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Facing a Biased Adviser While Choosing a Retirement Plan: The Impact of Financial Literacy and Fair Disclosure

Buying a retirement saving plan in Israel involves meeting with an agent whose interests may differ from those of his or her customers. The aim of the present study was to explore the effect of the advice given by the agent, along with that of two further factors: a fair disclosure statement regarding the agent's conflict of interest, and the customer's degree of financial literacy. Two experiments conducted among undergraduate students in Israel showed that customers mostly follow the agent's recommendation, even against their best interest, and despite the presence of a fair disclosure statement. Only participants with high financial literacy, who received a disclosure statement, did examine the alternatives closely and rejected the advice when the recommendation was damaging. We also ruled out the existence of a negative psychological reactance response to a disclosure statement that would work to the detriment of financially literate participants.

As the population ages, the need to provide financial security for people in retirement has become a concern for policymakers throughout the world. Along with the increase in life expectancy, risks have been transferred from employers and government to workers, who are increasingly made responsible for managing their retirement savings plans (Organization for Economic Co-Operation and Development [OECD] 2012). Defined Contribution (DC) retirement plans are one of the primary mechanisms to ensure adequate financial resources after retirement in Israel, but choosing a retirement plan is no easy task and involves financial skills that people may be lacking (Van Rooij, Kool, and Prast 2007). DC plans in Israel are usually purchased in the course of a face-to-face meeting with an agent

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who is certified to offer various retirement plans and provide advice to the customer. The agents' interests do not necessarily align with those of the buyers, in particular because the agent stands to benefit more from selling certain products. Therefore, rules have been enacted requiring the disclosure of conflicts of interest to reduce its impact and help the clients reach a rational decision.

The present study examined the effect of an insurance agent advising customers which plan to choose in a laboratory setting. We tested how disclosure regarding the agents' conflict of interest affects the decision, and tried to find out how the level of financial literacy of the decision makers may affect their behavior in response to the actions of the insurance agent.

The pension coverage system in Israel is composed of two tiers. The first consists of universal social security (Old Age Allowance [OAA]) payments provided by the National Insurance Institution. This amount is small (about 35% of the minimal wage) and insufficient to cover life expenses after retirement. The second tier is a pension saving plan that provides a monthly annuity after retirement. Both employer and employee contributions to the pension savings have been mandatory since 2008, when an extension order was signed by the Ministry of Industry, Trade and Labor, aiming to provide pension coverage to all employees in Israel (Brender 2009), although not to the independently employed.

The pension system in Israel has been based on DC plans since the mid 90s, in step with the global trend of shifting from Defined Benefits (DB) to DC pension plans (Van Rooij et al. 2007), and new workers are no longer entitled to join DB pension plans. Both the employer and employee contribute to the DC retirement savings during the employee's working years. There are two primary retirement saving schemes available: joining a Pension Fund or buying retirement insurance, known (for marketing reasons) as "Executive Insurance." Both products provide a monthly annuity based on the amount of money accumulated until retirement, but the products differ in several respects. The most fundamental difference is that Pension Funds are mutual funds which are subjected to change from time to time, whereas Executive Insurance is based on a personal contract with the insurance company that cannot be changed. Pension Funds' management fees are also significantly lower.

The purchase of a retirement saving plan involves a face-to-face meeting with a trained salesperson ("insurance agent") who is certified to sell retirement products, and has the legal duty to recommend the best-suited product for the individual buyer. The agent's profit typically depends on the financial product sold, as sales commissions and bonuses vary by product. This creates a conflict of interest that may lead the salesperson to favor one

saving plan over others (Arlosoroff and Bar 2010). One popular approach to addressing such situations is to require advisers to inform the customer about their conflicts of interest (Cain, Loewenstein, and Moore 2011; Stark and Choplin 2010), but such fair disclosure requirements may not solve the problem. Several studies show that advisers often fail to give the best possible advice when it is against their interest, even if they intend to do so. Even the most experienced professionals are not immune to the biasing effect of self-interest which may cause them to act in accordance with their own interest, albeit sometimes unintentionally (Moore et al. 2006). Paradoxically, disclosure may also affect the adviser perversely, as it provides the adviser a feeling of “moral licensing” to lie, as advisees have been warned about the conflict of interest (Cain et al. 2011).

On the customer side, Stark and Choplin (2010) showed that most clients do not read the disclosure and solely rely on the adviser. Those customers who do read the disclosure tend to be the more educated ones (Durkin 2006), but financial literacy is not widespread (Lusardi and Mitchell 2011). Either way, customers do not discount the value of the advice given by an adviser with a conflict of interest, even when the conflict is obvious. Indeed, they are influenced by advice even when they know that it is intended to manipulate them and they consciously try to resist its influence (Camerer, Loewenstein, and Weber 1989). However, disclosure may also lead customers to be suspicious of the adviser, and thus cause them to avoid using his or her services. In a study performed for the US Federal Trade Commission, Lacko and Pappalardo (2004) examined the effect of fair disclosure requirements on mortgage brokers’ commissions in a representative sample of US mortgage customers. They found that disclosure may confuse customers and deflect their attention to the broker’s reward, away from the product’s details. The disclosure thus created a preference for loans that are not offered through agents and do not include a broker’s fee, even if they were the less attractive choice for the customer.

