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Conflicts of Interest/Competing Interests

The authors have no relevant financial or non-financial interests to disclose.

Ethics Approval

This study was granted approval by the Institutional Review Board (IRB) of Loyola University Chicago (IRB project number #2178) and the study was performed in accordance with the ethical standards as laid down in the 1964 Declaration of Helsinki and its later amendments or comparable ethical standards.

Abstract

Building on theory and research in financial capability, this study enhances a financial capability model by integrating psychological self-sufficiency (PSS) theory as part of the financial literacy component. Using PSS, a concept from workforce development literature, this study investigates the extent to which an empowerment-based PSS process in targeting financial goals is associated with financial literacy. Path analyses were conducted using a sample of 187 low-income individuals from a large social service agency in Chicago. Findings suggest that perceived financial barriers and financial hope—the two targets of PSS interventions—are associated with financial attitude and behavior, controlling for other demographic variables. These findings can guide policy makers and service providers to build in PSS process-based financial literacy components in vocational and adult education and training as a more human-centered approach to workforce development.

Keywords: Psychological self-sufficiency, financial literacy, financial hope, financial barriers, low-income, financial capability

Introduction

Financial capability models have evolved over time as theorists and practitioners have attempted to create programs that empower people to act in ways that promote their financial stability and well-being. Still influencing much practice today, early financial capability models focused much attention on financial literacy as the driver of financial capability (Sherraden, 2013; Shockey & Seiling, 2004). Indeed, the research around financial literacy has shown the benefits of financial literacy programs. Financial literacy is related to saving for retirement (Jappelli & Padula, 2013; Lusardi & Mitchell, 2007, 2011a), making prudent investment decisions (van Rooij, Lusardi, & Alessie, 2011), and having emergency funds (Babiarz & Robb, 2014). Financial literacy serves as a predictor of net worth (Behrman et al., 2012). As measured by financial knowledge, financial literacy is found to moderate the effects of conscientiousness on net worth and illiquid asset holdings, and liquid asset holdings (Letkiewicz & Fox, 2014). On the other hand, financial illiteracy is reported to partially account for debt problems (Gathergood, 2012; Henager & Mauldin, 2015). This is particularly true for low-income individuals and families with fewer basic financial skills and resources. They face more vulnerability against financial shocks—i.e., family emergencies, health-related procedures, job losses, foreclosures, business challenges, etc. (Jacob et al., 2000).

Financial education may have an impact on increasing financial knowledge among low-income populations (Reich & Berman, 2015; Zhan et al., 2006), but greater knowledge may not always translate into behavioral change particularly for financial behaviors that may not be attainable in the short-term or at all given situational constraints (Lyons et al., 2006). In fact, a meta-analysis by Fernandes et al. (2014) found that knowledge-based financial education programs explained only 0.1 percent of the variance in participants' behavior. In addition, when they controlled for psychological factors, the effect of financial education was even lower (Fernandes et al, 2014). Thus, more recent financial capability models take into account how the opportunity structures in the social environment may impact people's "assumptions and understanding about what is possible" and thus influence financial behavior (Sherraden, 2013, p. 5). This paper is situated in the financial capability model of Sherraden (2013), which takes both a structural and individual approach to financial capability and includes financial literacy as a component of the model. Sherraden's model is grounded in the social and economic structure within which a person is situated. The structural dimensions include the availability of financial products (accessibility, appropriateness, affordability, financial attractiveness, and ease of use) and financial inclusion, or the opportunity to act. The individual dimensions

include mezzo factors such as financial socialization, education, and guidance and micro factors such as individual financial literacy (Sherraden, 2013).

This current paper enhances Sherraden's model by focusing on the black box between the literacy aspects of financial knowledge and financial behavior. Guided by Sherraden's conceptual model (2013), the authors integrate the theory of Psychological Self-Sufficiency (PSS) into the model. This focused elaboration of Sherraden's financial capability model is embedded in the financial literacy section of the model. PSS posits a process-oriented progression from financial knowledge and skills through perceived financial barriers and financial hope to enhance the financial attitude and financial behavior aspects of financial literacy (Hong, 2013; Hong, Shin, Wathen, & Gibbons, n.d.). If the model elaboration is correct, it suggests further areas of intervention be developed to enhance financial capability so that financial knowledge is activated.

To test the addition of PSS into the model, we used survey data from a social service agency in Chicago that combines job search and readiness training along with an asset development and financial literacy approach. The research question of this study is: How is Psychological Self-Sufficiency associated with attitudinal and behavioral elements of financial literacy among low-income service recipients? This test of the model enhancement is the main contribution of this paper.

Before moving to the theoretical underpinnings of this model enhancement, we review the literature on assumptions underlying literacy and findings about non-knowledge-based factors influencing financial literacy and capability.

Literature Review

Changes in Theoretical Assumptions

As Lusardi and Mitchell (2014) reported, early conceptualizations of financial capability were based on the life cycle model developed by Modigliani and Brumberg in the early 1950s to explain saving and investment behaviors (Nyhus & Webbley, 2006). The basic assumption of the model is that human beings are rational and able to make optimal choices after considering all information and options.

