

Temporal distance to retirement and communication framing: Enhancing retirement financial decision making

Authors: Nicole Votolato Montgomery, Lisa R. Szykman, Julie Agnew

Persistent link: <http://hdl.handle.net/2345/bc-ir:104922>

This work is posted on [eScholarship@BC](#),
Boston College University Libraries.

Chestnut Hill, Mass.: Center for Retirement Research at Boston College, November 2011

These materials are made available for use in research, teaching and private study, pursuant to U.S. Copyright Law. The user must assume full responsibility for any use of the materials, including but not limited to, infringement of copyright and publication rights of reproduced materials. Any materials used for academic research or otherwise should be fully credited with the source. The publisher or original authors may retain copyright to the materials.

**TEMPORAL DISTANCE TO RETIREMENT AND COMMUNICATION FRAMING:
ENHANCING RETIREMENT FINANCIAL DECISION MAKING**

Nicole Votolato Montgomery, Lisa R. Szykman, and Julie R. Agnew

Hovey House
140 Commonwealth Avenue
Chestnut Hill, MA 02467
Tel: 617-552-1762
<http://fsp.bc.edu>

All of the authors are associated with the College of William and Mary. Nicole Votolato Montgomery is an assistant professor of marketing, Lisa R. Szykman is an associate professor of marketing, and Julie R. Agnew is an associate professor of economics and finance. The research reported herein was pursuant to a grant from the U.S. Social Security Administration (SSA) funded as part of the Financial Literacy Research Consortium (FLRC). The findings and conclusions expressed are solely those of the authors and do not represent the opinions or policy of SSA, any agency of the federal government, the FLRC, the College of William and Mary, or Boston College. We would like to thank Kathryn Holt for her excellent research assistance.

© 2011, by Nicole Votolato Montgomery, Lisa R. Szykman, and Julie R. Agnew. All rights reserved. Short sections of text, not to exceed two paragraphs, may be quoted without explicit permission provided that full credit, including © notice, is given to the source.

Abstract

Based on temporal construal theory, the length of time a person has before they reach retirement age will influence how they react to different types of messages. This theory predicts younger workers prefer more abstract communications compared to older workers who should prefer more concrete information because retirement is a distant goal rather than a proximal one. We also directly test how positive and negative message framing, goal timeframes, concreteness of the material presented and an individual's age influences an individual's retirement savings intentions. This paper summarizes our preliminary findings. We test our hypotheses using survey responses gathered after participants view one of several different ads that vary by communication tactics but not by the savings-related information provided. Our initial results indicate that different communication techniques may be more effective with younger workers than older workers and vice versa. In addition, we also find the effectiveness of negative message framing increases when presented in a manner (either abstract or concrete) that is consistent with the way the individual views retirement. Finally, by reducing the goal time frame for younger workers, we find evidence that we may be able to encourage this age group to think more concretely about savings and express stronger intentions to save. Our paper concludes with an outline of our future research plans. Our final results should be helpful when designing communications for targeted age groups.

I. Introduction

Most young adults should know that the key to financial security in retirement is to plan and invest early in their working career. Despite this knowledge, individuals do not seem to be taking the necessary steps to ensure that they are financially prepared to retire from the workforce. We surmise that the length of time until retirement may affect the type of information a person will seek when making decisions regarding saving for retirement. This would suggest that, in order to convince younger workers to save for retirement, a different communication strategy than that used for older workers may be needed. This is because young workers may not be taking the necessary steps to meet their desired quality of life in retirement because it is a distant goal for them. Instead, they may focus more on the outcome of having saved enough for retirement rather than the specific steps required to attain such an outcome. Further, individuals nearing retirement may focus on the necessary steps required to retire, with little focus on the financial goals that they are required to obtain prior to leaving the workforce.

To develop a framework to understand how individuals make retirement decisions and, subsequently, encourage them to save more for retirement, we explore the underlying psychological motivations of making savings decisions, relying on temporal construal theory. More specifically, we examine the type of communication methods that will encourage new labor entrants versus individuals nearing retirement to focus on and engage in the specific steps needed to adequately finance their distant versus proximal retirement. We examine the effectiveness of three communication tactics - abstract versus concrete saving guidelines, immediate versus distant goals, and negative versus positive frames. This paper seeks to assess the effectiveness of these communication techniques for the target populations using survey evidence gathered following a presentation of various ads created for this research that relay the

same savings-related information utilizing different communication tactics. The current version of the paper presents a preliminary analysis of the survey findings and draws from methodologies used in a variety of disciplines, including finance and marketing. The results from this research will be very helpful when designing communications meant to combat the saving issues exhibited by workers that are new to the workforce and workers nearing retirement.

The next section provides an overview of research on temporal construal theory, how this literature informs the retirement savings decision, and our contribution to this area of research. Sections III, IV, and V describe our preliminary results for initial exploratory research and two studies. Finally Section VI presents our research conclusions and recommendations from this preliminary analysis, in addition to our future research plans.

