

Employee Education and the Likelihood of Having a Retirement Savings Program

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This study develops a framework that can be used to examine the retirement savings decision. Using Retirement Confidence Survey data (N = 751), this analysis determined that respondents with higher education levels, higher income, a smaller household size, and favorable financial attitudes tend to currently have a retirement savings program in place. Those who are exposed to workplace financial education are more likely to have a retirement savings program and having a retirement savings program related positively to retirement confidence.

Keywords: *employee education, retirement saving, and retirement planning*

Will the average American reach retirement with financial security? This continues to be one of the major questions facing policy makers in the United States and around the world (Yao, Hanna, & Montalto, 2003). The aging of the population, a looming baby boomer crisis, the possible failure of Social Security, changing retirement policies, and a fluctuating investment environment have forced the burden of preparing for a safe retirement from society to individuals.

The number and type of individuals, firms, and organizations interested in retirement preparedness issues is diverse. Financial services firms continually develop, propose, and promote various retirement savings strategies for individuals. Numerous foundations and non-profit organizations are active in developing savings strategy recommendations while attempting to increase public awareness of retirement issues. Policy makers and financial counseling and planning professionals are also involved in educating Americans about retirement topics. All of this has combined to help retirement savings become a high priority matter for policy makers and regulators.

Two questions are of particular importance as policy makers grapple with retirement planning issues (e.g., the partial privatization of Social Security and further expansion of tax-advantaged saving programs). First, are there commonalities among individuals who are proactive in saving for retirement, and second, does financial education increase a person's likelihood to establish a retirement savings program? One might guess that in today's world where the President of the

United States, Congress people, television talk show hosts, magazines, newspapers, and other media outlets talk about the perilous state of retirement for many Americans that nearly every working person would either have assets set aside for retirement or be saving for retirement. Unfortunately, evidence from national retirement participation and confidence surveys suggests that this assumption is not true (Helman & Paladino, 2004).

Financial counseling and planning professionals, as well as policy makers, have a stake in better understanding the factors that influence a person's likelihood of establishing a program for retirement. This is particularly true as Congress debates the costs and benefits of Social Security privatization where individuals might be required to choose independent accounts to generate retirement earnings. If data can be shown to suggest factors that might increase a person's likelihood of participating and successfully investing in a private account or some other type of tax beneficial plan, it may be possible to design a system of savings that improves retirement preparedness for all Americans.

Research on the factors associated with a person's likelihood of setting aside assets and/or savings for retirement is needed more today than at any time in the past. Even though financial services practitioners, consumer economists, and financial counselors continue to encourage private savings for retirement among their constituencies, little is actually known about the process individuals undertake when establishing, implementing, and monitoring a

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retirement savings program. Further, even less is known about the outcomes (e.g., retirement confidence) associated with having a retirement savings program. Thus, the purpose of this paper is two-fold: first, to present a framework that describes the decision making that individuals take when establishing a retirement savings program and the resulting outcomes; and second, to test the following research questions: (a) what factors are related to an individual having a savings program for retirement? and (b) what is the relationship between having a retirement savings program and retirement confidence?

Background

Saving for retirement and being prepared for retirement financially are two interrelated issues. A person or household is considered to be prepared for retirement when accumulated savings is sufficiently high to generate income at least equal to a given pre-retirement level of consumption (Yuh, Montalto, & Hanna, 1998). Individuals who actively save for retirement tend to have a higher level of retirement preparedness and confidence (Joo & Pauwels, 2002).

Not all individuals nearing retirement are financially prepared to do so. One reason for this is that some individuals have limited savings and assets available to generate retirement income. In other words, there are people who over their life never establish a retirement savings program. In its broadest sense, a savings program is defined as either earmarking assets for use in retirement or actively saving money on a regular basis for retirement. One question that has received attention in the literature is, "Why do some people establish and contribute to a retirement savings program while others do not?" Answering this question has been a focus of research within the financial counseling and planning profession for over 20 years. This review of literature considers some of the research that has addressed this important question.

There are a number of factors associated with a person's willingness and ability to save for retirement. In general, these factors can be categorized into one of three groupings (Engel, Blackwell, & Miniard, 1990): environmental influences, individual differences, and psychological process factors. Environmental influences include culture, social class, personal influence, family, and employment situation. Individual differences are characterized by individual resources, motivation and involvement, knowledge, attitudes, personality, lifestyles, and demographics. Psychological processes include information processing, learning, and attitude and/or behavior change. Each of these categories is examined separately below.

Environmental Influences

Work environment issues play a key role in a person's decision to retire. Woerheide (2000) found that the type of qualified savings plan available at work (e.g., defined benefit or defined contribution) can have a significant impact on a person's decision to retire or continue to work. In general, those employed in governmental agencies are more likely to have a defined benefit plan than other workers (Bureau of Labor Statistics, 2004), which may impact these employees' willingness to save privately for retirement. For instance, those with a defined benefit pension plan may believe that their financial situation for retirement is stable. Guariglia (2001) found that households with this attitude tend to save less than households that feel as if their financial situation may deteriorate. Occupational choice and job classification has also been found to influence a person's level of risk tolerance and savings and consumption patterns (Miles, 1997; Miller, 2005). Power and Hira (2004) found that professional employees are more likely than union members and clerical staff to have started planning for retirement. Roszkowski (1996) reported that those employed in public-sector occupations have greater risk aversion than those employed in the private sector. This is important because risk tolerance has been shown to be related to willingness to save and invest (Callan & Johnson, 2002). If true, those with a low risk tolerance should be less likely to save for retirement. Miller reported a growing trend among financial planners to use occupational choice as a proxy for asset ownership. For example, a university professor's human capital is expected to be correlated highly with fixed income investments, while a financial analyst position is correlated with domestic equities. The combination of occupation choice and risk tolerance suggests that those employed in government and non-profit organizations may exhibit different retirement savings behaviors compared to self-employed and private-sector workers.

