**Inaccurate Financial Pension Decisions: A Terror Management Paradigm**

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**Abstract**

 In many countries worldwide, people are required to make pension decisions at an early age since a pension provision is mandatory. However, many households ignore the need to make decisions, delay, or simply make bad pension choices. Five studies were conducted to empirically explore the underlying cause for this irrational behavior by drawing on the interdisciplinary fields of economy and psychology within the framework of Terror Management Theory. It is argued that pensions activate awareness of one’s finitude; as a death anxiety buffer mechanism, people avoid paying appropriate attention to financial pension decisions. Participants (N = 542) were exposed to pension and provident savings and car purchase scenarios. The only differences between the pension and provident scenarios were the labels. The results of Study 1 revealed greater inaccuracy in financial pension decisions than in the provident or car purchase decisions. Study 2 showed that pension but not provident decisions led to greater death (but not negative non-death) related thoughts. Study 3 found that death related thoughts (but not negative non-death related thoughts in general) were associated with less accurate financial decisions. Study 4 showed that mortality, but not pain or control saliency, led to impairment of provident financial decisions. Study 5 indicated that framing a pension in a more positive manner led to more accurate decisions. The theoretical and practical implications are discussed.

Keywords: Financial decision making; Terror Management; Pension; Accurate decisions; Death anxiety

**Introduction**

The importance of saving and having sufficient income for one's retirement is crucial. However, a large majority of households know very little about their pension plan. Many studies have shown that households understand very little about finance (Lusardi & Mitchell, 2014) although there is evidence that the net value of accumulating financial knowledge is very high. In particular, profits from the use of knowledge are immeasurably greater than the cost (typically in time) for household (Fernandes, Lynch & Netemeyer, 2014). Chan and Stevens (2008) demonstrated empirically that households with financial knowledge made better pension decisions than households without this knowledge. However, it remains unclear why people avoid planning their pensions. Does the topic of pension elicit negative emotions that may hinder such decisions, and if so, which? To provide an in-depth exploration of this question, we conducted five experiments in a Close economic environment that has a unique policy on pension and provident funds to minimize alternative explanations for the results and augment internal validity.

**Pension Funds & Provident Funds**

In more and more economies, households are required to handle their own pension portfolio and make important and sometimes irreversible decisions. The pension system in Israel is a good example. Its main characteristics are listed in Appendix A. One is the requirements is that households make substantial financial decisions regarding their pension plan when still at the start of their careers. These financial decisions can significantly affect both the wealth level of households after retirement and their level of insurance coverage in the case of premature death, and loss of work capacity during the employment period.

In addition to deciding about their pension funds, many households choose to subscribe to provident funds. Provident Funds are financial instruments that grant capital gains tax (CGT) and personal income tax (PIT) exemptions for 6-year interim savings. It is typically used by families for large financial projects such as family vacations, buying a new car or paying part of the mortgage.

We reasoned that when individuals are forced to think about aging and death when asked to make pension decisions, this may make the psychological notion of their own mortality more salient. Procrastinating on pension decisions may help alleviate death-related thoughts. To better understand this issue, we turned to Terror Management Theory.

***Terror management theory***

Greenberg's Terror Management Theory (TMT) (Greenberg, Solomon, & Pyszczynski, 1997) argues that being aware of one's own mortality can lead to feelings of terror that can impede people's functioning. This mortality salience (MS); i.e., increased thoughts about one's own demise, is known to impact interpersonal evaluations, moral judgments, stereotyping, in-group bias, conformity, materialism, and self-regulation (Burke, Martens, & Faucher, 2010; Greenberg et al., 1997). Because MS can trigger existential anxiety, people may develop defense reactions to avoid or lessen emotional distress (DeWall & Baumeister, 2007). Studies on TMT have suggested that people implement different tactics to cope with the conscious and unconscious components related to death (Greenberg, Arndt, Simon, Pyszczynski, & Solomon, 2000; Pyszczynski, Greenberg, & Solomon, 1999). Distal defenses that have no direct rational relationship to the problem of death can be harnessed to stop accessing unconscious thoughts of death because they enable the person to see him or herself as making a significant contribution to the world (Greenberg et al., 1997). By contrast, when people consciously consider death related issues, they may tap proximal defenses to suppress these thoughts (Greenberg et al., 2000). Proximal defenses can involve putting off issues related to death, and suppressing or denying one's vulnerability to death (Goldenberg & Arndt, 2008; Hayes, Schimel, Arndt, & Faucher, 2010; Pyszczynski et al., 1999). Thus, people may avoid purchasing pension products in an attempt to suppress the death related thoughts tied directly to aging and disability. They may also be less accurate when making pension decisions as a strategy to push thoughts of death from consciousness.

Other cognitive processes may be called into play when death thoughts are accessible as well. These may undermine the process of making financial pension decisions. Arndt, Greenberg, Solomon, Pyszczynski, and Simon (1997) reminded individuals of their mortality, but then prevented them from accessing executive (i.e. higher order) resources by asking them to perform a complex cognitive task. These participants subsequently reported greater accessibility to death-related thoughts than participants who were not administered the cognitive task. Gailliot, Schmeichel, and Baumeister (2006) found that participants who were reminded of their mortality showed impaired performance on a Stroop task and a set of GRE analytical reasoning problems they were asked to solve 5 minutes later. The authors suggested that the depletion of self-control resources, or ego depletion, led to this poorer performance (Schmeichel, Vohs, & Baumeister, 2003). In other words, the participants expended their self-control resources to suppress death thoughts, such that these resources were no longer available for the two cognitive tasks.

