

# Psychological Determinants of Financial Preparedness for Retirement

Douglas A. Hershey, PhD,<sup>1</sup> and John C. Mowen, PhD<sup>2</sup>

**Purpose:** Economists predict that in the coming decades an unprecedented number of American baby boomers will enter retirement lacking adequate resources. The present investigation was designed to examine the factors that influence individuals' financial preparedness for retirement. **Design and Methods:** A total of 230 participants each completed a multifaceted questionnaire on their own personal retirement planning practices. Structural equation modeling techniques were used to examine the relationships among individuals' personality characteristics, their financial knowledge, and financial preparedness. **Results:** The adopted structural model revealed that both personality constructs and financial knowledge were significant predictors of pre-retirement planning. **Implications:** The findings from this study have important implications for how educational and marketing efforts should be developed for individuals who are differentially prone toward saving.

*Key Words:* Retirement, Financial planning, Personality, Knowledge, Future time perspective

Predictions made by financial and retirement planning experts suggest that an economic crisis looms on the horizon. In the United States, patterns of individual saving for retirement have dwindled to the point where most leave the workforce with insufficient resources to maintain their financial independence (Gokhale, Kotlikoff, & Sabelhaus, 1996). Indeed, Americans have done a poor job of planning for their financial futures, but we are not alone. Insufficient pre-retirement planning practices have been identified as a major economic problem in a number of developed countries around the globe (Singleton & Keddy, 1991; Walker, 1996). For many retirees, the realities of economic dependence and minimal living conditions suggest that the postemployment period will turn out to be anything but the "golden years." The fact that financial comfort and security are recognized as key elements of the American dream (Carver & Baird, 1998; Cutler, Gregg, & Lawton, 1992; Kasser

& Ryan, 1993, 1996), suggests that the prevalent lack of retirement preparedness represents a significant applied problem.

In the present investigation this problem is addressed by attempting to better understand the factors that underlie individuals' motives to save. The focus is on how two individual difference dimensions—one's personality and knowledge of financial planning—influence pre-retirement savings tendencies. The introduction begins with an overview of the retirement savings challenge, followed by a selective review of the psychological literature on retirement and financial decision making. The introduction concludes with a discussion of the model of personality used to predict individual differences in retirement preparedness.

## *The Retirement Savings Challenge*

Two recent trends suggest that the problem of inadequate pre-retirement financial planning will continue to worsen in the coming decades. In developed countries around the globe a staggering increase in personal longevity has been witnessed in the past century (Davies & Sparrow, 1985), and given the current rate of medical advances, we can expect this trend to continue. Records also reveal that over the past 40 years individuals have been choosing to retire earlier on average (D. Costa, 1998).

The problems associated with an increase in life expectancy and a decrease in the average age of retirement are compounded by the fact that most people wait too long before establishing a personal savings program. One study found that on average, individuals do not become interested in retirement finances until they are 48 years of age (Keating & Marshall, 1980). All too often, this delayed involvement in financial planning translates into too little savings too late and the onset of psychological distress (Ferraro & Su, 1999). In a review of the economic literature on retirement preparedness, Poterba (1996) found that "...only a small fraction of households reaching retirement age have accumulated assets worth more than twice their pre-retirement annual income" (p. 127). He went on to report that for individuals aged 55-64, mean financial holdings for retirement averaged a mere \$12,900. Individual household savings rates have shown consistent declines over the

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Address correspondence to Douglas A. Hershey, Department of Psychology, Oklahoma State University, 215 North Murray Hall, Stillwater, OK 74078. E-mail: hershey@okstate.edu

<sup>1</sup>Department of Psychology, Oklahoma State University, Stillwater.

<sup>2</sup>Department of Marketing, Oklahoma State University, Stillwater.

past half century (Gokhale et al., 1996). This overall lack of financial preparedness, combined with the fact that half of all Americans are not covered by a private pension program (Samwick & Skinner, 1996), will result in many retirees living at or below the poverty threshold during retirement. Currently, nearly 20% of Americans in the 60–64 age range live in poverty, but that number doubles to 40% for members of the 80–84 year old group (Lumsdaine, 1996).

The failure to save for retirement can result in hardships not only for the individual but for society as well. One measure of the economic burden working individuals will bear when calculating the full cost of retirement can be found in the old age dependency ratio. This ratio is the number of working adults relative to those who are retired and drawing social welfare payments. Over the past half century the dependency ratio has shifted steadily downward. In 1950 it was 16:1, currently it stands at 4:1 (U.S. Social Security Administration, 1998), and some have estimated that it will drop to 2:1 by the year 2030 (Fronstin, 1999) because of the baby boomers' exit from the workforce.

On the basis of the above considerations, a compelling case can be made for research that examines why individuals fail to adequately prepare for retirement. Only a handful of studies have appeared in the scientific literature that provide insights into the reasons for individuals' financial savings insufficiencies. In the following section, some of the more pertinent findings from that body of work are reviewed.