An attempt to understand the effect of advice given by an insurance agent must consider the individual characteristics of the decision maker. A well-known social psychological model—the Elaboration Likelihood Model of Persuasion (ELM) (Petty and Cacioppo 1986)—may offer a framework for analyzing the potential influence of meeting with an adviser. The ELM aims at modeling the processes responsible for attitude change and accounts for how internal and external variables affect peoples’ reactions to persuasion attempts. According to the model, attitude change occurs via either of two routes—central or peripheral—that differ in the extent of elaborative information processing activity involved. The central route involves an extensive and effortful cognitive activity, whereas the

peripheral route needs fewer cognitive resources. The likelihood of taking the more elaborate route depends on how motivated and able people are to assess the merits of alternatives and to inspect all available information. When elaboration likelihood is low, information scrutiny is reduced. In this case attitude change can result from less resource-demanding processes that do not require effortful evaluation of the object-relevant information, such as the level of expertise displayed by the source of the information, its attractiveness, or the object's appearance (Engelmann et al. 2009; Sah, Moore, and MacCoun 2013). However, motivated people who have the ability to think and process the message can demonstrate critical judgment and evaluation of the message (Petty and Cacioppo 1986; Petty and Wegener 1999).

Accordingly, we can expect people with a high level of *financial literacy*, who are able to process complex information about pensions, to display high elaboration. Moreover, financial literacy may also interact with the customer's response to a disclosure statement, as knowledgeable people pay more attention to the disclosure (Durkin 2006), which generates a more critical judgment of the adviser (Lacko and Pappalardo 2004). This may even lead to a psychological reactance response—a negative reaction toward persuasion attempts (Brehm and Brehm 1981). Psychological reactance could be the unintended outcome of hard sell attempts and may lead people to make the wrong decision (Koslow 2000; Main, Dahl, and Darke 2007).

The present study investigated how people's choice of a pension plan is affected by a meeting with an insurance agent, and the effect of disclosure regarding the agent's conflict of interest. In particular, we examined how this effect is moderated by financial literacy.

As we discuss below, measuring financial literacy is a real challenge. The field of financial literacy study is relatively new and still suffers from several methodological weakness, including the lack of one accepted definition (Remund 2010) and the absence of a standardized instrument to measure financial literacy level (Huston 2010). In view of this, we decided to develop our own financial literacy questionnaire. The specific questions are adapted from Chen and Volpe (1998) and on Lusardi and Mitchell's (2007) work regarding retirement planning. The questionnaire was validated on a survey of 202 respondents.

Two experiments that simulated a meeting between an insurance agent and a customer were conducted. Based on the literature, we expected to find strong influence of the insurance agent's advice (Camerer et al. 1989; Stark and Choplin 2010). We further predicted that two factors would moderate this effect, in keeping with the ELM model: financial

literacy and disclosure of conflict of interest. Specifically, we predicted that people with high financial literacy would rely less on the insurance agent's recommendation, especially when presented with a fair disclosure statement that would motivate them to analyze attentively the alternatives offered. In contrast, we hypothesized that customers with low financial literacy, being incapable of exploiting the complex information presented, would have no choice but to rely on the agent's advice and to ignore the disclosure statement.

Specifically, we tested two hypotheses:

H1: Participants will tend to choose a product in accordance with the insurance agent's recommendation.

H2: Disclosure will interact with financial literacy in moderating this effect. Low financial literacy participants will not be influenced by a disclosure statement on the part of the agent, whereas financially literate participants will rely less on his advice when presented with a disclosure statement.

EXPERIMENT 1

In this first experiment, we examined to what extent customers who receive clear comparative data on two saving products are affected by the advice proffered by the salesperson. Furthermore, we studied how that effect was moderated by two factors: a statement about possible conflict of interest on the part of the salesperson, and the level of financial literacy of the customer.

Method

Participants

Participants were 263 undergraduates at a large university in Israel (mean age: 24 years), of which 146 were Psychology freshmen (who participated to receive course credits) and 117 were Economics or Business Management majors, in their second or third year (who received 30 ILS, about USD 8.50, in return for participating). Seventy percent were females. The experiment was conducted during the first half of 2012.

Procedure

First, the participants filled out a short demographic questionnaire and answered a 6-item financial literacy measure (see Appendix S1¹,

1. *Q7–9 were asked in Experiment 2 only. Q8–9 were excluded from the results analysis due to low inter-reliability.

