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Jargon in Fund Fee Disclosures

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ABSTRACT

Complicated language impedes decision-making in many contexts. We examine jargon in a highly technical setting: the $27 trillion mutual fund industry that millions of consumers use to secure their futures. Regulations require companies to disclose information about funds' fees as part of marketing materials and correspondence with investors, yet this information may be difficult to understand. We demonstrate difficulties with current fee terminology (e.g., "12b-1 fees") and identify new language that increases comprehension, decreases subjective difficulty of investment decision tasks, and leads to greater investment intentions. In Study 1 ($N = 1606$), we use a "best-worst scaling" task to empirically identify terms that consumers prefer for conveying fee definitions. In Study 2 ($N = 1575$), we test Study 1's best-performing terms and find consumers comprehend them better than existing jargon. Finally, in Study 3 ($N = 493$), new terms reduce perceived difficulty and improve applied knowledge in a financial decision-making task, ultimately leading to increased intentions to invest. Our results suggest that modified language could improve investment comprehension and participation, yielding meaningful benefits for potential and existing investors.

Consumers live in a complicated world. As consumer products proliferate, companies offer an increased number of differentiating product features and specialized language to describe those features. Buying a new computer, for instance, could involve choosing an integrated or discrete graphics processor, a solid state drive, and an Intel i5, i7 or i9 processor. Selecting a health insurance plan requires trading off between varying deductibles, co-pays, and networks of providers. Even common purchases such as groceries can involve weighing the relative benefits of a constellation of vitamins, minerals, saturated and unsaturated fats, antioxidants, and other nutrients.

Traditional policymaking efforts rely on the assumption that, once companies provide information to consumers, those consumers are informed enough to make product decisions (see Durkin & Elliehausen, 2011). Thus, regulations including the "truth in securities" and "truth in advertising" laws help ensure that disclosed information is complete and accurate. Yet, even if companies disclose product terms, consumers may not understand these disclosures or use them to make well-informed decisions. Consumers are commonly confused about product features as varied as calories (Berry, Burton, Howlett, & Newman, 2019; Bleich et al., 2017; Breck, Mijanovich, Weitzman, & Elbel, 2017), privacy protections (Brough, Norton, Sciarappa, & John, 2022; McDonald, Reeder, Kelley, & Cranor, 2009; Norberg, Horne, & Horne, 2007), credit card annual percentage rates (Chin & Bruine de Bruin, 2019), and mortgage terms (Lacko & Pappalardo, 2010; Perry & Blumenthal, 2012). As such, while they may provide complete and accurate information, informational documents may fall short at providing *meaning* to consumers.

In this research, we study one problem that might weaken the link between product information and true understanding: the use of jargon. Jargon is "language used by a particular

group of people, especially in their work, and which most other people do not understand" (Cambridge Business English Dictionary, 2020). Jargon takes the place of more easily accessible, substitutable language (Brown, Anicich, & Galinsky, 2020). In other words, although technical language may be required in some contexts to communicate a given piece of information, jargon refers uniquely to terms that are more difficult for laypeople to understand than is strictly necessary.

We concentrate on jargon in the $27 trillion mutual fund industry, a consequential context given that investments support consumers' well-being for a host of important life outcomes, including retirement, education, and financial emergencies (Investment Company Institute, 2022). When choosing investments, investors should consider fees and expenses, which are akin to the sales price of a typical consumer product and act as important drivers of costs (Roussanov, Ruan, & Wei, 2018). Even seemingly small differences in fees can be important; for instance, over twenty years with a modest return of 4%, an initial investment of $100,000 can accrue over $30,000 more if it is invested in a fund that has expenses of 0.25% rather than 1.00%. To help would-be investors compare information across investments, the regulations regarding mutual funds and exchange-traded funds (hereafter, "funds") generally require fund companies to disclose detailed information about performance, fees, and expense components in a standardized format using consistent language (see Form N-1A, the registration form for mutual funds). However, these disclosures can be confusing; for instance, research has shown the disclaimer "past performance does not guarantee future results" can be ineffective at improving consumer decisions (Johnson, Tellis, & VanBergen, 2021). We posit that the language used in investor communications is difficult to understand, which could act as an important barrier to consumers' decisions. As a potential solution, we identify a method for testing and

selecting alternative language and demonstrate that this language can (1) be perceived as more intuitive, (2) promote consumer comprehension, (3) improve applied knowledge, (4) reduce the subjective difficulty of using disclosures, and (5) increase future intentions to invest in a mutual fund.

What are the Possible Consequences of Jargon?

When presented with difficult language, consumers without specialized expertise may struggle to understand disclosed information. For instance, medical jargon may lead patients to misunderstand the severity of a test result: Many patients who hear about a "nodule" or "spot" on a lung scan assume they have cancer, even though the true risk is less than 5% and medical providers do not see the presence of a nodule as noteworthy (Wiener, Gould, Woloshin, Schwartz, and Clark, 2013). By contrast, patients may appreciate other, more intuitive ways of understanding their test results – for instance, by being able to see the size of the nodule in comparison to familiar objects from everyday life. In the investment domain, we similarly expect that jargon can lead to lower comprehension of investment fees, including inability to define the meaning of a particular fee, and that alternative ways of expressing investment fees may be seen as more intuitive.

> **H1:** Existing terminology will be seen as relatively unintuitive, on average, compared to alternative terms.

> **H2:** Individuals will more frequently correctly identify the definition of investment fees when reading alternative terms versus existing terminology.

A second type of comprehension that may be harmed by jargon is the ability to apply disclosed information in real-world situations. For example, Chin et al. (2022) find that

consumers viewing overdraft disclosures have trouble understanding how the costs and benefits of overdraft services vary depending on a bank customer's typical behavior (e.g., the amount of money typically held in the checking account). In a different context, credit card users may struggle with statements on credit card bills about the size of payments necessary to pay off debt if they fail to realize that these statements assume that no new charges will occur (Soll, Keeney, and Larrick, 2013). Similarly, because investment jargon may obscure the meaning of certain terms, consumers may not be able to apply knowledge from jargon-filled disclosures to different investment strategies. For instance, investors may not recognize how a given mutual fund fee applies differently for those who buy and sell frequently versus those who retain the same investment for a longer period.

> **H3:** Individuals can better identify which mutual fund fees apply in a particular investment scenario when fees are described using alternative terms, relative to when described using existing terminology.

In addition to these comprehension effects, jargon could engender negative affect and reduced consumer confidence. To the extent that technical language is overly complex and creates disfluency, readers may experience discomfort and judge the decision context as more difficult. They could negatively evaluate the source of the disclosed information (Oppenheimer, 2006) or even the investment opportunity itself (Alter & Oppenheimer, 2006). By contrast, language that is easier-to-read can bolster consumer expectations (e.g., in evaluations of car insurance policies; Van Boom, Desmet, & Van Dam, 2016), thereby potentially making a product or product category more attractive. As such, we expect that by using more comprehensible language, consumers' subjective experiences of evaluating investment-related information may improve.