### *Retirement Decision Making*

Of the numerous studies that have been conducted on retirement decision making, the majority have focused on nonfinancial aspects of retirement planning. Some investigators have examined the timing of individuals' retirement and reasons given for leaving the workforce (Burtless, 1986; Campione, 1987; Ekerdt, 1998; Ekerdt, Vinick, & Bosse, 1989; Evans, Ekerdt, & Bosse, 1985; Palmore, George, & Fillenbaum, 1982; Ruhm, 1989; Taylor & Shore, 1995), whereas others have focused on changes in roles and attitudes during the postemployment period (Atchley, 1988; Blau, 1973; Ekerdt, 1986; Neuhs, 1990; Phillips, 1957; Richardson, 1993; Turner, Bailey, & Scott, 1994). Only a small number of psychological studies have examined pre-retirement, financial-planning decisions. Of those studies that have addressed this topic, most have been information processing investigations aimed at determining how individuals' mental models (Gentner & Stevens, 1983) influence the nature and quality of their decision-making efforts. These studies of retirement decision making have yielded interesting insights into why individuals make what appear to be short-sighted financial decisions when planning for the long term.

In an extended series of investigations, Hershey, Walsh, and their colleagues have examined individuals' abilities to make complex retirement planning and investment decisions (Hershey, 1995; Hershey, Jacobs, & Walsh, 2000; Hershey & Walsh, in press;

Hershey, Walsh, Broughm, Carter, & Farrell, 1998; Hershey, Walsh, Read, & Chulef, 1990; Hershey & Wilson, 1997; Walsh & Hershey, 1990; Walsh & Hershey, 1993). The general approach used in these studies is to present individuals with one or more financial-planning scenarios in which a hypothetical person is faced with a challenging retirement problem. As individuals work toward a solution, the researcher carefully tracks their cognitive efforts. Of central interest is the way individuals' knowledge of finance and investing influences the types of information they consider, how they process task information, and the overall quality of the decisions they generate. Across multiple investigations, the researchers found that a majority of individuals "satisfice" (Simon, 1955) when solving the problems; that is, they only consider a small subset of information contained in the problem space. Furthermore, knowledge has been shown to be an important determinant of decision quality. Individuals who had not previously received domain-specific training made unacceptably large errors when solving the financial-planning problems (Hershey & Walsh, in press). In a different study (Hershey et al., 1998), near pre-retirees (age 55–65 years) made substantial retirement investment errors, even following extensive task- and domain-specific training. These suboptimal decisions, the investigators concluded, were largely due to the fact that individuals requested "low-level" (i.e., minimally diagnostic) information to make their decisions.

Poterba (1996), an economist, has offered a number of different explanations for why individuals might fail to save for retirement:

Some households may be myopic and fail to accumulate assets because they do not recognize the value of providing for their future. Some may be unlucky and experience lower earnings or higher expenses than they expected before reaching retirement. Others may have high discount rates and therefore choose to consume a high fraction of income while working at the expense of lower consumption when retired. Still others may have incorrect expectations about their retirement income from Social Security, private pensions, and other sources, or about life expectancy and post-retirement consumption needs. (p. 127)

Others suggest that the lack of retirement preparedness stems from insufficient educational opportunities aimed at cultivating positive attitudes toward saving (Bernheim, Garrett, & Maki, 1997), the tendency of individuals to overestimate the quality of their financial decisions (Hershey & Wilson, 1997), and the propensity to incorrectly estimate one's own longevity (Walsh, Walsh, & Pennington, 1989).

The research reviewed above indicates that one's knowledge of the financial planning process can strongly influence the quality of one's retirement savings decisions. In the present study, we examine the relationship between perceived knowledge and financial preparedness. Also of interest is whether individual differences in personality traits are predic-

tive of financial knowledge and retirement planning tendencies. In the following section, we describe an empirically validated model of personality advanced by Mowen (2000). It is anticipated that this model will account for appreciable variability in individual's level of retirement preparedness.

### *A Hierarchical Approach to Personality*

In an influential article, Buss (1989) distinguished among three types of traits: cardinal traits, central traits, and surface/stylistic traits. Borrowing ideas from Allport (1961), he suggested that stylistic traits are summaries of surface behaviors. In contrast, cardinal and central traits exist at a deeper level and act as the foundation for the more specific surface traits. (Allport, 1961, also used the term "secondary traits" to describe the surface/stylistic trait idea.) According to this hierarchical conceptualization, cardinal traits are few in number (perhaps 5 to 10) and influence a limited number of central traits (limited to a few dozen), which in turn influence hundreds of surface traits. A variety of hierarchical models have been proposed and tested in the consumer behavior literature (Carlson & Grossbart, 1984; Venkatraman & Price, 1990; Vinson, Scott, & Lamont, 1977).

Other similar hierarchical personality models have been described in the psychological literature. For example, Panunonen (1998) and P. T. Costa and McCrae (1985) identified a set of basic personality traits that are analogous to cardinal traits (e.g., the five-factor traits of P. T. Costa & McCrae, 1985). Each cardinal trait in these models has a set of facets that are narrower representations of only that broad factor. Thus, conscientiousness is proposed to lead to a number of additional traits (e.g., ambition and orderliness). Furthermore, these more specific traits are linked only to conscientiousness and not to other basic traits.

The approach of Panunonen (1998) and P. T. Costa and McCrae (1985) is fundamentally different from that taken in the present study. The approach used in this investigation is consistent with that of Mowen and Spears (1999) and Mowen (2000). These authors proposed that central traits, such as future time perspective (FTP), result from a combination of cardinal traits (such as those found in the five-factor personality models), the influence of one's culture, and the individual's prior learning history. Dispositions to perform behaviors such as retirement planning, in turn, result from combinations of the central and cardinal traits. In a series of studies, Mowen (2000) obtained strong evidence supporting the hierarchical approach in which multiple cardinal traits predict more concrete central traits. In turn, a combination of cardinal and central traits predict surface traits. Similarly, combinations of cardinal, central, and surface traits predict behavior.