 Nevertheless, it remains unclear whether analytical thinking is disrupted by death-related thoughts.

**Overview of the Present Studies**

Financial behavior associated with saving money for the long term (pension funds), along its well-known benefits, may also be inherent coupled with an inevitable facilitation of death-related thoughts that can be one of the underlying mechanisms that lead to the unsolved puzzle of inaccurate pension decisions affecting countries worldwide. Here we posited that savings behavior may go beyond its utilitarian function and take on a symbolic psychological role. In contrast to short-term savings (i.e. provident funds), savings for old age (i.e. pensions) should be associated with a greater saliency of death thoughts. People may not purchase a pension or at least not give their full conscious attention to considering and processing pension opportunities from the embedded fear of personal death associated with pension issues. This mechanism may lead to greater inaccuracy in pension decisions. This reasoning was tested in five studies, as described below and depicted in Figure 1.

Insert Figure 1 about here

Study 1 examined whether thinking about choosing a pension fund leads to less accurate financial decisions as well as less confidence in one’s decision in comparison to the level of accuracy and confidence in thinking about provident saving decisions or a more neutral financial decision (purchasing a car). We hypothesized that:

Hypothesis 1a: when participants are asked to make a financial decision about a pension they will be less accurate in their decisions than when they are asked to make provident or a “neutral” financial decision.

Hypothesis 1b: when participants are asked to make a financial decision about a pension fund they will be less confident in their decisions than when asked to make provident or a “neutral” financial decision.

Study 2 examined whether pension decisions lead to a greater accessibility of death related thoughts than saving for a provident or more a neutral financial decision. We hypothesized that:

Hypothesis 2: when participants are asked to make a financial decision regarding a pension fund they will exhibit greater accessibility of death related thoughts than when asked to make a provident or a “neutral” financial decision.

Study 3 examined whether fear of personal death would be associated with lesser accuracy of financial decisions as well as less confidence in financial decisions relating to pensions, provident funds or a neutral purchase. We hypothesized that:

Hypothesis 3a: the accessibility of participants’ death related thoughts will be related to less accurate financial decisions concerning a pension, a provident or a “neutral” financial decision.

Hypothesis 3b: the accessibility of participants’ death related thoughts will be related to less confidence in their financial decision on a pension, provident or a “neutral” financial decision.

To rule out the possibility that negative thoughts in general and not specifically death thoughts could be responsible for less accurate financial pension decisions and less confidence in this decision this was examined in each analysis.

Study 4 examined whether empirically making one's own mortality salient in comparison to negative non-death related thoughts would lead to impairment of provident financial decisions. We hypothesized that:

Hypothesis 4a: participants exposed to mortality salience will be less accurate when making provident financial decisions than when exposed to negative non-death related scenarios. In contrast, the accuracy of financial pension decisions should be similar when participants are exposed to both mortality and negative non-death related scenarios.

Hypothesis 4b: participants exposed to mortality salience will be less confident when making provident financial decisions than when exposed to negative non-death related scenarios. In contrast, participants’ confidence in their financial pension decisions will be similar when exposed to both mortality and negative non-death related scenarios.

Finally, Study 5 examined whether we could control these effects. Specifically, if making a pension fund decision leads to greater accessibility of death related thoughts, presenting a pension as a positive scenario (e.g. enabling individuals to actualize their dreams to better fulfill their fantasies) should lead to greater accuracy of financial pension decisions than in a group presented with the same information on pension opportunities but presented in terms of aging, burdens and the possible support of one’s offspring after one's death. We hypothesized that:

Hypothesis 5a: participants requested to make pension financial decision in scenarios where the retirement period is presented in a positive way and employment risks are presented as less important will be more accurate than participants processing pension opportunities when the pension fund is presented in a more negative way.

Hypothesis 5b: participants requested to make financial pension decisions about scenarios where the retirement period is presented in a positive way and employment risks are presented as less important will have greater confidence in their financial decisions than participants processing pension opportunities when the pension is presented in a more negative way.

**Pilot Study**

In a pilot study we elicited free associations related to pensions (provident funds). A total of 112 students enrolled in a “Pension and long-term finance” M.B.A course offered in a university department of business administration were asked individually to respond to two questions (with a 20 sec pause between questions): 1) What is the first association that comes to your mind for the term “pension fund”? 2) What is the first association that comes to mind for the term “provident fund”? The results showed that 76 (68%) respondents attributed negative values to the word "pension". Of these, 23 referred to old age, 31 to fear of material hardships, 12 to illness and 10 directly to death. Of the 36 who did not view pension as negative, 19 referred to the opportunity not to work, 8 to freedom, and 9 used neutral words. In contrast, 65 respondents (58%) used positive words about saving through a provident fund. The words “vacation”, “new car” and “shopping” led the list. Forty (35%) simply wrote "I do not have one" in this context. Twelve (10%) used financial jargon such as “yield” or “management fees” compared to only 2 that did so in response to the term "pension fund".

**Study 1**

Study 1 examined the hypothesized effects of financial pension decisions on the quality and confidence of one's financial decision. We hypothesized that financial pension decisions would lead to less accuracy and confidence in this financial decision than when the participants were focused on a more neutral financial decision (buying a car). To rule out the possibility that the decision was affected by the difference between investing money and spending money, questions related to provident funds were also included.

Method

*Participants*. Fifty-nine Israeli undergraduates (29 women and 30 men, ranging in age from 20 to 53; mean = 29.93; 93% were working at the time of the experiment and 96% of them related to their work as their intended career) participated in the study without monetary reward. Participants were randomly divided into two conditions, with 30 participants in each.

