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HAPPINESS AND SUSTAINABILITY – A STUDY ABOUT THE DETERMINANTS OF RETIREMENT SAVINGS AND RISK BEHAVIOR

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Resumo

Este trabalho apresenta os resultados de uma investigação sobre o tema da felicidade e a sua influência nas decisões de poupança e investimento para a reforma. Com base num estudo a 951 trabalhadores, analisámos o papel da felicidade nas decisões de poupança e investimento para a reforma. Os resultados identificaram a auto-eficácia como um mediador na relação entre felicidade e poupança para a reforma e na relação entre a felicidade e os investimentos para a reforma. Concluímos que as pessoas mais felizes têm tendência a percepcionarem-se como mais eficazes na forma como gerem os seus recursos para a reforma, o que condiciona a sua poupança e a tendência para arriscar mais nos seus investimentos.

Palavras-chave: Poupança na reforma, Comportamentos de Risco, Bem-Estar, Auto-Eficácia.

2 Classificações do JEL System

Abstract

This paper presents the results of an investigation about the topic of happiness and how it may influence retirement savings and investments. Using a survey of 951 employees, we analyzed the role of happiness in saving and investment decisions for retirement. The results identified self-efficacy as a mediator in the relationship between happiness and retirement savings and in the relationship between happiness and retirement investments.

We concluded that happier people tend to see themselves as more efficient in the way they manage resources for retirement, which influences their savings and the tendency to risk in their investments.

Key words: Retirement Savings, Risk Behavior, Well-Being, Self-Efficacy.

2 JEL System Classifications

Índice

1. Executive Summary

Individuals are being required to take more responsibility for their own retirement savings since the future retirees will need to increasingly depend on their own savings rather than on the social security system (Dulebohn, 2002). This situation is the starting point for our research which the main objectives were to study the impact of subjective well being (as a cognitive) process in the retirement savings behavior and trying to understand the mechanisms that explain this relationship.

Based on our literature review we created a conceptual model which was object of analysis in two studies. This conceptual model establishes a relationship between satisfaction with life and behavior regarding retirement savings, which happens due to a mediation of self-efficacy.

In study 1 we analyzed the significance of our conceptual model while in the second study we test the effect of message framing in the way people take decisions when approached by different kinds of communication. As we expected in the first study the results were clear by verifying the significance of our model, confirming past investigation on satisfaction with life and self efficacy (Guven, 2007) and the theory of planned behavior (Ajzen, 1988, 1991). In the second study the results were not possible to analyze since the framing message did not work for all the participants.

Our research shows that happier people tend to as see themselves as more efficient in the way they manage resources for retirement, which make them to save more for retirement and incur in investments with higher risk.

The sustainability of the social security system is a central topic of discussion for both public and private agents around the world and it may have a big impact in the population during the next years. This study presents interesting insights about how policy makers or financial institutions may influence people's retirement or investment decision-making.

2. Introduction

There is a general agreement between researchers that future retirees will need to increasingly depend on their own savings rather than on the social security system (Dulebohn, 2002). This problem is known for many years and happens that both private agents and public policy makers have made numerous efforts to incentive citizens to save for their retirement (see IFF reports in UK). The adequacy of retirement saving has become a major policy issue around the developed world.

If we look at the United States, we observe that only 66% of the population report that they and/or their spouses have saved for their retirement and even among those who have done savings, they may be insufficient. (Copeland, Helman & VanDerhei, 2007). This study is even more disturbing when half of the individuals admitted that excluding their home and their defined benefit plan, the total value of their retirement savings was less than $25.000.

Since individuals are being required to take more responsibility for their own retirement savings there are important topics that should be discussed. First of all it is important to understand how people invest their money in order to obtain a comfortable retirement. This topic is fundamental as the decisions made by individuals in selecting among investment options and risk levels have important effects on the level of savings they are able to achieve (Poterba, 2004). Greater investment returns are often associated with taking greater risk, if a worker is to achieve sufficient savings, she/he generally will have to choose among investment options that have greater variability in outcomes (Shapira, 1995).

Financial education is an instrument proposed to be a solution to this problem (Bernheim, Garrett & Maki, 1997). However, the effects of educational change (investment counseling) are also problematic. Despite some successes, the impact of past employee educational programs on participation and contribution rates has been disappointing (Benartzi & Thaler 2007).

More recently, researchers have tried to explain and understand saving behaviour using several distinct psychological and behavioural economic theories and frameworks. For example studies on self-control and procrastination showing how people's self-perception affect action (Laibson 1997; O'Donoghue and Rabin 1999), societal norms and how society definition of good or bad influences decision (Schwartz 1977) or descriptive norms arguing that people imitate the behavior of others (Cialdini, Kallgren & Reno 1991; Larimer 2004).

Surprisingly, happiness and well-being have not been, until now, an important part of the equation of variables considered to explain investment decisions and retirement savings (excepting works of Guven and Chuang & Lin). From 2001 to 2005, more than 100 papers were written analyzing data on self-reported life satisfaction or happiness, according to a tabulation of *EconLit*. This data have been used to examine both macro and micro-oriented questions, but the majority of the studies looked at happiness as an outcome variable or to check on economic indicators.

Existing research has argued that a positive mood plays an adaptive role in human functioning (Aspinwall 1998; Isen and Labroo 2003; Raghunathan and Trope 2002). It broadens attention and allows people to focus on future opportunities (Fishbach and Labroo 2007). If happy people seem to be more positive and optimistic about the environment and the future (Clore & Schwarz 1983), unhappy people become more cautious and vigilant with regard to a specific task (Bless 1990). The main question is: Should these variables be considered as variables that influence retirement savings and the way in which people invest their money?

Taking an example, consider that MR John is a person happier than the average of the population. Would MR John be more aggressive in his investments because he is very happy and so, very optimistic about the future or would be more conservative because he wants to keep his level of happiness in the future? On other hand, is MR John saving more for his retirement because he wants to keep his happiness in the future or would he save less because he is very happy and optimistic about the future?

The studies have focused their attention in the impact of emotions in the emotional states (mood) in the risk of options and decisions. Our study focus, not in the emotions, but in a cognitive dimension of well-being (satisfaction with life in general).The same that Pavot et al (1991) defined as a judgemental or cognitive component of subjective well-being and less situational (regards to a global and more stable phenomenon rather than a momentary judgment).

The objectives of this work are to study the impact of subjective well being (more as a cognitive process than a situational variable) in the retirement savings behavior and trying to understand the mechanisms that explain this relationship. Our work is based on existing literature, collected from a variety of sources, as well as empirical research derived from enquires to different kinds of investors. The first sections review the main theories and studies about investor's profiles and risk taking, savings, financial education, behavioral economics and how these topics are connected with happiness and well-being. Afterwards, are presented the results of two studies and discussed the main conclusions.

3. Determinants of savings

A person's intention to save for retirement is a conscious decision. Past studies have identified the factors that influence an individual's intent to save can be divided in four pillars (Wiener & Doescher 2008): a) perceived ability to save, b) benefits associated with saving, c) concerns about the future and d) costs associated with saving.

a) Perceived ability to save: is the perception that an individual has of his ability to save. This perceived ability is basically related with concept of Goal Efficacy (Bagozzi, 1992). This author created the concept to capture two distinct versions of efficacy: the self-efficacy dimension linked with perceived behavioral control and the response efficacy dimension connected with success and failure expectancies. Goal efficacy is therefore a person's perception of the likelihood that she will reach a goal if she tries (Bagozzi, 1992; Bagozzi and Edwards 1998). It includes a person's a appraisal of both her ability to perform the instrumental act (self efficacy) and her estimate of the likelihood that is she performs the act she will achieve the goal (response efficacy). There is considerable empirical support for the hypothesis that the strength of a person's intention to act is a positive function of his degree of self-and/or response efficacy (Bagozzi, 1992; Bandura, 1986; Eppright, Hunt & Tanner, 1991; & Schwartz 1977).

b) The benefits associated with saving are a second pillar**.** The act of saving may produce benefits that can be enjoyed either immediately and/or during the retirement years.

The short-term benefits consist of the short-term monetary rewards from savings (e.g., tax deferral) as well as the short-term nonmonetary rewards (ex. gaining the approval of others). The retirement period benefits are the future additional utility gained from saving current income, it means, when a person saves a Euro, he increases his future retirement income and gains additional utility in the future. Behavioral economists argue that a person will be motivated to save by the opportunity to gain short-term financial benefits, such as tax savings (Thaler, 1994). The same research clearly supports the idea that a person is more likely to select a saving instrument that provides a short-term reward over one that does not. However, there is no conclusive evidence that these financial incentives will increase a person's overall level of retirement savings (see the debate between Engen, Gale, & Scholz, 1996; & Poterba, Venti & Wise 1996).