The hierarchical model used in the present study has four levels. The criterion measure of perceived financial preparedness is expected to be influenced by two surface traits (perceived financial knowledge and retirement involvement), which in turn are influenced

by the central trait of FTP, which in turn is influenced by a subset of cardinal traits. In the next section, hypotheses are specified concerning the expected relationships among the constructs.

### *Hypotheses*

On the basis of previous research and expected relationships among the newly developed constructs (i.e., FTP, financial knowledge, and perceived financial preparedness), a set of hypotheses was developed. The hypotheses are phrased in terms of the proposed hierarchical model, with expected relationships identified only between constructs at adjacent levels in the hierarchy. As a result, predictions were not made as to how cardinal traits may impact surface traits or the criterion variable of perceived financial preparedness. Similarly, predictions were not made as to how the central trait would impact financial preparedness.

The discussion of hypotheses begins by focusing on the relationship between the surface traits and the criterion variable. It was expected that as perceived knowledge of financial matters increased, respondents would be more likely to perceive themselves as engaging in appropriate pre-retirement planning behaviors. Thus, we predicted that self-rated financial knowledge would be positively associated with perceived financial preparedness (Hypothesis 1). In addition, on the basis of the literature on involvement, it was expected that as the perceived importance of retirement planning increased, one would find an increased level of financial preparedness (Hypothesis 2). Furthermore, because retirement planning behavior requires the ability to think well into the future, it was anticipated that an FTP would be positively associated with the surface traits of perceived financial knowledge (Hypothesis 3) and retirement involvement (Hypothesis 4).

Because the FTP construct used in this study is new, prior research could not be used to make clear predictions concerning its relationship to the cardinal traits from which it is believed to be derived. Instead, the decision was made to adopt a data-driven approach to examine the relationships between the various cardinal traits and the FTP dimension in the context of the structural modeling analyses reported below.

## **Method**

### *Participants*

Respondents were members of the Arkansas Household Research Panel. Surveys were sent to 460 participants who were offered the option of completing a 5-page survey, which was titled "Retirement Planning Survey." (Four times a year the members of the panel receive several surveys, and they can select which of these surveys to complete.) Among the 460 potential respondents, 248 returned the survey. After eliminating incomplete surveys, 230 usable responses were obtained. The average age of the respondents was

62.6 years ( $SD = 12.5$ , range = 37–88), and 74% of the participants were married. A large majority of the sample was employed on either a full- or part-time basis at the time they completed the survey. The modal annual income range of the sample was \$40,000–\$50,000. This income range is higher than the national average for individuals within this age range.

### *Scale Selection and Development*

As discussed earlier, a hierarchical approach was taken in the data analysis. The four levels of the model included cardinal traits, a central trait, surface traits, and a measure of perceived financial preparedness. The rationale behind the selection and development of scales used at each of these different levels is outlined below.

*Cardinal Traits.*—Although there has been debate over how many cardinal traits exist (e.g., Block, 1995; Allport, 1961), much of the recent work that has appeared in the psychological literature has focused on the five-factor, or Big Five model of personality (P. T. Costa & McCrae 1985; Goldberg, 1992, 1993; Saucier, 1994). In their research on compulsive buying, Mowen and Spears (1999) used structural equation modeling to develop an adaptation of the five-factor scales advanced by Saucier (1994). Four of the cardinal trait scales from the Mowen and Spears study were included in the present research. These scales included emotional stability, conscientiousness, introversion, and openness to experience (see Appendix A, Note 1). Two other cardinal trait scales, the need for arousal and the need for material resources, (developed and validated in Mowen, 2000; Mowen & Spears, 1999), were also included in this study, because we believed that both might be related to retirement-planning practices. As an individual difference variable, high levels of materialism may be considered antagonistic to a long future time horizon and the tendency to save, on the basis of the finding in a previous study of a positive correlation between material needs and compulsive consumption (Mowen & Spears, 1999). Furthermore, it was thought that individuals who require high levels of arousal may be differentially oriented toward the present and, therefore, need for arousal might be found to be inversely related to future orientation.

All items used for scales at the cardinal level required participants to evaluate the extent to which a word or phrase applied to them (e.g., “actively seek out new experiences”). Separate ratings were made for each item using a 9-point scale that ranged from 1 (never) to 9 (always).

*Central Trait.*—A measure of FTP was included in the study at the central trait level. We used this scale because preparation for retirement necessarily requires individuals to take a long-term perspective on life planning. We sought to identify appropriate existing scales that measured future orientation, however, after a review of the literature it was concluded that

none of the published scales adequately captured the construct. That is not to say, however, that the psychological reality of the FTP construct has not been empirically validated. In recent developmental studies by Carstensen and her colleagues, FTP has been shown to have a powerful impact on socioemotional interactions (for a review, see Carstensen, Isaacowitz, & Charles, 1999). However, in the Carstensen studies, FTP is operationalized on the basis of either an individual’s age (cf, Carstensen & Turk-Charles, 1994) or the number of years one is expected to live before succumbing to a terminal illness (cf, Carstensen & Fredrickson, 1998). Work by Nuttin and his colleagues (for a review, see Nuttin, 1985) has also focused on the FTP construct. However, the motivation induction methodology (Nuttin & Lens, 1985) used in his work requires trained coders to perform a resource intensive parsing and classification of qualitative data. Such a method was deemed to be inappropriate given the nature of the present study. Jones’ TRIOS time perspective scale (Jones, 1988) has been used to demonstrate cultural differences in time perspective, and Zimbardo’s ZTPI scale (Gonzalez & Zimbardo, 1985) has shown that present time perspective is related to substance use (Keough, Zimbardo, & Boyd, 1999). However, we concluded that the content of both Jones’ and Zimbardo’s multifaceted scales went well beyond the scope of the present investigation. The lack of fit between existing FTP scales and the scales included in this study led to the development of a nine-item measure of future orientation. This measure includes a subset of items adapted from the work of Mahon and Yarcheski (1994) in addition to others that we developed.

