

# Barriers and Facilitators to Saving Behavior in Low- to Moderate-Income Households

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*The purpose of this study was to identify barriers and facilitators of saving behavior in low- to moderate-income households within a framework of predisposing, enabling, and reinforcing factors. Data used were from a U.S. Department of Agriculture/National Institute for Food and Agriculture–sponsored multistate project. With a sample of 757 low- to moderate-income households and hierarchical logistic regression, results indicated that enabling factors and reinforcing factors reduced the significance of predisposing factors such as household income and financial knowledge on the likelihood to save. In the full model, significant predisposing factors included net worth, attitude toward saving, learned about saving from formal sources, marital status, gender, and race. Among the enabling factors, constraints on resources and lack of comfort with financial institutions were perceived as barriers to saving as well as unemployment. Of the reinforcing factors, concern for loss of benefits increased the odds of saving.*

*Keywords: saving behavior; saving enabling factors; saving reinforcing factors; barriers to saving; financial education, low- to moderate-income households*

Since the mid-1990s, there has been a growing concern about the saving behavior of U.S. households (Guidolin & La Jeunesse, 2007; Lusardi, 2008a, 2008b; Mandell, 2004). In recent years, researchers, educators, employers, and public policymakers have recognized that individuals will have to take greater responsibility for their own financial futures given the shift from defined-benefit retirement plans to defined-contribution retirement plans as well as potential changes to Social Security. The complexity of financial decision making that results from these changes comes at a time when researchers have found, on average, American adults demonstrate low levels of financial knowledge (Lusardi, Schneider, & Tufano, 2011).

Low- to moderate-income households face additional vulnerabilities as they are more likely to face greater variability in income (Emmons & Noeth, 2012; Morduch & Schneider, 2013). Unrestricted savings for low- to moderate-income households are important to avoid or reduce the economic effects of income instability. Job loss or unsteady work

hours, health problems, changes in marital status, and unexpected or larger than expected expenses lead to volatility in income and expenses among low- and moderate-income households (McKernan, Ratcliffe, & Vinopal, 2009; Mills & Amick, 2010; Morduch & Schneider, 2013). In other words, savings are needed to deal with the expected and unexpected events of everyday life. Precautionary or “emergency” saving could provide some stability to income when job losses and other income reducing and unexpected expenses occur. However, some individuals are able to save for these times, whereas others are not. Beyond resource constraints, what other factors do low- to moderate-income households perceive as facilitating or limiting their ability to save? A better understanding of these factors would help public policymakers, educators, and employers as they formulate policies and develop educational and employee programs.

Despite the evidence that personal savings rates have declined and financial knowledge is low, our understanding

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of low- to moderate-income households saving behaviors is somewhat limited. Researchers have examined this issue from several theoretical perspectives, and numerous factors have been found to be associated with saving behavior. Using neoclassical economic theories, lack of resources or greater income uncertainty are suggested as the primary reasons that low- to moderate-income households do not or cannot save, or have savings primarily for precautionary reasons (Ando & Modigliani, 1963; Carroll, 1997; Carroll & Samwick, 1997). However, research has also found that low-income households can and do save (Abt Associates, 2004; Ashraf, Karlan, & Yin, 2006; Carasso & McKernan, 2007; Hogarth & Anguelov, 2003; Moore et al., 2001; Schreiner & Sherraden, 2007). Is a lack of resources in low- to moderate-income the determining factor in saving behavior of this group of households or is their concern for job insecurity or a lack of understanding of how savings can help them deal with the volatility in income and expenses likely to influence saving behavior? Do low- to moderate-income household adults perceive that their lack of understanding of saving and investing prevents them from saving or investing? In research by Fisher and Anong (2012), findings indicated that households with certain motivations (such as saving for retirement or emergencies) had higher odds of saving than those without these motivations. Fisher and Anong added that future research should study the “dilemmas that consumers face when dealing with multiple savings motives and other financial constraints” (p. 74). It will continue to be important to explore the motivations behind personal saving behavior, not only to sustain higher levels of personal saving (Fisher & Anong, 2012) but also to improve on levels of personal saving especially in vulnerable populations such as the low- to moderate-income household (Turnham, 2010).

In this article, we developed a framework for organizing barriers and facilitators identified from a diversity of theoretical perspectives, along with several perceived barriers and facilitators identified by low- to moderate-income household adults. Much of the prior research on financial well-being—and saving behavior specifically—has used economic theory or another single theoretical perspective. More recently, researchers have recognized that saving behavior is more complex. The study of financial well-being may require a multidisciplinary theoretical approach. In that vein, studies such as Gutter et al. (2012) and Shim, Barber, Card, Xiao, and Serido (2010) have used multiple

theories to guide their research. Likewise, this study used the PRECEDE portion of the PRECEDE-PROCEED model from health promotion as a means of organizing factors from multiple theories to help better understand their association with saving behavior of low- to moderate-income households. This model has not been applied in previous saving behavior literature and adds to the literature in a unique way that outlines three distinct aspects of human behavior that likely impact saving behavior. In addition, this study adds several factors that reflect the respondents’ perception of barriers and facilitators to saving.

We analyzed whether households had saved during the past two years, grouping major predictors into the following three categories: predisposing factors, enabling factors, and reinforcing factors. A description of these three categories in relation to saving behavior as well as a review of the literature follows. The model is based on one from health promotion. Applying this model may help us better identify the determinants of saving behavior, which in turn can help in the development and evaluation of financial literacy programs and public and private sector activities aimed at increasing saving behavior. Using hierarchical logistic regression, we were able to ascertain the impact of each additional set of factors. Specifically, we were able to determine whether, beyond predisposing factors, enabling factors improved our understanding of saving behavior among low- to moderate-income households. Likewise, we were able to determine whether reinforcing factors added to our understanding of saving behavior.

Following the analyses and results section we discuss implications for educators, counselors, and planners to help low- to moderate-income households develop and sustain saving behaviors. The primary findings of the study indicated that enabling factors and reinforcing factors reduced the significance of predisposing characteristics such as household income. In other words, even someone with higher household income may not save if they perceive constraints on resources limit their ability to save.

### **A Framework for Understanding Barriers and Facilitators to Saving Behavior of Low- to Moderate-Income Households**

Previous studies have shown that resource constraints, lack of financial education, and psychological and institutional barriers prevent or deter low-income individuals and families from saving or regularly saving (Calvet, Campbell, & Sodini, 2007;

Campbell, 2006; Clancy, Grinstein-Weiss, & Schreiner, 2001; Curley, Ssewamala, & Sherraden, 2009; Grinstead, Mauldin, Sabia, Koonce, & Palmer, 2011; Gutter et al., 2012; Hilgert, Hogarth, & Beverly, 2003; Hogarth, Anguelov, & Lee, 2005; Lusardi & Mitchell, 2007; Mills & Amick, 2010; Schreiner et al., 2001; Schreiner et al., 2000; Sherraden, Schreiner, & Beverly, 2003; Turnham, 2010). These studies used various theoretical perspectives, including the economic theories of the permanent and life-cycle hypothesis. These perspectives cover psychological and sociological approaches, institutional factors, and behavioral approaches, such as the behavioral life-cycle hypothesis. Other than research on institutional factors, most of these studies have focused primarily on middle- and upper income households and provide limited insight into the saving behavior of lower and moderate-income households (Beverly, 1997; Beverly & Sherraden, 1999; Lunt & Livingston, 1991; Scholz & Seshadri, 2009).

