

MAASTRICHT UNIVERSITY

SCHOOL OF BUSINESS AND ECONOMICS

MSc MARKETING AND FINANCE



Maastricht University

Gender Differences in Attitude towards Pension Communication

for Generation X.

How Framing Influences Attitude towards Pension Communication

Assignment: Master Thesis
Author: Lisa Krafft (i6004564)
1st Supervisor: Wiebke Eberhardt
2nd Supervisor: Dr. Thomas Post
Submitted: 21th July 2014

Contents

Contents.....	II
Abstract	III
1. Introduction.....	1
2. Literature Review and Hypotheses	5
2.1. Independent variable: Framing manipulation.....	6
2.2. Demographics	7
2.3. Psychographics	9
2.4. Dependent variable: Attitude towards pension communication	16
3. Field Study: In-Depth interviews	18
3.1. Methodology.....	18
3.2. Analysis	20
3.3. Results	23
4. Survey	24
4.1. Methodology.....	24
4.2. Analysis and Results	28
5. Discussion and Limitations.....	42
6. Theoretical and Managerial Implications	47
7. References.....	51
8. Appendices.....	58

Abstract

The aim of this research is to develop communication strategies to motivate people to invest in private pension provision. Although the long-term feasibility of European state pension systems is questioned research shows most people do not put additional money in private pension accounts (Skinner, 2007). Since individuals investing in a pension scheme show high heterogeneous characteristics, effective segmentation strategies are required (Cremer, Gahvari & Pestieau, 2008). In line with Ajzen and Fishbein's (1980) theory of planned behavior I expect that people who perceive pension information positively are also more willing to inform themselves about retirement planning and consequently have higher intentions to invest in private pension insurance (Nejad, Wertheim & Greenwood, 2004). Based on the findings of Brügger, Eberhardt and Post (2013) I expect that women have a more positive attitude towards pension advertisements if the information is framed with words emphasizing insurance aspects. In contrast, I expect that men have a more positive attitude towards pension advertisements if the information is framed with words related to investment. Drawing from in-depth interviews and an online survey, my findings show that if men are framed with words related to investment they show a significantly more positive attitude towards pension communication. In general, I find that men compared to women react more positively towards pension communication. I also observe that individuals who have high trust in financial services show a more positive attitude in the investment framing than the insurance framing. My findings have relevant implications for the design of private pension communication.

1. Introduction

Since the introduction of social legislations by Bismarck over 100 years ago pension provisions have been a stable element in Germany ensuring social and economic redistribution (Hornyak, 2008). However, there are concerns that demographic changes will threaten pension cushion capacities (Clark & Whiteside, 2003). Developments such as higher life expectancies and an aging population are putting the feasibility of state pension systems into question world-wide (Whitehouse, 2007; Hershey, Jacobs-Lawson, McArdle & Hamagami, 2007). Focusing at Germany, the 65 year olds and above will make up 56 to 60 percent of society in 2050 (Lehr, 2013). Additionally, experts anticipate life expectancies to grow constantly. In 2050 women are anticipated to reach an average age of 88 years while men will reach on average 85 years (Schulz, 2004). Higher life expectancies and an aging population are leading to a pension-funding gap since payments of benefits to retirees consume limited pension contributions of a shrinking active workforce. It is out of question that people have to rely more and more on private pension insurances if public pension cushions start to crumble (Clark & Whiteside, 2003). However, research in behavioral economics shows that in general people do not save extra for private pension provision next to their obligatory state pension accounts due to procrastination, ignorance and also a strong negative attitude towards the financial service industry in general (Luchak & Pohler, 2010; Sexauer & Siegel, 2013; Skinner, 2007). Furthermore, if people do invest in private pension insurance they often make suboptimal investment decisions because of their financial illiteracy and high risk aversion in investment choices (Skinner, 2007; Bernartzi & Thaler, 2007). Therefore, motivating people to invest in

private pension insurance and providing tools for optimal decision-making is and will be a relevant societal issue.

Until now, academics have mainly focused at identifying why people do not save enough for their retirement and make suboptimal choices. However, little research has been done so far that analyzes and improves the decision frame itself thus developing effective and efficient mass customization strategies for private pension insurances. According Hershey, Mowen and Jacobs-Lawson (2003) there is a need for effective mass customization strategies in financial services due to significant differences in preferences across financial products. Academic findings show that with respect to demographic variables such as gender, age, income level, education etc. people behave differently concerning attitudes towards financial investment decisions (Graham et al., 2002).

According to the Theory of Reasoned Action developed by Ajzen and Fishbein (1980) planned behavior, in this case willingness to invest in ones private pension, assumes a positive attitude towards private pension insurance. Thus, a first step to encourage people to invest in private pension insurance is to make them think more positively about private pension provision (Ajzen & Fishbein, 1980). In order to reach customers pension insurances can use various forms of communication. For instance, for the private pension insurance industry Koehler and Mercer (2009) report a growth in importance of advertisements as a tool for communication to inform and induce customers. Providing information about retirement planning might be a vital tool to encourage people to start investing in private pension. Specifically, findings from health research show that exposure to advertisements that motivate for healthier behavior also lead to actual healthier behavior (Carpenter & Pechmann, 2011; Palmgreen et al., 2007). However, financial services such as retirement management are high involvement products demanding customers to

master complex information. Often it is not possible for customers to understand the whole spectrum of these products thus requiring trust and confidence in financial advisors' recommendation. Therefore, in the financial service industry it is vital for a good customer relationship that financial advisors give their clients the feeling that they care for them at a personal level (Silver, 2008). Silver (2008) especially stresses the importance of fostering customer relationships in the financial services industry by additionally using non-business communication tools such as birthday cards. One option to influence people's attitude towards information in pension communication is to make use of framed messages (Delshad & Raymond, 2013).

As will be outlined in detail later and based on preliminary findings of Brügger, Eberhardt and Post (2013) I expect that women are more responsive to pension advertisements that use so-called insurance framings whereas men are more responsive to so-called investment framings. In their experimental study to measure the intention to collect information about one's pension income situation Brügger et al. (2013) found that women were more likely to choose to evaluate an insurance website whereas men more frequently chose the investment website as an option. Thus, I expect that women have a more positive attitude towards pension advertisements if the information is framed with words emphasizing insurance aspects as compared to a wording accentuating an investment perspective. In contrast, I expect that men have a more positive attitude towards pension advertisements if the information is framed with words related to investment rather than insurance.

Moreover, I presume that people in their 40s and early 50s are more responsive to retirement planning advertisement since they are much closer to their retirement than younger cohorts but still have enough time to dedicate resources for their pension compared to people in their late 50s

or early 60s. To further emphasize this argument, research shows that older people show higher levels of future orientation (Fingerman & Perlmutter, 1995). Especially, I expect that the 40th birthday is a so-called teachable moment that could have a positive influence on a person's long-term thinking (Lusardi, Keller & Keller, 2008). This event could make people more willing to think about their pension situation. Moreover, people from the baby boomer generation that are now in their 40s will be of great interest concerning this problem since it is expected to be the first to experience the consequences of the pension-funding gap (Skinner, 2007). From an economic perspective, this cohort also presents the largest demographic group in Germany (Statistisches Bundesamt, 2014). Therefore, I will take people in their 40s and early 50s as my target group. Finally, I focus on Germany as a target market. The German pension system is considered to have some sound elements but its long-term sustainability is questioned (Mercer, 2011). Experts assume that state pension cushions will crumble as demographic changes become more severe (OECD, 2013). Therefore, a shift towards private pension accumulation will become an indispensable change in Germany and thus also the need for effective targeting strategies for pension insurance companies.

The remainder of this paper is organized as follows: In chapter 2, I review the relevant literature I used as a basis for my framework and hypotheses. In chapters 3 and 4, I develop my research methodology and report my findings in the analysis and results part. Finally, in chapters 5 and 6, I discuss my study's results and limitations as well as elaborate on theoretical and managerial implications.

2. Literature Review and Hypotheses

Concerning retirement savings, Hershey et al. (2007) show that demographics such as gender, age and income as well as psychographics such as financial planning knowledge have an influence on pension savings contribution. In my study I will also investigate the influence and interrelations of these demographic and psychographic variables on the relationship between my framing conditions and attitude towards pension communication. Specifically, I will investigate the influence of gender, age, marital status, income and education as demographic variables as well as the influence of retirement anxiety, risk-aversion, retirement planning, trust in financial

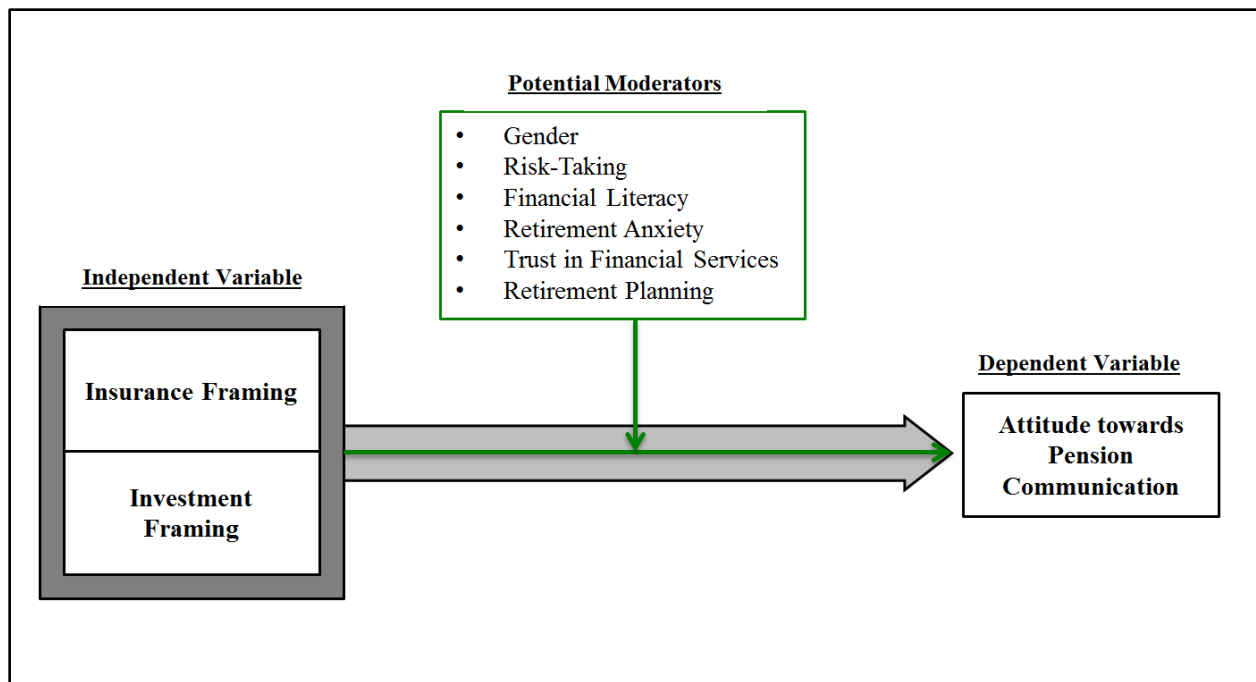


Figure 1 Conceptual Model

services and financial literacy as psychographic variables on attitude towards pension communication. To assess potential moderating effects I will apply the procedure suggested by Baron and Kenny (1986) as well as investigate prior research of moderating effects of my variables used.

2.1. Independent variable: Framing manipulation

Tversky and Kahnemann (1981) already recognized that people make different choices dependent on how a decision is framed. According to Chong and Druckman (2007) a framing effect is on hand if (small) adaptations of an issue presented lead to a significant difference in respondents' opinion among these frames. Concerning framing for retirement saving, Hershfield et al. (2011) show that people who are framed with pictures of their virtual aged future-selves are more willing to save for the future compared to people in the control condition. Additionally, Looney and Hardin (2009) conduct experiments where people are confronted with different levels of retirement decision frames. The conditional framings vary among information horizon, system restrictiveness and decisional guidance. According to their findings, if people are confronted with long-term information about their retirement portfolio, are restricted in the number of times in evaluating their portfolios and are given explicit guidance to allocate more equity options to their retirement portfolio, they tend to invest more in risky options and thus have higher expected returns for their retirement funds.

In my research the framing tools are intended to make people think more positively about pension planning. In line with Ajzen and Fishbeins's (1980) theory of planned behavior and findings from health research I expect that if people perceive pension information positively they are also more willing to inform themselves about retirement planning and consequently have higher intentions to invest in private pension insurance plans (Nejad, Wertheim & Greenwood, 2004).

2.2. Demographics

In the following I will provide a detailed explanation of the demographic variables I chose and what influence I expect they have on my outcome variable.

Potential moderator: Gender

The role of gender concerning financial investment is a well-documented finding in academic studies (Hibbert, Lawrence & Prakash, 2013). Research shows that men and women differ in their retirement decision-making (Talaga & Beehr, 1995). Women, on average, work less than men, thus make fewer payments into their pension plan, they retire earlier and live longer and therefore have lower retirement savings (Watson & McNaughton, 2007).

In the area of sociology and psychology the roots of gender difference have been widely discussed and resulted in multiple debates. One of the most prominent topics in this field is the theory of self-construal (Cross & Madson, 1997, Markus & Kitayama, 1991). The theory of self-construal assumes that men and women differ in their extent of self-definition. In Western societies women see themselves more connected with others and thus have an interdependent self whereas men tend to act more autonomously with a focus on individualistic goals and thus reflect an independent self (Cross & Madson, 1997). Josephs, Markus and Tafari (1992) show that men are more focused on personal accomplishments while women have a high sensitivity for others. To my mind the theory of self-construal could serve as an explanation for Brügger et al.'s (2013) findings as well as support my line of reasoning for the effectiveness of investment and insurance framings. Since men focus more on personal accomplishments they want to take the reins and invest in their retirement portfolio to realize returns and are thus expected to be more responsive to pension communication framed with words related to investment. Complementary,

Dorn & Sengemueller (2009) find that men appear to enjoy dealing and gambling with their investments more often than their female counterparts. In contrast, women show higher levels on the interdependent self, care more about others and might therefore tend to opt for the insurance option. Therefore, I expect that women respond more favorably to pension communication framed with words related to insurance suggesting that gender acts as a moderator in this model.