The nonmonetary benefits occurring from savings are also important factors that may lead to an increasing of current and future levels of savings. The primary sources of nonmonetary benefits from savings (at least for people who currently are not savers) are norms. There are four types of norms. The societal norms are a belief shared by most of the members in a social system about what constitutes a good or a bad behavior (Schwartz 1977). Personal norms, on their turn, are a self-based standard of expectation for behavior that flows from internalized values of people; it is enforced through the anticipation of self-enhancement or self depreciation (Cialdini, Kallgren & Reno 1991; Schwartz 1977). Another type of norms are the injunctive social norms, which refers to a person's perception of what behaviors the others expect from him. The influence of others flows through a person's desire to avoid social sanction and gain social rewards (Cialdini, Kallgren & Reno 1991). Finally, descriptive norms are a belief that one should imitate the behavior of others (see Cialdini, Kallgren & Reno, 1991; Larimer 2004).

Another non monetary benefit we can consider is the increasing of the rate of return deriving from savings, which can have an ambiguous effect on savings because while a higher rate of return increases the returns from savings, it reduces the amount of savings required to achieve any given level of retirement income (Lusardi, 1996; & Thaler 1994).

A person's hope is a factor to be considered and it will be influenced by the extent to which he is aware of the positive aspects of leading a good retirement and the length of the time he must wait before he enjoys his golden years.

The tangibility issue is another point of reflection and it refers to an individual's perception of concrete outcomes that he may experience during his retirement years and it certainly influences retirement savings. This is a very important topic because the retirement products cannot be tried, are usually very complex and are not associated with a well developed product-class knowledge structure (see Gatignon & Robertson 1985 for a discussion of innovative products).

Basic Psychological needs is another way of analyzing retirement savings and both the means-end (Reynolds and Gutman 1988) and the hierarchy of goals (Bagozzi & Edwars 1998) literatures reach a common conclusion that a person is more likely to engage in an action if the outcomes of the action are linked to basic psychological needs, such as self-esteem, security and social approval (also see Maslow hierarchy of needs).

Finally, a person's hopes for retirement will be influenced by time. The longer a person must wait for a future benefit, the less it will be worth in the present, due to discounting of cash flows. Studies have found a strong positive relationship between an employee's age and the degree to which he or she saves for retirement (Andrews 1992; Yakoboski & VanDerhei 1996).

c) Concerns about the future**:** A person's concerns are all the negative thoughts she might have about the retirement years. Concerns come into play when a policy maker tries to motivate a person to save by emphasizing the dire consequences of not having sufficient income during the retirement years. A person's concerns can be enhanced by messages that make the future bad state more tangible, more connected to psychological needs and more sensory rich (this topic will be deeply discussed in message framing topic).

d) Costs associated with savings**:** People can incur two types of costs when saving for retirement. First is the conventional opportunity cost, which is the loss of utility equal to the level of utility that would have been gained if the money had been used to have a different alternative. The second cost is deprivation, which means, the cost generated when saving leads to a negative discrepancy between one's current position and a reference value. Basically, it refers to the unwillingness of individuals to reduce their current standard of living, which has long been recognized by economist concerned with saving behavior (Wärneryd 1990).

4. Risk Taking and Investors Profiles in retirement savings

The decisions made by individuals in selecting among investment options and risk levels have important effects on the level of savings they are able to achieve (Poterba, 2004). In spite of the importance of investment risk taking in retirement saving plans, an inadequate amount of attention has been given to the individual investment decision process and to developing models that examine the determinants of risky decision-making among “savers”. The research that has been conducted has been largely descriptive. The focus has been on topics such as socio-economic predictors of investment risk behavior (ex. Bajtelsmit 1996) and inferring individual risk attitudes by examining proportions of total wealth allocated to risky assets (e.g., Riley & Chow 1992).

Risk taking is a complex psychological and behavioral process. A general conclusion among researchers is that risk behavior does not necessarily generalize across situation and may vary across individuals (Bromiley & Curley 1992; Wiseman & Levin 1996). This has been demonstrated in research that has found little within-subject consistency in risk behavior across situations and domains (MacCrimmon & Wehrung 1986; Weber & Milliman 1997). Specifically, research has found that individuals may be risk-takers in certain decision situations (ex. making financial decisions at work) while being risk-adverse in other situations (ex. selecting investment decisions with personal assets) (MacCrimmon & Wehrung 1986). This situational specificity underscores the importance of examining determinants of risk taking behavior among “retirement savers”.

Research on demographic factors

Several demographic factors have been studied relative to risk taking in retirement savings. Overall, demographic correlations do not explain much of the variance in retirement decision making behavior and the relationships that have been found have not been consistently supported across all studies. Common demographic variables that have been studied include age, income, education, gender and marital status:

Age is typically expected to be negatively related to risk taking in retirement savings. As an individual approaches retirement age, it was traditionally expected that their investments would be moved toward less volatile savings vehicles, because the time horizon for recovery from loss was reduced. The empirical evidence regarding the age to risk relationship has been equivocal. It has been shown to be negatively related to increased risk taking in retirement savings allocations (Dulebohn 2002), to no be related (Sunden & Surette 1998), or to be positively related (Dulebohn & Murray 2007).

Income, or wealth, is expected to be positively related to risk taking in retirement savings because individuals who have greater wealth should be better positioned to substitute other savings or accept losses in retirement savings. Empirical evidence has supported this expectation (Agnew, Balduzzi & Sunden 2000).

Education is expected to be positively related to risk taking because individuals with higher education either have greater earning potential or are better able to understand the role of risk in their retirement savings. The empirical evidence in regard to the education and risk relationship has been weak. Some studies have yielded an unexpected negative relationship (Berbasek & Shwiff 2001), while others have found no relationship (Sunden & Surrete 1998). Most of researchers and policy makers argue that financial education is really important to increase retirement savings but, the truth is that many studies are not in accordance in their beliefs (Financial Education will be discussed in the next topic).

Females are expected to include less risk in their retirement savings allocations (Agnew 200; Bernasek & Shwiff 2001). However, research has found that this assertion depends on marital status and the characteristics of the spouse (Lyons & Yilmazer 2004).

Research on decision making

A large amount of research attention has been given to risky decision-making among various groups such as managers and executives (Sullivan & Kida 1995), negotiators (Ghosh 1992); gamblers (Rhoda, Olson & Rappaport 1999); financial planners (MacGregor, Slovic, Berry & Evensky 1999); and entrepreneurs (Brockhaus 1980). In addition, research on risk taking primarily has focused on issues including preferences for risk (Ross 1981), perceptions of risk (Geweke 1992), and individuals' determination of probable outcomes in risky decisions (Shapira 1995). Less research attention has focused on identifying determinants of risky decision-making in the investment allocation process among "savers".

The research that has been conducted on decision making has provided several contributions to our understanding of how workers approach allocating their retirement savings to investment options. While workers intend to balance the risk in their portfolios, they often do not follow through and engage in the actions necessary manifest the intention (Benartzi & Thaler 1999). Workers are influenced to change allocations based on the situational context, so a planned and consistently managed approach to savings decisions is observed less often than not (Benartzi & Thaler 2002). When workers are exposed to annual returns data that include short-term losses, they subsequently make lower risk allocations than they would have if they had reviewed long term compound data (Benartzi & Thaler 2002). Workers are influenced by the number and types of savings options with which they are presented. For example, if the workers have more equity options, they will include more equity holdings in their saving portfolios (Benartzi & Thaler 2001).

Determinants – Direct determinants of investment risk taking behavior

Knowledge of investment principles: The importance of having basic knowledge about investment principles communicated by financial institutions is unquestionably. Following Dulebohn (2002), it is expected that individuals with higher knowledge of investment principles would better understand the differences among investment options, the risk and return trade-off, and the need to assume risk to obtain potential for higher returns in pension plans.

Risk preference: The individual's attitude toward risk taking is commonly called Risk Preference. It is expected those individuals who preferred higher investment risk would select investments with an overall higher risk level, and those who preferred less investment risk would select investments with an overall lower risk.