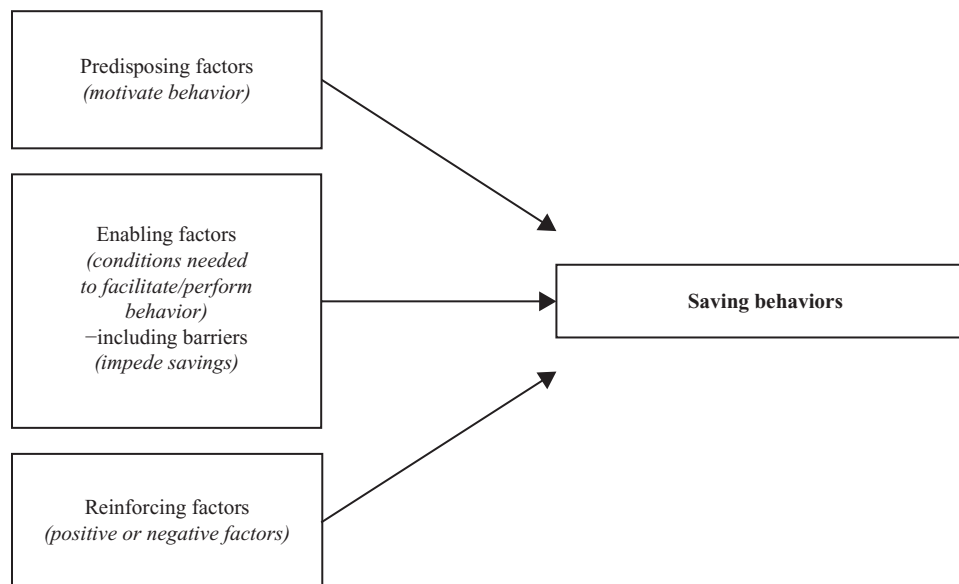
Although much of the previous theoretical work reflects objective measures of barriers and facilitators to saving, limited research exists on low- to moderate-income individuals' perceptions of these barriers and facilitators. In this study, data were used that asked individuals about the things that might help them save as well as things that made it difficult to save. To organize these facilitators and barriers into a framework that would allow us to develop suggestions for educational programs and public policy, we have borrowed from a model in health education and promotion known as the PRECEDE-PROCEED model (Green & Kreuter, 1999). Numerous theories have attempted to explain saving behavior; however, no single theory incorporates the range of concepts researchers have found to be related to saving behavior. The PRECEDE-PROCEED model used in health education and promotion (Castellanos et al., 2013; Cole & Horacek, 2009; Cote, Moisan, Chabot, & Gregoire, 2005; Howat, Jones, Hall, Cross, & Stevenson, 1997; Sjoström et al., 1999) has the potential for developing a more comprehensive model for promoting saving behavior and allows for the incorporation of numerous theoretical perspectives explaining different views of saving behavior. As stated by Green and Kreuter (1999), "The classification of predisposing, enabling, and reinforcing determinants of behavior offers a broad framework within which one can organize more specific theories and research" (p. 154).

The PRECEDE-PROCEED model recognizes the influence of education and ecological/environmental factors and

focuses on the outcomes for an intended audience or program participants. The first part of the model, PRECEDE, focuses on the educational diagnosis: **P**redisposing, **R**einforcing and **E**nabling **C**onstructs in **E**ducational **D**iagnosis and **E**valuation. The second part of the model, PROCEED, focuses on the ecological/environmental aspects: **P**olicy, **R**egulatory, and **O**rganizational **C**onstructs in **E**ducational and **E**nvironmental **D**evelopment. In its purest form, the model involves eight phases of program planning and evaluation. Our framework, an adaptation of just a portion of the PRECEDE-PROCEED model along with our addition of perceived barriers and facilitators to saving behavior as enabling factors, provides a way to categorize the numerous factors which appear to facilitate and deter saving and is displayed in Figure 1. As much of the previous research on saving behavior uses a single theoretical framework from economics, finance, or psychology, this study uses a model from behavioral science (public health) as a framework which allowed for multiple theoretical perspectives. As such, it provides another lens to help shed light on saving behavior.

The framework identifies three general categories of factors affecting household saving behavior identified by prior research. The literature in the following section describes the specific factors included in each of these categories used in this study. Based on the discussion by Green and Kreuter (1999), grouping factors that affect behavior into predisposing, enabling, and reinforcing categories is helpful in considering the types of interventions available for education and promotion of a behavior. *Predisposing factors* are characteristics that lead to or motivate a behavior, including knowledge, beliefs, attitudes, and perceived needs and abilities. *Enabling factors* are characteristics such as personal skills or resources that are needed to perform or facilitate the behavior. These are factors within the person/household or outside the person/household that could potentially be modified to reduce or eliminate barriers to saving. *Barriers* are factors that are impediments to saving. They are a subset of *enabling factors* in that they represent conditions that are needed to participate in the behavior. *Reinforcing factors* are positive (negative) feedback that support (discourage) socially acceptable (unacceptable) behaviors. Positive feedback includes social support, peer influences, as well as advice from financial advisers or counselors. Reinforcing factors provide encouragement for consistently repeating a behavior. Together, these three categories influence the likelihood that

**Figure 1. Barriers and facilitators of saving behavior.**



saving behavior changes will occur. We do not suggest possible causal relationships or order of causation among these three sets of factors (Green & Kreuter, 1999).

### Literature Review

Researchers and practitioners alike espouse the importance of households and individuals saving regardless of income level. However, researchers often have documented barriers to ideal saving behaviors especially for the low- to moderate-income households (Katona, 1951, 1979; Mills & Amick, 2010). Conversely, another key point found in research has been that the poor can and do save (Abt Associates, 2004; Ashraf et al., 2006; Carasso & McKernan, 2007; Hogarth & Anguelov, 2003; Moore et al., 2001; Schreiner & Sherraden, 2007). This review of the literature will cover factors that facilitate and those that act as barriers to saving. With reference to the PRECEDE-PROCEED model, these factors have been grouped into predisposing, enabling, and reinforcing categories. Demographic characteristics also play a role as facilitators and barriers to saving and are covered in the review of the literature along with other predisposing, enabling, and reinforcing factors.