H1: Effects of framing on attitude towards pension communication are moderated by gender; such that (a) males form more positive attitudes with the investment framing while (b) females form more positive attitudes with the insurance framing.

Additional Demographic Factors as covariates

Finally, attitude towards pension communication might be affected by additional demographic factors. Based on findings from previous studies about financial product attitude and investment I also include age (Age), level of education (Education), net income (Income), marital status (Married) and number of children (Children) and whether one is in a partnership (Partner) as control variables (Bogan, 2013; Hibbert, Lawrence & Prakash, 2013; Sunden & Surette, 1998). As already reported in the introduction, older people are expected to have higher levels of future orientation, thus caring more about pension saving compared to younger cohorts (Fingerman & Perlmutter, 1995). Therefore, I expect that age is positively related to attitude towards pension communication. Regarding education and income, research reveals that less educated people from low income brackets tend to prefer immediate consumption whereas higher educated cohorts with higher income show higher saving levels (O'Donoghue & Rabin, 1999). Therefore, I expect that education and income are positively related to attitude towards pension communication. Furthermore, I expect that married individuals will have a better attitude towards pension communication. Research shows that married people talk more about retirement

and also better prepare for their financial future (Turner, 1994). Noon, Alpass and Stephens (2010) also report that people in a partnership are better able to allocate resources for their retirement. Regarding the number of children, Weber Handwerker (2011) finds a significant relationship between number of children and delaying retirement. Since parents have to pay for their childrens' education they are less able to save for their retirement. Additionally, Chakrabarti, Lord and Rangazas (1993) conclude that children are perceived as a rather risky investment concerning retirement income today since children feel less responsible today to care for their parents after their retirement. Based on these findings, the number of children might influence attitude towards pension communication in either a positive or negative way.

2.3. Psychographics

Academic literature related to pension communication has mostly addressed people's irrational and biased behavior such as myopic saving behavior, financial literacy, risk-aversion, low self-control and procrastination for people's unwillingness to save for their retirement (Bernartzi & Thaler, 2007; Carroll et al., 2009; Lusardi & Mitchell, 2008; Vlaev, Chater & Stewart, 2009). One of the most important concepts that shaped the literature about myopic saving behavior is the theory of intertemporal choice. In 1834, John Rae introduced this concept stating that people assign different values to options with similar payoffs depending on the time the option is consumed. According to Rae (1834) people prefer to consume options rather now than to delay consumption to the future. Complementary, Kirby and Herrnstein (1995) developed the concept of hyperbolic discounting. In their experiments, they observe that respondents prefer a smaller amount they can consume now to a larger gain they can receive in the future. Linking these concepts to myopic saving behavior the authors point out that people struggle to save enough for their retirement since they prefer to consume now instead of putting money in their retirement

account. Research in behavioral finance provides several explanations for such myopic saving attitudes (Bernartzi, & Thaler, 2007; Thaler & Shefrin, 1981). Finally, cognitive factors are seen as a vital part in explaining the attitude-behavior relationship. Connor and Norman (2005) presume that cognitive factors are major predictors for the attitude-behavior gap since they reflect individual's characteristics that shape behavior. Additionally, these variables are dynamic and thus have the potential to change on individuals over time (e.g. improving financial knowledge by studying). In respect thereof, I believe that the inclusion of psychographic is an essential part in my framework. If cognitive factors prove to have high explanatory power in this study, strategic actions can be taken by a private pension insurance provider to positively influence pension investment behavior.

Risk Aversion

One of the dominating explanations for myopic saving behavior is risk aversion. According to Gerber and Rhode (2010) risk causes people to be impatient. Thus, the more risk a future option implies the more people prefer to consume it now than in the future. Pension benefits are options that can only be consumed in the far future and are thus perceived as highly risky. Therefore, I expect that risk-averse people are less likely to save for their retirement. In line with Prelec and Loewenstein (1991) who state that people regard postponed outcomes as risky, people tend to shift their consumption to the present instead of saving for their retirement. Thus risk-aversion might result in lower probability for retirement saving and therefore might also imply that people who are highly risk-averse in general will show a more negative attitude towards pension communication than less risk-averse people.

However, it is also shown that highly risk-averse people tend to purchase more insurances than less risk-averse individuals (Schlesinger, 1981; Szpiro, 1985). Therefore, I can also argument

that risk-averse people might be afraid of not accumulating enough wealth for retirement thus they are more likely to invest in extra private pension insurance to secure their retirement wealth compared to less risk-averse people.

Since, I expect that the pension communication with the investment framing is perceived as a more risky option I expect that high risk-seeking people will have a more positive attitude towards the investment information option than high risk-averse people. For instance, Agnew, Anderson, Gerlach and Szykman (2008) confirm that risk-seeking individuals are more likely to prefer the investment option to an annuity option whereas risk-averse people more frequently choose the safer annuity option. Thus, I expect that risk-seeking behavior could serve as a moderator of the effect of Framing on Attitude. Therefore, I postulate the following hypotheses:

H2: Effects of framing on attitude towards pension communication are moderated by the risk aversion; such that (a) risk-averse individuals form more positive attitudes with the insurance framing and (b) risk-taking individuals form more positive attitudes with the investment framing.

Financial Literacy

Financial literacy has been identified as a major driver of myopic saving behavior in a series of academic studies. Van Rooij, Lusardi and Alessi (2011) conducted a survey in the Netherlands and found a strong and positive relationship between financial knowledge and retirement planning. Those who are more financially sophisticated are more likely to plan for their retirement. In numerous academic publications scholars agree that financial education is a driver for effective financial planning (Greenspan, 2005; Hilgert, Hogarth & Beverly, 2003; Lusardi & Mitchell, 2007).

However, in their meta-analysis, examining 201 studies Fernandes, Lynch and Netemeyer (2014) report that financial education programs only explain 0.1% of variance of financial behavior. They also find that the effect financial literacy is significantly reduced when taking into account psychological traits such as risk seeking behavior or planning for retirement.

However, I expect that people who show high levels of financial literacy will be more willing to save for their retirement and also reveal a more positive attitude towards pension communication compared to people that show lower levels of financial literacy. To take into account the findings of Fernandes, Lynch and Netemeyer (2014) I will also control for psychological traits when measuring the effect of financial literacy.

Moreover, I expect that financial literacy serves as moderator in the sense that I expect that respondents in the investment framing group will have a more pronounced attitude towards pension communication if they are more financially sophisticated. My expectation is in line with Agnew et al.'s (2008) findings that financially sophisticated people are more likely to choose the investment option. On the contrary, for people with low financial literacy I expect that they will show a more positive attitude in the insurance framing condition. Low financial literacy could induce a feeling of uncertainty and I expect that the insurance option leaves pension insurance as the most secure option for financially illiterate individuals (Lachance & Tang, 2012).

H3: Effects of framing on attitude towards pension communication are moderated by financial literacy; such that (a) high financially literate individuals form more positive attitudes with the investment framing and (b) low financially literate individuals form more positive attitudes with the insurance framing.

Retirement Anxiety

In the past, the influence of emotions on bounded rationality has been largely neglected by economic and financial researchers (Hanoch, 2002). Although, Kahneman and Tversky (1979) already introduced and tested a link between cognitive psychology and economics by showing that expected utility theory does not hold under certain conditions, little research has been done to explicitly show the relationship between emotions and their influence on financial investment behavior (Elster, 1998). Emotions can have a significant influence on decision-making (Hanoch, 2002). For instance, Shapiro and Burchell (2012) find a positive relationship between financial anxiety and mismanagement of personal finances. Researchers that attempted to measure retirement anxiety focus on social aspects of retirement such as social isolation, loss of family members and relationships to friends in retirement (Fletcher & Hansson, 1991). Hayslip, Beyerlein and Nichols (1997) expand this construct by also including other aspects of retirement anxiety such as health, income and loss of productivity. Thus retirement anxiety appears to be a complex construct that might be difficult to measure due to its multiple dimensions. So far, there is hardly any research investigating how far retirement anxiety influences attitude towards pension information or investment behavior. However, to hypothesize the influence of retirement anxiety on attitude towards pension communication analogies can be drawn from risk attitude research and the theory of loss aversion. For instance, Kahneman and Tversky (1983) show that people behave differently under certain vs. risky choices. They conclude that individuals are very risk-averse about gains but tend to behave risk-seeking in terms of losses. In other words, individuals strongly prefer avoiding losses to acquiring gains. Regarding the framing conditions I expect that people perceive the insurance option as the certain choice that helps to prevent future losses, and the investment option as a more risky choice, representing potential future gains.

Therefore I assume that people who are highly anxious about their retirement are very unwilling to choose the investment option and will show a more pronounced attitude towards pension communication in the insurance framing than investment framing. Moreover I expect that people with low retirement anxiety will indicate a more positive attitude level in the investment framing since people who do not have high concerns about their retirement might be more willing to take risk and show a more positive attitude towards pension communication in the investment condition. In other words, I hypothesize that retirement anxiety moderates the relationship between framing condition and attitude towards pension communication.

H4: Effects of framing on attitude towards pension communication are moderated by retirement anxiety; such that (a) individuals with low anxiety towards retirement form more positive attitudes with the investment framing and (b) individuals with high anxiety towards retirement form more positive attitudes with the insurance framing.

Trust in Financial Services

According to Hansen (2012) understanding trust in financial services is essential for financial service providers in order to maintain vital customer-seller relationships. In addition, trust is indispensable for businesses to develop effective cooperation and communication channels among employees, customers, shareholders and other involved stakeholders (Tschannen-Moran & Hoy, 2000). For financial service providers trust implies willingness to take risk (Rousseau, Sitkin, Burt & Camerer, 1998). Retirement investment is a complex and risky financial service product since the individual has to wait a long time for the benefits and therefore incurs investment and longevity risks (Cocco & Gomes, 2012). Therefore, such investments require customers' confidence and trust. Pi, Liao and Cheng (2012) find a positive relationship between trust in financial online services and intention of continuous adoption of such services.

Moreover, Singh and Sirdeshmukh (2000) report that trust is a key moderator influencing pre- and post-purchase processes and thus also attitude. I expect that trust is a potential moderator of the effect of framing on attitude. In particular, I expect that people with a high degree of trust in financial services will show a more positive attitude towards pension communication in the investment framing than people with lower trust levels. Likewise, I expect that people with high degrees of trust in financial services will show a more positive attitude towards pension communication in the insurance framing than people with lower trust levels.

H5: Effects of framing on attitude towards pension communication are moderated by trust towards financial services; such that (a) people with high trust in financial services form more positive attitudes with the investment framing, and (b) people with low trust in financial services form more positive attitudes with the insurance framing.

Retirement Planning Activity Level

In their study Hershey et al. (2007) analyze to what extent demographic, psychological and economic factors influence financial planning for retirement. Amongst others, they find a relationship between financial planning activity and retirement savings contribution. They base their assumptions on Lusardi's (1999) results that already showed a direct link between financial planning activity and savings contribution. High financial planning activity implies that a person has already dealt with previous investments and savings thoroughly. I reason that people who already dealt with their financials are aware of the importance of taking financial precautions for their retirement and thus expect that planning activity is positively related to attitude. In particular, I expect that planning works as a moderator in this framework. Specifically, I expect that people who show high levels of financial planning activity will reveal a more positive attitude in the investment framing since financial planning might make them more confident

about their investment choice. According to Agnew et al. (2008, p. 421), “preferences to investment options may be driven by familiarity with investment vehicles”. Additionally, I expect that people with low planning levels will show a more positive attitude in the insurance than investment framing. People who have less experience in financial planning might feel overstrained by the complexity of investment options and feel more confident with a rather safe and certain insurance framing (Agnew et al, 2008).

H6: Effects of framing on attitude towards pension communication are moderated by retirement planning activity level; such that (a) people with high retirement planning levels form more positive attitudes with the investment framing and (b) people with low retirement planning levels form more positive attitudes with the insurance framing.

2.4. Dependent variable: Attitude towards pension communication

In this research I want to analyze to what extent message framings can influence attitude towards pension communication and how these framing effects differ among the variables described above. Since, it is not possible for me to conduct a field experiment to investigate framing effects on actual behavior, I take attitude towards pension communication as an indicator for subsequent investment behavior. There are several findings in the area of behavioral finance that provide evidence that attitude is significantly related to behavior. Barber and Odean (2001) for instance show that investor’s overconfidence leads to higher amounts of trading. Additionally, as already reported, Pi, Liao and Cheng (2012) find a positive relationship between trust in financial online services and intention of continuous adoption of such services. In general, the attitude-behavior relation is a well-documented finding in the area of psychology (Glasman & Albarracín, 2006). Two of the most quoted researchers in this field are Ajzen and Fishbein (1980) who developed the theory of planned behavior. In their theory they provide a framework to measure the gap

between attitude and behavior. According to Ajzen and Fishbein, behavior depends on the intention to perform an action. In turn, intention depends on the attitude towards behavior. The more favorable the attitude the stronger the intention to perform a certain behavior (Ajzen, 1991). To further strengthen my argument of the attitude-behavior relationship I will also draw from findings in the area of health and medicine. Findings from diet research have already shown a positive relationship between direct attitude and intentional behavior (Nejad, Wertheim & Greenwood, 2004). One of the mostly applied and probed health psychology models is the health belief model (Conner & Norman, 2005). According to this theory the probability to engage in healthy behavior (e.g. health protection) depends on people's believes, perceived benefits, self-efficacy and barriers to achieve a desired health outcome (Chen & Land, 1986). According to Ajzen and Fishbein (1980) people's believes and perceived benefits of an action form attitude towards this action. Thus, I expect attitude to be a reliable predictor of behavioral action. Behavior can be further triggered by certain cues to action such as a mass media campaign or other's advice (Janz & Becker, 1984). To close the loop between framing manipulation and attitude towards pension communication I expect that investment and insurance framings are such cues of action that influence attitude and are moderated by the variables mentioned before. To summarize, in this study a positive attitude towards pension communication will be taken as an indicator and proxy for subsequent behavior to get informed about and invest in one's private pension account.

