FROM IMPULSE CONTROL TO INTEREST RATES

Building Financial Capability in Children and Youth

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Children are fantastic learners. They master spoken language in just a couple of years. They gain control of their bodies and figure out how to navigate the physical environment. Children also learn to negotiate, quarrel, joke, and whine all in the first few years of their lives. However, we rarely let young children get anywhere near money.

Most of us do not see children as competent financial actors until they are well into their teens, if then. Why is this? What is so hard about learning to deal with money and finances? Perhaps most importantly, what do we know about how to help children develop the same competence with finances that they show in so many other areas of their lives? This essay reviews an emerging body of research on how childhood experiences contribute to financial well-being in adulthood.

Financial well-being is a multifaceted concept that transcends both the more traditional understanding of financial literacy and the broader notion of financial capability. According to the Consumer Financial Protection Bureau, *financial well-being* entails having control over one's finances, the capacity to absorb financial shocks, the ability to meet financial goals, and the financial freedom to make choices that allow one to enjoy life.

Certainly as Ray Boshara points out in this volume, factors beyond an individual's control, such as the quality of the neighborhood school, the availability of good jobs, and family wealth, play a significant role in

financial outcomes. However, achieving and maintaining financial well-being also depends on a wide range of skills, attitudes, and other personal attributes. That is, someone could have all the advantages of a good school, access to good jobs, and other pluses, but without the necessary skills, financial well-being is unlikely. These internal factors—many of which begin to develop early in life—interact with external factors in complex ways and, together, they drive financial well-being.

So what are the specific internal factors that empower some children to grow into financially capable and satisfied adults while others falter? To answer this question, we reviewed research in developmental psychology, consumer finance, and education.[1] Our review provided insights into both *how* and *when* youth develop the key drivers of adulthood financial well-being.

Early precursors to financial well-being can be grouped into three categories:

- **Executive function development:** Building the set of cognitive abilities that underlies skills like impulse control and planning; these are particularly critical for very young children ages 3–5.
- **Financial socialization:** Acquiring financial values, norms, and attitudes; this is key for children ages 6–12.
- **Financial knowledge and experience:** Establishing skills in navigating financial choices; this is vital for adolescents and young adults ages 13–21.

FRAMING OUR THINKING

In *Thinking Fast and Slow,* Daniel Kahneman shows that we as humans tend to process information and make decisions in two ways: automatically (System 1) and deliberately, based on learned facts (System 2). Each of these approaches is a potential target of interventions. Formal education tends to target System 2, the explicit facts and conscious problem-solving strategies that people employ. System 1 intuitions develop over time as people gain experience. In addition, we know that executive

1 This essay is an adaption of a previously published article by the authors and others entitled, "Foundations of Financial Well-Being: Insights into the Role of Executive Function, Financial Socialization, and Experience-Based Learning in Childhood and Youth," *Journal of Consumer Affairs* 49 (1) (2015): 13–38.

function improves into adulthood, partially driven by neural maturation, but also influenced by experience and practice.

System 1: Automatic and Effortless

System 1 is often characterized by common sense, intuition, rules of thumb, or gut feelings. Psychologists refer to these processes as *heuristics*. Acting on heuristics takes little thought. For example, if faced with two items of the same price, a common heuristic would be to choose the item that offered a larger quantity, thereby getting more "bang for the buck." Buying the same products that most other people are buying is another heuristic. There is significant debate about exactly which heuristics people use and whether they are generally helpful or detrimental.

We tend to associate relying on heuristics with children and immaturity; with age comes more reflection. However, a very influential theory of expertise holds that what really makes someone skilled in a domain is having a good set of heuristics. Adults use heuristics and, critically, we seem to be able to improve our System 1 thinking. Improvement does not tend to happen as a result of formal lessons. Rather, heuristics develop in practice: learning by doing. The common saying that it takes 10,000 hours of practice to become an expert reflects the fact that heuristics are built up with experience, not communicated through instruction.