*Surface Traits.*—In the present study, two constructs were identified that may be conceptualized as operating at the surface level. First, the enduring tendency of respondents to have a high level of involvement in retirement issues was measured. The involvement construct has played an important role in understanding the tendency of consumers to engage in elaborative processing of information regarding products (Cacioppo & Petty, 1982). Zaichkowsky’s (1985) nine-item involvement scale was used to measure individual differences in retirement involvement. Ratings made on 7-point semantic differential scales were used for each of these items (e.g., boring—interesting).

A second surface level scale was developed that consisted of seven items designed to assess respondents’ perceived financial-planning knowledge. This scale is uniquely different from the other constructs in the model in that it represents a knowledge dimension as opposed to a personality trait. Nonetheless, because the knowledge tapped in this scale was clearly domain specific (i.e., related to retirement), it was positioned at the surface level as opposed to “farther back” in the model (i.e., at the central trait level). The assumption underlying this measure was that individuals who had confidence in their knowledge of financial matters would be more likely to engage in retirement planning behaviors. Because

adequate existing measures of perceived financial knowledge specific to retirement could not be identified, we developed a scale to measure the construct.

*Criterion Measure.*—A six-item Likert-type scale was developed to measure perceived financial preparedness. Items on this scale emphasized an understanding of how much money would be needed to adequately meet retirement expenses and whether the appropriate computations had been made to ensure one would be financially solvent during the postemployment period. All constructs, except for the measures of cardinal traits and retirement involvement, used 7-point Likert-type response scales.

## Results

### *Assessment of Scale Properties*

The analyses began by conducting an exploratory factor analysis on the perceived financial preparedness (criterion) measure and the two surface trait measures (financial knowledge and financial involvement). A maximum likelihood extraction with varimax rotation was used, which resulted in a four-factor solution. Although five eigenvalues greater than one resulted from this analysis (in descending order the eigenvalues were 6.49, 3.01, 1.65, 1.33, 1.15, and .88), the pattern of loadings and a visual inspection of the scree plot suggested that a four-factor solution was indicated. As expected, the six retirement-preparedness items formed one factor with all factor loadings greater than .59. The coefficient alpha for this scale was .91. Also as anticipated, a second financial-knowledge factor was identified. One of the items on this scale cross loaded with the perceived financial preparedness items and was eliminated. The remaining four items on the knowledge scale all had factor loadings above .58, with a coefficient alpha of .79. The set of retirement-involvement items split into two factors. One factor, which we labeled *retirement relevance*, was composed of items that dealt with the degree that retirement planning mattered to the person (i.e., relevant, means a lot to me, matters to me, of great concern to me). All factor loadings for the relevance scale were above .48, and its coefficient alpha was .76. The second factor, labeled *retirement affect*, was composed of items that dealt with the respondents' affective reaction to retirement planning (i.e., exciting, fun, interesting, appealing). All factor loadings for the affect scale were above .74, with a coefficient alpha of .89. One of the nine items from the original set of retirement involvement dimensions (unimportant–important) failed to load on either the retirement-relevance or retirement-affect factors, and it was excluded from further consideration.

In the next analysis, the nine-item FTP scale was investigated by means of exploratory factor analysis. The initial solution revealed an unsuitable two-factor solution with many cross loadings. These items were eliminated until a suitable single-factor four-item solution was obtained, with all factor loadings above .54 and a coefficient alpha of .71.

Following the recommendations of Anderson and Gerbing (1988), in the next step a confirmatory factor analysis of the items for each of the scales was performed (i.e., the six cardinal trait scales, FTP, financial knowledge, retirement relevance, retirement affect, and perceived financial preparedness). As expected, the first model using the full scales did not reveal satisfactory fit statistics. By using the standardized residual covariances and modification indices, 8 of 48 items across the 11 scales were eliminated. In addition, on the basis of the results of the confirmatory factor analysis, two of the items within two scales were allowed to correlate (temperamental and moody from the emotional stability scales and retirement planning confidence and knowledge of where to obtain financial service information from the financial knowledge scale).

The final confirmatory factor analysis revealed satisfactory fit statistics,  $\chi^2 (680, N = 230) = 1102.5, p < .001$ , Tucker-Lewis index (TLI) = .90, comparative fit index (CFI) = .91, root mean square error of approximation (RMSEA) = .052. All items loaded on appropriate dimensions and were statistically significant with  $t$  values above 5.0. Appendix B identifies the final set of items used in the research along with the alpha coefficients for each scale. All alpha coefficients exceeded .70, a finding that provides empirical support for the cohesiveness of the hypothesized constructs. A Pearson correlation matrix of the 11 scales used in the study can be found in Table 1. The rectangular panel at the bottom of Table 1 indicates correlations between each of the scales and participants' age, income, gender, and education.