3. Field Study: In-Depth interviews

The main purpose of this research is to determine what factors influence attitude towards pension communication in order to develop effective mass-customized campaigns for pension communication. To gain first insights about how people think about and react to pension communication I conducted eleven in-depth interviews at the end of January and beginning of February 2014. During the interviews people were asked about their experience with pension insurance products and their opinion and expectations about their retirement. The interviews should also provide a first hint whether the 40th birthday constitutes a so-called teachable moment.

3.1. Methodology

Respondents were therefore asked to remember their 40th birthday and report their thoughts at this day. Additionally, a pension communication tool in form of two alternative birthday cards were shown to participants to ask them about their reaction about receiving a card from their pension insurance company at their 40th birthday. One card contained a text with insurance framing while the other card's message was framed with words related to investment. The text message was adapted from a birthday card that a Dutch insurance company sent to each of its customers who turned 40 as a Customer Relationship Management (CRM) campaign. Adequate phrases to describe insurance and investment framings were taken from German pension insurance websites (Allianz, 2014; Debeka, 2014; CosmosDirekt, 2014). Respective words used for framing were accentuated with bold letters to emphasize the manipulation effect. A visual display of the pension communication tool can be found in Appendix 1.

To ensure that both textual framings also represent what they intend to measure face validity was tested for both messages. For this purpose I asked 8 students from Maastricht University to sort the framed words according to their respective category. All participants completed the task correctly providing evidence for a successful manipulation check.

As a sample of respondents I contacted people from a local German community between the age of 40 and 52 (average age = 48). 11 accepted to take part in the in-depth interviews (six male, five female). The interviews ranged between nine to 34 minutes with an average duration of 13 minutes. All respondents were interviewed at home in order to create a convenient atmosphere and induce a feeling of security to facilitate disclosure (Belk, Fischer & Kozinets, 2007). Furthermore, in-depth interviews allow for observation of participants' reactions. The interviews were conducted in a semi-structured way in order to gain detailed information and allowing for spontaneous reactions of the interviewer in order to ask questions that are sensitive to the respondents' needs to express their thoughts (Belk et al., 2007). Additionally, semi-structured interviews help to create a comfortable atmosphere since people feel more secure and easy during a conversation than in structured interviews (Belk, 2006). A feeling of safety and comfort is vital for this research since respondents were requested to also answer rather sensitive questions. Regarding sample diversity, respondents different professional backgrounds, such as . The sample included a journalist, a dental assistant, a public servant, a remedial teacher, a senior civil servant, a teacher for special needs education, two bankers, an insurance employee, a coach and a professor. Additionally, the interview sample can also be considered as roughly representative of the German population. For instance, participants mostly indicated "Ausbildung" (i.e., formal apprenticeship) as their highest educational level (64%) which is also the most frequent form of highest achieved education in Germany (50.2%). On average

respondents also indicated a net income of € 2,600. The average net income in Germany in 2013 was € 2,706 providing further evidence for a rather representative sample (Statistisches Bundesamt, 2014).

3.2. Analysis

According to Glaser and Strauss' (1976) approach of Grounded Theory a theory should be generated from the data itself and not primarily based on existing research. Since measuring attitude towards pension communication in combination with framing manipulation has not been tested before I consider the Grounded Theory approach suitable for the in-depth interview analysis. In the first step, as suggested by Glaser and Strauss, I assigned codings to different paragraphs of the transcribed interviews without any particular concept by using MAXQDA. In the following steps I further refined these codings by forming categories. Finally, I ended up with five categories or groups of coding: "reflectivity", "teachable moment", "birthday card as a trigger event", "attitude towards framing" and "reaction to pension communication".

Reflectivity

In the beginning of the interviews participants were encouraged to think back to their 40th birthday and to report which thoughts went through their minds on this day. Some respondents reported they had taken a review what had happened so far and will happen in the future.

"I noticed that a ten year interval applies for me. With 30 I got my first child, with 40 I started in a new job position."

"(...) what your children will do later (...). (...) what is doable in career terms. How the future will be."

Teachable moment

However, most people indicated that they had not taken a review and future outlook of their life around their 40th birthday. For them it had been a rather normal birthday event.

“No, for me as a rational thinking person it was no cut.”

“No, I don’t think it was anything special (...). I do this at every birthday.”

Interestingly, everybody reported to experience moments where one thinks about what happened in the past and will happen in the future and also with regards to pension planning.

“Yes, I was definitely thinking about it during the break-up and divorce.”

“I already arranged this before (...) since primary promises (pension benefit percentage) constantly diminished. Thus, when I was in my mid-thirties, I said to myself I don’t believe them (state pension) anymore and take private financial precautions.”

“Not particularly around the 40th birthday. But generally on a regular basis.”

“In general, people say there are some critical moments, when you think about how you want to plan your life (...). I had this more when I was 38 or 39.”

Therefore, I assume that teachable moments that trigger to think about one’s financial future and particular pension savings are very dependent on a person’s individual circumstances.

Birthday card as a trigger event

However, most people thought that a birthday card from their insurance company could motivate to think about pension insurance.

“It could be that this card is a trigger event”.

“I guess that something of that stays in your mind”.

“Yes, maybe then I would have asked them (friends) how they do it (pension insurance).”

Attitude towards framing

Regarding respondents' attitude towards investment and insurance framings there appears to be a significant difference between women and men. When I asked respondents which of the two birthday cards they preferred, women tended to prefer the insurance framed card whereas men more often chose the card with the investment framed message. Three of five female respondents chose the insurance framing whereas one did not decide on any option.

“This gives me the feeling that I already handled everything. Here (investment framing), I still have to invest to receive a profit share. (...). Solid is down-to-earth. This word in mind, I think about a house.”

Moreover, four of six men opted for the investment framing whereas one explicitly decided on the insurance option since the text was shorter. Men reported that they preferred the message with the investment framing since they had the feeling that they could take the reins and had the opportunity “to do it yourself”.

“At least it gives the feeling that you take the reins (...). I decide what happens.”

Reaction to pension communication

Concerning general attitude towards pension communication respondents mostly reacted rather negatively indicating they would rather throw the card away since they thought that the insurance company merely is interested in selling their products.

“I would consider this as acquisition.”

“This is just someone who is interested in my money.”

Finally, it was striking that women always mentioned their husbands when talking about their pension provision whereas men never mentioned anyone concerning their pension planning.

“I already contracted a life insurance very early. My husband and me have done these things already before (...).”

“My husband and me have contracted insurances at the same time (...).”

3.3. Results

All in all, the results from the in-depth interviews show that the 40th birthday could constitute a teachable moment. However, the event that actually motivates people to think about their retirement might depend on an individual's circumstances. For instance, respondents who already detected flaws in their obligatory pension insurance took extra care by investing in private pension provision. Additionally, one respondent indicated that his divorce made him think about his financial future. Since attitude towards pension communication was rather negative the question remains whether the overall negative attitude is attributable to attitude towards communication in general or pension communication in particular. Due to social desirability bias, respondents might answer in a way they think it would be viewed favorably by others (Hult & Keillor, 1994). Thus, respondents might not want to admit to be influenced by communication although they would be positively surprised to receive a birthday card from their private insurance company.

The in-depth interviews also provide hints regarding the effect of gender as a potential moderator influencing the effect of framing on attitude towards pension communication since men preferred the investment framing and women the insurance framing. Finally, the in-depth interviews provide an indication that married women do not deal with their pension provision on their own

but decide on retirement planning together with their husbands. However, during the interviews male participants never mentioned their wives when talking about how to prepare for retirement planning. One female respondent also reported that she earned too little to save for retirement and is thus dependent on her husband's pension provision. This might provide a first hint that men are in general more involved in retirement planning and therefore more positive and optimistic regarding attitude towards pension provision and in this case pension communication since they feel more experienced and sophisticated in this topic.

4. Survey

The in-depth interviews provided first insights how people think about pension communication activities. To provide statistical evidence for these findings and explore further and more complex relationships such as the effect of potential moderators I also conducted an online survey.

4.1. Methodology

The online questionnaire was distributed via snowball sampling. Respondents were randomly assigned to one of the two framing conditions. To determine the adequate sample size I followed the instruction by Green (1991) who recommends a minimum sample size of 50 cases plus $8*k$, where k represents the number of predictors which is seven in this framework. Thus, a minimum number of 106 cases was required. In total, 103 responses (male = 56%) were collected of which 93 were answered online. 10 additional responses came from a paper-based version which was displayed at a doctor's office. Independent samples t-tests indicated no significant differences between the online and offline questionnaire. Screening the data for response quality, I found no indication for mid-term, acquiescence or disacquiescence response bias. Thus, all responses were

kept for the following analysis. The investment framing manipulation counted 53 responses while 50 people finished the insurance framing questionnaire. All survey respondents were German and ranged between the ages of 34 to 57. Since it would also be interesting to see whether people below the age of 40 differ from their older cohorts, I kept eight respondents that were below the age of 40 (lowest 34). Most respondents had a college degree (51%), an income between € 1,300 and € 2,600 (35%), had two children (32%), were married (70%) and lived together with their partner (81%). 33% of the respondents indicated that they were currently working in the financial or business service industry.

To develop the framing messages the approach of Entman (1980) and Pan and Kosicki (1993) was used. According to Entman (1980), frames can be developed by using keywords relating to a specific topic. Supplementary, Pan and Kosicki (1993) define different tools for framing manipulations. Amongst others, they describe the method of syntactical framing which refers to the use of word arrangements into sentences. Similarly, I use words related to investment and insurance framings from different German pension insurance websites (CosmosDirekt, 2014; Debeka, 2014; ErgoDirekt, 2014). The framing manipulations and items of the main constructs can be found in Appendix 2.

Dependent variable

Attitude towards pension communication (Attitude). To measure attitude towards pension communication I used the well-established five point Likert scale (“Totally disagree” to “Totally agree”) developed and validated by Brackett and Carr (2001). The five-item scale measures attitude towards advertisements with regard to credibility, trustworthiness, believability and the degree to which an advertisement is annoying and irritating. I used a scale measuring attitude towards advertisement since advertisement is a special form of communication (Mehta, 2012).

Control variables

Next to age, gender, education and income respondents were also asked about their marital status, how many children they have and in which industry they are employed. Educational level was transformed into one dummy variable indicating whether respondents had low or high education. I identified low and high categories for all dummy variables by doing a median split test in SPSS. Only for the descriptive statistics (Table 1) I transformed Education into a three-level categorical variable indicating whether a person had no high school degree (1), some college (2) or graduated from college (3) for the purpose of a more fine-grained interpretation (Sundén & Surette, 1998). The categories to measure education, net income and industry were adapted from the annual report of the German federal statistical agency (Statistisches Bundesamt, 2013). Income level was measured as an interval scale variable since according to Watson and McNaughton (2007) income level can be treated as parametric variable if deciles are used. Industry¹ was transformed into a dummy variable indicating whether respondents work in the financial industry sector (= 1) or not (= 0). People who work in the financial service sector are expected to be more financially sophisticated compared to people employed in other industries. Similarly, marital status was transformed into a dummy variable indicating whether a person is married or not.

Risk taking (Risk-Taking). A single eleven-point item was used to determine participants' general risk attitude. Zero indicated that respondents are extremely risk averse while a score of ten indicated extreme willingness to take risk. The scale was adapted from Dohmen et al. (2011).

¹ According to the Statistisches Bundesamt (2014) all people who work in the area of Finance and Taxing are employed in the financial sector. Being employed in the financial sector is indicated by the variable "industry".

Financial literacy (Literacy). Three basic financial literacy questions were taken from van Rooij, Lusardi, and Alessie (2011). Only one of five and four options provided for the first two financial literacy questions and the third one is the correct answer, respectively. Participants could also tick the option “I refuse to answer” or “I don’t know”. For the analysis the three questions were transformed into a four point count variable where zero indicated that none of three questions were correctly answered, whereas three points indicated that the participant answered all questions correctly.

Financial planning (Planning). To measure to what extent respondents already dealt with their financial planning the ten item, five point Likert scale (“Very unlikely” to “Very likely”) by Hershey et al. (2007) was used.

Trust in financial service industry (Trust). Additionally, respondents were asked to what extent they trusted financial institutions in general and pension insurances in specific. This scale, consisting of six items measured by means of five point Likert scales (“Totally disagree” to “Totally agree”) was adapted from Hansen (2012). Hansen (2012) further distinguishes between broad-scope and narrow-scope trust. However, my own analyses strongly indicate that this scale is a single factor measure of trust.

Retirement anxiety (Anxiety). The retirement anxiety scale consisted of 14 items on a five point Likert scale (“Totally disagree” to “Totally agree”) developed by Hayslip et al. (1997). The authors further split this variable into four factors (Lack of Personal Well-Being, Avoidance of Loss of Productivity, Loss of Social Relationships and Loss of Marital Support). Again, my own factor analyses of the 14 items indicate that these items reflect one factor.