Elder and Rudolph (2000) determined that retirement confidence, when measured as expected standard of living in retirement, is influenced significantly by the level of savings a person has accumulated. Hassan and Lawrence (2001) looked at another work environmental factor, namely, employer matching to defined contribution plans. They found no relationship between employer contributions to a qualified plan and an employee's decision to save for retirement. They did find, however, that the level of matching contributions was significantly positively related to the amount an employee contributed towards retirement savings.

Individual Differences

Hogarth (1991) found that age, education, gender, income, and marital status were significant factors influencing saving for the future. Being older, having a higher level of attained education, being male, having higher income, and being married were positively related to saving for the future. Catrambone (1998) also discussed the significant relationship between gender and retirement investment as she discussed barriers that women investors confront in retirement savings. Women, compared to men, have lower levels of retirement investments savings. Yuh and DeVaney (1996) reported income, years of employment, education, occupation, and ethnicity as significant factors associated with defined contribution retirement funds of couples. Specifically, they found that higher income, longer years of employment, better education, having a skilled occupation (e.g., managerial and professional), and being White are positively related with the defined contribution retirement fund levels. DeVaney, Su, Kratzer, and Sharpe (1997) concluded that age, marital status, and income tend to be significantly related to the amount of money saved for retirement. By examining factors related to employer provided retirement benefits, Foster (1998) found that being older with more income has a significant impact on retirement benefits. These findings support the positive relationship between age and being married with retirement savings.

The influence of debt levels on a person's willingness and ability to save for retirement was studied by Cavanagh and Sharpe (2002). They determined that the relationship between consumer debt level and the amount currently being saved for retirement by an individual is negative. In their study, having installment debt deterred participation in qualified retirement savings products such as 401(k) plans and Individual Retirement Accounts. Yao et al. (2003) found that low-income earners, renters, non-savers, and those without investing experience were most unlikely to be prepared for retirement.

Gender differences in savings participation were noted by VanDerhei and Olsen (2000). They found that women tend to invest less of their contributions to qualified retirement plans in equity assets as compared to men. VanDerhei and Olsen found this to be true especially with younger lower income women. Women whose income exceeded \$75,000 were found to invest a greater percentage of their contribution in risky assets.

Bajtelsmit, Bernasek, and Jianakoplos (1999) concluded that within qualified savings plans women consistently exhibit greater relative risk aversion. This can impact retirement outcomes for women. Because

risk and return are positively related, the fact that women tend to invest more conservatively means that women may accumulate less in total retirement assets over time. This could then result in a lower level of retirement preparedness. These findings were later confirmed to be similar to what has been observed in Australia (Clark-Murphy & Gerrans, 2001).

The issue of racial and ethnic differences in relation to savings has also received attention in the literature. Hunt (1996) found that racial differences exist in beliefs about money and poverty. Traditional minorities in the U.S. (e.g., African-Americans, Hispanics, etc.) view poverty differently than Non-Hispanic Whites. Spending and savings patterns among Non-Hispanic Whites, African-Americans, Hispanic, Asians, and others also tend to differ. Paulin (1998) concluded that in terms of expenditures, Hispanics are more similar to African-Americans than to Non-Hispanic Whites.

According to Keister and Moller (2000), the ownership of wealth in the United States continues to be concentrated in the hands of a small percentage of the population. The type of assets held and the level of income earned by a family are the primary determinants of household wealth (Plath & Stevenson, 2000). While factors such as age, education, and family structure play a role in wealth accumulation (Dinkins, 1994) racial inequality has also been shown to be associated with discrepancies in wealth. The median income for African-Americans, for example, is at least 10% less than that for Non-Hispanic Whites (Oliver & Shapiro, 1995).

Regardless of the reason for racial differences, including perceived past injustices, discrimination, and structural barriers to education, Dinkins (1994) concluded that African-Americans are less likely than non-Hispanic Whites to use housing dollars to generate home equity, a major source of wealth in the United States. Dinkins hypothesized that without this type of wealth it is difficult for someone to obtain supplemental income in retirement.

Spilerman (2000) found that African-Americans accumulate fewer assets than Non-Hispanic Whites in part because of a lower incidence of lifetime wealth transfer, primarily because African-American households have less wealth to transfer to other generations. Yet, even taking this into consideration, Spilerman concluded that Non-Hispanic White families tend to be disproportionately more likely to transfer wealth than African-Americans. While there is limited research to suggest that other minorities (e.g., Asian, Arabian, etc.) exhibit the same behaviors and attitudes as African-Americans, it is reasonable to assume that Non-Hispanic Whites are more dissimilar to others

than they are similar (Paulin, 1998). This may help explain why a large percentage of research papers combine African-American, Hispanic, Asian, and others into a single category compared to Non-Hispanic Whites. (Another reason for this methodological coding is that few studies have sufficient numbers of Hispanic and Asian respondents to analyze these groups separately.)

