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Attitudes Towards Immediate Annuities

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ATTITUDES TOWARD IMMEDIATE ANNUITIES

by

Devon K. Robb

A thesis submitted in partial fulfillment
of the requirements for the degree

of

MASTER OF SCIENCE

in

Family, Consumer, and Human Development

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ABSTRACT

Attitudes Toward Immediate Annuities

by

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Utah State University, 2010

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Retirement security for Americans is one of the most critical public policy and personal financial issues and will be for decades in the future. Individuals that retire today can live an additional 30 or even 40 years with less secure income as corporations shift to defined contribution plans to fund retirement. Based on the life cycle savings hypothesis, immediate annuities should be appealing to retirees because they insure against the risks of outliving retirement assets by converting funds into a lifelong stream of income. However, research has found that retirees are reluctant to annuitize their wealth. This study examined the attitudes of Utah State University employees toward annuitization of retirement assets and explored the relationship between employee characteristics and their attitudes toward immediate annuities.

Data for this study were collected through an online questionnaire emailed to Utah State University employees who participate in a defined contribution plan. The

survey gathered information on retirement portfolio losses, expected longevity, financial confidence, familiarity with annuities, and attitudes toward immediate annuities. A total of 744 individuals answered the survey for a response rate of 43.2%.

Based on the results of independent t tests, there were statistically significant differences between the attitudes of women and men toward immediate annuities. Women held more positive attitudes toward immediate annuities than men, and women who had taken a retirement planning class had more positive attitudes than women who had not attended a retirement class. In contrast, men who had attended a retirement class expressed less positive attitudes toward immediate annuities than men who had not. Male overconfidence in their investment knowledge and skills may explain this finding.

A Pearson correlation coefficient revealed a negative correlation between risk aversion and attitudes toward annuities. As investment risk tolerance decreases, attitudes toward immediate annuities become more positive. An analysis of variance found that individuals with longer than average life expectancies had more positive attitudes toward immediate annuities than subjects with shorter than average life expectancies. Surprisingly, individuals who claimed to be most familiar with immediate annuities showed the least positive attitudes toward annuities.

Income and assets, marital status, and financial confidence were not statistically significantly related to attitudes toward annuities. Implications for consumers, financial professionals, educators, and policymakers were drawn from the results of the study.

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CHAPTER I

INTRODUCTION

Retirement planning research has focused on the accumulation of assets and wealth, such as how much to save and invest, portfolio allocation strategies, and the advantages of tax-deferred accounts. Such research is important because without wealth accumulation, many individuals would not be able to sustain their standard of living after leaving the work force (Brown, 2008). However, this focus on wealth accumulation represents only a portion of an individual's retirement well-being. As a result of the aging and retirement of the Baby Boomers, research has shifted to include asset decumulation strategies and retirement well-being, such as protecting savings from market volatility, converting investments to income, and ensuring that individuals do not outlive their nest eggs (Prudential Financial, 2009). Finding realistic and sustainable ways to ensure accumulated savings last over a potentially long retirement is one of the biggest challenges retirees face.

Retirement Concerns

Retirement security for Americans is one of the most critical issues in the financial markets and will be for decades in the future. Recent studies reflect a growing concern for Americans and their retirement well-being. In 2010 VanDerhi and Copeland reported findings from the Retirement Confidence Survey that 47.2% of the oldest boomers are "at risk" of not having sufficient retirement assets to pay for basic consumption. The percent for younger boomers drops to 43.7 but increases slightly for generation X at 44.5. Munnell, Webb, and Golub-Sass (2009) came to similar

conclusions in the National Retirement Risk Index indicating that 41% of early boomers are at risk for not having enough retirement assets; 48% of younger boomers are at risk, while the percent of Generation X at risk is 56%.

Not only are most Americans not saving enough for retirement, but they are living longer than ever before, and most individuals do not know or underestimate how long they are likely to live. On average, today's 65-year-old men and women are expected to live an additional 18.7 years (17.1 years for males and 20 years for females); over 17% of 65-year-old men and over 31% of 65-year-old women are expected to live to age 90 or beyond (Centers for Disease Control, 2009). Because of growing life expectancy, retirees will experience periods of retirement that could extend for three decades or more.

The United States is in the midst of important transitions in the way individuals fund retirement. While most retirees continue to receive a regular source of guaranteed income from Social Security, there have been recent calls for reform. If these proposals are adopted, it would mirror the corporate shift of replacing defined benefit pension plans with self-directed defined contribution plans. Employer sponsored pensions, or defined benefit plans, have provided retirees with a secure source of retirement for life based on the employee's salary and length of service. During the early 1980s, an important shift occurred from defined benefit plans to defined contribution plans. During 1992-93, 32% of workers participated in a defined benefit plan, while 35% participated in defined contribution plans. By 2005, the number of employees participating in defined contribution plans increased to 42% while the number participating in defined benefit plans fell to 21% (Costo, 2006).

The emphasis for defined contribution (DC) plans has been on the accumulation

phase of retirement planning, focusing on account balances. However, there has been little attention paid to the fact that account balances need to generate future income for 20 to 30 years (Prudential Financial, 2009). Although defined benefit plans (DB) and defined contribution (DC) plans differ in many ways, one of the most important differences is the method of distributing retirement income from those accounts. Social Security and most traditional DB plans provide a life annuity providing a guaranteed lifetime income. Most DC plans now offered to workers do not offer an annuitization option and few workers that have that option choose to annuitize (Yakoboski, 2009). Despite these advantages, retirees have been reluctant to purchase immediate annuities.

Risks Facing Retirees

As the retirement landscape shifts to self-directed, defined contribution plans and as the age to receive Social Security benefits increases, it is crucial to understand the other risks that retirees face. The first is longevity risk, or the risk that an individual will live beyond their expected life span and run out of money. *The Washington Post* recently reported on Larry Haubner, a 107-year-old man who has outlived his retirement savings... twice. When his bank account dwindled, worried supporters and friends launched a website to solicit donations (Brown, 2009). Many Americans risk either spending retirement assets too quickly or living past their expected longevity and are, therefore, at risk of outliving their savings. One way to solve longevity risk is for retirees to consume their retirement savings very conservatively to ensure they will never run out of money. However, this approach exposes individuals to the risk that they will live too

frugally and die with substantial wealth. The unconsumed wealth represents lost consumption and a decrease in their standard of living (Brown, 2000; Yakoboski, 2009).

Somehow, retirees need to plan a path between these two major pitfalls. Two-thirds of Americans ages 21 to 64 in a recent Prudential Financial study (2010) expressed a concern about a need for help in generating a guaranteed lifetime income. Fortunately, there are financial products that can help retirees protect themselves from these risks. In particular, an immediate annuity is an insurance product that pays income that can last for life in exchange for an up-front premium (Brown, 2000).

The primary appeal for an immediate annuity is that it offers retirees the opportunity to insure against the risks of outliving their retirement assets by converting their assets into a lifelong stream of guaranteed income. The annuity provider uses the assets of those who die sooner than expected to pay those who live longer than average. The income generated from an annuity can exceed the income generated from investments (Brown, 2000). Immediate annuities cannot solve the problem of Americans “at risk” from not having enough in retirement but can ensure they do not outlive their retirement assets.

Need for Study

DeVaney (2008) explained the need to study retirement income strategies considering that retirees can live an additional 30 or even 40 years in retirement. With retirement systems changing to defined contribution plans, one of the most important challenges for future retirees is how to withdraw their accumulated retirement savings. Some DC plans offer employees the option to convert their balance into an annuity upon

retirement. Mitchell (2000) found that only 27% of full-time participants had this option in 1997, down from 34% in 1993. Hurd and Panis (2003) reported that only 7% of the Health and Retirement Survey respondents who retired from their jobs with a DC plan converted their balance into an annuity.

Using the Health and Retirement Survey (HRS), Panis (2004) found that satisfaction in retirement was positively influenced by health and financial resources. Individuals who relied heavily on Social Security for income were less satisfied with retirement and showed greater signs of depression. Individuals with lifelong guaranteed pensions were more satisfied with retirement and reported fewer signs of depression than those without pensions. In addition, satisfaction among those who did not have a DB plan or an annuity tended to decline the longer they were retired. In contrast, satisfaction for those with a DB pension or annuity reported constant happiness during retirement. Panis (2004) concluded that guaranteed income benefits reduced the risks of outliving assets and ending up in poverty which could reduce the stress and worry about retirement.

The retirement system for faculty and professional employees at Utah State University is a defined contribution plan through TIAA-CREF. Until 1989, retirement savings could be used only to purchase an immediate life annuity. Since then, several other payout options have been available to retirees. Ameriks (2002) explored the impact of this broadened choice and discovered two major trends. Many retirees postponed the decision to take any form of income from their retirement savings and among those to receive an income, the life annuity significantly declined in popularity.

Purposes of the Study

Because research indicates that immediate annuities are an important financial product for avoiding longevity risks for retirees, this study examined the attitudes of faculty and professional employees at Utah State University toward annuitization of retirement wealth. A second purpose was to explore differences in attitudes toward immediate annuities between employees who have attended a retirement class and those who have not.

Hypotheses

1. The more risk averse an individual is, the more positive will be their attitudes toward immediate annuities (Agnew, Anderson, Gerlach, & Szykman, 2008a; Mitchell, 2001).
2. Women will have more positive attitudes toward immediate annuities than men (Agnew, Anderson, Gerlach, & Szykman, 2008b).
3. Married individuals will have less positive attitudes toward immediate annuities than single individuals (Brown, 2008; Dushi & Webb, 2004).
4. Individuals with longer than average life expectancies will have more positive attitudes toward immediate annuities (Brown, 2008; Drinkwater & Sondergeld, 2004).
5. The higher the financial confidence level of the individual, the less positive their attitude toward annuitizing their retirement assets (Agnew et al., 2008a).
6. Higher income individuals will have more positive attitudes toward annuitizing some of their retirement assets (Gardner & Wadsworth, 2004).

7. Employees who have taken a retirement planning class will have a more positive attitude toward immediate annuities than those employees who have not attended a class.

Objectives of the Study

The objectives for this study were to determine attitudes of USU employees toward immediate annuities and to determine if their attitudes have changed as a result of the investment market crash of 2008-09. Further objectives of this study were to examine employee attitudes toward annuitizing their wealth.

Another objective of this study was to examine the relationship between employee demographics and their attitudes toward annuities. These attitudes were expected to differ based on the following characteristics: (1) risk tolerance, (2) financial confidence/self-efficacy, (3) gender and marital status, and (4) longevity.

Contributions of the Study

One of the contributions of this study is the time period when the data were collected, following the global economic crisis of 2008-2009 and the resultant investment losses. Prior research on attitudes toward annuities was conducted when investments were increasing in value. One of the assumptions behind this study is that recent widespread investment losses would influence employee's attitudes toward annuities to be more positive.

Another contribution of this study is examining whether a financial course taught to employees can influence their attitudes toward annuities. It is becoming more

common for employers with a defined contribution plans to provide financial education for employees, where workers must make their own decisions regarding retirement investing. An important question is whether these courses have any effects on workers' financial behavior. A few studies have looked at the effects of financial education on saving behavior and contributions to funds. There is some evidence of the positive effect financial education can have on employees, but the form of education seems to matter. Retirement seminars seem to be effective; however, they affect only certain aspects of behavior. Bernheim and Garrett (2003) found financial education stimulated retirement savings among low and moderate savers, while Lusardi (2004) reported that financial education led to strong total net worth increases, especially among families at the bottom of the income distribution and those with lower education levels.

A study by Clark, d' Ambrosio, McDermed, and Sawant (2006) examined the impact financial education seminars had on the desired retirement age and expected retirement incomes. The study found that participants reported they would change their retirement saving behavior based on knowledge learned from a retirement seminar. The results from their study also indicated that women were more responsive than men to financial education programs.

Theoretical Framework

The life cycle hypothesis of savings provided the framework to understand respondent's attitudes toward annuitization. The life cycle hypothesis of savings analyzed individual's consumption patterns throughout life. The life cycle model has been used extensively to explain how individuals make retirement-related decisions by

smoothing consumption across working and retirement years. The theory assumes that an individual will seek to balance their lifetime stream of earnings with a lifetime stream of consumption at different stages of their life cycle. The theory also assumes that the individual was born without an inheritance and will die without leaving a bequest. Therefore, younger individuals will borrow against future income to finance consumption, purchase housing, and to obtain education or other human capital skills. While earning higher incomes in middle age, individuals can pay down their debts and save for retirement. Finally, older individuals in retirement who have less earned income are expected to spend down their lifetime savings (Ando & Modigliani, 1963). Therefore, an immediate annuity fits the life cycle hypothesis by ensuring assets will last while not leaving excess funds at death.

CHAPTER II

REVIEW OF LITERATURE

Withdrawal Strategies Overview

The review of literature is divided into two main sections regarding retirement decumulation strategies. The first section includes research on the role immediate annuities play in generating lifetime income from retirement accounts. Also included in this section are decisions to annuitize a portion of retirement assets and the annuity puzzle. The second section describes the characteristics of those who choose to annuitize. The third section discusses research findings about sustainable withdrawal rates. These findings will lead to the hypotheses regarding attitudes toward immediate annuities and how individuals plan to convert retirement assets into income.

Immediate Annuities

Until recently, most of the research on optimal retirement withdrawal strategies focused on asset allocation and accumulation strategies. However, researchers have recently studied the impact annuities can have on asset allocation and optimal withdrawal rates. Reichenstein (2003) investigated the likelihood of a one million dollar portfolio lasting 30 years while withdrawing \$45,000 each year adjusted to inflation. He used investment data from 1971 to 2000 and three asset mixes: a balanced fund without annuities, a growth fund with 25% used to purchase an annuity, and an aggressive growth fund with 50% allocated to annuities. Reichenstein concluded that the longer an individual lives, the greater the longevity risks and the higher probability that an

extended portfolio will fail. If the annuitant dies by age 80, the immediate family will have a smaller inheritance. However, when an extended portfolio fails, the burden for a family is smaller with an annuity than without (Reichenstein, 2003).

Spitzer (2009) used a bootstrap simulation to estimate the probability of outliving a retirement portfolio when tax-deferred accounts are annuitized. Spitzer found that purchasing an annuity reduced the risk of running out of money to zero for a 30-year retirement. Also, the annuity payout in this scenario was 4.3%, providing more annual income than the maximum 4% withdrawal recommendation without an annuity. However, annuitization affected the estate size remaining after 30 years, decreasing the median estate by 8% to 19%. Spitzer concluded that annuitization may be more attractive to retirees who do not intend to leave a substantial inheritance.

In order to demonstrate the potential for higher income in retirement, Brown (2008) compared a TIAA annuity with three other decumulation strategies. In January 2008, a single premium of \$100,000 used to purchase a TIAA annuity would provide \$7,240 of annual income to a 65-year-old for life. One strategy called “self-annuitization” shows that the same individual who places \$100,000 in a non-annuitized account earning a market rate of interest and consuming the same \$7,240 annual income would run out of money around age 85 (Brown, 2008). Another strategy Brown modeled is to invest one’s wealth at market interest rates and spread the wealth out evenly or “amortize” over 35 years. When comparing this strategy with the annuity, two features stood out; this approach provided an annual income 28% lower and still imposed some risks if the individual lived beyond 100 years. The third strategy, “one-divided-by-life-expectancy,” is a more sophisticated method used by the IRS for meeting minimum

distribution requirements from qualified pension plans. This strategy divides total wealth by the IRS estimate of the individual's remaining life expectancy. The IRS assumption of remaining life for a 65-year-old is 21 years, so the individual would consume 1/21th, or 4.75% of their wealth; as the remaining life expectancy declines with age, the percent of remaining wealth consumed would rise. In this example, the income stream is lower than the annuity and is not sustainable; falling to less than half of the annuity amount when the person reaches their early 90s (Brown, 2008).

Although immediate annuities can help reduce longevity risk in retirement, retirees are reluctant to purchase them. Goodman and Heller (2006) explained that a life annuity is created to maximize income payable to retirees. Their study also showed the impact of deferring annuitization and calculated the impact of delaying purchasing annuities during rising interest rate periods. Comparing systematic withdrawals from a retirement portfolio with a life annuity, a retiree has a greater risk of outliving their income with the withdrawals strategy. The life annuity also maximized income; since retirees want to be certain not to outlive their income, they would have to plan withdrawals lasting longer than their life expectancy (Goodman & Heller, 2006).

Furthermore, Goodman and Heller (2006) wanted to identify the best time to purchase an annuity. Assuming no significant changes in interest rates, a five year delay from age 65 to age 70 resulted in a 5% loss in future income while a ten year delay resulted in a 15% loss in future income. However, if interest rates are almost certain to increase in the near future, there would be good reason to postpone purchasing an annuity for at least a few years. This strategy depends on how much and how fast interest rates increase and the real rate of return on the life annuity. Brown (2008) explained that

purchasing an annuity is not an “all or nothing” or a “now or never” decision. Retirees could spread their annuity purchases over time to compensate for inflation and smooth annuity payout rates over periods with interest fluctuations.