H4: Alternative terms will be perceived as less difficult than existing terminology.

In turn, subjective experiences of investment products are important because they predict real-world financial outcomes. Considerable literature in economics and finance has grappled with the "stock market participation puzzle," which describes a situation in which many households do not participate in financial markets despite the financial benefits that are likely to result (Haliassos & Bertaut, 1995). Participation is correlated with risk preferences, education, and labor market income (Haliassos & Bertaut, 1995; Mankiw & Zeldes, 1991). Surprisingly, however, even wealthy households do not invest in mutual funds and other securities; 20% of households with $200,000 in financial assets hold no stocks (Campbell, 2006). To help explain the puzzle, researchers have turned to a host of psychological and behavioral mechanisms that might drive (non)participation in financial markets, including (lack of) trust in the stock market or financial professionals, confidence in one's knowledge, and simply "not liking" to think about one's finances (e.g., Guiso, Sapienza, and Zingales, 2008; Choi & Robertson, 2020). In the present work, we introduce the possibility that mere exposure to jargon—as would occur when considering a mutual fund's fee disclosures—may engender discomfort and reduce individuals' willingness to invest. Correcting these deleterious effects of jargon with improved language, therefore, may increase future stock market participation.

H5: Alternative terms will lead to greater intentions to invest in mutual funds than existing terminology.

Jargon in Financial Documents

Though jargon could be studied in a variety of retail contexts where technical language is used—including mortgage loans (Perry & Blumenthal, 2012), health insurance enrollment

(McCormack et al., 2009), and privacy notices for online transactions (Martin, 2015; Milne, Culnan, & Greene, 2006)—in the present work we concentrate on jargon in fund investment information. Jargon may be a particular problem in the context of fund investments because investor communication documents are typically written by experts with significant domain knowledge, but are supposed to be used by individual consumers who may have significantly less knowledge. Regulations do not mitigate this tendency, as policymakers (who themselves may have significant expertise) may also lean toward technically precise language without recognizing that consumers could be misled or confused by such terminology (Garrison et al., 2012). Past research has shown a "curse of knowledge" (e.g., Birch et al., 2017; Camerer, Loewenstein, & Weber, 1989; Warren, Farmer, Gu, & Warren, 2021) whereby those with knowledge are unable to imagine the perspective of others without such knowledge. When communicating fees or other important elements of funds to non-expert investors, then, experts may mistakenly generalize their own feelings of comfort with jargon to assume that the language is more accessible and easily understood than it actually is. As such, they may fail to realize that the terms presented are indeed jargon, as well as fail to fully appreciate the difficulty created by this jargon.

Furthermore, the existence of jargon may even be exploited by firms, at consumers' expense. Readers of corporate reports question whether linguistic complexity (jargon) is necessary for conveying technical information, or whether it is used by firms to intentionally obscure information (Bushee, Gow, & Taylor, 2018), including information that would be relevant for investment decisions. Though more experienced investors and experts may be able to use jargon-laden disclosures to select the best mutual funds, the disclosures may be poorly

designed for helping laypeople and individual retail investors—including those who lack experience or expertise—appropriately use the information provided.

Because of these potential issues with existing language, we aim to take a more "consumer-centric" (Garrison et al., 2012) approach to disclosures by recruiting consumers to evaluate the language used. We do so by first conducting an empirical test of both existing and alternative terminology with three different kinds of consumers: non-investors, retirement-only investors who are likely more passive in investment decisions, and independent investors who are likely more active in their investment decisions. We then experimentally test the downstream impact of existing vs. new terms on consumer comprehension, use, and investment intentions.

Research Overview

In Study 1, we present participants with existing fee terminology and several new terms, examining which terms are perceived as most intuitive for conveying definitions of fund fees. Our hypothesis is that existing terminology will be seen as relatively unintuitive, confirming that it is "jargon" and leading to identification of alternative terms that will be perceived as relatively more intuitive. In Study 2, we test well-performing terms from Study 1 with a new sample of participants to determine whether these new terms are easier to comprehend than the terms that currently exist in the market. Finally, in Study 3, we examine whether consumers exposed to new terms better identify which terms apply to a given investment scenario, whether they experience these terms as less difficult to process, and whether they are more willing to invest in mutual funds in the future. Across all studies, we predict that existing fee jargon will yield relatively poor outcomes—these terms will be deemed relatively unintuitive, will be difficult to

match to accurate definitions, will be applied incorrectly, and will reduce investment intentions—relative to the new language that we identify using participant insights in Study 1.

Study 1

In Study 1, we examine existing language and alternative language to determine what terms everyday participants might find most intuitive to communicate mutual fund fee information. Specifically, participants complete "best-worst scaling" tasks to indicate which terms they perceive as fitting and not fitting fund definitions. Because jargon can be defined as the use of overly technical language when more easily understood substitutes are available (Brown et al., 2020), identifying that alternative language is seen as more intuitive than existing terminology would support our theorizing that current terms are, indeed, jargon (in a test of H1). Accordingly, this study allows us to both test whether the current terms are perceived as jargon and facilitates a data-driven selection of new terms to be used in subsequent studies.

Method

Sample

We recruited 1606 U.S. residents online using Dynata, a market research firm that maintains a panel of millions of respondents (www.dynata.com). Specifically, we used a quota sampling approach targeting roughly equal numbers of participants in each of three groups. We designed these groups to have different levels of investment experience, with the goal of exploring potential heterogeneous effects across them. The "non-investors" group included those who had no investments as well as those who did not have decision-making control about their investments (as in the case of most pension plans). The second group, "retirement-only

investors," included those who had a retirement account and no other accounts. The last group included those who had a non-retirement investment account such as a brokerage or advisory account ("independent investors"). All participants stated that, in their household, they would have primary or shared decision-making about financial products used for investing. The overall sample contained 46.1% men, 86.1% non-Hispanic White participants, with a median income of $50,000-$100,000.

Generation of Fees, Definitions, and Alternative and Decoy Terms

We chose to study six fund fees that are common in the industry (Office of Investor Education and Advocacy, 2021): 12b-1 fee, front-end load, redemption fee, back-end load, management fee, and exchange fee (Table 1).[i] For each fee, the research team developed a definition using educational resources developed for investors (e.g., U.S. Department of Labor, 2019). All definitions were reviewed by securities market attorneys for accuracy.

We also generated a set of potential alternative terms, which we derived from multiple sources, including new terminology proposed by the SEC as part of a proposed rule change for fund disclosures (e.g., "exit charge" for back-end load),[ii] existing synonyms that are used in the fund industry (U.S. Department of Labor, 2019, p. 4), and our judgment about potential plain language replacements for terms. In all cases, we generated seven alternative terms for each definition.

