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IRA Disclosure Framing Effects on Purchase Decisions

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Abstract - The purpose of this research was to examine the use of disclosures included in IRA advertisements to determine their impact on purchase decisions. Disclosures were manipulated through different framing language to examine the investor's risk perception. The Hayes Process Model was used to test the significance of investor risk perception and risk propensity (investor's likelihood to act on risk perception) related to framing manipulation and ultimately, the purchase decision. The level of risk propensity was then used to assess the impact on the purchase decision for investors with varying sophistication levels. Additionally, the investor's sophistication level, determined via a series of investment questions, was also considered in examining the impact on the purchase decision. Demographic data such as investor investment experience, age, gender, education, marital status, and ethnicity, were also investigated. Results showed there was a strong mediated relationship between the sophistication level of the investor, the willingness to act on risk, and the likelihood to purchase an Individual Retirement Account ("IRA").

Keywords - Financial Risk, Framing, Disclosure, IRAs, Hayes Process Model, Investor Sophistication

Relevance to Marketing Educators, Researchers, or Practitioners – The right kind and amount of disclosure information provided to potential investors presents a challenge to researchers, financial marketing professionals, managers, and regulators. This research examines the level of information provided, as well as how it is framed. Utilizing the Hayes Process Model for this research, findings concluded that certain groups have a higher propensity to take risks and, therefore, are more likely to plan and save for retirement. In addition, this research further advances opportunities for groups that do not have the propensity to save for retirement by focusing on risk-based behaviors.

Introduction

As the most significant number of individuals in U.S. history approach retirement and life expectancies continue to grow, most Americans have little if no retirement savings (Eriksson, 2007). There are currently 50.5 million Americans in retirement, expected to increase to 72 million by 2035 (LIMRA, 2018). Compounding the problem of inadequate retirement savings is that many companies have shifted away from employer-sponsored retirement plans to employee-driven plans, leaving the responsibility of saving for retirement to the employee (Eriksson, 2007).

One financial instrument used to supplement or serve as an alternative to employer-sponsored plans is the IRA. IRAs provide investors with tax-free growth or tax-deferred retirement options. However, the employee must fund this product with personal contributions and make investment decisions on their own with long-term positive or negative implications for their retirement funds. Unfortunately, many of these individuals are unsophisticated investors with limited financial literacy skills.

This paper analyses how different types of investors interpret disclosure information about IRAs. What is presented to the IRA investor is essential when considering disclosure. As compared to employer-sponsored plans, IRA investors must make more decisions. An investor reviews marketing and sales promotions materials, websites, and public relations messages designed to inform and facilitate the decision-making process related to the company and product selection (Koehler & Mercer, 2009). Additionally, the presentation of the same information can result in different decisions based on how it is delivered (i.e., the framing effect) (Bettman & Sujan,1987). Disclosure may also highlight potential risks associated with the product.

The research described in this paper examines the framing of certain risk disclosures in IRA marketing materials and their impact on the investor's decision to purchase. The paper is structured as follows (a) a brief literature review of the critical constructs, (b) model development and research questions, (c) research methods, and findings, and (d) conclusions and managerial implications.

Literature Review

This section provides a brief review of the constructs hypothesized to influence the decision-making process for purchasing an IRA – disclosure, framing, risk, and financial knowledge and literacy.

Disclosure

The objective of the disclosure is to prevent misleading messages which could impact the decision-making process. Lee, Yun, and Han (2016) define disclosure as information meant to assist individuals with the decision-making process through the consideration of potential consequences. The need for increased transparency following the financial crisis of 2008 has driven greater disclosure within the financial services industry.

However, there is some disagreement about the value of this disclosure information. One view is that any information provided, whether used or not, is valuable to the investor. Others argue that disclosure adds value only if the investor understands and applies the information in the disclosure (Stewart & Martin, 2004). Regardless, the amount and level of information the consumer receives (either proactively pushed by the firm or through other outside channels) can impact the decision-making process and potentially help mitigate the perceived risk. Thus, communication via disclosure is integral to developing attitudes towards financial products and companies.

Framing

In its simplest form, framing refers to an interpretation of information depending upon how that information is presented. Three theories -- utility, prospect, and attribute framing -- have significantly contributed to framing and decision-making and apply to financial services. However, each theory has some limitations regarding investing and investor heterogeneity.

According to the utility theory, individuals act accordingly with all available information. Rational choices will then be made based on "utilizing" all the information available to arrive at the best or optimal decision (Chuah & Devlin, 2011). Many economic models, as well as the development of regulation within many industries, follow this assumption.