Lankford (2010) described strategies to utilize annuities to provide a guaranteed lifetime income. One major risk with fixed monthly annuity is the loss of purchasing power over the years with inflation. Laddering annuities is the strategy of purchasing an annuity at retirement with a portion of one’s assets and then again several years later. Waiting to purchase an annuity increases the monthly income since the annuitant will have a lower life expectancy as they age.

The Decision to Annuitize

Brown (2008) suggested that the amount to annuitize will vary from person to person; a natural starting point is to fill gaps between guaranteed income and expenses. On a monthly basis the gap is defined as: *Monthly Income Gap = Guaranteed Monthly Income – Essential Expenditures*. Guaranteed monthly income includes Social Security, pensions, or other reliable income sources. Essential expenses include any expenditures that an individual feels is necessary to maintain a comfortable standard of living or the “basics.” After calculating expenses and anticipating increases due to inflation, a life annuity could be purchased to fill the income gap.

Prudential Financial (2006) proposed a similar approach using a two-step method. The first step is ensuring a guaranteed “paycheck,” or annuity to meet basic income needs. After basic needs are met with a safe regular income, investors can take a less conservative approach with their remaining assets. A more aggressive asset allocation

for the remaining funds can improve long-term success rates from 63% to 70%.

Combining an immediate annuity with a more aggressive asset allocation improved outcomes more than either an annuity solution alone or a more aggressive asset allocation strategy alone (Prudential Financial, 2006).

The “Annuity Puzzle”

Research has demonstrated that annuities can eliminate income uncertainty related to longevity risk. However, the overall annuity market remains small compared to economic model predictions. Researchers have called this “the annuity puzzle” (Agnew et al., 2008a).

Until recently, studies about the annuity puzzle have focused on identifying rational reasons why individuals are reluctant to purchase an annuity. For example, researchers have suggested that private market annuities are too expensive either because of high costs or adverse selection (individuals who live longer tend to purchase annuities). Yet, Mitchell (2001) and Brown (2007) showed that in the US, price loads are relatively low and appear to be falling over time. Another rational barrier that fails to explain the annuity puzzle is bequest motives. Brown (2007) summarized past theories on bequests and concluded that they still cannot explain the limited annuity market. Researchers have now turned to psychological theories and behavioral factors that may influence the demand for annuities.

Researchers have begun to study the effectiveness of positive or negative framing on the purchase of annuities (Agnew et al., 2008a). Positive framing focuses on the positive outcomes for following the suggested behavior. For example, purchase of a life

annuity will guarantee income for the rest of my life. In contrast, negative framing focuses on losses resulting from not following a recommended behavior (i.e., if I don't purchase an annuity, I may outlive my retirement savings).

Agnew et al. (2008b) determined the strength of negative framing on the annuity market and addressed whether a financial advisor could unknowingly employ negative framing when suggesting the purchase of fixed annuities. Their study used a "retirement game" where participants were given \$60 and asked to choose either an annuity or to invest the money in a split between an equity market and a risk-free asset. Participants could play up to six rounds of the game, a dice was rolled to determine lifespan, and each had the potential to earn \$100 for each period they survived. Before they made their choice, participants were shown one of three different five minute slide shows. The first video highlighted the negative features of an investment option and provided the annuity as the solution to avoid drawbacks. The second highlighted negative aspects of the annuity option and provided the investment option as the solution to overcome drawbacks. The third video favored neither option and was neutral (Agnew et al., 2008b).

This study suggests that negative framing can be very effective in influencing investment decisions. Women who saw the investment presentation were 16% less likely to invest in the annuity than women who viewed the neutral presentation. However, the pro-annuity option did not have a significant effect on women. Above-average financial literacy made women more likely to choose the investment option. For males, both biases had a significant impact on their choice of annuity or investment compared to the neutral option. Men were 14% less likely to choose an annuity after watching the

investment presentation and 21% more likely to choose an annuity after watching the annuity presentation.

Brown, Kling, Mullainathan, and Wrobel (2008) studied natural biases to wealth decumulation and the importance of framing in retirement decisions. In order to test the hypothesis, various scenarios were used; some represented annuities and others non-annuitized products. Some individuals were presented the scenarios using an “investment” framework, with words such as earnings, invest, and describing periods in terms of years, while others were presented with scenarios in a “consumer” framework which used words like spend, payment, and describing periods in terms of the purchaser’s age. The consumer scenario shifts the frame; instead of considering the returns on the investment, individuals were presented with consumption consequences of the investment (Brown et al., 2008). When questions were presented in the consumption frame, the majority of individuals preferred the stream of income consistent with a life annuity compared to consumption streams available from other products. In contrast, the majority of individuals presented with the same choices in the investment frame did not choose the life annuity. Only 21% preferred the account similar to a life annuity, instead choosing to invest \$100,000 at 4% return (Brown et al., 2008). The majority of subjects (76%) preferred an annuity over alternative products when presented in a consumer framework, whereas the majority of individuals prefer non-annuitized products when presented in an investment framework. The investment framework is the dominant frame of reference for consumers when making retirement financial decisions which helps to explain why so few individuals purchase annuities. Annuity providers can use consumer framing in order to encourage consumers to purchase annuities as a part of their

retirement planning (Brown et al., 2008).

Other theories have been used to study reluctance to annuitize retirement assets. Turner (2010) investigated the role of free retirement planning software in the promotion of annuities. He used 25 free retirement planning software programs to analyze two different scenarios: the first scenario was constructed in favor of annuitization or partial annuitization while the second scenario was constructed so that purchasing an annuity would not be desirable. Based on the pro-annuity scenario, only one retirement planning program recommended annuitization. Three programs recommended annuities in all of the scenarios, regardless of the facts entered. Turner concluded that another reason why individuals may not choose to annuitize is they are not advised to do so by online retirement planning software programs.

Is It Time for Annuities?

The Financial Planning Association conducted a study to determine financial advisors' attitudes toward various annuity products and how likely they were to recommend them for clients. The findings reported by Schulaka (2010) revealed that deferred variable annuities (77%), immediate fixed annuities (60%), and deferred fixed annuities (57%) were their most popular types of annuities. Financial advisors also recommended annuities to help clients reach their goals (95%) and to protect their client's assets (57%). As a result of the financial crisis that began in 2007, about one-third of advisors said they changed the way they viewed annuities and now are more likely to use or recommend annuities than before the financial crisis. This change in attitude illustrates that financial advisors could be realizing the important role that

guarantees play in retirement plans for their clients (Schulaka, 2010).

When asked why they recommend annuities, 75% of the financial advisors answered to generate income, 70% responded to provide clients with peace of mind, and another 65% stated to provide clients guarantees, such as minimum withdrawal or minimum accumulation amounts. Also, when asked why they do not recommend annuities, 81% of financial advisors answered that clients' goals can be achieved by using other products, 68% responded they cost too much, and 24% said they are too complicated (Schulaka, 2010). Further, 82% of financial advisors said they would only recommend annuities to specific types of clients. Seventy-eight percent of financial advisors said risk adverse clients are the most suited for an annuity, followed by married couples (68%). Next, clients with a net worth of \$500,000 to less than one million were suited for annuities. Finally, 56% of financial advisors agreed that annuities were suitable for those with no pension; 52% said those with inadequate Social Security payments would benefit, and 45% said those living on a fixed income should consider an annuity (Shulaka, 2010).

Risk Aversion and Gender

According to several studies, demographic variables such as age, gender, and race affect an individual's degree of risk aversion (Jianakoplos & Bernasek, 1998; Halek & Eisenhauer, 2001). Of all these variables that influence risk aversion, gender has been one of the most widely studied due to the overall lower financial security levels for women compared to men. For example, women are more likely than men to be in poverty in their older age and have longer life expectancies. In general, women have

been found to be more risk adverse than men (Jianakoplos & Bernasek, 1998).

Using survey data on wealth invested in risky assets, Jianakoplos and Bernasek (1998) found single women to be more risk averse than single men. Their results found that over most age ranges, single women hold smaller proportions of risky assets compared to single men and married couples. Others studies have investigated mutual fund investing and found that women invest less money and invest into fewer securities compared to men (Dwyer, Gilkeson, & List, 2002). However, the impact of gender on risk taking decreases when investor knowledge of financial markets and investment is controlled in regression equations (Dwyer et al., 2002).

One explanation for why women are more risk averse is because women are less confident in their investment decisionmaking than men. Men consider themselves to be more knowledgeable in investing, and also tend to be overconfident about their financial decisionmaking abilities (Barber & Odean, 2001). For example, men trade stocks more frequently than women, and men's performance is hurt due to excessive trading. Women place more thought into investing than men which results in lower trades and produces higher rates of return (Barber & Odean, 2001).

Because women are more risk averse and tend to be less financially literate than men, researchers have found that women are more likely than men to choose annuities (Agnew et al., 2008b). Agnew et al. also found that risk adverse individuals (women) are more likely to choose the annuity option while more financially literate individuals (men) were more likely to choose the investment option. The preference for the investment option for men may have been driven by familiarity and also higher financial literacy scores or male overconfidence in their abilities to invest.

Confidence in Retirement

The AARP/ACLI (2007) study asked near retirees how confident they were that they will be able to manage their savings and investments to last the rest of their life/spouse's life. Fully 56% of males were very confident that they could manage their savings to last the rest of their life while only 32% of women were as confident. Married persons were more confident than singles with 48% of married respondents being very confident compared to only 38% of single individuals. Individuals with higher household incomes (\$75,000 or more) were more likely to be very confident (58%) than \$35,000-\$74,999 (41%) and respondents with less than \$35,000 income (37%). Also, individuals who retired before 60 years of age scored higher on confidence levels (52%) than those who planned to retire between ages 60-64 (46%) and 65 or later (33%).

Marital Status

Until recently, previous studies regarding annuities have focused on the value of annuitization for individual consumers. Brown and Poterba (2000) explained two reasons for differences in annuity valuation for married couples compared to single individuals. First, a couple's joint life expectancy is much longer than the life expectancy of a single individual and second, couples may have different consumption needs in retirement, especially when one member of the couple dies.

Few researchers have recognized the importance of studying couples rather than individuals. Among the first, Kotlikoff and Spivak (1981) focused on the demand for individual annuities by married couples rather than single individuals. Their study

showed that the benefits for married couples purchasing individual annuities were smaller than for single individuals. However, Kotlikoff and Spivak did not consider the demand for joint life annuities among married couples. Another study (Hurd, 1999), investigated optimal consumption patterns by married couples when faced with uncertain life expectancies. Hurd found consumption patterns depended on the couple's level of annuity income, but did not explore the demand for annuities among married couples.

Married couples play a central role in the demand for annuities in private markets especially with the rise in defined contribution plans since they represent a large portion of the population. Brown and Poterba (2000) explored married couples' demand for joint life annuities and the potential value that couples could gain from annuitization. Considering important characteristics as couples such as joint consumption, interdependent utilities, and mortality rates, the researchers found the utility gain from annuitization is smaller for couples than single individuals. Another study by Brown (2001) also found couples are less likely to annuitize than single individuals because married couples are able to pool mortality risks.

Life Expectancies

The primary purpose of an immediate annuity is to protect an individual against the risk of outliving their financial resources. Prior research has shown that the value of annuities should be high for risk adverse individuals with an uncertain date of death (Yaari, 1965). Further, researchers have found that individuals who anticipate living longer are more likely to purchase an annuity (Petrova, 2003). Yet, there is poor understanding on how health status influences the demand for annuities.

Turra and Mitchell (2004) showed that the insurance value of a life annuity may be smaller than previous studies have reported, especially when factoring in health and health care costs. Their findings suggest that differences in health and anticipated health care expenses may explain why so few retirees annuitize at retirement. A life annuity priced using annuitant mortality rates showed that an individual with health problems could expect lower payouts below the fair market value of an annuity. Also, by using a life-cycle model, annuities were less valuable to individuals facing uncertain out-of-pocket medical expenses in retirement.

In a similar study Brown (2001) used a life cycle model to construct a value-based measure for annuities and health status. The study found a pattern that individuals who claimed to have excellent, very good, or good health are more likely to annuitize than those in fair or poor health. However, most of these variables were not statistically significant except for one. The difference for those indicating poor health statuses was significant, suggesting that an individual with poor health is 30% less likely to annuitize. Brown (2001) concluded that health status does affect annuitization decisions for those in the lowest health distribution.

Income Levels

With recent debate about possibly mandating partial annuitization of DC plan assets and proposed pension reforms, Gardner and Wadsworth (2004) explored consumer attitudes toward annuitization in the United Kingdom. A sample of 3,511 respondents close to or already in retirement was polled about their willingness to annuitize and preferred timing of annuitization. Results were analyzed according to different

demographic characteristics of the respondents. Those with poorer education, incomes, and health were more likely to oppose annuitization. Factors, on the other hand, that showed a strong relationship with willingness to annuitize included: good health, better education, and higher income.

Retirement Planning

Defined contribution plans have become the dominant way for individuals to save for retirement. The responsibility of investing for retirement now rests primarily on workers themselves since they must decide to save, how much to save, and how to invest. Recent studies have shown that many individuals have limited knowledge of financial markets, risks associated with certain assets, and how much they need to save to achieve their retirement income goals (Lusardi, Mitchell, & Curto, 2009).

The need for financial education has never been greater. Bernheim (1998) questioned whether typical households have enough financial literacy to make appropriate retirement savings decisions. Recognizing this lack of financial literacy, many companies have begun to offer retirement planning education to their employees. One study suggested that after completing a financial education program, individuals are likely to reevaluate their plans for retirement, saving, and consumption (Clark et al., 2006).

Clark and d'Ambrosio (2008) have contended that financial education should become a national priority as baby boomers start to retire. They suggest pre-retirees should learn more about how to decide when to start taking Social Security benefits and about annuitizing some or all of their wealth upon retirement. In addition, pre-retirees

should develop plans on how to manage their assets during their retirement years. However, little empirical evidence exists on how financial education seminars affect investor's knowledge and attitudes toward immediate annuities.

Sustainable Withdrawal Rates

The sustainable withdrawal rate is another decumulation method that is a thoroughly researched approach to retirement spending. This rate is defined as the maximum percentage of a retirement portfolio that can be withdrawn each year without exhausting the assets before a specified retirement horizon (typically 30 years). Although research has focused on identifying the optimal withdrawal rate, as each individual's circumstances are unique and investment returns are unpredictable, no study can provide the universal answer. Research on sustainable withdrawal rates addresses two main factors that influence retiree's retirement income: asset allocation and withdrawal rates. Asset allocation will affect a retiree's portfolio risk and rate of return. More money in stocks compared to bonds can keep a retirement portfolio growing ahead of inflation but at the risk of higher volatility and potentially larger losses. Much of the literature searches for the optimal allocation and withdrawal rates (Salter & Evensky, 2008; Spitzer, Strieter, & Singh, 2007).

In a series of articles beginning in 1994, Bengen (1994) calculated the sustainable withdrawal rate for a retirement portfolio by using actual historical investment performance and inflation rates from 1926 through 1992. According to Bengen, an initial withdrawal rate of 4%, adjusting subsequent withdrawal amounts for inflation, proved to be the "safest" rate with an asset allocation of 50/50 stocks and bonds based on a 30 year

period. Holding a smaller percentage of stocks (0 to 25%) shortened the longevity of the portfolio; however, holding more than 75% stocks was counterproductive and placed too much risk on the retirement portfolio (Bengen, 1994).

Bengen (1997) expanded on previous research by adding small-cap stocks and treasury bills to the asset mix as well as using quarterly retirement dates and quarterly returns. The author notes that, excluding the Great Depression, quarterly returns produced the same effect on retirement portfolios as annual returns. The addition of small-cap stocks to the asset mix raised withdrawal rates to 4.3%. Adding treasury bills could replace intermediate-term government bonds without a serious effect on withdrawal rates. However, replacing stocks with treasury bills had a deteriorating effect on the withdrawal rate (Bengen, 1997).

Most research after Bengen (1994) typically focused on using actual historical investment performance, 30 years as the time period for retirement, and different types of equity/bond mixes (Ameriks, Veres, & Warshawsky, 2001; Stout & Mitchell, 2006). Kennedy, Nash, and Bonno (1998) assumed a “worst case scenario” approach by using data from 1966 to 1995 since the returns, losses, and inflation rates represented both historical highs and lows. Six equity, bond, and fixed interest portfolios showed that an all-equities portfolio did best to sustain the initial investment balance, although a diversified portfolio did much better in periods of market decline. Their research also showed the importance of rebalancing funds during retirement in order to maintain the initial asset allocation for as long as possible (Kennedy et al., 1998).