4.2. Analysis and Results

In this section, I will analyze the data of my online survey. Prior to the main analysis I performed principal axis factoring (PAF) to ensure construct validity of my items used. In the next step I investigated the descriptive statistics, correlations and conducted a multiple linear regression to gain further insights into the variables' (inter)relationships. Finally, I tested my hypotheses by applying moderation analysis.

Factor Analysis

To ensure construct validity for all items I conducted an exploratory factor analysis by using PAF with Promax rotation (Cureton & Mulaik, 1975). Table 1 reports all measures used in this study. The Kaiser-Meyer-Okin measure of Sampling Adequacy (0.713) and the Bartlett's Test of Sphericity ($p < 0.001$) indicate that the data is suitable for factor analysis. However, the results suggest nine (instead of four) factors to be extracted. Furthermore, I detected several substantial cross-loadings indicating violations of convergent and discriminant validity. For a four-factor solution all items except T5, RA1 and RA7 reveal high factor loadings on their respective construct. During the interviews participants already had problems understanding Retirement Anxiety items one and seven (RA1 & RA7). Especially, I speculate this is a consequence of a double-barreled questions problem since interview participants proposed different ways to interpret these two items (Malhotra, 2009). According to Hayslip et al. (1997) all alpha coefficients can be deemed as acceptable ($\alpha = .82$). However, there are no further studies that provide evidence for sufficient construct validity of scales.

Item T5 has only been used once in a study by Hansen (2012), where the author reported a standardized factor loading of .81. In other words, based on published research I cannot provide any explanation for the low loading of factor T5. However, since item T5 is very similar to T2

(“I believe that my pension fund is trustworthy” vs. “In general, I believe that financial companies are trustworthy”) respondents might lose attention and thus do not answer these questions consistently.

For attitude towards pension communication, planning for retirement, trust in financial services and retirement anxiety, Cronbach’s alpha values are all above .7 indicating sufficient construct reliability (George & Mallery, 2003). Since scales with a low number of items might not produce decent alphas, Field (2005) suggests also examining inter-item correlations for scales with less than ten items. For Attitude and Trust both inter-item correlations are in the acceptable range suggesting a strong relationship among the items and providing further evidence for sufficient construct reliability. Deleting T5 from the Trust construct improves Cronbach’s alpha from .80 to .84. Equally, eliminating RA1 and RA7 improves the Cronbach’s alpha from .87 to .90 and .89, respectively. And, as Netemeyer et al. (2003) suggest, deleting items from a construct only leads to a marginal improvement, given that the alphas already surmount values of .80. Thus the effect is negligible for the overall improvement of internal consistency and content validity of a scale. Moreover, I took all items from existing scales which had been already tested and validated for reliability. Therefore, I will take all items for the subsequent analyses, including RA1, RA7 and T5.

Table 1
Exploratory Factor Analysis: Factor Loadings for four factor solution^a

Scale items	Scale	Question	Attitude	Anxiety	Trust	Planning
Attitude towards advertisement	A1	This pension advertisement is credible.	0.98			
	A2	This pension advertisement is trustworthy.	0.82			
	A3	This pension advertisement is believable.	0.82			
	A4	This pension advertisement is annoying.	0.54			
	A5	This pension advertisement is irritating.	0.52			
Retirement anxiety	RA1	I would retire early if I could.		0.09		
	RA2	The thought of my retirement makes me tense and jittery.		0.64		
	RA3	I am concerned about my health after retiring.		0.70		
	RA4	I am concerned about my income after retiring.		0.47		
	RA5	I am concerned about my feeling productive after retiring.		0.79		
	RA6	I am concerned about losing my husband/wife after retiring.		0.59		
	RA7	I would avoid retirement at all costs.		0.24		
	RA8	I am concerned about my mental well-being after retiring.		0.73		
	RA9	I am concerned about my emotional well-being after retiring.		0.71		
	RA10	I am concerned about where I will live after retiring.		0.67		
	RA11	I am concerned about not having enough friends after retiring.		0.70		
	RA12	I am concerned about not having my family after retiring.		0.73		
	RA13	I am concerned about feeling alone after retiring.		0.68		
	RA14	I am concerned about being able to care for myself after retiring.		0.63		
Trust towards financial services	T1	In general, I believe that financial companies cannot be relied on to keep their promises.			0.77	
	T2	In general, I believe that financial companies are trustworthy			0.76	
	T3	Overall, I believe financial companies are honest.			0.61	
	T4	I believe that my pension fund cannot be relied upon to keep its promises.			0.77	
	T5	I believe that my pension fund is trustworthy.			0.20	
	T6	Overall, I believe my pension fund is honest.			0.68	
Financial Planning Level	P1	I frequently read articles/brochures on investing or financial planning.				0.75
	P2	I read one or more books on investing or financial planning.				0.73
	P3	I frequently visited financial planning sites on the World Wide Web.				0.75
	P4	I gathered or organized my financial records.				0.52
	P5	I regularly tuned into television/radio shows on investing or financial planning.				0.70
	P6	I conducted a thorough assessment of my net worth.				0.55
	P7	I identified specific spending plans for the future.				0.46
	P8	I discussed financial planning goals with a professional(s) in the field.				0.40
	P9	I discussed financial retirement plans with an employer's benefits specialist.				0.40
	P10	I discussed retirement plans with a knowledgeable friend or acquaintance.				0.38

^aExtraction Method: Principal Axis Factoring with Promax Rotation for a four-forced factor solution

Table 2
Factor Analysis: Inter-item correlations and alpha coefficients

Scale	Inter-item correlation mean	Inter-item correlation minimum	Inter-item correlation maximum	Alpha if item deleted	Coefficient alpha of scales
	0.55	0.32	0.86		0.86
A1				0.79	
A2				0.81	
A3				0.81	
A4				0.85	
A5				0.88	
	0.35	-0.18	0.67		0.87
RA1				0.90	
RA2				0.87	
RA3				0.87	
RA4				0.88	
RA5				0.87	
RA6				0.88	
RA7				0.89	
RA8				0.87	
RA9				0.87	
RA10				0.87	
RA11				0.87	
RA12				0.87	
RA13				0.87	
RA14				0.87	

Table 2 continued
Factor Analysis: Inter-item correlations and alpha coefficients

Scale	Inter-item correlation mean	Inter-item correlation minimum	Inter-item correlation maximum	Alpha if item deleted	Coefficient alpha of scales
	0.40	0.07	0.82		0.80
T1				0.75	
T2				0.73	
T3				0.77	
T4				0.73	
T5				0.84	
T6				0.75	
	0.32	0.08	0.71		0.82
P1				0.80	
P2				0.80	
P3				0.80	
P4				0.81	
P5				0.80	
P6				0.81	
P7				0.81	
P8				0.82	
P9				0.82	
P10				0.82	

Descriptive Statistics

In Table 3 all scales and variables are grouped by gender and framing with their respective means and standard deviations. With respect to gender it is striking that males (mean $M = 2.74$, standard deviation $SD = 0.11$) reveal a more positive attitude towards pension communication than females ($M = 2.45$, $SD = 0.10$). Males also show more pronounced risk-seeking behavior ($M = 4.88$, $SD = 0.34$) than their female counterparts ($M = 3.87$, $SD = 0.29$). Regarding financial literacy men ($M = 2.81$, $SD = 0.06$) are also slightly more sophisticated than women ($M = 2.41$, $SD = .13$). Men ($M = 2.60$, $SD = 0.09$) are also marginally less afraid of retirement compared to women ($M = 2.78$, $SD = 0.10$). With respect to trust, women ($M = 2.91$, $SD = 0.08$) are more confident in the financial service industry compared to men ($M = 2.73$, $SD = 0.08$). However, men ($M = 2.99$, $SD = 0.10$) indicate to have more pronounced levels of financial planning than women ($M = 2.86$, $SD = 0.10$).

Table 3
Descriptive Statistics

Variables	Gender				Framing			
	Males (N = 57)		Females (N = 46)		Investment (N = 53)		Insurance (N = 57)	
	M	SD	M	SD	M	SD	M	SD
Attitude	2.74	0.11	2.45	0.10	2.70	0.10	2.52	0.11
Risk-Taking	4.88	0.34	3.87	0.29	4.02	0.31	4.81	0.33
Financial Literacy	2.81	0.06	2.41	0.13	2.56	0.11	2.70	0.08
Retirement Anxiety	2.60	0.09	2.78	0.10	2.66	0.09	2.70	0.10
Trust in financial services	2.73	0.08	2.91	0.08	2.79	0.08	2.83	0.08
Retirement Planning	2.99	0.10	2.86	0.10	2.86	0.11	3.00	0.10
Age	46.18	0.61	47.46	0.77	47.70	0.63	45.85	0.71
Education	2.54	0.10	2.48	0.11	2.48	0.11	2.55	0.10
Income	3.44	0.16	1.89	0.13	2.34	0.16	3.13	0.19
Industry	0.35	0.06	0.28	0.07	0.34	0.07	0.30	0.08
Children	2.49	0.16	2.28	0.16	2.45	0.15	2.26	0.16
Partner	0.86	0.05	0.76	0.06	0.92	0.04	0.72	0.06
Married	0.75	0.06	0.63	0.07	0.82	0.05	0.58	0.07

Attitude, Anxiety, Trust and Planning are measured on a five point Likert scale (1 = Totally disagree, 5 = Totally agree), Risk-Taking is measured on a 11 bipolar scale (0 = Unwilling to take risk, 11 = Totally willing to take risk), Literacy is measured on a three point scale (0 = none of the three answers correct, 3 = all of the three answers correct), Education is measured on a three level scale (1 = no college graduate, 2 = some college, 3 = college graduate), Income is measured in deciles (1 = below € 1300, 2 = €1300 to € 2500, 5 = above € 5000), Industry is measured as a dummy variable (0 = not employed in financial industry, 1 = employed in financial industry), Children is measured on an ordinal scale (1 = no children, 4 = three children, 5 = more than three children), Partner is measured as a dummy variable (0 = not living together with a partner, 1 = living together with a partner), Married is measured as a dummy variable (0 = not married, 1 = married).

Testing for main effects

To test for the framing manipulation effect, I looked at the mean differences of attitude between the two framing groups. An independent samples t-test indicated that there is no significant difference in attitude towards pension communication between investment and insurance framing ($p = 0.24$). This is also in line with my expectations since I anticipated to only observe a significant difference between framing and attitude through potential moderator effects.

In the next step I examined correlation estimates and their significance levels among all scales and variables. Prior, I tested my data for multicollinearity, outliers, normality, linearity and homoscedasticity as major assumptions of ANOVA and OLS regression (Pallant, 2013). I assessed variance inflation factor (VIF) values by inserting all independent variables as a dependent variable successively. All VIF values ranged between 1.0 and 2.2 suggesting that multicollinearity is not an issue in this model (Myers, 1990). To test for outliers, I checked scatterplots showing that there is only one observation with a standard residual of less than -3.3. However, Tabachnick and Fidell (2013) suggest that if only a few cases are beyond the cut-off point of 3.3 and -3.3 there might be no necessity to take action. Therefore I decided to keep this outlier in my data set. To test for normality I examined the distribution of Attitude by means of a histogram and normal probability plot. The figures showed no conspicuous features of my dependent variable affirming a normal distribution of the data (Hair et al. 1998). The Normal Probability Plot revealed a straight line from the bottom left to top right thus supporting the linearity assumption. The Levine Test for homoscedacity of my focal variable Attitude was not significant ($p > 0.10$) indicating that the assumption of homogeneity of variances has not been violated.

A bivariate correlation matrix shows that trust is the only variable which is significantly related to attitude at a 1% significance level but has a low correlation coefficient ($\rho = 0.29$, $p < 0.01$) (Cohen, 1988). Additionally, gender is positively and directly related to attitude but only at a 10% significance value ($\rho = 0.19$; $p < 0.10$). None of the control variables are significantly correlated with the dependent variable. See Table 4 for a comprehensive presentation of all correlations across variables. Examining the relationship between all predictor variables and the dependent variable Attitude in a linear regression (Table 5) confirms the positive and significant effect of Trust on Attitude ($\beta = 0.47$, $p < .01$)². Furthermore, the control variables only explain 2% of the variance in Attitude with a negative adjusted R^2 suggesting that the control variables are not useful in predicting attitude towards pension communication (Field, 2005).

² For data split tests no different results were found. Splitting the data with respect to gender showed that variables in the regression analysis became more pronounced for men but were not significant.

