

Psychological Foundations of Financial Planning for Retirement

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Abstract Little is known about the psychological mechanisms that underlie financial planning for retirement. Most studies of financial planning and investing have used demographic indicators (e.g., age, gender, income) to predict individual differences in saving. In the present study, a model of planning is tested in which psychological indicators (future time perspective, retirement goal clarity, and self-rated financial knowledge) are posited to mediate the relationship between demographic indicators and saving behaviors. Path-analytic techniques were used to test the model, based on data from 265 middle-aged working adults. Analyses revealed substantial support for the role of psychological factors in the retirement planning process. Findings have theoretical implications for the development of psychologically based models of planning, as well as applied implications for those who seek to understand the psychomotivational forces that underlie tendencies to plan and save.

Keywords Retirement planning · Savings · Financial planning · Psychology · Adult development

Introduction

In the past two decades, significant strides have been made to ensure that older Americans are able to maintain their financial independence after leaving the workforce. In fact, the effective poverty rate among individuals over the age of 65 has dropped from 20.5% in 1986, to 15.6% in 2006 (U.S. Census Bureau 2007).¹ Despite the positive economic trend, an alarmingly large segment of retirees still have incomes that fall below the poverty threshold (Federal Interagency Forum on Aging-Related Statistics 2004; Lusardi and Mitchell 2007; Weir and Willis 2000). Many retirees who find themselves in dire financial straights could have set aside savings while still employed, but they did not. For them, the only options are to seek housing or financial support from family and friends, or continue to work well beyond the traditional retirement age in order to make ends meet. Others, in contrast, have amassed a considerable retirement nest egg, only to see its value slowly eroded by inflationary forces, or altogether decimated by health care costs incurred after having left the workforce. There are still others who have established a conscientious pattern of saving during their working years that will be sufficient to ensure an adequate stream of retirement income. Why is it that so many Americans fail to make adequate financial preparations for retirement? What are the psychological characteristics that distinguish those who save at an insufficient rate over the course of their working lives from

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¹ The effective poverty rate, used to describe those individuals who are considered either poor or near-poor, is 125% of the official federal poverty threshold.

those who plan and save? In this article, a psychomotivational model is proposed that is designed to account for individual differences in retirement planning and saving tendencies.

One popular view of adult development, the successful aging perspective (Baltes and Baltes 1990; Rowe and Kahn 1998; Wykle et al. 2005), suggests that the quality of the decisions one makes over the course of adulthood will largely determine post-employment quality of life. The implication of this view is that the responsibility for a “successful” old age rests with the individual (Ekerdt 2004). This theoretical framework is particularly applicable in the financial planning arena, where recent sweeping changes from defined benefit pension programs to defined contribution programs have shifted the burden of financial management onto the shoulders of American workers. From this theoretical perspective, a successful retirement plan is one in which sufficient resources have been amassed to achieve and maintain a desired standard of living.

In general, financial advisors suggest that workers should plan for a retirement income that is 70–110% of their current (i.e., pre-retirement) income (e.g., Greninger et al. 2000; Patterson 2000). And while many workers are able to meet this savings benchmark, there are data to suggest that financial planning for retirement is one area in which an appreciable segment of the population will fall short of their ideal goals (Cutler et al. 1992). Studies by economists have revealed that only a small fraction of working individuals who reach retirement age have accumulated assets worth more than twice their pre-retirement annual income (Poterba 1996). Findings by Lusardi and Mitchell (2007) revealed that in 2004, baby boomers had a greater net worth than age-matched peers a decade earlier, but members of the 2004 sample who made up the lowest income quartile were appreciably worse off than their predecessors. Other recent data from the national Retirement Confidence Survey (Helman et al. 2005) indicates that over half of all households surveyed have less than \$25,000 in savings and investments (excluding the value of their primary home). Consistent with these observations, personal saving rates recently have been found to be at a 50-year low (Federal Reserve Bank 2002). What is more troubling is that due to the ravaging effects of inflation and age-related increases in health care costs, the small pool of resources many individuals manage to save is fully expended well before the end of the retirement period. For many, a large part of the problem involves the all too human tendency to procrastinate (Milgram and Tenne 2000). All too often, this delayed involvement in retirement planning translates into too little savings too late, and the onset of psychological distress (Ferraro and Su 1999). Unfortunately, only bits and pieces are known about the psychological factors that motivate individuals to save for the post-employment period.