Psychological Processes

Psychological processes include information processing, learning, and attitude and behavior changes. Research has shown that behavioral and attitudinal characteristics are significant factors that influence savings and investment activities. For example, risk tolerance has been included in various research studies and found to be significantly positively related to retirement savings (Yuh & DeVaney, 1996; Yuh & Olson, 1997).

Montalto, Yuh, and Hanna (2000) concluded that attitudinal and psychological factors can play a role in the retirement decision process. They hypothesized that “unobserved, unmeasured individual differences might play an important role in retirement decisions” (p. 14). Their findings were later confirmed by Neukam and Hershey (2003). Neukam and Hershey developed two scales for use in evaluating personality constructs as measures of retirement savings motives. They found that a person’s motivation for saving was at least partially influenced by psychosocial factors. Joo and Pauwels (2002) examined the relationship of demographic, socioeconomic, and attitudinal factors to retirement confidence. They found that in addition to characteristics such as gender, income, and education, risk aversion negatively affects a person’s retirement confidence.

Financial education and employee education is considered a part of learning that affects behavior and attitude changes. The relationship between financial education and investment/savings behavior is something of interest to researchers and educators. The significance of financial education on behavioral change, retirement investment, and retirement confidence has been reported in the literature. For example, DeVaney, Gorham, Bechman, and Haldeman (1995) reported that the presence of a financial education program appears to be related to the decision to save and invest for retirement. Specifically, they found the influence of classmates, a written exercise, and professional presentations have significant effects on retirement savings decisions. Hershey, Walsh, Brougham, Carter, and Farrell (1998) found that educational training effectively increases financial knowledge and improves the retirement planning of pre-retirees. Grable & Joo (1999) established that

financial education has significant positive effects on financial behaviors.

Wills and Ross (2002) proposed a model of the personal retirement savings decision process. They stressed individual psychological processes of perception, awareness, and understanding as independent variables that affect the degree of involvement in retirement savings decision. They concluded that psychological processes affect individuals’ involvement level in retirement planning and influence retirement savings decision making.

Retirement Savings Decision Framework

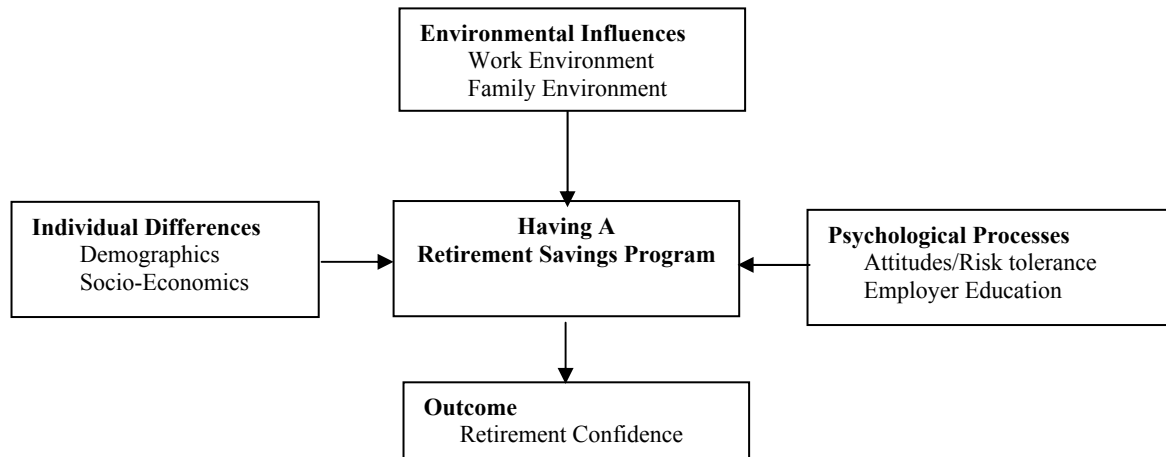
The role of environmental influences, individual differences, and psychological processes as factors affecting the likelihood of establishing a savings program can be conceptualized into a research framework. Engel, Blackwell, and Miniard’s (1990) consumer decision-making model is one way to conceptualize these factors. The model developed by Engel and his associates incorporates (a) environmental influences, (b) individual differences, and (c) psychological processes in a way that shows how these factors influence decisions and outcomes.

Although the consumer decision-making model presented by Engel et al. (1990) was originally developed based on the experiences and theories of marketing, it can be adopted to explain how individual retirement decisions are made. A modified Engel et al. framework (Figure 1) illustrates that when people establish retirement savings programs, environmental influences, individual differences, and psychological processes affect the decision-making process.

Environmental influences include work environment and family environment. Whether people work at a non-profit organization or a for-profit company or whether they are self-employed or not, are shown to have a potential influence on a person’s likelihood of establishing a retirement savings program. Family environment includes an individual’s number of financial dependents and household size. Individual differences include demographic and socioeconomic characteristics of an individual, such as age, gender, ethnicity, marital status, education, and income. Psychological processes include financial attitudes, retirement attitudes, risk tolerance, and workplace education as a learning process that affects the involvement level in retirement planning.