The second theory, attribute framing, focuses on product attributes the investor may consider during the decision-making process. When an attribute activates a goal, the product's benefits are more easily identifiable and can be processed (Labroo & Lee, 2006). However, Levin and Gaeth (1988) argue that as an individual becomes exposed to a product more frequently and gains experience, additional information related to the product (such as product features) may have less impact. This exposure effect is essential when a marketer considers providing additional disclosure information to more experienced investors.

Prospect theory posits there is a two-option decision present. Comparing the positive and negative outcomes measures the process leading to a decision. There is a presence of risk and a choice of two outcomes resulting from a decision made (Levin, Schneider & Gaeth, 1998). Prospect theory proposes that investors would choose to take a risk and "roll the dice" when faced with potential or probable loss. Regarding framing, the assumption is that message manipulation will determine the evaluation of outcomes as gains or losses (Tversky & Kahenman, 1981).

Overall, message framing is a complex topic. The research offers mixed findings regarding the correct focus areas and how positive or negative framing in decision-making creates investor reactions (Levin, Schneider, & Gaeth, 1998). One of the complexities in decision-making is the involvement level and degree of mental effort required to process information. Since this varies from investor to investor (due to investment sophistication level, experience, education, etc.), there will always be room for fault in the decision-making process (Chuah & Devlin, 2011).

Risk

Analyzing risk across various industries has demonstrated that risk can mean different things to different people. From an investment perspective, Walia and Kiran (2011) define risk as the difference between expected and actual returns. The general association of risk with the negative creates an implied connection to loss.

The level of understanding and concepts associated with risk vary among segments of consumers. Generally, individuals with higher cognitive skills can review and understand a more complex, risky option and accept more risk (Booth & Katic, 2012). Factors such as financial knowledge, biases, and demographics contribute to an individual's risk perception (Linciano et al., 2018). The concept of risk is significant in the financial services industry because it plays a vital role in almost any potential purchase decision outcome. However, some scholars will argue that it is challenging to predict an investor's attitude towards risk due to an investor's inherent complexities (Kahneman, 2009).

This research examines the relationship between the investor's perceived level of risk and risk propensity. While perceived risk is how risk is viewed, risk propensity is the willingness to accept risk and act on it. When the risk propensity is higher, there is a greater likelihood of accepting the perceived risk. Higher risk propensity often leads to a favorable purchase decision, especially for longer-term investment decisions. Communicating risk to investors is often done via disclosure.

Financial Knowledge and Literacy

Financial Knowledge and Literacy: As mentioned above, financial knowledge is related to risk perception. Notably, financial knowledge and financial literacy are related but are not interchangeable (Huston, 2010). Huston (2010) defines financial knowledge (knowledge acquired

through education or experience) as a critical component of financial literacy. Financial literacy is the ability to use and apply financial knowledge to make better financial decisions.

There is a significant financial literacy gap among many segments, ranging from the elderly, the young, and specific demographic subgroups to those with lower levels of education (Lusardi, Mitchell, & Curto, 2014). Americans today have low levels of financial literacy and are challenged in financial decision-making (FINRA, 2020). Lower levels of financial literacy can have many implications, including a reduced likelihood of preparing for retirement. In addition, those with lower financial literacy levels will be less likely to engage in meaningful wealth accumulation practices, such as being more aware of the impact of sales charges and fees (Hastings & Mitchell, 2011). Investors that understand concepts such as risk and diversification are more likely to plan for their long-term financial needs and will then have the likelihood of more retirement wealth (Lusardi & Mitchell, 2008, 2014). For this research, financial knowledge and financial literacy were considered together and referred to as "investor sophistication."

Research Questions and Model Development

This research completed a comparative analysis of two types of investor sophistication levels and how these differ within segments. Specifically, how the unsophisticated and sophisticated investor responds to the effects of the framing of IRA disclosure information and the risk language. Research questions were developed to investigate the relationship between the framing of risk in disclosure, the level of risk perception, and the impact of risk on an investor's likelihood to purchase.

The literature suggests that highly involved and more sophisticated investors will more likely disregard the framing of messaging and rely on their own past experiences and knowledge (Levin & Gaeth, 1988). Therefore, disclosure language may be less influential on the sophisticated investor's risk attitude and likelihood to purchase.