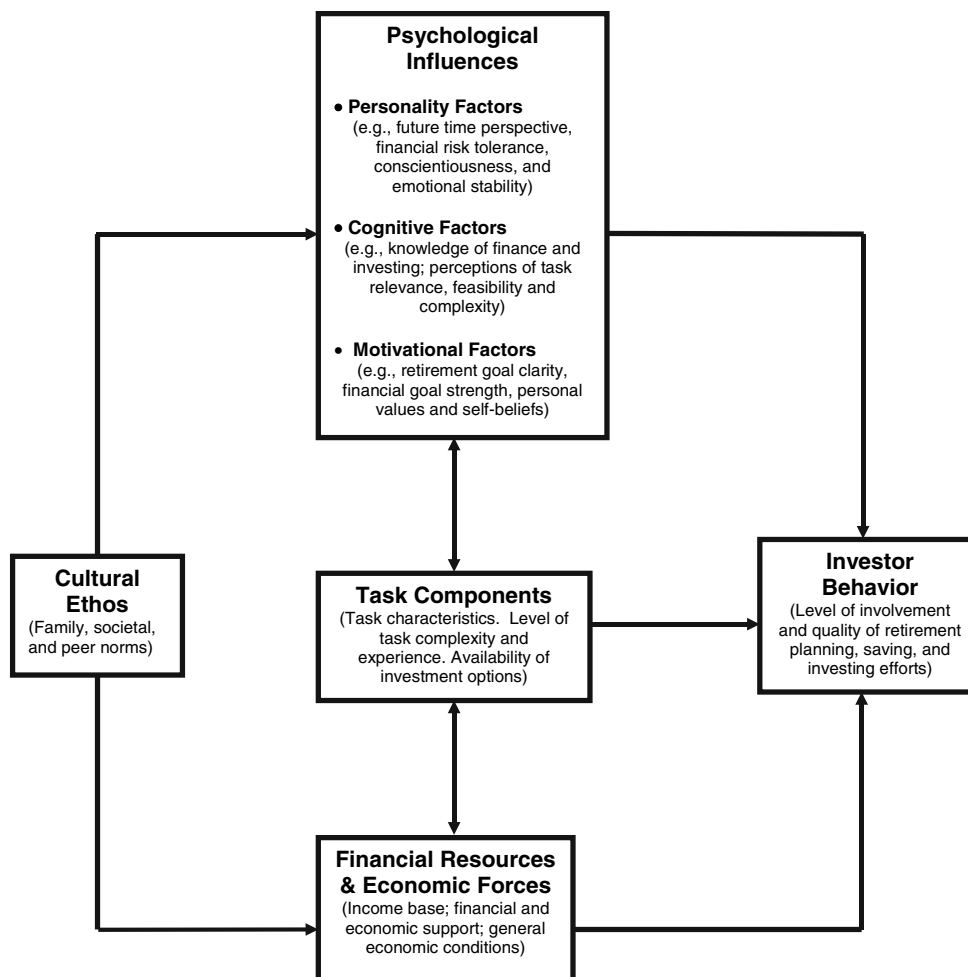
Studies designed to identify variables related to financial planning and saving tendencies have been conducted by economists, sociologists, financial planning professionals, and to a lesser extent, psychologists (Furnham and Argyle 1998). Much of this work has taken a data-driven (or at best, nominally theoretical) approach toward understanding individual differences in planning among near pre-retirees. This empirically oriented approach has allowed us to learn much over the past two decades about the factors that predict differences in the personal financial planning practices of older workers. However, multivariate explanatory models of retirement saving practices remain lacking (Joo and Grable 2000). From a theoretical perspective, it would be particularly valuable to focus efforts on the development of a psychomotivational model of financial planning for retirement; one designed to account for the factors that influence decisions to both plan *and* save (Lusardi 2000; Yabkoboski and Dickemper 1997). Extending retirement research to younger cohorts of workers would also be a contribution to the literature, as most studies of planning have focused attention on individuals over the age of 50. The work proposed in this paper is designed to fill this gap in the literature by testing a holistic, integrative retirement planning model among a group of middle-aged men and women.

Conceptual Framework

The model of retirement planning advanced by Hershey (2004) served as a conceptual backdrop for the model tested in this investigation. This conceptual model (shown in Fig. 1) is an extension of a more general model of planning advanced by Friedman and Scholnick (1997). The former of the two suggests there exist four major qualitatively different sets of influences on investor behavior: (a) psychological influences (including cognitive, personality, and motivational forces), (b) task characteristics (e.g., complexity, prior task experience), (c) the cultural ethos (i.e., societal forces that shape the thoughts, attitudes, and perceptions of the individual), and (d) financial resources and economic forces (e.g., household income, general economic climate). Taken together, these factors are posited to interact with one another to influence not only the tendency to plan, but also the quality of individuals' planning efforts.