#### *Predisposing Factors*

Predisposing factors such as having a goal, purpose, or motive for saving have been noted as characteristics that lead to

or motivates saving behavior. The basic premise of the life-cycle hypothesis is that consumers attempt to smooth out income over a lifetime and to accumulate resources for retirement (Ando & Modigliani, 1963). Likewise, Friedman's (1957) permanent income hypothesis implied leaving an inheritance to offspring was a motivation for setting money aside and an inherent part of the consumption/saving process. An additional planning approach, the classic maxim "saving for a rainy day," has been what economists refer to as a precautionary saving motive (Bhargava & Lown, 2006; Carroll, 1997; Carroll & Samwick, 1997; Hanna, Chang, Fan, & Bae, 1993; Kotlikoff, 1989). Tangible items such as owning a home and long-term goals or life events such as retirement have acted as motivators to saving (Abt Associates, 2004; Moore et al., 2001; Schreiner, Clancy, & Sherraden, 2002; Schreiner et al., 2001; Sherraden, 1991).

Knowledge and beliefs are both predisposing factors and characteristics that motivate financial behavior. For example, exposure to financial education has been shown to exert a positive influence and is an important factor in motivation (Clancy et al., 2001; Curley et al., 2009; Grinstead et al., 2011; Joo & Grable, 2005; Moore et al., 2001; Prawitz & Cohart, 2014; Schreiner et al., 2001; Schreiner et al., 2000). Lack of financial knowledge, on the other hand, has barred successful saving behavior among individuals with low

income according to Turnham (2010). The relationship between education and saving or saving motives has been found in many research studies (Avery & Kennickell, 1991; Fisher, 2010; Hogarth & Anguelov, 2003; Solomon, 1975; Xiao & Noring, 1994).

Demographics act as predisposing factors and studies documenting their influence on financial and saving behaviors have been numerous. Income has been noted as an important demographic indicator as net worth. A relationship between income and saving among low-income households has been found in various studies (Avery & Kennickell, 1991; Browning & Lusardi, 1996; Hogarth, Hazembuller, & Wilson, 2006; Perry & Morris, 2005; Rha, Montalto & Hanna, 2006). Hogarth and Anguelov (2003) indicated that income was significantly associated with the level of assets held and low income certainly has had an impact on asset accumulation (Turnham, 2010). In the life-cycle hypothesis, income was a major determinant of saving in the current period and in future periods (Warneryd, 1989). Net worth has been found to be a determinant of various saving behaviors. Munnell, Sunden, and Taylor (2001–2002) found a positive association between 401(k) participation and net worth, whereas Gutter, Hayhoe, and Wang (2007) found that net worth was associated with defined contribution participation. Gutter et al. (2012) found that net worth was positively related to the probability of having both saving and investment accounts among low- to moderate-income households.

A positive relationship has been found between saving and age or differences in saving rates by age groups (Avery & Kennickell, 1991; Browning & Crossley, 2001; Browning & Lusardi, 1996; Hogarth & Anguelov, 2003; Hogarth et al., 2006; Johnson & Widdows, 1985). Furthermore, several studies found differences in saving behavior or saving motivations by race and ethnicity (DeVaney, Anong, & Yang, 2007; Gutter & Fontes, 2006; Hogarth & Anguelov, 2003; Perry & Morris, 2005; Rha et al., 2006; Xiao & Noring, 1994). Household structure, whether married or not, or the presence of children also have been found to be related to saving behaviors (Avery & Kennickell, 1991; Browning & Crossley, 2001; Hogarth & Anguelov, 2003; Rha et al., 2006; Xiao & Noring, 1994).

### ***Enabling Factors***

Enabling factors are characteristics such as personal skills or availability of resources that facilitate or are needed to perform a particular behavior. In research from 1999, Beverly

and Sherraden found that having access to checking, saving, or credit accounts was related to saving behavior. As stated by Collins and Gjertson (2013), the market for saving products is limited because of a reluctance of the financial industry to offer products to low-income families. With the introduction of individual development accounts (IDAs), researchers have continued to observe the potential saving progress that may be related to this provision (Edwards & Mason, 2003; Schreiner et al., 2001, Sherraden et al., 2003). Findings have suggested that providing structured programs that encourage the creation of saving targets through programs such as the IDA program positively influence individuals' saving behaviors. This finding included low-income households (Curley et al., 2009). Having a longer term horizon for planning purposes has been a characteristic that enables individuals to save. Hogarth and Anguelov (2003) found that encouraging low-income respondents to move from a short term to longer term planning horizon was associated with level of saving. Fisher (2010) found that having a long-saving horizon increased the likelihood of short-term saving for men and saving regularly for both men and women. Like many behaviors, having positive self-efficacy might be needed to manage saving behavior (Bandura, 1977, 1992, 1994).

The behavioral life-cycle hypothesis (Shefrin & Thaler, 1988; Thaler & Shefrin, 1981) incorporates aspects of human behavior that make the life-cycle hypothesis "more behaviorally realistic" (Shefrin & Thaler, 1988, p. 609). One aspect that seems particularly relevant to saving behavior is self-control. To save for the future individuals and families must balance current wants and needs with future wants and needs, and researchers have used various measures to capture this concept. Baumeister (2002) indicated that self-control is reflected in the combination of three components: standards or goals, a monitoring process, and the ability to alter one's behavior (p. 671). In an experimental design study of a financial monitoring program, Oaten and Cheng (2006), found participants in the monitoring program increased savings more each month as well as decreasing their expenditures over a 4-month period compared to the control group. Rha et al. (2006) indicated that households that had saving rules were likelier to save, indicating the importance of planning and monitoring saving.

Enabling factors can present barriers to behavior as well. Barriers, which act as impediments to saving, have been

described as personal beliefs and characteristics such as pessimism, ability to save, and willingness to save (Katona, 1951, 1979). Gathergood (2011) found a lack of self-control, as measured by impulsivity, had a direct relationship with failure to pay credit card debt and having excessive debt. Biljanovska and Palligkinis (2014) found that a lack of self-control resulted in lower net worth. Uncertainty has played an important role in saving behavior for individuals in various ways. Loss of income or income reducing hardship has been a major factor in the inability to save (McKernan & Ratcliffe, 2009). Similarly, insufficient or irregular income made saving difficult as shown in a study by Turnham (2010). In research from Mills and Amick (2010), income instability, economic jolts, low income, or operating at subsistence levels all acted as barriers to saving. Fisher (2010) found that unemployment during the past year reduced the probability of saving regularly among men.

Certain institutional factors may also act as barriers to saving behavior, such as lack of access to saving programs and lack of trust in financial institutions (Turnham, 2010). Low-income households have been “substantially less likely to have access” to institutionalized saving mechanisms, targeting financial education, and saving incentives, a phenomenon that may help explain below average saving rates (Beverly & Sherraden, 1999, p. 457). In addition, institutional policies related to access to financial products and services have had important implications (Curley et al., 2009; Hogarth et al., 2006).