Table 4

Descriptive Statistics and Correlations

	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1. Attitude	2.61	0.78		0.12	0.19†	-0.07	0.08	0.08	-0.03	0.04	0.02	0.07	0.14	0.11	-0.12	0.29**	0.06	
2. Framing	0.49	0.50			0.01	0.19	-0.05	-0.30	0.04	0.26**	0.26**	0.12	-0.17	-0.10	-0.03	-0.04	-0.1	
3. Gender	0.55	0.50				-0.13	0.04	0.58***	0.07	0.13	0.13	0.09	0.22*	0.29**	-0.13	-0.15	0.10	
4. Age	46.75	4.91					-0.10	-0.05	-0.07	0.16	0.09	0.27**	0.03	-0.09	-0.04	-0.07	0.09	
5. Education	2.51	0.74						0.26	-0.11	0.06	0.06	-0.04	0.24*	0.19	-0.17	-0.08	0.24*	
6. Income	2.75	1.33							-0.01	0.08	0.08	0.05	0.44***	0.19	-0.19	-0.13	0.32**	
7. Industry	0.32	0.47								0.00	0.06	-0.04	0.13	0.25*	-0.10	-0.03	0.03	
8. Married	0.70	0.46									0.67***	0.25*	-0.05	0.02	-0.09	0.12	0.08	
9. Partner	0.82	0.39										0.28**	0.01	0.00	0.04	-0.06	0.17	
10. Children	2.40	1.15											0.04	0.04	-0.20	0.17	0.12	
11. Risk-taking	4.43	2.33												0.24*	-0.13	0.07	0.33**	
12. Literacy	2.63	0.69													-0.21	-0.15	0.25*	
13. Anxiety	2.68	0.68														-0.02	-0.07	
14. Trust	2.81	0.58																0.01
15. Planning	2.93	0.72																

N = 103

† < 0.10, *p < 0.05, **p < 0.01, ***p < 0.001

Attitude, Anxiety, Trust and Planning are measured on a five point Likert scale (1 = Totally disagree, 5 = Totally agree), Risk-Taking is measured on a 11 bipolar scale (0 = Unwilling to take risk, 11 = Totally willing to take risk), Literacy is measured on a three point scale (0 = none of the three answers correct, 3 = all of the three answers correct), Education is measured on a three level scale (1 = no college graduate, 2 = some college, 3 = college graduate), Income is measured in deciles (1 = below € 1300, 2 = €1300 to € 2500, 5 = above € 5000), Industry is measured as a dummy variable (0 = not employed in financial industry, 1 = employed in financial industry), Children is measured on an ordinal scale (1 = no children, 4 = three children, 5 = more than three children), Partner is measured as a dummy variable (0 = not living together with a partner, 1 = living together with a partner), Married is measured as a dummy variable (0 = not married, 1 = married).

Table 5

OLS regression

Independent Variables	Framing	Gender	Age	Education	Income	Industry	Married	Partner	Children	Risk-Taking	Financial Literacy	Anxiety	Trust	Planning	
	1.15	0.27	0.30	-0.01	0.06	0.00	-0.14	-0.17	0.11	-0.03	0.02	0.12	-0.09	0.47**	0.00

N = 103, R² = 0.19, R² adjusted = 0.06, F-Test = 1.47, †p < 0.10, *p < 0.05, **p < 0.01, ***p < 0.001

Prior to conducting a moderation analysis I looked at scatterplots (Figure 2, p. 41) to detect any potential moderating effects. Regarding gender, I observed that males show on average a more positive attitude in the investment options rather than the insurance option providing some preliminary support for H1a. Furthermore, individuals who indicated high risk-taking behavior also indicated a more positive attitude in the investment option rather than the insurance option, providing preliminary support for H2a. Individuals with low financial literacy also indicated a more positive attitude in the insurance than investment framing, providing preliminary support for H3b. Additionally, individuals with low retirement anxiety showed a more positive attitude towards pension communication in the investment framing than insurance framing providing preliminary support for H4a. Individuals with high trust in financial services showed a more positive attitude towards pension communication in the investment framing than insurance framing providing preliminary support for H5a. Finally, individuals in the high planning group indicated a more positive attitude in the investment framing than the insurance framing, providing preliminary support for H6a.

To statistically test for potential moderating effects I investigated interactions (Table 6 – Table 11) between the framing variable and potential moderators by applying the Pick-a-point approach and Johnson-Neyman technique as suggested by Hayes and Matthes (2009). The Pick-a-point approach investigates different levels of the moderator at low, medium and high levels using the sample mean with one-point standard deviations (Bauer & Curran, 2005). The Johnson-Neyman technique also investigates different effects of the moderator but at continuous levels (Johnson & Neyman, 1936). Mathematically it is shown at what point on a continuous scale the moderator becomes significant or insignificant. Therefore, this technique obviates the problem of picking arbitrary moderator points (Hayes & Matthes, 2009). First of all I examined

whether the interaction effect were significant. If the interaction proved to be significant I more closely investigated the joint effect of the independent variable and the respective moderator and applied the Pick-a-point approach and the Johnson-Neyman technique in the second and third step.

Regarding Gender as a potential moderator Table 6 shows that the experimental condition and gender do not interact suggesting that the effect of the framing manipulation is not moderated by the factor gender ($b_3 = .027$, $t = 0.88$, $p = 0.38$). Thus, Hypothesis 1a and 1b are not supported.

Investigating Risk-Taking as a potential moderator I conclude from Table 7 that the framing effect is not moderated by risk-taking given the insignificant interaction term ($b_3 = 0.03$, $t = 0.40$, $p = 0.69$). Thus, H2a and H2b do not find any support.

With respect to the potential moderator Literacy, the interaction term is not significant ($b_3 = -0.23$, $t = -0.92$, $p = 0.36$), thus I do not find support for H3a and H3b.

Additionally, the interaction term between Anxiety and Framing is not significant ($b_3 = 0.03$, $t = 0.13$, $p = 0.89$). I therefore do not find support for H4a and H4b.

For the potential moderator Trust I can observe a significant interaction effect at the 10% level ($b_3 = 0.45$, $t = 1.80$, $p = 0.08$). Therefore, I conclude that the effect of the framing manipulation on Attitude depends on the individual's trust in financial services, providing support for H5a and H5b. Equally, I observe a significant effect for b_2 . This means, individuals that score high on Trust and are assigned to the insurance condition are predicted to have a more positive Attitude by 0.41 units ($t = 3.24$, $p = 0.001$). Inspecting the results from the Pick-a-point approach, I conclude that only among those individuals who reveal high levels of Trust the framing showed an effect on Attitude ($t_{\text{high}(99)} = 2.06$, $p = 0.042$). Those who have very high degrees of trust in

financial services showed very pronounced positive effects of attitude towards pension information if they were assigned to the investment condition. Among those who indicated rather low or medium levels of Trust the framing manipulation did not reveal any significant effect ($t_{\text{low}}(99) = -0.343, p = 0.733$; $t_{\text{medium}}(99) = 0.136, p = 0.178$). Applying the Johnson-Neymann approach I observe that for scores of the Trust scale above 0.53 the effect of the framing manipulation becomes significant and positive. Beyond this score of Trust, the effect of the manipulation is 0.44, indicating that individuals assigned to the investment framing condition have a 0.44 units more positive level in attitude than those assigned to the insurance condition, if they are also characterized by relatively high degrees of trust. For the remaining individuals with values of Trust below .53, the effect of the framing manipulation is not significant.

For the estimated moderation of Planning between Framing and Attitude I do not find a significant moderation effect ($b_3 = 0.08, t = 0.41, p = 0.68$). Therefore neither H6a nor H6b get supported.

Table 6

OLS Regression Estimating Attitude towards Pension Communication from Framing Condition, Gender, and Their Interaction

	Coefficient	SE	t	p
Constant	2.61	0.08	33.55	0.00
b1: Investment	0.18	0.15	1.15	0.25
b2: Male	0.29	0.15	1.89	0.06
Interaction	0.27	0.31	0.88	0.38

R = 0.24, R² = 0.06, F(99) = 2.20

Table 8

OLS Regression Estimating Attitude towards Pension Communication from Framing Condition, Literacy, and Their Interaction

	Coefficient	SE	t	p
Constant	2.60	0.08	33.18	0.00
b1: Investment	0.21	0.16	1.31	0.19
b2: Literacy	0.17	0.13	1.32	0.19
Interaction	-0.23	0.25	-0.92	0.36

R = 0.20, R² = 0.04, F(99) = 1.42

Table 10

OLS Regression Estimating Attitude towards Pension Communication from Framing Condition, Trust, and Their Interaction

	Coefficient	SE	t	p
Constant	2.61	0.07	35.21	0.00
b1: Investment	0.20	0.15	1.36	0.18
b2: Trust	0.41	0.13	3.24	0.00
Interaction	0.45	0.25	1.80	0.08

R = 0.36, R² = 0.13, F(99) = 5.66

Table 7

OLS Regression Estimating Attitude towards Pension Communication from Framing Condition, Risk-Taking, and Their Interaction

	Coefficient	SE	t	p
Constant	2.61	0.08	32.72	0.00
b1: Investment	0.23	0.16	1.43	0.16
b2: Risk-Taking	0.06	0.04	1.54	0.13
Interaction	0.03	0.07	0.40	0.69

R = 0.20, R² = 0.04, F(99) = 1.38

Table 9

OLS Regression Estimating Attitude towards Pension Communication from Framing Condition, Anxiety, and Their Interaction

	Coefficient	SE	t	p
Constant	2.61	0.08	32.87	0.00
b1: Investment	0.18	0.16	1.12	0.26
b2: Anxiety	-0.14	0.13	-1.05	0.30
Interaction	0.03	0.26	0.13	0.89

R = 0.17, R² = 0.03, F(99) = 0.91

Table 11

OLS Regression Estimating Attitude towards Pension Communication from Framing Condition, Planning, and Their Interaction

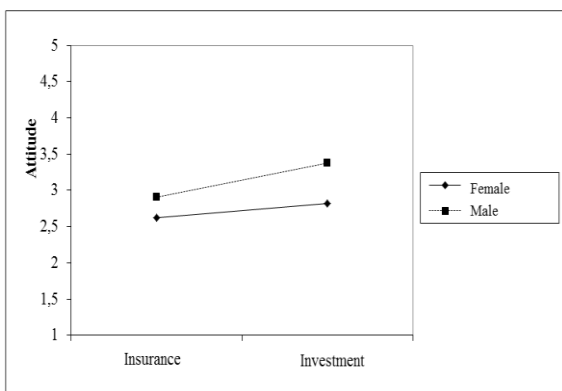
	Coefficient	SE	t	p
Constant	2.61	0.08	32.47	0.00
b1: Investment	0.19	0.16	1.21	0.23
b2: Planning	0.07	0.10	0.75	0.45
Interaction	0.08	0.20	0.04	0.68

R = 0.14, R² = 0.02, F(99) = 0.70

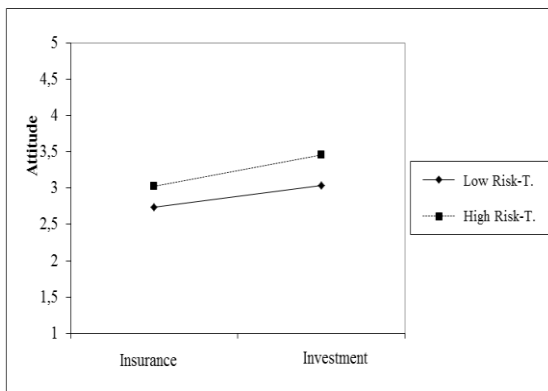
Figure 2

Interaction of Gender, Risk-Taking, Financial Literacy, Retirement Anxiety, Trust in Financial Services and Retirement Planning and Framing on Attitude towards Pension Communication

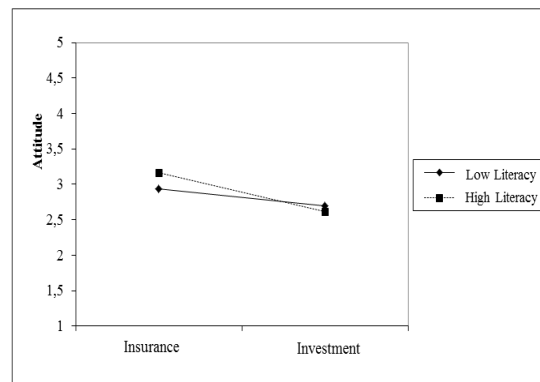
A: Moderating Effect of Gender



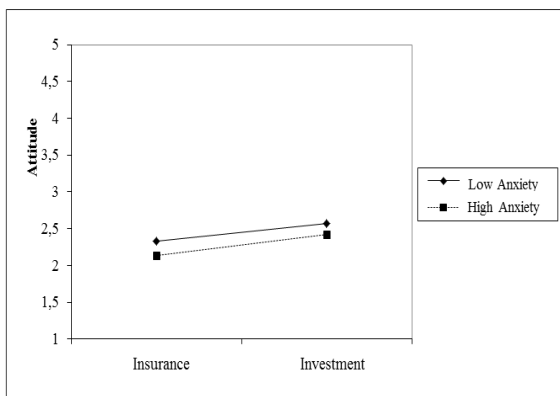
B: Moderating Effect of Risk-Taking



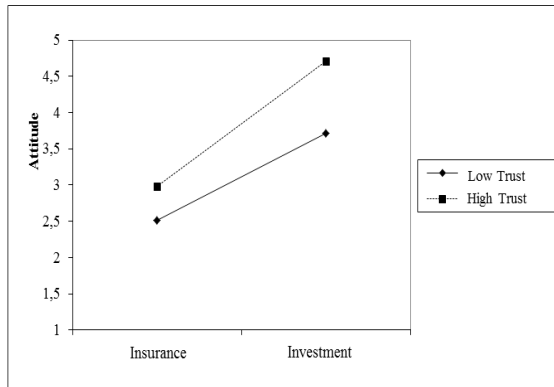
C: Moderating Effect of Financial Literacy



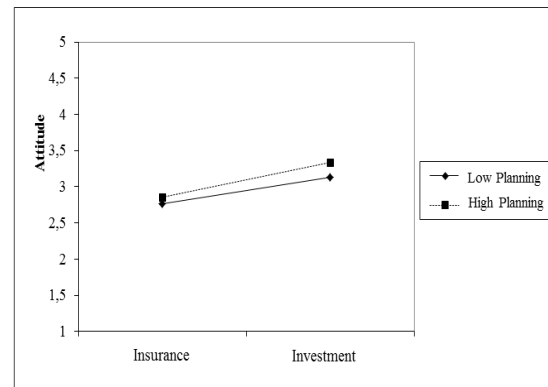
D: Moderating Effect of Retirement Anxiety



E: Moderating Effect of Trust in Financial Services



F: Moderating Effect of Retirement Planning



5. Discussion and Limitations

In this chapter I will discuss my findings from the correlation, regression and moderation analysis in more detail as well as compare my results with previous findings in literature. The correlation and regression analysis showed that trust is the only moderator revealing significant and substantial interactions with framing on attitude towards pension communication. This is in line with the findings of Lachance and Tang (2012) who report that trust was found to be the most important variable to explain saving and investment behavior. Additionally, several studies such as the Certified Financial Planner Board of Standards (2004) as well as the State Street Global Advisors (2007) report that trustworthiness is the most important factor when deciding for a financial advisor. Regarding direct effect, the finding that attitude towards pension communication is significantly different among gender, namely that men have a more positive attitude towards pension communication than women, is also in line with the expectations resulting from my in-depth interviews. Although I could not find any significant interaction effects for Risk-Taking, Literacy, Anxiety and Planning, the moderation graphs in Figure 2 show interesting tendencies. It is striking that for all potential moderation effects except for Literacy all line graphs independent of moderator level indicate more positive attitude towards pension communication in the investment framing. Former data split tests for the regression analysis revealed that the effect of the variables is more pronounced for the male than female group. Therefore, one explanation for participants' tendency to show a more positive attitude towards investment framing might be driven by the more pronounced difference towards framing condition among males. In contrast, individuals who showed high levels of financial literacy indicated a more positive attitude towards insurance framing than investment framing. One

explanation for this observation might be that highly financially sophisticated individuals also have more experience with financial investments in general. As their reference point, 'pension investment' might be seen as a rather safe investment requiring more secure products with lower risk-return ratios compared to other financial investments. Thus, highly financially literate individuals might have a more positive attitude towards pension communication if words related to insurance are used. In Table 4 we can see a substantial positive correlation between Gender and Literacy ($\rho = 0.29, p < 0.01$). I speculate that Literacy as a moderator influencing the effect of Framing on Attitude might also overlap with the effect of gender, and the gender effect might level out the separate moderating influence of literacy on the main effect of framing on attitude.