Consistent with recent work that suggests retirement planning activities are shaped by both structure and agency (Denton et al. 2004), in the Hershey (2004) model, planning activities are posited to vary as a function of psychological predispositions. Those psychological predispositions, in turn, are posited to vary based on financial resources and influences from the cultural ethos. This same mediation framework will be used to develop the model tested in the present study (see Fig. 2). Specifically,

Fig. 1 Conceptual model of the factors that underlie investor behavior from Hershey (2004) (reprinted with permission)



financial planning and saving behaviors (the two outcome variables) are predicted on the basis of three psychological variables (self-rated financial knowledge, goals, and future orientation), which themselves are influenced by demographic factors (i.e., age, gender, and income). Age and gender can be thought of as proxy variables that represent qualitatively different cultural influences on the worker (i.e., there exist different societal expectations for younger and older workers when it comes to retirement planning, and similarly, in the past behavioral differences have between observed men and women). The third demographic variable, income, is used as an indicator of financial resources. More will be said about the structure of the retirement planning model and the hypotheses that derive from it in the following section of the article.

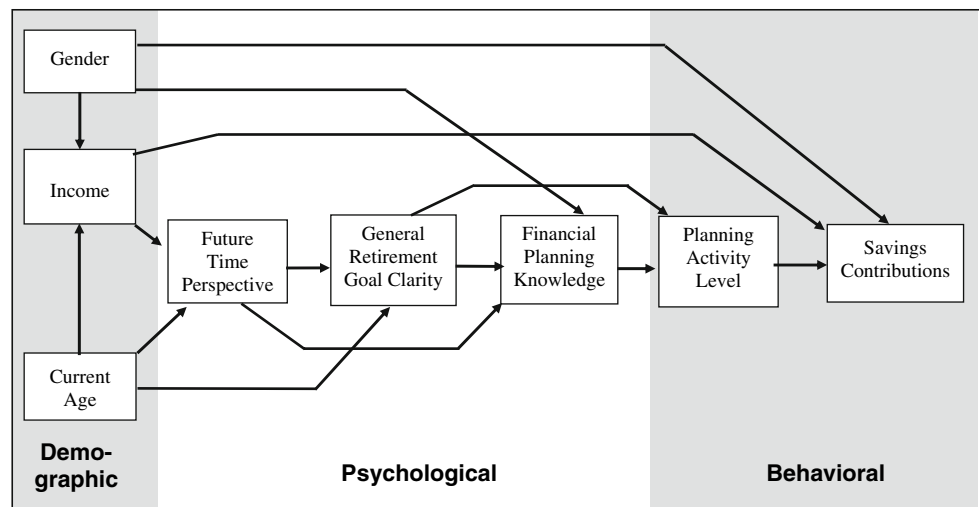
Overview of the Retirement Planning Model

The goal of characterizing complex financial planning behaviors is likely to require a complex, multidimensional model. The model of financial planning advanced in this

article is both grounded in theory and supported by previous empirical research. It is a psychomotivational model in the sense that it describes the psychological field of forces that predispose individuals to act; in this case, actions that involve retirement planning and saving behaviors. Furthermore, it is integrative in the sense that it is broader in scope than most previous models of financial planning, in that it includes three different types of variables.

Figure 2 shows a diagram of the model evaluated in this investigation. As seen in the figure, it contains two behavioral outcome measures: voluntary retirement savings contributions (hereafter referred to as savings contributions) and financial planning activity level. These two measures are represented in the shaded panel on the far right side of the figure. Moving to the center of the figure into the lightly shaded panel are three psychological constructs hypothesized to provide the underlying motivation for individuals' planning and saving practices. These constructs include self-rated financial planning knowledge, general retirement goal clarity, and future time perspective. More will be said about these psychological predictor

Fig. 2 Hypothesized model of the relationships between demographic variables, psychological constructs, and indicators of investor behaviors



variables and how they are measured below. In the shaded portion on the far left side of the model are three demographic constructs: gender, household income, and current age. In broad perspective, the model is designed in such a way that psychological constructs predict behavioral tendencies, and those psychological constructs are themselves predicted on the basis of demographic indicators (thus, mirroring the structure of the Hershey (2004) model of financial planning shown in Fig. 1). Individual hypotheses that are evaluated as part of the retirement model (including the rationale for the ordering of the three psychological constructs) are discussed in the following section.

Hypotheses

The 14 hypotheses outlined below were developed on the basis of previous theoretical arguments and empirical findings. All hypotheses are phrased in terms of an ordered hierarchical model, with expected relationships between variables at adjacent and non-adjacent levels. Thus, a partial mediation framework will be tested, in which both proximal and distal influences on planning and saving are posited to exist. All of the hypothesized paths outlined below are posited to carry positive beta weights.

- Savings contributions will be predicted by income (Bassett et al. 1998; Grable and Lytton 1997) financial planning activity level (Lusardi 1999; Neukam 2002) and gender (Seguino and Floro 2003; Sunden and Surette 1998). The rationale for these hypotheses stems from the notion that (a) one's level of income will influence the likelihood of having discretionary resources for saving purposes, (b) engaging in planning activities will help define how much one can afford to

allocate to a retirement savings plan, and (c) men have been demonstrated to be more actively involved in saving and investing than women.