This assumption led to financial literacy assessment instruments that evaluated knowledge of financial concepts and tools and became widely used, perpetuating the emphasis on financial literacy as knowledge (Lusardi & Mitchell, 2005; Huston, 2010; Fernandes et al., 2014; Schuhen & Schürkmann, 2014). However, many organizations serving low-income communities claim that "the mountain of existing financial literacy teaching

materials” are ineffective in helping their clients (Hudson & Bush, 2000, p. 3). Similarly, a meta-analysis of 201 studies on possible relationships between financial literacy and financial education reports that financial education has minimal levels of effects among low-income samples (Fernandes et al., 2014). These findings may be due to the scales’ failure to measure appropriate knowledge that is necessary for the population. It could also be the scale’s ignorance of the participants’ contexts in which their knowledge and skills are applied (Schuhen & Schürkmann, 2014). Even a scale designed for low-income individuals, the Financial Links for Low-Income People (FLLIP) Knowledge Test (Zhan et al., 2006), is based on the assumption of rational choice, and therefore fails to help in assessment and planning of interventions for this population.

The Organisation for Economic Co-operation and Development (OECD) developed a survey instrument to measure financial literacy across countries (Atkinson & Messy, 2012). This survey provides a blueprint for measuring financial literacy as not only knowledge, but also behaviors and attitudes. The underlying assumption of the questionnaire and subsequent research is that knowledge must be paired with attitude to produce behaviors. Only when all three are present can one measure financial capability as an outcome. As Atkinson and Messy (2012, p. 9) summarize, “Attitudes and preferences are considered to be an important element of financial literacy. If people have a rather negative attitude towards saving for their future, for example, it is argued that they will be less inclined to undertake such behaviour.

Similarly, in this paper, financial literacy is defined as broader than static knowledge. Rather, the definition is influenced by Sherraden (2013), who asserted that it includes a person’s capability to demonstrate “knowledge and skills, attitude, habit, motivation, confidence, self-efficacy, and behavior” (p.4). Financial literacy is assumed to include the ability or skill to apply knowledge to make better financial decisions (Hudson & Bush, 2000; Huston, 2010; Lusardi & Mitchell, 2014; OECD, 2013). Further, researchers, policy makers, and financial specialists have included non-knowledge-based elements such as confidence and motivation and generally defined financial literacy as “knowledge, skills, confidence and motivation necessary to effectively manage money” (Reumd, 2009, p. 276).

Comprehensively, the financial literacy aspect of financial capability includes content knowledge and skills, attitudes, and behaviors associated with financial issues and practices (Atkinson & Messy, 2012, pp. 6-9, 39). Given the knowledge and skill base, financial attitudes and behaviors may provide a more accurate conceptual snapshot of financial literacy. Much work in the Financial Capability and Asset Building (FCAB) field uses the term “financial management” or “financial functioning” to describe financial behavior. However, because the measures

used in the analyses in this paper are taken from measures developed by the OECD, the authors chose to use the OECD term “financial behavior,” which focuses on putting skills into practice.

Financial Literacy, Non-knowledge-based Factors, and Financial Capability

Financial education programs seek financial behavioral change that moves clients towards their financial goals (Shockey & Seiling, 2004). Various factors influence how individuals apply their financial knowledge to their situations, including non-knowledge factors. Confidence or self-efficacy was reported as one of the factors included in the application dimension (Fernandes et al., 2014; Huston, 2010; Kramer, 2016; OECD, 2013). Similarly, Howlett et al. (2008) found that those with a higher level of future orientation were more likely to participate in a retirement plan, moderated by self-regulation. Other psychological factors such as financial satisfaction and religiosity were also found to be correlated with financial literacy (Murphy, 2013).

Research has shown that non-cognitive skills contribute to individuals’ economic decision-making (Borghans et al., 2008; Hershey, & Mowen, 2000). From a behavioral economics perspective, internally inconsistent and conflicting personalities, different mental accounts, and impatience were posited to explain people’s financial decisions (Nyhus & Webbley, 2006). Other frequently reported variables in spending or investment include interactions with peers (Duflo & Saez, 2002; Lunt, 2006; Moav & Neeman; 2010; Parker, 2013), geographic locations or neighborhoods (Hong et al., 2004; Lachance, 2014), and psychological conditions (Cryder et al., 2008). In summary, while financial literacy as knowledge and skills can help individuals become more capable of managing finances, it falls short of addressing the ways in which financial vulnerability is reduced among low-income households (Sherraden, 2010). As Prawitz et al. (2012) have confirmed, low-income households develop greater control over their finances through decreased financial distress and increased hope.

Theoretically, the above findings point to the importance of non-knowledge-based factors such as context, environment, and experience in influencing financial well-being. As a broader concept, financial capability is an individual’s ability “to understand, assess, and act in their best financial interest” (Johnson & Sherraden, 2007, p. 124). Individuals perceive financial barriers and opportunities, and also their own ability, in the environment of their own experiences and socialization (Chowa et al, 2014). For low-income individuals and communities, economic exclusion is often woven into the structure of institutions around them (Sherraden, 2010; Sherraden 2013). This lived experience of exclusion isn’t only a question of access, but also of influence on perceived barriers and hope. In sum, financial capability involves both the ability to act (knowledge, ability/skills, confidence, and motivation) and

the opportunity to act (through access to quality financial products and services) (Johnson & Sherraden, 2007; Sherraden, 2013).