Additionally, the correlation table shows that there are several significant correlations among the independent variables. For instance, net income ($\rho = 0.32, p < 0.01$) and financial literacy ($\rho = 0.25, p < 0.05$) as well as risk-taking ($\rho = 0.33, p < 0.01$) are positively and significantly related with financial planning, suggesting that financially educated people with high income levels and high risk-taking behavior deal more with financial planning. This is also confirmed by Ameriks, Caplin and Leahy (2003) and Lusardi and Mitchell (2007) who find that individuals who are highly financially sophisticated also have a higher propensity to plan for their financial future. People who have higher net income levels might also be more engaged with financial planning since they are more able to set aside extra money. Surprisingly, risk-taking is positively related to financial planning. In contrast, Greenhalg-Stanley (2014) reports that the risk-averse households are more likely to care about financial planning. One explanation for this correlation might be an indirect relationship such that risk-taking is associated with higher net income which in turn is positively related to financial planning level. Thus, people with higher net income levels are more likely to take risks since they are able to bear financial losses and are more able to invest

time in financial planning since they have enough financial resources to invest. Alternatively, an argument of reversed causality could apply: a higher degree of financial planning represents more profound expertise in finance, and being an expert in finance may allow people to be more risk-prone and invest in riskier forms of retirement funds. Similarly and contrary to my expectations, retirement anxiety and number of children are significantly negatively correlated ($\rho = -0.20$, $p < 0.05$). A very traditional explanation and post-rationalization of this relationship could be that children are seen as protection against social isolation as well as financial support later in life. Or, taking care of children simply distracts from retirement planning and anxiety. Additionally, Gender ($\rho = 0.22$, $p < 0.05$), Income ($\rho = 0.44$, $p < 0.001$) and Literacy ($\rho = 0.24$, $p < 0.05$) are positively and significantly related with Risk-Taking. These results are supported by academic findings as well. For instance, Dohmen et al. (2011) find that women are more risk averse than men. Moreover, King (1974) shows that individuals who have high levels of wealth (higher net income levels) are more likely to decide for a profession involving greater monetary risk (implies lower risk-aversion). Cavazzali, Gardenal and Rigoni (2012) provide evidence that financial literacy is a driver for risk-taking behavior. Also gender and financial literacy do correlate positively and significantly. This is in line with Lusardi and Mitchell's (2008) finding that women show less financial literacy than men. I also find a meaningful positive and significant relationship between industry and financial literacy confirming that people who work in the finance sector are also more financially literate.

This study also has several limitations. First, I expect that the significant correlations among some of the independent variables could hint at the problem that these variables represent joint factors. For instance people who are rather financially illiterate are also highly risk-averse ($\rho = 0.24$, $p < 0.05$). If several variables explain the same variance the explanatory power of my

model might suffer. I already mentioned that the demographic variables used in this study show a negative R^2 and therefore might not be useful if included in the model at the same time.

Another limitation in this study might be that the dependent variable and all potential moderator variables are self-reported scales that could be affected by poor statistical quality, social desirability and other biases. E.g., in a meta-analysis about the use of implicit measures, focusing on self-reported attitude scales, Hendrick, Fischer, Tobi, and Frewer, (2013) report poor scale validation with respect to reliability, validity and dimensionality. Self-reported measures are also expected to be significantly influenced by social desirability bias. E.g., Fisher and Katz (2000) provide significant evidence for this assumption. Moreover, risk aversion is measured as a single-item scale only. While such direct single-item measures can be meaningful in specific cases (Bergkvist & Rossiter, 2007), the use of single-items scales has been criticized especially when used for complex constructs as is the case in my study (Loo, 2002). As an alternative, more objective scales could be applied in future research. For instance Arrow (2009) provides a tool to mathematically measure risk-aversion. These objective measures can be applied, among others, in lottery games (Holt & Laury, 2005).

Furthermore, I took attitude towards pension communication as an indicator for subsequent intentional behavior to invest in one's private pension in line with Aijzen and Fishbein's (1980) theory of planned behavior. However, the question remains whether attitude towards pension communication will result in the intention and behavior to invest in one's private pension plan. Respondents might have a positive attitude towards private pension insurance but will not show subsequent willingness to inform themselves and investment behavior. Future research should include behavioral intentions and actual behavior to provide evidence about these consequences of different forms of pension communication.

Another concern in this study might be that the model is not adequately reflecting the paths explaining attitude towards pension communication. So far, there is only limited research on structural models in pension planning. Thus, the variables used in this model might be linked and interrelated in different ways. E.g., for some unexpected or contradictory results, I used reversed causality to explain my findings. Or, one could argue that some factors and scales actually form higher-order constructs (Jarvis, MacKenzie, Podsakoff, 2003). This problem also hints at the issue of omitted variable bias. According to retirement planning research, factors such as self-control and procrastination might contribute additional explanatory power to explain different attitudes towards pension communication (Ajzen & Fishbein, 1980; Rha, Montalto & Sherman, 2006).

Finally, an important limitation in this research might be the quality of measures used. Although established scales were used that were tested both for reliability and validity, a few variables were slightly adapted for pension communication. Since there is no documentation of modification of these scales for pension communication the variables might not measure the constructs they intend to measure. Factor analysis already indicated a few violations of convergent and discriminant validity with cross-loadings for the nine factor solution. Finally, the sample comprises only 103 respondents which is the minimum number required and thus might be too (Green, 1991).

6. Theoretical and Managerial Implications

The long-term sustainability of the German public pension system has been questioned due to an increasing pension funding gap resulting from demographic changes as well as mismanagement of public pension assets and low interest rates (Mercer, 2013). In the future, people therefore will have to rely more and more on extra pension provision to secure their financial wealth when retired. Thus, offering retirement funds or insurances has become a very attractive business opportunity for financial service providers. However, little is known about how to optimally frame communication activities to acquire new customers. In other words, the development of effective marketing campaigns for private pension communication has been rarely addressed in academic literature (EIOPA, 2013). My research shows that gender differences in attitude towards pension communication exist. Male respondents are much more positive towards pension communication compared to female participants. In chapter 3 and 4 I reasoned that men are more financially sophisticated, less risk-averse and thus more confident concerning pension investment decisions compared to their female counterparts. Additionally, my in-depth interviews clearly show that women prefer insurance and men prefer investment framings. Therefore, I advise both science and practice to further investigate how to adapt communication to male and female customers. In addition, the in-depth interview results showed that married couples tend to jointly decide about retirement investments. Applying investment and insurance message framings for pension communication is a low cost marketing strategy and therefore ideal for further testing in a field experiment, i.e. in a real market context. Such tests in a large scale, real-life setting might also be an interesting starting point to identify customer segments. Using such a large sample, a cluster analysis can be applied to segment prospects with respect to gender or marital status. Clusters might provide further insights to what extent these groups

differ with respect to psychographics. Determining differences in response rates and additional behavioral characteristics across segments, pension communication tools could be further refined.

Except for the variable trust I did not find support for any other potential moderation effects. However, the non-significant findings might also be driven by sample diversity and the limitations discussed in chapter 5. Heterogeneity among respondents with regard to attitude towards pension communication might cancel out a few effects in my sample. In relevant research, several scholars report a large number of factors influencing pension investment decisions which further complicates finding significant effects and pronounced tendencies (Donkers & van Soest, 1999; Sundén & Surette, 1998). Therefore, I advise scholars to use large samples in future pension communication research to be able to isolate effects of framing and moderating variables as well as to quantify the influence of remaining heterogeneity and additional control variables.

Regarding further managerial implications, I have the following advice for private pension providers: First of all, as a target group Generation X is particularly interesting for insurance companies. The in-depth interviews provide hints that people in their forties might be responsive to pension communication. From an economical perspective, this customer cohort also represents one of the largest demographic groups in Germany with substantial income levels enabling them to privately save for their retirement (Statistisches Bundesamt, 2014).

Pension insurance companies could also further refine their communication according to the pension products they offer. In Germany, there are different possibilities to invest in private pension. The most prominent products are “Sofortrente”, “Bausteinrente” and “Fondgebundene Rentenversicherung” (Hannoversche, 2014). The “Sofortrente” is a very secure investment

where one receives a fixed amount dependent on the initial payment every month. The “Bausteinrente” is also considered very secure but is in contrast to the “Sofortrente” more flexible in the sense that one can decide whether to receive the benefits as a lump sum payment or fixed annuity. The “Fondgebundene Rentenversicherung” is a unit-linked pension insurance which is considered more risky but also more profitable since benefits depend on investment decisions and market developments. Based on my results that for example the level of risk-taking differs among gender, financial literacy and net income, pension insurance companies could further refine their products and their communication concepts according to different customer segments. This could imply that very risk-averse customers (female or older customers) are encouraged to accept more financial risk in order to accumulate enough return on the long-run. Excessive risk-aversion has detrimental consequences for retirement savings since overly conservative asset allocation results in too low returns and thus pension benefits (Arshanapalli & Nelson, 2012).

Finally, I found that trust is the only significant moderating variable explaining differences in attitude towards pension communication. Thus, it might be interesting for pension insurance companies to examine which factors drive and explain different degrees of trust in financial services. For instance, Lachance and Tang (2012) report that people who are conservative and religious have higher trust in financial services. To develop customer segments for large-scale marketing strategies for pension communication campaigns it might be interesting to further investigate whether these factors also explain differences in attitude towards pension communication. Moreover, individual’s trust in financial services might be influenced by the recent financial crisis in 2008. Malmendier and Nagel (2011) argue that dramatic events such as the Great Depression in the 1930s can have tremendous effects on investors’ risk-taking behavior

and therefore general trust in financial services. In contrast, Bateman et al. (2011) found only a small increase in risk aversion during the recent financial crisis regarding retirement saving. Similarly, in a panel data analysis Hoffmann, Post and Pennings (2012) show that increased risk perception levels on stock market investments quickly recovered after the financial crisis in 2008. However, it might be interesting for future research to also take into account effects of financial crises on risk-perception levels with respect to individuals' willingness to invest in extra pension insurance.

To conclude, my research offers important theoretical and practical insights but also points at the challenges for communication concepts dealing with the so-called third pillar pension. With regard to ongoing developments such as the pension reform "Rentenreform 63" which is expected to further stress public pension cushions, the need for extra pension provision becomes indispensable (Fehr et al., 2014). The most recent increase of private pension contracts sold already provides evidence that people recognize the need to secure themselves with extra pension provision (AXA, 2013). Based on findings in this thesis, financial service providers are able to develop more effective mass customized communication strategies that could help to further activate and motivate people to invest in extra retirement provision (Brüggen, Rhode & van den Broeke, 2013).