Best-Worst Scaling Task

Participants completed best-worst scaling tasks to indicate which terms they perceived as fitting fund definitions. Best-worst scaling is an appropriate measurement tool when trying to examine how items map to an underlying continuum (Finn & Louviere, 1992)—in this case, the extent to which terms convey a certain definition. Importantly for our purposes in determining

whether existing jargon is disliked by consumers, best-worst scaling does not only identify which terms are most preferred, but also allows consumers to indicate which terms they least prefer.

Each participant evaluated terms meant to capture three different fee definitions, in one of two randomly-assigned groups. The first group was assigned definitions for "12b-1 fee," "front-end load," and "redemption fee," in a random order. The second group received definitions for "back-end load," "management fee," and "exchange fee," in a random order.

For each definition, participants were shown a set of four terms, drawn from the eight terms for that particular definition (the existing term plus the seven alternative options we generated). From this set of four terms, they were asked to select one term that "fits the most" and one that "fits least". This procedure, with a new selection of four terms for the same definition, occurred six times to ensure that each of the eight terms for a given definition was displayed three times total (6 trials of evaluating 4 terms = 8 terms evaluated 3 times each) (see Figure 1 for an overview of the method). The specific selection and order of terms was predetermined by Sawtooth software, a specialized software package used for best-worst scaling and other choice tasks. After completing all six trials for a given definition, participants would move on to the next definition.

--Insert Figure 1 about here--

Additional Measures

After completing the best-worst scaling task, participants reported demographics (marital status, whether the participant lives with a significant other, English language use, age, gender, household income, educational attainment, and race/ethnicity), measures of subjective mutual fund knowledge (Scholl & Fontes, 2019), objective mutual fund knowledge (Scholl & Fontes, 2022), financial literacy (Lusardi & Mitchell, 2011), and information on investment behavior

(based on FINRA, 2022). These latter measures were largely used to validate the distinctions we drew when recruiting the three investor types (non-investors, retirement-only investors, and independent investors), as we wanted to know whether preferences for terminology varied according to knowledge, experience, or other identifiable investor differences (see "Interactions with Investor Experience" section below). Analyses of subgroup differences on these scales are reported in Web Appendix A.

Results

Evaluations of Fee Terminology

To understand perceptions of the terms shown to participants, we first calculated "best-worst" scores. For each term, these scores reflect the sum of ratings on individual trials. Specifically, during each trial, a term could receive a +1 if it were selected as fitting "most," a -1 if selected as fitting "least," and 0 if not selected. Given that each term was shown to participants three times (see Figure 1), scores ranged from -3 to +3 on an individual respondent level. In particular, a respondent who always selected a term as fitting "most" would have a score of +3 for that particular term; a respondent who always selected it as fitting "least" would have a -3; and a term that was never selected as best or worst would have a score of zero. Prior research also uses this calculation (e.g., Finn & Louviere, 1992; Auger, Devinney & Louviere, 2007).

Most importantly for our research, we identified a new alternative that was considered more intuitive by participants for five of the six terms tested. The average scores for both existing terms and these newly-identified alternative terms are shown in Figure 2, both for the overall sample and for each investor subgroup (statistics for all potential terms are shown in Web Appendix A). The consistent improvements in terms suggests that, in most cases, existing

terminology may indeed be considered "jargon," thereby supporting H1. Only one existing term, "management fee," was considered the most intuitive term for its definition, and therefore is omitted from this display.

--Insert Figure 2 about here--

Interactions with Investor Experience

Figure 2 also shows the best-worst scores for each investor subgroup. Overall, there is a tendency for independent investors to perceive existing jargon as better fitting the definitions, as shown by generally higher ratings relative to participants from other groups. Despite some differences across respondent groups, however, we observe that best-worst scores are consistently higher for the new terms relative to the existing terms. That is, the improvements when moving from existing jargon to new terminology suggest that all types of consumers would prefer new terminology for many fund fees.

Discussion

This study demonstrated that the majority of existing terms used to describe fund fees could be improved, with five of the six terms we tested achieving lower best-worst scores than alternative terms. That is, consistent with H1, consumers do not perceive existing terminology as being the most intuitive way to communicate fee definitions, and for five different fees we identify alternative language for testing in subsequent studies.

The results of this study also showed that less experienced investors often perceived existing terminology as being even less intuitive than more sophisticated participants, suggesting that jargon may exacerbate differences in comprehension or comfort with investment decisions between more experienced and less experienced consumers. Accordingly, it is important to continue to test the potential benefits of new language for consumers with different levels of

investment experience. In Study 2, we test whether the new terms improve comprehension relative to existing terms among a new sample of participants.

Study 2

In Study 2, we examine H2 by comparing participants' ability to identify fee definitions when viewing existing jargon versus the more intuitive terminology identified in Study 1. This task captures the kind of comprehension that consumers are expected to have to make informed decisions using disclosures (Durkin & Elliehausen, 2011). We predict that the new terms will lead to more accurate definition identification than the current terms used by fee disclosures.

Method

Sample and Screening

We drew 1575 respondents from Dynata using the same quotas and screening procedures as in Study 1, while excluding anyone who had participated in Study 1. The overall sample contained 50.1% men, 94.1% non-Hispanic white participants, with a median household income between $50,000 and $100,000 annually (see Web Appendix B for supplementary analyses).[iii]

Comprehension of Fund Terminology

Over 11 trials, participants were asked to pick a definition that best fits a given term. We included ten terms from Study 1—five existing jargon terms and five alternative terms. For each term that was shown, participants selected one of the five fund definitions from Study 1 (Web Appendix A)[iv], "none of these definitions fit," or "I don't know." The presentation of the definitions was counterbalanced, such that half of respondents received them in a reverse order. The instructions also emphasized that it was possible to choose a definition more than once (an

important clarification, given that each definition would be correctly matched to both an existing and an alternative term). Finally, we also included an eleventh term ("custodial fee") to reduce respondents' ability to guess definitions solely using a "process of elimination" strategy.

Additional Items

After completing the task, participants reported background characteristics as in Study 1. We also asked whether they looked up any answers to questions in this study (with response options of "yes, many"; "yes, a few"; or "no"), finding that only 3.24% of participants gave either "yes" answer. To the extent that participants could look up answers for existing jargon (but not new terms), we would expect fewer correct answers for new terms, making inclusion of participants who looked up answers a more conservative test of comprehensibility of new terms.

Results

We calculated the proportion of respondents selecting the correct and incorrect definitions for each of the existing and new terms, as well as the proportion who explicitly chose "I don't know" (Figure 3). Consistent with H2, across all five pairs of terms that were studied, the new term increased the proportion of respondents who selected the correct response; paired t-tests showed that each increase was significant (ts ranging from 4.27 to 22.74, ps < .001; see Web Appendix B for exact values). Across the five pairs, the magnitude of the difference varied, with "back-end load" experiencing the largest improvement (32.7 percentage points; Cohen's d = 0.71), and "front-end load" experiencing the smallest (though still significant) improvement (5.6 percentage points; Cohen's d = 0.11).