### *Analyzing the Hierarchical Model*

A two-step data analysis process was used to investigate the relationships proposed in the hierarchical model. First, a partial mediation model was tested using latent variable indicators for each of the 11 constructs described above. A partial mediation model is one that allows for the specification of paths between variables at adjacent levels in the hierarchical model (e.g., knowledge  $\rightarrow$  financial preparedness) as well as nonadjacent levels (e.g., FTP  $\rightarrow$  financial preparedness). The second step in the analysis involved testing a fully mediated model, in which paths were only allowed to exist at adjacent levels of the hierarchy. Once both models had been estimated, a comparison of the goodness-of-fit indices allowed for inferences to be drawn regarding the structural basis of the hierarchical model. We begin with a description of the partial mediation model.

In the fully saturated partial mediation model, separate directed paths were drawn from each latent cardinal trait to the latent constructs representing future orientation, retirement affect, retirement relevance, financial knowledge, and financial preparedness. Paths were also drawn from future orientation to retirement relevance, retirement affect, financial knowledge, and financial preparedness. Additional paths were specified from retirement relevance, retirement affect, and finan-

**Table 1. Pearson Correlation Matrix of Scales and Demographic Markers**

	1	2	3	4	5	6	7	8	9	10	11
1. Openness	—										
2. Conscientiousness	.26**	—									
3. Emotional Stability	.09	-.15*	—								
4. Materialism	.20**	.08	.25**	—							
5. Introversion	.00	-.09	.26**	.17**	—						
6. Need for Arousal	.39**	.03	.22**	.32**	.03	—					
7. Future Time Perspective	.16*	.23**	-.24**	.02	-.14*	.11	—				
8. Financial Knowledge	.06	.32**	-.28**	.03	-.17**	.03	.48**	—			
9. Retirement Affect	.18**	.12	-.12	.08	-.10	.17**	.35**	.30**	—		
10. Retirement Relevance	.04	.13*	-.03	.06	-.07	.11	.23**	.13*	.41**	—	
11. Financial Preparedness	.09	.25**	-.16*	.06	-.07	.12	.50**	.57**	.29**	.14*	—
Age	-.01	.05	.01	-.11	-.06	-.02	.01	-.08	.00	-.13*	.09
Income	-.14*	.04	-.08	-.06	.04	-.01	-.03	-.07	-.08	-.10	.04
Gender	-.02	.08	.05	.01	-.07	-.04	-.01	-.03	-.01	.04	-.07
Education	.04	-.01	.07	-.03	-.03	.04	.07	.01	.07	.03	.02

Note: Gender was coded as follows: 1 = male, 2 = female.  
\* $p < .05$ ; \*\* $p < .01$ .

cial knowledge to financial preparedness. Because retirement concern and retirement affect represented two components of retirement planning involvement, they were allowed to correlate. The models reported below were estimated using the AMOS structural modeling module (Arbuckle, 1997) in SPSS.

The fit indices for the partial mediation model were satisfactory,  $\chi^2(680, N = 230) = 1102.5, p < .001$ , TLI = .90, CFI = .91, RMSEA = .052. The squared multiple correlations revealed that the model accounted for 23% of the variance in future orientation, 21% of the variance in retirement affect, 17% of the variance in retirement relevance, 55% of the variance in financial knowledge, and 64% of the variance in financial preparedness (see Appendix A, Note 2).

To evaluate the a priori hypotheses, the  $t$  value for each path was examined. Figure 1 presents a path di-

agram of the significant relationships obtained in the model. Supporting Hypothesis 1, self-rated financial knowledge was found to be predictive of perceived financial preparedness,  $p < .001$ . Thus, respondents who believed that they knew more about financial planning also perceived that they were financially better prepared for retirement.

Hypothesis 2 suggested that retirement planning involvement would be predictive of financial preparedness. The factor analytic work on the involvement measure identified two dimensions of the construct. The path coefficients revealed that the retirement affect dimension was unrelated to the criterion measure. However, the retirement relevance dimension was negatively related to preparedness,  $p < .05$ . Although this finding is in a direction opposite to that expected, in hindsight it makes perfect

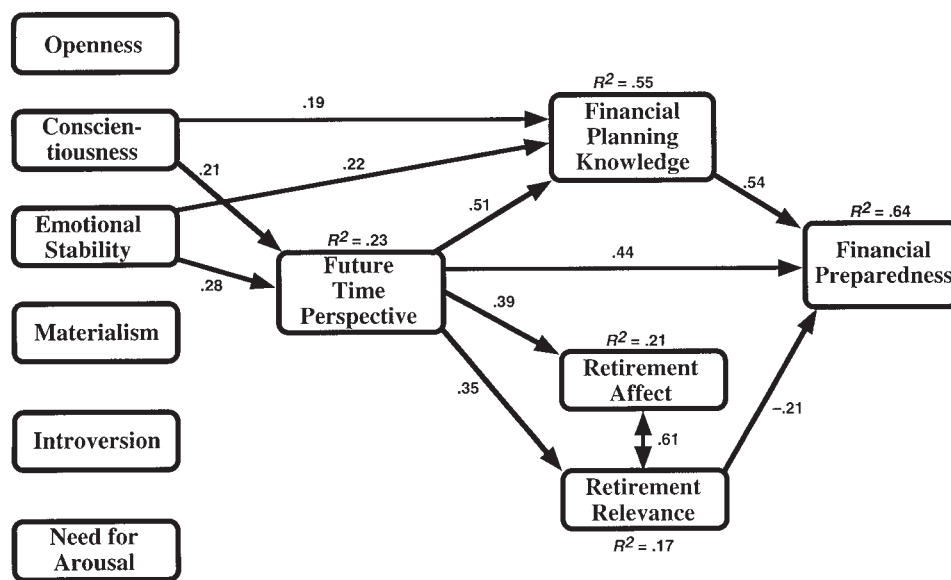


Figure 1. Latent variable partial mediation model of cardinal traits (left side of figure) predicting the central trait (future orientation) and surface level markers (knowledge, affect, and relevance). The central and surface markers, in turn, were found to be good predictors of individuals' perceived financial preparedness. Path coefficients are standardized Beta values (all  $ps < .05$ ).

