

Enabling DIY investors to make more informed, deliberate decisions

Canadian Investment Regulatory Organization | Behavioural Insights Team

Final Report: February 2026



Table of contents

Item	Slide
Executive summary	3
Rapid evidence review, market scan & expert interviews	15
Prototyping & qualitative testing	19
Online randomized controlled trial	26
Appendix: Intervention screens	51

Executive summary

Project context and objectives

Order execution only (OEO) platforms offer autonomy and access to retail investors. However, limitations in the resources provided by OEO platforms can hinder retail investors' ability to make informed investment decisions.

In 2025, CIRO issued [proposed guidance](#) clarifying and expanding the scope of permitted educational resources, notifications, alerts and self-help tools on OEO platforms. The goal was to enable platforms to better support DIY investors in making more informed decisions. The guidance refers to these approaches collectively as “**decision-making supports**,” and notes that these are generally permitted as long as they do not constitute a recommendation.

Project objectives:

- This project, conducted by the Behavioural Insights Team (BIT) and the Canadian Investment Regulatory Organization (CIRO), aimed to **develop and test** decision-making supports that would encourage do-it-yourself (DIY) investors to **pause, reflect, and/or self-educate** before making investment choices.
- Our goal was to test supports that would be **feasible** to implement, **preserve investor autonomy** and **choice**, and **maintain a high-quality user experience**.

Project scope

The potential scope of decision-making supports is extraordinarily broad. They could inform decisions across the investor journey, from account opening, to researching and executing trades, to setting and updating investing strategies. Based on CIRO's research, priorities, and expertise, we focused this project on helping investors navigate **higher-risk** choices across several key moments. These included:

Prioritized investor actions:

- Opening a high-risk account
- Concentrated high-risk transactions
- Periodic check-ins to invite portfolio review and reflection

Prioritized investor risks:

- Crypto
- Options
- Margin
- Meme and micro-cap stocks
- Portfolio under-diversification

As described further in this report, the project scope was refined through each research activity. The final activity, a quantitative evaluation, focused on the **account-opening** decisions related to **crypto**, **options**, and **margin**.

Project phases

From June 2025 – February 2026, BIT and CIRO collaborated on an applied research project with 3 key phases:

Rapid evidence review, market scan & expert interviews

We consulted with researchers, regulators, and platform operators. We reviewed and synthesized existing evidence from academic and “grey” literature. We also conducted a targeted scan of existing decision-making supports on registered OEO platforms in Canada.

Prototyping & qualitative testing

We developed a wide range of decision-making supports based on the research and relevant behavioural science and information design theory. These concepts were iteratively refined with CIRO, then qualitatively tested and improved through 6 focus groups with about 25 Canadian investors.

Online randomized controlled trial

We rigorously, quantitatively tested three decision-making supports through an online randomized controlled trial with over 2,500 participants. We measured the extent to which these supports reduced propensity to open higher-risk accounts and trade in higher-risk investment products. We also measured how they affected knowledge of investment risks.

Research findings (1/6)

Through a literature review, environmental scan, focus groups, and online randomized controlled trial, CIRO and BIT developed, refined and tested decision-making supports. These supports could be implemented on OEO platforms to help DIY investors make more informed and deliberate decisions for themselves.

Effective and promising decision-making supports:

- Our research identified effective, concrete practices **that resulted in investors opening fewer higher-risk investment accounts and products**, specifically margin, options, and crypto. These impacts were **concentrated among conservative and moderately risk-seeking investors**, not aggressive investors.

Continued on next slide.

Research findings (2/6)

Effective and promising decision-making supports (continued):

- Our randomized controlled trial found that **an interactive decision-making support - a quiz - decreased the opening of high-risk accounts by 16% and subsequent trading in high-risk investments by 10%**. It also increased knowledge of the risks associated with these investments. More broadly, there is value in decision-making supports that include active engagement, including brief quizzes and simulations.

Margin Risk Check (1/2)

Take this short, two-question quiz to review key risks before you proceed. Your responses may help you decide if this account is the best fit for you.