II. Construal Theory Research Overview

For many individuals, the financial decisions related to retirement may lead to increased anxiety as retirement approaches, suggesting that different tactics may increase the ability of communications to improve financial decision making at various career stages. More specifically, temporal construal theory predicts that individuals farther away from an event prefer to think about the event in general terms rather than considering details of the event (Trope and Liberman 2003). At the moment, there is little research relating construal theory to communications for retirement planning. However, construal theory has been studied in a variety of other contexts including adoption of new products (Alexander, Lynch, and Wang 2008), product preference and task/job preference (Trope and Liberman 2000), social plans (Eyal et al. 2004), and healthy eating (Eyal et al. 2004). To provide background, construal theory suggests that if an event is going to occur in the near future, people focus on the specific steps needed to

achieve the desired outcome (the feasibility of reaching the goal). If an event is going to occur in the distant future, people focus on the ultimate end state (the desirability of the goal) rather than the steps needed to achieve a particular outcome. Liberman and Trope's (1998) study of Israeli students provides empirical evidence consistent with this theory (study 4). They asked students to provide their preferences for four possible assignment options for each of two writing assignment due dates. One of the writing assignments was due in approximately one week (near future), while the other assignment was due later in the semester (distant future). Two of the writing assignments that the students were asked to evaluate for each due date were difficult in that they had to be written in English, their non-native language. The other two assignments were easy in that they were to be written in their native Hebrew. Further, one of the English assignments and one of the Hebrew assignments pertained to topics that were relatively interesting, while the other English and Hebrew assignments were relatively boring. When the assignment was due the next week, students exhibited an increased preference for the boring, easier assignment because they were focusing on the process required to write the paper (i.e., feasibility). However, when the assignment was due at the end of the semester, students exhibited an increased preference for the more interesting, yet more difficult assignment because they were focusing on how much they liked the assignment (i.e., desirability) rather than the steps required to complete it.

Applying this theory to retirement savings, we suggest that younger workers, for whom retirement is in the distant future, will focus more on the outcome of having saved enough for retirement rather than the specific steps required to attain such an outcome, while older workers, for whom retirement is in the near future, will focus on the specific steps required to retire. Consistent with this, we might expect a younger worker to think "I need to save for retirement,"

while an older worker might think “I need to increase my contribution to my 401(k) by \$100.’ More specifically, we hypothesize that new labor force entrants think about retirement in a very simplistic manner, considering only the big picture without regard to the amount of money they should be saving now in order to achieve their desired, distant goal. In addition, Gilovich, Kerr and Medvec (1993) showed that individuals were more confident their performance of an event (i.e., student exam) if the event occurred in the distant future versus the near future. This suggests that people may also have relatively greater confidence in their abilities to financially prepare for their distant retirement than others who are nearer to retirement. If this is a false sense of confidence, it could have negative consequences on their future financial wellbeing. For example, if younger individuals overestimate how well they are saving for retirement, they might be less inclined to take the immediate steps necessary to ensure that they are financially prepared to retire in the future. In contrast, we expect individuals nearing retirement to prefer to focus on the steps, or the process, necessary to reach their retirement goals, as well as feel less confident with their own abilities.

Given that the amount of time until retirement may affect the type of information that a person will seek out, a framework for understanding how distance from retirement affects the use of communication tactics is needed. Our proposed research seeks to fill this gap by examining which tactics are appropriate and effective in improving retirement decisions for individuals for whom retirement is in the distant future. To combat the saving issues exhibited by younger and older workers, we suggest developing educational material for each group that is presented in a manner similar to how they each are viewing the retirement decision. That is, we hypothesize that because individuals nearing retirement may think more about the complexities of retiring, more concrete information will better guide their decision making. However, because early

workforce entrants may think about retirement in a more simplistic manner, more abstract information will guide their decision making. We suggest that such consistency between their approach to the retirement decision and the communication frame will encourage each group to focus on and engage in the steps needed to adequately finance their retirement. Therefore, in this research we test how the concreteness of the ad influences savings intentions in both groups.

Additionally, we test (in conjunction with the concreteness of the ad) two further methods of accomplishing this goal. One option that we examine in developing ad communications targeting younger and older workers is changing the timeframe of the savings goals presented. For instance, the savings goal may be presented in terms of the amount of money that one must save by retirement- a distant goal. However, we could also reduce the timeframe of the ultimate end state. That is, rather than providing individuals with the distant goal of what they need to have saved at their retirement age, we could provide them with more proximal goals (milestones) that will set them on the proper savings path for retirement. In other words, we could tell them how much they should save each month in order to make it most likely that they will reach their ultimate savings goal at retirement. Temporal construal theory implies that younger workers will focus more on retirement savings goals than older workers. We suggest that by making the savings goal more proximal, younger workers may also focus more on the concrete steps necessary to begin to actively save for retirement.

The other option we examine in presenting retirement educational materials to younger and older workers is to make them aware of potential negative outcomes of poor financial decisions thereby encouraging them to make better retirement decisions (e.g., “If you do not save today, this could happen to you”), or presenting them with the potential positive benefits of effectively saving for retirement (e.g., “If you do save today, you could do this”). While the use

of negative framing (relative to positive framing) in communications with individuals has been shown to increase preventive health behaviors and also influence investment decisions (Agnew, Anderson, Gerlach and Szykman 2008), past research has shown that the effectiveness of negative messages is dependent on many factors (e.g., amount of negative information, feelings of accountability, etc.) (Keller and Block 1996; Passyn and Sujan 2006). Thus, it is unknown whether these tactics will alter the savings behavior of younger and older workers. Based on temporal construal theory, we predict that younger and older individuals will be more likely to express an interest in savings if they are presented information in a negative message frame only if the frame is consistent with their view of retirement (e.g., abstract vs. concrete). Our research will address this issue.

In summary, our research seeks to develop a framework for designing communications that seek to persuade workers to engage in behaviors necessary for attaining savings goals appropriate for their career stages, thus, increasing the likelihood that the communications will be helpful at motivating individuals to be financially prepared for retirement. More specifically, this research employs quantitative techniques to better understand whether and to what extent certain tactics, such as framing of ad information (negative vs. positive), the presentation of detailed steps for saving for retirement (concrete vs. abstract), and the timeframe of savings goals (sooner vs. later) are appropriate and effective in improving retirement decisions for individuals for whom retirement is in the near versus distant future. The results of this research will be critical for designing communications that seek to persuade individuals at various stages of their careers to engage in behaviors appropriate for their stage that will increase their retirement preparedness.