Guyton (2004) incorporated six asset classes into his study of optimal withdrawal rates, including: large cap value, large cap growth, small cap value, small cap growth,

international equities, and real estate investment trusts. One of his major contributions were the rules he employed to build the retiree's investment portfolio which raised the withdrawal percentage: the first year's withdrawals were placed in cash, and other assets were allocated at target allocation into two categories: 65% or 80% equities. Guyton also employed portfolio management rules including equities with a positive return sold to fund withdrawals, and portfolio withdrawals which were funded from (1) cash from rebalancing, (2) remaining cash, (3) remaining fixed income assets, and (4) remaining equity assets in order of the prior year's performance. No withdrawals were taken from an equity asset class following a negative return so long as cash or fixed income assets were sufficient. Guyton's (2004) withdrawal rules included no increase in withdrawals following a year in which total return was negative, with no make-up increases, and maximum inflation increase was 6%, with no make-up increases. Following these rules, Guyton concluded that a retiree can maximize their withdrawal stream over 40 years; the initial withdrawal rate for the 65% equity portfolio was 5.8% and for 80% equities was 6.2%. However, if the retiree's goal was to maintain the portfolio's original purchasing power, the optimal rate became 4.8% for 65% equities and 5.3% for the 80% equities portfolio (Guyton, 2004).

Many financial companies promote the 4% withdrawal rate and provide financial calculators on their websites. Bruno and Jaconetti (2009) from the Vanguard group endorsed the "4% spending rule" and provided a tool for retirees to determine how much they could withdraw annually from their portfolio. Their website's calculator used retirement account balance or total assets saved for retirement, a fixed withdrawal rate of 4.75%, three different asset allocations, and length of time spent in retirement to

determine monthly withdrawal rates in real dollars.

Summary

To review, the large body of existing literature about portfolio withdrawal rates concur that a 4 to 6% withdrawal rate of the initial retirement portfolio has a “low” chance of running out of money. Spitzer and colleagues (2007) proposed that a 4% withdrawal rule may be an oversimplification for complex circumstances. Risk tolerance, asset allocation, withdrawal rates, and actual returns all affect the sustainability of a retirement portfolio. These studies often used historical thirty-year time periods of stock market and bond returns, and inflation to determine the sustainability of a retirement portfolio. The phased withdrawal method offers many advantages: flexibility, the potential for bequests, and possible higher rates of consumption. However, a majority of older Americans may not be able or willing to have a financial planner assist them on withdrawal rates and retirees must devote much attention to their asset allocation and withdrawal rules (Dus, Maurer, & Mitchell, 2004). However, with increasing longevity and recent stock market volatility, many retirees may face a slightly higher chance of running out of money in retirement when following these withdrawal strategies.

An immediate annuity is another strategy to help retirees turn retirement savings into a guaranteed income or “pay check” during their retirement years. Annuities offer a retiree a higher income than a retiree can provide on their own since the annuity provider can spread mortality gains and losses across a larger group of annuitants. A life annuity can also provide a retiree peace of mind as their money will never run out as long as they

live. However, many 401(k) retirement plans do not offer an immediate annuity, and many retirees do not purchase immediate annuities upon retirement. Several studies have shown that the context in which an annuity is presented to an individual can have an impact on their attitude and likelihood of purchasing the product. More research is needed to understand attitudes toward annuities and the characteristics of those with positive attitudes. Further research is needed to identify effective methods for encouraging individuals to annuitize a portion of their assets.

CHAPTER III

METHODS

The purpose of this study was to examine the attitudes toward immediate annuities and practices of Utah State University employees who participate in a defined contribution retirement plan and to measure the differences between those who have taken a retirement class and those who have not. This was accomplished by surveying a group of employees who have taken the USU retirement course and any other retirement class and comparing them to a similar group who have not taken a retirement class.

The reason for surveying the employees of USU was (a) to gain a better understanding of attitudes toward immediate annuities and annuitizing a portion of their assets for retirement; (b) to determine the differences in attitudes toward immediate annuities of those who have taken a retirement class to those employees who have not; and (c) to see if their attitudes have changed toward immediate annuities as a result of the investment losses of 2007-2009. Below is a description of the population, variables, data collection, and the data analysis.

Sample

The convenience sample included employees at Utah State University who participate in the defined contribution retirement plan. The Office of Human Resources provided current email addresses. A notification letter was sent through campus mail informing employees of the study and the benefits of participating. The letter also provided contact information allowing employees to withdraw their names from the

survey sample if they chose.

A subsample of employees had taken a six-session retirement class sponsored by the Utah State University (USU) Office of Human Resources. The free retirement course has been taught each year since 2004 by a retired business professor.

Variables

The variables included in this study were (1) risk tolerance, (2) gender, (3) marital status, (4) life expectancy, (5) level of confidence in financial knowledge, (6) attitudes toward immediate annuities, (7) retirement class participation, and (8) income/assets level. Risk tolerance was measured using a five question scale that had a Cronbach's alpha of .80 (Grable & Joo, 2004). Life expectancy was measured in six categories. Level of financial confidence, was divided into four categories. Attitudes toward annuities were measured in four categories. Income included five categories ranging from less than \$25,000 to over \$100,000.

Financial confidence was measured using a two-item version of the Retirement Personality Types (RPT) measure (Lown, 2007). The Retirement Confidence Survey described the five RPTs as follows: *Planners* are disciplined savers who are willing to take risks and have estimated how much they need to invest for retirement. They believe that anyone can have a comfortable retirement if they plan and save. *Savers* are like planners in that they are saving for retirement, but are much more cautious than planners. They also characterize themselves as savers and not as investors. *Strugglers* believe retirement planning takes too much time and feel that if they just save some money each month they will be comfortable and that Social Security will provide. They report

frequent financial setbacks; only 40% are saving for retirement. *Impulsives* believe a comfortable retirement is possible with some planning. They are impulse purchasers who report occasional financial setbacks. Many expect to work in retirement and only about half are saving for retirement. *Deniers* feel it is pointless to plan for retirement because it is too far away and/or planning takes too much time and effort. Only 40% report retirement savings; they expect to rely on Social Security. They are reluctant to take financial risks no matter what the gain and tend to be older and with lower income (Employee Benefit Research Institute [EBRI], 1999b).

Instrument

The survey is based, in part, on a Mathew Greenwald & Associates study conducted on behalf of AARP and the American Council of Life Insurers in 2007; their telephone survey contained 45 questions regarding retirement issues, benefits, income, and annuities (AARP/ACLI, 2007). A modified version from the AARP/ACLI survey was used as the instrument for this study included questions designed to gather information on retirement concerns, retirement portfolio losses, longevity, financial practices and confidence, retirement resources, knowledge of annuities, and attitudes toward immediate annuities.

A pilot study was conducted with eight individuals who would not participate in the final study in order to clarify wording for each question. Upon approval from the university's Institutional Review Board each eligible employee was notified through campus mail about the study and given the opportunity to opt out. An email was sent to each employee accompanied by a cover letter explaining the purpose of the study and the

importance of receiving each participant's completed questionnaire. Three individuals requested that their name be removed from the email list after receiving the initial email. A second email sent out two days later explained the purposes for the study and provided a link to the questionnaire. An internet program, Survey Monkey, was utilized to create the survey, to administer, and to record the responses.

Data Analysis

The data were analyzed using the Statistical Package for the Social Sciences (SPSS). For hypothesis one, a Pearson R coefficient was used to measure the correlation between respondent's risk tolerance and their attitudes toward immediate annuities. To compare the means of hypotheses two and three, *t* tests were used. An analysis of variance (ANOVA) was used in hypothesis two to measure the differences between gender and retirement class, and for hypothesis three to measure differences in marital status and differences in having taken a retirement class. A one-way ANOVA compared life expectancy with attitudes toward immediate annuities for hypothesis four. In hypothesis five, a one-way ANOVA measured the respondent's retirement personality type and their attitude toward annuities. A one-way ANOVA was used in hypothesis six to compare attitudes toward annuities based on income. Also, a one-way ANOVA was utilized in hypothesis seven to compare differences in attitudes between employees who have taken the retirement class and those who had not.

CHAPTER IV

RESULTS

This study examined attitudes toward annuitization of retirement wealth in a sample of employees at Utah State University (USU). It was hypothesized that more risk adverse individuals would have a more positive attitude toward immediate annuities. Additional hypotheses proposed that women would have a more positive attitude than men, single individuals would have a more positive attitude than married persons, more financially confident respondents would have a less positive attitude, and higher earners would have a more positive attitude toward annuities. A final hypothesis was employees who attended a retirement course would have a more positive attitude than those who had not taken a retirement class or workshop. The following sections present the findings for each hypothesis.

Description of the Sample

Data for this study were collected via an internet questionnaire using Survey Monkey sent to a total of 1,720 university employees who participate in a defined contribution (DO) retirement plan at Utah State University (USU). Seven hundred forty-four responses were received for a response rate of 43.2%. Respondent ages ranged from 23 to 84 with a mean age of 47.2 years; four respondents were retired and seven were semi-retired. Of those respondents who reported their gender, men represented 54.6% of the sample with women comprising 45.4%. As shown in Table 1, most respondents (79.3%) were married. About 52% were faculty and about 47% professional staff. The

Table 1

Demographic Characteristics

| Variable | <i>N</i> | % | Variable | <i>N</i> | % |
|---------------------------------|----------|------|---------------------------------|----------|------|
| Gender | | | Retirement class | | |
| Males | 335 | 54.6 | No | 424 | 57.5 |
| Females | 278 | 45.4 | Yes | 176 | 23.8 |
| Unknown | 113 | | USU class | 138 | 18.7 |
| Marital status | | | Plan to retire | | |
| Married | 47 | 79.3 | Before 55 | 10 | 1.6 |
| Living together/partnered | 22 | 3.6 | 55 to 59 | 45 | 7.3 |
| Widowed | 6 | 1.0 | 60 to 61 | 47 | 7.7 |
| Divorced | 37 | 6.0 | 62 to 64 | 99 | 16.1 |
| Separated | 6 | 1.0 | 65 | 106 | 17.3 |
| Never married | 56 | 9.1 | 66 or later | 307 | 50.0 |
| Age | | | Income | | |
| Less than 44 | 248 | 40.9 | Less than \$25,000 | 8 | 1.3 |
| 45-54 | 160 | 26.4 | \$25,000 to less than \$50,000 | 106 | 17.5 |
| 55-65 | 179 | 29.5 | \$50,000 to less than \$75,000 | 141 | 23.3 |
| 66+ | 19 | 3.1 | \$75,000 to less than \$100,000 | 138 | 22.8 |
| Median age (years) | | 48 | \$100,000 or more | 213 | 35.2 |
| Ethnic group | | | Retirement assets | | |
| American Indian/Alaskan Native | 1 | 0.2 | Less than 100k | 216 | 36.0 |
| Asian/Pacific Islander | 12 | 2.0 | 100k-250k | 132 | 22.0 |
| Black/African-American | 4 | 0.7 | 250k-500k | 92 | 15.3 |
| Hispanic/Latino | 13 | 2.1 | 500k-750k | 69 | 11.5 |
| White or Caucasian | 576 | 94.0 | 750k-1 million | 42 | 7.0 |
| Other | 7 | 1.1 | Million + | 49 | 8.2 |
| Degree completed | | | Type of investor | | |
| Some college/technical training | 18 | 2.9 | Sophisticated | 47 | 6.3 |
| Bachelor's degree | 132 | 21.4 | Average | 222 | 29.9 |
| Master's degree | 202 | 32.8 | Simple | 306 | 41.2 |
| Ph.D./professional degree | 264 | 42.9 | I know nothing | 167 | 22.5 |
| Employment status | | | Life expectancy | | |
| Faculty | 321 | 52.3 | Less than 80 | 72 | 11.6 |
| Professional staff | 286 | 46.7 | 80-84 | 188 | 30.3 |
| Classified employee | 6 | 1.0 | 85-89 | 201 | 32.4 |
| | | | 90-94 | 119 | 19.2 |
| | | | 95+ | 41 | 6.6 |
| Retirement planning type | | | | | |
| Denier | 47 | 7.9 | | | |
| Struggler | 25 | 4.2 | | | |
| Impulsive | 83 | 13.9 | | | |
| Saver | 125 | 20.9 | | | |
| Planner | 317 | 53.1 | | | |

remaining few respondents were classified employees (support staff), most of whom participate in a separate defined benefit pension plan; a few of the classified employees also participate in the defined contribution plan. About 42% of the respondents had

taken a retirement planning class.

Using a 2-item version of the Retirement Confidence Survey's Retirement Planning Personality Type (Lown, 2007), the most common Retirement Planning Type (RPT) was planner (53.1%), followed by saver (20.9%), impulsive (13.90%), denier (7.7%), and struggler (4.1%; see Table 2). According to the 2002 Retirement Confidence Survey the distribution of types in the national sample is: planners (22%), savers (18%), strugglers (15%), impulsives (29%), and deniers (15%). The university sample is likely to contain fewer strugglers because of the security of university employment and excellent benefits compared to the private sector. Also, this university sample may include more planners as they would be most attracted to respond to a survey regarding retirement planning. When asked how sophisticated they considered their investments skills, only 6.3% considered themselves sophisticated while 29.9% indicated they were average; the largest group (41.2%) identified themselves as having only a very basic knowledge of stocks and bonds. Fully 22.5% acknowledged that they know nothing about investing (see Table 2).

Table 2

Retirement Personality Type

| RPT groups | <i>N</i> | % | Type of Investor | <i>N</i> | % |
|------------|----------|------|------------------|----------|------|
| Planner | 317 | 53.1 | Sophisticated | 47 | 6.3 |
| Saver | 125 | 20.9 | Average investor | 222 | 29.9 |
| Impulsive | 83 | 13.9 | Simple | 306 | 41.2 |
| Struggler | 25 | 4.2 | Know nothing | 167 | 22.5 |
| Denier | 47 | 7.9 | | | |
| Total | 597 | 100% | Total | 742 | 100% |

One third of respondents anticipate that they or their spouse will be eligible to collect a retirement pension. Almost half of respondents have 50% or more of their retirement funds invested in stocks (see Table 3). At the bottom of the 2007-09 stock market decline, one-fourth of the sample estimated that they had lost over 30% of their retirement assets (see Table 3).

Over half of the respondents (51.4%) indicated that they were not at all familiar with immediate annuities despite having their retirement in the Teachers Insurance and Annuity Association-CREF; only 4.5% said they were very familiar. Those who consider themselves somewhat familiar with annuities were 21.7% of the sample while 22.4% said they are not too familiar with annuities (see Table 4).

Table 3

Percentage of Retirement Assets in the Stock Market and Asset Decline

| Variable | <i>N</i> | % |
|--|----------|------|
| Retirement assets in the stock market | | |
| 0 to 9% | 38 | 5.1 |
| 10 to 24% | 128 | 17.2 |
| 25 to 49% | 90 | 12.1 |
| 50 to 74% | 183 | 24.6 |
| 75% or more | 171 | 23.0 |
| Not sure | 133 | 17.9 |
| Total | 743 | 100% |
| Asset losses in stock market 2007-2009 | | |
| 0-10% | 130 | 20.3 |
| 11-20% | 160 | 25.0 |
| 21-29% | 187 | 29.3 |
| over 30% | 162 | 25.4 |
| Total | 639 | 100% |

Table 4

Familiarity with Immediate Annuities

| Familiarity | <i>N</i> | % |
|---------------------|----------|------|
| Very familiar | 30 | 4.5 |
| Somewhat familiar | 145 | 21.7 |
| Not too familiar | 150 | 22.4 |
| Not at all familiar | 344 | 51.4 |

Respondents were asked “how likely they would be to purchase an annuity with a portion of their assets” and were given four opinions: protection against stock market drops, certainty with rates of return, certainty amount of money each month, and certainty they would not lose any money. Approximately half of the respondents were somewhat likely to purchase an annuity for each of the above reasons, while roughly one-fourth were very likely to purchase an annuity. Around 14.7% and 17.8% of the sample responded they were not too likely to purchase an annuity for the above reasons and 5% were not at all likely (see Table 5).

Table 5

How Likely to Purchase an Annuity

| Variable | Very likely | Somewhat likely | Not too likely | Not at all likely |
|--|-------------|-----------------|----------------|-------------------|
| Protection against stock market loss | 23.5% | 53.2% | 17.8% | 5.4% |
| Certainty about rate of return | 24.9% | 55.2% | 14.7% | 5.2% |
| Certainty about money each month | 29.2% | 51.1% | 14.7% | 5.0% |
| Certainty you would not lose any money | 30.3% | 48.9% | 15.9% | 5.0% |

When asked how much a guaranteed income in retirement would add to their peace of mind, the majority of respondents indicated that a guaranteed income would add a moderate amount to their peace of mind (48.3%). The next highest response from the sample was a great deal (34.7%) and then a major decline to not too much (12.3%; see Table 6).