1. If you purchase \$5,000 worth of a stock by paying \$2,500 in cash and using margin for the rest, what is the maximum you could lose?



- \$2500 + interest / trading fees
- \$5000 + interest / trading fees
- \$7500 + interest / trading fees
- \$0 as the principal is guaranteed

Skip question Next question

Figure 1: Interactive quiz example for trading margin

Research findings (3/6)

- An “**applied risk**” decision-making support that **translated the conceptual or abstract risks** of a given type of investment **into dollars and cents, decreased the opening of high-risk accounts by 16% and subsequent trading in high-risk investments by 10%.**
- While our most definitive findings relate to these interactive and applied risk-focused decision-making supports, our rapid evidence review and qualitative research **identified a number of other promising practices and general principles for further research, development, and testing:**
 - Drawing from the responsible gaming domain, consider enabling users to set “limits” on things like trading frequency, portfolio concentration, etc.



Trading options is very risky. Small price moves can lead to large losses, and you can lose your entire investment quickly.

Example: If you spend \$1,000 on call options and the underlying stock falls 20%, you could lose the full \$1,000 premium by expiry.

Before opening an options account, make sure this aligns with your investing strategy and goals.

Figure 2: Applied risk warning example for trading options

Continued on next slide.

Research findings (4/6)

Continued from previous slide.

- Enable users to set goals regarding their portfolio composition and trade risk levels, then tie decision-making supports to those user-defined goals.
- Include reflection prompts or other decision-making supports when providing activity summaries (e.g., monthly reports) to users.
- Across all decision-making supports, use plain and concrete language, recommend (and enable) specific actions or next steps, and formatting that draws attention to the support.

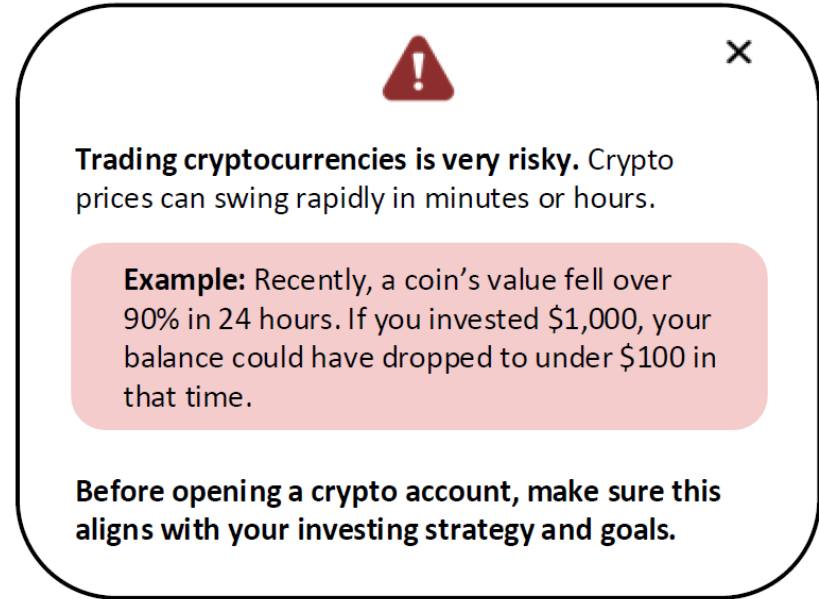


Figure 3: Applied risk warning example for trading crypto

Research findings (5/6)

Ineffective and unpalatable decision-making supports:

Across our research methods, we also learned a lot about what does **not** appear promising for the design and implementation of decision-making supports. A number of the ideas we initially developed we now believe will be ineffective in informing investor decision-making and/or unpalatable for investors.

- Our clearest “negative” finding is that a “**checkbox confirmation**” approach, where users tick a box to indicate that they have reviewed and accept certain risks, is **not** effective in helping users make more deliberate decisions. In our testing, this approach had **no impact on account opening or trading decisions**. We hypothesize that checkbox confirmations function as an administrative task to be completed (like accepting terms and conditions), not as a prompt to reconsider decisions.