It was postulated that unsophisticated investors would negatively perceive an IRA company and the products offered when advertisements contain information framed as a loss. Given that most disclosures are complex and unsophisticated investors possess a lower level of involvement, this research proposed a negative influence on the likelihood of purchasing for this group. It is proposed that sophisticated and unsophisticated investors will differ on the following:

RQ1: For advertisements with or without disclosure, the investor's risk perception will moderate the investor's risk propensity and impact the investor's IRA purchase decision.

RQ2: For advertisements containing disclosure information and framed as a loss or gain, the investor's risk perception will moderate the investor's risk propensity and impact the investor's IRA purchase decision.

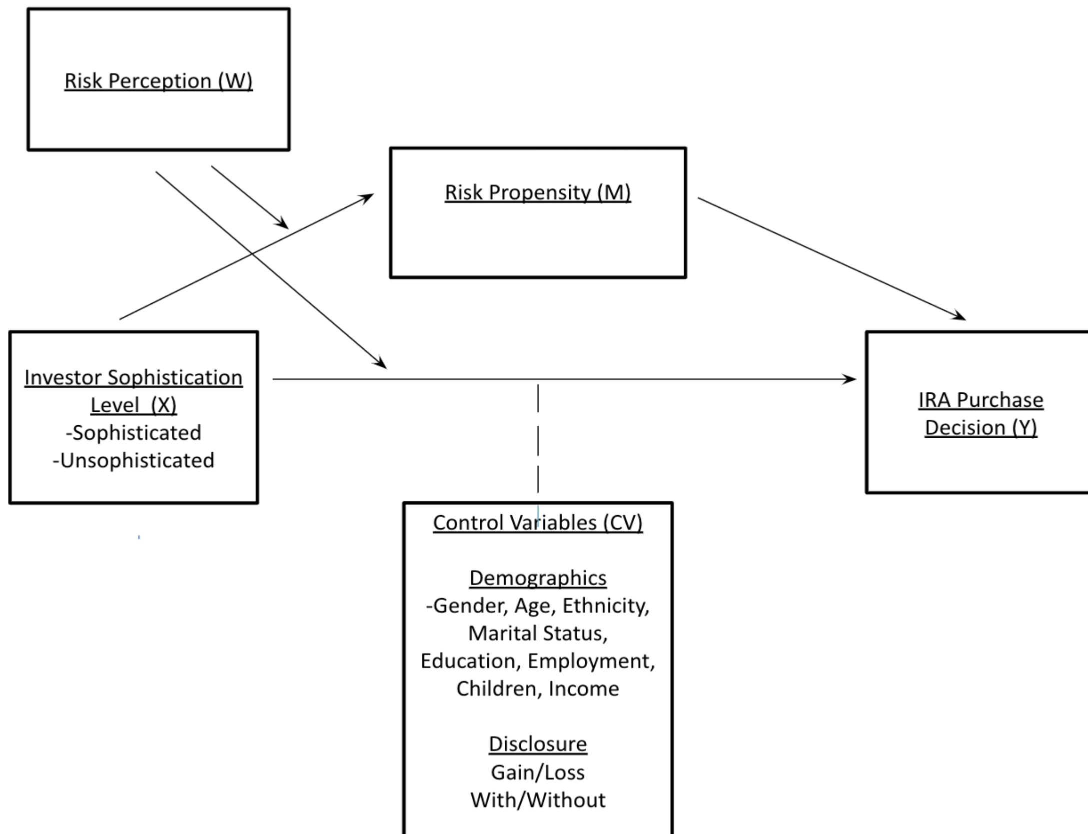
RQ3: Investor demographics will impact the IRA purchase decision.

Research Model

The research model proposed that the Risk Propensity of the investor mediates the Investor Sophistication Level and the IRA Purchase Decision. The Risk Propensity is the level of risk the investor will accept and act on. The Risk Perception moderates the relationship between the

investor's Risk Propensity and the IRA Purchase Decision. This relationship is referred to as moderated mediation. In other words, how the investor views and feels about the risk will impact the investor's reaction to that risk and, ultimately, the purchase decision. Demographics and Disclosure in the model are control variables. *See Figure 1:*

Figure 1: Research Model



Research Methods and Findings

Research Design

Four fictitious advertisements for an IRA product were developed. Each advertisement differed in the use and framing of disclosure and reflected gain language, loss language, neutral language, and no language. Measures of risk perception, risk propensity, attitudes towards financial risk, investor sophistication (a combination of investor knowledge and financial literacy), and demographics were collected via an online survey using Qualtrics.