7. References

- Agnew, J., Anderson, L., Gerlach, J., & Szykman, L. (2008). Who Chooses Annuities? An Experimental Investigation of the Role of Gender, Framing, and Defaults. *American Economic Review*, 98(2), 418-422.
- Ajzen, I. (1991). The Theory of Planned Behavior. *Organizational Behavior & Human Decision Processes*, 50(2), 179-211.
- Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior*. Upper Saddle River (N. J.): Prentice-Hall.
- Allianz (2014). Zahlen, Daten und Fakten zur Allianz Deutschland AG. Retrieved on 12th July 2014 from: <https://www.allianzdeutschland.de/unternehmen/zahlen-daten-fakten/>.
- Ameriks, J., Caplin, A., & Leahy, J. (2003). Wealth Accumulation and the Propensity to Plan. *Quarterly Journal Of Economics*, 118(3), 1007-1047.
- Arrow, K. (2009). A note on uncertainty and discounting in models of economic growth. *Journal Of Risk & Uncertainty*, 38(2), 87-94.
- AXA (2013). Annual report 2013. Retrieved on 17th July 2014 from: http://www.axa.de/site/axade/get/documents/axade/AXA.de_Dokumente_und_Bilder/Unternehmen/AXA-Wir-ueber-uns/Daten-und-Publikationen/Dokumente/Geschaeftsberichte/2013/AXA-Versicherung-GB-2013.pdf.
- Barber, B. M., & Odean, T. (2001). Boys will be Boys: Gender, Overconfidence, and Common Stock Investment. *Quarterly Journal of Economics*, 116(1), 261-292.
- Baron, R., & Kenny, D. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6), 1173-1182.
- Bateman, H., Islam, T., Louviere, J., Satchell, S., & Thorp, S. (2011). Retirement Investor Risk Tolerance in Tranquil and Crisis Periods: Experimental Survey Evidence. *Journal of Behavioral Finance*, 12(4), 201-218.
- Belk, R. W. (2006). *Handbook of Qualitative Research Methods in Marketing*. Cheltenham (UK): Edward Elgar Publishing Limited.
- Belk, R. W., Fischer, E., & Kozinets, R. (2007). *Qualitative Consumer & Marketing Research*. London (UK): SAGE Publications Ltd.
- Benartzi, S., & Thaler, R. H. (1999). Risk Aversion or Myopia? Choices in Repeated Gambles and Retirement Investments. *Management Science*, 45(3), 364-381.
- Bergkvist, L., & Rossiter, J. R. (2007). The Predictive Validity of Multiple-Item Versus Single-Item Measures of the Same Constructs. *Journal of Marketing Research*, 44(2), 175-184.
- Bernartzi, S. & Thaler, R. H. (2007). Heuristics and Biases in Retirement Savings Behavior. *Journal of Economic Perspectives*, 21(3), 81-104.
- Bogan, V. L. (2013). Household investment decisions and offspring gender: parental accounting. *Applied Economics*, 45(31), 4429-4442.
- Brackett, L. K., & Carr Jr., B. N. (2001) Cyberspace Advertising vs. Other Media: Consumer vs. Mature Student Attitude. *Journal of Advertising Research*, 41(5), 23-32.
- Brüggen, E. C., Eberhardt, W. & Post, T. (2013). Pension communication experiment conducted on the 2nd and 5th of December 2013.
- Brüggen, E. C, Rhode, I., & van den Broeke, M. (2013). Different People, Different Choices: The Influence of Visual Stimuli in Communication on Pension Choice. Netspar Design Paper.

- Carpenter, C. S., & Pechmann, C. (2011). Exposure to the Above the Influence Antidrug Advertisements and Adolescent Marijuana Use in the United States, 2006-2008. *American Journal of Public Health*, 101(5), 948-954.
- Carroll, G. D., Choi, J. J., Laibson, D., Madrian, B. C., & Metrick, A. (2009). Optimal Defaults And Active Decisions. *Quarterly Journal of Economics*, 124(4), 1639-1674.
- Cavazzali, E., Gardenal, G., & Rigoni, U. (2012). Risk Taking, Diversification Behavior and Financial Literacy of Individual Investors. Working Paper.
- Chong, D., & Druckman, J. N. (2007). Framing Theory. *Annual Review of Political Science*, 10(1), 103-126.
- Certified Financial Planner Board of Standards (2004). 2004 Consumer Survey. Certified Financial Planner board of Standards Inc. Retrieved on 2nd July 2014 from: <http://www.cfp.net/docs/news-events---research-facts-figures/dfpboard2004conssurvey.pdf?sfvrsn=2>.
- Chakrabarti, S., & Lord, W. (1993). Uncertain altruism and investment in children. *American Economic Review*, 83(4), 994-1002.
- Clark, G. L., & Whiteside, N. (2003). *Pension Security in the 21st century*. New York (US): Oxford University Press Inc.
- Cocco, J. F., & Gomes, F. J. (2012). Longevity risk, retirement savings, and financial innovation. *Journal of Financial Economics*, 103(3), 507-529.
- Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences*. Hillsdale, N. J. : Lawrence Erlbaum Associates.
- CosmosDirekt (2014). Private Rentenversicherung. Retrieved on 27th January 2014 from: <https://www.cosmosdirekt.de/private-rentenversicherung/>.
- Cremer, H., Gahvari, F., & Pestieau, P. (2008). Pensions with heterogenous individuals and endogenous fertility. *Journal of Population Economics*, 21(4), 961-981.
- Cross, S. E., & Madson, L. (1997). Models of the self: Self-construals and gender. *Psychological Bulletin*, 122(1), 5-37.
- Cureton, E. E., & Mulaik, S. A. (1975). The Weighted Varimax Rotation and the Promax Rotation. *Psychometrika*, 40(2), 183-195.
- Debeka (2014). Privatrente mit Kapitalwahlrecht. Retrieved on 27th January 2014 from: http://www.debeka.de/produkte/versichern/lebens_rentenversich/privatrente/index.html.
- Delshad, A., & Raymond, L. (2013). Media Framing and Public Attitudes Toward Biofuels. *Review of Policy Research*, 30(2), 190-210.
- Dohmen, T., Falk, A., Huffman, D., Sunde, U., Schupp, J., & Wagner, G. G. (2011). Individual Risk Attitudes: Measurement, Determinants, and Behavioral Consequences. *Journal of The European Economic Association*, 9(3), 522-550.
- Dorn, D., & Sengmueller, P. (2009). Trading as Entertainment?. *Management Science*, 55(4), 591-603.
- Dwyer, P. D., Gilkeson, J. H., & List, J. A. (2002). Gender differences in revealed risk taking: evidence from mutual fund investors. *Economics Letters*, 76(2), 151.
- EIOPA (2013). Good practices on information provision for DC schemes - Enabling occupational DC scheme members to plan for retirement, EIOPA-BoS-13/010, 24 January 2013.
- Elster, J. (1998). Emotions and economic theory. *Journal of Economic Literature*, 36(1), 47-74.
- Entman, R. M. (1993). Framing: Toward Clarification of a Fractured Paradigm. *Journal of Communication* 43(4), 51-58.
- ErgoDirekt (2014). Rentenversicherung. Retrieved on 27th January 2014 from: <https://ergodirekt.de/de/produkte/privaterentenversicherung.html#wmid=IPO6341>.

- Fehr, H., Werding, M., Börsch-Supan, A., Boss, A., Asmussen, J., Weber, E., & Kurth, M. (2014). Geplante Rentenreform: Größere Gerechtigkeit oder falsches Signal? (German). *Ifo Schnelldienst*, 67(5), 3-25.
- Fernandes, D., Lynch, Jr., J. G., & Netemeyer, R. G. (2014). Financial Literacy, Financial Education and Downstream Financial Behaviors. Forthcoming in *Management Science*.
- Field, A., (2005). *Discovering Statistics Using SPSS*. 2nd ed. London: Sage
- Fingerman, K. L., & Permuter, M. (1995). Future Time Perspective and Life events across adulthood. *Journal of General Psychology*, 122(1), 95-111.
- Fisher, R. J., & Katz, J. E. (2000). Social-Desirability Bias and the Validity of Self-Reported Values. *Psychology & Marketing*, 17(2), 105-120.
- Fletcher, W. L., & Hansson, R. O. (1991). Assessing the Social Components of Retirement Anxiety. *Psychology and Aging*, 6(1), 76-85.
- Gerber, A., & Rhode, K. I. M. (2010). Risk and preference reversals in intertemporal choice. *Journal of Economic Behavior & Organization*, 76(3), 654–668.
- Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: strategies for qualitative research*. Chicago (US): Aldine Transaction.
- Glasman, L. R., & Albarracín, D. (2006). Forming attitudes that predict future behavior: A meta-analysis of the attitude-behavior relation. *Psychological Bulletin*, 132(5), 778-822.
- Goudy, W. J., Powers, E. A., & Keith, P. (1975). Work and Retirement: A Test of Attitudinal Relationships. *Journal of Gerontology*, 30(2), 193-198.
- Graham, J. F., Stendar Jr., E. J., Myers, J. K., & Graham, M. J. (2002). Gender differences in investment strategies: an information processing perspective. *International Journal of Bank Marketing*, 20(1), 17-26.
- Green, S. B. (1991). How many subjects does it take to do a regression analysis? *Multivariate Behavioral Research*, 26(3), 499-510.
- Greenhalgh-Stanley, N. (2014). Can the government incentivize the purchase of private long-term care insurance? Evidence from the Partnership for Long-Term Care. *Applied Economics Letters*, 21(8), 541-544.
- Greenspan, A. (2005). The importance of financial education today. *Social Education*, 69(2), 64–66.
- Hair, J., Anderson, R. E., Tatham, R. L., & Black, W. C. (1998). *Multivariate Data Analysis* (5th ed.), Upper Saddle River, NJ, Prentice Hall.
- Hanoch, Y. (2002). Neither an angel nor an ant: Emotion as an aid to bounded rationality. *Journal of Economic Psychology*, 23(1), 1-25.
- Hannoversche (2014). Altersvorsorge. Retrieved on 2nd July 2014 from: <https://www.hannoversche.de/produkte/fondsgebundene-rentenversicherung.html>.
- Hansen, T. (2012). Understanding Trust in Financial Services: The Influence of Financial Healthiness, Knowledge, and Satisfaction. *Journal of Service Research*, 15(3), 280-295.
- Harrison, T., Waite, K., & White, P. (2006). Analysis by paralysis: the pension purchase decision process. *International Journal of Bank Marketing*, 24(1), 5-23.
- Hayslip, B., Beyerlein, M., & Nichols, J.A. (1997). Assessing Anxiety about Retirement: The Case of Academicians. *International Journal of Aging and Human Development*, 44(1), 15-36.
- Hendrick, T. M., Fischer, A. H., Tobi, H., & Frewer, L. J. (2013). Self-reported attitude scales: current practice in adequate assessment of reliability, validity, and dimensionality. *Journal of Applied Social Psychology*, 43(7), 1538-1552.
- Hershey, D. A., Mowen, J. C., & Jacobs-Lawson, J. M. (2003). An Experimental Comparison of Brief Retirement Planning Intervention Seminars. *Educational Gerontology*, 29(4), 339-359.

- Hershey, D. A., Jacobs-Lawson, J. M., McArdle, J. J., & Hamagami, F. (2007). *Psychological Foundations of Financial Planning for Retirement*. Springer+Business Media.
- Hershfield, H., Goldstein, D., Sharpe, W., Fox, J., Yeykelis, L., Carstensen, L., & Bailenson, J. (2011). Increasing Saving Behavior Through Age-Progressed Renderings of the Future Self. *Journal of Marketing Research*, 48, 23-37.
- Hibbert, A.M., Lawrence, E.R., & Prakash, A.J. (2013). Does knowledge of finance mitigate the gender difference in financial risk-aversion?. *Global Finance Journal*, 24(2), 140-152.
- Hilgert, M. A., Hogarth, J. M., & Beverly, S. G. (2003). Household Financial Management: The Connection between Knowledge and Behavior. *Federal Reserve Bulletin*, 89(7), 309-322.
- Hoffmann, A. I., Post, T., & Pennings, J. E. (2013). Individual investor perceptions and behavior during the financial crisis. *Journal of Banking & Finance*, 37(1), 60-74.
- Holt, C. A., & Laury, S. K. (2005). Risk Aversion and Incentive Effects: New Data without Order Effects. *American Economic Review*, 95(3), 902-904.
- Hornyak, J. (2008, June). The von Bismarck Myth. *Benefits & Pensions Monitor*. p. 5.
- Hult, G. M., & Keillor, B. D. (1994). The Impact of a Social Desirability Bias on Consumer Ethnocentrism Research: A Cross-National Perspective. *Journal of Marketing Management*, 4(2), 48-55.
- Janz, N. K., & Becker, M. H. (1984). The Health Belief Model: A Decade Later. *Health Education Quarterly*, 11(1), 1-47.
- Jarvis, C.B., MacKenzie, S.B., & Podsakoff, P.M. (2003). A Critical Review of Construct Indicators and Measurement Model Misspecification in Marketing and Consumer Research. *Journal of Consumer Research*, 30(2), 199-218.
- Johnson, P. O., & Neyman, J. (1936). Tests of Certain Linear Hypotheses and Their Application to Some Educational Problems. *Statistical Research Memoirs*, 1, 57-93.
- Josephs, R. A., Tafarodi, R. W., & Markus, H. (1992). Gender and Self-Esteem. *Journal of Personality & Social Psychology*, 63(3), 391-402.
- Kahnemann, D., & Tversky, A. (1979). Prospect Theory: An Analysis of Decision Under Risk. *Econometrica*, 47(2), 263-291.
- King, A. G. (1974). Occupational Choice, Risk Aversion, and Wealth.. *Industrial & Labor Relations Review*, 27(4), 586-596.
- Kirby, K.N., & Herrnstein, R.J. (1995). Preference Reversals Due to Myopic Discounting of Delayed Reward. *Psychological Science*, 6(2), 83-89.
- Koehler, J. J., & Mercer, M. (2009). Selection Neglect in Mutual Fund Advertisements. *Management Science*, 55 (7), 1107–1121.
- Lachance, M., & Ning, T. (2012). Financial advice and trust. *Financial Services Review*, 21(3), 209-226.
- Lehr, U. (2013) Aging of the population. Berlin-Institut für Bevölkerung und Entwicklung. Retrieved from: <http://www.berlin-institut.org/online-handbuchdemografie/bevoelkerungsdynamik/auswirkungen/alterung.html>.
- Loo, R. (2002). A caveat on using single-item versus multiple-item scales. *Journal of Managerial Psychology*, 17(1), 68-75.
- Looney, C. A., & Hardin, A. M. (2009). Decision Support for Retirement Portfolio Management: Overcoming Myopic Loss Aversion via Technology Design. *Management Science*, 55(10), 1688-1703.
- Luchak, A. A., & Pohler, D. M. (2010). Pensions as Psychological Contracts: Implications for Work Outcomes. *Industrial Relations*, 49(1), 61-82.