Continued on next slide.

Research findings (6/6)

Ineffective and unpalatable decision-making supports (continued):

- Our qualitative and desk-based research further suggests that platforms should proceed cautiously in implementing decision-making supports that:
 - Mandate a pause or delay (e.g., of 30 seconds) before investors can execute a decision, as this was seen in our qualitative research as a “countdown” rather than a deliberation prompt.
 - Are frequently repeated; it frustrates users and fades into the background, undermining intent.
 - Use questioning or directive language that feel patronizing or judgemental to users.
 - Remind users of legalistic disclosures, which are generally poorly attended to.

Key considerations for OEO platforms

This research was commissioned to support OEO platforms to implement decision-making supports. The findings highlight **effective practices that platforms may adapt and refine within their own environments**, including through ongoing evaluation (e.g., A/B testing). Where appropriate, they should share their findings to enable more refined and empirical regulatory guidance over time.

CIRO and BIT recognize that platforms are balancing the need for a streamlined user experience while meeting the needs of newer, less knowledgeable, and more conservative investors *without getting in the way of more experienced and knowledgeable investors*. To achieve this, **we recommend deploying some decision-making supports only for certain sets of users**. More broadly, we **encourage platforms to calibrate the content, frequency, and format of decision-making supports by user**. For example:

- Platforms should use what they know about user familiarity and experience with different asset classes (e.g., crypto) to calibrate the nature and volume of informational decision-making supports.
- Platforms should consider allowing users to change decision-support settings, such as reducing their frequency or disabling them after first exposure, while retaining essential one-time supports at key decisions (e.g., around the opening of new higher-risk accounts and/or initial trades in higher-risk products).

Opportunities for further research

Beyond publishing and socializing this report, **we believe there is an opportunity to conduct further research to develop and test decision-making supports**. This research could examine **other use cases** (e.g., trade execution, portfolio) and **other interventions**, including those we developed in this project but did not prioritize for testing.

Testing decision-support tools in real-world platform environments, in collaboration with platform operators, can generate practical insights and support the continued refinement of guidance as implementation practices evolve. While the “sandbox” testing conducted for this report is robust and innovative, there will always be questions about how it translates to actual platforms.

Rapid evidence review, market scan & expert interviews

Evidence review and market scan: Methodology

BIT conducted the evidence review and market scan using a structured, rapid approach. This approach was used to gather, synthesize, and assess relevant research and examples of practices in retail investing and related domains. Specifically, we:

- Focused on approaches that encourage investors to pause and reflect before making decisions misaligned with their long-term goals.
- Considered evidence from retail investing as well as adjacent domains (e.g., online trading platforms, robo-advisors, gambling, e-commerce, health behaviour).
- Reviewed peer-reviewed and “grey” literature (including regulatory reports, working papers, and case studies), as well as platform policies, public disclosures, and current market practices.
 - Studies and examples were screened for relevance, focusing on interventions with demonstrated or plausible effects on investor behaviour.

This was a rapid review rather than a systematic review. While care was taken to capture a broad and representative range of evidence, some relevant studies may not have been included.

Summary of identified practices (1/2)

Our research identified 10 categories of interventions that could enable more informed and deliberate decisions for DIY investors. Each approach draws on evidence from investing and related domains – together, they provide a broad menu of options to consider for future design and testing:

1. **Positive friction (delays & additional steps to the user journey):** Extra steps, deliberate delays, or complexity added to slow down decision-making.
2. **Automatic messages / pop-ups:** Real-time informational prompts that appear in the platform as users take action.
3. **Labels:** Visual markers that show additional information on an asset or investment product, making risks & characteristics more salient to investors. Labels are increasingly common across OEO platforms and are a simple mechanism to support decisions.
4. **Self-control tools (limit setting and cool-off periods):** Voluntary limits on time spent on trading platform, trading frequency, or trading amounts.
5. **Goal-setting:** Prompts to set intentions or commitments in advance to guide future decisions.