Once a savings program for retirement has been established, outcomes follow. The Retirement Savings Framework shows that those who establish a program tend to have a positive outcome, that is, greater retirement confidence.

Figure 1
Retirement Savings Framework



Methodology

Two general research questions were used to guide this study: (a) what factors are related to an individual having a savings program for retirement? and (b) what is the relationship between having a retirement savings program and retirement confidence? In this study, a retirement saving program was defined as either having assets set aside for retirement and/or actively savings on a regular basis for retirement. It was anticipated that findings from this study would mirror results published previously in relation to environmental, individual, and psychological factors. For example, respondents who were supporting a large number of dependents were expected to be less likely to have a retirement savings program. Those employed in government and non-profit organizations were expected to be more likely to have a program for retirement. Individual differences were anticipated to explain the likelihood of have a savings program. Men, married respondents, and those with high incomes and greater attained education were expected to be more likely to have a program in place. Non-Hispanic Whites, compared to others, were anticipated to have a savings program. Finally, in terms of psychological processes, those with better attitudes, more risk tolerance, and access to employer provided education were anticipated to be more apt to have a savings program in place compared to others.

Data

The ninth annual Retirement Confidence Survey (RCS) was used as the data source to test which environmental, individual, and psychological factors influence the establishment of a retirement savings program. The RCS was co-sponsored by the Employee Benefit Research Institute, the American Savings Education Council, and Mathew Greenwald and

Associates. The ninth annual RCS randomly surveyed 1,002 individuals (751 workers and 251 retirees) ages 25 and older between January 4 and February 28, 1999 through 20-minute telephone interviews (Employee Benefit Research Institute, 1999). Random digit dialing was used to obtain a representative cross section of the U.S. population. Based on the 1,002 respondents, this study was delimited to include only worker respondents (N = 751). There were 10 unemployed respondents included in the sample. Among the 10 unemployed, seven had a savings program in place. This delimitation was imposed because the research question in this study involved issues related to planning for retirement rather than planning while retired. As such, retirees were excluded. Therefore, findings from this study apply only to pre-retirees.

Method of Analysis

All analyses were conducted using SAS and SPSS for Windows. Logistic regression analysis was used to identify factors related to the likelihood of establishing a retirement savings program, while a comparison of means using t-tests was conducted to identify the effect of having a retirement savings program on retirement confidence.

A logistic regression model is very similar to an ordinary least squares regression model. The primary difference is that in a logistic regression the dependent variable is measured dichotomously (e.g., yes or no, one or zero, etc.). According to Hair, Anderson, Tatham, and Black (1995), one of the advantages of a logit model is that it allows the estimation of probability estimates of an event occurring. In this research, it is possible to estimate the probability that someone actually has a retirement program in place. This is useful to know because the reverse information

can be used to identify similarities among people who do not have a retirement program. It may be possible, as a result of the logit model analysis, to identify factors that can be influenced by financial counselors and planners to encourage those without a savings program to begin saving.

The assumptions used in a logistic regression are similar to those used in an ordinary least squares regression (Menard, 1995). For instance, independent variables should be measured at the interval, ratio, or dichotomous level. It is important that independent variables not be highly correlated. To account for this, tolerance and variance inflation were checked using SAS collinearity diagnoses to reveal multicollinearity among the independent variables. The tolerance level among the independent variables ranged .75 to .97 revealing no multicollinearity constraints were presented in the data.

Dependent Variable. The following question from the RCS was used as the dependent variable: "Do you have an investing or savings program for your retirement?" It was possible that a respondent could answer yes by participating, for example, in a 401(k), 403(b), 457, or thrift and savings plan. Someone who was not saving but had earmarked assets for retirement could also answer in the affirmative to this question. What makes this question so interesting is that nearly any activity related to saving or accumulating assets for retirement could have led to a positive response. In this study, respondents who answered that they had an investing or savings program for retirement were coded as 1; respondents who did not have such a program were coded as 0. Among the 751 respondents, 527 (70%) respondents had an investing or savings program for their retirement and 177 respondents did not have one. The remaining 47 respondents had missing information. In other words, 30% of respondents had no assets set aside for retirement and no current savings for retirement.

Independent Variables. Based on the framework presented in Figure 1, environmental influences (employer characteristics, self-employment status, number of financial dependents, and household size), individual differences (age, gender, marital status, ethnicity, education, and income), and psychological processes (financial attitudes, retirement attitudes, risk tolerance, and employer education) were included as independent variables.

Dummy variables were created for employer characteristics and self-employment status. Those who worked in a governmental, non-profit organization, or education/academic institution were assigned 1 for the Employer Characteristic variable, and those who were self-employed were assigned 1 for the Self-Employed

variable. Actual number of financial dependents and household size were used. Although similar, these two variables did not measure the same characteristic. It was possible for a respondent to be responsible for more or less dependents than were currently living in a household.