*Materials and procedure*. Participants were invited to participate in a study on personality and social psychology in groups of 4 to 20. Participants were randomly divided into two experimental conditions. The subjects received a set of questionnaires. Subjects were asked to answer the questions in the order in which they appeared. The group was randomized into two subgroups. One subgroup was given the questionnaires on pension fund decision and a car purchase decision and the second group were given a provident questionnaire and the same car purchase questionnaire. In order to rule out possible alternative explanations for the results we counterbalanced the order of administration (approximately half received the car scenario before the pension/provident scenarios and approximately half vice-versa).

The subjects were given a set of financial factors to help them make the decision. In addition, the subjects received a standard explanation taken from the economic media briefly explaining pension fund or a provident fund, including the standard insurance components and the possible uses of the fund. This was followed by detailed information on 4 different funds. Then the subjects were asked to select the fund they preferred. The information included the management fees collected from the periodic deposits and the accrual, the historical yield, and the fund's Sharpe ratio. In addition, irrelevant information about the size of the funds and the number of people in the workplace who had subscribed to these funds were provided, but were identical across all 4 funds. The information was carefully arranged so that each questionnaire always had one fund that dominated. The only difference between the information provided about the pension and provident funds was the label. This was done to prevent the participants from drawing conclusions motivated by the name of the fund (see full description of the materials in Appendix A).

Next, participants had to decide which one of the 4 scenarios they would choose and to rate the extent to which they were confident with their decision on a 10-point scale ranging from 1 (total unconfident) to 10 (highly confident). The questionnaire only indicated parameters the participants could have obtained from available government documentation if they had been required to make a real decision.

**Results and Discussion**

To examine the first hypothesis that financial pension decisions would lead to lower decision quality than when making more a neutral financial decision (buying a car) we conducted two related-samples McNemar tests (accurate vs. inaccurate): one comparing the pension and neutral decision groups and the other comparing the provident and neutral decision groups. The hypothesis was confirmed. The accuracy of the pension decision was significantly lower than the accuracy of the neutral decision (p = .013). No differences were found between the accuracy of the provident and the neutral financial decisions (p = 1.00). A Mann-Whitney test indicated that the accuracy of the provident decisions was also significantly higher than the accuracy of the pension decisions (p = .013) (Table 1).[[1]](#footnote-2)

Insert Table 1 about here

To examine whether the same results would be obtained for confidence in one’s financial decision we conducted two paired-sample t-tests on confidence in one’s decision (pension vs. neutral decision groups and provident vs. neutral decision groups). Pension confidence was significantly lower than neutral decision confidence (t(22) = 3.76, p = .001). Confidence in the provident decision was also significantly lower than confidence in the neutral financial decision (t(21) = 3.14, p = .005). An additional independent sample t-test between the confidence in the pension and provident decisions revealed no significant differences between the two (t(44) = 1.45, p = .15) (Table 1).

Thus, pension decisions led to significantly less accurate decisions compared to provident decisions as well as to less confidence in the decision (as compared solely to the neutral decision). Participants were also more confident in provident decisions than neutral decisions.

Although Study 1 revealed that participants made less accurate decisions and were less confident in their financial pension decisions in comparison to both provident and more neutral financial decisions, the reason for these findings remains unclear. It was hypothesized that pension saliency may lead to greater accessibility of death related thoughts than the other conditions. Thus, in the second study we examined whether death related thoughts would be more accessible when pension decisions are made than when short-term (provident) decisions are the focus.

**Study 2**

Study 2 was conducted to examine whether death-related thoughts would be more accessible in participants exposed to pension decision scenarios than participants exposed to provident decision scenarios.

Method

*Participants*. Ninety-one Israeli undergraduates (42 women and 49 men, ranging in age from 20 to 55; mean = 28.71; 86% were working at the time of the experiment and 92% of them related to their work as their intended career), participated in the study without monetary reward.

*Materials and procedure*. The material and procedure were identical to those used in Study 1. The only difference was the additional “death related thoughts questionnaire”.

The accessibility of death-related thoughts was assessed by a Hebrew version of the word completion task originally devised in English by Greenberg, Pyszczynski, Solomon, Simon and Breus (1994) and successfully used in Hebrew by Mikulincer and Florian (2000) on an Israeli sample. This is a common technique to examine death anxiety in the Terror Management literature. In this study, the task consisted of 20 Hebrew word fragments that participants were asked to complete with the first word that came to mind by filling in one missing letter. Eight of the twenty Hebrew fragments could be completed to form either neutral or death-related Hebrew words. For example, participants saw the Hebrew fragment \_VEL and could complete it with the Hebrew word HVEL (‘‘cord’’) or with the death-related EVEL (‘‘mourning’’). The possible death related words were the Hebrew words for death, mourning, cadaver, grave, killing, dying, grief, and skeleton. The dependent measure was the number of death-related Hebrew words (0–8) completed by each participant.

In order to rule out the possibility that pension decisions could lead to negative emotions that were not related to death, eight words were added randomly to the existing eight-word completion task which could be completed to form negative (but not related to death) or neutral words. For example, participants saw the Hebrew fragment \_TACH and could complete it with the Hebrew word PETACH (‘‘open’’) or with the negative emotional word METACH (‘‘stress’’). The possible negative Hebrew words not related to death were stress, sad, shame, sorrow, pain, failure, jealous, and anxious. The dependent measures were the number of death-related Hebrew words (0-8) and the number of negative Hebrew words not related to death (0-8) completed by each participant.