Supporting Information). Participants then received a written comparison (see Appendix S2) of two saving products—labeled Pension Fund and Executive Insurance—that sets out the relative merits of each product. This included a quantitative illustration in tabular form of the difference between the products, in terms of the cumulative amounts saved for retirement over a 24-month period in each. The table contained a breakdown of the monthly payment into saving, insurance, and management fees. Participants studied the data for five minutes, and then watched a video clip in which an insurance agent recommended them either product. They then indicated (on a 6-point scale) which product they would rather buy.

Design and Materials

Participants were randomly assigned to a control group or one of four conditions defined by two independent variables: Agent Recommendation (Pension Fund/Executive Insurance) and Disclosure Statement (With Disclosure/No Disclosure).

We prepared two video clips, featuring a professional actor posing as an insurance agent, who read a script (see Appendix S3) recommending either plan. Participants were assigned to the clips at random (Executive Insurance, $n = 107$; Pension Fund, $n = 101$). In addition, 55 participants did not watch any clip and served as a control group. The two experimental groups were further subdivided by the presence or absence of a disclosure of conflict of interest statement. For half the participants in each group, no mention was made of a conflict of interest. The other half received a warning about a conflict of interest, but no information about which of their choices would result in higher fees for the agent. The disclosure was made via a printed statement that appeared at the beginning and at the end of the video clip. The statement at the beginning of the clip was an official-looking slide bearing the following text: “*For your information, insurance agent Mr. Shlomo Cohen, who appears in the following clip, is a certified pension agent, who markets the following financial products [. . .]. By law, your insurance agent is required to inform you that he markets those products for a profit, in keeping with the product you will choose.*” This statement was screened again at the end of the movie, followed by another statement that emphasizes the agent’s profit: “*In fulfillment of the requirements established by the Finance Ministry, I hereby inform you that my commission for the programs on offer will be either 300 NIS or 800 NIS, depending on your choice. (signed) Shlomo Cohen, Certified Agent.*”

Two dependent variables were collected. (1) *Plan preference*—After watching the movie, participants were asked: *Which plan are you inclined*

to choose? Answers were checked on a 6-point scale, with 1 labeled “Executive Insurance” and 6 labeled “Pension Fund.” (2) *Compliance with the agent*—To evaluate the influence of the agent’s advice across plans, we compared the difference between the agent’s recommendation and the participants’ choice (on a scale of 1–6), according to the following formula:

$$\text{compliance} = 6 - |\text{recommendation} - \text{choice}| \quad (1)$$

For instance, if the agent recommended Pension Plan {6} but the participant rejected this recommendation and inclined toward Executive Insurance {1} instead, compliance would be 1. If the agent recommended Executive Insurance {1} and the participants indicated {3}, compliance would be 4.

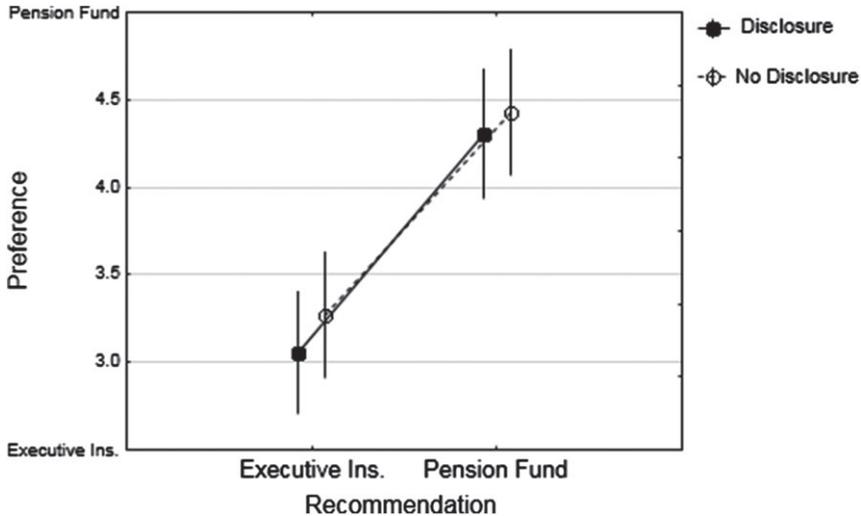
Results

Participants indicated their preferred plan by selecting a number between 1 and 6, where low numbers (below 3.5) express a preference for Executive Insurance, and high numbers (above 3.5) a preference for Pension Fund. Overall, the mean value across all participants was 3.8 (SD = 1.39), indicating a slight preference for Pension Fund.