- Financial planning activity level will be predicted by financial planning knowledge (Ekerdt et al. 2001; Hershey et al. 2003) and general retirement goal clarity (Beach 1995; Stawski et al. 2007). The rationale for these two hypotheses are that (a) a breadth of knowledge regarding financial issues will be associated with an understanding of the range of planning activities that are important to carry out, and (b) having clear goals for retirement will facilitate a concrete analysis of one's late-life financial needs, thus necessitating engagement in appropriate planning activities.
- Self-rated financial planning knowledge will be predicted by future time perspective and general retirement goal clarity, based on previous empirical findings by Hershey and Mowen (2000), Jacobs-Lawson and Hershey (2005), and Mowen et al. (2000). Financial knowledge will also be predicted by gender based on a number of empirical findings (Bernheim 1998; Goldsmith and Goldsmith 1997; Goldsmith et al. 1997; Gustman and Steinmeier 2005). Specifically, (a) individuals with a strong future orientation are more likely to acquire knowledge about finances in an effort to know how to support themselves in late life, (b) the act of contemplating retirement and establishing clear goals for late life should stimulate the desire to learn more about how a successful financial quality of life can be achieved, and (c) men have been demonstrated to earn higher scores than women on measures of financial, investment, and retirement planning knowledge.
- General retirement goal clarity will be predicted by future time perspective (Mowen 2000; Mowen et al. 2000; Seijts 1998) and age (Hershey et al. 2002;

Stawski et al. 2007). It is posited that future time perspective (a personality trait) precedes general retirement goal clarity in the model based on the theoretical position advanced in Mowen (2000; see also Austin and Vancouver 1996). Specifically, Mowen's theoretical argument suggests that traits (such as time perspective) are largely hereditarily based, and therefore, fundamental to the expression of cognitive states and behaviors. The age to goal clarity link is predicted on the basis of the work of Cantor and colleagues (1987, 1990) who argue that age-graded norms exist for the development of life goals.

- Future time perspective will be predicted by age in this relatively young sample (Fingerman and Perlmutter 2001; Padawer et al. 2007; Shmotkin 1991), with older individuals demonstrating a longer future orientation than younger individuals. This hypothesis is based on the notion that by middle age one recognizes that the remainder of one's life has begun to wane, and it is therefore worthy of additional thought and attention. In the absence of literature that bears on this point, it also is expected that time perspective will be predicted by income. The assumption here is that lower income individuals will be found to have shorter time perspectives due to a differential focus on day-to-day (money management) issues, as well as limited resources that can be used for long-range planning.
- Finally, based on well-established empirical findings among demographic variables it is anticipated that income will be positively related to age among members of this 25- to 45-year-old sample (DeNavas-Walt and Cleveland 2002; U.S. Census Bureau 2005), and income will vary as a function of gender with men earning more than women, on average (DeNavas-Walt et al. 2005; Gustafsson and Meulders 2000).

The proposed retirement planning model will be tested by means of path analysis techniques. Computations will be performed using the Analysis of Moment Structures (AMOS) statistical software, which can simultaneously estimate all paths in the model and produce indices of both error and goodness-of-fit.

Method

Participants

A total of 265 working adults (115 men, 150 women) participated in the study. All participants were members of a large household mail panel maintained by a major international market research firm. Sampling of the panel was restricted to Americans 25–45 years of age ($M = 36.3$,

$SD = 6.18$) who were employed on a full-time basis (>35 h/week), with a gross household income of \$20K–125K per year. The minimum income criterion was put in place to ensure respondents would be likely to have disposable income available to save for retirement. The upper limit was designed to eliminate respondents who would be likely to have a professional managing their finances. Moreover, before completing the questionnaire, all respondents acknowledged that they were either the primary or co-financial planner in their household. Sampling was stratified on the basis of geographical region to ensure adequate representation from individuals from across the country. Participants' median level of education was 14.8 years, and their median household income was \$55K ($M = \$57.0K$, $SD = \$24.4K$). Although this income level is somewhat greater than the overall national average, it is not substantially different from the household median for individuals of this age group who are employed on a full-time basis. The racial background of the group was as follows: Caucasian 85.7%, African-American 4.5%, Hispanic 4.2%, Asian 1.5%, Native American 1.1%, multiracial 0.4%, and 2.6% unreported.

Questionnaires were mailed to 650 households, 292 of which were returned. Of those, 27 could not be used due to either missing data or failure to meet inclusionary criteria, resulting in a 41% response rate. We attribute the relatively high response rate for a mail survey of this type to the fact that each respondent received a small financial incentive for completing the questionnaire, and all recipients of the survey were members of a nationally representative market research panel. Only one individual per household was allowed to participate in the study.