**Results and Discussion**

A multivariate analysis of variance (MANOVA) was conducted on accessibility of death and negative non-death related words between participants who made pension and provident financial decisions.[[2]](#endnote-2) The full model was significant, as assessed by Wilkes' lambda for topic (*F*(2,86) = 4.01, *p* = .022, *ηp*² = .085). A test of between-subject effects indicated that the accessibility of death related thoughts was significantly higher among participants who made pension decisions than among participants who made provident decisions (F (1, 87) = 8.06, p = .006, ηp²=.085). No difference was found between the two groups (pension vs. provident decisions) regarding the accessibility of negative non-death related words (F (1, 87) = .47, p = .49, ηp²=.005) (see Table 2).

Insert Table 2 about here

Thus, financial pension decisions led to higher death but not general negative non-death related thoughts, which may be responsible for the difference in both decision quality and confidence. Although the results showed that the accessibility of death related thoughts was significantly higher when making pension but not provident decisions it is still unclear whether death thoughts lead to the lower accuracy and confidence in financial pension decisions as found in Study 1. Study 3 was conducted to empirically examine this hypothesis.

**Study 3**

Study 3 was conducted to examine whether greater accessibility of death related thoughts would be associated with lower financial accuracy and lesser confidence in one’s financial decision. As in Study 2, to rule out the possibility that negative thoughts in general and not death related thoughts in particular were responsible for the declining in participants' accuracy and confidence, this measure was included as well.

Method

*Participants*. Two-hundred and five Israeli undergraduates (56% women and 44% men, ranging in age from 19 to 60; mean = 33.93; 90% were working at the time of the experiment and 49% of them related to their work as their intended career) participated in the study without monetary reward.

*Materials and procedure*. In this experiment participants first completed the accessibility of death (and negative non-death) related thoughts used in Study 2. After the completion of this questionnaire the participants were exposed to the same financial scenarios as used in Studies 1 and 2.

**Results and Discussion**

We first examined the correlation between the death and negative (non-death) related thoughts, accuracy and confidence in the financial decision in general as well as in each of the financial decision topics (pension, provident, car). Table 4 presents the results.

Insert Table 4 about here

As can be seen in Table 4, participants’ accessibility of death related thoughts (but not negative non-death related thoughts) was negatively associated with accuracy but not with confidence in their financial decisions. However, examination of the topics separately revealed that this was only true for accuracy in pension decisions and not for provident or neutral decisions.

To examine the extent to which financial decision accuracy and confidence in the financial decision could be predicted from the accessibility of death related thoughts, after controlling for the effects of the demographic variables (gender and age) and number of negative non-death related words, two hierarchical regression analyses for the accuracy of financial decision and confidence in the decision by accessibility of death related thoughts were conducted. In each regression, the variables age and negative non-death related words were entered simultaneously in the first step of the equation. We entered age in the first step to hold this variable constant since the personal retirement horizon lessens with increasing age, regardless of formal retirement age. We thus examined the effects of death accessibility effects beyond age effects. The accessibility of death related thoughts was entered in the second step and the accessibility of death related thoughts X investment topic interaction was entered in the third step of the equation (treated as Z-scores). The results of these analyses appear in Table 5.

Insert Table 5 about here

As can be seen in Table 5, none of the variables predicted accuracy of the financial decision or confidence in the financial decision. However, entering the interaction between the investment topic and accessibility of death related thoughts yielded a significant interaction. To probe the direction of the interaction, simple slope analyses (Aiken & West, 1991) revealed that the accessibility of death related thoughts was only negatively associated with the accuracy of the financial decision for pension decisions (+1 SD), β = -.73, p = .006, but not provident decisions (-1 SD), β = .22, p = .36 (Fig. 3).

Insert Figure 3 about here

 Although the findings of Study 3 revealed that the greater accessibility of death related thoughts led to less accurate financial decision making, the research method had low internal validity and alternative explanations for the results could be associated with them. In Study 4 we used an experimental research design that could lead to greater confidence that death thought themselves are responsible for the results.

**Study 4**

Study 4 was conducted to examine whether a mortality salience manipulation would lead to lower financial accuracy and a lower confidence in one’s financial decision. To rule out the possibility that negative thoughts in general and not death related thoughts in particular were responsible for the declines in accuracy and confidence in the financial decisions, we included a condition about intense pain, as frequently used in TMT research experiments. Experiment 4 also decreased the amount of information provided for each fund. This was done to rule out the possible complexity of the questionnaire as a factor.

Method

*Participants*. One-hundred and six Israeli undergraduates (72% women and 18% men, two did not indicate gender, ranging in age from 21 to 60; mean = 35.93; 96% were working at the time of the experiment and 64% of them related to their work as their intended career) participated in the study without monetary reward.

*Materials and procedure*. Participants were invited to participate in a study of personality and social psychology in groups of 8 to 10. Participants were randomly divided

into three conditions according to two open-ended questions used in previous studies (e.g., Greenberg et al., 1994). Participants in the mortality salience condition received the following instructions: “Please describe the emotions that the thought of your own death elicits in you” and “What do you think happens to you as you physically die and once you are physically dead?” Participants in the neutral condition were asked parallel questions, replacing all references to death with “eating food.” Participants in the physical pain condition were asked parallel questions, replacing references to death with “experiencing intense physical pain.” Following this manipulation, all participants completed a 10-item filler/distraction scale dealing with leisure activities, because mortality salience effects have been found to occur after people are distracted from death reminders (e.g., Greenberg et al., 1994). They were then provided with financial scenarios as in Studies 1-3. After completing all of the scales, participants were debriefed and thanked for participating.