Summary of identified practices (2/2)

Our research identified 10 categories of interventions that could enable more informed and deliberate decisions for DIY investors. Each approach draws on evidence from investing and related domains – together, they provide a broad menu of options to consider for future design and testing:

- 6. Feedback on user activity:** Summaries and visualizations showing users their trading patterns and outcomes over time.
- 7. Checklists:** Step-by-step lists to ensure investors understand key risks before acting.
- 8. Defaults:** Pre-selected options or settings that nudge users toward prudent behaviours.
- 9. Dynamic educational content & resources:** Interactive, structured learning content, calculators, planners, or guides that adapt to user inputs to build knowledge before and during trading.
- 10. Messaging & framing:** Presenting information to highlight potential risks, benefits, or trade-offs more clearly.

Prototyping & qualitative testing

Prototyping & qualitative testing: Methodology

Building on the evidence review findings, BIT followed a structured, iterative approach to develop and refine decision-making support prototypes. The approach comprised the following steps:

- First, BIT developed mock-ups of decision-making supports that reflected the strongest evidence for two use cases: higher-risk account opening and higher-risk trade research and execution, with crypto, options, and margin accounts serving as illustrative products.
- We iteratively refined the initial prototypes with CIRO.
- We then tested the prototypes through a series of focus groups to gather qualitative feedback on initial reactions, clarity, perceived influence on behaviour, and general design feedback.

This section presents the prototypes developed for the account-opening use case, together with the qualitative insights from focus groups that informed their refinement and selection for quantitative testing.

Focus group: Methodology



6 focus groups



3-5 participants each



Conducted online



90 minutes

1. Participants

- Six focus groups with self-directed investors or individuals considering managing their own investments.
- All participants had interest in or experience with crypto, margin, or options.
- Groups were organized by product and decision stage (account opening or trade execution).

2. Sessions

- Participants reviewed higher-risk investment scenarios and prototype decision-making supports.
- Discussions explored clarity, credibility, and likely influence on decisions.
- Participants compared and ranked the supports.

3. Analysis

- Sessions were facilitated by the same senior researcher.
- Recurring themes across groups were identified through thematic analysis.
- These themes informed the insights presented in the following slides.

Focus group: General reflections (1/3)

Here, we summarize **general, cross-cutting insights from the focus groups:**

- **Newer investors actively want guidance** and are more open to prominent decision-making supports across their investor journey; **experienced, confident investors want speed and minimal interruption.**
 - Supports were very unlikely to “stop” a confident investor, nor is that their purpose. Among some experienced investors, ‘non-intrusive’ interventions (e.g., those that don’t interrupt trading) were still considered helpful as long as investors had the choice to minimize or skip.
 - For the less confident, supports primarily encouraged them to double-check their order, reduce amounts invested in a given trade, engage in further research, or seek out guidance from others.
- Overall confidence navigating OEO platforms was high, but there were major variations in comfort level with the higher-risk accounts and choices we were researching. At baseline (before exposure to any supports), crypto confidence was much higher than options and margin. “Meme stocks” were generally seen as a form of gambling.

Focus group: General reflections (2/3)

Investors generally appreciated or responded positively to:

- Personalized, specific prompts felt real, “courteous,” and more credible than generic warnings. These built trust among investors as they felt platforms were trying to help them make the right decisions.
- Short, plain-language checkbox confirmations with a clear ‘accept’ step were broadly acceptable, especially as a one-time or first-session “speed bump.”
- Investors wanted to see concrete next steps tied to the informational supports; for example, they wanted warnings to be accompanied with links for further resources or to account settings (e.g., limits on certain types of trades). (BIT notes that on average, individuals overestimate their likelihood of engaging with further educational content in focus group and other research settings.)
- Clear and attractive visuals and formatting made a significant difference in attracting and maintaining investor attention.
- Although concrete risk language citing potential losses elicited a negative reaction among some participants, they were effective in promoting reflection.