We analyzed the answers by a two-way ANOVA (Recommendation: Pension/Exec \times Disclosure: Yes/No). The main effect of recommendation was significant $F(1, 204) = 43.499, p < .0001, \eta_p^2 = 0.17$. Neither the main effect of disclosure $F(1, 204) = .826, p = .36$, nor the interaction approached significance $F(1, 204) = 0.071, p = .789$. Choice means were as follow: recommended Pension Fund with disclosure: $M = 4.31, SD = 1.29$, without disclosure: $M = 4.42, SD = 1.21$; recommended Executive Insurance with disclosure: $M = 3.10; SD = 1.36$, without disclosure: $M = 3.27, SD = 1.37$. These findings are readily summarized: participants’ preferences reflect the agent’s recommendation, confirming our first hypothesis. Moreover, disclosure did not weaken the impact of the clip (see Figure 1).

In order to evaluate the impact of the agent’s recommendation, we used the control group (who were not exposed to the agent) and performed an analysis across all three recommendation groups (Control/Executive Insurance/Pension Fund) that showed a significant difference ($F(2, 260) = 27.763, p < .0001, \eta_p^2 = 0.17$). Post hoc analyses using the Scheffé post hoc criterion for significance indicated that the Executive Insurance group ($M = 3.15; SD = 1.36$) differed significantly ($p < .0001$) from both the Pension group ($M = 4.36, SD = 1.24$) and the Control group ($M = 4.31, SD = 1.10$). No other differences were found, suggesting that participants were inclined to prefer the Pension fund, but meeting with an agent who

FIGURE 1
Mean Preference for the Two Programs as a Function of Recommendation Received and Disclosure of Conflict of Interest (Vertical Bars Represent 95% Confidence Interval)



recommends otherwise causes them to favor the Executive Insurance instead.

Financial Literacy and Disclosure

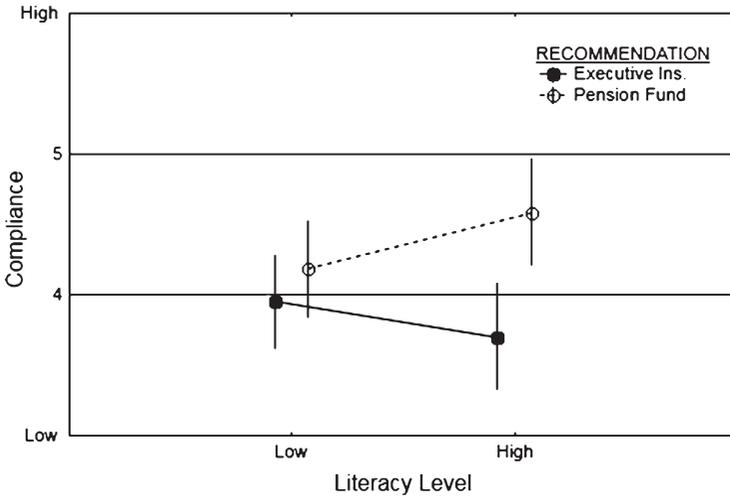
To examine the impact of financial literacy, we divided the participants into two financial literacy groups by a median split according to their score on our financial literacy questionnaire. One hundred and forty-five participants who gave less than four questions correctly were assigned to the Low literacy level group; the High literacy group was comprised of the remaining 118 participants who provided four or more correct answers.

We then tested whether financial literacy moderates the effect of the agent's recommendation. We ran a two-way ANOVA among participants who received a recommendation (Recommendation: Pension/Exec \times Literacy: Low/High). The interaction was not significant $F(1, 204) = 0.186, p = .666$. Participants tended to follow the agent's advice regardless of their level of financial literacy (Pension Fund—High: $M = 4.58, SD = 1.06$; Low: $M = 4.18, SD = 1.36$; Executive Insurance— $M = 3.29, SD = 1.33$, and $M = 3.05, SD = 1.39$; respectively).

To evaluate the influence of the advice across plans and to eliminate the influence of the names and the particulars we used the "compliance

FIGURE 2

Compliance with the Agent's Advice as a Function of Recommendation and Financial Literacy



with the agent's dependent variable. Using this index, we brought to light different patterns of compliance among the two groups. Low literacy participants tended to accept the agent's advice in all cases (Pension Fund: $M = 4.18$, $SD = 1.36$; Executive Insurance: $M = 3.95$, $SD = 1.39$), whereas people with high literacy tended to accept his advice only when he recommended the Pension Fund ($M = 4.58$, $SD = 1.06$), but not Executive Insurance ($M = 3.7$, $SD = 1.33$). This pattern was only marginally significant, $F(1, 204) = 3.210$, $p = .07466$, and is illustrated by Figure 2. These findings imply that financial literacy moderated the agent's influence. This will be examined in more detail in Experiment 2.

Our second hypothesis was that a combination of high financial literacy with a disclosure statement will lead participants to be less conforming to the insurance agent. A three-way ANOVA found no interaction between recommendation, disclosure, and the financial literacy level (Recommendation: Pension/Exec \times Disclosure: Yes/No \times Literacy: Low/High, $F(1, 200) = 0.573$, $p = .449$); nor was there a simple pair-wise interaction between disclosure and recommendation among high financial literacy participants (Recommendation: Pension/Exec \times Disclosure: Yes/No, $F(1, 89) = 0.136$, $p = .712$). These results show that a fair disclosure statement does not affect the response to advice, even among people with high financial literacy, in contrast to our second prediction.