sense. That is, individuals who engage in fewer pre-retirement-planning behaviors are likely to have concerns about their lack of planning and thus see the activities associated with preparing for retirement as highly relevant.

Hypotheses 3 and 4 investigated the central trait of FTP. Hypothesis 3 proposed that future orientation would be positively associated with perceived financial knowledge. This effect was found,  $p < .001$ . Hypothesis 4 proposed that FTP would be positively associated with retirement involvement. This effect was found for both involvement dimensions: retirement concern ( $p < .01$ ) and retirement affect ( $p < .01$ ).

Finally, relationships were investigated between the cardinal traits and the FTP central trait. Pathways from two of the six cardinal traits were found to be significant predictors of future orientation: conscientiousness ( $p < .05$ ) and emotional stability ( $p < .01$ ). Both cardinal constructs were positively related to the central trait measure. None of the remaining cardinal traits were found to be systematically related to FTP.

The partial mediation model also identified three significant unexpected relationships at non-adjacent levels of the hierarchy. First, in addition to influencing the financial-knowledge and retirement-involvement constructs, the future-orientation construct also had a significant direct effect on perceived financial preparedness,  $p < .01$ . In addition, two of the cardinal traits had direct positive effects on financial knowledge: conscientiousness ( $p < .05$ ) and emotional stability ( $p < .05$ ).

To assess whether these three additional paths made a significant contribution to understanding the relationships among the constructs, a second structural model was estimated in which full mediation was assumed. Thus, the cardinal traits were connected only to future orientation, which was connected to retirement affect, retirement relevance, and to financial-planning knowledge. These latter three constructs were then connected to financial preparedness. In sum, this model assumes that future orientation fully mediates the effects of the cardinal traits, and that the affect, relevance, and knowledge constructs fully mediate the effects of future orientation.

The fully mediated structural equation model also revealed an acceptable set of fit indices,  $\chi^2 (701, N = 230) = 1137.6, p < .001, TLI = .90, CFI = .91, RMSEA = .052$ . Because the fully mediated model is nested within the partially mediated model, a chi-square difference test can be used to determine whether the partial mediation model provided a better fit than the fully mediated model. This test revealed that the partially mediated model was superior,  $\chi^2_{diff} (21, N = 230) = 35.1, p < .05$ , which indicates that the three paths specified across nonadjacent levels of the model made a significant contribution to the overall prediction.

## Discussion

The factor-analytic and structural-modeling efforts revealed substantial support for the set of expected

findings outlined earlier in this article. Three of the four hypotheses that specified a priori relations between the central trait, surface traits, and the criterion were validated. As predicted in Hypothesis 1, self-rated financial knowledge was positively related to perceived financial preparedness. Thus, people who believe that they know more about financial planning are more likely to have prepared for retirement. If one reasonably assumes that the causal direction moves from knowledge to behavior, these results suggest that training and intervention programs designed to boost financial knowledge should help to improve financial preparedness by triggering advanced planning activities.

Hypothesis 2, which predicted a positive relationship between retirement involvement and financial preparedness, was not supported. Indeed, the results suggest that the involvement construct needs to be reconsidered within the context of retirement planning. The exploratory factor analysis revealed that the involvement scale was composed of two factors. The scale measuring the affective component of retirement planning (i.e., exciting, fun, appealing, interesting) was unrelated to degree of financial preparedness. This suggests that individuals who are future oriented and have high levels of perceived financial knowledge are able to make retirement plans regardless of whether they are excited or bored by the task. Unexpectedly, the retirement-relevance dimension was inversely related to preparedness. Thus, individuals who were the least prepared found retirement planning issues to be the most personally significant. This finding can be interpreted to indicate that those who have not engaged in retirement-planning behaviors are worried about the future and may be open to communications, either in the form of persuasive appeals (e.g., advertisements) or direct intervention (e.g., training and education).

Hypotheses 3 and 4 predicted that one's FTP would be predictive of financial knowledge and the retirement-involvement construct. Both of these hypotheses were supported. Moreover, a significant direct path was also found between FTP and financial preparedness. These results reveal the important role of a disposition that allows a person to visualize and plan for the future. A strong future orientation impacts not only individuals' knowledge of financial planning and their involvement in the financial planning process, but this central trait also clearly has a direct impact on individuals' retirement preparedness as well.