5. Financial Education as a tool to promote savings and investments

Optimal decision making about retirement savings requires adequate knowledge of financial mathematics, risk and return properties of investments, and expectations concerning wage growth and tax policy. Recent studies have shown that many individuals have limited knowledge of financial markets, the level of risk associated with specific assets, and how much they need to save to achieve their retirement income goals. Survey results suggest that after completing a financial education program, individuals are likely to reevaluate their lifetime plans for work, retirement, saving and consumption. The need for financial education to improve the level of financial literacy of individuals is an important policy issue facing our society.

Many policy makers and agree that education play a critical role by equipping consumers with the knowledge required to make wise decisions when choosing among the myriad of financial products and providers… Having these basic financial planning skills can help families to meet their near-term obligations and to maximize their long-term financial well being. While common sense says that financial education plays an important role data available and recent studies are not in completely accordance. However, most researchers seem to believe that financial education is, in fact, a great measure and it gives people the right knowledge to increase their saves and improve their investments. Their opinions are based in some assumptions: a lack of financial education may cause workers to start saving too late in life to realize their stated retirement goals. As a result, they are unlikely to achieve an optimal balance between current consumption while working and future consumption in retirement. In addition, a lack of information concerning the risk-return distribution of various investments might lead them to misallocate their retirement portfolios. Bernheim (1998) presents evidence that questions whether the typical household has enough financial literacy to make appropriate saving decisions in their pension plans.

Relatively few studies have attempted to estimate the effectiveness of financial education programs in altering retirement goals or retirement savings behavior. Using data from the KPMG Peat Marwick Retirement Benefits Survey, Bayer, Bernheim, and Scholz (1996) estimated that workers employed by firms that offered financial education programs had higher participation rates in and contribution rates to employee plans compared with firms that did not provide this type of program. Lusardi found that individuals who did not plan for their retirement have lower net wealth and were less likely to invest in assets with higher expected returns, such as equities. The general conclusion of this limited literature is that financial education provided by employers can increase retirement saving and potentially alter the investment allocation of assets in retirement accounts.

The precise mechanism by which education alters retirement saving and investment decisions is unclear. Maki (2004) provides three possibilities. First, financial education could increase household saving by causing the family to reduce its discount rate. Second, increased knowledge could lead the household to become less risk averse and thus increase investments in assets with a greater level of risk and expected return. Finally, financial education programs could change the household's knowledge of its investment choice set. Maki dismisses the first two primary mechanisms through which these programs alter the household decision making.

6. The increasing importance of Behavioral economics

Economic theory generally assumes that people solve important problems as economists would. The life cycle theory of saving is a good example. Households are assumed to want to smooth consumption over the life cycle and are expected to solve the relevant optimization problem in each period before deciding how much to consume and how much to save. Actual household behavior might differ from this optimal plan for at least two reasons. First, the problem is a hard one, even for an economist, so households might fail to compute the correct savings rate. Second, even if the correct savings rate were known, households might lack the self-control to reduce current consumption in favor of future consumption (Thaler & Shefrin 1981),

Raiffa (1982) suggested that economists and other social scientist could benefit from distinguishing three different kinds of analysis: normative, descriptive and prescriptive. Normative theories characterize rational choice and are often derived by solving some kind of optimization problem. The life cycle hypothesis is an example of a normative theory of saving since it is based on the solution to a lifetime consumption-smoothing problem. Descriptive theories simply model how people actually choose, often by stressing systematic departures from the normative theory. In the real calm of savings behavior, Shefrin and Thaler (1988) offer the behavioral life cycle hypothesis as a descriptive model of household savings in which self-control and mental accounting play key roles. Finally, prescriptive theories are attempts to offer advice on how people can improve their decision making and get closer to normative ideal when surveyed about their low savings rates, many households report that they would like to save more but lack of willpower (Choi in press).

Behavior predictors of Risk Taking

Risk propensity: represents the decision maker's general risk orientation, in contrast to his or her specific attitudinal preference for investment risk. The risk propensity trait has failed to consistently predict risk taking behavior across a variety of situations. Therefore, researchers have suggested that risk propensity affects attitudes toward risk in specific contexts (March & Shapira 1987; Bromiley & Curley 1992). Consequently, we expected the effect of risk propensity on retirement savings risk level to be indirect and mediated through the investment risk preference attitude.

Inertia refers to the overall level of investment risk that the decision maker has had a tendency to select in the past. In light of the possible influence or prior behavior on attitudes or preferences, we expected that the influence of inertia, on risk behavior, is primarily through its influence on the risk preference attitude. For those who have exhibited high-risk behavior with their investment allocation in the past, this tendency or pattern of behavior should influence their preference for higher risk investments which in turn influences retirement savings risk level behavior.

Opportunity perception: was also studied as a mediator of several determinants of risk taking behavior. Research has shown that decision makers tend to view situations that are controllable as opportunities and uncontrollable situations as threats (Krueger & Dickson 1994)

Locus of control refers to individual beliefs about whether the outcomes of one's actions are contingent on what one does (internal locus focus) or on events outside one's personal control (external locus control). Researchers have found that risk taking to be associated with an internal locus of control orientation (e.g., Shapira 1995).

Self-efficacy refers to the judgments an individual makes about her ability to control the cognitive resources, motivation, and courses of action necessary to engage in performance on a specific task (Gist & Mitchell 1992). Research on entrepreneurs has indicated that entrepreneurs often have high perceptions of self-efficacy, which leads them to frame risky situations as opportunities they can control rather than as uncontrollable threats (Krueger & Dickson 1994).

Outcome history: refers to results of respondents' prior investment decisions. Research has indicated that prior success in risk taking behavior influences subsequent risk taking behavior and that decision makers are more willing to accept risks after experiencing gains rather than losses (Sitkin & Pablo 1992).

7. Well Being and Decision-Making

During last year's many studies have been done by economists in the topic of subjective well-being (or Happiness). Those studies examined happiness from different perspectives (Kahneman & Krueger, 2006) but in the majority of those studies happiness has been used as an outcome variable or check economic policies (e.g., Diener, 2000). More recently, studies about happiness start to consider this variable as an input variable (Kahneman & Krueger, 2006; Lyubomirsky, King & Diener 2005; Graham, 2005). The work made by economists and psychologists on subjective well-being suggests that happiness may have an impact on the economic decisions people make (e.g Guven, 2007; Hermalin & Isen, 2008).

7.1 Well-Being and Saving Behavior

The recent studies considering happiness indicate that happy people are more likely to save and spend different proportions of their income, to distribute it differently over time, and to acquire different combinations of particular goods and services than do people less happy people (Guven, 2007).

Guven concluded in his research that happiness increases the propensity to save, since results indicate that happy people are more likely to save monthly and also save more in general. This is explained by different factors. Unhappy people are less forward looking and happiness leads people to take into account future actions more than present. Unhappy people are more concerned about the immediate consequences of their actions, which suggest that happiness might actually change the discount factor for individuals.

Another reason is because happiness increases self-control (or self-efficacy). Unhappy people find more difficult to control their expenditures and also they do not have a good control over their investments.

The expectations about the future of happy people are different from unhappy people. A good example is that happy people expect lower prices than unhappy people for the next year and also in five years. These lower price expectations lead to less consumption today for happy people, because happy people want to transfer from the bad state (now) to the good state (future), they can consume more in the future because of lower prices. The optimism about future is observed also as higher life expectancies for happy people probably indicating their optimism about the future.

Hypothesis 1 (H1): The level of satisfaction with life is positively associated with the level of savings of an individual.

7.2 Well-Being and Risk Behavior

Studies on risk-taking (Johnson and Tversky 1983, Wright and Bower 1992) have found that affective states influence subjective probability evaluations. It happens that happier people have a different attitude towards taking risks than people who are less happy. They may also prefer different markets and types of financial investments (Kleindorfer, Kunreuther & Schoemaker, 1993)

The primary research on emotions and risk-taking was made by Isen and Patrick (1983). Their work found that positive moods (moods induced by small gifts) yield risk-averse behaviour and that negative emotions evoke risk-taking behaviour in gambling and lottery tasks. Such results are interpreted in two terms, that of a motivation factor (mood-maintenance hypothesis) and an information-processing factor. First, the mood-maintenance hypothesis (Isen and Patrick 1983), argue that in negative emotional states, persons will be willing to take higher risks to obtain higher potential gains in the hope of ‘‘repairing’’ their negative affective state (Mittal and Ross Jr. 1998). Therefore, the influence of emotional states on risk-taking is explained via a desire to maintain a positive emotional state or mitigate a negative affective state. Second, concerning the information-processing factor, Schwarz (1990, 2001) and his colleague (Schwarz and Clore 1983, 1988), argued that the experience of negative emotions indicates a threat to the achievement of desired goals and that the situation calls for systematic and attentive processing; whereas, positive emotions signal that the situation is safe, and that general knowledge constructs are a sufficient basis for the current situation. Thus, a person will look to his or her emotions as an indicator of whether he or she knows enough when the goal is accurate judgment in decision-making (Bless and Forgas 2000; Schwarz 1990, 2001; Schwarz and Clore 1983, 1988).