An Enhanced Model of Financial Capability

Adapted from Sherraden (2013), Figure 1 presents an overall financial capability model. Social and economic structure are included as initial concepts in this model to suggest a systemic influence on both financial socialization and availability of financial products. The lower progression of the model remains unchanged. However, the top part of the model describes the financial literacy process whereby economic socialization (within a social and economic structure) and financial education leads to financial literacy (financial knowledge and knowledge about skills), which leads to financial literacy (ability to act) which then leads to financial capability (behavior) that results in financial stability and well-being. However, in Figure 1 there is an additional component between financial literacy (knowledge) and financial literacy (ability to act – attitude) and financial capability (behavior): Financial Psychological Self-Sufficiency. This enhancement of the model takes into account the cognitive processes and reactions of individuals to both their perceived barriers at the individual and structural levels, and the goal-directed hope that they can change their financially vulnerable situations. One other important change to the model involves moving the arrow from “Availability of financial products” to point towards F-PSS rather than financial literacy (ability to act – attitude). This acknowledges the reality that context, in this case the institutional financial environment, influences individuals as they go through the process of integrating knowledge, perceiving barriers, and deciding whether and how to move forwards with hope actions against the systemic odds towards financial well-being.

[Figure 1 here]

Theoretical Underpinnings of Psychological Self-Sufficiency

Psychological Self-Sufficiency (PSS) is a theory that proposes a dynamic, goal-directed process from financial knowledge to goal setting to identification of perceived barriers to hope to goal attainment. This theory and the model derived from it was developed for people who live with extremely low-income and assets with the recognition that structural barriers abound. The overall aim is to empower individuals to not only attain personal goals, but also to participate in promoting structural change. The theory draws from work on hope theory, work on mental contrasting, and the framework of identity-based motivation. Each of these three areas will be briefly summarized.

As defined by Snyder (2000, p. 8), “Hope is the sum of perceived capabilities to produce routes to desired goals, along with the perceived motivation to use those routes.” More simply, hope is “generally conceptualized as an adaptive psychological resource that helps individuals attain their goals,” (Lee & Gallagher, 2018). With these definitions, hope is an expectations-based concept of cognition that leads to action. Hope is shown to mediate behavior in the face of barriers, with higher hope people perceiving that they can create alternative plans and execute them to achieve their goals (Snyder, 2000, p. 11). Snyder’s model of hope (not shown) shows the mutually reinforcing nature of hope and goal-directed behavior, such that hope, a perception of possibility and belief in one’s efficacy, leads to goal-directed behavior. In turn, goal-directed behavior cycles back to reinforce and sometimes expand perceptions of possibilities, identifications of pathways, and expectation of future successful action (Snyder, 2000, p. 12).

A complimentary definition of hope offered by Oettingen and Chromick (2018) is “positive fantasies about the future despite having low expectations of reaching the desired future.” Snyder’s definition of hope and this one are similar in that they are both ways of positively thinking about the future. Oettingen and Wadden (1991) confirmed the former theory, that those with positive expectations were more likely to reach their goals than those with negative expectations. However, they found that positive fantasies about the future were not related to goal attainment. Further studies lead to the development and testing of Fantasy Realization Theory, which showed that positive fantasizing CAN lead to goal attainment if the fantasy is tied to current reality. This process is called mental contrasting. “Imagining the desired future followed by the present reality links the future to reality, revealing that one has to act in the present reality in order to fulfill the desired future. As a consequence, expectations of success become activated and guide subsequent effort and performance,” (Oettingen & Chromik, 2018). However, “...research on fantasy realization theory shows that indulging in positive fantasies without contrasting them with the present reality leads to unchanged engagement regardless of the expectations to fulfill the desired future,” (Oettingen & Chromik, 2018).

Finally, a framework that focuses more on the relationship between motivation to act and identity provides some insight for PSS as well. Identity-based Motivation is a framework that

“suggests that what matters is whether the future me feels relevant to the choices facing current me. If an accessible future me feels irrelevant to the choices facing current me, difficulties taking or imagining taking future-focused action will imply that this is not ‘for me,’ and present-focused action will continue.

However, if an accessible future me feels relevant to the choices facing current me, difficulties taking or imagining taking future-focused action will imply that this is ‘for me,’ triggering future-focused action,” (Oyserman, D., & Horowitz, E., 2022, p. 54).

According to this framework, people will make choices that are identity-congruent. However, people have multiple identities, and identity is highly attuned to context, so the identity that comes to mind will influence the decisions made (Fisher et al., 2017). In this regard, identity and motivation are dependent on culture, neighborhood, past experience, social and economic status, race-ethnicity, and a host of other factors.

PSS theory originated from the workforce development field but draws concepts from the theories and frameworks just described. Hope theory identifies the ways in which people identify possibilities and gauge their ability to act. Mental contrasting emphasizes that future possibilities must be tied to present realities and allows for the examination of barriers. Both emphasize that without hope, action does not take place. Finally, the identity-based framework also ties future to the present, except it does so by tying imagined future selves to present identities and allowing for present identities to influence motivation towards action. The identity-based framework also acknowledges that people who experience marginalization in any form will have a more difficult time calling up identities that will facilitate motivation to move towards goals (Fisher et al., 2017). This is particularly important to the idea of Psychological Self-Sufficiency, as it was developed for workforce interventions for people with low-income and low educational attainment.

Psychological Self-Sufficiency has been put into practice and research results have shown an association between PSS and economic self-sufficiency (Hong, 2013; Hong et al., 2014; Hong et al., 2015; Hong et al., 2018). Psychological Self-Sufficiency theory can apply to various goals such as learning, academic achievement, credentialing, program completion, job readiness, employment, retention, housing, relationships, and financial literacy. Other research supports the use of PSS concepts as well. For example, psychological barriers have been found to impede positive financial behavior and attitudes toward financial literacy (Kempson et al., 2004). Also, “attitude” or “a sense of hope of the future and a belief that one has some control over one’s life” was identified as contributing to financial literacy (Buckland, 2010, p. 360).