System 2: Facts and Procedures

System 2 is characterized by explicit knowledge—the facts and procedures people use to solve difficult or unfamiliar problems. In the context of financial well-being, an example would be recalling the formula for compound interest and using it to calculate the return on an investment. Doing an inventory of the pantry, making a list, and planning the shopping trip are also System 2 processes. Most educational interventions, including those related to financial literacy, focus on System 2. We often think of System 2 facts and procedures as being complex and formal and, therefore, more appropriate for older children and adults. However, the characteristic feature of System 2 is not that it is complex and abstract, but rather that it requires deliberate attention and effort. Therefore, even young children can begin to develop System 2 processes.

Regulating Systems: The Role of Executive Function

Control or executive processes determine whether we use System 1 or System 2 in a given situation. Because System 1 is automatic and effortless, it tends to guide our behavior in most circumstances. System 2 requires being careful and paying attention; it takes mental effort. Executive function thus plays the critical role of allowing individuals to switch between the two systems. Resisting a strong temptation, sticking with a plan, or noticing when things aren't working and trying something else are classic executive function processes. Executive function is often associated with System 2, but it is also used to allow System 1 to take control—to turn off the deliberation in System 2.

Our analysis of the development of financial well-being follows a three-part model. Children develop executive function to regulate the way they think and act in financial contexts; they develop habits, attitudes, and norms about financial matters; and they develop formal financial strategies and knowledge. We discuss each of these in detail below.

AGES 3–5: EXECUTIVE FUNCTION AS A BUILDING BLOCK FOR FINANCIAL WELL-BEING

Strong executive function supports positive financial behaviors, including developing a budget, resisting temptation, and delaying gratification, all of which promote financial well-being in adulthood. Executive function develops rapidly during the first five years of life, with genetics, environment, and experience all influencing its trajectory. A child's basic temperament also plays an important role. Some children are more impulsive than others from a very young age. Still, research demonstrates that executive function is a "muscle" that can be strengthened through training and practice. Even more promising, evidence suggests that children with the weakest executive function skills benefit the most from these experiences.[2]

But will strengthening executive function in children make a difference when they are adults? Existing research suggests the answer is yes. One study found that self-control between the ages of 3 and 11 is associated with future savings and investment behavior, home and retirement account ownership, and self-reported money and credit management success (even

2 Adele Diamond, "Executive Functions," *Annual Review of Psychology* 64 (1) (2013): 135–68.

after accounting for IQ and socioeconomic status).[3] Early development of executive function skills also facilitates learning more generally, empowering children to develop higher-level financial abilities, such as numeracy and math.

So how can we improve children's executive function skills? Early evidence suggests that approaches that build children's self-efficacy can help. For example, children who are given responsibility for planning, executing, and assessing their own learning have better financial, social, and emotional outcomes in early adulthood.[4] Interventions that become progressively more challenging as children gain skills or mature appear to be most successful.[5] Another important consideration is providing children with frequent opportunities to practice these skills in multiple contexts.

Opportunities to combine executive function and basic financial skills training are particularly intriguing. Programs can develop children's inhibitory control, working memory, and saving skills in concert by teaching strategies for keeping their minds focused on long-term savings goals when faced with an immediate temptation (e.g., asking them to actively visualize the bicycle they are saving for whenever they are tempted by the candy aisle near a checkout counter).[6] Interventions that combine executive function and basic financial skills training may represent an ideal approach to building the early foundations of financial well-being.

AGES 6–12: FINANCIAL SOCIALIZATION

Financial socialization, the process through which individuals develop values and norms about money, begins early. Most children have knowledge and attitudes about their role as consumers before they even start school. As young children enter elementary school, opportunities for true financial socialization emerge.

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3 Terrie E. Moffitt et al., "A Gradient of Childhood Self-Control Predicts Health, Wealth, and Public Safety," *Proceedings of the National Academy of Sciences* 108 (7) (2011): 2693–98.

4 Lawrence J. Schweinhart and David P. Weikart, "Why Curriculum Matters in Early Childhood Education," *Educational Leadership* 55 (6) (1998): 57–60.

5 Diamond, "Executive Functions."

6 Karen Holden et al., "Financial Literacy Programs Targeted on Pre-School Children: Development and Evaluation" (Madison, WI: Credit Union National Association, 2009).