When calculating individual participants' performance on the task, average rates of correct identification also increased. Under the old terms, respondents answered 1.31 questions

out of five correctly on average ($SD = 1.28$), whereas under the new terms, they answered 2.41 questions correctly ($SD = 1.61$; $t = 32.79$, $p < .001$, Cohen's d $= 0.755$).

--Insert Figure 3 about here--

Discussion

Overall, this study confirmed that fund terminology that was perceived as more intuitive by participants in Study 1 was also easier to comprehend among a separate set of respondents with varying levels of investment experience. Across each of the pairs of terms that were shown, consumers were able to identify the definitions of the associated fund fee concept at higher rates when shown new terms, as compared to existing fund terms, supporting H2. This increase in comprehension for each of the five fees under consideration indicates meaningful improvements in overall comprehension of the costs associated with a given investment and suggests that the current jargon used in consumer disclosures leaves many consumers confused and uninformed.

Study 3

An issue remaining from Studies 1 and 2 is whether the new terms improve consumers' understanding in ways that go beyond mere matching of terms and definitions; in our final study, we examine a series of additional dependent variables. In particular, we test whether new terms improve participants' ability to identify which fees apply to an investment scenario (H3), reduce the perceived difficulty of evaluating mutual fund fees (H4), and increase willingness to invest in mutual funds in the future (H5), among other potential downstream consequences. Effects of disclosure terminology on investment intentions would be particularly noteworthy, as such findings would point to jargon as an important barrier to market participation, providing an

additional explanation for the "stock market participation puzzle" (Campbell, 2006; Choi & Robertson, 2020; Guiso, Sapienza, and Zingales, 2008; Haliassos & Bertaut, 1995).

Method

Sample

We recruited 499 participants from Prolific who were paid $1.20 for participation in the 6-minute study. After omitting those with incomplete data across all dependent measures, we had a sample of 493.[v] The sample was recruited from the United States using Prolific's "Representative Sampling" option, and included 48.3% men, average age 45, and was composed of 76.7% White participants, 12.8% Black participants, 6.1% Asian participants, and 4.4% reporting other racial/ethnic backgrounds.[vi]

Procedure

This study was a two-cell, between-subjects design where participants were randomly assigned to existing jargon or new terminology in the following investment scenario:

> At her college graduation, Jennifer receives a $10,000 check from her grandparents. She is thinking about the future, and wonders how much money she will have in three years if she takes that money and opens a new investment account. Imagine that she picks a mutual fund and her investment grows to $13,000 after three years. Then, she withdraws all of the money. Which fees could apply to this investment, over the course of the three years and including the sale of the investment?

Participants then saw a list of five fees, which were described with existing jargon (e.g., "back-end load") or new terms (e.g., "fee for selling this fund"), and indicated whether each of the five fees could apply or not. They then indicated the difficulty of the fee task (1 = very easy to 10 =

very hard) as a measure of negative subjective experience and indicated their interest in mutual

funds to gauge future stock market participation (1 = definitely NOT interested in investing in

mutual funds in the future to 9 = definitely INTERESTED in investing in mutual funds in the

future). On the back end, we calculated how many of the five fees participants correctly

identified. To help ensure participants engaged with the task, after asking about difficulty, we

displayed this feedback on their performance and asked them to rate how they believed their

performance compared to the performance of other participants (1 = much lower than average to

5 = much higher than average).

Additional Exploratory Items

We also included exploratory items in three domains which we thought might be affected

by jargon: self-reported understanding of mutual funds and knowledge about investments (5-

point scales), likelihood of seeking out and accepting investment advice (5-point scales) as well

as plans to receive professional advice in different financial areas (investments, debt counseling,

tax planning, etc.), and reactions to a fictional mutual fund (0-100 attractiveness rating and

divestment of $15,000 in "inherited" shares). None of these measures showed significant

differences, all $p > .08$, therefore we do not discuss them further.

Results

Effects of Terminology on Scenario Task Performance

As hypothesized under H3, the new terms ($M = 2.95$, SE = .07) led to a significantly

greater number of correct answers when deciding whether or not fees applied in the investment

scenario, relative to the existing jargon ($M = 2.37$, SE = .07, $t(491) = 5.72$, $p < .001$, Cohen's d =

.515). Consistent with this effect, participants exposed to the new terms ($M = 2.88$, SE = .05)

rated themselves as doing better—relative to other participants—than did participants exposed to

the existing terms (M = 2.63, SE = .05, t(491) = 3.22, p = .001, Cohen's d = .290). That is, new terms improved both objective and subjective performance relative to old terms in identifying which fees might apply to an investment scenario.

Effects of Terminology on Subjective Difficulty of Task

Participants rated the investment scenario task as significantly less difficult when exposed to new fee terms (M = 6.46, SE = .14) versus existing jargon (M = 7.28, SE = .15, t(491) = 3.95, p < .001, Cohen's d = .356), consistent with H4.

Effects of Terminology on Investment Intentions

In line with H5, new terms (M = 5.95, SE = .14) led participants to indicate that they were significantly more interested in investing in mutual funds in the future compared to existing jargon terms (M = 5.47, SE = .15, t(491) = 2.33, p = .020, Cohen's d = .210).

Mechanism Analysis

Focusing on participants' intentions to invest in mutual funds in the future, we examine how objective performance in the initial investment scenario task and subjective difficulty of that task serve to mediate the effect of fund fee terminology on investment intentions (see Figure 4). A bootstrapped mediation using both potential mediators, with 2000 resamples, shows that there is a significant overall indirect effect, β = .27, SE = .08, z = 3.27, p = .001, 95% CI [.11, .43]. Drilling down, there is a significant indirect effect of terminology on future investment intentions through scenario task performance, β = .14, SE = .06, z = 2.21, p = .027, 95% CI [.02, .26] and a significant indirect effect through subjective difficulty of the scenario task, β = .14, SE = .06, z = 2.40, p = .017, 95% CI [.02, .25]. These results suggest that both objective performance in applying fees and one's subjective experience of fee terminology drive the effect of jargon on investment intentions.

--Insert Figure 4 about here--

Discussion

This study demonstrates that, consistent with our hypotheses, the terminology that led to higher comprehension in Study 2 also benefits consumers in other ways. First, simple changes to fund terminology led to improved applied knowledge, as participants were better able to identify which fees are relevant to an investment scenario. This application is an important skill, given that consumers in heterogeneous circumstances – with differences in investment horizon, trading frequency, and more – may need to choose products (with associated fees) that are suitable for them. Such applied knowledge of product-specific attributes is necessary across a variety of consumer contexts; for example, consumers with different nutritional goals may differentially evaluate how "antioxidants" or "fatty acids" fit their diets. Second, improved terminology appears to serve as an important predictor of willingness to invest in the future. When exposed to existing jargon, these intentions are reduced, suggesting that the simple presentation of more confusing terminology might scare people away from mutual fund investments.