Moore and Chater (2003) observed a significant and positive relationship between affect and risk behaviour in laboratory. This may be explained relates to the findings that people retrieve more easily mood-congruent memories and focus their attention more on mood-congruent information when assessing subjective probabilities (Wright and Bower, 1992).

Other studies on this field indicate that a positive mood plays an adaptive role in human functioning (Aspinwall 1998; Isen & Labroo 2003; Raghunathan & Trope

2002). It broadens attention and allows people to focus on future opportunities (Fishbach & Labroo, 2007). Therefore, a positive mood will signal that long-term goals are an opportunity not to be overlooked.

Guven also concluded from his research that happy people also appear to be more risk-averse in financial decisions than less happy people do. Participants whose emotional condition was negative were more likely to systematically engage in risk-taking behaviour than those exhibiting positive emotions (Chuang e Lin, 2007).

7.3 The broaden-and -build theory of positive emotions

In her broaden-and-build theory of positive emotions, Fredrickson (1998, 2001) argues that positive emotions such as happiness and well-being broadens the momentary thought-action tendency of exploration by arousing feelings of involvement that aim at increasing knowledge and experience. This theory clearly describes the short-term effects of positive emotions on attention, cognition, motivation and physiological responses, and describes how these transient effects produce long-term changes in individuals' personal resources. This is in contrast to negative emotions, which prompt narrow, immediate survival-oriented behaviors. Supportive evidence of this theory has been collected in the last ten years, demonstrating that positive emotions produce patterns of thought that are more unusual, flexible, creative, integrative, open to information, and efficient when compared to the outcomes of induced negative emotions (Isen, 1993, 1999, Tugade et al, 2004). Induced positive emotions also increase one’s preferences for variety and broaden one’s arrays of acceptable behavioral options (e.g., Fredrickson e Branigan, 2005). This way, we may think that people with higher subjective well-being levels and that make an evaluation more positive of their life in general will be more open to other saving options. This way, they may have a more diverse range of economic behaviours, which may include for example riskier investments.

Since the results relative to the impact of affects on decision making are contradictory and we will analyze a more cognitive dimensions of well-being (not affective) our objective is exploratory, not having any hypothesis as a starting point regarding the level of well-being and the level of risk in investments for retirement.

8. Well Being and Self-Efficacy

Self-efficacy is defined in general terms as one's appraisal of one's capability to mobilize the cognitive resources, motivation and courses of action needed to exercise general control over events in one's life (Judge et al (1997). It reflects control perceptions of individuals over a specific situation, for example an individual. The majority of the literature points the perception of control and self-efficacy (generalized self-efficacy) as a predictor of subjective well-being and life satisfaction (e.g. Nielsen e Munir, 2009; Siu et al, 2007; Wu et al, 2009). However, Bandura (1994) states that people also rely on their somatic and emotional states in judging their capabilities. This author argues that individuals read their emotional arousal and tension as signs of vulnerability to poor performance. On other hand, positive mood enhances a sense of efficacy and give signs of capability to good performance. This means that mood affects people's judgments of their personal efficacy. The broaden-and-build theory accentuate this idea by saying that positive emotions promote the discovery and development of people's strengths, being linked to the increment in personal resources (Fredrickson e Branigan, 2005).

Hypothesis 2 (H2): The level of satisfaction with life is positively associated with the perception of self efficacy regarding retirement savings.

8.1 Self-Efficacy and Risk-taking in saving for retirement

Research have shown that stronger the perceived self -efficacy, the higher the goal challenges people set for themselves (Bandura, 1994)

The beliefs of people in their efficacy shape the types of anticipatory scenarios they construct and rehearse. People with a higher sense of efficacy anticipate successful scenarios that provide positive guides and supports for performance. On other hand, those who doubt of their efficacy, visualize failure scenarios and believe that things can go wrong (Dulebohn & Murray, 2007). Further, laboratory research by Krueger and Dickinson (1994) on the relationship between self efficacy and risk behavior found that risk taking decision making was correlated significantly with perceptions of self-efficacy. In light of this research, it is expected that individuals who have low self-efficacy, with respect to their ability to choose among investment alternatives, would be more risk averse than those who have light self-efficacy.

Hypothesis 3a (H3a): People with higher levels of saving self-efficacy make more risky options when saving for their retirement.

8.2 Self-efficacy and Saving Behavior

According with the research made by Bandura and the model of attitude change presented by the theory of planned behaviour (Ajzen, 1988; 1991), the perceived easiness or difficulty of performing behaviour is suggested to be a result of a personal experience modelling and anticipated support or obstacles. This basically means that the performance of a specific behaviour is mainly influenced by the individual beliefs about the benefits of the behaviour (i.e., outcome expectancy).

The same conclusion is made by the author of the first study (Passos et al, 2009). This author concluded in her studies that attitudes toward retirement saving for retirement, i.e., the degree to which performance of the behaviour is a positively or negatively value (Ajzen, 2002), are mainly influenced by the individual beliefs about the benefits of saving for retirement. They argue that individuals have to belief that may be produced a set of valuable benefits in order to have a certain behaviour.

Based on these fundaments, we formulated another hypothesis. This hypothesis is even easier to understand since the concept of self-efficacy is very close to the concept of self-control.

Hypothesis 3b (H3b): People with higher levels of saving self-efficacy save more for retirement.

8.3 The role of Self-Efficacy as a mediator

Self-efficacy as defined before is the person's ability of exerting self-control in changing his/her behavior with regarding to, for example, retirement savings. Since retirement savings behaviors themselves are explained by self-efficacy (Passos et al, 2009), it is likely that self-efficacy play a mediating role in the relationship between satisfaction with life and retirement saving behavior.

Hypothesis 4a (H4a): Saving self-efficacy mediates the relationship between life satisfaction and retirement savings.

Hypothesis 4b (H4b): Saving self-efficacy mediates the relationship between life satisfaction and risky options when saving for retirement.

9. The Present Research

Based on the literature review we developed a conceptual model (figure 1), in which we argue that self-efficacy works as a mediator in the relationship between Satisfaction with Life and the behavior of individuals regarding retirement savings. In this model is hypothesized that the relation between satisfaction with life and behavior regarding retirement savings may be explained by control beliefs of individuals regarding their savings. The model is measured by the percentage of savings of an individual and the risk associated to their investments.

Conceptual Model

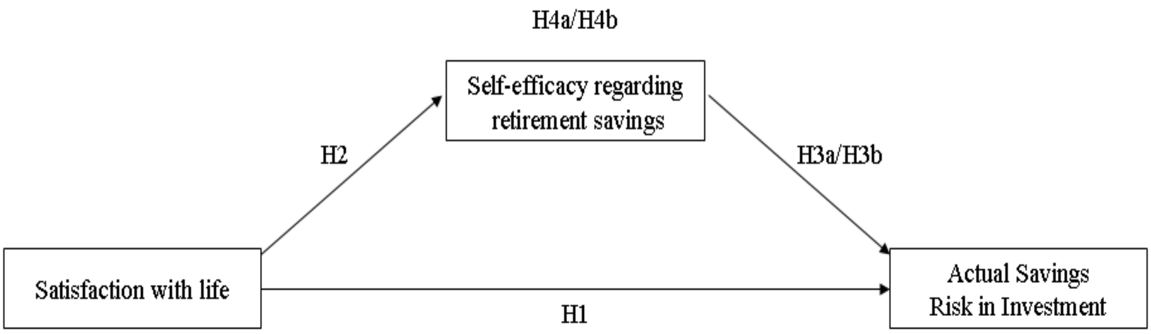

Figure I: Conceptual Model of Retirement Savings Behavior

To test our conceptual model we conducted two complementary empirical studies. Study 1 aim to explore the significance of our model and study 2, an experimental one, aim to test the impact of message framing in the way people behave regarding their retirement savings.