Sample and Procedures

To ensure a panel that was representative of the U.S population, respondents were asked if they owned a financial retirement product such as IRA, ROTH, or 401k plan. Qualtrics was instructed to select a panel that reflected a 50/50 split between retirement product owners and non-owners (total n=600) to ensure the representation of various sophistication levels. Qualtrics was instructed to collect at least n=150 usable responses for each disclosure scenario used in the study. The categories were broken down further by retirement product ownership; n=75 owned and n=75 did not. A total sample size of n=632 was used after removing those that failed screener questions; questions focused on age and commitment to the survey questionnaire. Respondents were categorized into the four groups discussed: disclosure reflecting gain language, loss language, neutral language, and no language. *See Table 1:*

Table 1: Breakdown of Sample Size: n=632

	Ads with Disclosure	Ads without Disclosure	Ads containing "Gain" language	Ads containing "Loss" language	**Total:**
Total Responses	642	304	340	401	1,687
Eliminated	484	146	182	243	1,055
Usable Responses	158	158	158	158	632

The reliability and validity of the measures were assessed before testing the research questions. Internal consistency of the scales was gauged using Cronbach's alpha. Reliability was adequate for all scales with Chronbach alpha scores as follows: risk perception .67, risk propensity .80, and attitude towards financial risk .77.

To test this research's face validity and the applicability of constructs, several financial services industry professionals were consulted before and during its execution. These professionals provided feedback on the measurement instruments. Marketing research professionals were consulted before fielding the survey questionnaire, and an advertising agency provided input on the advertisements created as the stimuli. To test construct validity, factor analysis was performed for all scales. All ranges reflected a high degree of association.

Measures

The constructs of risk perception, risk propensity, attitude towards financial risk, financial knowledge, and financial literacy were measured by adapting existing scales. Risk perception was measured using the risk dimension questions from the Revised Personal Involvement Inventory or "RPII" (McQuarrie & Munson, 1987). Respondents were asked to rate their level of

agreement/disagreement with statements related to risk perception and their feelings related to the purchase of an IRA Product; for example: "*I feel IRA Products are risk/not risky," and "I feel IRA Products are easy to choose/hard to pick."*

While risk perception is how an individual views risk, risk propensity focuses on how individuals act upon that risk. To measure risk propensity, a seven-item Likert scale by Meertens and Lion (2008) was used to focus on a broad spectrum of risk-seeking and risk avoidance behaviors. One additional item was added to this scale to specifically capture financial risk. Respondents were asked to indicate their agreement/disagreement to statements such as "*Safety first,*" *"I prefer to avoid risks,*" and "*I take risks related to my financial decisions*."

To further measure an individual's attitude towards financial risk, a five-item Likert scale, Financial Risk Tolerance, developed by Jacobs-Lawson and Hershey (2005), was used. This scale was designed to focus specifically on investing for retirement. Respondents were asked to indicate their level of agreement/disagreement with statements such as: *"I am willing to risk financial losses*" and "*I prefer investments that have a higher return even though they are riskier.*"

To assess a respondent's financial knowledge level, ten questions were adopted from the 2012 Financial Industry Regulatory Authority (FINRA) "Investor Knowledge Quiz" (FINRA, 2012), while financial literacy was measured by three questions from the 2009 FINRA "National Financial Capability Survey" (FINRA, 2009). The responses from the investor knowledge and financial literacy questions were combined to assign a score that helped determine if the investor was sophisticated or unsophisticated. A combined score of eight or more correct responses out of thirteen was considered a sophisticated investor; below this number was considered an unsophisticated investor.

An example of a question related to financial knowledge is as follows: "*True or False: In general, investments that are riskier tend to provide a higher return over time than an investment with less risk*." Basic financial literacy questions focused on financial concepts related to economics and finance and assessed the respondent's understanding of interest rates, inflation, and diversification. An example of a financial literacy question is as follows: "*True or False - Buying a single company's stock usually provides a safer return than a single mutual fund."*

Sample Description

Survey questionnaire respondents were 45% male and 55% female. All generational cohorts were represented in the sample size, with Baby Boomers representing 43% of the sample, followed by Millennials at 27%, Generation X at 24%, and the Silent Generation at 6%. A majority of the survey respondents were White/Caucasian; other groups represented include American Indian/Alaskan Native, Asian, Black/African American, and Native Hawaiian/Pacific Islander. Most of the respondents were married (65%). Generally, survey respondents were well-educated. The majority (89%) of respondents reflected a range of at least some college education to a post-graduate/professional degree. Approximately 64% of the respondents were employed full-time, part-time, or full-time homemakers. In addition, approximately 40% of the survey responses fell within the range of a sophisticated investor.