- Lusardi, A. (1999). *Information, expectations, and savings*. In H. Aaron (Ed.), *Dimensions of retirement economics* (pp. 116–124). New York (US): Brookings Institution/Sage Foundation.
- Lusardi, A., Keller, P. & Keller, A. (2008). *New Ways to Make People Save: The Dartmouth Project*. TIAA-CREF Institute: Trends and Issues.
- Lusardi, A., & Mitchell, O. S. (2007). Financial Literacy and Retirement Preparedness: Evidence and Implications for Financial Education. *Business Economics*, 42(1), 35-44.
- Lusardi, A., & Mitchell, O. (2008). Planning and Financial Literacy: How Do Women Fare?. *American Economic Review*, 98(2), 413-417.
- Malhotra, N. K. (2009). *Marketing Research: An Applied Orientation*. Boston (US): Prentice Hall
- Malmendier, U., & Nagel, S. (2011). Depression Babies: Do Macroeconomic Experiences Affect Risk Taking?. *Quarterly Journal of Economics*, 126(1), 373-416.
- Markus, H., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review*, 98(2), 224-253.
- Mayer, R. C., Davis, J. H., & Schoorman, F. (1995). An Integrative Model of Organizational Trust. *Academy of Management Review*, 20(3), 709-734.
- Mehta, N. K. (2012). The Impact of Comparative Communication in Advertisements on Brand Image: An Exploratory Indian Perspective. *IUP Journal of Brand Management*, 9(4), 6-30.
- Mercer (2013). Executive Summary. Retrieved from: <http://www.mercer.de/articles/globalpensionindex2013>.
- Myers, R. (1990). *Classical and modern regression with applications* (2nd edition). Boston, MA: Duxbury.
- Nejad, L. M., Wertheim, E. H., & Greenwood, K. M. (2004). Predicting, Dieting Behavior by Using, Modifying, and Extending the Theory of Planned Behavior. *Journal of Applied Social Psychology*, 34(10), 2099-2132.
- Netemeyer, R., Bearden, W, & Sharma, S. (2003). *Scaling procedures: Issues and applications*. Thousand Oaks, CA: Sage.
- Noone, J., Alpass, F., & Stephens, C. (2010). Do Men and Women Differ in Their Retirement Planning? Testing a Theoretical Model of Gendered Pathways to Retirement Preparation. *Research on Aging*, 32(6), 715-738.
- O'Donoghue, T., & Rabin, M. (1999). Doing It Now or Later. *American Economic Review*, 89(1), 103-124.
- OECD (2013). *Pensions at Glance 2013*. Retrieved from: <http://www.oecd.org/germany/OECD-PensionsAtAGlance-2013-Highlights-Germany.pdf>.
- Palmgreen, P., Lorch, E. P., Stephenson, M. T., Hoyle, R. H., & Donohew, L. (2007). Effects of the Office of National Drug Control Policy's Marijuana Initiative Campaign on High-Sensation-Seeking Adolescents. *American Journal of Public Health*, 97(9), 1644-1649.
- Pan, Z., & Kosicki, G. M. (1993). Framing Analysis: An Approach to News Discourse. *Political Communication*, 10(1), 55-75.
- Pi, S., Liao, H., & Cheng, H. (2012) Factors That Affect Consumers' Trust and Continuous Adoption of Online Financial Services. *International Journal of Business & Management*. 7(9), 108-119.
- Poiesz, T. C. (1986). Perceived Risk as a Mediator in Repetition-Affect Relationships. *Advances in Consumer Research*, 13(1), 387-391.
- Prelec, D., & Loewenstein, G. (1991). Decision Making over Time and under Uncertainty: A Common Approach. *Management Science*, 37(7), 770-786.
- Rae, J. (1834). *The sociological theory of capital: being a complete reprint of the new principles of political economy*. New York (US), The Macmillan Company.


- Rha, J., Montalto, C. P., & Sherman, H. (2006). The Effect of Self-Control Mechanisms on Household Saving Behavior. *Journal of Financial Counseling and Planning*, 17(2), 3-16.
- Rosenbaum, M., & Smallwood, J. (2013). Cancer resource centers as third places. *Journal of Services Marketing*, 27(6), 472-484.
- Rousseau, D. M., Sitkin, S. B., Burt, R. S., & Camerer, C. (1998). Not So Different After All: A Cross-Discipline View of Trust. *Academy of Management Review*, 23(3), 393-404.
- Schillinger, D. Barton, L. R., Karter, A. J., Wang, F., & Adler, N. (2006). Does literacy mediate the relationship between education and health outcomes? A study of a low-income population with diabetes. *Public Health Reports*, 121(3), 245-254.
- Schlesinger, H. (1981). The optimal level of deductibility in insurance contracts. *Journal of Risk and Insurance*, 48(3), 465-481.
- Schulz, E. (2004). Population Dynamics in East and West Germany - Projections to 2050. *Economic Bulletin*, 41(10), 333-348.
- Sexauer, S. C., & Siegel, L. B. (2013). A Pension Promise to Oneself. *Financial Analysts Journal*, 69(6), 13-32.
- Shapiro, G. K., & Burchell, B. J. (2012). Measuring Financial Anxiety. *Journal of Neuroscience, Psychology, & Economics*, 5(2), 92-103.
- Shen, F., & Chen, Q. (2007). Contextual Priming and Applicability: Implications for Ad Attitude and Brand Evaluations. *Journal of Advertising*, 36(1), 69-80.
- Silver, L. (2008). You Talkin' To Me?. *On Wall Street*, 18(7), 72.
- Singh, J., & Sirdeshmukh, D. (2000). Agency and Trust Mechanisms in Consumer Satisfaction and Loyalty Judgments. *Journal of The Academy of Marketing Science*, 28(1), 150-167.
- Skinner, J. (2007). Are You Sure You're Saving Enough for Retirement?. *Journal of Economic Perspective*, 21(3), 59-80.
- State Street Global Advisors (2007). Bridging the Trust Divide: The Financial Advisor-Client Relationship. Knowledge@Wharton special report, University of Pennsylvania.
- Statistisches Bundesamt (2014). Facts & Figures. Retrieved on 14th May 2014 from: <https://www.destatis.de/EN/FactsFigures/FactsFigures.html;jsessionid=1BD5EA05E95A96E8BBBA118D2664360E.cae1>.
- Steed, L., & Symes, M. (2009). The Role of Perceived Wealth Competence, Wealth Values, and Internal Wealth Locus of Control in Predicting Wealth Creation Behavior. *Journal of Applied Social Psychology*, 39(10), 2525-2540.
- Sundén, A. E., & Surette, B. J. (1998). Gender Differences in the Allocation of Assets in Retirement Savings Plans. *American Economic Review*, 88(2), 207-211.
- Szpiro, G. G. (1985). Optimal Insurance Coverage. *Journal of Risk and Insurance*, 52(4), 705-710.
- Talaga, J. A., & Beehr, T. A. (1995). Are there Gender Differences in Predicting Retirement Decisions?. *Journal of Applied Psychology*, 80(1), 16-28.
- Thaler, R. H., & Shefrin, H. M. (1981). An Economic Theory of Self-Control. *Journal of Political Economy*, 89(2), 392-406.
- Tschannen-Moran, M. & Hoy, W. K. (2009). A Multidisciplinary Analysis of the Nature, Meaning, and Measurement of Trust. *Review of Educational Research*, 70(4), 547-593.
- Turner, M., Bailey, W. C., & Scott, J. P. (1994) Factors Influencing Attitude Toward Retirement and Retirement Planning Among Midlife University Employees. *Journal of Applied Gerontology* 13(2), 143-56.
- Tversky, A., & Kahnemann, D. (1981). The Framing of Decisions and the Psychology of Choice. *Science*, 211(30), 453-458.

- van Rooij, M. C. J., Lusardi, A., & Alessie, R.J.M. (2011). Financial literacy and retirement planning in the Netherlands. *Journal of Economic Psychology*, 32(4), 593-608.
- Vlaev, I., Chater, N., & Stewart, N. (2009). Dimensionality of Risk Perception: Factors Affecting Consumer Understanding and Evaluation of Financial Risk. *Journal of Behavioral Finance*, 10(3), 158-181.
- Watson, J. & McNaughton, M. (2007). Gender Differences in Risk Aversion and Expected Retirement Benefits. *Financial Analyst Journal*, 63(4), 52-62.
- Weber Handwerker, E. (2011). Delaying Retirement to Pay for College. *Industrial & Labor Relations Review*, 64(5), 921-948.
- Whitehouse, E. (2007). Life-Expectancy Risk And Pensions: Who Bears The Burden?. *OECD Papers*, 7(10), 1-45.

8. Appendices

Appendix 1

Pension Communication Tool

Card cover	Investment framing	Insurance framing
	<p>Liebes Geburtstagskind,</p> <p>herzlichen Glückwunsch zu Ihrem 40. Geburtstag! Ein schönes Alter. Und wie man so sagt: „Das Leben beginnt mit 40.“ So langsam ist es an der Zeit, über Ihre Rente nachzudenken. Investieren Sie heute in Ihren Lebensstandard von morgen und profitieren Sie von einem günstigen Zinssatz sowie einer soliden Gewinnbeteiligung. Wir bieten Ihnen ein attraktives Angebot mit positiver Kapitalentwicklung und einer attraktiven Verzinsung. Informieren Sie sich noch heute.</p> <p>BANK</p>	<p>Liebes Geburtstagskind,</p> <p>herzlichen Glückwunsch zu Ihrem 40. Geburtstag! Ein schönes Alter. Und wie man so sagt: „Das Leben beginnt mit 40.“ So langsam ist es an der Zeit, über Ihre Rente nachzudenken. Sichern Sie heute Ihren Lebensstandard von morgen mit einer lebenslang stabilen und garantierten Rentenauszahlung. Wir garantieren Ihnen eine sichere Geldanlage mit solider Verzinsung. Informieren Sie sich noch heute.</p> <p>BANK</p>

Appendix 2. Wording of questions and construction of variables used

2.1 Investment framing

We wish you a happy 40th Birthday! 40 is a wonderful age. As people say “Life starts at 40”. By and by, it is time to think about your retirement. **Invest** in your future living standard and you will **profit** from an advantageous rate of interest and **share of profit**. We offer an attractive option with **positive capital development** and an **attractive return**. Feel free to contact us!

2.2 Insurance framing

We wish you a happy 40th Birthday! 40 is a wonderful age. As people say “Life starts at 40”. By and by, it is time to think about your retirement. **Ensure** your future living standard with a lifelong, **stable** and **guaranteed** pension payout. We guarantee you a **safe fund** with a **solid** rate of interest. Feel free to contact us!

2.3 Attitude towards pension communication

- A1 This pension advertisement is credible.
- A2 This pension advertisement is trustworthy.
- A3 This pension advertisement is believable.
- A4 This pension advertisement is annoying.
- A5 This pension advertisement is irritating.

2.4 Trust in financial services

- T1 In general, I believe that financial companies cannot be relied on to keep their promises.
- T2 In general, I believe that financial companies are trustworthy.
- T3 Overall, I believe financial companies are honest.
- T4 I believe that my pension fund cannot be relied upon to keep its promises.
- T5 I believe that my pension fund is trustworthy.
- T6 Overall, I believe my pension fund is honest.

2.5 Financial planning

- P1 I frequently read articles/brochures on investing or financial planning.
- P2 I read one or more books on investing or financial planning.
- P3 I frequently visited financial planning sites on the World Wide Web.
- P4 I gathered or organized my financial records.
- P5 I regularly tuned into television/radio shows on investing or financial planning.
- P6 I conducted a thorough assessment of my net worth.
- P7 I identified specific spending plans for the future.
- P8 I discussed financial planning goals with a professional(s) in the field.
- P9 I discussed financial retirement plans with an employer's benefits specialist.
- P10 I discussed retirement plans with a knowledgeable friend or acquaintance.

2.6 Retirement Anxiety (RA)

- RA1 I would retire early if I could.
- RA2 The thought of my retirement makes me tense and jittery.
- RA3 I am concerned about my health after retiring.
- RA4 I am concerned about my income after retiring.
- RA5 I am concerned about my feeling productive after retiring.
- RA6 I am concerned about losing my husband/wife after retiring.
- RA7 I would avoid retirement at all costs.
- RA8 I am concerned about my mental well-being after retiring.
- RA9 I am concerned about my emotional well-being after retiring.
- RA10 I am concerned about where I will live after retiring.
- RA11 I am concerned about not having enough friends after retiring.
- RA12 I am concerned about not having my family after retiring.
- RA13 I am concerned about feeling alone after retiring.
- RA14 I am concerned about being able to care for myself after retiring.

2.7 Financial literacy questions

(FL1) Numeracy: Suppose you had €100 in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money to grow? (1) More than €102; (2) exactly €102; (3) less than €102; (4) do not know; (5) refusal.

(FL2) Inflation: Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, how much would you be able to buy with the money in this account? (1) More than today; (2) exactly the same; (3) less than today; (4) do not know; (5) refusal.

(FL3) Risk-Return: Buying a company stock usually provides a safer return than a stock mutual fund. True or false? (1) True; (2) false; (3) do not know; (4) refusal.

2.8 Risk-Taking Scale

Are you generally a person who is fully prepared to take risks or do you try to avoid taking risk?

Unwilling to take risk					Fully prepared to take risk					
0	1	2	3	4	5	6	7	8	9	10