10. Study 1

10.1 Method

10.1.1. Participants

To this first study we used a sample that was collected by Passos et al (2009). Table 1 presents samples details on relevant demographic and economic variables. The percentage of women in the sample was 49,5% and 46,6% of the participants were married. The majority of the participants were employed full-time and 31,2% earned more than 1250 Euros per month.

Table I - Sample Description on relevant demographic and economic variable

Variables	N	%
Gender		
Male	514	50,5%
Female	503	49,5%
Age		
25-29 years old	206	20,2%
30-34 years old	201	19,8%
35-39 years old	209	20,5%
40-44 years old	200	19,7%
45-50 years old	201	19,8%
Education Attainment		
Less than High School Degree	134	13,2%
High School Degree	316	31,1%
Graduation attendance	131	12,9%
Bachelor Degree	47	4,6%
Graduation Degree	290	28,5%
Post- Graduation Degree	55	5,4%
Master Degree	40	3,9%
Doctoral Degree	4	0,4%
Marital Status		
Single	303	29,8%
Married	474	46,6%
Unmarried	138	13,6%
Divorced	99	9,7%
Widower	3	30,0%

Number of Household		
1 person	152	14,9%
2 person	217	21,3%
3 person	339	33,3%
4 person	227	22,3%
5 person	62	6,1%
More than 5 people	20	2,0%
Work Status		
Full-time worker	812	79,8%
Part-time worker	62	6,1%
Other	143	14,1%
Income (net per month)		
Less than 500 Euros	114	11,2%
From 501 to 750 Euros	187	18,4%
From 751 to 1000 Euros	235	23,1%
From 1001 to 1250 Euros	164	16,1%
From 1251 to 1500 Euros	136	13,4%
From 1501 to 1750 Euros	61	6,0%
From 1751 to 2000 Euros	48	4,7%
More than 2000 Euros	72	7,1%

10.1.2 Procedure

Participants received an e-mail with information concerning the current study and a link to answer the survey online. Participants were informed that their participation was entirely voluntary and informed consent was obtained before they began the survey.

10.1.3 Measures

Satisfaction with life: To evaluate this variable we used 6 items adapted from The Satisfaction with Life Scale (SWLS, Diener, Emmons, Larsen & Griffin, 1985) (α=0.80). As an example was used an affirmation such "In general I am satisfied with my life". The participants classified these items in a 7 points scale (1= totally disagree; 7= totally agree). It was built a life satisfaction index, in which bigger values mean higher satisfaction with life.

Perceived Self-Efficacy: In order to evaluate the perceived self-efficacy this study used 3 items (α=0.87) construed based on Ajzen's (2002) suggestions. An example of these items is "The decision to start saving now is in my hands". The participants classified these items in a 7 points scale (1= totally disagree; 7= totally agree). It was built a perceived self-efficacy index, in which bigger values show higher perceived auto-efficacy.

Actual Retirement Savings: To assess the participants actual retirement saving behavior, we used an item adapted from Eyal et al. (2004). Participants were asked to indicate which percentage of their monthly income they are actually saving for retirement. The scale ranged from 1 (0%) to 5 (More than 15%).

Risk Behavior: This variable was operationalized by creating an index based on the type of investment/savings made by participants. Participants were asked to about which investments they make. The items were converted in a ranged from 1 (Low risk – only short-term and long-term deposits), 2 (Average risk – retirement plans and saving certificates) and 3 (High risk – shares of companies or investment funds). It was built an index in which bigger values indicate higher risk behavior.

Control variables: The study included demographic questions regarding participant's age, gender, education and income

10.2 Results

We tested our model through a multiple regression analysis. Table 1 includes the means, standards deviations and the correlation matrix for the variables included in this analysis.

Table II - Means, standard deviations and inter correlations of studied variables

Variables	mean	Sd	1.	2.	3.	4.	5.	6.	7.
1. Actual retirement savings	1.90	1.02							
2. Risk in Investment	1.74	0.81	0.40**						
3. Perceived Self-Efficacy	4.36	1.92	0.46**	0.40**					
4.Satisfaction with Life	4.00	1.26	0.24**	0.23**	0.35**				
5. Gender	1.50	0.50	-0.03	-0.08*	-0.09**	0.00			
6. Age	3.98	1.41	0.05*	0.11**	-0.02	-0.04	-0.04		
7. Education	3.40	1.75	0.09**	0.16**	0.14**	0.19**	0.16**	-0.10**	
8. Income	3.71	1.94	0.17**	0.29**	0.23**	0.30**	-0.13**	0.33**	0.38**

Note: N = 951
* $p < 0.05$ ** $p < 0.01$

Descriptive statistics for the studied items (i.e., means, standard deviations and correlations) are show in table 1. These data indicate that, overall, actual retirement savings are correlated with perceived risk in investments, self-efficacy, satisfaction with life, age, education and income. Gender was not significantly correlated with actual retirement savings.

The same data indicate that, overall, risk behaviour is correlated with perceived self-efficacy, satisfaction with life, gender, age, education and income.

Looking more in detail we see that, as we were expecting, actual retirement savings was significantly and positively correlated with perceived self-efficacy ($r= 0.46$; $p< 0.01$) and with Life Satisfaction ($r= 0.24$; $p<0.01$).

Regarding the risk behavior variable, we observe that this variable is significantly and positively correlated with perceived self efficacy ($r= 0.40$; $p< 0.01$) and with Life Satisfaction ($r= 0.23$; $p< 0.01$).

The first research question asked if people more satisfied with their lives save more for their retirement (H1). To address this question a regression analysis was performed, in which risk behavior and actual retirement savings were entered as criterion variables. Results support hypothesis 1 (β=0.23, $p< 0,01$; $\beta = 0.23$, $p< 0,01$).

The second research question asked if people more satisfied with their lives have higher levels of self-efficacy (H2). The same regression was performed with self-efficacy as criterion variable and life satisfaction as predictor variable. The results showed that the relationship between life satisfaction and self-efficacy is statistically significant (β =0.35; $p< 0,01$) and consequently support this hypothesis.

The third research question was if people with higher levels of saving self-efficacy take more risky options when saving for their retirement (H3a) and if was people with higher levels of saving self-efficacy save more for retirement (H3b). The results indicate that both hypotheses were significant (β=0.40, $p< 0,01$; $\beta = 0.46$, $p< 0,01$).

To answer the forth question of these study, a regression analysis was performed with actual retirement savings and risk behavior as the criterion variables and the other six variables simultaneously entered as predictors. The results are presented in the table number IV.

Table III: Regression analysis of retirement actual saving and investment risk on the predictor variables

	Actual Savings			Risk in Investment		
Predictor Variables	β	ΔP² (βλοχκ)	F	β	ΔP² (βλοχκ)	F
Model 1		0.07	14.15		0.11	24.47
Gender	-0.02			-0.07*		
Age	0.04			0.06		
Education	0.02			0.08*		
Income	0.09**			0.18**		
Life satisfaction	0.21**			0.17**		
Model 2		0,22	44,25		0.20	41.12
Gender	-0.06			-0.04		
Age	0.05			0.08*		
Education	0.04			0.06		
Income	0.03			0.13**		
Life satisfaction	0.09*			0.09**		
Saving self-efficacy	0.42*			0.33**		
Overall adjusted R^2		0.29	58.40		0.31	65.59

Note: N= 951
* p <0.05 ** p <0.01

Regarding the actual savings, the first model explains 7% of this variable. The variables that most contribute for this result were life satisfaction and income. With the introduction of self-efficacy regarding savings, the explained variance increased to 29% as increased the overall fit of the model. The results suggested a possible partial mediation of the self-efficacy on the relationship between satisfaction with life and actual retirement savings of individuals, since the magnitude of the standardized betas diminish considerably.

Concerning the risk in investment, the first model explains 11% of this measure. However, when we introduced the self-efficacy regarding savings in the model, the explained variance increased to 31% as so the overall fit of the model. The results also suggested a possible partial mediation of the self-efficacy on the relationship between satisfaction with life and risk in investment of individuals, since the magnitude of the standardized betas diminish considerably as well.

In order to test mediation hypothesis, hierarchical multiple regressions analysis were performed in line with Baron and Kenny (1986) procedure. The test revealed that the hypothesized meditational model is significant for the measure actual savings measure ($z = 7.22$; $p < 0.00$) and for the risk in investment measure ($z = 7.91$; $p < 0.00$). This means that the relationship between satisfaction with life and behaviour regarding retirement savings is partially mediated by the self-efficacy regarding retirement savings.

