

Prior Knowledge and Take-Up of Financial Education

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Introduction

To help ensure that consumers are capable of making informed financial decisions, policymakers and financial educators have concentrated on designing programs to raise consumers' financial literacy (World Bank, 2014). Nevertheless, there is significant debate over the effects of these programs and the situations in which they are effective (Fernandes, Lynch, & Netemeyer, 2014). One central question in determining effectiveness is who decides to participate – that is, program “take-up.” In particular, because a significant portion of the research on financial education programs uses data solely from participants (Collins & O'Rourke, 2010), it is unclear whether such programs appeal to all consumers, or if take-up varies based on prior knowledge. The primary purpose of this paper is to address this gap in the literature by assessing the psychological and demographic characteristics of consumers who are offered online financial education prior to the decision to purchase a home. Specifically, we analyze a unique data set that combines survey measures of consumers' characteristics with website clickstream data that captures participants' decisions to search for and participate in financial education.

Our work reveals two key patterns. First, controlling for other characteristics, consumers who have higher levels of existing financial knowledge are also more likely to participate in financial education. Second, controlling for actual knowledge, consumers who perceive themselves as being more knowledgeable are less likely to seek out and use financial education resources.

Relationships between objective knowledge, subjective knowledge, and search

For decades, researchers have examined the relationship between consumers' prior knowledge and their choice to acquire new information about various types of consumer goods (Rao & Monroe, 1988; Raju, Lonial, & Mangold, 1995; Klein & Ford, 2003). Despite these efforts, there is significant disagreement in the literature regarding the relationship between prior knowledge and information acquisition, with studies finding positive (Locander & Hermann, 1979; Schaninger & Sciglimpagia, 1981), negative (Wood & Lynch, 2002; Radecki & Jaccard, 1995), and inverted u-shape patterns (Bettman & Park, 1980; Park & Lessig, 1981; Johnson & Russo, 1984) between prior knowledge and search. Theories on the influence of prior knowledge on motivation and ability to acquire information underlie each of these patterns.

Starting with Brucks (1985), researchers began to distinguish between consumers' objective and subjective knowledge in information search. Specifically, objective knowledge (OK) is defined as the

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knowledge consumers actually have stored in memory, whereas subjective knowledge (SK) is defined as perceptions of one's own knowledge. While SK and OK can be highly correlated (Disney & Gathergood, 2013), Alba and Hutchinson (2000) show that SK often outweighs OK.

Limited work has directly explored the relationship between OK, SK, and use of financial education programs. Instead, one line of research has concentrated on information search for investment products, finding that consumers with higher SK or OK are more likely to search (Lin & Lee, 2004; Loibl & Hira, 2009; Nilsson, Nordvall, & Isberg, 2010). A second line has explored the relationship with advice seeking. Calcagno and Monitocone (2010) and Bucher-Koenen and Koenen (2011) find that more financially literate households are more likely to seek advice from advisors. These studies are primarily based on survey data, making it unclear whether "search" is measured accurately. We expand on this research using a large sample of objective data to measure general financial education search.

Methods

Survey data. Our data come from a longitudinal study of prospective US homebuyers conducted in 2016 (for more information, see Beckett and Chin, 2018; Chin, Couper, and Beckett, 2018). Specifically, we analyzed data from 6,278 participants from a large real estate website who anticipated buying a house within three months and were involved in household financial decisions. At enrollment, we collected survey measures of demographic and psychological factors.

OK was measured using a twelve item multiple choice scale that combined financial literacy and mortgage knowledge questions ($\alpha = .72$). SK was an aggregate of six multiple choice questions eliciting consumers' confidence in their abilities and overall knowledge ($\alpha = .82$). Items for both scales were formulated based on existing literature and consultations with mortgage professionals; the questions can be requested from the others. Other variables collected include participants' time and risk preferences, need for cognition, numeracy, and standard demographics.

Website data. At the end of the enrollment survey, participants were encouraged to visit a website with educational material on how to buy a home and acquire a mortgage. As all participants stated that they were planning on buying a home in the next three months, this information should have been relevant. After completing the survey, participants also received a follow-up email thanking them for their participation and reminding them about the website. Using unique hyperlinks in these materials, we were able to track website usage over the next two weeks. Specifically, we capture decisions to view the website at all, as well the amount of time spent on the site and activities that participants performed. We perform a two part analysis, first estimating the probability of website take-up and then estimating the number of seconds spent on the website conditional on visiting it.

Results

Viewing the website. Overall, 36.7% of participants visited the website in the two weeks following the enrollment survey. A logistic regression showed that website take-up was more likely for participants with higher OK (odds ratio of 1.09, $se = .01$, $p < .001$). However, take-up was significantly less likely among those with higher SK (odds ratio of 0.86, $se = .01$, $p < .001$).

Amount of time spent on website. On average, participants who decided to take-up the survey spent approximately 10.9 minutes on it ($SD = 19.2$ minutes). A linear regression showed that the amount of time on the website was lower among those with more SK ($B = -34.7$ seconds, $se = 9.6$, $p < .001$). There was no statistically significant relationship between objective knowledge and duration on the website.

Discussion

Assessments of the benefits of financial education programs are limited by lack of research on “take-up,” who decides to participate. Our findings suggest that consumers’ characteristics are significantly related to their use of financial education programs. Most notably, use is higher among those who are already more knowledgeable – consumers who may need these programs less – and lower among those who perceive themselves as more knowledgeable. Additionally, our findings support a theoretical distinction between OK and SK, as they have opposing relationships with information search in our study.

Ultimately, efforts to promote informed decision making are likely to be more effective when consumers take advantage of educational resources that are available. By better understanding the psychological and demographic profiles and underlying decision-making processes of those who select into (and out of) information search and acquisition, policymakers may be able to more effectively design and distribute financial education materials.

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