Financial socialization is not simply learning how to successfully manage economic transactions. It encompasses the development of attitudes, values, and standards that will ultimately either support or hinder financial well-being.[7] For example, healthy attitudes about saving and some level of frugality are necessary for skillful money management. Positive views on budgeting support financial goal-setting and planning, and tempered materialism likely leads to an ability to live within one's means.

Financial socialization happens through many different channels, including school, media, and peers, but it is parents—defined broadly as adults who play a primary role in the raising of children—who exert a particularly strong influence. So what should parents, teachers, and practitioners do to promote positive financial socialization? Not surprisingly, financial socialization generally occurs implicitly (e.g., by modeling behavior) rather than explicitly (via direct instruction). Children become socialized by watching or interacting with their parents in consumer situations, for example. Implicit approaches can be especially important with younger children, who may model financial behaviors they do not understand purely to be more "grown up" or to please their parents.

Explicit instruction also matters, and combining both approaches is important. For example, receiving an allowance as a child does not change savings behaviors as an adult unless it is combined with parental oversight as to how the money is spent and parental teaching about budgeting and the necessity of saving.[8] Another example of explicit financial socialization is providing opportunities for children to manage a savings account, which typically requires parental involvement and can contribute to a child's ability to understand concepts related to saving and investment. Research shows that children whose parents monitored their spending were more likely to perceive themselves as good money managers,[9] and children who discussed financial matters with and learned

7 Sharon M Danes, "Evaluation of the NEFE High School Financial Planning Program® 2003–2004" (Denver: National Endowment for Financial Education, 2004).

8 Alessandro Bucciol and Marcella Veronesi, *Teaching Children to Save and Lifetime Savings: What Is the Best Strategy?* SSRN Scholarly Paper ID 2275929 (Rochester, NY: Social Science Research Network, 2013).

9 Jinhee Kim and Swarn Chatterjee, "Childhood Financial Socialization and Young Adults' Financial Management," *Journal of Financial Counseling and Planning* 24 (1) (2013): 62.

money management from their parents reported healthier financial attitudes when they were college students.[10]

Importantly, research suggests that the financial attitudes children acquire impact their behavior later in life. For example, being raised in a financially prudent household as a child has been linked to engaging in fewer negative financial behaviors such as credit card misuse as a young adult.[11] Similarly, children whose parents oversaw their spending were more likely to own bonds, CDs, or other financial assets as young adults.

Children's attitudes also work in conjunction with executive function. For example, a child who has a strong capacity for self-control may not actually display control if he or she does not think it is important. Similarly, to develop future orientation, children require both the *ability* to focus on the future (executive function skills) and the *motivation* to do so (an attitude that values planning ahead).

Finally, socioeconomic factors may shape parents' socialization practices. For example, if parents lack financial knowledge or experience, they may worry that they cannot effectively teach or model behaviors for their children and could even teach or model detrimental financial behaviors.[12] Children from low-income families may miss out on some important financial socialization experiences because their parents are less likely to participate in the financial system.[13] On the other hand, children growing up with limited means might receive more information than those growing up comfortably buffered from financial worries.

Socialization may best be understood as a matter of fit. The attitudes, values, and norms developed as a child might fit well with the demands of some environments, but serve poorly in other contexts. Because financial

10 Bryce L. Jorgensen and Jyoti Savla, "Financial Literacy of Young Adults: The Importance of Parental Socialization," *Family Relations* 59 (4) (2010): 465–78.

11 Jeffery Hibbert, Ivan Beutler, and Todd Martin, "Financial Prudence and Next Generation Financial Strain," *Journal of Financial Counseling and Planning* 15 (2) (2004): 51–59.

12 Margaret S. Sherraden, "Building Blocks of Financial Capability." In *Financial Capability and Asset Building: Research, Education, Policy, and Practice*, edited by Julie. M. Birkenmaier, Margaret. S. Sherraden, and Jami C. Curley. (New York & Oxford: Oxford University Press, 2013).

13 Julia Loumidis and Sue Middleton, "A Cycle of Disadvantage: Financial Exclusion in Early Childhood" (London, UK: Financial Services Authority, 2000).

socialization can take many forms, interventions that adopt a strength-based approach that leverages parents' existing skills are likely to be fruitful. All parents have some abilities to support their children's financial socialization. The challenge for interventions is building on these strengths and expanding children's opportunities.

