 and up. Items related to credit and investing (items 1 and 2) and financial attitudes likely appropriate for ages 12 and up.
Source(s)	Loke, Vernon, Laura Choi, and Margaret Libby, *Increasing youth financial capability: An evaluation of the MyPath savings initiative*, Journal of Consumer Affairs 49, no. 1, 97-126 (2015).

TABLE 88: TEMPERAMENT IN MIDDLE CHILDHOOD QUESTIONNAIRE (TMCQ): IMPULSIVITY SCALE AND INHIBITORY CONTROL SCALE

Building block	Executive function
Age group(s)	Ages 6 to 12
Milestone(s)	Does the child show the ability to plan ahead and delay gratification?
Format	Survey
Completed by	Parent/caregiver
Administered by	Program leader, researcher, or other adult

Measure details	Parents/caregivers respond to 13 items related to their child's impulsivity and 8 items related to their child's inhibitory control, both on a 5-point scale (1 = almost always untrue of your child, 2 = usually untrue of your child, 3 = sometimes true, sometimes untrue of your child, 4 = usually true of your child, 5 = almost always true of your child). Some items are more directly related to the ability to plan and delay gratification than others. Especially relevant questions include “When s/he sees a toy or a game s/he wants, is eager to have it right away” (impulsivity), "Has an easy time waiting to open a present" (inhibitory control), and "Likes to plan carefully before doing something" (inhibitory control). The full list of items and scoring instructions can be downloaded free of charge upon request at https://research.bowdoin.edu/rothbart-temperament-questionnaires/request-forms/.
Relation to milestone	Direct
Relation to money or personal finance	Indirect
Background and testing	The Temperament in middle childhood questionnaire (TMCQ) was adapted from the Children’s behavior questionnaire (CBQ), which also appears in this guide, for use with children ages 7 to 10. Simonds and Rothbart (2004) document both subscales’ reliability using combined samples of 193 children total.
Special considerations	Self-report versions for children also exist, though initial evidence of reliability (in Simonds and Rothbart, 2004) is weaker.
Source(s)	Simonds, Jennifer, and Mary K. Rothbart, The temperament in middle childhood questionnaire (TMCQ): A computerized self-report measure of temperament for ages 7–10, Poster session presented at the Occasional Temperament conference (Athens, GA 2004) available at https://research.bowdoin.edu/rothbart-temperament-questionnaires/instrument-descriptions/the-temperament-in-middle-childhood-questionnaire/.

TABLE 89: TIME PERSPECTIVE QUESTIONNAIRE (TPQ)

Building block	Executive function
Age group(s)	Ages 13 to 21

Milestone(s)	Does the young adult demonstrate future orientation? (13 to 21)
Format	Survey
Completed by	Child/young adult
Administered by	Teacher, program leader, researcher, or other adult
Measure details	Respondents rate their level of agreement or disagreement with 13 questions using a 7-point scale (1 = disagree very strongly, 2 = disagree strongly, 3 = disagree, 4 = neutral, 5 = agree, 6 = agree strongly, 7 = agree very strongly). Sample items include "Living for the moment is more important than planning for the future," "I spend a lot more time thinking about today than thinking about the future," and "I have a good sense of my long-term priorities in life." The first two items are reverse-scored (meaning higher scores indicate less focus on the future).
Relation to milestone	Direct
Relation to money or personal finance	Indirect
Background and testing	Fong and Hall developed and validated the Time perspective questionnaire (see, e.g., Hall and Fong, 2003). Since then, other researchers have used the questionnaire, often selecting a subset of items. For example, Romer et al. (2010) administered the three sample items listed above to a nationally representative sample of 900 U.S. 14 to 22 year olds, replacing the original 7-point scale with a 4-point scale (1 = strongly disagree to 4 = strongly agree. Similarly, Hall et al. (2012) selected a single question from the TPQ ("You spend a lot of time thinking about how what you do today will affect your life in the future") and used a 5-point response scale.
Special considerations	N/A
Source(s)	Fong, Geoffrey T., and Peter A. Hall, Time perspective: A potentially important construct for decreasing health risk behaviors among adolescents, in D. Romer (Ed.) Reducing Adolescent Risk: Toward an Integrated Approach 106-112 (Thousand Oaks, CA: Sage Publications, Inc. 2003).

	Hall, Peter A., Geoffrey T. Fong, Hua-Hie Yong, Genevieve Sansone, Ron Borland, and Mohammad Siahpush, *Do time perspective and sensation- seeking predict quitting activity among smokers? Findings from the International Tobacco Control (ITC) four country survey*, Addictive Behaviors 37, no. 12, 1307-1313 (2012). Romer, Daniel, Angela L. Duckworth, Sharon Sznitman, and Sunhee Park, *Can adolescents learn self-control? Delay of gratification in the development of control over risk taking*, Prevention Science 11, no. 3, 319-330 (2010).