Applied to the Financial Capability Model, Financial Psychological Self-Sufficiency is the process by which people move from simply having financial knowledge and skills to using the financial knowledge to imagine pathways for action, examine barriers, and focus on strengths and identities to enhance hope that results in behavior,

or putting their skills into practice. Barriers include socio-economic structures, non-availability of financial services, exclusion from financial institutions, and possibly cognitive barriers. This path is not unidirectional, but mutually reinforcing, as in Hope Theory – completed actions in turn increase the perception of possibilities and enhance hope, thus leading to further action. Psychological Self-Sufficiency taps into a participant-centered, empowerment process-based approach that connects with individual goals. Using the Psychological Self-Sufficiency framework, financial educators can engage participants in a process of moving from perceived barriers to hope to enhance attitudes that leads to positive financial behaviors.

Method

Operationalized Conceptual Model with F-PSS

In Figure 1, the shaded areas indicate the foci of this paper. We assume as given the non-shaded areas that are informed by Sherraden's (2010; 2013) financial capability framework. From there we elaborate more deeply on how financial knowledge is processed using PSS theory. Financial Psychological Self-Sufficiency (F-PSS) is measured by the variables for Perceived Financial Barriers and Financial Hope. The F-PSS process within individuals in their context leads to financial literacy (ability to act – attitude) and financial literacy (behavior). These two outcomes are measured using variables based on the OECD (2013) questionnaire. The OECD conceptualizes both financial attitude and financial behavior as part of financial literacy but recognizes that attitude may lead to behavior. Thus, in our analyses we also test this path. All variables are described more fully below.

Procedure and Data Collection

Data were collected from a large community-based human service agency in Chicago, IL, between February 2017 and June 2017. The agency provides comprehensive services that empower and support families to achieve self-sufficiency. Since 2006, the agency has run asset building programming that is integrated with employment services, most prominently via two programs: Imagine Dedicate Earn Achieve (IDEA) and Family Self-Sufficiency (FSS). Both have the platform of asset building, i.e., participants enroll because they want to save money or reduce debt. Core services of financial literacy, matched savings, employment support, and connection to local resources are central to the model.

In IDEA, participants enroll for 6-12 months and work with an Asset Development Coordinator (ADC) on goals related to economic security. A comprehensive assessment identifies strengths and needs and screens

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participants for public benefits. Based on this, participants develop an Asset Development Plan. The ADC consults monthly with the participant to develop these goals and track progress. Progress is self-directed, and the ADC is available to provide coaching, support, resources, and technical expertise. Each Asset Development Plan includes goals for financial literacy, credit, employment, and savings. While in the program, participants attend 12 hours of financial education and have the opportunity to receive matched savings.

FSS is the U.S. Department of Housing and Urban Development's (HUD) asset building program for residents in federally subsidized housing. The agency piloted FSS for 50 public housing residents in 2006, and when the program was brought to scale and consolidated in 2013, it became the sole, citywide provider for FSS services. Currently, the agency serves more than 1100 Chicago Housing Authority residents across the city. This model includes employment services, one-on-one financial consultation, and the opportunity to build savings through an escrow account. The escrow account accumulates funds over a period of five years. When the participant's rent increases as a result of increased earned income, the increased portion of the paid rent is set aside in an escrow account. Graduates from the agency's FSS program receive an average of nearly \$7,000 in escrow savings. Starting in 2018, the Chicago Housing Authority and the agency rolled out a new escrow model, where monies are accrued based on achievement of personal goals such as savings, credit, employment, and engagement in financial education.

After the IRB approval at XXX University (IRB project number #2178), program participants were recruited during the agency's community outreach days. Agency staff received informed consent from the participants, who completed the Financial Psychological Self-Sufficiency survey developed by XXXX University in collaboration with the agency. The completed questionnaires were entered into SPSS for analysis by the research team. The total number of respondents was 190 clients in asset building program. In the data cleaning process, duplicate cases, or other possible errors were eliminated using Stata. In total, 187 cases were included in the research model.

The following are sample demographic characteristics (See Table 1). The 187 participants in the study were 22 to 68 years of age ($M = 40.64$, $SD = 10.395$). The majority of participants were African American (89.4%) and female (90.7%). About a quarter of participants were high school graduates (22.5%). The mean length of the longest job experience was 6.62 years ($SD = 4.688$), and two-thirds of the sample were employed (66.9%). About three-quarters of the participants had a bank account (73.2%), and approximately two-thirds were receiving welfare benefit(s) (64.1%).

[Insert Table 1 Here]