III. Preliminary Findings

The idea for this project is a result of findings from focus groups conducted during year one of the grant at the Center for Interdisciplinary Behavioral Finance Research (CIBFR) at the College of William and Mary. During that year, we ran several focus groups to assess the reactions of targeted populations to financial literacy products in development. In one set of focus groups, respondents who were over 58 years old and nearing retirement reviewed a document that presented broad topics for them to consider regarding financial retirement planning. They overwhelmingly indicated that the document was too general for their specific age group, but that it would be very helpful and more appropriate for a younger demographic. Further, they indicated that, given their proximity to retirement, they would have preferred more specific guidelines for how to save so that they could take concrete steps to improve their chances for financial security in retirement. Their reaction to the communication was consistent with temporal construal theory.

To better understand how different communication tactics impact saving behavior for early workforce entrants and individuals nearing retirement, we utilized pretesting procedures to develop a series of advertisements for the purposes of this research. We conducted two pretests to assist with the development of the negative versus positive ad framing (pretest 1) and the abstract versus concrete savings guideline descriptions (pretest 2).

The goal of pretest 1 was to develop a negative and positive frame for the advertisement such that the two frames communicated the same information and only differed on the perceived negativity. To accomplish this task, we conducted a search of savings education materials to compile a series of consequences of failing to save and benefits of saving for retirement. Using the information we compiled, we developed a set of descriptions that conveyed mild, moderate,

and severe consequences of failing to save for retirement. These descriptions served as the negative frames for our pretest. In addition, we reworded these consequences in such a manner as to convey these outcomes as benefits of saving for retirement, which served as the positive frames for our pretest. Thus, each negative frame had a positive frame complement that conveyed the same information, allowing us to examine only differences in the communication technique. Figure 1 shows the various descriptions that we utilized.

We asked eighty-nine respondents to review a subset of the descriptions and subsequently provide their opinions. Thirty-nine respondents represented early workforce entrants (mean age = 27), while the other fifty respondents represented workers nearing retirement (mean age = 57). For each description that they viewed, the respondents were asked to complete a series of questions that assessed how much fear the description induced, how negative or positive they perceived the description to be, how personally relevant the consequences/benefits were to them, and their perceptions of the likelihood that the set of consequences/ benefits would occur. The goal of this pretest was to find one negative/positive frame pair such that the negative frame was perceived as more negative and/or fear-inducing than the positive frame, while not differing on personal relevance or outcome likelihood. Further, we wanted to find a frame pair for which the two age groups did not exhibit differences from each other. Based on our analysis of these results, the low negative and positive frames were chosen for the ads that we utilized in subsequent testing.

The goal of pretest 2 was to develop an abstract and concrete version of the advertisement to be used for the main testing in studies 1 and 2. The abstract version consisted of a vague description of the actions required for retirement financial preparation, while the concrete version of the ad consisted of step-by-step guidelines for saving for retirement.

Consistent with pretest 1, our intent was to develop different versions of the ad that conveyed the same information via different communication techniques. Thirty-seven respondents were asked to view either the abstract ad or the concrete ad and subsequently provide their opinions. The objective of this pretest was to ensure that the two versions of the ad differed on their perceived concreteness, while not differing on any other factors, such as attitude towards the ad, imagery elicited by the ad, fear elicited by the ad, perceived distance of the savings goal conveyed in the ad, interest in the ad, believability, understandability, meaningfulness, originality, informativeness, argument strength, and personal relevance. Consistent with research on temporal construal theory, ad concreteness was measured using a two-item scale to assess the extent to which the ad emphasized process and the extent to which the ad was action-oriented, with higher concreteness associated with greater perceived belief in both statements. An analysis of the pretest findings revealed that the concrete version of the ad was perceived as more concrete than the abstract version of the ad, while the two versions did not differ on any of the other variables (see Table 1). Thus, these ads were utilized for subsequent testing.

In sum, we conducted two pretests to generate a set of two-page ads that conveyed the consequences of failing to save versus the benefits of saving (pretest 1) and savings guidelines that were conveyed in an abstract versus concrete manner (pretest 2). Thus, we developed four versions of the ad – negative/abstract, positive/abstract, negative/concrete, and positive/concrete. The positive versions of the ad (both abstract and concrete) were utilized in study 1 and are exhibited in figure 2. The negative *and* positive versions of the abstract and concrete ads were utilized in study 2 and are exhibited in figure 3.

IV. Study 1 Findings

Study 1 utilized the positive ads generated from the initial pretests to investigate how distance to retirement impacts the effectiveness of abstract versus concrete advertisements containing savings goals that varied in their timeframe (short-term vs. long-term). Consistent with that objective, we surveyed approximately 750 individuals from a general online survey panel in two age groups – 18-34 (early workforce entrants) and 50-64 (late workers). All of the individuals recruited for this research were employed full-time and varied on demographics, such as race, education, and income. Respondents in each age group were randomly assigned to evaluate one of the four positively-framed versions of the ad developed in the pretest procedures: (1) abstract ad with long-term goals, (2) abstract ad with short-term goals, (3) concrete ad with long-term goals, and (4) concrete ad with short-term goals. Figure 2 shows all four versions of the ad. The two short-term goal versions of the ad were developed by calculating the amount of money necessary to save each month to obtain the savings amount by retirement that is represented in the long-term goal versions of the ad. As such, both the short-term and long-term versions of the ad conveyed the same savings goal information, while only varying the timeframe of the savings objective.