**Results and Discussion**

To examine the hypothesis that mortality but not pain salience would lead to greater errors in financial decisions (lower decision quality) and less confidence in decision making, we conducted two chi-square tests for accuracy (accurate vs. inaccurate), one on the comparison between death and pain saliency for provident decisions and one for pension decisions. The accuracy hypothesis was confirmed. Provident decisions were significantly less accurate for participants in the mortality salience condition but was similar in the pain salience condition (ꭕ²provident (2, 51) = 6.60, p = .037) )Table 5). In contrast, for pension decisions the accuracy of the financial decision was similar for the mortality and pain conditions (ꭕ²provident (2, 56) = 2.91, p = .23) (Table 6).

Insert Table 6 about here

As can be seen in Table 6, whereas in the pain or TV conditions, participants were more accurate than inaccurate, when mortality was made salient almost all participants were incorrect in their provident decisions. In contrast, in the pension decisions all participants were inaccurate and to similar extent in all three conditions (mortality, pain and TV salience). To examine whether the same results would be found for confidence in financial decisions in the two groups, two ANOVAs were conducted. In both analyses there was no difference in confidence in the financial decision when making pension decisions (F(1,62) = .28, p = .76, η*p*² = .009) or when making provident decisions (F(1,28) = .03, p = .98, η*p*² = .002) (Table 7).

Insert Table 7 about here

Thus, mortality salience itself, and not negative thoughts in general, led to inaccuracy in financial decision making. Whereas pension itself evoked death thoughts as found in Study 2 and negative thoughts were associated with inaccurate financial decision making, this experimental study showed that mortality salience led to inaccurate financial decisions even for provident decisions.

**Study 5**

Study 5 was conducted to examine whether the effects could be controlled. Specifically, if the way pension decisions are presented by funding agents activates death thoughts, it would be of value to examine whether framing the pension scenario in a more positive manner emphasizing pension savings that enable people actualize their dreams by having more freedom to do so would lead to greater financial decision accuracy and confidence.

Method

*Participants*. Eighty-one Israeli undergraduates (46% women and 54%, ranging in age from 22 to 56; mean = 28.14; all were working at the time of the experiment and 56% of them related to their work as their intended career) participated in the study without monetary reward. We excluded participants who had worked in their organizations for less than a year as they may not have dealt with pension decisions.

*Materials and procedure*. Participants were invited to participate in a study of personality and social psychology in groups of 3 to 20. Participants were randomly divided

into two experimental conditions. In this experiment we used only the car and pension scenarios. When presented with the pension scenario approximately half were presented with the same scenario used in Study 4 that described the need for a pension with the actual negative words that are used by insurance agents and the pension funds themselves, such as the need to support one's offspring and family after death and not be burden on them.) The second scenario was presented in a more positive way. The pension was described as a way to fulfill one's dreams after retirement (for the full description of the scenario see Appendix B). After completing all the financial decision scenario scales, participants completed the demographic measure, were debriefed and thanked for participating.

**Results and Discussion**

To examine the first hypothesis that framing financial pension decisions in a more positive manner would lead to greater accuracy in the financial decision than when framing it in a more negative manner we conducted a chi-square analysis. The hypothesis was confirmed (ꭕ² (1, 81) = 3.74, p = .044). As can be seen in Table 8, framing pension in a positive way led to an accuracy of 40%, but when framing it in a more negative manner only 19% made accurate financial pension decisions. No significant differences were found for financial accuracy in the car scenario. Thus, the ability to provide accurate financial decisions in general did not differ between the framing groups (ꭕ² (1, 81) = 1.36, p = .018).

Insert Table 8 about here

To examine whether the same results would be obtained for confidence in one’s financial decision we conducted an independent-sample t-test analysis. Confidence in one’s decision was also significantly higher when pension was framed in a more positive than negative way (t(79) = 2.02, p = .047). An additional independent sample t-test between confidence in the neutral decision found no significant differences between the two framings (t(79) = 1.50, p = .137) (Table 7). Thus, confidence in one’s financial decision was also similar between groups, hence strengthening the conclusion that the positive framing itself led to greater confidence in the pension decision. In addition, to examine whether a positive framing of the pension scenario would lead to lesser accessibility of death related words, an additional ANOVA was conducted where differences in the accessibility of death related words between framing conditions were examined while controlling for the effect of negative (non-death) related words. The results revealed that accessibility of death related words was significantly higher in the negative framing (that is, the terms actually used on the web or by agents selling pension funds) than when presenting pensions in a more positive manner (F(1,76) = 4.29, p = .042, η*p*² = .053) but not the accessibility of negative (non-death) related words (F(1,76) = .489, p = .486, η*p*² = .006) (Table 7).

 To sum up, this study identified an efficient mechanism that could attenuate and control the effects found.

**General Discussion**

Taken together, these five studies provide evidence for an underlying mechanism that may be responsible for individuals' inaccurate financial pension decisions. Specifically, it supported our main hypothesis that the underlying fear of personal death is responsible for inaccurate pension financial decision making. Based on the well-established TMT we conducted 5 studies to provide a comprehensive examination of the different facets of the research model. Study 1 indicated that pension in comparison to provident financial decision making or a more neutral issue led to significantly less accurate financial decisions as well as significantly less confidence in that decision. In the second study we found that pension decisions led to higher accessibility of death related thoughts than when making provident financial decisions. Our main claim was further supported in that the accessibility of death-related thoughts but not negative (non-death) related thoughts were heightened following pension (vs. provident financial decisions). The third study showed that only the accessibility of death related thoughts but not negative (non-death) related thoughts in general were associated with less accurate pension decisions but not with provident investment financial decisions. Study 4 indicated that a mortality salience manipulation but not an aversive non-death manipulation led to more inaccurate provident financial decision making whereas both mortality and aversive non-death related manipulations led to more inaccurate pension financial decision making. Finally, in Study 5 a mechanism based on our model succeeded in controlling for the effects. Framing the pension scenario in a more positive way led to both more accurate pension decisions as well as to fewer death related words than when presenting the same decisions when framing pension in a more negative manner (as is done by pension agents).