Measures and Analysis

Using scales validated among low-income jobseekers for employment interventions— the Employment Hope Scale (EHS; Hong et al., 2014; Hong et al., 2012) and Perceived Employment Barriers Scale (PEBS; Hong et al., 2014)— the team modified the measures, creating the Financial Hope Scale and Perceived Financial Barriers Scale. The two scales were validated in a prior study. After confirming sampling adequacy (for the Financial Hope Scale, the Kaiser-Meyer-Olkin result was .954 and the Bartlett’s test of sphericity was significant at $p < .001$; for the Perceived Financial Barrier Scale, the Kaiser-Meyer-Olkin result was .906 and the Bartlett’s test of sphericity was significant at $p < .001$), exploratory factor analysis using principal axis factor extraction with oblique rotation was performed to identify the factors. For the Financial Hope Scale, four factors were identified, while for the Perceived Financial Barriers Scale five factors were identified. To further confirm the reliability of the latent factor structure of both scales, Cronbach’s alpha was used to estimate the internal consistency of the final items in each scale as well as the subscales. For the Financial Hope Scale, the result for the overall scale was $\alpha = .967$ and the subscales also showed high internal consistency: Factor 1 ($\alpha = .947$), Factor 2 ($\alpha = .945$), Factor 3 ($\alpha = .858$), and Factor 4 ($\alpha = .888$). Similarly, for the Perceived Financial Barrier Scale, the result for the overall scale ($\alpha = .931$) and subscales showed high internal consistency: Factor 1 ($\alpha = .883$), Factor 2 ($\alpha = .787$), Factor 3 ($\alpha = .893$), Factor 4 ($\alpha = .787$), and Factor 5 ($\alpha = .787$) (Table 5). Tests of both construct and discriminant validity were also performed on these scales in the prior study.

The Financial Hope measure included 14 five-point Likert type items ranging from 1 (strongly disagree) to 5 (strongly agree) where higher scores indicate greater financial hope ($\alpha = .967$). Examples of questions in the Financial Hope Scale include, “thinking about my financial goals, I feel confident about myself,” and “I have the strength to overcome any obstacle when it comes to financial problems.”

The Perceived Financial Barriers measure consisted of 27 items. Each item is on a five-point Likert scale ranging from 1 (not a barrier) to 5 (strong barrier), with higher mean score indicating a greater degree of perceived financial barriers ($\alpha = .927$). Model 3 breaks the Perceived Financial Barriers measure into two measures using specific questions from the overall scale. The score for perceived barriers that represent ability/knowledge comes from the following four questions: growing up, no one taught me how to save money for a rainy day; lack of financial education; limited experience with saving money; not knowing how to save. The score for perceived

barriers that represent opportunity/access is calculated to answers to the following four questions: lack of belief that saving will change my future; distrust of banks/financial institutions; not enough banks in my community; banks not welcoming people like me.

The dependent variables were aspects of financial literacy measured using the financial attitude and financial behavior scales of the OECD survey cited above (Atkinson & Messy, 2012). The original measures consisted of 3 financial attitude items and 9 financial behavior items measured on Likert scales ranging from 1 (completely agree) to 5 (completely disagree). After multiple discussions with partner agency staff who directly work with clients in their financial literacy program, the XXXX University research team slightly modified the financial attitude and financial behavior scales by keeping the questions but by slightly changing the wording (see Appendix A). This allowed for a better understanding of financial attitude and behavior among asset building program participants. Higher total scores on the financial attitude scale indicated that clients have attitudes conducive for constructive future financial planning. Similarly, higher total scores on the financial behavior questions indicate a commitment to and practice of behaviors that will lead to achieving financial literacy. The measures for financial attitude ($\alpha = .718$) and financial behavior ($\alpha = .840$) both had acceptable reliability scores. Descriptive statistics for the seven main variables of interest are given in Table 2.

[Insert Table 2 here]

This study examines the relationship between Financial-Psychological Self-Sufficiency and financial literacy as measured by financial attitude and financial behavior. The first analysis breaks Financial-Psychological Self-Sufficiency into its components of Perceived Financial Barriers and Financial Hope. The researchers hypothesized that financial hope mediates the relationship between perceived financial barriers and financial attitude and financial behavior. The second analysis is similar to the first, except that the variable of perceived financial barriers is broken into two variables – one representing ability (knowledge) barriers and the other representing opportunity (access) barriers. In all three analyses, the relationship of the two financial literacy variables is probed by examining the path from financial attitude to financial behavior, as relevant theory has suggested. The hypothesized models were analyzed using path analysis in Stata. A full information maximum likelihood (FIML) was used to estimate the hypothesized model. All analyses were run with control variables for age, race, gender, and program, and no control variable was statistically significant. For ease of presentation, we are presenting results for

models that include the control variables, but our diagrams show only the variables of interest to the research question.

Results

According to the path analysis results, all the hypothesized paths from Perceived Financial Barriers to Financial Hope and Financial Hope to financial attitude and financial behavior were statistically significant (see Figure 2). Fit statistics of $\chi^2(4) = 3.336$, $p=0.503$, Root Mean Squared Error of Approximation (RMSEA) value of 0.000, Probability of RMSEA (pclose) of 0.702, and Comparative Fit Index (CFI) of 1.000 indicate very good model fit. Specifically, the Perceived Financial Barriers measure was shown to have a significantly negative effect on Financial Hope ($\beta = -.195$, $\rho < .05$). Perceived Financial Barriers also significantly predicted a negative relationship to financial attitude ($\beta = -.374$, $\rho < .001$) and financial behavior ($\beta = -.195$, $\rho < .01$). In contrast, Financial Hope had a positive effect on financial attitude ($\beta = .191$, $\rho < .05$) and financial behavior ($\beta = .413$, $\rho < .001$). Therefore, we could tentatively confirm the hypothesized mediating relationship of Financial Hope between Perceived Financial Barriers and financial attitude and financial behavior. The Sobel test of the mediating effect of Financial Hope in the pathway from Perceived Financial Barriers to financial attitude ($z = -1.99$, $\rho < .05$) as well as from Perceived Financial Barriers to financial behavior ($z = -2.12$, $\rho < .05$) confirmed that Financial Hope was a statistically significant mediator of these relationships. Finally, within the concept of financial literacy, the path from financial attitude to financial behavior showed significant positive results ($\beta = .100$, $\rho < .05$).