To assess effectiveness of each version of the ad for each age group, respondents were asked to report the extent to which they believe the ad impacted their saving behavior on a seven-point scale (less likely to save for retirement/more likely to save for retirement) and the actual amount they intended to save in the future (represented as a percentage of their salary). We analyzed the survey data using an analysis of variance. Preliminary results for all of the measures are reported in Table 2. The analysis showed a main effect of age group such that early workforce entrants versus individuals that are later in their careers report that they are more likely to save for retirement after viewing one of the ads ($M = 4.76$ vs. 4.55 , $F(1,739) = 6.34$), p

$< .05$) and intend to save a greater percentage of their salaries in the future ($M = 15.60\%$ vs. 11.80% , $F(1,705) = 12.32$), $p < .05$). More importantly, the analysis revealed a significant three-way interaction of age group, ad abstractness/concreteness, and savings goal timeframe ($F(1,739) = 4.17$; $F(1,705) = 12.93$; p 's $< .05$) for each of the target measures. We conducted planned contrasts to further examine the results. Consistent with temporal construal theory and our expectations, saving behavior of younger workers for whom retirement is in the distant future appear to be impacted by the timeframe of the goal communicated in the ad; however, older workers for whom retirement is in the near future do not appear to be affected by the savings goal timeframe. More specifically, when younger workers were exposed to the abstract ad, they were more likely to report that the ad would improve their savings behavior and increase the percentage of income that they would save for retirement if the ad communicated a long-term savings goal (e.g., amount needed by retirement) than if the ad communicated a short-term goal (e.g., amount needed each month) ($M_{\text{Ad Impact}} = 4.95$ vs. 4.60 ; $M_{\text{Future Savings \%}} = 17.81\%$ vs. 9.45%). However, when younger workers were exposed to the concrete ad, they demonstrated an opposite pattern of results. That is, they were more likely to report that the ad would improve their savings behavior and increase the percentage of income that they would save for retirement if the ad communicated a short-term savings goal versus a long-term goal ($M_{\text{Ad Impact}} = 4.98$ vs. 4.50 ; $M_{\text{Future Savings \%}} = 20.37\%$ vs. 14.12%). Contrary to younger workers, older workers did not report any differences in savings behavior as result of exposure to short-term or long-term savings goals for the abstract and the concrete versions of the ad ($M_{\text{Abstract Ad Impact}} = 4.34$ vs. 4.52 ; $M_{\text{Concrete Ad Impact}} = 4.66$ vs. 4.68 ; $M_{\text{Abstract Future Savings \%}} = 10.30\%$ vs. 12.58% ; $M_{\text{Concrete Future Savings \%}} = 10.90\%$ vs. 13.45%).

Overall, it appears that goal timeframe is a more important consideration when encouraging saving behavior for younger workers that are early entrants in the workforce than older workers that are nearing retirement. Whether they are exposed to an abstract or concrete advertisement, older workers report saving behavior that is consistent across short-term and long-term goals communicated in the ads. However, an examination of younger workers reveals that their saving behavior is heavily impacted by a combination of the concreteness of the ad to which they are exposed and the timeframe of the savings goal that is communicated in the ad, with more distant goals appearing more effective with abstract ads and more proximal goals appearing more effective with concrete ads. Thus, we find that, consistent with temporal construal theory (e.g., Trope and Liberman 2003) and our expectations of how individuals are viewing retirement, when retirement is distant versus in the near future, workers are more focused on savings goals.

V. Study 2 Findings

While study 1 explored the impact of changing the savings goal timeframe, study 2 examines how distance to retirement impacts the effectiveness of negative versus positive frames, while simultaneously considering the abstractness/concreteness of the ad. Thus, in study 2 we utilized both the positively-framed and negatively-framed ads generated from the initial pretests with long-term savings goals constant. Consistent with study 1, we surveyed approximately 750 individuals from a general online survey panel in two age groups (18-34 - early workforce entrants, 50-64 - late workers), and all of the individuals recruited for this research were employed full-time and varied on demographics, such as race, education, and income. The same study procedure and survey design were utilized as in study 1. That is,

respondents in each age group were randomly assigned to evaluate one of four versions of the ad: (1) abstract ad with positive frame, (2) abstract ad with negative frame, (3) concrete ad with positive frame, and (4) concrete ad with negative frame. All versions of the ad communicated long-term savings goals. Thus, the two positively-framed versions of the ad were the same positively-framed ads with long-term goals as those utilized in study 1. Figure 3 shows the two versions of the negatively-framed ads.

After viewing the ads, respondents were asked to report the extent to which they believe the ad impacted their saving behavior and the actual amount they intended to save in the future, which were measured in the same manner as in study 1. In addition, respondents in this study were asked to assess their intentions to follow the recommendations using a three-item, seven-point scale: (1) likelihood of reaching retirement savings goal recommended in ad (very unlikely/very likely) (2) confidence in attaining retirement savings goal conveyed in ad (not at all confident/extremely confident) and (3) how well you think you save for retirement (very poorly/very well) ($\alpha = .94$). Finally, they reported their commitment to attaining the goal conveyed in the ad using a one-item, seven-point scale (“I am strongly committed to pursuing the savings goal in the ad,” strongly disagree/strongly agree). These additional measures were included in study 2 to further examine savings behavior and to parallel past research that has examined framing effects and goal attainment (e.g., Block and Keller 1995; Hollenbeck et al. 1989).