Because people’s inherent fear of personal death is believed to lead to the use of symbolic buffering mechanisms to cope with such a terrifying existential truth (e.g. see meta-analyses of TMT in Burke et al., 2010), and since pension is by definition associated with old age (when death is more frequent), people's conscious and unconscious attempts to distance themselves from this existential fear may lead to less attention to processing pension issues (and decisions) in comparison to provident investments whose financial benefits are much more short term (at a time in life when death is less salient or frequent). One possibility is that more cognitive processes are activated when death thoughts are accessible that undermine the processing financial pension decisions.

The current studies make theoretical as well as practical contributions. First, they contribute to the field of economic research. Numerous works in the field of finance implement psychological tools, but most have been behavioral studies (see Hirshleifer, 2015; Thaler, 2005 and others for surveys). Behavioral finance typically argues that some financial phenomena can plausibly be understood using models in which some agents are not fully rational. The field has two building blocks: *limits to arbitrage*, which argues that it can be difficult for rational traders to undo the dislocations caused by less rational traders; and *psychology*, which catalogues types of deviations from full rationality. In this work we go one step further to the field of dynamic psychology, which has not yet been incorporated into economic research. We show that fear of death in its most basic form clearly affects the simplest financial decision making. When the financial decision involves thoughts of death, the precision of the individual is clearly impaired. This is a completely new result for the economic literature and paves the way for new research directions that would benefit from incorporating these of psychological theories.

 These studies also contribute to the field of TMT by examining the way the core assumption of the theory is also related to decisions people make and even to financial decisions. The key implication is that TMT can account for inaccuracies in major personal financial decisions, when these decisions are associated with death-related thoughts. Correlatively, mechanisms that can buffer death anxiety or help disconnect these associations may lead to more accurate decision making. Study 5 showed that framing the pension decision in a more positive way (e.g. time for leisure activities, more freedom to fulfill one’s dreams, etc.) led to greater accuracy in financial pension decisions and also were less associated with death related thoughts. Thus, the model presented here, and its core framework can be further developed and applied by policy makers, from the micro level of the individual, to financial organizations and even at the macro level of aiding national policy makers. Future research should be conducted to elaborate this novel framework in financial organizations to provide further support for this suggestion.

Future research should also examine other mechanisms such as people's financial knowledge that may moderate these effects as well. Furthermore, since parenthood was found to serve as a death anxiety buffer mechanism (Weisman & Goldenberg, 2003; Fritsche, 2007; Yaakobi, Mikulincer , & Shaver, 2014) framing children as a symbolic shield rather than as a burden in the form of symbolic immortality may moderate financial pension decisions. Framing pension as a mechanism to achieve a more meaningful life rather than a mechanism for earning money may also lead to more accurate financial pension decisions since the desire for meaningful work was shown to buffer death anxiety (Yaakobi, 2015). These hypotheses should be empirically examined in future research. The current findings could be implemented by insurance companies to reframe sales representatives' guidelines in a way that puts less emphasis on the association between pension and death but rather as a way to fulfill one’s desires in later life. When discussing death, the representative should use other suggested death anxiety buffer mechanisms to facilitate a better interaction. Since TMT death anxiety buffer mechanisms include cultural worldview and self-esteem, which have been empirically supported in numerous studies (see Burke et al., 2010), another mechanism that can be used by salespeople is to stress the association between the client's pension decision and cultural norms and/or self-esteem by supporting messages that could lessen death anxiety.

 It would also be efficient to frame pension decisions as a way of saving money for old age that can lead to greater financial resources for a better life as a senior and even to augment personal wealth. In the same way, framing a pension as a way of saving for a better future life should be a more efficient presentation of pension investments. Future research should examine these hypotheses as well. Finally, Mikulincer and Florian (2000) showed that more defensive anxiety buffer mechanisms (derived from the TMT cultural worldview and self-esteem) are tapped by individuals scoring lower on secure attachment scales whereas more growth oriented mechanisms (such as symbolic immortality mechanisms; see Lifton, 1973) are used by individuals who are more securely attached (see also Yaakobi et al., 2014; Yaakobi 2015). Future research should further examine attachment and other personality theories that could moderate the current findings and lead to a more comprehensive model suggesting specific ways in which individuals with different attachment orientations could increase the accuracy of their financial pension decisions.

**Conclusion**

These five studies identified one of the underlying core barriers to accurate pension financial decision making that can affect both individuals as well as at the economy level. We suggest that people's embedded fear of personal death may underlie inaccuracies in financial pension decisions. The results also suggest that positive framings may reduce errors and encourage people to make better financial decisions. Future empirical examination of this novel direction that integrates the interdisciplinary fields of psychology and economics should be pursued.