We also extend our understanding of the value of improved language by exploring the subjective difficulty of financial decisions. There is considerable debate about the role of subjective knowledge in willingness to engage with financial information (as reviewed in Chin and Williams 2019). Our results are consistent with research supporting "enrichment theory," which posits that having higher confidence (perceiving situations as less difficult) allows consumers to perceive themselves as skilled processors of information (Johnson and Russo 1984; Ward and Lynch 2019), leading to higher engagement. We show that small changes in language can reduce subjective difficulty and, through that, drive intentions to invest in the future.

General Discussion

Investment funds are important for Americans' finances, as reflected in the growth of the $27 trillion mutual fund industry (Investment Company Institute, 2022). Given this importance, it is worthwhile to ensure that individual consumers can understand the information they receive about these financial products. In this research, we concentrated on the potential problem of jargon for consumer-facing information such as disclosures of fund fees, identifying the barrier that jargon poses to consumer understanding and engagement, as well as testing how to improve the language in fund information.

Our first study tested new terms and phrases for six common fund fees: 12b-1 fee, front-end load, redemption fee, back-end load, management fee, and exchange fee. Using a best-worst scaling approach, we found that existing terms were often rated as unintuitive relative to alternative options, and that only "management fee" was intuitive relative to alternatives. While there was variation in perceptions of the new terms that we generated to convey definitions of fund fees, even relatively sophisticated independent investors did not perceive existing terms to fit fee definitions well overall. Thus, Study 1 provides empirical support for our first hypothesis, showing that existing terminology can be perceived as unnecessarily difficult jargon, whereas new terminology is more intuitive.

Using the results from Study 1, in Study 2 we investigated whether comprehension of terms would improve under new terms versus existing jargon (H2). Across all five new terms that we tested, we found improvements in comprehension rates relative to old terms. Furthermore, all three consumer subgroups we constructed (non-investors, retirement-only investors, and independent investors) had higher comprehension when seeing new terms. These

results suggest that changes to fund information documents along the lines suggested by this research would help all classes of possible investors, assuaging concerns that a change to terminology could harm existing investors.

Finally, in Study 3, we demonstrated that our new terms led to objective improvements in performance on an investment evaluation task (H3), reduced the subjective difficulty of such a task (H4), and increased intentions to invest in mutual funds in the future (H5). Furthermore, the increased willingness to invest in the future was mediated by both the objective performance and the subjective difficulty of the investment task. Thus, we identify multiple ways that existing jargon might hurt potential investors, including the possibility that it might reduce actual participation in markets. Notably, by making the consideration of fund information (e.g. mandatory disclosures) feel more difficult, consumers appear inclined to avoid future opportunities to engage with mutual fund investments.

Implications for Consumer Policy

Though the implications of this research for investment funds may seem obvious— implement our alternative language!—we believe the lessons drawn from this work can be broadly applied. In addition to testing regulatory interventions with real consumers, a practice we believe should be more widely applied, below we highlight three important implications of our research. In the following paragraphs and Table 1, we outline how and why technical concepts featured in informational documents – most importantly, in legally mandated consumer disclosures – should be more clearly communicated in a variety of domains.

Implication #1: Address Complicated Concepts Using Best-Worst Scaling

Jargon may be an issue in any context where experts (e.g., financial advisors, lawyers, doctors, or mechanics) interact with consumers and convey information that is necessary for making decisions. To our knowledge, identifying consumer-friendly language is typically an ad hoc approach, with policymakers choosing language with relatively little consumer input. This approach may be problematic because policymakers are experts who may suffer from the curse of knowledge (Camerer et al., 1989; Birch et al., 2017) in trying to imagine themselves as less knowledgeable, non-expert readers. The consequence may be language that is difficult for non-experts to understand. Indeed, Study 2 illustrated that baseline comprehension of existing terms is quite low, insofar as participants either guessed incorrectly or explicitly said that they "did not know" what the majority of existing terms meant (Figure 3). Here, we employed best-worst scaling to identify alternative language (e.g., Finn & Louviere, 1992; Flynn, Louviere, Peters, & Coast, 2007; Louviere, Flynn, & Marley, 2015), a novel methodology for this kind of policymaking task. Although approaches like conjoint analysis or intensive focus group testing may also promote improved disclosure comprehensibility, the best-worst scaling approach tested here is both straightforward to implement and easy to interpret, and we argue that best-worst scaling should be part of a policymaker's toolkit when composing information provision policies.

There are many potential applications for best-worst scaling across consumer contexts. For example, language on nutrition labels may not be as clear or meaningful as it should be (e.g., consumers may have trouble distinguishing among terms like "organic" versus "natural" or "pesticide-free"). Similarly, health insurance information has a multitude of confusing terms ("deductible," "co-pay") that may not be intuitive to consumers. Just as past research has argued for government-mandated warnings to be tested proactively (Kozup et al., 2012; Stewart &

Martin, 1994) and has documented both qualitative and quantitative approaches to test

mandatory disclosures (e.g., Garrison et al., 2012), we propose that a wider range of mandatory

disclosures could be subject to empirical testing to both generate and validate the language used.

By testing terminology before it becomes legally mandated, policymakers may help limit the

amount of jargon that consumers encounter.

<div align="center">--Insert Table 1 about here--</div>

Implication #2: Jargon May Limit Investment Participation

The result that our new terminology increased intentions to invest indicates one dramatic

problem with existing terminology: rather than making people feel more informed about

investments, current disclosures may scare them away from investing entirely. If not addressed,

such "non-participation" in financial markets could have significant consequences on consumers'

welfare, as consumers would miss a reliable method for long-run wealth accumulation. By

contrast, new terms both improved performance and dramatically reduced the subjective

difficulty of our Study 3 investment evaluation task. This suggests not only that consumers find

the existing terms used for fund fees to be overly complex, but also that changes to language can

help consumers feel more confident in their ability to make informed investment decisions.

Future research could explore how financial professionals and other third parties explain

specialized terminology and simplify it for their clients. In the meantime, the present work

suggests increased consumer participation in mutual fund markets in response to less jargon-

filled disclosures.

Engagement is also an issue outside of mutual fund disclosures. For instance, consumers

who anticipate frustration with complex product information may be less likely to search for, and

purchase, certain consumer goods (Kidwell, Hardesty, & Childers, 2008). Additionally, patients who find medical terminology intimidating or unclear may be unable to address underlying health problems, which could cause considerable stress if issues are unresolved (Wiener et al., 2013). Finally, emerging products and services such as cryptocurrency may be especially likely to feature complicated language or difficult-to-understand underlying concepts, making well-tested disclosures even more important to alleviate concerns related to nonparticipation or naïve reliance on third parties to determine investment strategies.