Questionnaire

A description of each of the measures used in this study is provided below. A complete list of items for the various measures is contained in the appendix. Among demographic indicators, age was measured as the individuals' self-reported current age in years, gender was coded with men equal to 1 and women equal to 0, and annual household income was measured using a graded 10-point scale that ranged from \$20K–30K on the low end, to \$110K–125K at the upper end of the scale (range = \$105K).

Future Time Perspective

This personality construct was assessed using an individual's mean score from a 6-item scale developed by Hershey and Mowen (2000). The measure was designed to tap the extent to which individuals enjoy thinking about and

planning for the future. Participants rated how well each statement described them using a 7-point response format (1 = never like me, 7 = always like me). The scale was not specific to the topic of retirement, but rather, designed to be a more general measure of this personality dimension. A sample item from the future time perspective instrument is “*I enjoy thinking about how I will live in the future.*” Coefficient alpha for the scale was .76 and the minimum item-total correlation was .38.

Retirement Goal Clarity

Retirement goal clarity was measured using an individual’s mean score from a 5-item scale developed by Stawski et al. (2007). Items contained in the scale either reflect the act of thinking about, discussing, or setting goals for the future, particularly in relation to retirement quality of life. Each of the items used a 7-point Likert-type response format (1 = strongly disagree, 7 = strongly agree). A sample item from this scale is: “*Thought a great deal about quality of life in retirement.*” Coefficient alpha for the scale was .87 and the minimum item-total correlation was .61. In the Stawski et al. study this scale was shown to have a test/retest reliability of .87.

Self-Rated Knowledge of Financial Planning for Retirement

The knowledge of financial planning for retirement scale contained five Likert-type items designed to assess individuals’ perceptions of their general knowledge of the topic (Hershey and Mowen 2000; Mowen et al. 2000). Similar to the scales described above, an individual’s mean score from the five items was used for analysis purposes. A sample item from this scale is “*I am very knowledgeable about financial planning for retirement.*” All items employed a 7-point response format (1 = strongly disagree, 7 = strongly agree). Coefficient alpha was .93, and the minimum item-total correlation was .67. It is important to note that although this is a self-report indicator of financial knowledge, measures of this type have previously been found to be significantly positively correlated with objective financial knowledge scales (Goldsmith and Goldsmith 1997; Goldsmith et al. 1997; D.A. Hershey unpublished raw data).²

² We had two working assumptions regarding this variable. The first was that if subjective errors in self-rated knowledge exist, they will not be systematically related to other individual difference variables in the model. The second assumption was that any hypothetical errors between self-rated financial knowledge and actual financial knowledge would sum to zero.

Retirement Planning Activity Level

Retirement planning activity level was measured using a revised version of the Stawski et al.’s (2007) planning measure (one additional item “*Discussed retirement plans with a knowledgeable friend or acquaintance*” was added in the present study). The 10-item scale was designed to tap the frequency of both information seeking and instrumental planning activities that had occurred over the past 12 months. Each of the items used a 7-point Likert-type response format (1 = strongly disagree, 7 = strongly agree). A sample item from this scale is: “*Frequently read articles/brochures on investing or financial planning.*” Coefficient alpha for the scale was .89, and the minimum item-total correlation was .53.

Voluntary Savings Contributions

To tap degree of retirement saving effort, respondents answered the following question: “*Not including what you pay in Social Security taxes, estimate the percentage of your annual income you voluntarily contribute to a retirement savings plan.*” This would include contributions to savings accounts earmarked for retirement, KEOGH accounts, 401K plans and other types of employer-sponsored savings vehicles. As was the case with the planning activity scale, respondents were asked to limit their attention to contributions made during the preceding 12 months. As the resulting distribution of scores was somewhat positively skewed, the distribution of scores was partially normalized by recoding responses into a graded scale containing 12 levels. A score of 1 indicated “no contributions” had been made, and a score of 12 indicated “more than 25%” of one’s income had been allocated to retirement savings. A similar measure of voluntary savings effort was successfully used in the investigation by Stawski et al. (2007).