The structural equation modeling effort also allowed for an examination of the relationships between the cardinal traits and FTP. Two of the six cardinal measures, conscientiousness and emotional stability, were found to be significantly related to this trait. Thus, future orientation appears to be mediated by a relatively small number of underlying cardinal markers. A key public policy and marketing issue concerns whether messages, education, or training could be used to increase individual's future orientation. If one's time horizon is influenced predominantly by cardinal traits, which have been argued to have a ge-

netic basis (P. T. Costa & McCrae, 1985), then one could argue that retirement education programs may hold limited promise. However, only 23% of the variance in FTP was accounted for by cardinal trait influences, which suggests a large influence of non-genetic factors. Perhaps goal-based intervention programs could be developed with the aim of stimulating individuals to think about the future in a variety of important life-planning domains in addition to finances (e.g., health, housing, family planning).

The partial mediation model was not only shown to be a good fit given the data, but the pattern of relationships accounted for a large proportion of the variability in both the mediating constructs and the criterion. In addition, the results provide evidence that one's knowledge of retirement planning and one's enduring personality dispositions jointly contribute to an individual's level of financial preparedness. Taken together, these results support the hierarchical model of personality advanced by Mowen and his colleagues (Mowen, 2000; Mowen & Spears, 1999).

The structural model shown in Figure 1 indicates that personality markers, however, were not the only potent indicators of financial preparedness. Self-reported financial-planning knowledge was also found to be strongly predictive of the criterion (standardized  $\beta = .54$ ). This result is consistent with the cognitive literature cited earlier that suggests one's knowledge of finance and investing is systematically related to the quality of one's decision-making efforts (Hershey, 1995; Hershey et al., 1998; Walsh & Hershey, 1993). The finding that both knowledge and personality characteristics together influence financial preparedness suggests important implications from an applied perspective. Specifically, understanding how these two factors influence long-term financial-planning behaviors should allow researchers to design more meaningful educational programs and develop increasingly effective marketing campaigns aimed at improving patterns of pre-retirement savings. Each of these two applied issues are discussed separately below.

One line of research within the literature on financial planning has examined the impact of educational programs on pre-retirement savings. The large majority of these studies have sought to stimulate individuals' savings activities and decision-making competencies by offering brief training programs that tend to be informational in nature (Richardson, 1993; Taylor-Carter, Cook, & Weinberg, 1997). The apparent value of these programs has been bolstered by recent findings that one's knowledge of the domain can improve savings compliance (Bernheim et al., 1997). Interestingly, results from the present study indicate that self-perceived knowledge is also related to proactive retirement savings behaviors. Thus, one might argue that an individual's perceptions of his or her own knowledge may be as important as one's objective knowledge of financial planning—at least in terms of whether a pre-retiree is likely to perceive himself or herself as financially well prepared. Therefore, in addition to providing valuable information

about the dynamics of finance and investing, one significant aspect of pre-retirement educational programs is that they may increase individuals' self-perceived knowledge, which, in turn, may stimulate a critical evaluation of one's level of financial preparedness (see Appendix A, Note 3).

The finding that individuals' unique personality characteristics influence financial preparedness also has important implications from an educational perspective. The ability to tailor the components of the educational experience to the specific characteristics of the learner is a fundamental premise of currently favored contextual (Dixon, 1992) and constructivist (Ausubel, 1963) theories of learning. These approaches emphasize the significance of the interaction between the individual (his or her knowledge, perceptions, personality predispositions, etc.), the nature of the material to be learned, and the context in which learning takes place. According to theory, significant, meaningful learning only takes place when all of these factors are in harmony or otherwise consistent with one another. Therefore, to optimize the impact of financial-training programs, participants would ideally be selected into groups not only on the basis of their prior level of domain-specific knowledge, but also on the basis of their unique personality profile. Training sessions could be divided into groups of individuals who, by virtue of their personality make-up, would and would not normally be predisposed toward saving (with members of the former group scoring high on the conscientiousness and emotional stability dimensions, displaying a strong future orientation). Variants of a basic educational program could then be customized to take advantage of the preexisting tendencies of those in each group. This individual difference approach to seminar-style retirement education would represent a major shift from the "one-program-fits-all" approach that is currently favored and in widespread use.

The findings from the present study suggest potential strategies for financial-planning professionals and marketers of financial products. The negative relationship between retirement planning relevance and retirement preparedness suggests that consumers who have not been engaged in sufficient retirement planning activities may be motivated to do so. Future research should investigate alternative strategies for increasing the future orientation of "low" retirement planners or those who have not yet begun to plan. Among the possible strategies are the use of fear appeals that identify the negative future outcomes that may occur if a savings program is ignored, and/or the use of positive images that highlight the benefits of retirement planning (i.e., scenarios that describe successful goal-attainment outcomes). Although the present research does not provide guidance on the specific type of appeal to use, it does suggest that increasing one's future orientation will influence preparedness.

One limitation of the present study involves the fact that a previously untested measure of future orientation was used as a key construct in the model. However, as indicated above, the scale possesses



both face validity and a reasonable level of internal consistency. In addition, it was shown to have substantial predictive power in explaining all three surface traits and the criterion measure. Nonetheless, future studies that more fully explore other psychometric properties of this scale are warranted. A second limitation involved the fact that a subjective self-report measure—perceived financial preparedness for retirement—served as the criterion in this study, rather than a purely objective measure of financial preparedness. The reason for the use of the “proxy measure” of preparedness is because we and other researchers have found it to be exceedingly difficult to extract detailed and reliable financial savings information from respondents, particularly in the context of a relatively brief psychological study (Bernheim et al., 1997; D. A. Walsh, personal communication, June 23, 1999). Perhaps the goal of obtaining more objective measures of preparedness could be achieved in longer running studies in which levels of individual commitment are higher or in studies in which participants are substantially remunerated for their compliance.