A person's reported age was used. Gender, marital status, ethnic/racial background, income, and education were dummy coded. Respondents were coded 1, if they were male, married, had higher than college degree, and had household income above \$49,999. There were 100 worker respondents (13.3% of the sample) who did not report their income (answered don't know or refused). To capture this group, a second dummy variable was created for Income Not Reported. Those who answered that they don't know or refused were assigned 1 for the Income Not Reported variable. Due to sample size limitations, racial/ethnic background was also dummy coded. While some may object to combining everyone who was not Non-Hispanic White into one category, it was not possible to conduct the analysis based on the actual number of those who were not Non-Hispanic White. In this study, Non-Hispanic Whites were coded 1, otherwise 0.

There were 13 combined questions that measured personal finance and retirement attitudes and behaviors in the RCS. Each question was measured using a 4-point Likert-type scale, with 1 = not at all, 2 = not too well, 3 = well, and 4 = very well. The 13 questions measured different areas of personal finance and retirement attitudes and behavior. A factor analyses with varimax rotation was used to extract four distinct factors: (a) financial behaviors and attitudes; (b) optimistic retirement attitude; (c) pessimistic retirement attitude, and (d) risk tolerance. These factors were then used as variables in the analysis.

Financial behaviors and attitudes were measured with six items (Items A through F in table 1). A summated index for financial behaviors and attitudes are created by reverse coding items C and F; therefore, higher scores represented positive financial behaviors and attitudes. Possible financial behavior and attitude scores ranged from 6 to 24, with a mean score for respondents of 16.85.

The pessimistic retirement attitude variable was composed of two questions (Item G and H in Table 1). Higher scores represented a more pessimistic attitude toward retirement. Possible scores ranged from 2 to 8. The mean score for this variable was 5.29. Based on the two retirement attitude scales, as a group, it was concluded that the sample had a rather pessimistic attitude toward retirement. The optimistic retirement attitude variable was composed of two items (Items I and J in Table 1). Higher scores represented a more

Table 1.
Financial Behaviors and Attitude Variables: Factor Analyses Findings

	Financial behaviors and attitudes	Component		Risk tolerance
		Pessimistic retirement attitude	Optimistic retirement attitude	
A. I am disciplined at saving.	.727	-.064	.170	.083
B. I pay off my credit cards at the end of every month.	.661	.134	.073	-.164
C. Just when I think I have a handle on my finances, something always happens that sets me back from my financial goal	-.655	.099	.091	.220
D. I always research and plan for a big purchase.	.506	-.216	.012	.133
E. I enjoy financial planning.	.501	-.130	.416	-.079
F. I frequently spend money when I do not plan to buy anything.	-.472	.211	.075	-.226
G. I think preparing for retirement takes too much time and effort.	-.077	.806	-.067	-.001
H. I feel it is pointless to plan for retirement because it is too far away to know what I will need.	-.180	.761	-.011	.115
I. If I just save some money each month, I will be fine in my retirement.	-.067	.086	.753	.064
J. I think anyone can have a comfortable retirement, if they just plan and save.	.108	-.135	.729	-.049
K. I am willing to take substantial financial risk for substantial gain.	.129	.135	.192	-.730
L. I am more of a saver than an investor.	.175	.029	.334	.607
M. I am not willing to take any financial risks, no matter what the gain.	-.035	.302	-.009	.596

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.

optimistic attitude toward retirement. Possible scores ranged from 2 to 8. The mean score was 3.21. The risk-tolerance scale used in this analysis included three questions (Items K, L, and M in Table 1). Items L and M were reverse coded. Possible risk-tolerance scores ranged from 3 to 12, with higher scores representing increased risk tolerance. The mean score was 7.46.

Another psychological process variable used in this study was employer provided financial education. Those who received educational material or seminar information about retirement investing and savings from their employer during the past 12 months (42.7%) were assigned 1 for Employer Education, otherwise 0. Several retirement confidence questions were used to determine what the impact of having a retirement savings program had on retirement confidence. These items are shown in Table 2. Items were measured using a four-point Likert scale ranging from 1 (not at all confident) to 4 (very confident).

Table 2
Retirement Confidence Items

Retirement Confidence Item	Mean (SD)
1. Overall Confidence	2.88 (.87)
2. Doing a good job of preparing financially for retirement	2.93 (.86)
3. Will have enough money to take care of medical expenses when retire	2.65 (.92)
4. Will have enough money to take care of basic expenses during retirement	3.13 (.79)
5. Will have enough money to support retirement, no matter how long I live	2.82 (.85)

Results

Characteristics of the Sample

The mean age of respondents was 43 years old. Slightly over one-half of those included in the study were female (50.1%). The majority of the respondents were Non-Hispanic White/Caucasian (83.3%). The average number of financial dependents was over one per household ($M = 1.52$). Over 60% were married. On average about three people ($M=3.02$) lived in the household. The majority (62.1%) of respondents had less than a college degree level of educational attainment. About two thirds of the respondents (66.8%) had household income less than \$50,000. Slightly more than two-thirds (68.8%) were employed by a for-profit corporation or other institution, while almost one-third (31.4%) worked at a governmental, non-profit organization, or educational/academic institution. Slightly over 20% were self-employed. Overall, the sample resembled the general characteristics of U.S. workers.

Factors Associated with Having a Retirement Savings Program

Results from the logistic regression are shown in Table 3. The model chi-square and goodness of fit test statistics show that the model is acceptable. Those who worked at governmental and non-profit organizations were not significantly different from those who worked for for-profit firms in terms of having a retirement savings program. Self-employed workers were not statistically significantly different from others either. Between the two family environment variables, only household size was statistically significantly related with whether or not someone had a retirement savings program. Specifically, those who had a larger household size were less likely to have a savings program for retirement.