We analyzed the survey data using an analysis of variance. We found a fairly consistent pattern of results across all of the measures. As such, we only report the results for the future savings percentages; however, preliminary results for all of the measures are reported in Table 3. Consistent with study 1, the analysis revealed that, in general, early workforce entrants intend to

save a greater percentage of their salaries in the future than individuals that are later in their careers ($M = 17.49\%$ vs. 13.22% , $F(1,724) = 14.41$, $p < .05$). In addition, consistent with past research (Block and Keller 1995), the negatively-framed ad that conveys the consequences of failing to save for retirement prior to communicating savings guidelines appears to be more effective overall in encouraging saving behavior (17.10%) than the positively-framed ad that initially conveys the benefits of saving (13.62%). Importantly, the analysis revealed a significant three-way interaction between age group, ad abstractness/concreteness, and ad frame ($F(1,724) = 10.27$, $p < .05$), suggesting that saving behavior can be enhanced for each age group by considering the ad framing (negative vs. positive) and concreteness of the saving guidelines (abstract vs. concrete). Planned contrasts were utilized to further examine the effects. The analysis showed that for younger workers, the negatively-framed ad resulted in a larger savings percentage than the positively-framed ad, only if the ad was abstract ($M = 23.50\%$ vs. 14.16%). The concrete version of the ad did not result in saving differences for the negative and positive frames ($M = \text{both } 16.34\%$). For older workers nearing retirement, the negatively-framed ad resulted in a larger savings percentage than the positively-framed ad, only if the ad was concrete ($M = 14.98\%$ vs. 9.58%). The abstract version of the ad did not result in saving differences for the negative and positive frames ($M = 13.87\%$ vs. 14.14%).

Thus, it appears that the effectiveness of an ad in encouraging savings behavior for early workforce entrants and those nearing retirement is dependent on the concreteness of the ad, as well as whether the ad is framed positively in terms of the benefits of saving or negatively in terms of the consequences of failing to save. Consistent with past research on framing effects (e.g., Block and Keller 1995), we find that a negatively-framed ad is most impactful on savings behavior for individuals, but this finding is qualified by the finding that not all negatively-framed

ads are equally impactful for younger and older workers, respectively. For younger workers, a negatively-framed ad appears to be more effective than a positively-framed ad at encouraging retirement saving behavior only if the ad presents abstract guidelines for saving. The ad framing does not appear to have an impact on younger workers if the ad communicates concrete guidelines. On the other hand, for older workers a negatively-framed ad appears to be more impactful on saving behavior than a positively-framed ad only if the ad presents concrete guidelines for saving, not if the ad communicates abstract guidelines. Based on the results for the future intended savings percentage, it appears that the most effective ad for encouraging saving behavior overall for younger workers is the abstract version of the negatively-framed ad that conveys consequences of not sufficiently saving for retirement, while for older workers that are nearing retirement the concrete version of the negatively-framed ad appears to be most effective. These findings are consistent with temporal construal theory (e.g., Trope and Liberman 2003). and our expectations of how individuals are viewing retirement. When retirement is distant, workers appear to be more easily persuaded by the communication techniques utilized in an abstract ad, but when retirement is proximal, workers appear to be more easily persuaded by communication techniques utilized in a concrete ad.

VI. Conclusions

This paper summarizes preliminary findings from a research project designed to better understand how distance from retirement impacts the effectiveness of various ad communication techniques, such as ad framing, ad concreteness, and savings goal distance. Subsequent studies and analyses for this research project will focus on developing a more comprehensive framework of the effectiveness of the communication techniques we investigated by exploring an additional

age group – mid-career workers. Further, we will examine underlying reasons for the effectiveness of certain techniques over others to better understand why age groups are differentially impacted by such techniques. Finally, we will explore how other demographic factors, such as income, education, financial literacy interact with these techniques to impact retirement savings behavior.

The initial findings presented in this paper rely on results obtained from two pretests, as well as summary statistics gathered from two subsequent studies. These preliminary findings suggest that a person's temporal distance to retirement influences how they think about savings, which suggests that we may need to communicate with younger workers differently than older workers. Both of the main studies are fairly consistent in that they show that the effectiveness of previously proven communication techniques (ad framing, changing goal timeframe) only appear to be effective at encouraging individuals to save for retirement if these techniques are used in conjunction with how individuals view their retirement. That is, temporal construal theory suggests that younger workers may view retirement in an abstract manner, such that they consider general information about their distant retirement (e.g., desirability, goals). However, older workers may view retirement in a concrete manner, such that they consider the details of their proximal retirement (e.g., feasibility, specific steps). Thus, exposing early workforce entrants to abstract ads that convey general savings guidelines, while providing individuals later in their careers with concrete ads that provide specific steps to saving for retirement appears to enhance the effectiveness of other techniques, such as the use of a negative frame. In addition, these findings suggest that by making the savings goal more proximal (in the form of a milestone), we may be able to encourage younger workers to think more concretely about saving for retirement, making an ad presented in a concrete format more effective for this age group.