Respondents were asked “How convincing are the following reasons for buying an immediate annuity?” As shown in Table 7, all four reasons were very convincing for 31-41% of respondents with 78-85% indicating the reasons were somewhat to very convincing. Across the wide age span of respondents, 17% do not plan to annuitize while 42% were not sure. Of the remaining respondents, 19.0% indicated they might annuitize 25-49% of their retirement assets.

Respondents who do not plan to purchase an immediate annuity were asked to indicate their reasons why. The most frequent answer was “I do not know enough” which was selected by 30.9% of those who do not plan to annuitize. Other reasons for not purchasing an annuity were want to leave money to family (16.4%) and like flexibility of their money (15.9%; see Table 8).

Table 6

Guaranteed Monthly Income Adds to Peace of Mind

| Peace of mind | <i>N</i> | % |
|-------------------|----------|------|
| A great deal | 230 | 34.7 |
| A moderate amount | 320 | 48.3 |
| Not too much | 81 | 12.3 |
| Not at all | 11 | 1.7 |
| Not sure | 20 | 3.0 |

Table 7

Reasons for Purchasing an Annuity

| Reasons | Very convincing | Somewhat | Not too | Not at all |
|--|-----------------|----------|---------|------------|
| Larger amount of money than dividends or gains | 31.3% | 50.5% | 13.4% | 4.8% |
| Payments for as long as you live | 38.8% | 46.2% | 11.3% | 3.6% |
| Predictable monthly income (paycheck) | 31.6% | 46.8% | 14.5% | 7.1% |
| Help you remain independent | 40.5% | 43.3% | 11.1% | 5.1% |

Table 8

Reasons Not to Purchase an Annuity

| Reasons | <i>N</i> | % |
|-----------------------------------|----------|------|
| Not enough income | 73 | 9.1 |
| Do better myself | 73 | 9.1 |
| Won't live long enough | 28 | 3.5 |
| Flexibility of own money | 128 | 15.9 |
| Leave money to family | 134 | 16.4 |
| Don't know enough about annuities | 249 | 30.9 |

When asked how the investment market meltdown of 2007-09 had affected their attitude toward annuities, three-quarters indicated no change (52.4%). Responses to the survey suggest that these respondents may not know enough about annuities to have had an opinion before, and still are not sure after, the financial meltdown (51.4% are not familiar with an annuity). More respondents indicated their attitudes became more positive (12.8%) after the stock market decline than those whose attitudes become less positive (5.5%) as shown in Table 9.

Table 9

Attitudes Toward Annuities after Stock Market Decline 2007-2009

| Attitudes | <i>N</i> | % |
|----------------------|----------|------|
| Become more positive | 103 | 12.8 |
| Become less positive | 44 | 5.5 |
| Remained the same | 422 | 52.4 |

About two-thirds of respondents expect to live into their 80s with 25.8% expecting to live at least to age 90. About 11.6% of respondents indicated that they will live less than 80 years old while nineteen (3.1%) expect to live to 100 or more (see Table 10).

Table 10

Age Expected to Live

| Life expectancy | <i>N</i> | % |
|--------------------|----------|------|
| Less than 80 years | 72 | 11.6 |
| 80 - 84 | 188 | 30.3 |
| 85 - 89 | 201 | 32.4 |
| 90 - 94 | 119 | 19.2 |
| 95 - 99 | 22 | 3.5 |
| 100+ | 19 | 3.1 |

Hypothesis One: Risk Tolerance

H1: The more risk adverse an individual is, the more positive will be their attitudes toward immediate annuities (Agnew et al., 2008a; Mitchell, 2001). Risk tolerance was measured with five questions scored on a 4-point Likert-type scale (Grable & Joo, 2004), with 1 = strongly agree, 2 = tend to agree, 3 = tend to disagree, 4 = strongly disagree. A risk tolerance score was computed by adding the scores for each question, resulting in scores ranging from 5 to 20. Higher scores indicated a higher financial risk tolerance. The mean risk tolerance score was 13.3 ($SD = 2.69$). This result is similar to Grable and Joo (2004), where their mean was 12.9, with a standard deviation of 3.01. There was one individual from the sample with the lowest risk tolerance score of 5, and four individuals with the highest risk tolerance score of 20.

Four questions about immediate annuities from an AARP-ACLI (2007) study were used to measure attitudes toward immediate annuities. One question explained certain features of an annuity and asked how likely respondents would be to purchase a guaranteed monthly income with a portion of their retirement assets. Features included protection against large drops in the stock market, certainty about rates of return, certainty about how much money they would receive each month, and that they would not lose any money since the rate of return is constant. Answers were recorded with a 4-point Likert-type scale, with very likely = 4, somewhat likely = 3, not too likely = 2, and not at all likely = 1. Another question about annuities asked about how a guaranteed monthly income in retirement would add to their peace of mind. Choices were a great deal, moderate amount, not too much, or not at all. A third question used to measure

attitudes asked how convincing several reasons were to purchase a guaranteed income. Responses stated that individuals would be able to get a larger amount of income with an annuity than from investment gains, dividends, or interest. Further responses include annuity payments would continue for the rest of their lives, a regular monthly payment help manage their budgets, and remain independent because money would never run out. Responses for this question were very convincing = 4, somewhat convincing = 3, not too convincing = 2, and not at all convincing = 1. Therefore, the higher the score on the annuity questions, the more positive the attitude toward immediate annuities. See survey questions in the Appendix.

To determine attitudes toward annuities, responses to each of the four annuity attitude questions were summed, resulting in a range of scores from a minimum of 5 to a maximum of 36. The mean attitude toward annuities score was 27.6 ($SD = 5.82$). The range for the sample was 8 to 36, the highest possible score; two individuals scored 8 and 31 individuals scored 36. The Cronbach's alpha for this variable scored was .84, indicating high reliability. This attitude score regarding attitudes for immediate annuities was used to test several hypotheses.

A Pearson R coefficient was used to measure the correlation between respondent's risk tolerance and their attitudes toward annuities. The $R = -.302$ showed a negative correlation between risk tolerance and attitudes for the respondents. Thus, H1 was confirmed; more risk adverse respondents have a more a more positive attitude toward immediate annuities.

Hypothesis Two: Gender

H 2: Women will have a more positive attitude toward immediate annuities than men (Agnew et al., 2008b). A *t* test was used to measure the difference in mean investment risk tolerance between males and females. Men had a mean score of 13.7 (*SD* = 2.59) with women scoring 12.9 (*SD* = 2.8). The result of the *t* test was a 3.93 with a probability > .000. Therefore, men had a statistically significant higher tolerance for investment risk compared to women. Given that women are less tolerant of risk, the second hypothesis tested if women have more positive attitudes toward immediate annuities than men.

A second *t* test was used to compare gender and attitudes toward immediate annuities. The men's mean attitude score was 26.7 (*SD* = 6.2) and the women's mean score was 28.7 (*SD* = 5.1). The result of the *t* test was a negative 3.255 with a probability > .001 showing a statistical significant difference between the attitudes of women and men toward immediate annuities. Hypothesis two was confirmed; women have a more positive attitude toward immediate annuities than men (see Table 11).

Table 11

Group Differences for Attitudes Toward Immediate Annuities Between Males and Females

| Attitudes | <i>M</i> | <i>SD</i> | <i>df</i> | <i>t</i> |
|-----------|----------|-----------|-----------|-----------|
| Males | 26.70 | 6.20 | 345 | -3.255*** |
| Females | 28.69 | 5.05 | 345 | |

****p* < .001

Agnew et al. (2008b) also compared males and female risk aversion and annuity attitudes with t tests. In a retirement game, women choose the annuity option more frequently than men (38% of women compared to 29% of men). When controlling for risk aversion and financial literacy, Agnew et al. reported that women were much more likely to choose an annuity in their retirement experiment than men.

Hypothesis Three: Marital Status

H3: Married individuals will have less positive attitudes toward immediate annuities than single individuals (Brown, 2008; Dushi & Webb, 2004). Married and living together/partnered respondents were combined into one group while widowed, divorced, separated, and never married were combined into a second group of single individuals. A t test was used to compare the attitudes toward immediate annuities of married/partnered and single individuals. Married persons had a mean score of 27.4 ($SD = 5.84$) while the singles had a mean score of 28.6 ($SD = 5.37$). The t value was -1.546 with a probability of $< .12$. Thus, marital status did not significantly influence respondent attitudes toward immediate annuities.

Hypothesis Four: Life Expectancy

H4: Hypothesis four stated that individuals with longer than average life expectancies will have more positive attitudes toward immediate annuities (Brown, 2008; Drinkwater & Sondergeld, 2004). Based on health, family history, and other factors, respondents were asked to estimate their life expectancy. Six categories for life expectancy were provided. Due to small numbers, responses from the two highest age

category were collapsed into one making five groups, those who expected to live less than 80 years, 80-84 years, 85-89 years, 90-94 years, and 95+ years. Over 62% of respondents expected to live somewhere between ages 80-89. Twenty-five percent of respondents expected to live beyond 90 years. This may seem high; however the Measure of America (2006) ranked Utah as having the third highest longevity in the nation with an average life expectancy of 79.5 years for males and females. As expected, a crosstabulation indicated that more men expected a shorter lifespan, expecting to live less than 80 years or 80-84 years. Women, on the other hand, were more likely to anticipate living to 85-89 years, 90-94 years, or 95 or more years.

A one-way ANOVA was used to compare life expectancy with attitudes toward immediate annuities. As hypothesized, the first age group, those respondents who expected to live less than age 80, had the least positive attitude toward immediate annuities. The pattern of life expectancies and attitudes toward annuities was consistent except for the group who anticipated a life span between ages 90-94, which was an anomaly with a fairly low mean. The last group, or those with the highest anticipated life expectancy of 95 years plus, expressed the highest attitude which means this group had

Table 12

Attitudes Toward Annuities in Regards to Longevity

| Estimated life expectancy | <i>M</i> | <i>SD</i> |
|---------------------------|----------|-----------|
| Less than 80 | 26.44 | 6.26 |
| 80-84 | 28.08 | 5.74 |
| 85-89 | 28.27 | 4.83 |
| 90-94 | 26.49 | 6.44 |
| 95+ | 29.74 | 5.11 |

the most positive attitude toward immediate annuities (see Table 12).

A one-way ANOVA between life expectancy and attitudes toward immediate annuities showed a more positive attitude for each higher life expectancy group. The 90-94 life expectancy group was the only anomaly as their attitude scores were almost as low as those with the shortest life expectancy; the result of the F ratio was 2.45 with the probability of $< .046$ indicating that the difference between the groups was significant at the .05 level. This supports the hypothesis that as life expectancy increases, individuals are more likely to have a positive attitude toward immediate annuities (see Table 13).

Hypothesis Five: Financial Confidence

H 5: The higher the financial confidence level of the employee, the less likely they will be to annuitize some of their retirement assets. A modified version of the Retirement Confidence Survey's Retirement Personality Type questionnaire (Lown, 2007) was used to determine if persons with higher financial confidence levels had more negative attitudes toward immediate annuities. By answering two questions, respondents were categorized into one of five retirement personality types: planner, saver, impulsive,

Table 13

One-Way Analysis of Variance for Attitudes Toward Annuities and Longevity

| Source | <i>df</i> | <i>SS</i> | <i>MS</i> | <i>F</i> |
|----------------|-----------|-----------|-----------|----------|
| Between groups | 4 | 312.76 | 78.19 | 2.453* |
| Within groups | 343 | 10933.95 | 31.87 | |
| Total | 347 | 11246.72 | | |

* $p < .05$

struggler, and denier. As shown in Table 14, the planners had a mean of 27.3 ($SD = 5.41$) for attitudes toward annuities. Savers scored 27.3 ($SD = 5.41$) while the impulsive group had a mean of 28.1 ($SD = 5.37$). The strugglers scored 30.1 ($SD = 6.56$) and the deniers had a combined mean of 28.3 ($SD = 5.42$).

In order to test this hypothesis, a one-way ANOVA was used to compare the respondent's retirement personality type and their attitude toward annuities. The F ratio was 1.06 with a probability of $< .37$. While the denier, struggler, and impulsive groups had the most positive attitudes toward immediate annuities compared to the savers and planners, the difference was not statistically significant. But, in general, the more confident planners and savers were, the less positive toward annuities, while the less confident strugglers, impulsives, and deniers were more positive.

A cross-tabulation analysis showed that men were more likely than women to be impulsives (14.9%), and far more likely (58.8% to women's 45.5%) to be planners. This

Table 14

Attitudes Toward Annuities and Retirement Personality Type

| RPT groups | M | SD | N | % |
|------------|-------|------|-----|------|
| Planner | 27.33 | 6.06 | 317 | 53.1 |
| Saver | 27.34 | 5.41 | 125 | 20.9 |
| Impulsive | 28.14 | 5.37 | 83 | 13.9 |
| Struggler | 30.12 | 6.56 | 25 | 4.2 |
| Denier | 28.26 | 5.42 | 47 | 7.9 |
| Total | | | 597 | 100% |

is consistent with men being more willing to take financial risks than women. On the other hand, women were more likely to be deniers (10.5%), strugglers (5.6%), and savers (25.2%; see Table 15). The Retirement Confidence Survey (EBRI, 1999a) showed that men (43%) were more likely than women (31%) to be in the planner group, women (14%) were slightly more than men (13%) to be located in the saver group, and women were more likely to be strugglers (24% compared to 17% men), and impulsives, (18% women, 16% men). An equal percent (12%) of women and men were reported to be deniers (EBRI, 1999a).

The AARP/ACLI (2007) study asked near retirees how confident they were that they will be able to manage their savings and investments to last the rest of their life/spouse's life (see Table 16). Males were very confident that they could manage their savings to last the rest of their life while women were less confident. Married persons were more confident than singles. Individuals with higher household incomes (\$75,000 or more) were more likely to be very confident than \$35,000-\$74,999 respondents and respondents with less than \$35,000 income. Also, individuals who retired before 60

Table 15

Retirement Personality Types and Gender

| Retirement personality type | <i>N</i> | <i>M</i> | <i>W</i> |
|-----------------------------|----------|----------|----------|
| Planners | 311 | 58.8% | 45.5% |
| Savers | 123 | 17.3% | 25.2% |
| Implusives | 83 | 14.9% | 13.2% |
| Strugglers | 25 | 3.1% | 5.6% |
| Deniers | 47 | 5.9% | 10.5% |

Table 16

Confidence in Retirement for Gender, Marital Status, Retirement Class, Life Expectancy, Retirement Assets, Type of Investor, and Age

| Variables | Very confident | Somewhat confident | Not too confident | Not at all confident | Not sure |
|-----------------------------|----------------|--------------------|-------------------|----------------------|----------|
| Gender* | | | | | |
| Males | 15.5% | 53.4% | 21.5% | 7.8% | 1.8% |
| Females | 11.9% | 44.6% | 15.9% | 13.7% | 4.0% |
| Marital status | | | | | |
| Single | 8.6% | 48.6% | 23.8% | 15.2% | 3.8% |
| Married/partnered | 14.9% | 49.7% | 23.4% | 9.4% | 2.6% |
| Retirement class*** | | | | | |
| No | 10.6% | 46.7% | 23.9% | 13.5% | 5.3% |
| Yes | 17.1% | 53.7% | 22.0% | 6.3% | 1.0% |
| Life expectancy*** | | | | | |
| Less than 80 | 11.1% | 43.1% | 31.9% | 12.5% | 1.4% |
| 80 - 84 | 7.4% | 50.5% | 26.1% | 12.8% | 3.2% |
| 85 - 89 | 15.4% | 49.3% | 22.4% | 7.0% | 6.0% |
| 90 - 94 | 19.3% | 53.8% | 17.6% | 9.2% | .00% |
| 95 + | 22.0% | 53.7% | 12.2% | 12.2% | .00% |
| Retirement Assets*** | | | | | |
| Less than 100k | 9.7% | 43.1% | 28.2% | 13.4% | 5.6% |
| 100k - 250k | 3.0% | 50.0% | 29.5% | 14.4% | 3.0% |
| 250k - 500k | 10.9% | 56.5% | 25.0% | 7.6% | .00% |
| 500k - 750k | 17.4% | 65.2% | 10.1% | 7.2% | .00% |
| 750k - 1 million | 26.2% | 52.4% | 19.0% | 2.4% | .00% |
| Million + | 49.0% | 44.9% | 6.1% | .00% | .00% |
| Type of Investor*** | | | | | |
| Denier | 4.3% | 17.0% | 36.2% | 29.8% | 12.8% |
| Struggler | 4.0% | 40.0% | 24.0% | 32.0% | .00% |
| Impulsive | 6.0% | 10.0% | 20.6% | 26.7% | 22.2% |
| Saver | 10.4% | 48.0% | 25.6% | 12.8% | 3.2% |
| Planner | 19.6% | 60.6% | 16.7% | 1.9% | 1.3% |
| Age*** | | | | | |
| Less than 44 | 11.7% | 48.0% | 25.8% | 8.9% | 5.6% |
| 45 - 54 | 9.4% | 51.3% | 27.5% | 10.0% | 1.9% |
| 55 - 65 | 18.4% | 49.7% | 18.4% | 13.4% | .00% |
| 66 + | 36.8% | 47.4% | 10.5% | 5.3% | .00% |

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

years of age scored higher on confidence levels than those who planned to retire between ages 60-64 and 65 or later.