Among the individual differences, respondents who indicated having a savings program for retirement were not statistically significantly different from those who did not have a program in terms of their age, gender, marital status, and ethnicity. However, those who had higher educational attainment levels (i.e., college graduate and higher) were more likely to have a savings program for retirement than those who had lower educational attainment levels. Respondents who had higher incomes (i.e., income of \$50,000 and higher) were also more likely to have a retirement savings program than those who had lower levels of income.

Among the psychological processes, employer provided education and financial attitudes significantly influenced the likelihood of establishing a retirement program. Researchers and educators have historically

stressed the need for and the effectiveness of financial education at the workplace (Bernheim & Garrett, 1996; Brown, 1993; Grable & Joo, 1999; Joo & Bagwell, 2003). However, skepticism has existed regarding whether workplace financial education actually works.

Table 3
Logistic Regression Results on Having a Retirement Savings Program

Variable	B	Odds Ratio
Environmental Influences		
Government/non-profit workers	0.14	1.15
Self-employed	-0.48	0.62
Financial Dependents	-0.02	0.98
Household Size	-0.13*	0.88
Individual Differences		
Age	0.02	1.01
Gender (male = 1; female = 0)	-0.18	0.84
Marital Status (married = 1; otherwise 0)	0.32	1.38
Non-Hispanic White/Caucasian	0.54	1.72
(ETHNIC1)		
Education (Higher than College Degree)	0.99**	2.69
Income over \$50,000	0.62**	1.85
Income Not Reported	0.58	1.79
Psychological Processes		
Employer Education	1.17**	3.23
Financial Behavior and Attitudes	0.13**	1.14
Pessimistic Retirement Attitudes	-0.17*	0.84
Optimistic Retirement Attitudes	0.15	1.16
Risk Tolerance	0.11	1.12
Constant	-3.589**	
Framework Chi-square	107.42**	
Number of cases included in the analysis	537	
% the correct classification	79.5%	
Hosmer and Lemeshow Goodness-of-fit Test	8.36	
Pseudo R-square	0.29	

* $p < .05$ ** $p < .01$

This study illustrates the positive effect between workplace education and retirement savings behavior. Those who received some kind of information from their employer were more likely to have a retirement savings program compared to those who did not receive any information. An individual's financial behaviors and attitudes were also related to retirement planning behavior. As one might expect, those who exhibited proactive/desirable financial behaviors and attitudes toward personal finance were more likely to have a retirement savings program. Pessimistic retirement attitudes were negatively related with the likelihood of having retirement savings program. As the pessimistic attitudes questions measure (I think preparing for retirement takes too much time and effort and I feel it is pointless to plan for retirement because it is too far away to know what I will need), those who are discouraged about retirement planning are less likely to have retirement savings program.

The logistic regression results from Table 3 also offer the opportunity to predict the probability of having a savings program for retirement. Odds ratios are shown in the table. The odds ratio is the number by which one

multiplies the odds of having a retirement savings program for each one unit increase in the independent variable (Menard, 1995). An odds ratio less than one, for instance, means that the odds of having a program decrease for every one unit increase in the independent variable. For example, the odds of having a retirement savings program in place decreases by 12% for every additional household member (the odds of having a program are decreased by .88). The opposite is true for variables with an odds ratio greater than one. The odds of having a savings program increase by over three times when retirement education is provided through the workplace (the odds of having a program are 3.23). A global estimate can be created by using all of the odds ratios together. To do this an individual profile must be developed. For example, consider a Non-Hispanic White married man who works at a for-profit organization, who also has less than a college degree, and household income less than \$50,000. If all the other factors (e.g., financial dependents, household size, age, financial behavior, retirement attitudes, risk tolerance) used in this study are held at the mean level of the sample, one should expect him to have only a 69% probability of having a retirement savings program if he did not receive any financial information from his employer. However, if the same person received some information or education from his employer the predicted probability of having a retirement savings program increases to 88%.

The following equation was used to calculate the predicted probability. For categorical variables, the value of one category, instead of the mean, was used.

$$\text{Prob}(y=1) = \frac{e^{a + b_1 \cdot \text{mean}(x_1) + \dots + b_z \cdot \text{mean}(x_z)}}{1 + e^{a + b_1 \cdot \text{mean}(x_1) + \dots + b_z \cdot \text{mean}(x_z)}}$$

where b=regression coefficient

Assessing the Process Outcome: Retirement Confidence

A further analysis was conducted to answer the question: “What is the effect of having a retirement savings program on retirement confidence?” Table 4 shows the t-test results among the two groups (i.e., those that did and those that did not have a savings program) using the RCS retirement confidence questions. Overall, retirement confidence was higher for those who had a retirement savings program. Specific areas of retirement confidence (e.g., confidence with retirement preparation, medical expenses, basic expenses, and the coverage compare to individual longevity) were also higher for those who had a retirement savings program. Among those who had a retirement savings program, 60% of workers had attempted to figure out how much money they will need to live comfortably in retirement. On the other hand, only 20% of those who did not have a retirement savings program took steps to figure out this critical

figure. Overall, findings from the study showed that those who had a savings program for retirement were more confident about their retirement. To examine the relationship between having a retirement savings program with retirement outcomes, respondents’ retirement saving amounts were compared between the two groups (those who have retirement savings program versus those who does not have retirement savings program). Those who had a retirement savings program tended to accumulate higher amounts of retirement savings.