[Insert Figure 2 here]

Figure 3 presents the model 2 path analysis. For model 2, we ran a path analysis to identify the relationships between two aspects of financial barriers, mediated by financial hope, with the outcomes of financial attitude and financial behavior. Goodness of fit tests for this model resulted in a $\chi^2(4) = 3.669$, $p=0.453$, an RMSEA value of 0.000, pclose of 0.661, and CFI of 1.000, indicating very good model fit. The variable for financial barrier related to ability (knowledge) was statistically significantly negatively related to financial hope ($\beta = -.151$, $\rho < .05$), financial attitude ($\beta = -.217$, $\rho < .01$), and financial behavior ($\beta = -.124$, $\rho < .05$). In other words, the higher the perceived ability barriers, the lower the financial hopefulness of participants, the less optimistic financial attitude, and the fewer beneficial financial behavior commitments, on average. The variable for perceived financial barriers for opportunity (access) was less related to outcome measures. Although results showed a negative relationship

between opportunity barriers with financial hope and financial attitude, these results were not significant. On the other hand, the path from financial hope to financial behavior was significant ($\beta = .403, \rho < .001$), as was the path from financial hope to financial attitude ($\beta = .158, \rho < .05$). As in the other two models, the path results within the financial literacy concept were significant. Financial attitude has a significant positive effect on financial behavior ($\beta = .102, \rho < .05$).

[Insert Figure 3 here]

Discussion

While employment has been publicly promoted—through labor force attachment or human capital development strategies—as the panacea to financial hardship (Hong & Crawley, 2015), psychological barriers have not been addressed. Prior work has found that employment barriers significantly reduce the chance that welfare leavers land a job and stay financially stable (Nam, 2005; Hong & Wernet, 2008; Loomis et al., 2003). While vocational and adult education and training programs for low-income jobseekers are pressured to produce employment and retention outcomes by focusing on the placement and 90- and 180-day retention numbers, only 43% of welfare leavers stay employed up to 180 days (Hershey & Pavetti, 1997).

Welfare recipients tend to have lower financial literacy compared to their non-receiving counterparts (Pg Md Salleh, 2015). Even the low-income jobseekers who do successfully make it to employment face material hardship, financial insecurity, and housing instability (Boushey & Gundersen, 2001; Phinney et al., 2007; Heflin, 2006) and join the ranks of the working poor (Cheng, 2003). Financial literacy can be a means to empower individuals joining the low-wage labor market, many of whom end up being financially vulnerable (Postmus et al., 2013). Employment alone cannot provide the financial literacy skills necessary to support low-income individuals and families in building financial stability.

The conceptual model for this study situated financial psychological self-sufficiency (F-PSS) within the path of financial literacy within a comprehensive financial capability model. The insertion of F-PSS into a financial capability framework allows us to parse out the connections between knowledge, attitude, and behavior. If those are the bones of financial literacy, then F-PSS is the cartilage. It's a process of conscious and unconscious thinking and feeling within the context of the individual's environment and experience. This study found that financial hope mediates the relationship between perceived financial barriers and financial literacy, as measured by attitude and behavior. Hope is a powerful motivator towards trying new financial behaviors in spite of perceived barriers.

However, a lack of hope may make barriers seem insurmountable and thus lead to lack of action. If an intervention can lead to increased hope despite perceived barriers, individuals are more likely to act in ways that benefit themselves and perhaps even change the system.

A more complicated path analysis allowed for financial barriers to be separated into ability and opportunity domains—perception of knowledge and access barriers that prevent one from reaching financial goals. This analysis provided more nuanced results about the roles that perceived knowledge (literacy condition) and access (opportunity) barriers play in the path to financial behavior (financial capability action and behavior). The significant negative relationship between perceived knowledge barriers and financial hope point to how hope is diminished if an individual lacks confidence in their own know-how. In addition, perceived lack of knowledge led directly to a more pessimistic financial attitude and fewer beneficial financial behaviors. On the other hand, those individuals who perceived fewer knowledge barriers and had more hope received a psychological boost that empowered them to take positive financial actions. An important finding was that the perceived financial barriers of access were not significantly related to financial hope or financial literacy outcomes of attitude and behavior. This finding points to an area for further study. Finally, the process of financial literacy was conceptualized as taking the objective ‘as is’ condition of financial knowledge (literacy condition) to a desired financial behavior (literacy outcome) through financial attitude (literacy approach). In both analytical models, the theoretical assertion that attitude is an antecedent to behavior is upheld.

One limitation of the study is that there was no data on the objective financial knowledge of the participants or on the availability of financial products in their communities. Therefore, these factors could not be included in the analyses. However, by incorporating the practice-informed Psychological Self-Sufficiency framework into the conceptual model of financial capability, the perceived knowledge (ability) barrier served as a personal assessment of one’s literacy condition at the individual level and the perceived access barrier (opportunity) reflected participants’ cognitive awareness and self-assessment of structural barriers and financial exclusion.

As mentioned in the literature review and theory sections, the paths in this model are likely mutually reinforcing: perceiving barriers and enhancing hope lead to action, but completed actions in turn increase the perception of possibilities and enhance hope, leading to further action. Thus, our path analysis does not fully capture the possible directions of influence in the model.