Focus group: General reflections (3/3)

On the other hand, they reacted negatively to supports that:

- Generic “terms-of reference-style” pop-ups felt like “wallpaper” and were the most likely types of decision-making supports to be ignored by investors; investors felt like it was “just a legal requirement” and could be ignored.
- Supports that forced investors to pause for a certain length of time (e.g., 30 seconds), felt like “countdowns” that might actually encourage going through with their initial intention rather than second-guessing it, and created confusion.
- Tone really mattered in how investors responded to the supports; very direct language was often seen as patronizing.
- One of the supports that we tested, an objective knowledge quiz, was polarizing. Investors wanted context on why they were being quizzed, and the way that quiz results were presented to them felt “judgy.” (BIT notes that based on this insight, we reframed the quiz results in the next phase of the project - quantitative testing.)

Promising decision supports for trade execution

The focus group feedback on the account opening prototypes directly informed the decision-supports we tested in the online randomized controlled trial (i.e., a study where participants are randomly assigned to either a treatment group or a control group), discussed in the following section. In the focus groups, we also qualitatively assessed decision-making supports for trade execution, which were not tested further.

This trade would concentrate over 10% of your portfolio in a high-volatility stock. Consider diversifying.

If VONICS stays at or below \$52.25 by Oct 14, your call option expires with no value. You lose your full investment. Your break-even stock price is \$62.30 (\$52.25 strike + \$10.05 premium per share).

Most promising decision supports:

- Warnings or labels that explain when a portfolio is under-diversified (i.e., highly concentrated) or how a trade will impact portfolio diversification.
- Information that explains how a change in asset price would translate into losses for margin and derivatives trades.
- Additional warnings about the potential scope of losses for a trade (margin and derivatives).

These supports are most promising and relevant for less experienced retail investors.

Online randomized controlled trial

Overview of experiment

We used an innovative, rigorous methodology to test the impact of three decision-making supports that were selected and refined based on the evidence review and focus groups. The supports were: 1) translating abstract risks into concrete risks (Applied Risk Warning); 2) requiring users to confirm acceptance of the risks (Checkbox Confirmation); or 3) actively engaging investors through a risk-focused quiz (Educational Quiz). We assessed impact on account opening and trading choices in an online simulation.

- We prioritized the account opening stage because it is an “upstream” inflection point that has received less attention than trade execution in prior research. Mandatory disclosures at this stage represent a pragmatic opportunity to layer in effective decision-making supports.
- Using an online randomized controlled trial, we tested whether the three supports reduced the number of higher-risk accounts opened relative to a neutral control condition based on the current, standard disclosures. We hypothesized that seeing the supports would help steer investors, especially less knowledgeable, experienced, and risk-seeking investors, away from opening these accounts. We also thought that these supports would affect downstream investment choices, reducing total investment in higher-risk products.

Experimental methodology: Approach

1. Sample / scenario

We recruited 2,991 Canadian residents aged 18 or older through an online panel. 84% of the sample were investors; 85% expressed interest in or experience with crypto, options, or margin; and 95% indicated conservative to moderate risk preferences. These characteristics represent the target audience for the decision-making supports. Participants were told they had received \$10,000 and had decided to invest it, taking a medium- to long-term perspective.

We randomly allocated each participant to the control group (standard disclosure) or one of the three treatment groups (a decision-making support).

2. Interventions / simulation

Participants opened a non-registered investment account. They were then asked whether they wanted to open crypto, margin, or options accounts. These additional accounts were presented one-at-a-time in a random order.

For each account, all participants saw a standard disclosure. Then those in a treatment group saw one of the three decision-making supports: **Applied Risk Warning, Checkbox Confirmation, or Educational Quiz**. All participants then indicated whether or not they wanted to open the account.

After, all participants allocated their \$10,000 to a variety of investment options, including margin, crypto, and options.

Experimental methodology: Approach

3. Additional questions / analysis

Last, participants answered questions to assess their risk comprehension and risk perceptions for options, crypto, and margin.

Our analysis focused on the following outcomes:

Primary: Number of accounts opened, a value between 0 and 3.

Secondary: Total dollar amount allocated to options, margin, and crypto in the investment allocation activity, combined.

Exploratory: Risk perceptions and comprehension.