References

- Agnew, Julie R, Lisa R. Anderson, Lisa R, Jeffrey R. Gerlach, and Lisa R. Szykman. 2008. "Who Chooses Annuities? An Experimental Investigation of the Role of Gender, Framing, and Defaults." *American Economic Review*, 98(2): 418-422.
- Alexander, David L., John G. Lynch, Jr, and Qing Wang. 2008. "As Time Goes By: Do Cold Feet Follow Warm Intentions for Really New Versus Incrementally New Products?" *Journal of Marketing Research*, 45(3): 307-319.
- Block, Lauren G. and Punam Anand Keller. 1995. "When to Accentuate the Negative: The Effects of Perceived Efficacy and Message Framing on Intentions to Perform a Health-Related Behavior." *Journal of Marketing Research*, 32(2): 192-203.
- Eyal, Tal, Nira Liberman, Yaacov Trope, and Eva Walther. 2004. "The Pros and Cons of Temporally Near and Distant Action." *Journal of Personality and Social Psychology*, 86(6): 781-795.
- Gilovich, Thomas, Margaret Kerr, and Victoria H. Medvec. 1993. "Effect of Temporal Perspective on Subjective Confidence." *Journal of Personality and Social Psychology*, 64(4): 552-60.
- Hollenbeck, John R., Ann M. O'Leary, Howard J. Klein, and Patrick M. Wright. 1989. "Investigation of the Construct Validity of a Self-Report Measure of Goal Commitment." *Journal of Applied Psychology*, 74(6): 951-956.
- Keller, Punam Anand and Lauren G. Block. 1996. "Increasing the Persuasiveness of Fear Appeals: The Effect of Arousal and Elaboration." *Journal of Consumer Research*, 22(4): 448-459.
- Liberman, Nira and Yaacov Trope. 1998. "The Role of Feasibility and Desirability Considerations in Near and Distant Future Decisions: A Test of Temporal Construal Theory," *Journal of Personality and Social Psychology*, 75(1): 5-18.
- Passyn, Kirsten and Mita Sujan. 2006. "Self-Accountability Emotions and Fear Appeals: Motivating Behavior." *Journal of Consumer Research*, 32(4): 583-589.
- Trope, Yaacov and Nira Liberman. 2003. "Temporal Construal." *Psychological Review*, 110(3): 403-421.
- Trope, Yaacov and Nira Liberman. 2000. "Temporal Construal and Time-Dependent Changes in Preference." *Journal of Personality and Social Psychology*, 79(6): 876-889.

Table 1: Pretest 2 Findings[‡]

Dependent Variable (N = 37)	Abstract Advertisement	Concrete Advertisement	Scale Reliability	Test Statistic
Concreteness [*]	4.19	5.50	$\alpha = .84$	$F(1,35) = 6.41$
Attitude towards the ad	4.46	4.86	$\alpha = .92$	$F(1,35) < 1$
Ad imagery	4.56	4.54	$\alpha = .80$	$F(1,35) < 1$
Ad fear	4.33	4.43	$\alpha = .79$	$F(1,35) < 1$
Distance of ad goal	5.67	5.37	$\alpha = .83$	$F(1,35) < 1$
Interest	4.22	4.37	N/A	$F(1,35) < 1$
Believability	5.50	5.37	N/A	$F(1,35) < 1$
Understandability	5.22	5.11	N/A	$F(1,35) < 1$
Meaningfulness	5.11	5.16	N/A	$F(1,35) < 1$
Originality	4.00	3.95	N/A	$F(1,35) < 1$
Informativeness	5.72	5.53	N/A	$F(1,35) < 1$
Argument Strength	5.28	4.47	N/A	$F(1,35) = 3.06$
Personal Relevance	4.39	4.84	N/A	$F(1,35) < 1$

[‡] The objective of Pretest 2 was to ensure that the two versions of the ad differed on their perceived concreteness only, while not differing statistically on any of the other factors listed above.

^{*} Denotes significance at the .05 level

Table 2: Study 1 Findings

Dependent Variable [‡] (N = 747)	Abstract Advertisement			Concrete Advertisement		
	<u>Proximal</u> <u>Goal</u>	<u>Distant</u> <u>Goal</u>	<i>Test</i> <i>Statistic</i>	<u>Proximal</u> <u>Goal</u>	<u>Distant</u> <u>Goal</u>	<i>Test</i> <i>Statistic</i>
<i>Early entrants (18-34)</i>						
Ad impact on saving	4.60	4.95	$t_{705} = -3.98^*$	4.98	4.50	$t_{705} = 2.97^*$
Future savings %	9.45%	17.81%	$t_{739} = -2.08^*$	20.37%	14.12%	$t_{739} = 2.85^*$
<i>Late workers (50-64)</i>						
Ad impact on saving	4.34	4.52	$t_{705} = -1.11$	4.66	4.68	$t_{705} = -1.2$
Future savings %	10.30%	12.56%	$t_{739} = -1.12$	10.90%	13.45%	$t_{739} < 1$

[‡] An analysis of variance of each of the dependent measures reveals a significant three-way interaction ($p < .05$) between age group, ad concreteness, and savings goal timeframe.

* Denotes significant contrast between proximal and distant goal timeframe at the .05 level.

Table 3: Study 2 Findings

Dependent Variable [‡] (N = 757)	Abstract Advertisement			Concrete Advertisement		
	<u>Negative</u> <u>Frame</u>	<u>Positive</u> <u>Frame</u>	<i>Test</i> <i>Statistic</i>	<u>Negative</u> <u>Frame</u>	<u>Positive</u> <u>Frame</u>	<i>Test</i> <i>Statistic</i>
<i>Early entrants (18-34)</i>						
Ad impact on saving	5.06	4.72	$t_{749} = 2.13^*$	4.95	4.75	$t_{749} = 1.26$
Future savings %	23.50%	14.16%	$t_{724} = 4.00^*$	16.34%	16.34%	$t_{724} < 1$
Behavioral intentions	4.62	4.12	$t_{749} = 2.03^*$	4.48	4.43	$t_{749} < 1$
Goal commitment	4.63	3.91	$t_{749} = 3.03^*$	4.27	4.22	$t_{749} < 1$
<i>Late workers (50-64)</i>						
Ad impact on saving	4.82	4.72	$t_{749} < 1$	5.05	4.43	$t_{749} = 4.03^*$
Future savings %	13.87%	14.14%	$t_{724} < 1$	14.98%	9.58%	$t_{724} = 2.29^*$
Behavioral intentions	3.34	3.50	$t_{749} < 1$	3.94	3.30	$t_{749} = 2.61^*$
Goal commitment	4.02	4.11	$t_{749} < 1$	4.47	3.74	$t_{749} = 3.14^*$

[‡] An analysis of variance of each of the dependent measures reveals a significant three-way interaction ($p < .05$) between age group, ad concreteness, and ad frame.