Measurement Model

Prior to analysis all data distributions were checked for deviations from normality, abnormal skew, and irregular kurtosis. Except for the voluntary saving scores distribution (discussed immediately above), none of the distributions were found to exhibit unacceptably irregular or unusual characteristics. Pearson product moment correlations for the seven measures are shown in Table 1, along with corresponding mean scores and standard deviations. To ensure the conceptual integrity of the scales, a measurement model was calculated that contained the three psychological constructs as well as the behavioral measure of

Table 1 Pearson correlation matrix, mean scores, and standard deviations for constructs included in the study

	1	2	3	4	5	6	7	8
1. Age	–							
2. Income	.16*	–						
3. Gender	–.03	–.05	–					
4. Future Time Perspective	–.03	.26*	.03	–				
5. Retirement Goal Clarity	.09	.28*	.05	.48*	–			
6. Financial Knowledge	.04	.36*	.21*	.49*	.54*	–		
7. Planning Activity Level	.05	.21*	.11	.41*	.74*	.52*	–	
8. Voluntary Savings Contributions	.14*	.38*	.17*	.32*	.30*	.43*	.31*	–
Mean Score	36.32	4.20	n/a	4.50	3.85	3.81	3.14	6.67
Standard Deviation	6.18	2.43	n/a	1.17	1.44	1.56	1.33	5.31

Note: Values marked with an asterisk are significant at the .05 level. The mean score of 4.20 for household income corresponds to a mean income of approximately \$57K per year, and the mean score of 6.67 for voluntary savings translates into a retirement contribution of approximately 9.5% during the preceding 12 months. Gender: Men = 1; Women = 0

planning activity level. The items failed to reveal appreciable loadings on scales other than their own, and the fit indices for the model were adequate: $\chi^2(372) = 837.90$ ($p < .01$), $TLI = .88$, $CFI = .90$, and $RMSEA = .069$. Taken together, these findings reveal a reasonable degree of conceptual independence among the scales.

Results

The model presented in Fig. 2 was analyzed using the AMOS v. 5.0 statistical modeling program. Optimal fit indices recommended by Hu and Bentler (1999) were adopted to evaluate the quality of the model: TLI and CFI values greater than .95 and a $RMSEA$ value of less than .06. Poorly fitting models were only respecified and tested after having eliminated non-significant paths, and adding new paths based on (a) modification index values, and (b) theoretical considerations. With respect to the latter, new paths were *only* added in situations where the bivariate relationship between indicators was deemed to be theoretically plausible.

Based on the Bentler and Hu criteria outlined above, the initial fit indices for the retirement model were rather good, $\chi^2(15) = 58.12$, $p < .01$, $TLI = .978$, $CFI = .991$, $RMSEA = .104$. All but 3 of the 14 hypothesized paths were statistically significant at the .05 level. Those that were not significant included the directed relations between age and future time perspective, age and goal clarity, and gender and income, suggesting that they should be removed from the model. Moreover, the modification index indicated that a better fitting model could be achieved by adding three directed paths from: (a) income to goal clarity, (b) income to financial knowledge, and (c) financial knowledge to savings contributions. No other modifications were recommended.

After some consideration, it was concluded that the addition of the three paths mentioned above are theoretically reasonable. That is, it is conceivable that individuals with higher incomes would have thought more about retirement and thus, have developed clearer goals for this period of their lives. Similarly, it is plausible that those in the higher income brackets would have had more reasons and greater opportunities to learn about financial issues than their lower-income counterparts, justifying a link between income and self-rated financial knowledge. Finally, it is also conceivable that those who knew more about financial planning would be more likely to make retirement savings contributions, so as to be able to achieve a level of financial independence. Based on these considerations, these three new paths were added to the model, the three non-significant paths were omitted, and a revised model was computed.

The revised model was an excellent fit to the data $\chi^2(14) = 14.47$ (*ns*), $TLI = 1.00$, $CFI = 1.00$, and $RMSEA = .011$. The modification index failed to indicate any paths should be added, and significance levels for parameter estimates suggested none should be deleted. Figure 3 contains a diagram of the revised model showing an R^2 value for each endogenous variable and a standardized beta weight for each directed path. In this model, 11 of the 14 initially hypothesized paths shown in Fig. 2 and the three newly added paths were statistically significant. A substantial amount of variability was accounted for in the model: 27% of the variance in savings contributions, 57% in planning activities, 43% in financial knowledge, and 25% of the variance in goal clarity was captured. Less impressive was the fact that only 7% of the variance in future time perspective was explained, and a nominal 3% of the variability in income was accounted for by age. It is also worth noting that income played a

larger direct role than had been anticipated, accounting for significant amounts of variance in time perspective, goal clarity, and knowledge.

Discussion

Results from the revised path model revealed substantial support for the set of priori hypotheses shown in Fig. 1. As mentioned above, 11 of the 14 predictions were supported and 3 unanticipated paths were added to the model. Overall, the model was an excellent fit to the data. This high degree of confirmation was not totally unanticipated, however, in light of prior empirical support for many of the bivariate relationships in the model. The more substantive contribution of this investigation, it would seem, has to do with the fact that the variables in this study successfully were cast into a broader psychomotivational model. As pointed out in the introduction, in the area of financial planning for retirement, theoretically based multivariate psychological models of saving behavior have been slow to emerge (Joo and Grable 2000).