Results of this study are very similar to the results from the 2010 Retirement Confidence Survey (RCS). Sixteen percent of workers in the RCS were very confident that their savings would last throughout retirement while 46% were not too or not at all confident that their savings would last. Confidence levels have changed over the past 20 years for the RCS, with confidence in savings lasting throughout retirement in 2007 being 27%, and 2009 being the lowest with 13%, reflecting stock market losses during the financial crisis (Helman, Copeland, & VanDerhi, 2010).

A one-way ANOVA was used to compare confidence in retirement assets lasting in retirement with attitudes toward immediate annuities. Respondents self-reported confidence levels were placed in five categories and had a total mean score of 27.6 ($SD = 5.80$). The first group, those very confident, had the least positive attitude toward an immediate annuity. Those who are somewhat confident also had a lower positive attitude than the third group not too confident. The fourth group, who were not at all confident, had the highest positive attitude for the sample. The final group, or those not sure about their retirement assets lasting in retirement, had a positive attitude toward immediate annuities (see Table 17).

A one-way ANOVA between confidence in retirement assets lasting through retirement and attitudes toward immediate annuities showed a more positive attitude toward annuities for the groups who were not too confident, not at all confident, and unsure. The result of the F ratio was 3.616 with the probability of $< .007$ indicating that the difference between the confidence groups was significant at the .01 level. This shows

that those respondents who are not confident that their retirement assets will last through retirement have a more positive attitude toward immediate annuities than those who are very or somewhat confident (see Table 18).

Another analysis was conducted to measure the correlation between self-efficacy and attitudes toward annuities. The variable for self-efficacy was an adaptation of the General Self-Efficacy Scale created by Schwarzer (2010). Perceived self-efficacy helps encourage goal-setting, persistence in the face of barriers, and recovery from setbacks.

Table 17

*Attitudes in Relation to Confidence in Retirement**Assets Lasting in Retirement*

| Confidence levels | <i>M</i> | <i>SD</i> |
|----------------------|----------|-----------|
| Very confident | 24.83 | 7.39 |
| Somewhat confident | 27.70 | 5.38 |
| Not too confident | 28.38 | 5.31 |
| Not at all confident | 28.80 | 6.05 |
| Not sure | 28.21 | 4.74 |

Table 18

*One-Way Analysis of Variance for Attitudes Toward Annuities and Confidence in**Retirement Assets Lasting Through Retirement*

| Source | <i>df</i> | <i>SS</i> | <i>MS</i> | <i>F</i> |
|----------------|-----------|-----------|-----------|----------|
| Between groups | 4 | 472.68 | 118.17 | 3.616** |
| Within groups | 354 | 11567.96 | 32.68 | |
| Total | 358 | 12040.64 | | |

** $p < .01$

In several research samples the Cronbach's alpha for the GSE scale ranged from .79 to .90. Self-efficacy was measured with a multiple part question with a series of responses on a Likert scale with, 1 = not true at all, 2 = hardly true, 3 = moderately true, and 4 = exactly true. Questions asked how respondents were able to manage certain financial problems and how they are able to cope with setbacks. The range for self-efficacy was 14 to 40 and the mean score was 29.8 ($SD = 4.46$). A Pearson correlation coefficient was used to measure the correlation between self-efficacy and attitudes toward immediate annuities. The $R = -.202$ showed a negative correlation between self-efficacy and attitudes toward annuities. Therefore, as self-efficacy decreases, attitudes toward immediate annuities become more positive.

Hypothesis Six: Income

H6: Higher income earners will have a more positive attitude toward annuities than lower income earners (Gardner & Wadsworth, 2004). Data on total household income were collected in five categories. A one-way ANOVA was used to determine if higher income respondents have a more positive attitude toward annuities compared to those with lower incomes. Reported income and attitudes toward annuities showed an interesting bell-shaped curve. The middle groups with incomes between \$25,000 to \$75,000 had the most positive attitude toward immediate annuities while the group less than \$25,000 income, and the two highest income groups had the least positive attitude toward annuities (see Table 19).

The lowest income group expresses the least positive (25.33) attitudes toward annuities while the two income groups between \$25,000 and \$75,000 have the most

Table 19

Attitudes Toward Annuities and Total Household Income

| Annual income | <i>M</i> | <i>SD</i> |
|-----------------------|----------|-----------|
| Less than \$25,000 | 25.33 | 8.66 |
| \$25,000 to \$50,000 | 28.03 | 5.27 |
| \$50,000 to \$75,000 | 28.05 | 5.71 |
| \$75,000 to \$100,000 | 27.34 | 5.64 |
| \$100,000 plus | 27.31 | 6.17 |

positive attitudes (28.03 and 28.04). Although the two middle income group's attitudes were higher than the other income groups, the difference was not statistically significant. The one-way ANOVA *F* ratio was .539 with a probability of < .707.

A one-way ANOVA test comparing assets with attitudes toward annuities was utilized. The asset variable represented total household assets including retirement funds, mutual funds, stocks, bonds, and bank accounts, (excluding the value of their primary home) and was reported in six groups.

Respondents reporting the highest total household assets, \$750,000 to \$1,000,000, had the least positive attitude from each of the groups. Those with total household assets in the \$500,000 to \$750,000 and also the group with at least one million dollars in assets had lower positive attitudes toward annuities compared to other groups. The asset groups of less than \$100,000 in assets, \$100,000 to \$250,000, and \$250,000 to \$500,000 had the most positive attitude toward immediate annuities (see Table 20).

The group with less than \$100,000 in assets has the most positive attitude (28.2) toward annuities. This could mean that, with limited resources in retirement, they are

Table 20

Attitudes Toward Annuities and Total Household Assets

| Total assets | <i>M</i> | <i>SD</i> |
|--------------------------|----------|-----------|
| Less than \$100,000 | 28.2 | 6.12 |
| \$100,000 to \$250,000 | 27.8 | 5.31 |
| \$250,000 to \$500,000 | 28.0 | 4.62 |
| \$500,000 to \$750,000 | 26.9 | 6.86 |
| \$750,000 to \$1,000,000 | 25.4 | 4.94 |
| \$1,000,000 plus | 27.0 | 6.00 |

more anxious to create a guaranteed retirement income to last the rest of their life. All other asset groups are fairly similar in their attitudes toward annuities with \$750,000 to \$1,000,000 having the lowest (25.4) attitude toward annuities. The ANOVA *F* ratio was 1.182 with $p < .318$ indicating no statistical significance to support this hypothesis.

Hypothesis Seven: Retirement Education

H7: The employees who have taken the retirement planning workshop will have a more positive attitude toward immediate annuities than those employees who have not taken the workshop. The seventh hypothesis tests whether attending a retirement class has a positive effect on the respondent's attitudes toward immediate annuities. The assumption was that retirement classes or workshops would have included information about immediate annuities; the USU course includes a strong emphasis on the benefits of annuities for hedging longevity risk. Three groups were created to test this hypothesis:

those who have not attended a retirement education class, those who have taken a retirement class other than the one offered to USU employees, and respondents who attended the 6-week retirement class at USU. The group that had not taken a retirement class had a combined mean score of 27.6 ($SD = 5.91$) for attitudes toward immediate annuities while those who have taken any other retirement class had a mean of 27.4 ($SD = 5.79$). The group of respondents that attended the USU retirement workshop have the highest mean annuity attitude score of 28.0 ($SD = 5.46$).

A one-way ANOVA was utilized to measure the differences between these three retirement education groups and their attitudes toward annuities. The F ratio was .203 with a probability of $< .81$. Therefore, attending any retirement class or the USU class did not affect the respondent's attitude toward immediate annuities.

An ANOVA was used to test the difference between attending a retirement class and respondent's gender and attitudes toward annuities. Males who have not taken a retirement class had a mean annuity attitude score of 27.1 ($SD = 6.04$). Male respondents who took any retirement class scored 25.5 ($SD = 6.37$). And the males who attended the USU 4-week retirement class had a mean annuity attitude score of 26.8 ($SD = 6.43$). In comparison, females who have not taken a retirement class had a mean annuity attitude score of 28.1 ($SD = 5.67$). Females who have taken any retirement class have a mean attitude score of 29.6 ($SD = 4.06$). The females who attended the USU retirement class had a mean of 29.3 ($SD = 3.87$; see Table 21).

Results for the ANOVA comparing retirement class, gender, and attitudes toward immediate annuities indicated a significant difference between females who have taken a retirement class and those females who have not. The F ratio was 13.00 with a

Table 21

Attitudes Toward Annuities, No Retirement Class, a Retirement Class, and USU Retirement Class

| Retirement education | Males | | Females | |
|----------------------|----------|-----------|----------|-----------|
| | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> |
| No class | 27.12 | 6.04 | 28.12 | 5.67 |
| Any class | 25.54 | 6.37 | 29.56 | 4.06 |
| USU class | 26.78 | 6.43 | 29.34 | 3.87 |

probability of $< .00$. Therefore, hypothesis 7 was supported for females but not for males. Females who attended a retirement planning class have a more positive attitude toward immediate annuities than females who have not. However, the opposite is true for males. Males have a slightly less positive attitude about annuities after taking a retirement class compared to males who have not taken a class although the difference is not statistically significant.

A further ANOVA test was used to determine differences in attitudes toward annuities between two marital status groups who had attended a retirement class or workshop and those who had not. The *F* ratio of the ANOVA was 2.67 with a probability of $< .10$ showing no statistically significant difference in annuity attitudes between taking a retirement class among married or single respondents. However, single individuals that have taken a retirement class had a slightly more positive attitude compared to those singles that have not. On the other hand, attitudes for married individuals for the class show no difference with those married individuals that had not

taken a retirement class.

Familiarity with Annuities

A one-way ANOVA was used to measure the difference in attitudes between respondents with differing levels of familiarity with immediate annuities. Familiarity was measured with a 4-point Likert-type scale with 1 = very familiar, 2 = somewhat familiar, 3 = not too familiar, and 4 = not at all familiar. Interestingly, another pattern emerged with the group who considered themselves very familiar with immediate annuities had the least positive attitude toward immediate annuities followed by the respondents who were somewhat familiar. The groups who were self-identified as not too familiar and not at all familiar had the most positive attitude toward immediate annuities (see Table 22).

Results of the ANOVA for familiarity with and attitudes toward immediate annuities reveal a significant difference; persons who are less familiar express a more positive attitude toward immediate annuities while respondents who consider

Table 22

Attitudes Toward Annuities and Familiarity with Annuities

| Measure | <i>M</i> | <i>SD</i> |
|---------------------|----------|-----------|
| Not at all familiar | 28.9 | 5.71 |
| Not too familiar | 27.1 | 4.94 |
| Somewhat familiar | 25.3 | 5.74 |
| Very familiar | 25.5 | 7.39 |

themselves familiar or very familiar have a less positive attitude toward annuities. The F ratio was 8.919 with a probability of $< .000$. Therefore, individuals who are less familiar with an immediate annuity have a more positive attitude compared to those who are more familiar (see Table 23).

To further explore this finding that those who claim to be familiar with immediate annuities are the least positive group, an additional one-way ANOVA was utilized to measure the type of investor and their attitude toward annuities. The first group, those who claim to be sophisticated investors, had the lowest mean annuity attitude score at 25.0 ($SD = 6.44$). The average investor had a mean score of 26.7 ($SD = 5.70$) and simple investors had a mean 28.1 ($SD = 5.39$). The final group, the respondents that claimed their know nothing, scored the highest mean at 28.7 ($SD = 6.13$; see Table 24).

Table 23

One-Way Analysis of Variance for Attitudes Toward Annuities and Familiarity

with Annuities

| Source | <i>df</i> | <i>SS</i> | <i>MS</i> | <i>F</i> |
|----------------|-----------|-----------|-----------|----------|
| Between groups | 3 | 843.88 | 281.29 | 8.919*** |
| Within groups | 355 | 11196.76 | 31.54 | |
| Total | 358 | 12040.64 | | |

*** $p < .001$

Table 24

Attitudes Toward Immediate Annuities and Type of Investor

| Measure | <i>M</i> | <i>SD</i> |
|------------------|----------|-----------|
| Sophisticated | 25.0 | 6.44 |
| Average investor | 26.7 | 5.70 |
| Simple | 28.1 | 5.39 |
| Know nothing | 28.7 | 6.13 |

Results of the one-way ANOVA comparing attitudes toward annuities with the type of investor reveal a significant difference; individuals who are simple or know nothing about investing express a more positive attitude toward immediate annuities while respondents who consider themselves average and sophisticated have a less positive attitude toward annuities. The F ratio was 3.939 with a probability of $< .007$. Therefore, individuals who consider themselves simple or know nothing investors have a more positive attitude compared to those with more investment knowledge (see Table 25).

One question in the survey asked participants if they or their spouse/partner were eligible to receive benefits from a traditional defined benefit pension plan. Almost one-third (31.4%) of participants responded that they or their spouse/partner expected to receive a defined benefit pension when they retire. A t test was used to measure the differences between those with a pension plan and those without and their attitudes toward annuities. Those participants without a pension had a mean annuity attitude

Table 25

One-Way Analysis of Variance for Attitudes Toward Annuities and Type of Investor

| Source | df | SS | MS | F |
|----------------|------|----------|--------|---------|
| Between groups | 3 | 389.02 | 129.68 | 3.939** |
| Within groups | 353 | 11622.43 | 32.92 | |
| Total | 356 | 12011.45 | | |

** $p < .01$

score of 27.3 ($SD = 5.91$). Participants who anticipate a pension in retirement have a mean score of 28.5 ($SD = 5.45$). The t value was -1.902 with a probability of $< .058$, showing no statistical significance between those with pensions and those without and their attitudes toward annuities.

Perhaps respondents younger than 50 years old may be more concerned with the accumulation phase of retirement assets rather than the decumulation phase which was the focus of this study. A one-way ANOVA was used to measure the difference between two age groups (23 to 49) and (50 to 84). The youngest group had a mean score of 27.7 ($SD = 5.80$) and the older group had a mean score of 27.45 ($SD = 5.80$). A one-way ANOVA comparing the two age groups showed no statistical difference in attitudes toward immediate annuities.

Multiple Regression

A multiple regression analysis was used to assess the relationship between attitudes toward immediate annuities as the dependent variable and the independent variables risk tolerance, age, gender, retirement class, self-efficacy, and life expectancy. The significant predictor variables from this regression are risk tolerance ($\beta = -.28$) with a probability of $< .000$ showing a negative relationship that as risk tolerance increases, the respondents attitude toward annuities decreases. This finding is also similar to hypothesis one. Gender is also a significant predictor variable ($\beta = .13$) with a probability of $< .05$, similar to hypothesis two that women have a more positive attitude toward immediate annuities than men. The last significant predictor variable is self-efficacy ($\beta = -.12$) with a probability of $< .05$, showing a negative correlation between

self-efficacy and attitude. Those individuals with a higher self-efficacy show a less positive attitude toward immediate annuities. The regression scored an Adjusted R Square value of .15 explaining that this model accounts for 15% of the variance from the independent variables (see Table 26).

The theory guiding this research was the life cycle hypothesis of savings (Ando & Modigliani, 1963) which was supported in this study. The theory assumes that an individual will consume a constant percentage of their income and that the individual was born without an inheritance and will die without leaving a bequest. The life cycle hypothesis of savings states that in retirement individuals are expected to spend down their accumulated assets. Annuities are designed to address uncertain life spans and to ensure retirement assets last as long as the annuitants are alive. This study found that the demographic groups who held positive attitudes toward annuities included women, the risk adverse, and those with above average longevity, which represent the groups in need

Table 26

Multiple Regression Analysis Summary for Variables Predicting Attitudes Toward

Immediate Annuities

| Variable | B | SEB | β |
|------------------|------|-------|---------|
| Risk tolerance | -.57 | .12 | -.28*** |
| Age | -.01 | .03 | -.02 |
| Gender | 1.43 | .61 | .13* |
| Retirement class | .79 | .63 | .07 |
| Self-efficacy | -.15 | .07 | -.12* |
| Life expectancy | 1.51 | 1.85 | .31 |

Note. $R^2 = .15$; * $p < .05$, *** $p < .001$

of longevity protection the most.