Discussion

Experiment 1 confirmed the importance of the recommendation by an expert, moving the participants to favor the plan offered by the insurance agent. The data obtained from the Control group indicate that the Pension Fund option is favored in the absence of the insurance agent, but when the latter recommended buying Executive Insurance, the participants were swayed and tended to follow his recommendation. Experiment 1 also showed that disclosure of conflict of interest does not weaken the effect of the recommendation, when no information is provided as to the option preferred by the agent.

Construction of a “compliance” measure enabled us to analyze the differences between participants with differing levels of financial literacy. Our findings suggest that participants of low financial literacy tend to accept the agent’s advice, whereas the behavior of those who are more financially literate depends on both their own evaluation of the product and on the agent’s recommendation. However, statistical power was low and the interaction did not reach significance. Because people in Israel are familiar with the names of the two product types featured in this experiment (Executive Insurance and Pension Fund), we suspect that the more financially literate had prior knowledge that made them favor the Pension Fund. This preference was also seen in the preferences of the control group. To clarify these issues, we conducted a follow-up experiment, based on the same methodology as the first one, but with some significant adjustments.

EXPERIMENT 2

The second experiment had two purposes. The first was to overcome potential effects of prior knowledge about the two saving products presented (the Pension Fund and Executive Insurance). For that reason, Experiment 2 involves fictitious saving plans, about which participants could not have had prior knowledge. The second aim was to test whether the combination of high financial literacy and a disclosure statement could lead to a psychological reactance response to the insurance agent. To answer that question, the study included two saving plans that were equally beneficial for the saver, alongside a third plan that was clearly less beneficial for the saver, due to significantly higher management fees. Participants in each experimental condition were exposed to two of these plans and asked to indicate which product they prefer on a 6-point scale. The pattern of expressed preferences between equivalent and different

products enabled us to test whether the disclosure statement provokes a reactance reaction, leading participants to choose against their own interest, and to study the findings of Experiment 1 with an improved methodology.

Method

Participants

Two hundred and fifty-six undergraduate students from a large university in Israel were recruited to the experiment (mean age 23.9 years); half of them received course credits (Psychology students) while the other half received 25 ILS (about USD 7) for their participation. Participants who received money for their participation were second year or later students who were recruited from the Department of Economics and from the Department of Business Management. A total of 72 males and 184 females took part in the experiment.

Design and Procedure

The procedure was the same as that of Experiment 1. Participants filled out a short demographic questionnaire followed by an expanded version of the financial literacy questionnaire used in the first experiment that included three additional questions. However, two of the new questions (Questions 8 and 9) were excluded from the final analysis due to low inter reliability (see Appendix S1). Participants then received comparative information sheets on the two financial saving products, according to their experimental condition (see below) and studied them for five minutes. They then watched a video clip of a professional actor who recommended one of the two plans and were asked to indicate on a Likert scale from 1 to 7 the product they were inclined to choose.

Conditions

The experimental conditions were as follows:

Equal Expected Savings. Two saving plans, Plan A and Plan A' (see Appendix S4) were presented to participants. The plans differed only in presentation but not in any of their features, including management fees and insurance coverage, so that they were actually offered the same product twice, with identical accumulated savings. The information sheets were designed to look like real pension reports describing management fees, profits, and type of insurance for each product. The reports were accompanied by a one-page explanation regarding the terms and expressions used

in the reports. Again, half the participants saw a video clip of the insurance agent recommending Plan A and the other half saw the version of the clip in which the same insurance agent urged them to choose Plan A'. Participants were randomly assigned to a Disclosure condition; half of the participants did not receive any disclosure and the other half was given a disclosure regarding the agent's conflicts of interests. The disclosure made clear that the agent's fees depend on the plan sold, and even highlights the agent's commission of 450 ILS (about USD 120) for selling the plan recommended in the video, as compare to a lower commission of 212 ILS (about USD 60) for selling the other plan.

Unequal Expected Savings. Participants in this condition were offered the choice between two plans—Plan A and Plan B (see Appendix S4). These plans differed in the appearance of their presentation but also in the expected accumulation of savings. Plan A was significantly better, offering a much lower rate of management fees subtracted from the accumulated pension value. Participants were randomly assigned to four equal-sized groups, for every combination of recommendation (A or B) and disclosure (with or without), using the same form of disclosure as in the “Equal Expected Savings” group described above.

Dependent variables were plan preferences and compliance with agent, similarly to Experiment 1.