Table 4
Process Outcome: Retirement Confidence

	Means		T value	Sig.
	Have savings program	Do not have savings program		
Retirement Confidence				
Overall Confidence	3.06	2.42	9.02	
Doing a good job of preparing financially for retirement 4 = very confident	3.16	2.37	11.77	***
Will have enough money to take care of medical expenses when retire 4 = very confident	2.82	2.22	7.88	***
Will have enough money to take care of basic expenses during retirement 4 = very confident	3.30	2.70	9.42	***
Will have enough money to support retirement, no matter how long I live 4 = very confident	2.99	2.41	8.31	***
Have figured out how much will be needed for comfortable retirement 1 = yes, 0 = no	0.60	0.20	9.61	***
Retirement savings amount in \$000's 1=None, 2=< 5 3=5-9.99 4=10-24.99 5=25-49.99 6=50-74.99 7=75-99.99 8=100-149.99 9=150-249.99 10=>250	2.88	5.84	133.56	***

To further examine the relationship between having a retirement savings program and retirement confidence in a multivariate way, a multiple regression was conducted with retirement confidence as a dependent variable with set of independent variables including having retirement program. The dependent variable,

retirement confidence, was obtained by summing answer to five questions (items 1 to 5 in table 4 above). The range of the retirement confidence was 5 to 20, with a 14.44 mean and a 3.65 standard deviation. As shown in Table 5, having a retirement savings program was significantly and positively related to the dependent variable. This confirmed the positive outcome of having a retirement savings on retirement confidence.

Table 5
Relationship Between Savings Program and Retirement Confidence

Variables	B	Beta	t	Sig.
(Constant)	12.196		19.410	***
Retirement Savings Program (1=yes)	2.261	.275	7.763	***
Age	-.028	-.082	-2.379	
Gender (1=Male)	.717	.100	2.969	**
Marital Status (1= Married)	.716	.096	2.556	*
Ethnic Background (1=non-Hispanic White)	.005	.001	0.017	
Education (1= Above College)	.896	.122	3.433	**
Income 1 (1= over \$50,000)	2.034	.276	7.139	**
Income 2 (1= Don't know, Refused)	1.365	.128	3.501	**
Employer (1= Government/non-profit)	.060	.008	0.217	
Self Employed	.209	.019	0.551	
Household Size	-.072	-.045	-1.226	
Number of Financial Dependents	-.076	-.034	-0.933	

F=21.53 (.000), R²=.278
* p < .05 ** p < .01

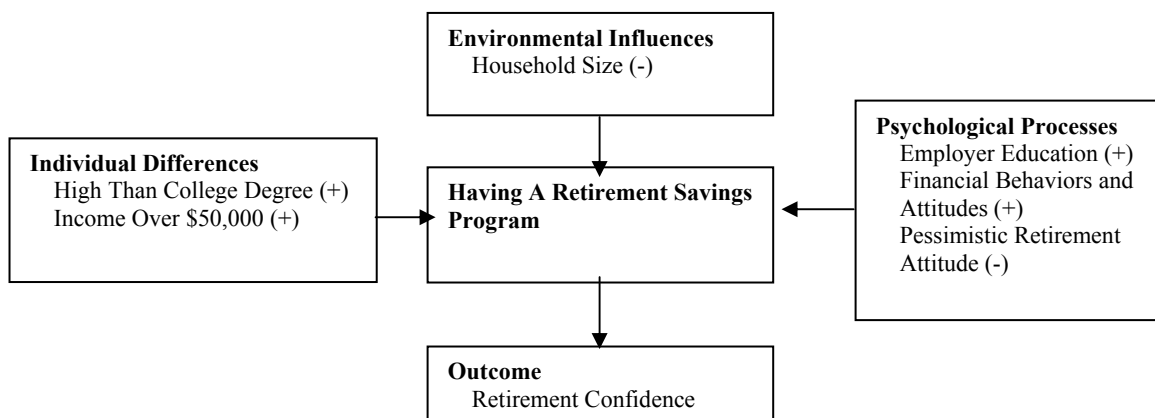
Discussion and Conclusion

One of the most pressing concerns for policy makers, economists, financial counselors, and financial planners involves the retirement preparedness of average Americans, and how policies can be enacted to improve the retirement well-being and confidence of individuals. This research proposed a framework that can be used to explain and examine the likelihood of establishing a retirement savings program and its outcomes. With the framework, an understanding and examination of the process of retirement preparedness can be more effectively accomplished because of the specification of related variables and outcomes.

Findings from this study were used to answer the following research questions posited earlier in the paper: (a) what factors are related to an individual having a savings program for retirement? and (b) what is the relationship between having a retirement savings program and retirement confidence? The first question was answered using results from a logistic regression. Figure 2 shows the framework with the significant factors associated with having a retirement savings program.