In summary, hypotheses one, two, and four were supported by the data.

Individuals who are more risk adverse had a more positive attitude toward annuities and women had a more positive attitude than men. As hypothesized, individuals with a longer than average life expectancy had a more positive attitude toward annuities than those respondents with an average or less than average life expectancy. Hypotheses five and seven were partially supported, the higher the financial confidence of the individual, the less positive their attitude toward annuities, and female respondents who had taken a retirement class had a more positive attitude than those who had not. Hypotheses three and six were not supported. Marital status and income had no significant effect on respondent's attitudes toward immediate annuities.

CHAPTER V

DISCUSSION AND IMPLICATIONS

Discussion of Results

Much of the retirement planning advice individuals receive over the course of their lifetime focuses on the accumulation of wealth. Such information is important; however, saving money is not enough to guarantee financial security throughout a potentially lengthy retirement. Creating a sustainable strategy for withdrawing retirement assets to last an individual's lifetime raises new issues. At the same time, the need for a guaranteed lifetime income for retirees continues to grow as life expectancies increase and traditional sources of guaranteed pension income for retirement decrease. Immediate annuities provide an individual with a stream of income guaranteed to last as long as they live. This study was conducted to examine attitudes toward the annuitization of retirement wealth and characteristics that influence attitudes toward immediate annuities. A survey examining attitudes toward immediate annuities was completed by 745 employees at Utah State University.

Based on previous research, it was hypothesized that risk adverse individuals will have a more positive attitude toward immediate annuities than risk tolerant individuals. Further hypotheses suggest that women will have more positive attitudes toward annuities than men; single individuals will have a more positive attitude than married couples, respondents with higher financial confidence levels will have a less positive attitude, and higher income earners will have positive attitudes toward annuities. Another hypothesis is that employees who attended a retirement course will have a more

positive attitude than those who have not taken a retirement class. One-way analysis of variances (ANOVA), Pearson's R correlation coefficients, Chi Square crosstabulations, and t tests were utilized to test these hypotheses with .05 as the level of statistical significance.

The theoretical framework for this study, the life cycle hypothesis of savings (Ando & Modigliani, 1963), was supported by this study. The theory assumes that an individual will consume a constant percentage of their income and that the individual was born without an inheritance and will die without leaving a bequest. The life cycle hypothesis of savings states that, in retirement, individuals are expected to spend down their accumulated assets. Immediate annuities are designed for individuals or couples to address their uncertain and potentially lengthy life spans, enabling them to spend down their retirement assets while ensuring they do not run out of money. Immediate annuities fit the life cycle model because they enable a retiree to help match their remaining assets to their longevity. In this study the demographic groups who held positive attitudes toward annuities included women, the risk adverse, and those with above average longevity, which represent the groups in need of longevity protection the most. Surprisingly, older individuals in this study showed no difference in attitudes toward immediate annuities compared to younger individuals.

As expected in hypothesis one, a t test showed that risk adverse individuals have a more positive attitude toward annuities than those with higher risk tolerance. Another t test for hypothesis two showed that women have more positive attitudes toward immediate annuities than men. Women are also more risk adverse compared to men, which could explain their more positive attitudes toward a financial product that provides

guaranteed income. Also, women who attended a retirement planning class have a more positive attitude toward annuities.

Based on a comprehensive review of the literature on investment risk tolerance and gender, Bajtelsmit and Bernasek (1996) concluded that women are more risk adverse than men because they have more to lose. Historically when compared to men, women have earned lower average wages, enjoy less access to credit, have more household and caregiving responsibilities, spend less time in the work force, have lower financial knowledge, and live longer. Some of these gaps have narrowed in recent years, but taking time out of the workforce for family responsibilities still deprives many women of wage increases and retirement plan contributions. On average, women live longer than men and will need more income security in retirement (Hira & Loibl, 2008; Zweig, 2010). Thus, it is logical that women who understand the purpose of immediate annuities recognize the potential benefits.

Hypothesis four found that individuals with longer than average life expectancies have more positive attitudes toward immediate annuities than those with shorter life expectancies. Annuities are designed to address the uncertainty of potentially lengthy life spans. The annuity provider can pool resources across a large number of retirees using the assets of those who die sooner to pay benefits to annuitants who live longer than average. An immediate annuity would be most appropriate for an individual who expects to live longer than average.

Results of the ANOVA for familiarity with and attitudes toward immediate annuities reveal a significant and perplexing difference; those who are less familiar with annuities express a more positive attitude toward this product while respondents who

consider themselves very familiar hold a less positive attitude. Although seemingly illogical, this finding, however, could be a result of self-reporting error. There were no survey questions to measure respondent's actual knowledge of immediate annuities. In this study more than half of respondents indicate that they are not at all familiar with immediate annuities while only 4.5% say they are very familiar with the product. Future studies need to determine how much knowledge respondents really have about immediate annuities before assessing their attitudes.

In other studies that examined why individuals purchased annuities, Brown (1999) and Drinkwater and Sondergeld (2004) found that tax-deferral features are the main reason given for purchasing a deferred annuity. When asked why they bought a deferred annuity, 41% of recent buyers noted the favorable tax features, and only 12% mentioned retirement income purposes. Less than 25% of recent buyers understand that their deferred annuity could be converted to an immediate annuity to provide a guaranteed lifetime income (Drinkwater & Sondergeld, 2004). From 2000 to 2005 the annuity market saw some slight growth mainly as a result of sales of variable deferred annuities; however, only about 1% of those deferred annuity assets were annuitized (Drinkwater & Sondergeld, 2004). During the same time period, sales of immediate annuities also increased slightly; however, they remained a small fraction of total annuity sales and retiree wealth. Thus, it appears that the guaranteed income feature of deferred as well as immediate annuities is not widely recognized, perhaps reflecting how annuities are marketed, with an emphasis on tax saving features.

Also, respondents in this study who claim to be most familiar with annuities may be more inclined to invest their money in the stock market to take advantage of the

overall lower stock prices during and after the 2008-2009 financial crisis. The median age of this sample is 47; so many respondents are a long way from retiring and not actually in the market for immediate annuities. This study was conducted 11 months after financial markets bottomed out in March, 2009. At that time equities had increased about 70% since March, 2009, but were still down 25% from their peak in 2007 (Ibbotson, 2010). Individuals who are more familiar with annuities may also have a less positive attitude since they may be more inclined to want their portfolios to recover from their losses resulting from the financial crisis.

Hypothesis three states that single individuals will have a more positive attitude toward annuities than married persons, yet an ANOVA shows that marital status and attitudes toward annuities are not statistically related. Previous research by Dushi and Webb (2004) demonstrates that single women with no pensions should annuitize a portion of their retirement assets almost immediately upon retirement. If single women without pensions choose not to annuitize some of their assets when they retire, after years of spending the remaining assets may not be sufficient to purchase an annuity. According to Dushi and Webb, only married couples intend to annuitize their wealth when they are risk averse or do not have a DB pension. In the same study, married individuals also expressed a stronger bequest motive which could help explain their low preference for annuitization. Brown (2001) also found that married couples are less likely to annuitize because of their ability to pool their assets. Married individuals may even have a different attitude toward annuities than their spouse. One member from the couple may have a positive attitude toward annuities while the other could have a less favorable attitude. These two contrasting attitudes may also explain why couples are less

likely to annuitize their retirement assets.

The fifth hypothesis is that the higher the financial confidence level of the respondent, the less positive their attitude toward annuities. The Retirement Personality Type questions are one proxy for financial confidence, with planners being the most confident and deniers the least confident. Despite the one-way ANOVA showing no statistical difference among the five retirement personality types, hypothesis five is partially supported because the planners ($X = 27.3$) and savers ($X = 27.3$) have the lowest attitude scores regarding immediate annuities, perhaps indicating that they feel confident to manage their assets to last for their lifetime. Strugglers have the most positive attitudes toward annuities ($X = 30.1$) followed by deniers ($X = 28.2$) and impulsives ($X = 28.1$). So although the ANOVA is not significant, the mean attitude scores are consistent with the hypothesis; thus further research is needed.

Hypothesis six states that higher income earners will have a more positive attitude toward annuities than lower income respondents (Gardner & Wadsworth, 2004). A one-way ANOVA found no statistically significant difference between income and attitudes toward immediate annuities. Only six subjects report less than \$25,000 in total household income and, as a group, they have the least positive attitude toward annuities. The respondents with incomes between \$25,000 and \$75,000 express the most positive attitudes while the income groups above \$75,000 have less positive attitudes toward annuities.

Respondents in the middle income group (\$25,000 to \$75,000) should be the best prospects to annuitize a portion of their assets in retirement. Middle income respondents are more likely to have sufficient assets to purchase an annuity while needing the

assurance of a lifetime income. Lower income individuals may not have a sufficient retirement assets to purchase an immediate annuity and may expect to rely primarily on Social Security. In 2008, the lowest income group over age 65 received 88.4% of their retirement income from Social Security, compared to the highest income group that received 18.6% of their income from Social Security (McDonnell, 2010). Higher income persons may feel their assets are sufficient to last through retirement and are less likely to worry about running out of money and thus do not feel a need for immediate annuities. Those individuals with higher incomes are also more likely to have a bequest motive (Kopczuk & Lupton, 2007); however, bequest motives were not measured in this study.

Gardner and Wadsworth (2004) conducted a similar study in the United Kingdom exploring attitudes toward annuitization. The sample included 3,511 respondents ages 50-64. They found that individuals with lower education, poorer health, and lower incomes are more likely to oppose annuitization. Those respondents in good health, higher educational attainment, and higher incomes are all more willing to annuitize their wealth. Gardner and Wadsworth (2004) had many more respondents in their study compared to this study, and their study focused more on near retirees which could make their results different from hypothesis six in this study.

After testing hypothesis six, it became apparent that assets rather than income should have been the focus for comparison for this hypothesis. A chi square crosstabulation shows a positive correlation between income and assets; respondents with higher incomes report more assets. A one-way ANOVA comparing retirement assets and attitudes, shows that, in general, respondents with lower assets (less than \$500,000) have

the most positive attitudes toward annuities and those with higher retirement assets (\$500,000 or more) report the least positive attitudes toward annuities. Further research about annuities and assets should explore a possible bell shaped curve relationship as those with lower assets may not be able to afford an annuity while those with higher retirement assets are less likely to worry about running out of money and, therefore, may not feel that immediate annuities are suitable for them. Similar to long term care insurance, the middle asset category is most able to both need and be able to afford the guaranteed lifetime income from an immediate annuity.

The seventh and final hypothesis assumes those that had taken a retirement class will have a more positive attitude toward annuities than those who have not taken a retirement class. A one-way ANOVA shows no statistically significant difference in attitudes toward annuities between subjects who have not taken a retirement class, those who have taken any retirement class, and those respondents who have attended the six session retirement class offered to USU employees. However, one perplexing finding is that men who have attended a retirement class, and supposedly learned about annuities, have less positive attitudes toward immediate annuities than men who have not taken a class, although the difference was not statistically significant. In contrast, women who have taken a retirement class express more positive attitudes toward immediate annuities than women who have not taken a class. Women enrolled in the USU retirement class have a similar mean score for attitudes toward annuities ($X = 29.3$) as women who had taken any retirement class ($X = 29.6$). Their attitudes are significantly more positive than women who have not attended a retirement class ($X = 28.1$). The difference is statistically significant at the .05 level.

Similar to Clark, d'Ambrosio, McDermed, and Sawant (2004), this study found that women are much more likely than men to have their retirement goals and planning influenced positively by an education course. Another study found that women prefer instructor-based learning while men prefer self-directed learning (Hira & Loibl, 2008). After learning more about an immediate annuity from a trusted financial educator, women recognize the need for a secure retirement and that immediate annuities can provide them with that security. Women recognize their need for financial security more than men since they are more risk adverse and also expect to live longer than men. Barber and Odean (2001) have shown that men tend to be over-optimistic and more confident than women when it comes to investing. After completing a retirement class men may have a false sense of over-confidence and optimism about being able to manage their assets throughout retirement. The reasons for males' aversion to immediate annuities merit further research.

Women are less confident in their investing abilities compared to men and find investing less exciting and satisfying than men; they also find making investment decisions to be more stressful, difficult, and time consuming than men (Hira & Loibl, 2008). Women in this study are more likely to be deniers, strugglers, and savers compared to men who are more likely to be planners and impulsives. Therefore, women may feel more comfortable making one decision to purchase an immediate annuity and enjoy the guaranteed monthly income rather than researching other withdrawal strategies and having to continuously monitor and manage their investments in retirement.

Implications

This study found a strong difference in attitudes toward immediate annuities expressed by males and females which suggests that married couples may not agree on whether to purchase an immediate annuity. As one spouse is likely to outlive the other, married couples should work together when planning for retirement in order to make the best decisions for the couple. Compared to male investors, women are more likely to look at alternatives and consider many more choices; once they make a decision they are much more likely to stick with it (Barber & Odean, 2001; Zweig, 2010). In contrast, men are much more likely to act on impulse, are much more confident in their investing knowledge, trade more often, and often act on very little information (Barber & Odean, 2001; Zweig, 2010). As financial writer Jason Zweig (2010) has said, “In financial life, there are no prizes for making the fastest decision – but there are many rewards for making the best decision” (p. 163).

Since most wives outlive their husbands by about five years (Brown, 2008), men must recognize their wife’s need to have an equal say in the family’s retirement planning since women need the guaranteed income from an immediate annuity more than their husband. By working together on a retirement plan, a couple can decide together on decumulation strategies that would work for best their situation (Zweig, 2010). What matters most for the couple is that both individuals are getting closer to their common goals of financial security and prosperity for the family and that may mean purchasing an immediate annuity for the wife to overcome her longevity risk. Also, since most wives outlive their husbands, assuming divorce or disability does not force financial

independence on her earlier, sooner or later most married women will be responsible for making critical investment decisions (Zweig, 2010). Therefore, married couples need to discuss their retirement withdrawal strategies together and consider all the options as women are more dependent than men on their spouses for financial security (Hira & Loibl, 2008).

Since these respondents reacted very positively to the question on how much a guaranteed income would contribute to their peace of mind, annuity marketers and educators need to emphasize the guaranteed income aspect of immediate annuities along with data on increasing longevity. Several recent studies have utilized framing (Agnew et al., 2008b; Brown et al., 2008) to study how to encourage the purchase of immediate annuities. In a study by Brown et al. (2008), 72% of respondents preferred an annuity over alternative products when the choice was presented in a consumer framework which uses words like spend, payment, and describing periods in terms of the purchaser's age. In contrast, only 21% of subjects preferred annuity products when the options were presented in an investment framework, using words such as earnings, invest, and describing periods in terms of years. Also, annuities are viewed as valuable insurance in a consumption framework, but in an investment framework, annuities are a risky asset because the payoff depends on uncertain dates of death (Brown et al., 2008).

The behavioral economics concept of framing suggests that choices are not only based on material consequences, but are filtered through frames or lenses which an individual uses to interpret their choices (Brown et al., 2008). For example, investors typically isolate one choice (how to invest) from others (how to consume) and focus on the details of one choice while forgetting to view the choice as a broader range of

choices. Recent studies (Agnew et al., 2008a) have measured the effects of negative framing on immediate annuities. In the presence of uncertainty, people spend more time processing information and pay more attention to information when framed negatively.

Questions from this survey may be slightly pro-annuity. One question mentioned protection against stock market losses, while other stated that the annuity would not lose any money. Another question mentioned that an annuity interest rate may be higher than certificate of deposits or dividends from bonds or stocks. Words in the survey used to describe immediate annuities were factual, not over-exaggerated, and include: certainty, predictability, independent, peace of mind, and protection. Most of the questions came from previous studies. Educators, advisors, and marketers could present annuities to their clients in a similar framework where annuities can offer peace of mind in their retirement because they are guaranteed to never run out of money and immediate annuities offer protection against stock market losses.

Individuals invested in defined contribution retirement plans need more and improved education about immediate annuities as half of respondents in the study indicated they didn't know enough about annuities to consider them for retirement. Annuities offered by retirement plans or insurance providers, can be "customized" to fit the needs of retirees. Annuity payments can be made contingent upon the life of either spouse, called a "joint life" annuity, providing income for both spouses for as long as either member of the couple lives. Also, individuals interested in maintaining a diversified investment portfolio during retirement can choose to link annuity payments to the performance of an underlying portfolio of stocks and or bonds. There are also other features such as inflation protection or guaranteed minimum payouts if the annuitant dies

early (Brown, 2008). However, customizing an immediate annuity can also lower the amount of the monthly payment so retirees must consider these tradeoffs before making a final decision. Educators have an important role to play in this regard since they can provide unbiased information.