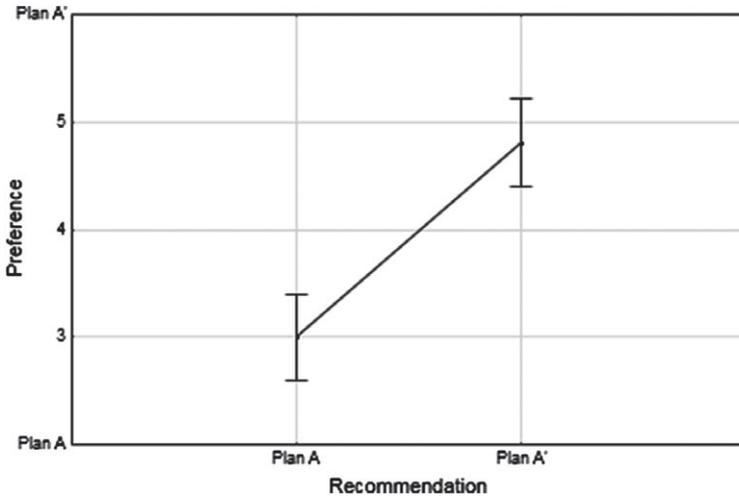
Results

First, we performed a manipulation check. We confirmed that the “Equal Expected Savings” programs were perceived as equally attractive by calculating the “compliance with the agent” index (as explained above). As expected, no significant differences in compliance between the equivalent programs were found ($F(1, 126) = 0.419, p = .518$), and means were $M = 2$ ($SD = 1.67$) for Plan A, and $M = 1.92$ ($SD = 1.58$) for Plan A'. Similarly, under the Unequal Expected Savings condition participants conformed more to the recommendation when advised to purchase Plan A ($M = 1.65, SD = 1.53$) compared to Plan B ($M = 2.32, SD = 1.67$), reflecting that participants realized that Plan A is superior ($F(1, 126) = 5.608, p = .019, \eta_p^2 = 0.042$).

Agent's Effect with Equal Expected Savings

Using the participants' *plan preference* as the dependent variable in a one-way ANOVA, we found a significant effect of agent's

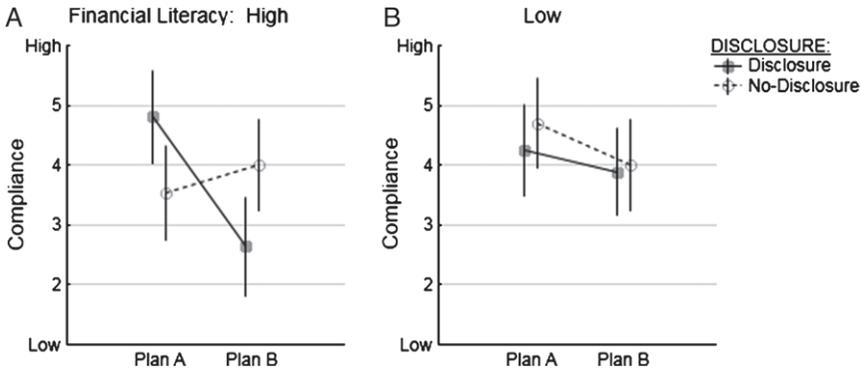
FIGURE 3
Mean Preference for Two Equivalent Programs as a Function of Recommendation Received



recommendation, $F(1, 126) = 39.218$, $p = .000$, $\eta_p^2 = 0.237$, confirming our findings from Experiment 1. On the preference scale of 1–7 where 1 means Plan A and 7 as Plan A', the mean value when Plan A was recommend was $M = 3.00$ ($SD = 1.67$), and $M = 4.81$ ($SD = 1.6$) when Plan A' was recommended (see Figure 3).

Next, we again divided the participants into two financial literacy groups by a median split according to their score on the financial literacy questionnaire, Seventy-one participants who answered less than four questions correctly form the Low literacy level group; the High literacy group consists of the remaining 57 participants who provided four or more correct answers. A two-way ANOVA of the Compliance measurement showed no interaction between disclosure and financial literacy level (Disclosure: Yes/No \times Literacy: Low/High, $F(1, 124) = 0.32$, $p = .568$). Neither main effect was significant: financial literacy ($F(1, 124) = 0.097$, $p = .754$), disclosure: ($F(1, 124) = 0.097$, $p = .754$). Means were as follows: Disclosure—High: $M = 1.28$, $SD = 1.58$; Low: $M = 2.36$, $SD = 1.74$; Without Disclosure—High: $M = 2.00$, $SD = 1.46$; Low: $M = 1.74$, $SD = 1.68$. Note that as the two plans are equivalent, differing only in presentation, this result does not contradict the first experiment's findings. As both alternatives were equally worthwhile, the more financially literate participants had no reason to oppose the agent's advice unless a psychological reactance response was involved.