### ***Reinforcing Factors***

Reinforcing factors provide feedback (positive or negative) that either support or discourage a behavior. These can be rewards that occur following the behavior. For example, a matching contribution by an employer to a retirement account acts as a reinforcement and incentive to continue the behavior. Reinforcing factors can also be consequences that occur following a behavior that discourage its repetition (e.g., the tax penalty for early withdrawal of retirement savings). Conversely, examples of positive reinforcing factors currently built into the United States tax code to encourage individuals to save or invest include 401(k) plans and mortgage interest deduction for homebuyers with mortgages. On the other hand, government policies can form a barrier by setting eligibility limits on saving for families receiving public assistance such as the Supplemental Nutrition Assistance Program (SNAP) and the Temporary Assistance

for Needy Families (TANF) program (Collins & Gjertson, 2013). If SNAP and TANF households exceed a threshold of saving, their benefits may be in jeopardy. Research findings suggest that not only do individual characteristics help shape saving decisions but so do policy and programs that encourage and enable saving in programs such as 401(k) retirement plans and the home mortgage interest tax deduction (Putnam, Sherraden, Zhang, & Morrow-Howell, 2008).

Research suggests that programs which operate on an opt-in process have lower participation rates because of inertia. Once educated on the benefit, via an employer-sponsored seminar, for example, the participation rates in retirement plans increased (Olsen & Whitman, 2007). However, Duflo, Gale, Liebman, Orszag, & Saez (2006) found a modest effect from the “retirement savers credit.” This credit, enacted in 2001, provides a federal income tax reduction of up to 50% of the funds contributed to an individual retirement account (IRA), to low- and moderate-income workers who may not have access to employer-based matching 401(k) programs. The modest effect of the credit in this case contrasts with results from a field experiment with an outcome that indicated a much larger effect provided by clearly outlining matching incentives (Duflo et al., 2006). The matching programs offered by larger employers have continued to attract a larger proportion of savers because of incentives and perhaps more financial education by employers and the media.

In contrast, Barr and Dokko (2007) studied the phenomenon of low- to moderate-income taxpayers “over-withholding” on their taxes. In these cases, the researchers concluded that the individuals are willing to pay to save. It is a method of using a “commitment device” to constrain their consumption. This type of saving costs the taxpayer money but manages a barrier to saving that they recognize in their consumption habits.

IDA programs were developed to promote saving in low-income households (Sherraden, 1991, 2000). IDAs focus on wealth building for low-income households and provide matching funds and financial education for participants. Graduates of the program increased their level of saving over the course of the program (Loibl, Grinstein-Weiss, Zhan, & Red Bird, 2010). The program “Financial Links for Low Income People” found that participants in an IDA program in Illinois had higher completion rates than those

in the Financial Education Program only, thus emphasizing the usefulness of incentives in addition to financial education (Rand, 2004). According to a study of workers with low income and welfare recipients, Rand (2004) recommends the use of incentives for individuals and families with low income such as matching funds and improved recruitment for asset building programs.

In summary, given predisposing factors for saving such as positive attitudes toward saving and financial education have shown to be related to higher levels of saving rates, these factors, along with demographics, have played an important role in understanding saving behavior. Likewise, enabling factors such as a long-term planning horizon and positive self-efficacy have been shown to have importance in enabling saving behavior. Reinforcing factors such as tax codes and other policies have demonstrated an impact on saving behavior. Based on previous research, the factors mentioned above have been shown to facilitate positive saving behavior while the lack thereof can act as a barrier to saving. This study proposes to identify predisposing, enabling, and reinforcing factors that have a significant relationship with whether or not low- to moderate-income households save.

### ***Hypotheses***

Previous research using various theoretical perspectives has found several factors that influence saving behavior. Using the PRECEDE-PROCEED framework to categorize those factors, we view low- to moderate-income households' saving behavior as a decision determined by various predisposing, enabling, and reinforcing factors. Specifically, we propose the following hypotheses:

H1: Low- to moderate-income households will be more likely to save if they have predisposing characteristics that motivate saving behavior even when controlling for other enabling or reinforcing characteristics that might affect such behavior.

H2: Low- to moderate-income households will be more likely to save if they have fewer perceived barriers to saving and have characteristics that enable them to save or invest even when controlling for other predisposing and reinforcing characteristics.

H3: Low- to moderate-income households will be more likely to save if factors are in place that reinforce

saving or investing behaviors and do not punish saving or investing behaviors even when controlling for other predisposing and enabling characteristics.

## **Method**

### ***Data and Sample***

During December of 2010 data were collected on a national sample obtained from Survey Sampling International LLC (SSI) using a questionnaire developed by the NC-1172 Multistate Research Group "The Complex Nature of Saving: Psychological and Economic Factors." A link to the questionnaire was sent by SSI to households until 1,000 surveys were completed (Hayhoe & Gutter, 2012). To be included in the sample, respondents and their spouse or partner were to be in their working years, 24–66 years of age. Household income was to be limited to less than \$80,000 (Gutter et al., 2012). The 1,000 surveys contained respondents outside these restrictions. As a result of dropping cases outside the restriction of the survey (174 cases) and missing values on several variables, the sample size for this study was 757. For more information about the dataset and sampling process, see Hayhoe and Gutter (2012) and Lown, Kim, Gutter, and Hunt (2014).

Low- to moderate-income was defined by the NC-1172 research team as income below \$80,000 or roughly family incomes within the first three income quintiles in the United States in 2010. This definition differs from others. Some researchers focusing primarily on the poor and saving behaviors have used the U.S. poverty measures to analyze low-income households. For example, Hogarth and Anguelov (2003) defined poor or low-income households as those with earnings less than \$53,550. The Community Reinvestment Act defines low- to moderate-income as 80% of the area median income, resulting in different incomes depending on geographic location.

### ***Variables***

The dependent variable, whether the household saved or not, was determined based on the question, "What are reasons that you or your family have not been able to save or invest or had to reduce the amount you saved or invested in the last 2 years?" The first response choice to this question was "I do save regularly (if yes, skip the remainder of this question)." If respondents indicated "yes," they were coded as savers (1) if they indicated "no," they were coded as nonsavers (0).

**TABLE 1. Description of Variables**

Variables	Coding
Predisposing factors	
Attitude toward saving: To save or invest is beneficial.	0 = harmful, 1 = beneficial
Homeowner	0 = no, 1 = yes
Financial knowledge index, three Lusardi and Mitchell questions	Range from 0 to 3
Learned about saving from formal sources including financial planner, employer, community class, or school	0 = no, 1 = yes
Household income	\$0–\$20,000 (omitted category), \$20,001–\$40,000, \$40,001–\$60,000, \$60,001–\$80,000
Net worth	0 = \$5,000 or less, 1 = greater than \$5,000
Marital status	0 = not married, 1 = married or living with partner
Gender	0 = male, 1 = female
Age	Ranges from 24 to 66 years
Educational attainment	0 = high school or less (omitted category), 1 = some college, 2 = bachelor's or more
Race	0 = White, 1 = non-White
Presence of children younger than 18 years of age	0 = no children, 1 = one or more children younger than 18 years
Enabling factors	
Planning horizon	0 = less than a year, 1 = more than 1 year
Positive self-efficacy	Ranges from 6 to 30
Impulsivity	Ranges from 8 to 40
Monitor spending	0 = no, 1 = yes
People important to me think I should save	0 = don't approve, 1 = approve
Perceived constraints on resources prevents saving or investing	Index ranging from 0 to 7
Perceived lack of comfort with financial institutions prevents saving or investing	Index ranging from 0 to 7
Income unstable because of job insecurity	0 = no, 1 = yes
Reinforcing factors	
Perceive unable to save or invest because would lose benefits if opened account	0 = no, 1 = yes
Perceive unable to save or invest because bank fees too high	0 = no, 1 = yes

The independent variables identified as predisposing, enabling, and reinforcing factors are shown in Table 1. The organization of factors into these three categories is intended to be used in planning saving behavior promotion programs. They indicate factors needed to initially change behavior and sustain the behavioral change (Green & Kreuter, 1999).