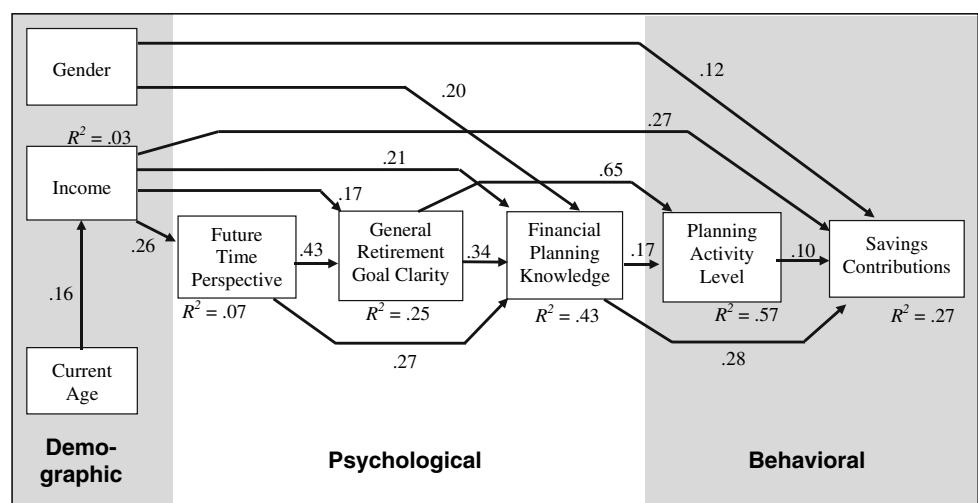
One of the more notable outcomes from this investigation has to do with the high levels of explained variance that emerged for the endogenous variables, particularly for retirement planning activities and self-rated financial knowledge. As seen in Fig. 3, most of the variance accounted for in planning activities (57%) derived from retirement goal clarity, whereas the variability in financial knowledge (43%) stemmed from a combination of goal clarity, future time perspective, income, and gender (in descending order of impact). The explained variance associated with savings contributions, at 27%, is also worthy of mention. Household income and financial planning knowledge accounted for roughly equivalent amounts of variability in saving, along with more modest

contributions in prediction from gender and retirement planning activity level. Twenty-five percent of the variance was explained in goal clarity, which was predicted on the basis of future orientation and income. Prediction of future time perspective, on the other hand, was relatively unimpressive at 8%. The theoretical explanation for this poor prediction stems from the fact that this personality trait is believed to be based on the combined influence of multiple cardinal (also known as elemental) traits not measured in this investigation (cf., Mowen 2000). Despite poor prediction for the future time perspective variable, the overall model was robust. Moreover, consistent with the model proposed by Hershey (2004), the set of three psychological variables were shown to be important mediators of the link between the demographic indicators and behavioral constructs.

The hypothesized model shown in Fig. 2 was a reasonably good fit, as judged by the goodness-of-fit indices for the initial path analysis. Minor modifications were required, however, in order to reduce error and improve the global fit indices. This involved the addition of two new income paths, one to goal clarity and a second to financial knowledge, as well as a link from knowledge to savings contributions. It is also worth mentioning that three of the predicted paths in Fig. 1 failed to emerge. Specifically, in the initial model, age to future time perspective and age to retirement goal clarity failed to achieve significance, as did the link between gender and income.

In the hypothesized model, income was posited to have a direct influence on saving, as well as an influence that was mediated through the psychological variables via future time perspective. The fact that income turned out to have an influence on savings, as well as unique influences on all three psychological variables was quite unexpected. In retrospect, however, it is conceivable that income would have such a pervasive influence on the model for the

Fig. 3 Observed relationships between demographic variables, psychological constructs, and indicators of investor behaviors. Values on paths are standardized beta weights. All paths shown are significant at the .05 level



reasons spelled out in the results section. The fact that income had a seemingly all-encompassing influence on the three psychological variables (as well as savings contributions) reinforces the notion that there exists an interaction between structure and agency in the tendency to plan and save (Denton et al. 2004).

Gender was also found to have a small but reliable influence on the model, accounting for variance in both financial planning knowledge and savings contributions. Both pathways were found to have positive valences, indicating that compared to women, men rated their financial knowledge higher, and reported saving a larger percentage of their annual income (cf. Jacobs-Lawson et al. 2004). As one anonymous reviewer suggested, these effects could have emerged due to different income levels between genders, perhaps brought on by differential work patterns (i.e., men working longer hours than women at higher levels of pay). However, the data fail to support such an interpretation. Inclusionary criteria for the study required that *all* participants be working on a full-time basis at the time of testing. This may be the reason why a comparison of income levels between genders failed to reveal a significant difference ($p > .05$).