FIGURE 4
Compliance with Recommendation for Two Unequal Plans (A > B) as a Function of Recommendation, Disclosure and Financial Literacy



Agent's Effect with Unequal Expected Savings

First we tested the effect of the agent's recommendation, using *plan preference* as dependent variable. A large and significant main effect was found, $F(1, 126) = 50.473, p = .000, \eta_p^2 = 0.286$. Means and SD for Plan A were $M = 5.34$ and $SD = 1.53$, whereas for Plan B, $M = 3.32, SD = 1.66$.

We divided the participants into two financial literacy groups by a median split according to their score on the financial literacy questionnaire: there were 61 participants in the High literacy group, and 67 in the Low literacy group². In this condition, a three-way ANOVA with the *compliance* to the agent index as dependent variable revealed a three-way interaction between literacy level, disclosure, and recommendation (Disclosure: Yes/No \times Literacy: Low/High \times Recommendation Plan B/Plan A), $F(1, 120) = 7.326, p = .007, \eta_p^2 = .057$ (see Figure 4). Table 1 summarizes the results.

Follow-up analysis for the Low literacy group found no interaction between disclosure and recommendation ($F(1, 63) = 0.243, p = .623$) and no main effects for disclosure ($F(1, 63) = 0.659, p = .419$] or for the agent's recommendation ($F(1, 63) = 2.335, p = .131$). However, follow-up analysis for the High literacy group participants reveals a different picture. For that group, we found a two-way interaction between disclosure and recommendation ($F(1, 57) = 9.33, p = .003$). No main effects for disclosure ($F(1, 57) = 0.008, p = .928$) and for recommendation ($F(1, 57) = 3.893, p = .053$)

2. The unequal numbers stem from the fact that many participants were found on the median itself, and were added to the low literacy group.

TABLE 1
Means of Compliance to Agent's Advice at the Unequal Expected Revenue Condition

	Disclosure/No Disclosure	High Financial Literacy	Low Financial Literacy
Plan A	Disclosure	4.82 (1.1)	4.25 (1.43)
	No disclosure	3.54 (2.13)	4.71 (1.10)
Plan B	Disclosure	2.65 (1.78)	3.89 (1.52)
	No disclosure	4.00 (1.59)	4.00 (1.59)

were found, but post hoc analyses show that participants presented with a disclosure statement follow the agent's advice when recommending the better plan, Plan A ($M = 1.18$, $SD = 1.1$), but ignore the recommendation when recommending Plan B ($M = 3.35$, $SD = 1.78$). This difference is highly significant (Scheffé $p < .0001$). This pattern is not found amongst those who did not receive a fair disclosure statement (Plan A: $M = 2.46$, $SD = 2.13$; Plan B: $M = 2$, $SD = 1.59$).

This experiment was designed to overcome potential effects of participants' prior knowledge about Pension Funds and Executive Insurance, by using fictional saving products. The agent's recommendation was again found to be the main factor affecting the participants' choices. When participants were asked to decide between two plans with equal expected savings, all accepted the agent's advice, even if they received a disclosure statement and regardless of their financial literacy level. When plans differed in value, participants with high financial literacy who received a disclosure rejected the agent's advice when appropriate and manifested rational decision-making. They did not display reactance, and accepted the agent's advice when recommended the better plan. Participants with low financial literacy, and financially literate participants who didn't receive a disclosure statement, conformed to the agent's advice even when a better option was on offer. The results are compatible with the first experiment, indicating that the agent's advice is the prime factor for the customers. Furthermore, in both experiments financial literacy moderated this effect. In the second experiment, literate participants rejected the agent's advice only when they both had a superior option and after being exposed to a disclosure statement. It appears that the disclosure statement drawing attention to the agent's conflict of interest caused the more financially literate participants to study the information more carefully, in order to identify the best plan.

These results are not consistent with a claim that psychological reactance is involved in the decisions of the more financially literate participants.

GENERAL DISCUSSION

Choosing a pension plan is not an easy task, and it is made even more difficult when customers and advisers have conflicting interests. Two experiments confirmed the impact of the insurance agents' recommendation, which was found to be robust, even when a disclosure statement about possible conflict of interest was provided to the customers. The level of financial literacy of the customers yields an interesting pattern of choice. In Experiment 1, low literacy participants accepted the agent's advice regardless of the plan recommended, whereas more literate participants disregarded the advice when it was recommended that they choose the Executive Insurance. This presumably relates to the reputation of the two saving plans, because Executive Insurance is known as the more expensive financial product. The second experiment showed that financially literate participants, who chose between two unequal saving plans and also received a disclosure statement, follow or reject the agent's advice, depending on the value of the plan. These results contradict the psychological reactance hypothesis, according to which the fair disclosure statement may harm the more literate group by leading them to choose the opposite from the agent's recommendation.