10.3 Discussion

The main objective of the study 1 was to analyze the significance of our conceptual model. With that purpose and based on the literature review we formulated several hypothesis. These hypotheses intended to show if our model was significant, by hypothesizing if people more satisfied with life save more for retirement, if people more satisfied with life are more self-efficacy, if people with more self-efficacy same more for retirement or take more risks when investing and if self-efficacy mediates the relationship between satisfaction with life and retirement savings and/or risk in investments. The results were conclusive since we accepted all our hypotheses and subsequently proved our model, meaning that we found that self-efficacy mediates partially the relationship between satisfaction with life and retirement savings behaviour in both level of savings and risk in investment.

These results represent an important finding because it means that if people are more satisfied with life will save more for their retirement and invest with higher risk. This is a partial relationship that happens due to the mediation effect of self-efficacy regarding retirement savings.

On a practical level, if we manage to get people more satisfied in their lives they will save more for their retirement and risk more in their investment. This is an important input for decision-makers, when creating new policies to encourage retirement savings or financial institutions, when segmenting customers or creating specific financial products.

Next research on this topic may try to establish relationships between satisfaction with life and other topics regarding people's behaviour and decision making.

11. Study 2 – Experimental Study

After analyzing previous research we decided to go further on our work. Subsequently, we decided to develop an experimental study to 1) Confirm the results presented in the previous research; 2) Understand if framing messages (positive and negative) have any kind of impact in the way people save and invest for retirement. This new study was developed in a completely different population and we considered that it could give us important inputs about the way people may be approached by financial institutions and policy makers.

11.1 Message Framing – Literature Review

Investigators are rightfully intrigued by the finding the decision makers respond differently to different but objectively equivalent descriptions of the same problem. Over the past decade, studies of "framing effects" in the area of human judgment and decision-making have proliferated. Tversky and Kahneman (1981) introduced the form of framing which is the most closely associated with the term "framing". In this type of framing, the outcomes of a potential choice involving options differences in the level of risk are described in different ways. They created the prototypical example of framing with the "Asian disease problem", where the researchers demonstrated that discrete choices between a risky and a riskless option of equal expected value depended on whether the options were described in positive term (i.e., lives saved) or in negative terms (i.e., lives lost). Tversky and Kahneman found a "choice reversal", where the majority of subjects who were given the positively framed version of the task (a sure of saving one-third the lives versus a one-third chance of saving all the lives and a two-thirds changes of saving no lives) selected the option with the certain outcome, whereas the majority of subjects who were given the negatively framed version (a sure of loss of two-thirds the lives versus a one-third chance of losing no lives and a two thirds chance of losing all the lives) selected the risky option. Tversky and Kahneman explained this choice reversal in terms of their prospect theory (1979), which assumes that the framing manipulation determines whether outcomes are evaluated in terms of gains or losses and that most subjects have an S-shaped subjective value function that is concave in the domain of gains (supporting risk aversion in the positive framing-condition) and convex in the domain of losses (supporting risk seeking in the negative framing condition). This discovery has led to numerous insights into decision-making behavior, and the approach forms a strong foundation for understanding a wide variety of phenomena.

However, literature is not consensual regarding the processes that explain the persuasive effects of opposite message framing's valence. Some works point to a cognitive explanation based on the cognitive fit or fluency (Lee & Aaker, 2004), others to a motivational explanation based on loss aversion (e.g., Levin et al., 1998), and still others focus on an emotions-enhancement explanation (e.g., O'Keefe & Jensen, 2008). Since our approach focus on satisfaction with life as a cognitive process (more than an emotional state or mood) we argue that a fit or congruency when the valence of the message is consistent with the level of life satisfaction may affect the way participants make their decisions. This idea of fit or congruency happens because high life satisfaction is congruent with a positive message and low life satisfaction is congruent with a negative message.

The decisions of participants may be differ according the valence of the message which may be an important input about the way decision-makers and financial institutions should communicate with people, for example to encourage people to save more or invest in a more aggressive way. These lead us to formulate the following hypothesis:

Hypothesis 1 (H1): Happy people when approached by a positive message regarding retirement savings behave less cautiously (save less and invest with more risk).
Hypothesis 2 (H2): Happy people when approached by a negative message regarding retirement savings behave more cautiously (save more and invest with less risk).
Hypothesis 3 (H3): Unhappy people when approached by a negative message regarding retirement savings behave more cautiously (save more and invest with less risk).
Hypothesis 4 (H4): Unhappy people when approached by a positive message regarding retirement savings behave less cautiously (save less and invest with more risk).

11.2 Method

11.2.1 Participants

A national non-proportional quota sample of 99 was drawn by internet questionnaires. Table 1 presents samples details on relevant demographic and economic variables. The percentage of women in the sample was 10,1% and 52,5% had a bachelor degree. The majority of the participants had an income over 1000 Euros.

Table IV - Sample Description on relevant demographic and economic variable

Variables	**N**	**%**
Gender		
Male	89	89,9%
Female	10	10,1%
Education Level		
9th grade	3	3,0%
12º grade	17	17,2%
University frequency	7	7,1%
Bachelor	52	52,5%
Master	12	12,1%
Doctoral program	3	3,0%
Other	5	5,1%
Income		
Less than 500 euros	1	1,0%
From 501 to 750 euros	5	5,1%
From 751 to 1000 euros	9	9,1%
From 1001 to 1250 euros	13	13,1%
From 1251 to 1500 euros	18	18,2%
From 1501 to 1750 euros	12	12,1%
From 1751 to 2000 euros	11	11,1%
From 2001 to 3000 euros	13	13,1%
More than 3000 euros	17	17,2%

11.2.2 Procedure

The participants of this study were contacted through online forums, mainly from investment platforms, discussion forums, economic newspapers and specialized magazines. The questionnaire was also given randomly to workers from different companies, which was possible by using the software Qualtrics. The present study tried to capture the extreme investors, meaning that we tried to have participants with an aggressive posture towards investments and others with a conservative style.

In the end of the study there were 99 valid answers that were used to prove our hypothesis. We used a 2 (valence of arguments: positive framing vs. negative framing) x 2 (low vs high life satisfaction) between-subjects factorial design. Note that participants were randomly assigned to one of the two conditions of valence of arguments and life satisfaction was a measured variable.

11.2.3 Measures

Independent variables

Valence of the message framing: In line with the work of Tversky and Kahneman we manipulated a positive and a negative message. In the positive framing condition, the participants read the following arguments:

> *"The majority of the economists believe that in the next 20 years the social security system will not be enough to satisfy the needs of the Portuguese population. According recent studies it is probable that 20% of the population will not suffer financial problems due to efficient savings during their work life."*

For the negative condition, in turn, respondents were presented the following arguments:

> *"The majority of the economists believe that in the next 20 years the social security system will not be enough to satisfy the needs of the Portuguese population. According recent studies it is probable that 80% of the population will suffer financial problems due to inefficient savings during their work life."*

Life satisfaction: Life satisfaction was measured using the same items used in Study 1.

***Manipulation check*:** In order to determine whether participants understood the arguments for not saving for retirement (negative valence) versus the arguments for saving for retirement (positive valence), we asked them to tell us what the initial message made them think about: Think about the percentage of the population that could have an insecure financial situation after retirement (1) or Think about the percentage of the population that could have a secure financial situation after retirement (7).

Dependent variables

Actual Retirement Savings: *It* was measured using the same items used in Study 1.

Risky decisions regarding Retirement Saving options: This variable was measured by asking participants to create an investment plan for their retirement. They would have 10.000 Euros to invest by distributing that amount by the following options (from the safest to the riskier): 1) Deposits, 2) Private Retirement Plans, 3) Certificates of Savings, 4) Treasury Bonds, 5) Companies Bonds, 6)Investment in Real Estate, 7) Investment Funds 8) Investment in Portuguese stocks, 9) Investment in Foreign Stocks, 10) Options, Futures and Forex.

11.3 Results

Manipulation Check

Results from a two-way factorial analysis of variance (ANOVA), indicated that the positive (M=2.97= and negative (M=2.58) framing conditions were not interpreted by the participants as being significantly different, [F (1, 76) = 0.998, p = 0.321, $\eta 2$ = 0.013]. There is no evidence that the framing worked since there is no significant difference between participants who received the negative framing from the participants who received the positive framing.