* Denotes significant contrast between positive and negative frame at the .05 level.

Figure 1: Pretest 1 Consequences

Positive Consequences

Low

Saving for retirement can lead to a retirement that is as enjoyable as you anticipate. You may be able to purchase luxury goods that you have always wanted, you may be able to retire when you planned, and you may be able to live in your home as long as you want.

Moderate

Saving for retirement can lead to a retirement that is as enjoyable as anticipated. You may be able to enjoy activities you planned for in retirement, you may have equivalent or increased purchasing power even as inflation rises, and you may have flexibility if your preferences or life circumstances change.

High

Saving for retirement can lead to a retirement that is as enjoyable as anticipated. You may not have to live paycheck to paycheck, you may not become a financial burden to your children, and you may not lose legal control over your decisions, such as who controls your money and where you live.

Negative Consequences

Low

Failing to save for retirement can lead to a retirement that is not as enjoyable as anticipated. You may not be able to purchase luxury goods that you have always wanted, you may have to work at your current job longer than you have planned, and you may have to downsize your home.

Moderate


Failing to save for retirement can lead to a retirement that is not as enjoyable as anticipated. You may not be able to enjoy activities you planned for in retirement, you may have reduced purchasing power as inflation rises, and you may not have flexibility if your preferences or life circumstances change.

High


Failing to save for retirement can lead to a retirement that is not as enjoyable as anticipated. You may have to live paycheck to paycheck, you may become a financial burden to your children, and you may lose legal control over your decisions, such as who controls your money and where you live.

Figure 2: Study 1 Advertisements

WHY YOU SHOULD SAVE MORE NOW TO ENSURE YOU ARE ON THE RIGHT PATH TO RETIREMENT



Saving for retirement can lead to a retirement that is as enjoyable as you anticipate. You may be able to purchase luxury goods that you have always wanted, you may be able to retire when you planned, and you may be able to live in your home as long as you want.



You can prepare for retirement by saving now. On average, most people need an income of about 80% of their current salary for every year they live in retirement. Thinking about your retirement now will help ensure that you meet your future retirement goals.

If you haven't done so already, you may want to consider setting up a retirement account through one of the many available organizations offering retirement planning assistance. You should consistently contribute an amount of money that you can afford to your retirement account and slowly increase the amount you invest as it fits within your budget. Invest your money in a diversified portfolio that provides an appropriate level of risk for you, and remember to check your retirement account from time to time to assess whether you are meeting the saving objectives that you set.

What that means for you...

ANNUAL SALARY	TOTAL RETIREMENT CONTRIBUTION GOAL*
\$25,000	\$168,750
\$50,000	\$337,500
\$75,000	\$506,250
\$100,000	\$675,000

*This simplified calculation assumes a fixed salary and a 45 year working life. Based on a fixed savings rate, this figure provides a guideline for the total amount you should contribute to your retirement savings plan. The amount does not include the investment returns you should earn on your contributions over time.

Paid for by the Center for Interdisciplinary Behavioral Finance Research at the College of William and Mary

Abstract Ad with Long-Term Savings Goal

HOW YOU CAN SAVE MORE TO ENSURE YOU ARE ON THE RIGHT PATH TO RETIREMENT



Saving for retirement can lead to a retirement that is as enjoyable as you anticipate. You may be able to purchase luxury goods that you have always wanted, you may be able to retire when you planned, and you may be able to live in your home as long as you want.



You can prepare for retirement by saving now. On average, most people need an income of about 80% of their current salary for every year they live in retirement. Planning for retirement now through a couple of steps will help ensure that you meet your retirement goals:

- Step 1:** If you haven't done so already, set up your retirement account, like a 401(k) or Individual Retirement Account (IRA) through your employer or a financial advisor.
- Step 2:** Aim to contribute 15% of income from each paycheck to your retirement account, or consistently contribute what you can afford and slowly increase the amount if possible.
- Step 3:** Invest in a single fund that has a combination of stocks and bonds that automatically adjusts your level of risk as you age.
- Step 4:** Check your retirement account each year at tax time to ensure you are meeting your saving objectives.

What that means for you...

ANNUAL SALARY	TOTAL RETIREMENT CONTRIBUTION GOAL*
\$25,000	\$168,750
\$50,000	\$337,500
\$75,000	\$506,250
\$100,000	\$675,000

*This simplified calculation assumes a fixed salary and a 45 year working life. Based on a fixed savings rate, this figure provides a guideline for the total amount you should contribute to your retirement savings plan. The amount does not include the investment returns you should earn on your contributions over time.

Paid for by the Center for Interdisciplinary Behavioral Finance Research at the College of William and Mary

Concrete Ad with Long-Term Savings Goal

WHY YOU SHOULD SAVE MORE NOW TO ENSURE YOU ARE ON THE RIGHT PATH TO RETIREMENT



Saving for retirement can lead to a retirement that is as enjoyable as you anticipate. You may be able to purchase luxury goods that you have always wanted, you may be able to retire when you planned, and you may be able to live in your home as long as you want.



You can prepare for retirement by saving now. On average, most people need an income of about 80% of their current salary for every year they live in retirement. Thinking about your retirement now will help ensure that you meet your future retirement goals.