Together, both experiments stress the asymmetry between customers and experts as it reaffirms findings from previous research about people's tendency to accept advice given to them (Camerer et al. 1989), especially when given by an expert (Harvey and Fischer 1997). However, Harvey and Fischer (1997) further demonstrated that experience and knowledge can help people evaluate the importance of the advice, and improve their judgment. This pattern was replicated in our first experiment, as financially literate customers embraced the agent's advice when it was recommended they choose Pension Fund to the same extent as the control group.

How effective is disclosure of a conflict of interest? Previous studies raised serious doubts about the effectiveness of disclosure in protecting customers (Lacko and Pappalardo 2004; Stark and Choplin 2010). Sah et al. (2013) showed that disclosure interacts with other variables such as the source of the disclosure, the customers' opportunity to change their mind later, or the environment in which the decision is being taken. Our findings in the second experiment about the effect of disclosure for literate participants add another variable that should be taken into account when considering the impact of disclosure statement—the customer's level of

financial literacy. The interaction between financial literacy and disclosure can readily be explained with reference to the ELM (Petty and Cacioppo 1986). According to this widely held model, low literacy customers feel incapable of identifying the best plan, and are easily persuaded by the insurance agent. By contrast, the high literacy group has the ability to analyze the information presented to them, while the disclosure statement increases their motivation to study the programs carefully, leading them to the better choice.

Our research challenges the current pension policy in Israel that considers disclosure an effective means to overcome insurance agents' conflict of interest. That claim is not altogether without merit, as we did find that a combination of high financial literacy and a disclosure statement were effective. Unfortunately, the public is known to have low financial literacy worldwide (Lusardi and Mitchell 2011; Robb and Woodyard 2011), and Israel is no different. Indeed, a financial habits survey by the Israeli Central Bureau of Statistics (CBS) revealed that the financial literacy level of the population in Israel is below average for the OECD countries (CBS 2012). It follows that disclosure is irrelevant for most of the population. It is also worth noting that in our research, we used a bold form of disclosure statement that makes it clear the agent has a specific interest and stands to earn higher fees if a certain program is bought. The standard form of disclosure used in real life is far less explicit, and no doubt less useful as a motivational or informational factor. Finally, our findings show that, while high literacy participants gave less weight to the insurance agent's advice, they too could not ignore it. Thus, financial education may not be the solution of choice for correcting the potential conflict of interests.

In closing, we would like to make two comments on the policy implications of our research. First, throughout this report we used the terms "financial literacy" to describe the participants' financial knowledge and skills. The meaning of that phrase is not clear-cut. While some define financial literacy as "the basic knowledge that people need in order to survive in a modern society" (Kim 2001), others adopt a much broader view. Thus, the OECD describes financial literacy as: "... combination of customers'/investors' understanding of financial products and concepts, and their ability and confidence to appreciate financial risks and opportunities, to make informed choices, to know where to go for help, and to take other effective actions to improve their financial well-being" (OECD 2012). This inconsistency of definitions may be the reason there is no commonly agreed standardized and validated financial literacy survey (Huston 2010; Remund 2010). Moreover, some argue that current measures of financial literacy yield inconsistent and inaccurate responses that fail to predict financial

outcome over time (Schmeiser and Seligman 2013). The measurement we developed was inspired by the work of Lusardi and Mitchell (2007, 2011) and Lusardi, Mitchell, and Curto (2010), who stress numerical abilities, financial knowledge, and products awareness as key factors for adequate retirement preparation. This was appropriate for our research with its focus on pension decision-making, but other ways of measuring financial literacy may lead to different insights.

A second observation concerns our sample, which was not representative. All our participants were students in the Economics and Psychology departments, where admission requirements are high, meaning that they are more literate and numerate than the average customer. Furthermore, Economics and Business Management majors were exposed to financial products and concepts that the public might not be aware of. Future research with a more representative sample of the population may lead to a better appraisal of the public's limitations. Nevertheless, the participants' inability to overcome the insurance agent's influence, even among those selected and knowledgeable students who did not truly meet the agent but merely saw a video clip, underlines the weakness of the current pension marketing policy. In real life, most of the public is far less knowledgeable about financial matters and has to choose a retirement plan during a face-to-face meeting with a professional salesperson. For them, disclosure of the conflict of interest is not an effective way of overcoming the problems of informational asymmetry between salesperson and customer. We therefore consider the current policy of retirement savings marketing in Israel, and any country where a similar approach is used, as inadequate. We concur with Sah et al. (2013) and call for regulation to eliminate the possibility of conflict of interest in the pension market. Given the importance and long-term impact of pension savings decisions, it is essential to help customers choose a plan most suitable for their needs, free from the influence and interests of those selling it.

SUPPORTING INFORMATION

Additional supporting information may be found in the online version of this article:

Appendix S1. Financial literacy questionnaire.

Appendix S2. Comparative data—product comparison, and products' pros and cons.

Appendix S3. Video-clips scripts.

Appendix S4. Pension plans.

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