Increasing education about immediate annuities in defined contribution plans can teach individuals to protect the likely gap between retirement assets and longevity. Immediate annuities are a logical answer for many retirees to ensure that assets last a lifetime. More research needs to be done on how to overcome consumer reluctance to annuitize a portion of their assets. Questions from this study asked how likely the individual would be to purchase an immediate annuity as a safeguard from large drops in the stock market, certainty about how much money they would receive each month, and also a certainty that they would not lose any money. More questions for future research could focus on 401(k) account balances and how a portion of that money could be used to create a guaranteed income through annuities. More consumer education can also focus on how immediate annuities work for individuals as well as couples, the types of individuals most likely to benefit from an annuity, and the role of immediate annuities in ensuring assets last a lifetime.

Limitations and Strengths

There are several limitations to this study. The first limitation is that the respondents were a very highly educated group (97% with at least a bachelor's degree), high income (35% with total household income of \$100,000 or more), and almost entirely Caucasian so they are not representative of the U.S. population. However, the

group from this study may represent the ideal potential clientele for annuities due to longer than average life expectancies and sufficient assets to purchase an annuity.

Another limitation is since the study was sent to all university faculty and professional employees, respondents represented a wide age range with about one-third of respondents less than 45 years old and thus a couple of decades away from retirement. This group of less than 45-year-olds is more concerned today with the accumulation phase of retirement assets rather than the decumulation phase which is the focus of this study; however there was no difference in attitudes toward annuities based on age of respondents.

It was surprising that most respondents knew little or nothing about immediate annuities since their retirement plan offers immediate annuities. Also surprising was the very low self-assessed level of knowledge of investing in general among a highly educated sample working at a university. Nearly half of the respondents were not at all familiar with an immediate annuity, and only 6% considered themselves a sophisticated investor. Roughly 30% considered themselves average investors and 22.5% claimed to know nothing about investing.

Another limitation concerns the potential unreliability of subjects' longevity estimates. Respondents were asked to estimate their expected longevity based on their health and family history. Many may have simply guessed. There is no way of assessing the accuracy of their longevity estimates; however, Utahns have a longer life expectancy than Americans in general. Although it is time consuming, more accurate estimates of longevity could have been achieved by directing subjects to use an internet longevity calculator. Longevity calculators ask questions regarding gender, height/weight, a

history of health problems, family medical history, depression, exercise, and eating habits. A calculator would have provided a more accurate life expectancy estimate; however, using a calculator would have added to the length of time to take the survey and added to the respondents' burden. The length of the survey caused some respondents to fail to complete all questions so making it longer would have reduced the response rate.

There may be limitations with the retirement planning courses examined in this study. The USU retirement course presents a favorable view of annuities and their potential benefits for overcoming longevity risks. It was also unknown how many of the six retirement classes each respondent attended. Other retirement classes may not cover annuities at all or to a very small extent, or may have been taken a long time ago. Again, the question arises as to how immediate annuities were presented or framed in the other retirement classes. Also, the surveys were completed a year after the bottom of the financial markets and the resultant investment losses affecting retirement assets. Virtually all respondents had experienced some losses in their retirement accounts, but the timing also allowed the markets to recoup some of those losses. Clearly the timing of the data collection likely affected the results to a certain extent.

On the other hand, there were some strengths in this study as well. For example, there was a high response rate of 43.2%. This high response rate may be due to the individuals that come from a university being asked to participate in the study. Respondents to the survey are more likely to be interested in finances, investing, and retirement planning since a lot of respondents are planners or savers. Another strength from this study is that many questions from this survey are taken from other studies.

Recommendations

Women have more positive attitudes toward immediate annuities than men and are much less likely than men to be very confident that their money will last through retirement. Many married women are likely to lose some of their retirement income if their husband dies first. Therefore, immediate annuities can be particularly beneficial for women as they have greater expected longevity and are more risk adverse than men. Women can benefit from immediate annuities and should be targeted for financial education as they have a positive attitude toward immediate annuities and can benefit from them.

Another finding from this study is that those respondents that claim to be less familiar with an annuity and those that consider themselves least knowledgeable about investments had the most positive attitudes toward annuities. Although immediate annuities serve an important retirement planning function, as the large baby boomer cohort begins to retire financial regulators are worried about estate planning and annuity scams among the elderly and less financial educated. In addition, a recent study Lusardi and colleagues (2009) reported that respondents older than 55 years of age lack understanding of stocks and bonds, risk diversification, portfolio choice, and investment fees. This lack of basic investment knowledge and vulnerability in retirement has led to an increase in annuity scams. Some insurance companies are selling tax-deferred annuities to boomers which may not allow withdrawals for 15 years or more and have surrender charges as high as 22% (Kirchheimer, 2005). With interest rates today at record lows, the rate of return for secure investments such as savings accounts, money

markets, and certificates of deposit are so low that offers of higher returns from deferred annuities sound alluring for many older retirees (Korosec, 2009).

Tax-deferred and variable annuities are being marketed to retirees by charismatic salesmen at free lunch seminars. The promise of the free lunch is to get people in the door where retirees hear a sales pitch about annuities. A follow-up consultation where retirees bring their financial records allows the advisor to recommend a product exploiting retiree's vulnerabilities. According to a recent survey by the FINRA Investor Education Foundation (2009), four out of five investors age 60 have gotten at least one invitation to a free investment seminar in the past three years and nearly 60% have gotten six or more. Nearly 25% of all those investors who had received an invitation said that they went to at least one seminar in the three years. On the other hand, relatively few, only about 9% of older investors who do attend seminars actually bought anything (FINRA, 2009).

Individuals, especially those in retirement, need to learn the persuasive tactics and influence techniques that sellers, both legitimate and questionable, are using. These include dangling the prospects of wealth, building credibility, and scarcity of the product. FINRA (2009) recommends that consumers do their homework before the seminar to see if the salesperson is registered through FINRA or the SEC. Another suggestion is to ask questions about the financial product, flexibility, costs, and type of investor who is not suitable for the product. A final suggestion is to decide *now* to decide *later*; commit before the seminar not to purchase right away but take more time to research the product and company (FINRA, 2009).

Another group protecting retirees from annuity scams is AARP. AARP launched

a national Free Lunch Seminar Monitor to raise public awareness of this marketing practice which allows volunteers to attend these events and report back to AARP using a checklist of questions (Gandel, 2009). Also, legislation being proposed to protect retirees would curb large surrender charges, require commissions, fees, and interest rates to be clearly disclosed to consumers, and allow cancellation of annuity purchases within 30 days with a full refund (Korosec, 2009).

Another obstacle for retirees when contemplating immediate annuities is the solvency of insurance companies which emerged as a problem during the recession. It is imperative that before purchasing an immediate annuity retirees make certain the annuity provider is financially secure. Unlike pensions or banks, the solvency of insurers and the guaranty funds that make payments in the event of insurer insolvency are regulated by the 50 states instead of the federal government. States have guaranty associations to cover shortfalls in payments by an insolvent insurer. Most states cover only \$100,000 of the annuity contract, although some states cover more. The National Association of Insurance Commissioners (NAIC) has recommended that all states raise the coverage cap for annuities to \$250,000 (AARP, 2010).

Aside from creating more laws to deter annuity scams, policy makers have also begun to propose new products to help retirees have a secure retirement and improve 401(k) plans. One proposal is to automatically convert a portion of an individual's 401(k) into an annuity for two years when they retire. The retiree would be allowed to opt out, but if they don't, the annuity would eventually become permanent after two years. Gale, John, Iwry, and Walker (2008) from the Retirement Security Project, suggest that actually receiving a steady stream of monthly payments would increase the

acceptance rates for immediate annuities.

A second proposal to generate more awareness on how to create lifetime income from defined contribution plans is Senate bill 2832 that would amend the Employee Retirement Income to Security Act of 1974. The bill would require 401(k) providers to inform near retirees of the projected monthly income that they could expect in retirement based on their current savings rate and account balance. This proposal would encourage individuals to focus on the income their 401(k) could generate during retirement rather than on their current balance. This knowledge could encourage employees to consider how much their savings rates today will influence their projected monthly income in retirement.

Recommendations for Future Research

Since one of the main hypotheses in the study focused on retirement education and attitudes toward annuities, further research could focus on the retirement class taught at this university as well as other workplace based retirement education. A detailed program evaluation including pre- and posttests and measures of behavior change for those enrolled in the class would improve knowledge about any changes in participants' attitudes toward annuities before and after taking a retirement class. This study could also be completed with other populations, either at other universities, with large employers, or a broader sample more representative of the general public. It is not sufficient to simply assume that workplace retirement education will make a difference in behaviors.

Since this study focused on individuals answering questions about themselves and

their attitudes, future research could focus on married or partnered couples and each spouse or partner's attitudes toward immediate annuities and any differences between the couple. This study found that women have a more positive attitude toward annuities than men, but other research could be done to determine the factors that influence a couple's decision to annuitize their retirement assets. What happens when a wife has a positive attitude toward annuities while her husband has a less than positive attitude? Does the person who has more control over the retirement planning and investing make the couple's decisions?

Another area for future research would be to explore attitudes toward longevity insurance. Longevity insurance allows retirees to purchase an annuity when they retire but delay receiving payments until 15 to 20 years later, thus insuring against outliving their assets. For example, a man could invest \$200,000 at age 65 and receive \$50,000 every year for life starting at age 80. The initial cost of longevity insurance is smaller than an immediate annuity due to the delay in receiving benefits which could positively influence attitudes toward creating a guaranteed lifetime income (Lankford, 2010). However, how this product is presented or framed would be especially important because of the delay in receiving potential benefits. Further, it would be useful to study subject's future versus present orientation and how that attitude affects attitudes toward annuities and longevity insurance.

REFERENCES

- AARP. (2010). The retirement challenge: Making savings last a lifetime. Retrieved from <http://aging.senate.gov/events/hr222aarp.pdf>
- AARP/ACLI. (2007). What now? How retirees manage money to make it last through retirement. Retrieved from <http://www.acli.com/ACLI/Issues/GR07-216.htm>. Pg. 1-137
- Agnew, J.R., Anderson, L.A., Gerlach, J.R., & Szykman, L.R. (2008a). The annuity puzzle and negative framing. *Center for Retirement Research at Boston College, Issue Brief Number 8-10*, 1-5.
- Agnew, J.R., Anderson, L.A., Gerlach, J.R., & Szykman, L.R. (2008b). Who chooses annuities? An experimental investigation of the role of gender, framing, and defaults. *American Economic Review*, 98(2), 418-422.
- Ameriks, J. (2002). Recent trends in the selection of retirement income streams among TIAA-CREF participants. *TIAA-CREF Institute*, 74, 1-19.
- Ameriks, J., Veres, R., & Warshawsky, M.J. (2001). Making retirement income last a lifetime. *Journal of Financial Planning*, 14(12), 60-76.
- Ando, A., & Modigliani, F. (1963). The life cycle hypothesis of savings: Aggregate implications and tests. *The American Economic Review*, 53(1), 55-84.
- Bajtelsmit, V.L., & Bernasek, A. (1996). Why do women invest differently than men? *Financial Counseling and Planning*, 7, 1-10.
- Barber, B., & Odean, T. (2001). Boys will be boys: Gender, overconfidence, and common stock investment. *Quarterly Journal of Economics*, 116, 261-292.

- Bengen, W.P. (1994). Determining withdrawal rates using historical data. *Journal of Financial Planning*, 14(12), 60-76.
- Bengen, W.P. (1997). Conserving client portfolios during retirement, part III. *Journal of Financial Planning*, 10(6), 84-97.
- Bernheim, B.D. (1998). Financial illiteracy, education, and retirement savings. In O.S. Mitchell & S.J. Schieber (Eds.), *Living with defined contribution pensions* (pp. 38-68). Philadelphia, PA: University of Pennsylvania Press.
- Bernheim, B.D., & Garrett, D.M. (2003). The effects of financial education in the workplace: Evidence from a survey of households. *Journal of Public Economics*, 87, 1487-1591.
- Brown, E. (2009, July 2). V.A. man 107, finds blessings and burdens in longevity. *Washington Post*. Retrieved from <http://www.washingtonpost.com/wp-dyn/content/article/2009/07/01/AR2009070103861.html>
- Brown, J.R. (1999). Private pensions, mortality risk, and the decision to annuitize. *NBER Working paper 7191*. Cambridge, MA: National Bureau of Economic Research.
- Brown, J.R. (2000). How should we insure longevity risk in pensions and social security? *An Issue in Brief*. Center for Retirement at Boston College, Number 4, 12.
- Brown, J.R. (2001). Private pensions, mortality risks, and the decision to annuitize. *Journal of Public Economics*, 82, 29-62.
- Brown, J.R. (2007). Rational and behavioral perspectives on the role of annuities in retirement planning. *NBER Working paper 13537*. Cambridge, MA: National

Bureau of Economic Research.

- Brown, J.R. (2008, June). A paycheck for life: The role of annuities in your retirement portfolio. *TIAA-CREF Institute: Trends and Issues*, 1-11.
- Brown, J.R., Kling, J.R., Mullainathan, S., & Wrobel, M.V. (2008). Why don't the people insure late life consumption? A framing explanation of the under-annuitization puzzle. *American Economic Review Papers and Proceedings*, 98(2), 304-309.
- Brown, J.R., & Poterba, J.M. (2000). Joint life annuities and annuity demand by married couples. *The Journal of Risk and Insurance*, 67(4), 527-554.
- Bruno, M.A., & Jaconetti, C.M. (2009, June). Revisiting the '4% spending rule.'
Retrieved from <https://advisors.vanguard.com/iwe/pdf/RPD14.pdf>
- Centers for Disease Control and Prevention. (2009). *Health, United States, 2009*.
Retrieved from <http://www.cdc.gov/nchs/data/hus/hus09.pdf>
- Clark, R.L., & d'Ambrosio, M.B. (2008, March). Adjusting retirement goals and saving behavior: The role of financial education. *TIAA-CREF Institute: Trends and Issues*, 1-15.
- Clark, R.L., d'Ambrosio, M.B., McDermed, A.A., & Sawant, K. (2004). Sex differences, financial education, and retirement goals. In O. S. Mitchell & S.P. Utkus (Eds.), *Pension design and structure: New lessons from behavior finance* (pp. 185-206). New York, NY: Oxford Press.
- Clark, R.L., d'Ambrosio, M.B., McDermed, A.A., & Sawant, K. (2006). Retirement plans and saving decisions: The role of information and education. *Journal of*

Pension Economics and Finance, 5(1), 45-67.

Costo, S.L. (2006, February). Trends in retirement plan coverage over the last decade.

Monthly Labor Review, 58-64. Retrieved from <http://www.bls.gov/opub/mlr/2006/02/art5full.pdf>

DeVaney, S.A. (2008). Financial issues of older adults. In J.J. Xiao (Ed.), *Handbook of consumer finance research* (pp. 209-221). New York, NY: Springer.

Drinkwater, M., & Sondergeld, E.T. (2004). Perceptions of mortality risk: Implications for annuities. In O.S. Mitchell & S.P. Utkus (Eds.), *Pension design and structure: New lessons from behavior finance* (pp. 275-286). New York, NY: Oxford Press.

Dus, I., Maurer, R., & Mitchell, O.S. (2004). Betting on death and capital markets in retirement: A shortfall risk analysis of life annuities versus phased withdrawal plans. *Financial Services Review*, 14(3), 169-196.

Dushi, I., & Webb, A. (2004). Household annuitization decisions: Simulations and empirical analyses. *Journal of Pension Economics and Finance*, 3, 109-143.

Dwyer, P.D., Gilkeson, J.H., & List, J.A. (2002). Gender differences in revealed risk taking: Evidence from mutual fund investors. *Economic Letters*, 76(2), 151-158.

Employee Benefit Research Institute (EBRI). (1999a). *Women's retirement confidence survey (RCS)*. Retrieved from http://www.ebri.org/pdf/surveys/rcs/1999/wrcs_report.pdf

Employee Benefit Research Institute (EBRI). (1999b). *The 1999 retirement confidence survey (RCS) summary of findings*. Retrieved from <http://www.ebri.org/pdf/surveys/rcs/1999/rcssummary.pdf>

- FINRA Investor Education Foundation. (2009). "Free lunch" investment seminars: *Avoiding the heartburn of a hard sell*. Retrieved from <http://www.finra.org/Investors/ProtectYourself/InvestorAlerts/FraudsAndScams/P036745>
- Gale, W.G., John, D.C., Iwry, J.M., & Walker, L. (2008). Increasing annuitization in 401(k) plans with automatic trial income. *The Hamilton Project*. Retrieved from <http://www.hamiltonproject.org>
- Gandel, C. (2009). The high cost of free lunch seminars: AARP works to raise awareness of marketing tactic. *AARP Bulletin*. Retrieved from http://www.aarp.org/money/scams-fraud/info-04-2009/high_cost_of_free_lunch_seminars.1.html
- Gardner, J., & Wadsworth, M. (2004, March). Who would buy an annuity? An empirical investigation. *Watson Wyatt Technical Paper, No. 2004-4*. Retrieved from <http://ssrn.com/abstract=892767>
- Goodman, B., & Heller, M. (2006, October). Annuities: Now, later, never? *TIAA-CREF Institute: Trends and Issues*, 1-18.
- Grable, J. E., & Joo, S. (2004). Environmental and biopsychosocial factors associated with financial risk tolerance. *Financial Counseling and Planning*, 15(1), 73-88.
- Guyton, J.T. (2004). Decision rules and portfolio management for retirees: Is the 'safe' initial withdrawal rate too safe? *Journal of Financial Planning*, 17(10), 54-62.
- Halek, M., & Eisenhauer, J.G. (2001). Demography of risk aversion. *The Journal of Risk and Insurance*, 46(1), 1-24.
- Helman, R., Copeland, C., & VanDerhi, J. (2010). The 2010 retirement confidence survey: Confidence stabilizing, but preparations continue to erode. *EBRI Issue*

Brief, 340, 1-44.