If you haven't done so already, you may want to consider setting up a retirement account through one of the many available organizations offering retirement planning assistance. You should consistently contribute an amount of money that you can afford to your retirement account and slowly increase the amount you invest as it fits within your budget. Invest your money in a diversified portfolio that provides an appropriate level of risk for you, and remember to check your retirement account from time to time to assess whether you are meeting the saving objectives that you set.

What that means for you...

ANNUAL SALARY	YOUR BIWEEKLY CONTRIBUTION GOAL*
\$25,000	\$156.25
\$50,000	\$312.50
\$75,000	\$468.75
\$100,000	\$625.00

*This simplified calculation assumes a fixed salary and a 45 year working life. Based on a fixed savings rate, this figure provides a guideline for the total amount you should contribute to your retirement savings plan. The amount does not include the investment returns you should earn on your contributions over time.

Paid for by the Center for Interdisciplinary Behavioral Finance Research at the College of William and Mary

HOW YOU CAN SAVE MORE TO ENSURE YOU ARE ON THE RIGHT PATH TO RETIREMENT



Saving for retirement can lead to a retirement that is as enjoyable as you anticipate. You may be able to purchase luxury goods that you have always wanted, you may be able to retire when you planned, and you may be able to live in your home as long as you want.



You can prepare for retirement by saving now. On average, most people need an income of about 80% of their current salary for every year they live in retirement. Planning for retirement now through a couple of steps will help ensure that you meet your retirement goals:

- Step 1:** If you haven't done so already, set up your retirement account, like a 401(k) or Individual Retirement Account (IRA) through your employer or a financial advisor.
- Step 2:** Aim to contribute 15% of income from each paycheck to your retirement account, or consistently contribute what you can afford and slowly increase the amount if possible.
- Step 3:** Invest in a single fund that has a combination of stocks and bonds that automatically adjusts your level of risk as you age.
- Step 4:** Check your retirement account each year at tax time to ensure you are meeting your saving objectives.

What that means for you...

ANNUAL SALARY	YOUR BIWEEKLY CONTRIBUTION GOAL*
\$25,000	\$156.25
\$50,000	\$312.50
\$75,000	\$468.75
\$100,000	\$625.00


*This simplified calculation assumes a fixed salary and a 45 year working life. Based on a fixed savings rate, this figure provides a guideline for the total amount you should contribute to your retirement savings plan. The amount does not include the investment returns you should earn on your contributions over time.

Paid for by the Center for Interdisciplinary Behavioral Finance Research at the College of William and Mary


Concrete Ad with Short-Term Savings Goal

Figure 3: Study 2 Advertisements

**HOW YOU CAN SAVE MORE TO ENSURE
YOU ARE ON THE RIGHT PATH TO RETIREMENT**



Failing to save for retirement can lead to a retirement that is not as enjoyable as anticipated. You may not be able to purchase luxury goods that you have always wanted, you may have to work at your current job longer than you have planned, and you may have to downsize your home.



You can prepare for retirement by saving now. On average, most people need an income of about 80% of their current salary for every year they live in retirement. Planning for retirement now through a couple of steps will help ensure that you meet your retirement goals:

- Step 1:** If you haven't done so already, set up your retirement account, like a 401(k) or Individual Retirement Account (IRA) through your employer or a financial advisor.
- Step 2:** Aim to contribute 15% of income from each paycheck to your retirement account, or consistently contribute what you can afford and slowly increase the amount if possible.
- Step 3:** Invest in a single fund that has a combination of stocks and bonds that automatically adjusts your level of risk as you age.
- Step 4:** Check your retirement account each year at tax time to ensure you are meeting your saving objectives.

What that means for you...

ANNUAL SALARY	TOTAL RETIREMENT CONTRIBUTION GOAL*
\$25,000	\$168,750
\$50,000	\$337,500
\$75,000	\$506,250
\$100,000	\$675,000

*This simplified calculation assumes a fixed salary and a 45 year working life. Based on a fixed savings rate, this figure provides a guideline for the total amount you should contribute to your retirement savings plan. The amount does not include the investment returns you should earn on your contributions over time.

Paid for by the Center for Interdisciplinary Behavioral Finance Research at the College of William and Mary

Concrete Ad with Negative Consequences

WHY YOU SHOULD SAVE MORE NOW TO ENSURE YOU ARE ON THE RIGHT PATH TO RETIREMENT



Failing to save for retirement can lead to a retirement that is not as enjoyable as anticipated. You may not be able to purchase luxury goods that you have always wanted, you may have to work at your current job longer than you have planned, and you may have to downsize your home.



You can prepare for retirement by saving now. On average, most people need an income of about 80% of their current salary for every year they live in retirement. Thinking about your retirement now will help ensure that you meet your future retirement goals.

If you haven't done so already, you may want to consider setting up a retirement account through one of the many available organizations offering retirement planning assistance. You should consistently contribute an amount of money that you can afford to your retirement account and slowly increase the amount you invest as it fits within your budget. Invest your money in a diversified portfolio that provides an appropriate level of risk for you, and remember to check your retirement account from time to time to assess whether you are meeting the saving objectives that you set.

What that means for you...

ANNUAL SALARY	TOTAL RETIREMENT CONTRIBUTION GOAL*
\$25,000	\$168,750
\$50,000	\$337,500
\$75,000	\$506,250
\$100,000	\$675,000

*This simplified calculation assumes a fixed salary and a 45 year working life. Based on a fixed savings rate, this figure provides a guideline for the total amount you should contribute to your retirement savings plan. The amount does not include the investment returns you should earn on your contributions over time.

Paid for by the Center for Interdisciplinary Behavioral Finance Research at the College of William and Mary