TABLE 90: TOWER OF LONDON (PLANNING) TASK

Building block	Executive function
Age group(s)	Ages 13 to 21
Milestone(s)	Has the young adult demonstrated the ability to plan ahead and delay gratification?
Format	A task that could be considered a game or puzzle (some versions are computerized)
Completed by	Young adult/teen (1:1 with adult facilitator if not computerized)
Administered by	Teacher, program leader, researcher, or other adult
Measure details	The Tower of London task entails moving discs or beads on (usually, three) vertical pegs from one configuration to another using as few moves as possible. Free versions are available on Brainturk at https://www.brainturk.com/tol and in Phillips et al. (1999), which can be downloaded here: https://www.researchgate.net/publication/12669935_The_Role_of_Memory_in_the_Tower_of_London_Task. Kaller et al. (2012) assess determinants of the task's difficulty and confirm its positive psychometric qualities including split-half reliability and internal consistency.
Relation to milestone	Direct
Relation to money or personal finance	Indirect

Background and testing	The Tower of London is a long-standing and widely-used task for assessing ability to plan ahead with many versions available, some free of charge as indicated above and others for a fee. Versions of the Tower of London task have been used with preschool children through older adults.
Special considerations	Administered 1:1 if not computerized. Versions for younger children (6 to 12) are available for a fee.
Source(s)	Kaller, Christoph P., Josef M. Unterrainer, and Christoph Stahl, *Assessing planning ability with the Tower of London task: Psychometric properties of a structurally balanced problem set*, Psychological Assessment 24, no. 1, 46-53 (2012). Phillips, Louise H., V.E. Wynn, Kenneth J. Gilhooly, S. Della Sala, and R.H. Logie, *The role of memory in the Tower of London task,* Memory 7, no. 2, 209-231 (1999).

TABLE 91: YOUTH BUDGETING SCALE: ATTITUDE

Building block	Financial habits & norms
Age group(s)	Ages 6 to 12
Milestone(s)	Does the child begin to show a positive attitude toward savings, frugality, planning, and self-control?
Format	Survey item (partial scale)
Completed by	Child
Administered by	Teacher, program leader, researcher, or other adult
Measure details	Respondents answer the following question using a 5-point response scale (not at all, a little, somewhat, very, extremely):
	How important is it to keep track of how much money you earn and spend using a budget?
Relation to milestone	Direct (planning)
Relation to money or personal finance	Direct

Background and testing	This item comes from a 5-item scale developed by Batty et al. (2015a) for children in grades 3 through 5. The reliability and validity of the full scale were established in a small sample of 43 children ages 9 to 11.
Special considerations	Validated as part of a scale, not as an individual item. If attitude toward budgeting, budgeting behavior, and financial self-confidence are all of interest, this measure can be combined with YBS: Behavior and YBS: Confidence (both in this guide) to form a single 5-item scale as originally conceived. Not likely appropriate for the youngest children in this age group (below age 7 or 8).
Source(s)	Batty, Michael, J. Michael Collins, and Elizabeth Odders-White, Validity and reliability of elementary student financial education outcome measures, University of Wisconsin-Madison Center for Financial Security (2015a) available at https://centerforfinancialsecurity.files.wordpress.com/2016/09/validityreliabilitymeasures_final.pdf.

TABLE 92: YOUTH BUDGETING SCALE: BEHAVIOR

Building block	Financial habits & norms
Age group(s)	Ages 6 to 12
Milestone(s)	Does the child begin to have positive financial habits, like planning and saving?
Format	Survey question (partial scale)
Completed by	Child
Administered by	Teacher, program leader, researcher, or other adult
Measure details	Respondents answer the following question using a 5-point response scale (never, almost never, sometimes, most of the time, always): How often do you have a plan for how you will spend money? (never, almost never, sometimes, most of the time, always)
Relation to milestone	Direct (planning)

Relation to money or personal finance	Direct
Background and testing	This item comes from a 5-item scale developed by Batty et al. (2015a) for children in grades 3 through 5. The reliability and validity of the full scale were established in a small sample of 43 children ages 9 to 11.
Special considerations	Validated as part of a scale, not as an individual item. If attitude toward budgeting, budgeting behavior, and financial self-confidence are all of interest, this measure can be combined with YBS: Attitude and YBS: Confidence (both in this guide) to form a single 5-item scale as originally conceived. Not likely appropriate for the youngest children in this age group (below age 7 or 8).
Source(s)	Batty, Michael, J. Michael Collins, and Elizabeth Odders-White, Validity and reliability of elementary student financial education outcome measures, University of Wisconsin-Madison Center for Financial Security (2015a) available at https://centerforfinancialsecurity.files.wordpress.com/2016/09/validityreliabilitymeasures_final.pdf.