**Predisposing Variables.** Among the predisposing factors (those that provide motivation to undertake a behavior),

income was grouped into four categories: \$20,000 or less, \$20,001–\$40,000, \$40,001–60,000, and \$60,001–\$80,000. Net worth was calculated using the values of assets and liabilities excluding a home (or mortgage) using the midpoints of the range identified by the respondent. Respondents were asked whether they were homeowners. The respondent's attitude concerning whether saving was beneficial was included as an indicator of motivation to undertake the behavior.



The questionnaire included three Lusardi and Mitchell (2005) questions to assess objective financial knowledge of the sample. The three specific financial literacy questions focused on understanding the impact of interest rates, inflation, and the difference between mutual funds and a single stock. A score was created based on the number of correct answers to these three questions. To determine whether exposure to financial education had a positive influence on saving behavior, they were asked questions about sources of saving behavior information. This study focused on whether respondents had received information from formal sources such as a financial advisor or planners, employers, classes taught in the community or classes taught in school compared to informal sources such as family and friends.

Based on previous research, several demographic factors may predispose individuals to save or invest. Marital status, gender, age, race, presence of children less than 18 years of age in the household, and educational attainment were included in the analyses.

**Enabling Variables.** Enabling factors are characteristics that help facilitate the behavior or are needed to perform the behavior. Although several of the respondents indicated that they had savings or investments in various accounts, we could not ascertain whether those who did not had access to retirement plans through their employer. There were several variables that suggested characteristics that would facilitate saving behavior. Previous research suggested longer term planning horizons increased the likelihood of saving or investing. Monitoring expenditures may also help facilitate saving behavior. To capture social norms, which might facilitate saving behavior, a variable indicating whether the respondent believed people important to them thought they should save was included. Psychological factors might also play a role in enabling individuals to engage in saving behavior. Positive self-efficacy suggests that individuals believe they can succeed at the behavior undertaken (Bandura, 1977; Sherer et al., 1982).

Barriers to a behavior are included in the enabling category because they suggest impediments that need to be reduced or conditions needed to be met in order to participate in the behavior. In the NC-1172 questionnaire, 24 statements were included that might describe actual barriers or perceived barriers to saving in the past 2 years or to saving regularly in financial institutions. Respondents indicated “yes” or “no”

to all that applied to them. Given the numerous statements, and to give us some guidance for reducing the number of statements into a manageable number of constructs, principal component analysis was used. Eighteen items of the original 24 were selected to include as potential barriers, with 6 statements eliminated because of extremely low response rates or which were reflective of reinforcing factors. An additional four items were removed after various steps because they did not add to a simple factor structure and had primary factor loadings of less than 0.3. The principal component analysis resulted in two constructs that described resource constraints and comfort level with using financial institutions (Table 2). The two indices that resulted were created by adding the responses to the seven questions that were included in each index; each had a possible range from 0 to 7.

**TABLE 2. Principal Component Analysis Results**

Item Description	Factor Loadings
Component/Construct 1: Resource constraints	
Had no money left over (spent everything)	.77
Had an emergency or unexpected expense (care repair, health issue, etc.)	.78
Had increases in day-to-day living expenses (including cost of housing)	.76
Been late on bills and/or credit card payments	.65
Had costly out-of-pocket medical expense	.68
Had large expenditures recently or anticipating a large expense in near future	.61
Major life changes (birth, death, marriage, divorce, etc.)	.48
Component/Construct 2: Comfort level using financial institutions	
Do not trust banks or credit unions	.78
Not comfortable dealing with banks or credit unions	.73
Want to keep financial records private	.68
Do not want government to know my income	.71
Do not write enough checks	.34
Prefer cash checking service to bank	.65
Not enough money to open account	.59

Lack of self-control may be a barrier to saving behavior. To capture this concept, respondents were asked a series of questions to measure impulsivity (Rook, 1987; Rook & Fisher, 1995; see Hayhoe and Gutter, 2012, for reliability of the scale using the NC-1172 dataset). In addition, variables that captured respondents' feelings about income stability and current employment status were included as possible barriers to saving.

**Reinforcing Variables.** Reinforcing factors provide either positive or negative feedback for a behavior and thus can encourage or discourage savings behavior. Several public policies set limits on savings, thus discouraging saving behavior. Respondents were asked whether their reason for not saving regularly was because of concern over losing benefits. In addition, respondents indicated whether they felt that bank fees prevented them from saving or investing.

#### **Data Analysis**

The hypotheses were tested using a set of hierarchical logistic regressions. First, a model with only the predisposing factors was estimated. The variables reflecting enabling factors were added in the second estimate. Finally, a full model adding the reinforcing factors was estimated. Using a chi-square difference test, the statistical significance of each model was tested against the preceding model. In addition to testing the association of each independent variable with saving behavior, we also tested whether enabling factors improved our understanding of saving behavior over and above that of predisposing factors. Likewise, we tested whether reinforcing variables added to our understanding over and above that of predisposing and enabling factors. The addition of these two groups, enabling and reinforcing factors, is a major difference between previous research on saving behavior and this study.

## **Results**

### **Descriptive Analysis**

Means and frequencies of the predisposing, enabling, and reinforcing variables are reported in Table 3. Among the 757 households in the sample, 447 (59%) indicated that they had not been able to save or invest or had to reduce their saving during the previous 2 years. Forty-one percent, or 310 respondents, indicated that they had been able to save or invest or had not had to reduce their saving during the previous 2 years.

**Predisposing Variables.** Approximately 26% of the households had income of \$20,000 or less, whereas about 35%, 26%, and 14% had income between \$20,001 and \$40,000, \$40,001 and \$60,000, and \$60,001 and \$80,000, respectively. There were a significant number of households in the sample with low incomes. Only 40% of the sample had income between \$40,000 and \$80,000 in 2010, potentially indicating a difficulty in not only making ends meet but also a lack of ability to save even for emergencies. However, about 41% of the sample indicated they saved and among those that saved, about 50% had income less than \$40,000. The average net worth was \$20,126, whereas about 67% of the sample had a net worth of \$5,000 or less.

Approximately 77% of the sample indicated that saving was beneficial. About 50% of the low- to moderate-income householders owned their home. Out of a possible three correct answers to the Lusardi and Mitchell (2005) financial literacy questions, the mean score of the sample was 1.83 ( $SD = 0.95$ ). About 63% got the inflation question correct, 78% the growth question correct, and 42% the mutual fund question correct. Only 36.59% of the sample indicated that they had received information about saving behavior through formal sources.