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**Appendix A**

Although there was no mandatory pension plan in Israel until 2008, the entire public sector and large sections of the private sector provided pension plans to their employees. Before 1995 the typical pension plan was either budgeted by the government or was a Defined Benefit (DB) plan, mostly subsidized by the employer. Such DB plans defined an annuity for an employee upon that employee’s retirement. The benefit in a DB pension plan is determined by a formula that can include the employee’s income, years of employment, age at retirement, and other factors. Since 1995, the pension system has undergone a series of substantial and dramatic changes. It became entirely DC- based and completely privatized, and as of 2008 is mandatory in many sectors. The current pension scheme is a semi-mandatory, tax exempt DC fund. The pension scheme allowance is two-fold: up to the average salary ~(36,000 USD) the scheme is mandatory. Above 36,000 USD to 90,000 USD, is PIT (personal income tax) free, thus providing a tax-free annuity based on the individual’s tax bracket. At a minimal age of 60 or after retirement (most employees, men and women retire at 67) this annuity can be withdrawn, tax free. Though the scheme is mandatory, the funds are private and compete against each other. There are 9 such funds. A typical scheme is as follows:

1. The employee contributes 6% of her gross salary.
2. The employer endows an additional 14.83%.
3. The endowment is PIT free.
4. The endowment is locked until retirement

The pension annuity is the second pillar of the old age scheme. The first pillar is the NI flat annuity. The NI annuity is considered among the lowest in OECD countries. For an average household, it is expected to provide less than 30% of its post retirement income. The rest is expected to be covered by the pension scheme. Pension funds are therefore treated seriously. Unlike the pension system, which is strictly annuity-based, Israeli provident funds are unique. These are DC, without a retirement age horizon but rather a short, 6-years horizon. A provident fund creates an individual account for each participant and for benefits based solely on the amount contributed to the account, plus or minus income, gains, expenses, and losses allocated to the account. Provident fund contributions are paid to an individual account for each member of the fund. Financially, a provident fund functions just like a mutual fund, with tax exemptions. The plan is not mandatory but rather a “beneficiary arrangement” between the employer and employee. The employee contributes 2.5%, the employer adds 7.5% of the gross salary, up to 55,000 USD. The endowment is exempt from Personal Income Tax (PIT) and the entire sum is exempt from the Capital Gains Tax (CGT) In 2017, 42%[[3]](#footnote-3) of employees had a provident fund. Though the entire endowment can be saved until retirement and beyond, exempt from CGT, 77% of all households withdraw it after 6 years exactly and only less than 9% save it for more than 10 years[[4]](#footnote-4). Households see it as a short to medium term saving tool that is not part of the pension plan. Employees use it for example[[5]](#footnote-5) to pay for (part of) their mortgage (27%), down payments on apartments (45%), buying a new car (25%), expensive vacations (19%), family celebrations such as weddings (13%) or to cover loans (13%). All in all, provident funds are used to improve the standard of living.

**Appendix B**

**Dear Participant,**

**We are interested in your opinion on a variety of topics.**

**We ask you to take this questionnaire seriously, to answer it with complete sincerity and in the order in which the questions appear. Please try not to skip questions and devote the full amount of time required to answer the questionnaire well. Your answers will contribute significantly to a better understanding of the issues.**

**There are no correct or incorrect answers. What counts is real opinion or feeling.**

**The confidentiality of your answers is guaranteed!!!**

**This questionnaire will be used exclusively for research purposes. Access to the questionnaires is restricted to Dr. Erez Yaakobi and Dr. Ido Kalir, the chief researchers alone.**

**If you have any questions, please feel free to contact me. My mobile number is 050-9099567.**

**The questionnaire is formulated in the masculine, but is intended for men and women alike.**

**Thank you in advance for your cooperation!**

A

Write, in as much detail as possible, what you think will happen to you after you die physically:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Briefly describe your feelings when you think of your own death:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

B

Write, in as much detail as possible, what you think happens to you when you experience strong physical pain:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Briefly describe your feelings when you think of your own pain:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

C

Write, in as much detail as possible, what happens to you when you watch television:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Briefly describe your feelings when you think of yourself watching television:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Provident fund choice questionnaire**

You work for a large company that offers its employees a provident fund as part of their employment benefits. You have a choice between four provident funds, which were examined by a team of experts on behalf of the management of the company's employees' committee. As of six years from its commencement date, you can use the provident fund for any purpose: a new car, a vacation abroad, and you can even repay part of your mortgage with it. Your provident find is expected to accumulate 100,000-120,000 NIS over a period of six years, which means that this is a significant economic decision. Information about each fund (labelled A,B, C, and D) is provided below. Please take a few minutes to think, and then answer the questionnaire at the end and tell us which fund you would choose, and why.

21% of the company's employees chose fund A. Fund A has a managed assets volume of 2.5 billion NIS. The risk level of fund A is defined as medium. 24% of the fund's assets are invested in shares. The value of the *Sharpe index*, which is the index for quality of financial performance and weighs the yield in relation to the financial risk, is 1.17. The management fees from the deposits are zero, and the management fees from the accrual are 0.44% of the accrual and constitute a discount of 78% of the management fee ceiling. The average annual yield over the past five years is 5.07%.

17% of the company's employees chose Fund B, which manages 2.3 billion NIS. The risk level of fund B is defined as medium. The average annual yield over the past five years is 5.07%. The value of the Sharp index is 1.28. The management fees from the accrual (the total amount accrued in the fund) are 0.40%. The management fees from the deposits in fund B, i.e. the fees taken from each and every deposit, are zero. About 24% of the fund's assets are invested in shares.

20% of the company's employees chose fund C. This fund has a managed assets volume of 3.4 billion NIS at a general medium risk level. The Sharp index value for fund C is 1.28. 25% of the fund's assets are invested in shares. The average annual yield over the past five years was 4.89% per year. The management fees charged are 0.48% of the accrual, which constitute a discount of 76% of the management fee ceiling, and 0% of the deposits. The management fees of fund C are 0.48%.