TABLE 93: YOUTH BUDGETING SCALE: CONFIDENCE

Building block	Financial habits & norms
Age group(s)	Ages 6 to 12
Milestone(s)	Is the child self-confident about completing age-appropriate financial tasks?
Format	Survey (partial scale)
Completed by	Child
Administered by	Teacher, program leader, researcher, or other adult
Measure details	Respondents answer the following questions using a 5-point scale (not at all, a little, somewhat, very, extremely): How good are you at making decisions about how to spend your money?

	How confident are you about making decisions that deal with money? How good are you at keeping track of what you spend your money on?
Relation to milestone	Direct
Relation to money or personal finance	Direct
Background and testing	These items come from a 5-item scale developed by Batty et al. (2015a) for children in grades 3 through 5. The reliability and validity of the full scale were established in a small sample of 43 children ages 9 to 11.
Special considerations	Validated as part of a scale, which includes additional items. If attitude toward budgeting, budgeting behavior, and financial self-confidence are all of interest, this measure can be combined with YBS: Attitude and YBS: Behavior (both in this guide) to form a single 5-item scale as originally conceived. Not likely appropriate for the youngest children in this age group (below age 7 or 8).
Source(s)	Batty, Michael, J. Michael Collins, and Elizabeth Odders-White, Validity and reliability of elementary student financial education outcome measures, University of Wisconsin-Madison Center for Financial Security (2015a) available at https://centerforfinancialsecurity.files.wordpress.com/2016/09/validityreliabilitymeasures_final.pdf.

TABLE 94: YOUTH MATERIALISM SCALE

Building block	Financial habits & norms
Age group(s)	Ages 6 to 12
Milestone(s)	Does the child begin to show a positive attitude toward savings, frugality, planning, and self-control?
Format	Survey/scale
Completed by	Child

Administered by	Teacher, program leader, researcher, or other adult
Measure details	Respondents rate their level of agreement with the following 10 statements using a 4-point scale (1 = disagree a lot, 2 = disagree a little, 3, agree a little, 4 = agree a lot): I'd rather spend time buying things than doing almost anything else. I would be happier if I had more money to buy more things for myself. I have fun just thinking of all the things I own. I really enjoy going shopping. I like to buy things my friends have. When you grow up, the more money you have, the happier you are. I'd rather not share my snacks with others if it means I'll have less for myself. I would love to be able to buy things that cost lots of money. I really like the kids that have very special games or clothes. The only kind of job I want when I grow up is one that gets me a lot of money.
Relation to milestone	Direct (frugality)
Relation to money or personal finance	Direct
Background and testing	The Youth materialism scale was developed by Goldberg et al. (2003) for use with young people ages 9 to 14. Goldberg et al. identified possible items from existing scales (primarily for adults) and, using input from parents and teachers, selected 19 items. After pilot testing, the scale was narrowed to 10 items. Internal consistency, test-retest reliability, and convergent validity were demonstrated during scale development. The scale was then administered to a sample of almost 1000 young people.
Special considerations	Some questions not likely appropriate for the youngest children in this age group (below age 7 or 8).

Source(s)	Goldberg, Marvin E., Gerald J. Gorn, Laura A. Peracchio, and Gary Bamossy, *Understanding materialism among youth*, Journal of Consumer Psychology 13, no. 3, 278-288 (2003).

TABLE 95: YOUTH SAVING HABITS

Building block	Financial habits & norms
Age group(s)	Ages 6 to 12 and 13 to 21
Milestone(s)	Does the child begin to have positive financial habits, like planning and saving? (6 to 12) Does the young adult demonstrate positive money management habits and decision-making strategies? (13 to 21)
Format	Survey
Completed by	Child/young adult
Administered by	Teacher, program leader, researcher, or other adult
Measure details	Respondents answer the following questions: Do you have any money saved? (Yes/No) Do you save regularly? (Yes/No) If yes, what proportion of what you receive or earn do you try to save? (tick all that apply) (25%, 50%, 75%, nearly all, practically none) If you do save, why do you save? (Check all that apply: parents tell me to, friends save, for something special I want to buy, for a holiday, for emergencies, simply to have more money)
Relation to milestone	Direct
Relation to money or personal finance	Direct
Background and testing	These questions come from an 8-page survey developed by Furnham (1999) that covers sources of income, saving behavior, banking behavior, spending behavior, and financial attitudes. The survey was administered to 280 adolescents ages 11 to 16 by

	classroom teachers. Furnham (1999) does not discuss the development or possible validation of the survey instrument.
Special considerations	N/A
Source(s)	Furnham, Adrian, *The saving and spending habits of young people*, Journal of Economic Psychology 20, 677-697 (1999).