Experimental methodology: Interventions

Control: Disclosure only



Margin Account

An investment account that allows individuals to borrow funds to purchase securities.

Margin Trading Risk Disclosure: In proceeding with the account opening process, you acknowledge the receipt of the [Margin Lending Disclosure Statement](#). You also acknowledge the risks inherent with trading on margin, including that you can lose more funds than you deposit. We strongly recommend that you review this disclosure in detail before continuing with the process.

Would you like to open a Margin Account?

No, continue
without opening

Yes, open Margin
Account

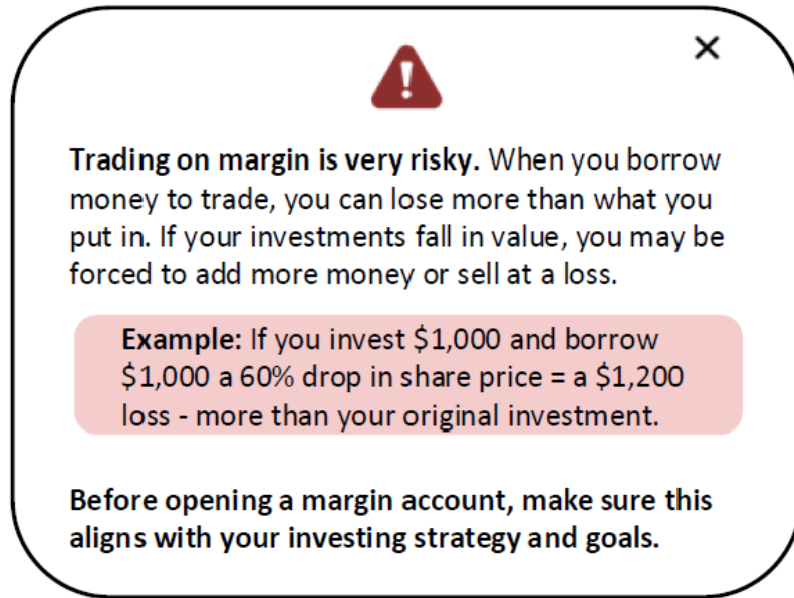
Figure 4: Margin account opening
with disclosure only

Refer to [Appendix: Intervention screens](#) for more information.

Experimental methodology: Interventions

Intervention 1: Applied risk warning

After seeing the disclosure



Trading on margin is very risky. When you borrow money to trade, you can lose more than what you put in. If your investments fall in value, you may be forced to add more money or sell at a loss.

Example: If you invest \$1,000 and borrow \$1,000 a 60% drop in share price = a \$1,200 loss - more than your original investment.

Before opening a margin account, make sure this aligns with your investing strategy and goals.

Would you like to open a Margin Account?

No, continue
without opening

Yes, open Margin
Account


Figure 5: Applied risk warning during account opening


Experimental methodology: Interventions


Intervention 2: Checkbox confirmation

After seeing the disclosure

Trading on margin is very risky. Consider how these risks can affect you.

 Borrowing amplifies gains & losses - you can lose more than you invest.

 If your balance drops too low, you may need to add funds or your assets could be sold without notice.

 Interest charges apply, and all borrowed amounts must be repaid regardless of market performance.

I've read and understand how these risks could affect me

Cancel without opening

Continue to account opening

Would you like to open a Margin Account?

No, continue without opening

Yes, open Margin Account

Figure 6: Checkbox confirmation during account opening

Experimental methodology: Interventions

Intervention 3: Educational quiz

After seeing the disclosure

Margin Risk Check (1/2)

Take this short, two-question quiz to review key risks before you proceed. Your responses may help you decide if this account is the best fit for you.

1. If you purchase \$5,000 worth of a stock by paying \$2,500 in cash and using margin for the rest, what is the maximum you could lose?

- \$2500 + interest / trading fees
- \$5000 + interest / trading fees
- \$7500 + interest / trading fees
- \$0 as the principal is guaranteed

Skip question

Next question

Would you like to open a Margin Account?