Within the larger context of financial capability frameworks, this study reaffirms that both financial attitudes and financial behaviors are separate concepts in addition to financial knowledge in an understanding of the financial literacy process. Financial literacy, then, must continue to be regarded as a multi-faceted concept, and financial literacy measures and programs must reflect this. Measures of financial literacy that fail to reflect the financial environments and experiences of individuals, families, and communities that are low-income do not provide program developers, researchers, or policymakers with accurate information. For example, scales that measure only basic knowledge about savings, investing, and risk aversion do not take into account lived experiences of financial exclusion. The traditional scales do not just fail to assess financial literacy among those with low incomes, but also blame them by establishing connections between low performance on the test and their being poor.

Conclusion

When neoliberal ideology was translated into major economic and social policies in the U.S. from the 1980s, income inequality began to worsen, and consumer credit became a quasi-welfare system (Yoon, 2014). At the same time, a lack of access to financial literacy-building opportunities and financial institutions was culpable for declining saving rates. In turn, this contributed to inability to weather financial shocks and contributed to persistent poverty. These structural issues are at the root of inequality and the barriers faced by people with low incomes. Individuals residing in communities with barriers of limited financial access and financial knowledge have to bear the burden of being asset poor (Sherraden, 1991). In many communities, there is also a lack of trust in institutions that have been discriminatory and predatory in nature. Focusing on how individuals perceive the structural components of financial capability, this study drew from Psychological Self-Sufficiency (Hong, 2013) theory to examine an empowerment-based financial literacy process that contributes to financial attitude and behavior outcomes. While F-PSS as an individualized financial literacy process may seem limited for systemic change, it can be implemented to promote a bottom-up, empowerment-based process for larger collective action. Change can emerge through consciousness-raising and hope-based actions that create a demand for system change (McGirr & Sullivan, 2017). As a result, the social and economic structure of the financial capability model can be influenced for the better as well.

Psychological Self-Sufficiency theory can inform the integration of financial literacy education with vocational and adult education. The PSS framework allows for an empowering, bottom-up practice that activates individual agency and capacity. Collectively, the individuals being empowered can nudge the system to respond

with measures to embrace an inclusive cultural norm and practice (Hong, 2016). PSS as a practice model may simply appear to be a psychosocial approach to striving for financial goals, but the empowerment process would highlight praxis—reflection on the barriers and committing to hope actions to change the system—as key to critical consciousness raising to promote structural transformation (Moreau, 1990). An example of such an integration is an evidence-based practice model called Transforming Impossible into Possible (TIP) (Hong, Shin, Wathen, & Gibbons, n.d.). TIP integrates the PSS theory into economic self-sufficiency practice and has been shown to improve participant movement towards economic outcomes (Hong, 2016; Hong, Choi, & Key, 2018; Hong, Park, & Shin, 2016). As exemplified in TIP, PSS could serve as the organizing theoretical principle for combining financial literacy education and vocational and adult education by bringing together the ability and opportunity dimensions in the financial capability framework.

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Figure 1

Conceptual Model with F-PSS (adapted from Sherraden, 2013). Shaded areas represent the foci of this paper: How financial knowledge and skills are processed (Financial Psychological Self-Sufficiency) to lead to financial attitudes and behavior. Bolded arrows are those added by the authors to represent further theoretical paths of influence in the model; non-bolded arrows are from the original model.

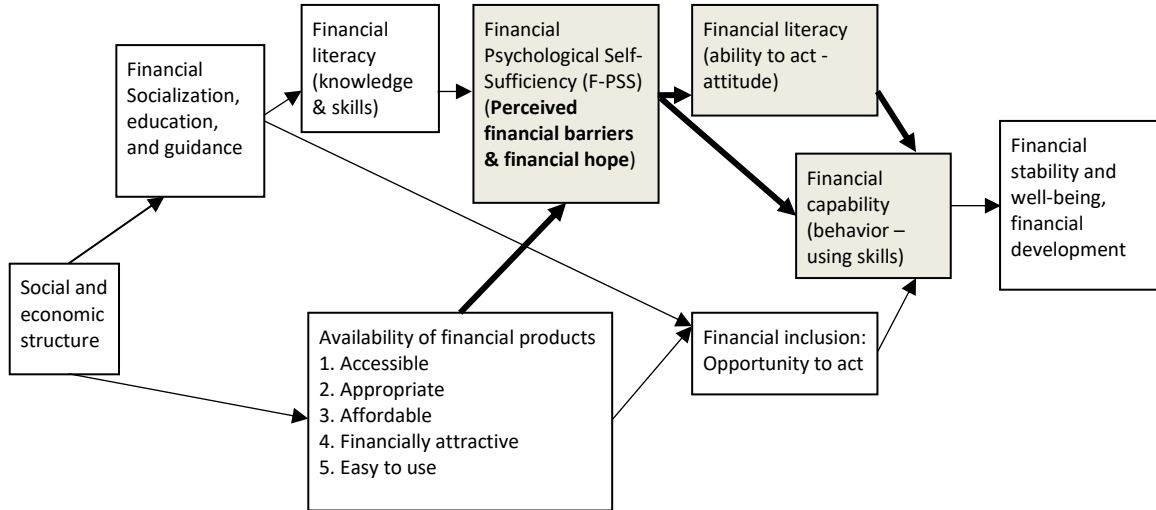
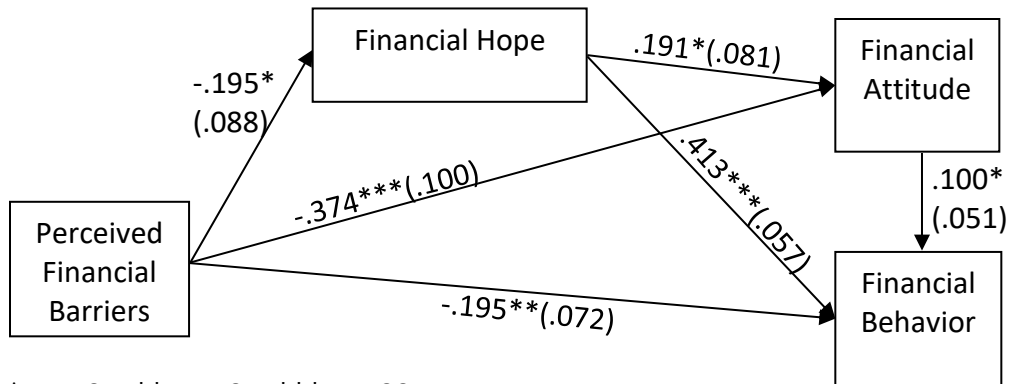