Consequently, we cannot say that the manipulation worked for all the population, leaving this second study with no results.

11.4 Discussion

Following the interesting results from study 1 we decided to create an experimental study with a clear purpose. First, we wanted to confirm the hypotheses that were tested in the first study. Secondly, we intended to test the effect of framing messages have any kind of effect in the way participants behave regarding their retirement savings. For that objective we used a 2 (valence of arguments: positive framing vs. negative framing) x 2 (low vs. high life satisfaction) between-subjects factorial design, in which participants were randomly assigned.

We formulated four different hypotheses, where a congruent message with high life satisfaction would lead participants to behave less cautiously and a not congruent message would make them behave more cautiously. The same way, a congruent message with low life satisfaction would guide participants to behave more cautiously and a not congruent message would make them behave less cautiously.

To make sure participants understood the stimulus of our first message we created a manipulation check that would be a starting point of our analysis.
Unfortunately, the results of the manipulation check showed us that the manipulation of the participants did not work for the entire population, which make impossible to analyze the impact of framing messages. It happened mainly because participants look at the two scenarios as negatives, when they should have seen one of the scenarios as positive. The reasoning of this behavior is most probably related with the political and economical environment that Portugal is living nowadays. The country is being quite instable in terms of economical situation and also politics, which influenced the way participants, looked at the presented scenarios. People were very negative in their view of our framing, meaning that Portuguese population seem to be disturbed with the situation the country is living now.

Next studies about this matter should be aware that the emotional state of participants must be neutral at the time of the study because the topic of retirement savings is very sensible, and even more in times of depression and crisis.

On a practical level, the persuasive messages can be an effective mean of encouraging individuals to save more for retirement or invest in a different way. We warn that policy makers and agents seeking to promote retirement savings or to change the way people invest their savings should analyze further the impact of different kinds of communication in the people’s behavior.

12. General Discussion

The main goal of this work was to study the impact of subjective well being as a cognitive process in the retirement savings behavior and trying to understand the mechanisms that explain this relationship. Nowadays, it is a pertinent topic facing the problems that developed countries are having with the sustainability of the social security system and both public and private agents are constantly searching for new solutions.

Based on our literature review we created a conceptual model which was object of analysis in our two studies. In study 1 we analyzed the significance of our conceptual model while in the second study we test the effect of message framing and the way people take decisions when approached by different kinds of communication. As we expected in the first study the results were clear by confirming the significance of our model, confirming past investigation on satisfaction and self efficacy (Guven, 2007) and the theory of planned behavior (Ajzen, 1988, 1991). In the second study the results were not possible to analyze since the framing message did not work for all the participants.

The study 1 gives an important input about how satisfaction with life influences people's decisions when saving and investing for retirement. This finding is important for decision-makers and financial institutions when defining the way they manage their citizens or clients. However, the communication they make with those people is a topic even more interesting, since they may be able to influence their decisions. That was the purpose of the study 2, by experimenting how people with low or high levels of satisfaction with life react to positive or negative frame messages.

Since we obtained no results in our experimental study, we hope that this topic will be further analyzed in next researches. Hopefully more studies will come on these topics to help both public and private institutions to deal with all their stakeholders. It is imperative to invest and support institutions to study this subject since it will take a central place in people's life in a few years with the social security systems in developed countries collapsing and investments becoming essential for generating more available income.

13. Final Comment

During last decade many studies have been done to show how happiness or well being may influence the behavior of people. Some of the studies were referred during this paper but many others exist. The fields of study are very vast, from consumer or investment to productivity and entrepreneurship. This subject of happiness is increasing on importance and amplitude, and recently that was created an index called Gross National Happiness (New Economics Foundation). The purpose of this New Economic Foundation is to understand the impact of happiness on people and study the evolution of happiness in different countries during time.

This research is one more contribution to this new field of economics called “Economics of Happiness”. Happiness and well-being are such subjective concepts and so difficult to understand that most of times are underestimated by companies, policy-makers and individuals. However, it is simply related with the human feelings, willing and emotions. Understanding happiness is about understanding people, trying to predict needs and finding new ways to satisfy the human being. Understanding happiness is about forecasting evolution!

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15. Attachments - Questionnaire

The questioner is in Portuguese since it was the mother tongue of the participants.

A **UNIDE** é uma unidade de investigação universitária, que faz parte do ISCTE-Instituto Universitário de Lisboa, onde me encontro a realizar o Mestrado em Gestão de Empresas.

No âmbito do mestrado que estou a realizar proponho-me a estudar quais os principais determinantes dos comportamentos de risco dos investidores.

Para levar a cabo esta investigação desenvolvi este questionário que gostaria de aplicar a pessoas com idades compreendidas entre os 30 e 60 anos.

Este estudo respeitará todos os demais requisitos de qualquer processo de investigação, garantindo-se o anonimato e confidencialidade dos dados obtidos, sendo a divulgação reservada apenas a fins académicos e científicos**.** A recolha e o tratamento dos dados estarão exclusivamente a cuidado da equipa de investigação da UNIDE. Neste questionário não existem respostas certas ou erradas apenas pretendemos conhecer a **sua opinião sincera.** As suas respostas são confidenciais e anónimas.

Gostaria assim de poder contar com a sua colaboração para esta investigação, relembrando que este questionário se destina a fins meramente académicos.

Se desejar receber mais informações acerca deste estudo poderá contactar-nos directamente: Dr. Gonçalo Lage (goncalo.dlage@gmail.com), Prof. Doutora Ana Passos (Ana.passos@iscte.pt) ou Prof. Doutora Susana Tavares (susana.tavares@iscte.pt).

A sua participação é muito importante. Muito obrigado pela sua colaboração neste trabalho.

Cenário Aleatório

Cenário 1

A maioria dos economistas acredita que dentro de 20 anos o sistema de segurança social não será suficiente para satisfazer as necessidades da população. De acordo com estudos recentes é expectável que 80% da população venha a carecer de problemas financeiros devido a um nível de poupança desadequado ao longo da vida activa

Cenário 2

A maioria dos economistas acredita que dentro de 20 anos o sistema de segurança social não será suficiente para satisfazer as necessidades da população. De acordo com estudos recentes é expectável que 20% da população venha a ter uma situação financeira estável devido a um nível de poupança adequado ao longo da vida activa.

A mensagem que os investigadores me transmitiram no inicio deste questionário fez-me pensar na percentagem da população que pode vir a ter:

1	2	3	4	5	6	7
Uma situação financeira instável após a reforma						Uma situação financeira estável após a reforma

Questão 1

Indique o seu grau de concordância relativamente a cada uma das afirmações apresentadas. Utilize, por favor, a seguinte escala:

1	2	3	4	5	6	7
Discordo Totalmente						Concordo Totalmente

1.1 Quando penso na reforma sinto medo.	1	2	3	4	5	6	7
1.2 Acho que vou ser feliz após a reforma.	1	2	3	4	5	6	7
1.3 A minha vida após a reforma preocupa-me.	1	2	3	4	5	6	7
1.4 Tenho esperança que a minha vida após a reforma vá ser positiva.	1	2	3	4	5	6	7
1.5 Quando penso na reforma sinto-me ansioso,	1	2	3	4	5	6	7
1.6 Estou optimista relativamente à minha vida após a reforma.	1	2	3	4	5	6	7

Questão 2

Instruções

A tabela seguinte apresenta os investimentos que são habitualmente realizados pelas pessoas com vista a estabelecer poupanças para a reforma. Na tabela estão descritas as opções de investimento, o seu nível de risco e o nível de retorno esperado.

Imagine que tem de efectuar um plano de poupança para a sua reforma e no próximo ano dispõe de 10.000 Euros para investir.

Distribua, por favor, os 10.000 Euros de que dispõe pelas diferentes opções de investimento de forma a ficar confortável com a sua decisão.

Notas:

As opções de investimento nas quais não está interessado deixe em branco.