No, continue
without opening

Yes, open Margin
Account

Figure 7: Educational quiz during account opening

Experimental methodology: Asset allocation

After account opening, participants were asked to allocate \$10,000 across the following investment options. We compared how the total amount allocated to options, margin, and crypto stocks differed based on the decision support viewed.

Investment Opportunity	Amount of cash invested	Additional details
Buy stock in BOODL, a medium-sized technology company	[____]	
Buy stock in BOODL on 50% margin (i.e., 2:1)	[____]	Total value of investment: [__]
Buy options call on BOODL at a strike price of \$2.76 in 2 years	[____]	Number of contracts: [__]
Buy CIBER, a “mid-cap” (i.e., medium sized) cryptocurrency coin	[____]	
Buy INDEX, a diversified, passively-managed fund replicating the TSX	[____]	
Buy BALNCE, a diversified, passively managed balanced fund with 60% equity / 40% fixed-income allocation.	[____]	
Total	\$10,000	

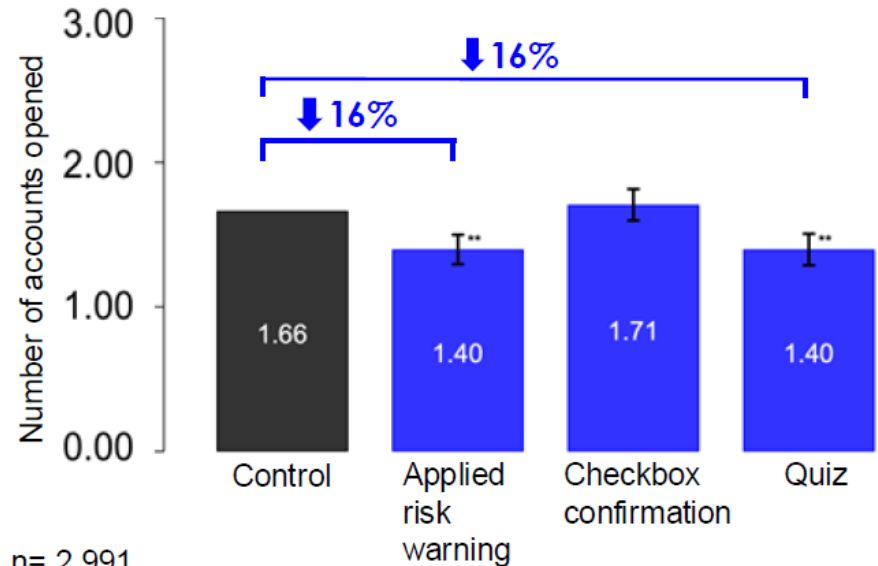
Applied risk warnings and educational quizzes reduced the number of accounts opened by 16%, while the checkbox confirmation had no effect (1/2)

The **applied risk warning and educational quiz** had a material impact, **reducing the number of high-risk accounts opened by 16%** compared to the control group.

- Making risks more concrete or requiring active engagement, such as through a quiz, reduces propensity to make higher-risk financial decisions.

Continued on next slide.

Figure 8: Number of accounts opened by treatment group



n = 2,991

** p < 0.0167, * p < 0.025, + p < 0.05

Primary analysis, controlling for interest, age, and gender

Applied risk warnings and educational quizzes reduced the number of accounts opened by 16%, while the checkbox confirmation had no effect (2/2)

The **checkbox confirmation had no** (statistically significant) **impact** (see Figure 8).

- Requiring users to actively confirm acceptance of risks does not create a sufficient "speed bump" to prompt deliberate reflection.

All supports increased the visual prominence of risk information.

- The lack of any effect from the checkbox confirmation suggests that prominence is not enough; rather, the "applied" and interactive nature of the other supports drives their impact.

The effects of the decision-making supports on account opening were strongest on options and weakest on crypto (1/2)

Descriptively, crypto was of interest to the highest number of participants, but not by a lot.

The two decision-making supports that impacted account opening had the **largest effects on options** (-19% and -29%), and the **lowest on crypto** (-7% and -9%).