- Hira, T. K., & Loibl, C. (2008). Gender differences in investment behavior. In J.J. Xiao (Ed.), *Handbook of consumer finance research* (pp. 253-270). New York, NY: Springer.
- Hurd, M. (1999). Mortality risk and consumption by couples. *NBER Working Papers 7048*. Cambridge, MA: National Bureau of Economic Research, Inc. Retrieved from <http://www.nber.org/papers/w7048.pdf>
- Hurd, M., & Panis, C. (2003). An analysis of the choice to cash out, maintain, or annuitize pension rights upon job change or retirement. *RAND working paper*, Santa Monica, CA.
- Ibbotson. (2010). *Stocks, bonds, bills, and inflation 2010 yearbook*. Chicago, IL: Author.
- Jianakoplos, N.A., & Bernasek, A. (1998). Are women more risk adverse? *Economic Inquiry*, 36(4), 620-630.
- Kennedy, J.K., Nash, R.T., & Bonno, J.A. (1998, June). How much is enough? A guide to planning for a retirement portfolio. *Journal of Financial Planning*, 82-88.
- Kirchheimer, S. (2005). Deviled nest eggs: Long-term investments are not always a good option. *AARP Bulletin*. Retrieved 2010 from http://www.aarp.org/money/scams-fraud/info-2005/scam_alert__deviled.1.html
- Kopczuk, W., & Lupton, J.P. (2007). To leave or not to leave: The distribution of bequest motives. *Review of Economic Studies*, 74, 207-235.
- Korosec, T. (2009). Deferred-annuities maybe unsuitable for retirees. *AARP Bulletin*. Retrieved from http://www.aarp.org/money/scams-fraud/info-03-2009/deferred_annuities.html

- Kotlikoff, L.J., & Spivak, A. (1981). The family as an incomplete annuities market. *The Journal of Political Economy*, 89(2), 372-391.
- Lankford, K. (2010, May). Lock in your retirement income: Three strategies that use annuities to guarantee monthly paychecks for life. *Kiplinger*, 61-63.
- Lown, J. (2007). Measuring financial planning personality type based on stages of change. *The Journal of Consumer Education*, 24, 28-39.
- Lusardi, A. (2004). Saving and the effectiveness of financial education. In O.S. Mitchell & S.P. Utkus (Eds.), *Pension design and structure: New lessons from behavior finance* (pp. 155-184). New York, NY: Oxford Press.
- Lusardi, A., Mitchell, O., & Curto, V. (2009). Financial literacy and financial sophistication in the older population: Evidence from the HRS 2008. *Working Paper*. Retrieved from <http://www.mrrc.isr.umich.edu/publications/papers/pdf/wp216.pdf>
- McDonnell, K. (2010). Income of the elderly population age 65 and over, 2008. *Employee Benefit Research Institute*, 31(6), 2-16.
- Measure of America. (2006). *American human development project*. Retrieved from <http://www.measureofamerica.org/>
- Mitchell, O.S. (2000). *New trends in US pensions WP 2000-1*. Philadelphia, PA: Pension Research Council.
- Mitchell, O.S. (2001). Developments in decumulation: The role of annuity products in financing retirement. *The Pension Institute*, 1-41. Retrieved from www.pensions-institute.org
- Munnell, A.H., Webb, A., & Golub-Sass, F. (2009). The national retirement risk index:

- After the crash. *Center for Retirement Research at Boston College*, 1-10.
- Panis, C.W.A. (2004). Annuities and retirement well-being. In O.S. Mitchell & S.P. Utkus (Eds.), *Pension design and structure: New lessons from behavior finance* (pp. 259-274). New York, NY: Oxford Press.
- Petrova, P. (2003, January). *The annuity puzzle gets bigger* [Working paper]. Boston MA: Boston College.
- Prudential Financial. (2006, October). Learning the two-step: A new approach to asset allocation for the retiree. *Prudential's four pillars of retirement series*, 1-25.
- Prudential Financial. (2009). *Impact of the market crisis on retirement preparedness*. Retrieved from <http://www.prudential.com/media/managed/ImpactofMarketCrisis%28Elec%29FINAL.p>
- Prudential Financial. (2010). *Women indicate strong need for guidance and support with respect to workplace retirement plans*. Retrieved from <http://www.prudential.com/media/managed/WP6GenderSupplement.pdf>
- Reichenstein, W. (2003, November). Allocation during retirement: Adding annuities to the mix. *American Association of Individual Investors Journal*, 3-9.
- Salter, J.R., & Evensky, H. (2008). Calculating a sustainable withdrawal rate: A comprehensive literature review. *Journal of Personal Finance*, 6(4), 118-137.
- Schulaka, C. (2010, April). Is it time for annuities? *Annuities in Financial Planning: A Supplement to the Journal of Financial Planning*, 6-8. Retrieved from http://www.fpanet.org/docs/assets/9BBBAE68-1D09-67A1-AC4051D8F44C4C9A/Annuities0310_Web.pdf
- Schwarzer, R. (2010). *The General Self-Efficacy Scale (GSE)*. Retrieved from

<http://userpage.fu-berlin.de/~health/selfscal.htm>

- Spitzer, J.J. (2009). Managing a retirement portfolio: Do annuities provide more safety? *Journal of Financial Counseling and Planning*, 20(1), 58-69.
- Spitzer, J.J., Strieter, J.C., & Singh, S. (2007). Guidelines for withdrawal rates and portfolio safety during retirement. *Journal of Financial Planning*, 20(10), 52-59.
- Stout, R.G., & Mitchell, J.B. (2006). Dynamic retirement withdrawal planning. *Financial Services Review*, 15(2), 117-131.
- Turner, J. (2010). Why don't people annuitize? The role of advice provided by retirement planning software. *Pension Research Council Working Paper*, WP2010-07.
- Turra, C.M., & Mitchell, O.S. (2004). *The impact of health status and out-of-pocket medical expenditures on annuity valuation*. PARC Working Paper Series WPS 04-02. Philadelphia, PA: Pension Research Council.
- VanDerhi, J., & Copeland, C. (2010). The EBRI Retirement Readiness Rating: Retirement income preparation and future prospects. *EBRI Issue Brief*, 344, 1-36.
- Yaari, M.E. (1965). Uncertain lifetime, life insurance, and the theory of the consumer. *Review of Economic Studies*, 32, 137-150.
- Yakoboski, P.J. (2009, October). Converting assets to income in retirement: What near-retirees are thinking. *Trends and Issues*, TIAA-CREF Institute, 1-8.
- Zweig, J. (2010). *The little book of safe money: How to conquer killer markets, con artists, and yourself*. Hoboken, NJ: Wiley.

APPENDIX

This survey will help us understand some of the attitudes faculty members have about retirement. The survey time varies depending on your responses to the questions. Through preliminary results, we generally find that it takes about 10 minutes to 15 minutes. Survey respondents will be entered into a drawing to receive a free retirement consultation from a financial professional, retirement planning books, or other prizes provided by the USU Bookstore. Your responses will be of great help to this study.

(1) Have you ever taken a retirement planning class or workshop?

- No
- Yes

If yes, have you taken Dr. Phillip Swenson's retirement workshop at USU?

- No
- Yes

(2) Do you consult use a financial advisor for retirement planning?

- No
- Yes

(3) What type of investor are you?

- Sophisticated investor, I know a lot about bonds and stocks.
- Average investor, I know about bonds and stocks.
- Simple investor, I know a little about bonds and stocks.
- I know very little or nothing about bonds and stocks.

(4) Are you (or your spouse/partner) eligible to receive benefits from a traditional pension plan, often called a defined *benefit* plan which traditionally pays a monthly benefit for life? This is not a 401(k) or 403(b) defined contribution plan.

- No
- Yes

(5) Approximately what percentage of your retirement savings and investments, including money in employer sponsored retirement plans, is currently invested in stocks or stock mutual funds?

- 0 to 9%
- 10 to 24%
- 25 to 49%
- 50 to 74%
- 75% or more
- Not sure

(6) At the bottom of the 2007-2009 financial market decline, what percentage of your retirement assets did you lose (if any)?

- 0-10%
- 11-20%
- 21-29%
- Over 30%

(7) How confident are you that you will be able to manage your savings and investments so that they last for the rest of your life/and your spouse's life?

- Very confident
- Somewhat confident
- Not too confident
- Not at all confident
- Not sure

(8) How familiar are you with a financial product called an immediate annuity, which can provide a guaranteed stream of income, usually for life?

- Very familiar
- Somewhat familiar
- Not too familiar
- Not at all familiar

(9) Suppose there is a financial product that provides a guaranteed monthly income for your life/your spouse's life. However, the product would not allow you to withdraw any money other than these monthly payments. How likely would you be to purchase this product with a portion of your assets if it offered the following features?

Protection against a large drop in the stock market

- Very likely
- Somewhat likely
- Not too likely or
- Not at all likely

Certainty about the rate of return on the product

- Very likely
- Somewhat likely
- Not too likely or
- Not at all likely

Certainty about how much money you will get each month

- Very likely
- Somewhat likely
- Not too likely or
- Not at all likely

Certainty that you would not lose any money

- Very likely
- Somewhat likely

Not too likely or
Not at all likely

(10) If you had recurring monthly expenses that were not covered by your Social Security income, how much, if at all, would a guaranteed monthly income add to your peace of mind? Would it add (see list below)?

A great deal
A moderate amount
Not too much
Not at all
Not Sure

(11) How convincing are the following reasons below to purchase a guaranteed income with a portion of your retirement assets:

You may be able to get a larger amount of money each year from this product than you can from withdrawing just gains, dividends, or interest.

Very convincing
Somewhat convincing
Not too convincing
Not at all convincing

The payments of this product will continue for as long as you (and your spouse) live.

Very convincing
Somewhat convincing
Not too convincing
Not at all convincing

This product helps you manage your budget because you get a predictable amount of money every month, just like a paycheck.

Very convincing
Somewhat convincing
Not too convincing
Not at all convincing

This product can help you remain independent because the money will never run out.

Very convincing
Somewhat convincing
Not too convincing
Not at all convincing

(12) If you or your spouse have retired, have you purchased an immediate annuity?

No
Yes
Not retired

(To annuitize means to use a portion of your retirement assets to create a monthly income.)

(13) What percentage of your retirement assets would you be willing to annuitize or have you annuitized?

- Do not plan to purchase an annuity
- Less than 25%
- 25 to 49%
- 50 to 74%
- 75% or more
- Not sure

If you plan to annuitize a portion of your assets or have already done so, skip Q 14 and go to Q 15.

If you do not plan to annuitize, please answer Q 14.

(14) For which of the following reasons would you prefer not to purchase an annuity? Check all that apply.

- I do not think the income I would receive each year is sufficiently high
- I think I could do better by investing the money myself
- Do not think I would live long enough for it to be worthwhile
- I would like the flexibility of keeping the money
- I would prefer to keep some money to leave to my family, friends, etc
- I don't know enough about an annuity

(15) Since the financial markets peaked in September 2007, has your attitude toward immediate annuities:

- Become more positive
- Become less positive
- Remained the same

(16) Based on what you know about your health, family history, and other factors, until what age do you expect to live?

- Less than 80 years
- 80 to 84
- 85 to 89
- 90 to 94
- 95 to 99
- 100 or older

(17) Until what age do you expect your spouse to live?

- Doesn't apply
- Less than 80 years
- 80 to 84
- 85 to 89
- 90 to 94
- 95 to 99
- 100 or older

The following questions will ask about financial attitudes.

(18) Investing is too difficult to understand.

- Strongly agree
- Tend to agree
- Tend to disagree
- Strongly disagree

(19) I am more comfortable putting my money in a bank account than in the stock market.

- Strongly agree
- Tend to agree
- Tend to disagree
- Strongly disagree

(20) When I think of the word "risk" the term "loss" comes to mind immediately.

- Strongly agree
- Tend to agree
- Tend to disagree
- Strongly disagree

(21) Making money in stocks and bonds is based on luck.

- Strongly agree
- Tend to agree
- Tend to disagree
- Strongly disagree

(22) In terms of investing, safety is more important than returns.

- Strongly agree
- Tend to agree
- Tend to disagree
- Strongly disagree

(23) Which of the following *Financial Attitudes* statements best describes you?**(Choose only one.)**

- Just when I think I have a handle on my finances, something always happens that sets me back from my financial goals.
- I am disciplined at saving.
- I am willing to take substantial financial risk for substantial gain.
- I frequently spend money when I do not plan to buy anything.
- I pay off my credit cards at the end of every month.
- I always research and plan for a big purchase.
- I am not willing to take any financial risks, no matter what the gain.
- I enjoy financial planning.

(24) Which of the following *Retirement Planning* statements best describes you?**(Choose only one.)**

- I think anyone can have a comfortable retirement, if they just plan and save.
- I feel it is pointless to plan for retirement because it is too far away to know what I will need.
- If I just save some money each month, I will be fine in my retirement.
- I think preparing for retirement takes too much time and effort.
- I am more of a saver than an investor.

(25) Please respond to the following statements by marking the number of your response using the following response categories:

1 = Not at all true 2 = Hardly true 3 = Moderately true 4 = Exactly true

- I can always manage to solve difficult problems if I try hard enough.
- It is hard to stick to my spending plan when unexpected expenses arise.
- It is challenging to make progress toward my financial goals.
- When unexpected expenses occur I usually have to use credit.
- I am confident that I could deal efficiently with unexpected events.
- When faced with a financial challenge, I have a hard time figuring out a solution.
- I lack confidence in my ability to manage my finances.
- I can solve most problems if I invest the necessary effort.
- I worry about running out of money in retirement.
- I can remain calm when facing difficulties because I can rely on my coping abilities.

(26) What is your gender?

- Male
- Female

(27) What is your current age? _____ years

(28) Are you currently?

- Married
- Living together/partnered
- Widowed
- Divorced
- Separated
- Never married

(29) Do you consider yourself to be retired?

- No
- Yes
- Semi-retired

(30) At what age did you retire or plan to retire?

- Before 55
- 55 to 59
- 60 to 61
- 62 to 64
- 65
- 66 or later

(31) What is the employment status of your spouse or live-in-partner?

- Doesn't apply
- Employed full-time
- Employed part-time or semi-retired
- Unemployed and looking for work
- Not employed or retired

(32) Which employment category at the University best describes yourself (either currently or prior to retirement)?

- Faculty
- Professional staff
- Classified employee

(33) What is the highest level of education you have completed?

- Some college or technical training beyond high school
- Bachelor's degree
- Master's degree
- Ph.D. or Professional degree (i.e., J.D., M.D., D.V.M. etc.)

(34) What is your racial or ethnic group?

- American Indian or Alaskan Native
- Asian or Pacific Islander
- Black or African-American
- Hispanic/Latino
- White or Caucasian
- Something else

(35) What was your total household income for last year, before taxes? Please include income from all sources.

- Less than \$25,000
- \$25,000 to less than \$50,000
- \$50,000 to less than \$75,000
- \$75,000 to less than \$100,000
- \$100,000 or more

(36) In total, about how much money would you say you (and your spouse/partner) currently have in retirement assets? This includes bank accounts, stocks, bonds, mutual funds, and retirement accounts, but does not include the value of your primary home.

- Less than \$100,000
- \$100,000 to less than \$250,000
- \$250,000 to less than \$500,000
- \$500,000 to less than \$750,000
- \$750,000 to less than \$1 million
- \$1 million or more

(37) How much in total retirement assets do you think you need for retirement?

- Less than \$100,000
- \$100,000 to less than \$250,000
- \$250,000 to less than \$500,000
- \$500,000 to less than \$750,000
- \$750,000 to less than \$1 million
- \$1 million or more

(38) If you retired this year, how much money per month would you need to live comfortably?

- Less than \$2,000
- \$2000 to less than \$3000
- \$3000 to less than \$4000
- \$4000 to less than \$5000
- \$5000 or more