Implication #3: Policymakers Should Consider Effects of Changes on Experts and Novices

One concern when considering alternative terminology is that changes could interfere with consumers' existing knowledge. In particular, if consumers are familiar with existing terminology, there could be confusion or adjustment difficulties when they face unfamiliar terms. Indeed, Ben-Shahar and Schneider (2011) argue that securities disclosures are primarily intended for sophisticated participants; similarly, people who have learned about specialized medical tests or nutrients may have an easier time processing existing language relative to simplified terminology. On the other hand, complicated language could pose a barrier for the approximately two-thirds of Americans who do not have a college degree, and for the 43 million American adults who have trouble with simple literacy tasks like comparing and contrasting information (Mamedova & Pawlowski, 2019). Research suggests that some fees may discriminate against unsophisticated investors who lack financial literacy (see Anagol & Kim, 2012; Duarte & Hastings, 2012; Grinblatt et al., 2016), meaning that adequate communication of these fees is especially important. Weighing the costs and benefits to different consumer groups can pose a difficult balancing act for policymakers.

In our research, we explored this issue by recruiting participants with a variety of sophistication levels and experience with investments. Fortunately, we found no evidence that sophisticated participants suffered from revised language, instead finding that all participants generally benefitted. In some cases, our results suggest that new terminology could close the gap between respondents with different levels of experience. For instance, in Study 1, certain alternative terms were more preferred by moderately sophisticated, "retirement-only" investors, relative to the most sophisticated "independent" investors we studied (e.g., the term "seller's fee"). This pattern suggests that disclosure changes might be able to moderate the benefits otherwise generated by investment experience.

More broadly, to understand when heterogeneity in expertise may be an issue, we recommend that future research continue to explore differences between consumers—not just based on their own expertise, but also based on their access to others' expertise (e.g., financial advisors), their past purchasing behavior, geographic differences, demographic factors like age, education, or native language, and other dimensions. Though both sophisticated and novice investors benefitted from alternative terminology, that does not mean that future researchers or policymakers should ignore heterogeneity; rather, diverse samples are essential to test exactly who benefits from changes in policy, and to what extent (see Bryan, Tipton, & Yeager, 2021 for further discussion). Indeed, one limitation of our studies is that we were often insufficiently powered to examine heterogeneity along dimensions other than investment experience. In Study 2, for instance, our sample was almost entirely composed of non-Hispanic White participants, and while Study 3 was more representative of other racial and ethnic backgrounds, future research may need more explicit recruitment procedures in place to directly compare how terms are used by individuals of different demographic groups or other sources of heterogeneity.

Additionally, while we focus on individual consumers' ability to use jargon and alternative terminology, future research could test whether professionals—financial advisors, brokers, fund managers, and others—also benefit from changes in language used. Perhaps professionals also misunderstand current terminology, or perhaps revised language makes it easier for them to communicate with their clients. While we focus on individual consumers, we recognize that mutual fund fee disclosures are frequently evaluated by such financial professionals, and understanding how these professionals react to a shift in terminology is another important policy consideration.

Limitations and Extensions

Research on financial information is often criticized for occurring in the lab – leaving questions about whether consumers will pay attention to disclosures they naturally encounter (cf., Chin & Beckett, 2021). As with prior disclosure research that occurs in the lab, however, we believe it is imperative to test proposed changes before advocating for changes that could disadvantage investors or non-investors. To help bridge this gap, future research could investigate the impact these new terms might have on actual or hypothetical investment decisions. Our Study 3 results suggest that improved terminology promotes greater market participation relative to existing jargon, but we could only capture intentions; actual investors may react in ways difficult to capture in on our studies.

Lab-based disclosure research also neglects to examine how financial institutions will respond to disclosure changes (Loewenstein, Sunstein, & Golman, 2014). Hastings and Duarte (2012) and Anagol and Kim (2012) provide important evidence on how firms in Mexico and India, respectively, respond to government policy innovations related to investment fee

regulations. Both papers show that firms responded to policy changes by altering pricing to make it more difficult for consumers to avoid fees. In light of this evidence, it is feasible that the gains we identify, if implemented, could be mitigated by firm responses. For example, if consumers become more adept at understanding and responding to certain fund fees and expenses, firms may adapt by shifting the majority of expenses toward those fees least understood or deemed least important by investors. The present work suggests that many fees are associated with terms that obscure their meaning, potentially driving uninformed investment decisions. Future research can investigate how jargon interacts with salience and determine whether policies can be crafted in a dynamic way – for instance, by requiring mutual fund companies to highlight the fees under which they are making the highest revenues – to increase the effectiveness of fee disclosures for individual consumers.

Conclusion

Our research demonstrates that simple changes to language can increase comprehension, reduce the subjective difficulty of engaging with disclosures, and potentially promote both customer satisfaction and investment decision quality. These findings are relevant for Federal policy: in an order from the Federal Office of Management and Budget, executive agencies and regulators were encouraged to use plain language, with explicit mention that "Summary disclosure should also avoid jargon, technical language, or extraneous information" (Sunstein, 2010, p. 4). Additionally, a recent SEC rulemaking proposal recognizes that investors may experience difficulties when reading disclosures, discusses potential changes in terminology, and requests feedback on alternative required language.[vii] Such jargon is not easy to identify without testing, but with a relatively straightforward empirical procedure we determined which new terms could foster improved consumer comprehension and engagement.

To the extent that disclosures should be clear and that fees should be understandable, the present research serves as a cautionary note about investors' ability to comprehend investment options. More broadly, policymakers may question whether information disclosures fail to achieve their intended purpose across a variety of consumer product domains, such as food safety, internet privacy, or mortgage agreements, because the language used within these disclosures may be too full of jargon for customers to understand.

Indeed, we focus on jargon within the context of mutual fund fee disclosures despite the fact that most discussions of financial product disclosures are found in finance and managerial journals rather than more consumer-focused outlets. This suggests a need for reconsideration of financial disclosures more broadly to better connect scientific evidence and the policymakers who may decide what terms are used and how consumer-relevant information is disclosed. Research about consumer and firm responses to disclosures in domains like food safety (Jin & Leslie 2003; Wong et al. 2015), nutrition (Burton, Cook, Howlett, & Newman 2015; Roberto et al. 2021), tobacco (Hammond 2011), and understanding advertisements on social media platforms (Wojdynski & Evans 2016) may all have much to offer to financial regulators; we hope that our work helps to bridge this gap between consumer research and regulatory practice in the investment context.

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[i] In certain cases, we use terms that differ from the legally prescribed terms used in mutual fund registration forms; for instance, a front-end load is known as "Maximum Sales Charge (Load) Imposed on Purchases"; however, all of the existing terms we use are common in the mutual fund industry.

[ii] See, for instance, page 268 of the Tailored Shareholder Reports, Treatment of Annual Prospectus Updates for Existing Investors, and Improved Fee and Risk Disclosure for Mutual Funds and Exchange-Traded Funds; Fee Information in Investment Company Advertisements, Investment Company Act Release No. 33963 (August 5, 2020) [85 FR 70716 (November 5, 2020)] at section F.

[iii] Although the sample was drawn using a third-party panel using quota and screening procedures designed to include individuals of different investment experience, we recognize that the racial/ethnic demographics of this Study 2 sample are skewed to be non-representative of the U.S. population. We aim to address this limitation in Study 3 by recruiting participants using a more representative sampling approach.