Provident fund D manages about 2.5 billion NIS. 26% of the fund's assets are invested in shares, and it was chosen by 19% of the company's employees. The Sharp index value for fund D is 1.17. The management fees in the fund are zero from deposits and 0.44% from accrual. The average annual yield over the past five years is 4.89% per year.

1. The fund you would choose is: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. What is your level of confidence in your choice? \_\_\_\_\_ (1 – not at all, 10 – full confidence)
3. What was the main reason for your choice? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Additional reasons for this choice – if any: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Car purchase questionnaire :**

You're interested in buying a family car costing up to 130,000 NIS. The car needs to be fun and functional, and you will use it for a few years. You have a choice of four types of cars and you know for certain that you will choose one (labelled A, B, C, D). Please take a few minutes to think, and then answer the questionnaire and tell us which car you would choose.

The model A car can come in any color except for orange and yellow which are out of stock. It costs 120,000 NIS; its gas consumption is 13.9 km per liter. The car is reliable on average. The decline in value and tradability is slightly better than the average. The model A car is considered relatively reliable. In general crash tests, its score was 4.0 stars out of 5.

The model B car is considered reliable. The safety score it obtained in general crash tests is 4.1 stars out of 5. The decline in value and tradability are slightly better than average on the market. It costs114,000 NIS, and its gas consumption is 14.4 km per liter.

The model C car is slightly more reliable than average. Its safety score is 4.0 stars out of 5. Its tradability is slightly better than average on the market. Its price is 122,000 NIS. The gas consumption is 14.5 km per liter. You can choose any color.

The model D car is considered relatively reliable. Its price is 117,000 NIS. In crash tests it obtained a score of 4. The gas consumption is 15.1 km per liter, and it comes in any color except for yellow and green.

Which car would you choose?

1. The car you choose is: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. What is your level of confidence in your selection? \_\_\_\_\_ (1 – not at all, 10 – full confidence)
3. What was the main reason for your choice? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Additional reasons for this choice – if any: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Pension Fund Purchase Questionnaire**

You want to choose a pension fund out of 4 possible examples (A.B.C.D). The purpose of a pension fund is to provide a living allowance in old age. In addition, the pension fund provides insurance for disability related to work, as well as insurance for your family in case of premature death. It is clear that optimal saving for a pension is critical to have a larger allowance in old age and to maintain insurance coverage for you and your family against work disability and risks of premature death. Please take a few minutes to think, and then answer the questionnaire at the end and tell us which fund you chose.

Pension fund A has a managed assets volume of 9.3 billion NIS. 30% of the fund's assets are invested in designated bonds, and between 26% and 29% of the assets are invested in shares. 16% of all employees chose this fund. The management fees from the accrual are 0.25%, and the management fees from deposits are 2.4%, which constitute a discount of about 55%. The financial 5-year yield is 4.36%. The value of the Sharp index, which measures the efficiency of the fund is 0.84.

Pension fund B has a managed assets volume of 8.3 billion NIS, and about 15% of the company's employees chose it. The management fees in the arrangement for employees are 2.05% of the deposits and 0.25% of the accrual. 30% of the fund's assets are invested in designated bonds, and between 25% and 30% are invested in shares. The financial 5-year yield is 4.64%. The value of the Sharp index, which measures the efficiency of the fund, is 0.87 for fund B.

In pension fund C, between 26% and 29% of the assets are invested in shares. The management fees from accrual constitute a discount of 50% and are 0.25%. The management fees from deposits constitute a discount of 60% and are 2.25%. The financial yield on the fund's assets in the last 5 years was 4.64%. Fund C has a managed assets volume of 9.5 billion NIS. So far, this pension fund has been chosen by about 17% of the company's employees. The Sharp index, which measures the efficiency of the fund, is 0.87. 30% of the fund's assets are invested in designated bonds.

Pension fund D has a managed assets volume of 7.5 billion NIS. 28% of the fund's assets are invested in designated bonds, about 27% of the assets are invested in shares. 18% of the employees chose this fund. The management fees from the accrual are 0.25%, and the management fees from deposits are 2.25%, which constitute a discount of about 58%. The financial 5-year yield is 4.36%. The fund's sharp index value is 0.79.

1. The fund you chose is: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. What is your level of confidence in this selection? \_\_\_\_\_ (1 – not at all, 10 – full confidence)
3. What was the main reason for your choice? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Additional reason for this choice – if any: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**We thank you again for your anonymous cooperation**

1. Since the procedure required conducting both between and within comparisons (participants completed either pension or the provident financial decisions but both completed the neutral decision, half before the pension/provident decision and half after for balancing the order of decisions). Thus, a correction for conducting 3 instead of one comparison in the same analysis could lead to fewer degrees of freedom. However, because the significant results were .013 even if a correction was made by multiplying this significance level by 3, the results would still be significant (p = .049). [↑](#footnote-ref-2)
2. To examine work status differences in the effects, a three-way MANOVA was conducted that included work status as additional independent variable (i.e., participants who were employed could respond differently than participants who were not employed). Since there was no significant three-way interaction or any other interaction regarding work status, in the remaining analyses only the results of the two-way interaction without work status are presented. [↑](#endnote-ref-2)
3. Israeli treasury data [↑](#footnote-ref-3)
4. According to the funds' own data [↑](#footnote-ref-4)
5. Taken from the authors’ 2014 survey of 250 respondents. Percentages total more than 100% since more than one answer could be marked. [↑](#footnote-ref-5)