A Meta-Analytic and Psychometric Investigation of the Effect of Financial Literacy on Downstream Financial Behaviors

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Billions of dollars are spent worldwide on financial education. Our meta-analysis shows these interventions explain 0.1% of the variance in downstream financial behaviors. Measured financial literacy explains more. Why? Two surveys replicate prior findings that measured financial literacy predicts financial behaviors, but this relationship disappears when controlling for confounded traits.

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EXTENDED ABSTRACT

Consumers’ financial world used to be more forgiving. Consumers face increasing demands to ensure their own financial security via borrowing, saving, and managing their day-to-day budgets (Boshara et al. 2010). A generation ago, one did not need to know as much to avoid large financial mistakes that are now much more common. These increasing demands on consumers have led many analysts to point to the importance of financial literacy. Many nations around the world have calls for building financial literacy as a capability in the citizenry, spending billions of dollars worldwide to improve financial behavior. Financial literacy is a specialized kind of consumer expertise or knowledge pertaining to how one manages one’s financial affairs (Remund 2010). Prior qualitative literature reviews had reached starkly different conclusions about whether financial literacy had “inconsistent” effects or effects so small that government policy promoting financial literacy was misguided.

We scrutinize the effect of financial literacy on downstream financial behaviors via rigorous meta-analysis of 137 papers and 164 studies published in a broad array of disciplines. We include studies of the effects of consumers’ measured financial literacy and of financial education interventions. We grouped the types of dependent variables in eight different categories: 1) “Save” (amount saved for retirement), 2) “Plan” (level of planning for retirement), 3) “Debt” (level of debt for each respondent), 4) “Stock Ownership” (how much is invested in stocks), 5) “Investment” (amount invested or return), 6) “Cash Flow Management” (ability to perform healthy financial behaviors in a day-to-day basis), 7) “Plan Activity” (participation and contribution to retirement plans) and 8) “Inertia” (the likelihood to choose default options rather than choosing actively).

The integrated effect size (corrected for sample weighting) is “small” and significant ($r = .066, p < .001$). (By convention, $r \leq .10$ is small; $0.10 < r < .40$ is medium; and $r \geq .40$ is large.) These results were based on 165 independent studies and 558,208 cases. Criticality, we found significant heterogeneity in effect sizes obtained ($Q = 2,784, p < .001$), indicating that moderating variables might help explain the variance in the effect sizes. Our primary hypothesis was that this heterogeneity could be explained by larger effect sizes for studies measuring financial literacy rather than manipulating some financial education intervention. Results supported this conjecture: average effect-size was on the low end of “medium” for measured financial literacy ($r^2 = .013$ for 83 effect-sizes, $r = .116, CI_{95} = 0.112$ to 0.12) and quite “small” for manipulated financial literacy ($r^2 = .001$ for 82 effect-sizes, $r = .033, CI_{95} = 0.029$ to 0.036). As expected, the effect-size of manipulated financial literacy on downstream financial behaviors increases with more hours of instruction and shorter time delay between the intervention and the measurement of financial behavior. But even semester length classroom instruction explained only about 0.3% of the variance in later financial behavior. One explanation is that, interventions produced only small improvements in financial knowledge that serve as a manipulation check for the interventions in 12 studies (sample-weighted $r = .056, CI_{95} = 0.043$ to 0.068). We conclude that correlational and econometric studies that measure literacy find moderate connections to subsequent financial behaviors, but studies of the effects of financial literacy interventions show weak and almost null effects.

If it is so difficult to intervene to improve downstream financial behaviors, why is measured literacy such a potent predictor of healthy financial behaviors? We thought that the stronger effects of measured financial literacy may be due to either problems of measurement of financial literacy or to the omission of other traits that are correlated with, but distinct from, financial literacy. We follow up our meta-analysis with two primary research studies investigating the psychometric properties of measured financial literacy, its discriminant validity in relation to other constructs, and its nomological validity in predicting downstream financial behaviors. We develop from published items a brief, unidimensional measure of financial literacy from a pool of items used in prior work. We reproduce a number of published findings wherein measured literacy predicts financial behaviors when entered along with demographics. However, we find that the predictive effects weaken dramatically when we include measures of other correlated traits. We discuss the implications of our findings for research on financial literacy and for public policy and private investment in financial education.

In conclusion, forces in the legal, business, and social environment make today’s financial world a much more dangerous place for consumers than what their parents faced a generation ago. This observation and a large literature connecting financial literacy to downstream financial behavior has been the impetus for a broad examination of financial literacy and efforts to improve it by governments, employers, and NGOs. Literally billions of dollars are being spent to promote financial literacy. We conducted a meta-analysis to evaluate whether, across all studies, financial literacy is connected to financial behavior. We found a large split between econometric or correlational studies that related measured literacy to financial behavior and experiments or quasi-experiments where there was some manipulation of an educational program intended to improve financial literacy, and, thus, downstream financial behaviors. This dissociation occurs in part because financial interventions targeted at changing financial literacy are not effective (especially those with only a few hours of intervention and a long delay between intervention and behavior). Is the solution then to increase the effort towards financial interventions and invest more money on financial education? The answer is no. This is because the effect of financial literacy on financial behaviors is explained by other psychological traits that are not easily changed. In sum, financial interventions often don’t work and the effect financial literacy on behavior seems to be explained by correlates of financial literacy. This poses a challenge for financial educators and policy makers about how best to foster healthy financial behaviors.

REFERENCES