[iv] In cases where calculations were shown in Table 1, the calculation text was omitted in Study 2. These omissions were implemented to ensure that the definitions could all show on one screen.

[v] Robustness tests conducted for any DVs with more than 493 observations, including non-respondents on other measures, generated the same patterns and significance levels for all primary analyses.

[vi] Because we recruited using Prolific Academic's "Representative Sampling" option, we did not have the ability to recruit people directly based on their investment experience, and thus we do not attempt to compare investor types in Study 3.

[vii] See Tailored Shareholder Reports, Treatment of Annual Prospectus Updates for Existing Investors, and Improved Fee and Risk Disclosure for Mutual Funds and Exchange-Traded Funds; Fee Information in Investment Company Advertisements, Investment Company Act Release No. 33-10814 (November 5, 2020) [85 FR 70716 (November 5, 2020)] at section F.

Table 1. Policy Takeaways: Lessons for communications and disclosure design

Issue for policymakers	How we addressed it	Recommendation and policy implication	Application to another consumer domain: Nutrition Labeling on Packaged Foods	Application to another consumer domain: Health Insurance Enrollment Forms
Disclosures deal with technical concepts using language that may be difficult to understand.	We demonstrate a relatively simple and fast method for identifying more intuitive language in disclosures.	Communication designers should consider best-worst scaling when designing language for a variety of consumer-facing products.	Test consumer understanding of food claims like "organic" (André, Chandon, & Haws, 2019) by comparing via best-worst scaling to alternatives like "natural" or "pesticide-free."	Alternative terms for concepts like "deductible", "co-pay", and "co-insurance" can be tested, alongside measurement of intuitiveness of existing terms for consumers.
Jargon can reduce consumers' willingness to purchase given products.	We show that improved fund fee language can increase investment intentions, in part by reducing the subjective difficulty of using disclosed information.	Policymakers should aim to measure subjective consumer experience, including difficulty, as this can have consequences on policy effectiveness.	Experimental testing can evaluate whether front-of-package health claims reduce consumers' willingness to purchase those food items.	Testing can assess to what extent certain parts of an insurance enrollment form pose a barrier to applications and cause people to remain uninsured.
Changes to disclosures could make information less useful for existing experts because of switching costs and unfamiliarity with new terminology.	We test for differences between consumers of different sophistication levels. We find no detrimental effects on sophisticated participants. Instead, their comprehension also improves with new terminology.	We recommend further tests that explore potential consumer heterogeneity, to understand when switching costs associated with new language may arise and how to mitigate them.	Conduct consumer testing with participants from varying body mass index categories, with varying nutrition literacy, and/or from varying socioeconomic backgrounds.	Conduct consumer testing with both insured and uninsured participants, as well as along other demographic sources of heterogeneity (e.g., education).

Figure 1. Figure Illustrating Design of Best-Worst Scaling Task (Study 1).
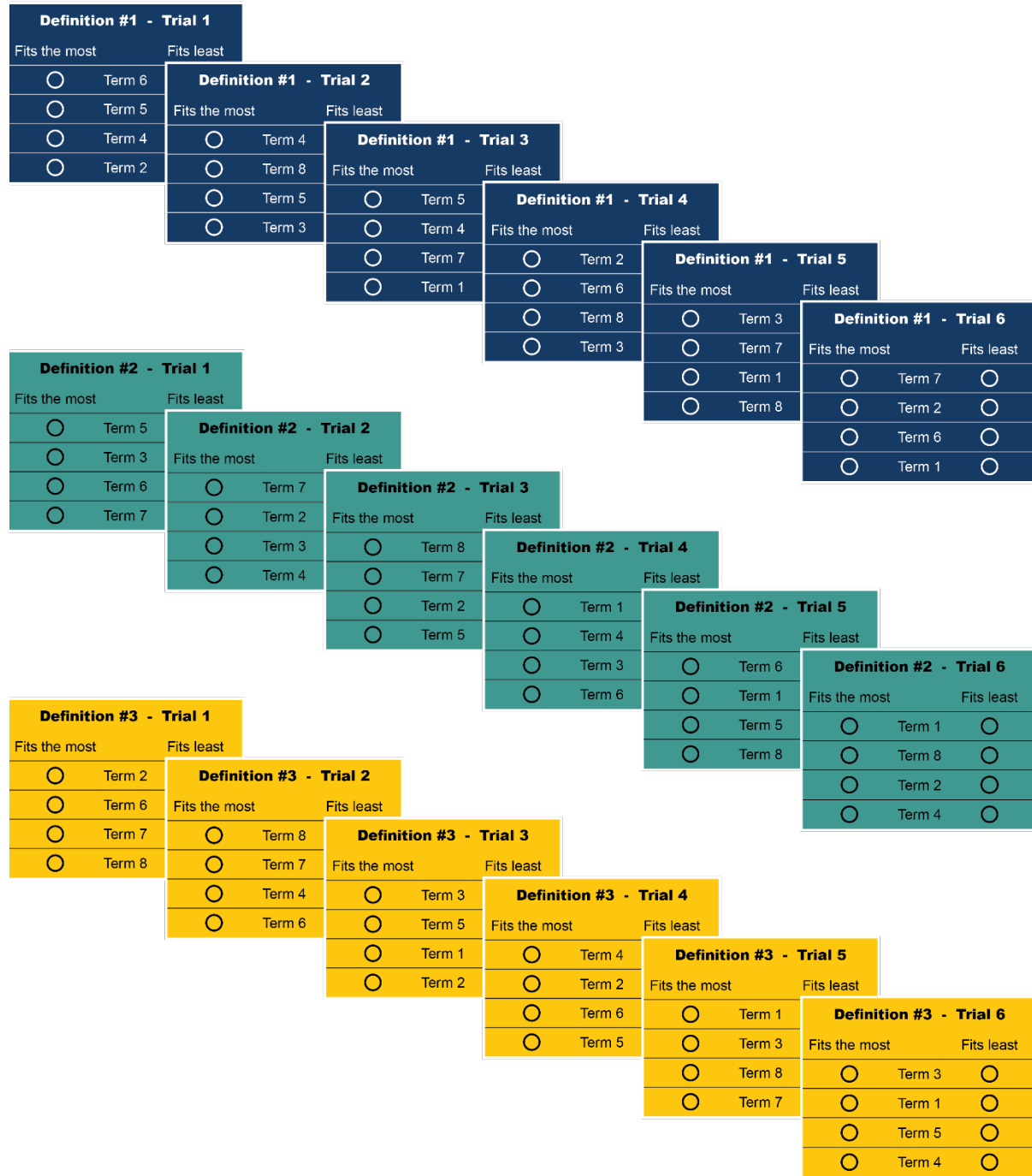
Note. In Study 1, participants rated each of three definitions six times. This figure shows one variant on the order and selection of terms for a given participant.