In this study, the bigger the household size is, the less likely they were to have a retirement savings program. No other environmental factors were found to be associated with the dependent variable. Two individual differences were noted. First, having a high level of attained education was found to be positively associated with having a retirement savings plan in place. This finding confirms what Zhong (1994) reported. Secondly, those with high incomes were found to be more likely to have a retirement savings program. This finding lends strength to what Li et al. (1996) reported in their study. Also of interest are the factors not associated with having a savings program.

Figure 2
Retirement Savings Framework with Significant Factors



Neither gender nor racial/ethnic background was found to be predictive of the dependent variable. The later finding lends support to Paulin's (1998) conclusion that when factors such as income and family size are accounted for, racial and ethnic differences tend to disappear in relation to consumer expenditures and savings. In other words, there is no reason to believe that savings patterns are linked inherently to racial or ethnic differences.

Three psychological process factors were associated with a person having a retirement savings program. Those that received employer-sponsored education, those that exhibited better financial behaviors and attitudes, and those who are less pessimistic about retirement were more likely to have a savings program. Counter to what has been reported in the literature risk tolerance was found to be associated with having a savings program. The finding that employer-sponsored financial education positively impacts a person having a retirement savings program is significant. Few employers actually provide education at the workplace (Hays, 1999; Power & Hira, 2004), but the evidence suggests that those that do provide education generally find the payoffs to be greater than the costs. At the organizational level, financial and retirement education tends to boost participation in defined contribution plans (Hays; Massena, 1999). This is a benefit not only for employees but employers as well. Employers have a fixed cost associated with retirement plans. The greater number of employees that participate the less costly the plan becomes on a per employee marginal basis. Furthermore, organizations that have a large percentage of highly compensated employees find that increasing retirement plan participation among rank-and-file employees allows executives to contribute more to the plans (Massena).

The finding that employer-provided education influences a person's allocation of assets for retirement and/or saving for retirement has national implications as well. This research conclusion supports the concept that "Sound financial planning and financial advice is necessary to achieve retirement income adequacy" (Power & Hira, 2004, p. 122). Even though "Plan sponsors shouldn't give specific advice on investment decisions," employers ought to be encouraged to provide education on investment risk, inflation, and basic asset allocation strategies (Massena, 1999, p. 81). According to Hays (1999), "the most effective form of communication is retirement-education seminars that bring to life what lies dormant on paper" (p. 108). Power and Hira recommend that employers "develop a plan to inform employees about retirement planning at earlier stages in their careers" (p. 146). Several alternatives exist to provide information and advice.

For example, an employer can provide a forum for product vendors to provide informative workshops, although it should be noted that this type of education is not highly valued (Power & Hira). Other alternatives include hiring financial planners and counselors to provide educational workshops. Planners and counselors typically are seen as more objective than product vendors, which often leads to greater acceptance among employees. Improving in-house communication materials and employee statements is another way to enhance educational outreach efforts. Instead of simply showing an employee their annual contribution and rate of return, more descriptive information, such as the risk taken in the portfolio, can be given. Internet sights can also be used to improve educational activities. At the national level, continued explanation of Social Security benefits and Internet sites which allow users to estimate their benefits may also be effective ways to influence saving behaviors.

Financial counselors and planners are in a unique position to provide employer-based financial education, and in their own way, influence retirement preparedness. For example, financial counselors and planners can help individuals to improve financial behaviors and attitudes by providing education, information, and other services designed to increase peoples' knowledge regarding retirement issues. As the findings from this study suggest, workplace financial education significantly increases the likelihood of having a retirement savings program. Financial counselors and planners can actively participate in the improvement of public awareness towards the importance of workplace financial education by contributing to education initiatives at the workplace.

The second research question asked in this study – What is the relationship between having a retirement savings program and retirement confidence? – was answered using a series of t-tests and multiple regression. It was determined that having a savings program for retirement can be one of the first steps in increasing retirement confidence. To improve retirement well-being and retirement confidence, efforts to increase an individual's participation in a retirement savings program can be effective. Financial counselors and planners can play an important role in improving retirement well-being through (a) financial education via different settings, including the workplace; (b) research efforts to specify frameworks that can be used by practitioners; and (c) outreach efforts to increase public awareness of the importance of retirement issues.

In many ways, the results from this study simply confirm what some in the financial counseling and planning profession have known for years, namely, savings behaviors are influenced by a number of diverse factors. While this research confirms many long-held notions, the results diverge from concepts commonly accepted as true in two respects. First, individual differences such as age, gender, and racial/ethnic background were not found to be significantly associated with a person having a retirement savings program. This is probably the result of the distinctive analysis approach used in this study. The inclusion of environmental factors, such as household size and number of dependents, along with income, marital status, and psychological process variables is something that other studies typically lack. This mix of variables, driven from the Retirement Savings Framework, may account for common demographic variables not being significant (Paulin, 1998).

Second, the finding that employer-sponsored education makes a significant impact on retirement savings programs is counter to what some may believe. The debate about the usefulness of employer-sponsored education has become more intense as policy makers grapple with ways to enhance the retirement preparedness of Americans. The findings presented here suggest that one way to increase savings for retirement is to encourage education in the workplace. What is needed next in relation to this important insight is continued study of the factors that impact the likelihood of establishing a retirement savings program. Further research will help confirm whether or not the framework presented in this paper is grounded both theoretically and empirically.

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