<u>O total do valor investido nas diferentes opções deverá perfazer 10.000 Euros</u>

Opções de Investimento	Descrição	Nível de Risco	Nível de Retorno	Montante Alocado
		Menor Risco ↑	Menor Retorno ↑	
1. Depósitos a Prazo	Conta de depósito a prazo.			Euros
2. Plano de Poupança Reforma (PPR)	Retorno garantido, o fundo é semelhante a uma conta a prazo.			Euros
3. Certificados de Aforro	Retorno garantido, o fundo é semelhante a uma conta a prazo.			Euros
4. Títulos do Tesouro	O investimento é em títulos de dívida pública do país.			Euros
5. Obrigações de Empresas	O investimento é em títulos de empresas.			Euros
6. Investimento em Imobiliário	É efectuado investimento através da compra, venda e aluguer de imobiliário.			Euros
7. Fundos de Investimento	Investimento através de aplicações em fundos geridos pela Banca.			Euros
8. Bolsa de Valores Lisboa	Negociação de títulos em bolsa através de uma Instuição Financeira.			Euros
9. Bolsa de Valores em outros Países	Negociação de títulos em bolsa através de uma Instuição Financeira.			Euros
10. Futuros, Opções ou Forex	Investimentos em Mercados câmbiais, commodities e Índices através da utilização de margens.			Euros
		↓ Maior Risco	↓ Maior Retorno	
		Valor total do investimento		10000 Euros

Questão 3

Imagine que pode decidir agora que vai começar a poupar uma percentagem do seu ordenado líquido (rendimentos mensais).
Que percentagem decidiria poupar?

% do seu ordenado

Questão 4

Que percentagem do seu rendimento líquido mensal **considera que devia** poupar mensalmente para a reforma, para além dos descontos obrigatórios para a segurança social?

0%	Menos de 5%	De 5 a 10%	De 11 a 15%	Mais de 15%
1	2	3	4	5

Questão 5

5.1 Pretende obter mais informação sobre como efectuar os cálculos de quanto dinheiro vai precisar para viver quando se reformar?

Sim ☐ Não ☐

5.2 Pretende obter mais informação sobre quanto dinheiro tem de poupar mensalmente para manter a sua qualidade de vida na reforma?

Sim ☐ Não ☐

5.3 Pretende obter mais informações sobre planos e estratégias de poupança?

Sim ☐ Não ☐

Questão 6

Indique o seu grau de concordância relativamente a cada uma das afirmações. Utilize, por favor, a seguinte escala:

1	2	3	4	5	6	7
Discordo Totalmente						Concordo Totalmente

Fazer poupanças regulares para a reforma vai permitir-me:

6.1 Ter uma boa qualidade de vida na reforma.	1	2	3	4	5	6	7
6.2 Defender a minha segurança económica no futuro.	1	2	3	4	5	6	7
6.3 Ter acesso a cuidados de saúde na reforma.	1	2	3	4	5	6	7
6.4 Assegurar um bom futuro para a minha família.	1	2	3	4	5	6	7
6.5 Não sacrificar a minha felicidade e o meu bem-estar.	1	2	3	4	5	6	7

Agora gostaríamos de saber a visão que tem relativamente à sua situação presente, no que diz respeito a investimentos e poupanças.

Questão 8

Que percentagem do seu rendimento líquido mensal está a poupar mensalmente para a reforma, para além dos descontos obrigatórios para a Segurança Social?

0%	Menos de 5%	De 5 a 10%	De 11 a 15%	Mais de 15%
1	2	3	4	5

Questão 9

Pense agora em si próprio. Indique o seu grau de concordância relativamente a cada uma das afirmações apresentadas. Utilize, por favor, a seguinte escala:

1	2	3	4	5	6	7
Discordo Totalmente						Concordo Totalmente

9.1 Eu vejo sempre o lado positivo das coisas.	1	2	3	4	5	6	7
9.2 Eu acredito que no final tudo acaba bem.	1	2	3	4	5	6	7
9.3 Eu sou optimista por natureza.	1	2	3	4	5	6	7
9.4 Eu raramente estou à espera que me aconteçam coisas boas.	1	2	3	4	5	6	7

Questão 10

Utilizando a mesma escala, Indique o seu grau de concordância relativamente a cada uma das afirmações apresentadas.

1	2	3	4	5	6	7
Discordo Totalmente						Concordo Totalmente

10.1 Eu lido bem com situações ambíguas.	1	2	3	4	5	6	7
10.2 Eu tenho dificuldade em reagir quando sou confrontado com um acontecimento inesperado.	1	2	3	4	5	6	7
10.3 Eu prefiro as situações que me são familiares às situações novas.	1	2	3	4	5	6	7

10.4 Eu gosto de lidar com problemas complexos e ambíguos.	1 2 3 4 5 6 7
10.5 Eu jogo sempre pelo seguro, mesmo quando isso significa perder ocasionalmente uma boa oportunidade.	1 2 3 4 5 6 7
10.6 Eu sou uma pessoa cuidadosa, que geralmente evita riscos.	1 2 3 4 5 6 7

Questão 11

Pense agora como costuma lidar com as diversas situações da sua vida. Indique o seu grau de concordância relativamente a cada uma das afirmações apresentadas. Utilize, por favor, a seguinte escala:

1	2	3	4	5	6	7
Discordo Totalmente						Concordo Totalmente

11.1 Normalmente, preocupo-me em prevenir acontecimentos negativos na minha vida.	1 2 3 4 5 6 7
11.2 Preocupo-me com a possibilidade de falhar com as minhas responsabilidades e obrigações.	1 2 3 4 5 6 7
11.3 Normalmente foco-me no sucesso que pretendo atingir no futuro.	1 2 3 4 5 6 7
11.4 Preocupo-me muitas vezes com o facto de poder vir a ficar aquém dos meus objectivos.	1 2 3 4 5 6 7
11.5 Vejo-me como uma pessoa que procura atingir os seus objectivos e aspirações.	1 2 3 4 5 6 7
11.6 Vejo-me como uma pessoa que procura cumprir os seus deveres, responsabilidades e obrigações.	1 2 3 4 5 6 7
11.7 Normalmente, foco-me nas coisas positivas que pretendo alc na minha vida.	1 2 3 4 5 6 7
11.8 De uma forma geral, estou mais orientado para alcançar resu do que evitar fracassos.	1 2 3 4 5 6 7

Questão 12

Pense agora **na sua vida em geral** e diga por favor em que medida concorda ou discorda com cada uma das afirmações apresentadas. Utilize, por favor, a seguinte escala:

1	2	3	4	5	6	7
Discordo Totalmente						Concordo Totalmente

12.1 Em geral, a minha vida está próximo do meu ideal.	1	2	3	4	5	6	7
12.2 As condições da minha vida são excelentes.	1	2	3	4	5	6	7
12.3 Em geral, estou satisfeito(a) com a minha vida.	1	2	3	4	5	6	7
12.4 Até agora tenho conseguido as coisas importantes que quero na vida.	1	2	3	4	5	6	7
12.5 Se pudesse mudar a minha vida, não mudaria quase nada.	1	2	3	4	5	6	7

Questão 13

13.1 Indique qual a percentagem das suas poupanças para a reforma que está alocada a cada um dos seguintes instrumentos. Note que no total a soma das percentagens terá de perfazer 100%.

Tipos de Investimento	Percentagem
1. Depósitos a Prazo	%
2. Plano de Poupança Reforma (PPR)	%
3. Certificados de Aforro	%
4. Títulos do Tesouro	%
5. Obrigações de Empresas	%
6. Investimento em Imobiliário	%
7. Fundos de Investimento	%
8. Bolsa de Valores Lisboa	%
9. Bolsa de Valores em outros Países	%
10. Futuros, Opções ou Forex	%
Percentagem total	100%

13.2 Como se caracteriza em termos de investidor (escolha a opção que melhor o caracteriza)?

Conservador (Investimentos de Risco Baixo) ☐

Moderado (Investimentos de Risco Moderado) ☐

Agressivo (Investimentos de Risco Elevado) ☐

Por último gostávamos que nos indicasse alguns dados gerais de caracterização.

Idade:

- Sexo: Masculino ☐ Feminino ☐

Nº de Filhos:_______

. Qual o grau de escolaridade mais elevado que completou?

até ao 9º ano (5º antigo)	Até ao 12º ou equivalente	Frequência universitária	Licenciatura	Mestrado	Doutoramento	Outro. Qual? ______________________

Aproximadamente, qual o valor do seu rendimento líquido mensal? ___________

Menos de 500 euros	01
De 501 a 750 euros	02
De 751 a 1000 euros	03
De 1001 a 1250 euros	04
De 1251 a 1500 euros	05
De 1501 a 1750 euros	06
De 1751 a 2000 euros	07
De 2001 a 3000 euros	08
Mais de 3000 euros	09

Obrigada pela sua participação.