Results

Conditional process analysis utilizes the capabilities of combining the analysis of moderation and mediation. Since both mediation and moderation analysis was required, the Hayes

Process Model 8 macro within SPSS completed the analysis as a unified statistical technique (Hayes, 2017) (*see Figure 2).*

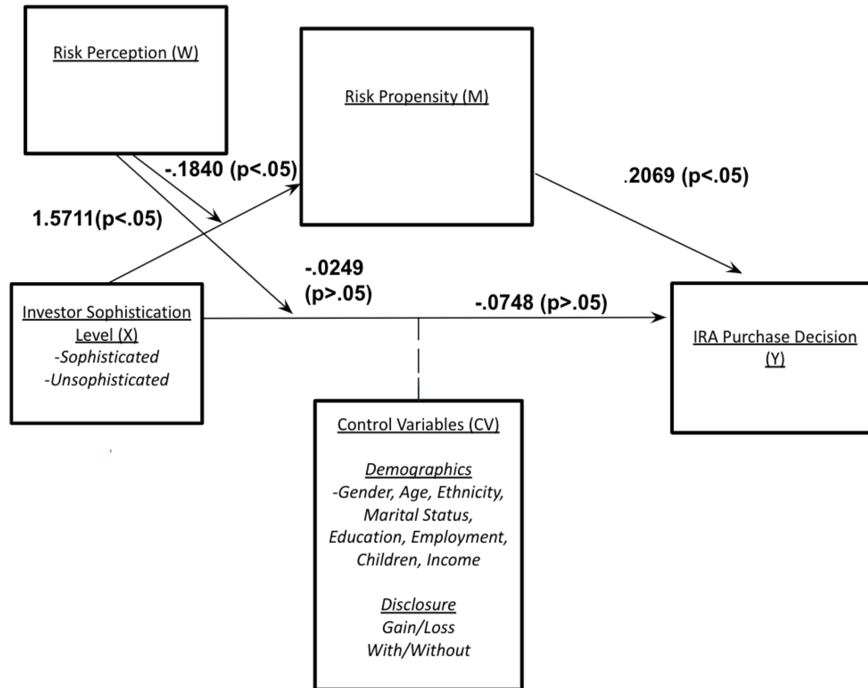
The independent variable Investor Sophistication Level (X) and the dependent variable IRA Purchase Decision (Y) were tested for the mediation effect of the Risk Propensity (M) of the investor. The analysis further reviewed M to determine if it caused an interaction effect between X and Y. The analysis also reviewed if Risk Perception (W) moderated the relationship between both the Investor Sophistication level and the IRA Purchase Decision. Data was reviewed to determine if there was a moderated mediation effect.

Findings from the Hayes PROCESS analysis reflected how the sophistication level of the investor impacts the willingness to act upon risk, i.e., risk propensity. The risk propensity of the investor was significant when the sophistication level of the investor increased (1.15711, $p < .05$). Findings point to a moderation effect on the investor's willingness to take on risk when the investor's sophistication level was high. However, the strength of the willingness to take on risk is weakened by the risk perception of the investor (-.1840, $p < .05$).

In summary, this result points to the lack of willingness of the investor to act upon risk due to a higher perception; however, this unwillingness is higher for the unsophisticated investor. It should be noted that sophisticated investors are more likely to act upon risk in a low-risk environment; however, they are still more likely to act in any circumstance when compared to unsophisticated investors. This is regardless of their risk perception.

Risk propensity was influenced by certain control variables, specifically gender (.0000, $p<.05$), age (.0395, $p<.05$), education level (.0055, $p<.05$), and income (.0020, $p<.05$). These groups were more likely to have a higher risk propensity, increasing the likelihood of purchasing. For example, older males with higher education and income levels are more likely to accept more risk. Research findings in this study show that this acceptance of risk also increases the likelihood of an IRA purchase decision. This is consistent with the literature reviewed. Demographics such as marital status, ethnicity, employment, and having children did not show a significance ($p > .05$, ns) related to risk propensity.

Figure 2: Research Model Findings



While certain demographic control variables were significant, disclosure variables were not supported. Findings of this research showed that none of the disclosure variations contained in the advertisements showed significance and did not have a relationship with the IRA purchase decision (.0080; p < .05). This was for both sophisticated and unsophisticated investors. However, there was a mediating effect where the mediator variable M influenced the relationship of the antecedent variable X and the outcome variable Y. This mediating effect is supported by the positive coefficients of both a and b (1.5711 and .2069) and represents a strong mediated relationship which represents the model coefficients for the conditional process model.