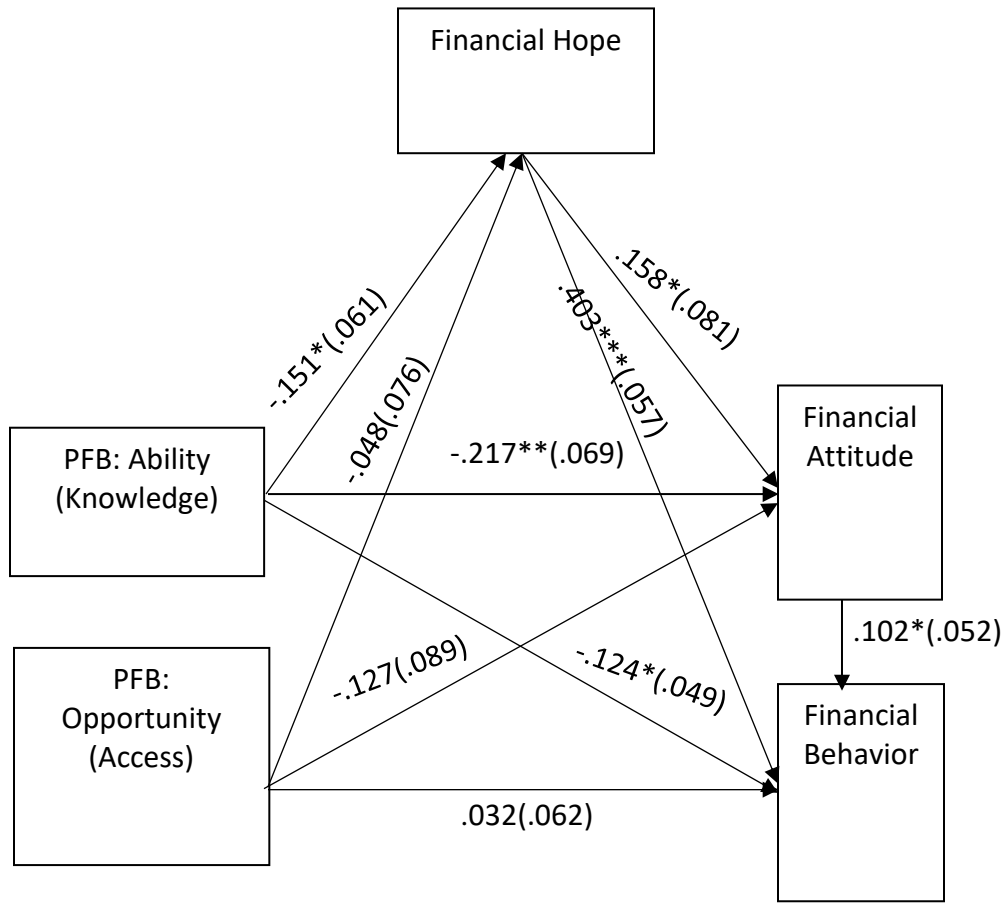
Figure 2
 Path Analysis Model 1



* $p < .05$, ** $p < .01$, *** $p < .001$

Note: Results shown are from a fuller model that includes control variables for age, race, gender, and program, none of which were significantly related the outcomes variables.

Figure 3
Path Analysis Model 2



* $p < .05$, ** $p < .01$, *** $p < .001$

Note: PFB = Perceived Financial Barriers. Results shown are from a fuller model that includes control variables for age, race, gender, and program, none of which were significantly related the outcomes variables.

Table 1

Sample Characteristics (N = 187)

Characteristics	N / Mean	% / SD
Age (years)	40.64	10.39
Race		
African American	160	89.39
Others (Alaska Native, White, Hispanic, Multi-racial and others)	19	10.61
Gender		
Male	17	9.34
Female	165	90.66
Education Level		
High School	40	22.47
Some college but no degree	61	34.27
Above	77	43.26
Job experience (years)	6.62	4.69
Employed Status		
Yes	117	66.86
No	58	33.14
Having a Bank account		
Yes	134	73.22
No	49	26.78
Receiving welfare benefit(s)		
Yes	116	64.09
No	65	35.91

Table 2

Descriptive statistics (N = 187)

Construct	Number of items	Mean	Standard deviation
Perceived Financial Barriers (PFB)	27	2.034	.777
- Ability factor	4	2.567	1.234
- Opportunity factor	4	1.789	.980
Financial Hope (FH)	14	3.900	.944
Financial Psychological Self-Sufficiency (F-PSS)	-	1.867	1.316
Financial Attitude (FA)	3	3.590	1.088
Financial Behavior (FB)	9	3.440	.861