The general limitations of using survey research techniques and structural modeling apply to the findings from the present study. In particular, the shortcomings associated with using correlational methods to draw causal conclusions and the possibility of capitalizing on chance findings must be acknowledged (Cliff, 1983, 1989). Finally, we acknowledge the fact that the sample was self-selected into the study, which may have contributed to some unknown form of response bias. Those who choose to complete the survey may have differed in important ways from nonrespondents. In light of these limitations, the findings from the present study should be appropriately considered exploratory in nature, awaiting confirmatory evidence from an independent replication effort.

The present findings suggest profitable future research directions in both theoretical and applied arenas. From a theoretical perspective, it would be of benefit to further examine the structure and generality of the hierarchical model of personality. As indicated in the introduction, this model has already been shown to provide substantial explanatory power in accounting for a wide range of individual behaviors. Mowen (2000) has revealed that the hierarchical model can account for substantial variability (i.e., 25% or more) in measures of healthy diet lifestyles, sports participation, and bargaining behavior.

From an applied perspective, the findings from the present study suggest it may be shortsighted to focus solely on knowledge-based interventions as a method of inspiring individuals to save. We feel quite strongly that any such efforts would be essentially limited without also taking into account individuals' preexisting personality predispositions. Experimental efforts are currently underway in our laboratories to examine the power of retirement education interventions that target individuals with different personality “types.” This approach to retirement planning education—one that takes into account individual differences in the pre-

disposition to plan and save for the future—represents a new avenue of research in this field.

The lack of individual financial preparedness for retirement documented earlier in the present article, and the rapidly changing demographic trends associated with the aging of the baby boom generation, together serve to create strong psycho-economic pressures that are felt at both the individual and societal levels. According to Sterns (1998), “recent discussions of the future of retirement . . . tell us that nothing less than a *paradigm shift* is under way that will affect how people will have to save and invest, and how they will fantasize about and plan for the future” (p. 133). The nature and form of this paradigm shift, however, will only begin to come into sharp focus as more is learned about the psychological dimensions that shape retirement-planning behaviors and the factors that influence individuals to save.

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## Appendix A

### Notes

1. The five-factor measure of agreeability was not included in the questionnaire in order to meet survey page constraints set by the managers of the Household Panel and because that particular cardinal trait was not expected to be related to the constructs investigated.
2. Other exploratory modeling analyses (not reported) that included demographic variables (age, income, education, and gender) failed to account for appreciable variability in financial preparedness.

3. This suggestion should be qualified to indicate that in the absence of objective knowledge of the domain, high levels of self-perceived knowledge could likely result in poor savings and investment decisions. The important point, however, is that the individual's self-perceived knowledge may help motivate one to meet the financial savings challenge, whereas one's objective knowledge of investing would provide a necessary foundation to make sound financial-planning decisions.

## Appendix B

### *Scales Used in the Study*

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#### Cardinal Trait Scales

- A. Emotional stability (Coefficient  $\alpha = .85$ )
1. Moody more than others
  2. Temperamental
  3. Emotions go way up and down
  4. Testy more than others
- B. Introversiveness (Coefficient  $\alpha = .89$ )
1. Feel bashful more than others
  2. Shy
  3. Quiet when with people
- C. Openness to experience (Coefficient  $\alpha = .84$ )
1. More original than others
  2. Imaginative
  3. Find novel solutions
- D. Conscientiousness (Coefficient  $\alpha = .83$ )
1. Organized
  2. Orderly
  3. Efficient
- E. Need for material resources (Coefficient  $\alpha = .86$ )
1. Enjoy buying expensive things
  2. Enjoy owning luxurious things
  3. Acquiring valuable things is important to me
  4. Like to own nice things more than most people
- F. Need for arousal (Coefficient  $\alpha = .79$ )
1. Like the new and different more than the tried and true
  2. Actively seek out new experiences
  3. Seek an adrenaline rush
- 

*continues*

### *Scales Used in the Study (continued)*

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#### Central Trait Scale

- A. Future orientation (Coefficient  $\alpha = .71$ )
1. I enjoy thinking about how I will live 10+ years in the future.
  2. I have established long-term goals and am working to fulfill them.
  3. It is very hard for me to visualize the kind of person I will be 10 years from now. (r)
  4. The future seems very vague and uncertain to me. (r)
- 

#### Surface Trait Scales

- A. Financial knowledge (Coefficient  $\alpha = .79$ )
1. I am very uninformed about financial matters. (r)
  2. I have little knowledge about retirement planning. (r)
  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.
- B. Retirement involvement—relevance dimension (Coefficient  $\alpha = .76$ )
1. does not matter to me...matters to me
  2. irrelevant...relevant
  3. means nothing to me...means a lot
  4. of no concern...of great concern to me
- C. Retirement involvement—affective dimension (Coefficient  $\alpha = .89$ )
1. unappealing...appealing
  2. boring...interesting
  3. unexciting...exciting
  4. dull...fun
- 

#### Criterion Measure

- A. Perceived financial preparedness (Coefficient  $\alpha = .92$ )
1. The calculations have been made to estimate how much money I (we) will have saved for retirement.
  2. I know how much money I (we) will need to comfortably retire.
  3. I know how much money I (we) must save each month in order to retire at a comfortable level.
  4. I am (we are) saving enough each month to retire comfortably.
- 

*Note:* (r) indicates that the item is reverse scored.