Approximately 55% of the sample was married or living with a partner, and about 49% were female. The average age of the sample was 45.39 ( $SD = 13.64$ ) years. Only about 18% of the sample was non-White, and about 27% had children younger than 18 years of age present in the household. At least 48% of the sample had some college education, with about 24% with a high school degree or less and 28% with a bachelor's degree or more level of education.

**Enabling Variables.** About 42% of the respondents indicated that they had a planning horizon greater than 1 year, whereas about 51% indicated that they monitored their spending. About 41% of the respondents indicated people who were important to them thought they should deposit money into a savings or investment account at least once per quarter during the coming year. The scores on the positive self-efficacy questions ranged from 6 to 30 with a mean of 21.59 ( $SD = 4.29$ ). The score on the impulsivity scale ranged from 8 to 40 with a mean of 21.51 ( $SD = 7.67$ ). Almost 41% indicated that their income was unstable because of job insecurity (either their job or their

**TABLE 3. Descriptive Statistics (n = 757)**

	%	<i>M</i>	<i>SD</i>
<b>Predisposing</b>			
Attitudes regarding savings	77.28		
Home ownership	50.33		
Financial knowledge		1.83	0.95
0 correct	8.59		
1 correct	29.59		
2 correct	32.10		
3 correct	29.72		
Learned about saving from formal sources	36.59		
Household income			
Household income \$0–\$20,000	25.76		
Household income \$20,001–\$40,000	34.61		
Household income \$40,001–\$60,000	25.63		
Household income \$60,001–\$80,000	14.00		
Net worth		\$20,126.16	\$66,451.13
Net worth \$5,000 or less	66.84		
Net worth greater than \$5,000	33.16		
Married or living with partner	54.16		
Female	48.48		
Age (years)		45.49	13.64
Education level			
High school or less	23.65		
Some college	48.35		
Bachelor’s degree or more	28.01		
Respondent non-White	18.36		
Child(ren) younger than 18 years of age	27.08		
<b>Enabling</b>			
Planning horizon	42.27		
Positive self-efficacy		21.59	4.29
Impulsivity		20.51	7.67
Monitor spending (yes)	51.12		
People important to me think I should save	40.95		
Perceived constraints on resources		2.48	2.24
Perceived lack of comfort level with financial institutions		1.14	1.68
Unemployment	41.74		
Income unstable because of job insecurity	40.95		
<b>Reinforcing</b>			
Lose benefits	5.94		
Bank fees too high	20.48		

spouse/partner's job). About 42% of the respondents were unemployed.

**Reinforcing Variables.** Only about 6% of the sample indicated that they did not save regularly because of concern over losing benefits. About 20% of the respondents indicated

that they did not save regularly because of high bank fees for having an account.

**Logistic Regression**

The coefficients for the set of hierarchical logistic regressions are shown in Table 4. The logistic regression in-

**TABLE 4. Results of Hierarchical Logistic Regression on Being a Saver**

	Model 1 <sup>a</sup>	Model 2 <sup>b</sup>	Model 3 <sup>c</sup>
	Coefficient Estimates		
Household income \$20,001–\$40,000	0.21	–0.07	–0.09
Household income \$40,001–\$60,000	0.52*	0.18	0.16
Household income \$60,001–\$80,000	0.67*	0.10	0.09
Net worth >\$5,000	1.19***	0.69**	0.65*
Home ownership	–0.12	–0.15	–0.15
Attitude toward saving	0.99***	1.19***	1.30***
Financial knowledge	–0.28**	–0.17	–0.16
Learned about saving from formal sources	0.51**	0.68**	0.65**
Female	–0.61***	–0.49*	–0.54*
Married	0.07	0.48*	0.58*
Age	–0.02*	–0.02	–0.02
Some college	–0.35	–0.27	–0.24
Bachelor's degree or more	–0.35	–0.18	0.13
Respondent non-White	0.48*	0.64*	0.64*
Child(ren) younger than 18 years of age	–0.13	0.28	–0.20
Planning horizon		–0.17	–0.17
Positive self-efficacy		–0.01	–0.02
Impulsivity		0.02	0.01
Monitor spending		0.43*	0.41
People important to me think I should save		0.22	0.16
Perceived constraints on resources		–0.74***	–0.77***
Perceived lack of comfort level with financial institutions		0.38***	0.32**
Unemployment		–1.32***	–1.29***
Income unstable because of job insecurity		–0.18	–0.22
Lose benefits			2.19***
Bank fees too high			–0.36
Chi-square likelihood ratio	130.49***	416.58***	437.11***
Pseudo R <sup>2</sup>	0.127	0.407	0.427

<sup>a</sup>Model 1—predisposing factors.

<sup>b</sup>Model 2—predisposing + enabling factors.

<sup>c</sup>Model 3—predisposing + enabling + reinforcing factors.

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

cluding only the predisposing factors of the household (including the demographic characteristics) was estimated first (Model 1). This produced a model chi-square of 130.49 ( $p < .001$ ). The logistic regression adding the enabling factors to the initial model with the predisposing factors was next estimated (Model 2 in Table 4). It had a model chi-square of 416.58 ( $p < .001$ ). The full model (Model 3) included an additional two variables reflecting reinforcing factors, resulted in a model chi-square of 437.11 ( $p < .001$ ). The chi-square difference test between Models 1 and 2 was 286.09 ( $p < .001$ ), which indicated that adding enabling variables significantly improved the model. The chi-square difference test between Models 2 and 3 was 20.53 ( $p < .001$ ), indicated the addition of the reinforcing factors significantly improved the model as well. These results indicated that at least one of the additional factors (enabling and reinforcing factors) was important in understanding saving behavior of low- to moderate-income households. The pseudo  $R^2$  goodness of fit measure indicated Model 2 (pseudo  $R^2 = .407$ ) and Model 3 (pseudo  $R^2 = .427$ ) were an improvement over Model 1 (pseudo  $R^2 = .127$ ).

#### ***Predisposing Factors***

The odds ratios of the logistic regression for the full model (Model 3), shown in Table 5, indicated that compared with households with net worth of \$5,000 or less, the odds of saving regularly were almost two times as large for households with net worth greater than \$5,000. The odds of saving regularly increased by 265% among respondents who perceived that saving was beneficial compared to those who perceived saving to be harmful. Compared to respondents who learned about saving from informal sources, the odds of saving regularly increased by 92% for those respondents who learned about saving from formal sources such as a financial planner, an employer, in a community class, or in school. Compared to males, the odds of saving regularly were 42% less for females. The odds were higher for non-White respondents than for White respondents and higher for married or cohabiting respondents than for single respondents. Three other predisposing factors were found significant when enabling and reinforcing variables were not controlled (Model 1) but were not found to be significant in the full model (Model 3). Households with income between \$40,001–\$60,000 and \$60,001–\$80,000 compared to households with income of \$20,000 or less were not significant in the full model. Respondents' financial knowledge score was not significantly associated with saving behavior

in the full model. Age was significant in Model 1 but was not significant in Models 2 and 3. Being married was not significant in Model 1 but was significantly and positively related to saving behavior in Models 2 and 3.