From an applied intervention perspective, the findings from this study have implications for those who design and deliver retirement education programs to young and middle-aged adults. Traditional intervention programs, which typically use a “one-size-fits-all” approach to preparedness education, often miss their mark because they fail to make allowances for individual differences in factors such as personality traits, financial and investment knowledge, and unique retirement goals (Hershey et al. 2003). As Kragie et al. (1989) point out, “Those who develop such programs must stop thinking that a single format will satisfy the needs of all people. There is more than one group of people for whom [retirement] programs need to be developed” (p. 237). There are programs that do acknowledge individual differences among potential investors; however, they typically use structural variables (such as income level or age) as segmentation dimensions. The results of this study convincingly suggest that intervention specialists would be well advised to consider using psychological factors in conjunction with structural variables in order to achieve the maximum impact. For example, the content of one intervention program could be tailored to meet the needs of younger individuals with a long future time perspective, whereas a qualitatively different curriculum could be developed to address the psychological predispositions of those with a shorter view of the future. Psychologically grounded programs of this type represent the cutting edge of intervention delivery systems, and, in turn, should lead to increased rates of planning behaviors and saving compliance.

On a broader level, the findings from this investigation clearly illustrate the power of interdisciplinary approaches to the study of retirement planning. By incorporating theoretical ideas and empirical findings from sociology, psychology and economics into a single model, we were able to achieve a more integrative representation of the field of forces (Lewin 1943) that motivate workers to plan and save. The success of this broad theoretical approach suggests that this general area of research would benefit from public policy initiatives aimed at supporting multi-variate interdisciplinary models.

One limitation of this investigation is that a self-rated indicator of financial knowledge was used, as opposed to an objective marker of the construct. Despite the fact that self-rated and objectively scored measures of knowledge have previously been shown to be positively correlated, the reliance on subjective indicators could have introduced some unknown response bias that may have led to distortions in the model. In future investigations it would be worthwhile to explore whether systematic biases of this type exist, and the extent to which they might be considered a threat to internal validity. A second limitation is that the outcome variables for the study looked at the amount of planning and saving that took place, but not the quality of those efforts. The working assumption here was that more planning and saving should be considered better; however, it is recognized that this is not necessarily the case. In future studies, it would be worth including additional qualitative indicators of planning in the model, in order to capture whether individuals’ planning efforts were appropriate given their unique economic situation. A third limitation is that not all variables previously shown to be related to savings practices were included in the model that was tested. Dimensions such as risk tolerance, social influences on saving, and financially related affective motives, among others, were not evaluated. It would be clearly beneficial to include these factors in an expanded model in a future empirical investigation.

In closing, based on the findings from this study we can provide at least a partial answer to the question posed early in the introduction; namely, why is it that so many Americans plan in such a way that they fail to fully achieve their retirement savings objectives? The answer is not simple. Indeed, a complex array of factors influences individuals’ financial behaviors. At any rate, it is clear that any model that ignores the influence of psychological variables on the tendency to plan and save can only reveal part of the story.

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Appendix: Items from the Four Scales Used in the Investigation

Future Time Perspective

1. I follow the advice to save for a rainy day.
2. I enjoy thinking about how I will live years from now in the future.
3. The distant future is too uncertain to plan for. (R)
4. The future seems very vague and uncertain to me. (R)
5. I pretty much live on a day-to-day basis. (R)
6. I enjoy living for the moment and not knowing what tomorrow will bring. (R)

Retirement Goal Clarity

1. Set clear goals for gaining information about retirement.
2. Thought a great deal about quality of life in retirement.
3. Set specific goals for how much will need to be saved for retirement.
4. Have a clear vision of how life will be in retirement.
5. Discussed retirement plans with a spouse, friend, or significant other.

Self-rated Knowledge of Financial Planning for Retirement

1. I am very knowledgeable about financial planning for retirement.
2. I know more than most people about retirement planning.
3. I am very confident in my ability to do retirement planning.
4. When I have a need for financial services, I know exactly where to obtain information on what to do.
5. I am knowledgeable about how Social Security works.
6. I am knowledgeable about how private investment plans work.

Retirement Planning Activity Level

1. Frequently read articles/brochures on investing or financial planning.
 2. Read one or more books on investing or financial planning.
 3. Frequently visited financial planning sites on the World Wide Web.
 4. Gathered or organized your financial records.
 5. Regularly tuned into television/radio shows on investing or financial planning.
 6. Conducted a thorough assessment of your net worth.
 7. Identified specific spending plans for the future.
 8. Discussed financial planning goals with a professional(s) in the field.
 9. Discussed financial retirement plans with an employer's benefits specialist.
 10. Discussed retirement plans with a knowledgeable friend or acquaintance.
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Note: (R) indicates item is reverse scored

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