The Hayes PROCESS analysis also reviewed the moderation effect of risk perception on the mediator and its effect on the investor sophistication level and the IRA Purchase decision. The table below shows the index of moderated mediation, the standard error, and the 95% bias-corrected bootstrap confidence interval for the moderation effect of risk perception. Also shown in Table 2, the bootstrap confidence interval level crosses over zero (-0883 to .0017). Based on the presence of zero, there is no moderated mediation where risk perception influences the Risk Propensity and the IRA Purchase Decision. *See Table 2:*

Table 2: Indirect Effect of Risk Perception on Risk Propensity - IRA Purchase Decision Relationship.

Mediator CI	Index	SE(Boot)	95% bias-corrected Bootstrap
Risk Propensity	-.0381	.0227	-.0883 to 0017

Conclusions and Managerial Implications

This research focused on the impact of disclosure framing for IRA products, how the investor perceives risk, and the significance of risk on the likelihood of purchasing. It is intended to identify opportunities to advance retirement opportunities for marketers, industry professionals, regulators, and investors. The framing of certain risk disclosures in IRA marketing materials by financial services companies was reviewed to determine their impact on the investor's decision to purchase. The risk perception of the investor was also reviewed for both sophisticated and unsophisticated investors to determine the impact on the risk propensity level. Findings showed that while the framing of disclosure did not impact the purchase decision, specific demographics and sophistication levels did.

Presenting the right kind and amount of disclosure information to a potential investor is a challenge. For financial services products such as IRAs, there can be adverse effects, including loss of initial investment, income, and excessive fees and/or tax consequences.

While the findings from this research did not fully support the initially proposed questions related to the framing of disclosure, there are several areas that present opportunities for managers in the financial services industry. In addition, and perhaps more importantly, the findings point to additional areas of potential focus for regulatory bodies such as the Securities Exchange Commission ("SEC") and FINRA. These bodies set industry policy, as well as help, protect, and educate investors. Many areas associated with retirement planning are ripe with opportunities to explore further.

As discussed earlier, the framing of messaging did not show significance related to the investor's sophistication level and their purchase decision. This is interesting given that studies in other industries, such as food, have shown that negative (or loss-based) disclosure resulted in negative product evaluations (Berry *et al.*, 2015, 2015). With financial services products, a challenge is walking the line between communicating a product's benefit, presenting language that might be construed as promissory, or including risk information that might deter the investor from assuming any risk. For investment products to realize higher levels of gain, there must be higher levels of risk accepted.

Based on the findings from this research and the literature review, as stated earlier, several opportunities are presented for both managers and academics. When addressing financial literacy, there needs to be a consideration of behavioral aspects when developing educational tools. This would include practices such as dollar-cost averaging, investing earlier in life, and assuming some risk if possible. Also, companies, marketers, and regulators should write disclosure that is understandable and disseminated at a point in the sales process where it can have the most significant impact. All of these are areas of importance to help investors better understand risks which lead to better decisions in saving for retirement.

The measurement of financial knowledge and literacy has always had inconsistencies. A

further recommendation for future research is to explore opportunities to standardize financial knowledge and literacy tests. The number of standardized financial literacy tests is minimal, given the historical lack of focus from an academic research perspective (Huston, 2010). In addition, only recently has there been a focus on this topic from the industry and regulators. This presents a gap in how to address financial literacy (Hung, Parker, & Yoong, 2009).

The framing of disclosure messaging may drive specific behaviors, such as generating a focus on risk and other loss-prevention behaviors. However, past research has shown that the effectiveness of framing is often determined and mitigated by the involvement level of the individual. While investor involvement was considered during the review of investor sophistication for this study, there are opportunities for future research to explore this topic further.

Sophisticated investors are more likely to make the connection between financial concepts and behaviors. This link stresses the need for financial services companies and industry regulators to focus on targeting behaviors related to activities such as risk-taking for unsophisticated investors. From a research perspective, additional efforts should focus on communicating those particular aspects of investment risk that can actually be beneficial to the long-term investor.

This research reviewed potential opportunities related to disclosure contained in retirement products, specifically IRAs. While it also focused on the framing of disclosure via a gain or loss in messaging, consideration should be given to the format, timing or provision, and location of disclosure information to make it more impactful to the investor. Both financial services companies and industry regulators have a vested interest in this recommendation which can make impactful changes.

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