#### ***Enabling Factors***

The logistic regression testing the second hypothesis indicated that among the enabling factors that would have positive influences on saving or investing behaviors, none was significant in Model 2 or Model 3. Enabling factors that were possible impediments (barriers) to saving behaviors, specifically perceived constraints on resources, perceived lack of comfort level with financial institutions, and unemployment were associated with saving behavior. Each additional perceived constraint on resources, such as emergencies or unexpected expenses, decreased the odds of saving by 54%. An additional perceived discomfort with financial institutions, such as lack of trust in dealing with banks, not wanting the government to know their income, or wanting to keep their financial records private, increased the odds of saving by 37%. The odds of saving regularly decreased by 72% for respondents who were unemployed or whose spouse or partner was unemployed.

#### ***Reinforcing Factors***

The third set of variables added to the model reflected factors that might support or discourage saving behaviors. Of the two variables included in reinforcing factors, only "I am not allowed to open an account (would lose benefits)" was significant. The odds of saving or investing regularly among respondents who thought they would lose benefits if they opened an account were 794% higher compared to those that did not think they would lose benefits if they opened a saving account. Fewer than 6% of the sample replied "yes" to this statement.

#### **Discussion**

This study uses a framework based on the PRECEDE proportion of the PRECEDE-PROCEED model. This model allows for the incorporation of factors associated with multiple theories and research needed to initiate behavior change and sustain that change. These factors are grouped into three categories—predisposing, reinforcing, and enabling factors—which have been suggested by multiple theories and found in prior research to be associated with saving behaviors. The results of the hierarchical logistic models can help evaluate all important associations or iden-

**TABLE 5. Odds Ratio Results for the Full Model—Model 3<sup>a</sup>**

	Coefficient Estimates	Standard Error	Odds Ratio
<b>Predisposing</b>			
Household income \$20,001–\$40,000	−0.09	0.30	
Household income \$40,001–\$60,000	0.16	0.33	
Household income \$60,001–\$80,000	0.09	0.41	
Net worth greater than \$5,000	0.65*	0.26	1.91
Home ownership	−0.15	0.25	
Attitudes regarding savings	1.30***	0.29	3.65
Financial knowledge	−0.16	0.13	
Learned about saving from formal sources	0.65**	0.23	1.92
Female	−0.54*	0.22	0.58
Married or living with partner	0.58*	0.24	1.79
Age	−0.02	0.01	
Some college	−0.24	0.28	
Bachelor’s degree or more	0.13	0.33	
Respondent non-White	0.64*	0.29	1.90
Child(ren) younger than 18 years of age	−0.20	0.28	
<b>Enabling</b>			
Planning horizon	−0.17	0.22	
Positive self-efficacy	−0.02	0.03	
Impulsivity	0.01	0.02	
Monitor spending	0.41	0.22	
People important to me think I should save	0.16	0.22	
Perceived constraints on resources	−0.77***	0.07	0.46
Perceived lack of comfort level with financial institutions	0.32**	0.10	1.37
Unemployment	−1.29***	0.27	0.28
Income unstable because of job insecurity	−0.22	0.24	
<b>Reinforcing</b>			
Lose benefits	2.19***	0.49	8.94
Bank fees too high	−0.36	0.38	
−2 log likelihood	1024.49		
Chi-square likelihood ratio	437.11***		

<sup>a</sup>Model 3—predisposing + enabling + reinforcing factors.

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

tify possible intervention “factors” to motivate and sustain saving behaviors. Significant associations with saving behaviors among low- to moderate-income households found here included *predisposing factors* (net worth, attitude toward saving, learning about saving from formal sources,

gender, marital status, race), *enabling factors* (perceived constraints on resources, perceived lack of comfort with financial institutions, unemployment), and *reinforcing factors* (loss of benefits if or on opening an account). In addition, by adding enabling and predisposing factors to

the more traditional factors considered to motivate saving behavior, this study has added to our knowledge of saving behavior among low- to moderate-income households as well as identifying specific target subgroups (demographic characteristics) with particular programming needs.

Among the predisposing variables significant in the final model was net worth. This finding is consistent with prior research which found a positive association between net worth and financial behaviors (Gutter et al., 2012; Gutter et al., 2007; Munnell et al., 2001–2002). This study suggests that among households where saving and investment behaviors are already evident through higher net worth, saving behaviors were more likely to continue. Similar to previous studies (Moore et al., 2001; Schreiner et al., 2002; Schreiner et al., 2001), several factors motivate saving behavior including having a positive attitude toward saving. Previous research has identified an association between various demographic factors and financial behaviors (Hogarth & Anguelov, 2003; Hogarth et al., 2006; Rha et al., 2006; Xiao & Noring, 1994). Likewise in this study gender, marital status, and race were associated with saving behaviors.

When the enabling factors were added to the model, three of the predisposing factors were no longer significant, namely household income, level of financial knowledge, and age. In other words, enabling factors such as perceived constraints on resources reduce the significance of several of the predisposing variables. Unlike previous research (Gutter et al., 2012; Hogarth & Anguelov, 2003; Munnell et al., 2001–2002), household income became insignificant in the full model. It appears that perceptions of limited resources or resource constraints may be more important for saving behavior than actual income resources. The results of this study point to a need to focus on more than simply predisposing factors or on the more traditional factors that have been addressed in prior research (Ando & Modigliani, 1963; Carroll, 1997; Friedman, 1957; Hogarth & Anguelov, 2003; Warneryd, 1989).

Among the other enabling—barriers—factors, respondents who indicated discomfort with financial institutions and with the government or expressed concerns for privacy regarding their finances were more likely to save. They were significantly less likely to have saved in traditional institutions (results not shown here) compared to respondents who did not indicate discomfort with financial institution.

This finding suggests possible greater use of nontraditional methods not recognized by the mainstream financial industry and provides additional support for the institutional theory of savings (Beverly & Sherraden, 1999).

The pseudo  $R^2$  for the full model, which adds reinforcing factors, indicates that the addition of that group of variables increased the explanatory efficacy over Models 1 and 2. Although we did not have many measures in the data that would reflect reinforcing factors, they are important for improving saving behaviors of low- to moderate-income households. The unexpected direction of “loss of benefits” suggest that those individuals who might lose benefits still recognize the importance of having unrestricted savings for a “rainy day” and are most likely saving in ways such as “under the mattress” so they do not jeopardize their public program benefits.

### **Limitations**

This study has several limitations that should be considered when interpreting the results. Because with any data collected by an internet sampling firm, there are several issues. We do not have information about the completion rate, and some households that did not meet the criteria that were established with the internet sampling firm had to be removed. Although the sample was based on a national panel, those who chose to respond to the questionnaire were not nationally representative of the U.S. population. A significant number were unemployed, although at a time when unemployment was particularly high in the United States. The non-White population is underrepresented. In addition, there was no way to know whether the respondent was the most financially knowledgeable person in the household. Finally, a significant number of variables, namely those that capture the respondents’ perceptions of barriers and facilitators to their saving behaviors, are subjective in nature. Even though the PRECEDE portion of the model is intended to capture the attitudes, feelings, and beliefs of respondents to help develop more appropriate promotional programming, variables of a subjective nature can suffer from cognitive and systematic biases. As such, educators, counselors, and planners need to be aware of possible biases as they develop programs or messages promoting saving behaviors.