AGES 13–21: BUILDING FINANCIAL KNOWLEDGE AND EXPERIENCE

As teens, youth become increasingly independent and often begin to control more financial resources. Many will get their first jobs, credit cards, and loans. These new opportunities allow youth to develop the knowledge and skills that underlie financial decision-making in adulthood. Ideally, executive function maturation has laid the cognitive foundation for these skills, and the financial socialization process has established the financial attitudes that encourage these positive behaviors. Furthermore, research suggests that individuals are particularly receptive to financial education when it is relevant and delivered immediately before they face a financial decision.[14] Consequently, the increasing financial independence associated with adolescence and young adulthood presents many valuable opportunities for learning.

As in earlier stages, families can play an important role in helping teens develop conscious (System 2) financial decision-making skills. Some parents begin to involve their children in family finances or open savings or checking accounts for their children, providing guided practice using these accounts. Alternatively, some schools deliver financial education programs, but the evidence regarding the efficacy of these school-based initiatives is mixed. While many studies report an association between participation in financial education and improved financial knowledge, the effects tend to be modest and long-term knowledge retention is usually untested.

Of course, the primary objective of financial education is not to increase knowledge but to promote positive financial behaviors. The apparent benefits of actively using financial services and products imply that experiential learning could offer an effective means of promoting financial well-being. Opportunities for reflection are important to the success of

14 Daniel Fernandes, John G. Lynch, Jr., and Richard G. Netemeyer, "Financial Literacy, Financial Education, and Downstream Financial Behaviors," *Management Science* 60 (8) (2014): 1861–83.

experiential programs because the ability to process the experience and to learn from both good and bad choices is critical.[15] Hands-on experiences are also likely to promote feelings of self-efficacy, or confidence in one's ability to manage personal finances. Some researchers recommend that interventions focus not on teaching specific financial facts, but on imparting an understanding of how to acquire the information needed for financial decisions.[16]

The skills that adolescents and young adults acquire by managing their resources and other financial decisions helps to develop the unconscious heuristics that are an important complement to hands-on skills. Repeated practice helps individuals discern when their intuition may fail them and where more conscious, research-based decisions are needed. Habits, as opposed to knowledge, formed during youth are highly influential for adult behavior, and interventions that promote System 1 financial decision-making could have a lasting impact. As such, school-based or other financial curricula that provide opportunities to practice and reinforce positive financial decisions can help young people develop effective habits and heuristics. For example, simulated classroom economies in which students receive paychecks and pay rent offer a natural context in which to build positive habits through repeated cycles of practice and reflection.

CONCLUSION

Although most children and youth do not oversee their household's finances, they are continually apprenticing, acquiring the knowledge, habits, attitudes, and personality traits that will play an instrumental role in their own financial well-being later in life. To ensure more financial well-being in the future, we propose the following strategies:

- Help 3–5-year-olds develop the executive function that undergirds many of the drivers of financial well-being in adulthood, including future orientation, the ability to delay gratification, and the ability to set goals.
- Encourage parents and other adults to guide 6–12-year-olds in learning basic financial skills and establishing healthy financial attitudes and habits.

15 For an application to economics education, see James D. Laney, "Experiential Versus Experience-Based Learning and Instruction," *Journal of Educational Research* 86 (4) (1993): 228–36.

16 Fernandes et al., "Financial Literacy."

- Provide hands-on opportunities for 13–21-year-olds to learn financial research skills and heuristics for money management.

Parents and caregivers should be encouraged not only to give their children access to resources to make spending and saving decisions, but to talk with their children about those decisions. Likewise, parents and caregivers could encourage their children to set savings goals and develop other positive financial habits. At school, simple budgeting exercises, role-playing, or computer simulations can help to improve financial decision-making, as do activities that improve critical thinking and research skills. In all cases, research suggests that the key is providing opportunities for practice that are developmentally appropriate and include time for reflection. Through repeated practice that is supported by parents or other adults, children can develop positive financial habits related to skillful money management, goal-setting, and financial research. They can also acquire a crucial sense of self-efficacy, another driver of financial well-being in adulthood.

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