Figure 2. Best-Worst Scaling Scores for Existing Jargon and New Terms (Study 1).
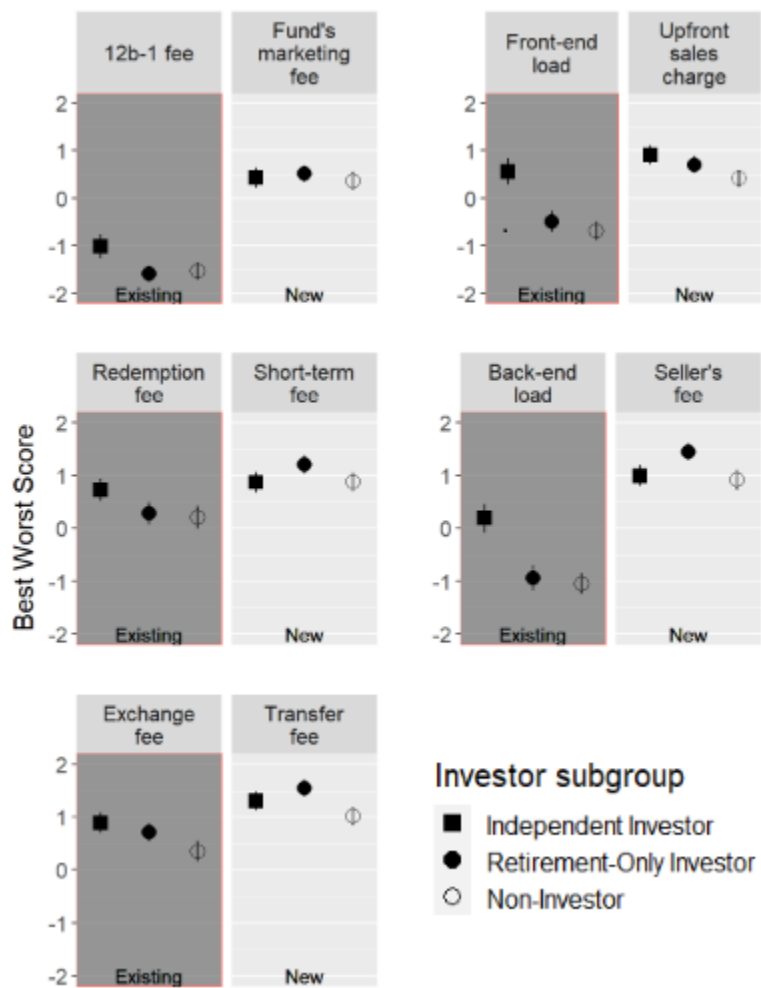
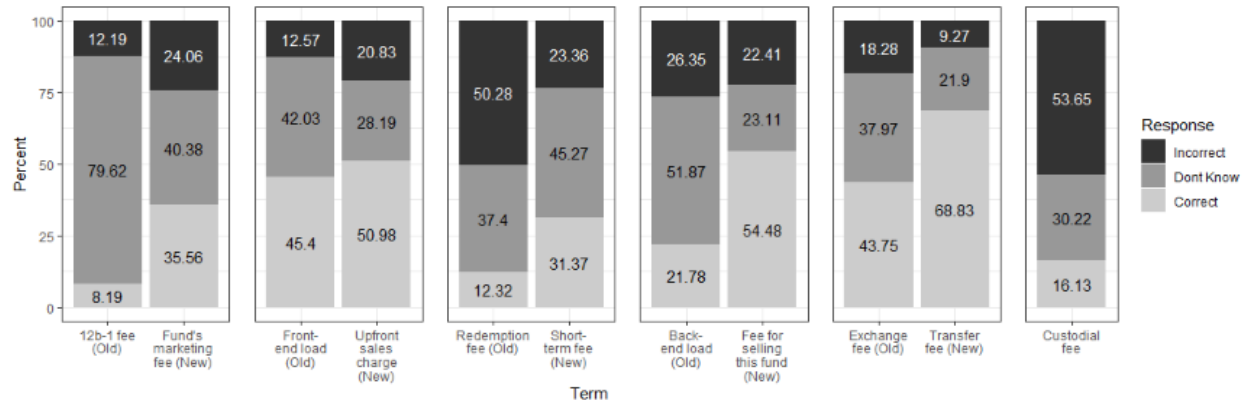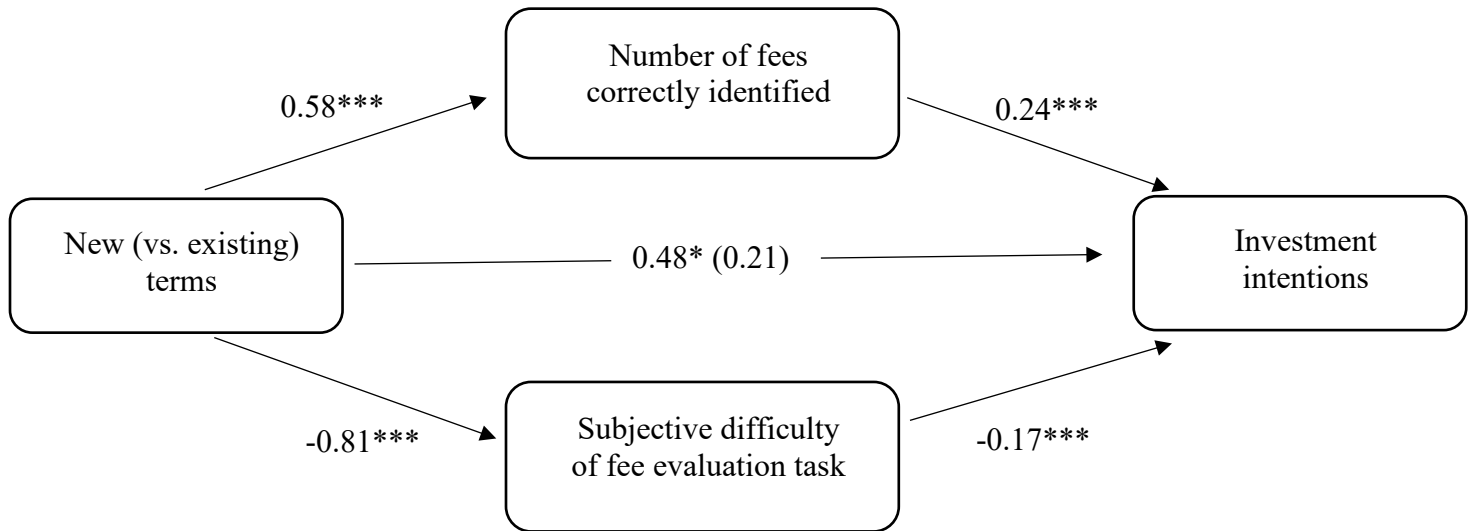**Figure 3**. Distribution of Results on Mutual Fund Fee Terms (Study 2).

Figure 4. Mediation Analysis (Study 3).

Note. Coefficients are betas from regression models.