Despite the limitations, this study provides focus on a population for which we have limited knowledge of saving behavior beyond those participating in IDA programs.

Increasing saving behaviors among this population is important given the changing financial environment and unexpected events placing demands on the financial resources of these households. This study also provides evidence that factors that enable and reinforce saving behavior are important in understanding this behavior over and above traditional, predisposing, factors. Further research needs to be undertaken, particularly about specific constraints on resources instead of using only measures of income to suggest that households lack the ability to save. This line of research would provide guidance to financial educators and counselors to develop better programs to assist low- to moderate-income households to save or increase savings.

### **Implications**

Emphasizing the development of saving habits is an important part of educational and outreach programs as well as financial counseling and planning. The results of our analyses provide several issues to consider when developing and evaluating financial literacy programs or public or financial institution policies for low- to moderate-income households. Learning about saving from formal sources compared to that of informal sources increased the likelihood of saving regularly. This finding suggests that financial educators, counselors, and planners need to continue and even increase their efforts to encourage saving and investment behaviors. Although the financial knowledge score was insignificant in the full model, the score was based on only three questions. There is growing evidence in the financial literacy literature that the current measures may not be appropriate for all income levels (Knoll & Houts, 2012).

Significant predisposing—demographic—factors suggest several subgroups among low- to moderate-income households that may have particular programming needs. This study suggests that it is important to provide programs to help females develop and enhance saving behaviors. Single-parent households are most likely headed by females who will be the de facto role model for life skills, attitudes, and behaviors that offspring adopt and transfer into adulthood. In addition, in two-parent households, the modeling and attitudes transferred will come from two individuals. However, numerous industry studies document that women are more likely to be the family bookkeeper and make many of the daily decisions related to managing household income. Therefore, educational programs targeting women, especially parenting women, would be appropriate so they

are prepared to manage the family income and purposefully teach their children by example, instilling key financial skills, such as saving (American Consumer Credit Counseling, 2013; Pew Research Center, 2008).

Enabling factors, particularly overcoming perceived barriers, need to be addressed by outreach and educational programs as well as financial counselors and planners. For instance, educators may help audiences think of ways to handle commonly perceived barriers by presenting a prepared list of common savings barriers with alternative ways to conquer them. Each person's knowledge chest has been created in part by their environment and exposures in life. Suggestions for handling routine barriers to saving may be old techniques to some and totally new to others who have limited exposures to ways to save. Alternatively, groups or classes could generate barrier lists and possible ways to handle barriers during in-person sessions. Using technology (i.e., tweets and blogs) could also generate a diverse list of solutions for commonly perceived barriers that are not limited by a geographical area (i.e., way of thinking). Using SMART (specific, measurable, achievable, results-focused, and time-bound) goals may help reduce low- to moderate-income adults' perception that saving is not possible. For example, when income is limited, developing and using a budget can be a way to use available income more efficiently by planning for irregular streams of income because of seasonal work or unemployment.

Clearly, when respondents or a spouse/partner is unemployed, resources become more limited, reducing the likelihood of current saving behaviors. Financial planners and counselors are positioned to help clients use personal data to assist them in making decisions. In addition, they can encourage and motivate clients to take small steps to conquer barriers. In some aspects, they are a personal coach or cheerleader. The old adage of "you are what you think" has merit. Counselors and planners can use the power of positive thinking to help non-savers become savers by redirecting their focus (thoughts) on tackling perceived barriers and not on what they cannot do.

Two variables, perceived lack of comfort with financial institutions and loss of benefits, suggest that low- to moderate-income households may be saving in nontraditional ways. If they are, they would less likely be earning adequate rates of return. If they have the savings habit, it's a step in the right direction to saving in ways that could help the value of



their money increase or at least keep up with inflation. Educators should use caution in discouraging savers from using nontraditional methods of saving that might be acceptable in their culture. Instead, educators can share the pros and cons of various savings strategies, pointing out the pros and cons (risks) of various savings methods in a matter of fact manner. The skillful presentation of facts can lead to more desirable saving actions without putting a negative aura on the efforts being made. In addition, a list of nonthreatening ways to “test” (i.e., small steps) and hopefully increase the comfort level with saving in financial institutions.

Policies that restrict savings of low-income households need to consider the impact on households. These households recognize that they need savings, even if it is a small amount for emergencies or anticipated large expenses. They are developing strategies for meeting constraints on their resources. However, the restrictions of various policies would appear to eliminate the ability to gain even minimum rates of return on funds that have been set aside for a “rainy day.” Research based on the U.S. Financial Diaries from 2012 to 2013 (Morduch & Schneider, 2013) support this conclusion. In addition, the significance of the “loss of benefits” variable suggests that helping low- to moderate-income households develop appropriate strategies for handling unexpected expenses is important. It also suggests that these households may be dealing with financial products and services that are not designed to serve this population well.

## Conclusion

The PRECEDE portion of the model provides a unique way of grouping factors into categories that motivate a behavior, help facilitate the behavior or are needed to perform or sustain a behavior, or provide reward or incentive for a behavior or the sustaining of that behavior (Green & Kreuter, 1999). Any program developed to promote or sustain a behavior needs to recognize all three of these categories (Green & Kreuter, 1999), and results of the hierarchical logistic regression in this study provide support that all three are needed. The addition of each group of factors significantly improved the understanding of saving behaviors of low- to moderate-income households. Without recognizing the influence of enabling factors, both those that encourage a behavior or those that are impediments to saving behavior, and reinforcing factors, programs will likely fail to influence or sustain saving behavior. In other words, just providing information to a segment of the population is likely

to fail if additional help understanding how to overcome perceived barriers to that behavior is not also provided.

Future research on saving behaviors or other financial behaviors could be informed by the use of the PRECEDE-PROCEED model. This study focused on a specific subgroup of the population. Future studies need to test the model on other segments of the population. The sample size in this dataset was somewhat small and thus limited the number of factors that could be considered for each category. However, the data did include economic, behavioral, psychological, and sociological factors as well as several questions that captured respondents’ perception of barriers to saving behavior. Future research needs to capture these factors as well as factors from other theoretical perspectives. According to Green and Kreuter (1999), there are interdependencies among predisposing, enabling, and reinforcing factors. The classification of factors into each category needs to keep in mind the fit for motivating, supporting, and reinforcing specific behaviors as well as the complex interactions that might exist among the various factors. Future research needs to explore these interdependencies. Overall, the PRECEDE-PROCEED model has the potential to inform financial education programming as well as strategies for financial counselors and planners working with clients interested in starting or sustaining saving or investing behaviors.

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