- We hypothesize this is because options are the least familiar and most complex, with the inverse being true of crypto. We see support for this in the data. 39% of the sample had experience trading crypto, compared to only 7% who traded options.

Continued on next slide.

Percentage of participants that opened each account by treatment group			
Treatment group	Margin	Options	Crypto
Control	49.25%	56.77%	60.40%
Applied risk warning	40.67% (-17%)	45.73% (-19%)	56.40% (-7%)
Checkbox confirmation	52.30% (+6%)	56.91% (0%)	62.20% (+3%)
Educational quiz	45.96% (-7%)	40.28% (-29%)	54.75% (-9%)

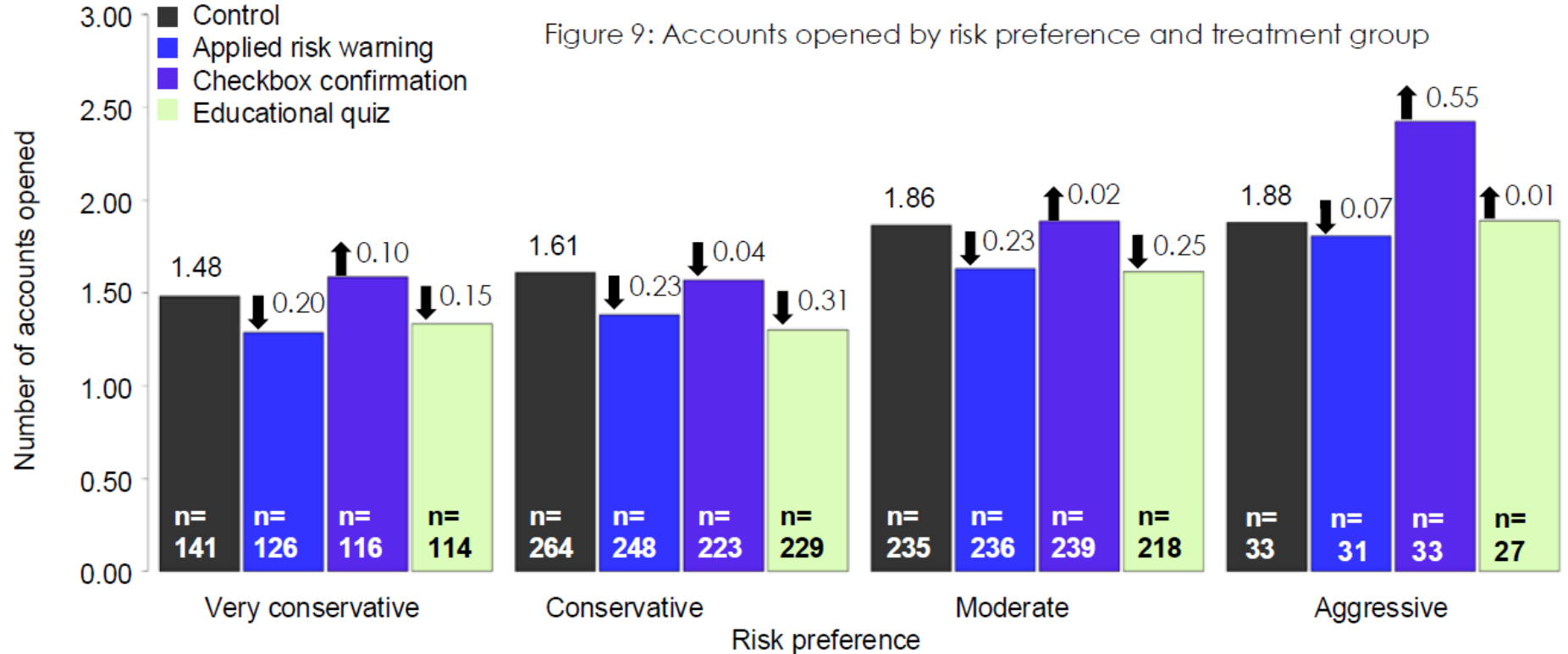
The effects of the decision-making supports on account opening were strongest on options and weakest on crypto (2/2)

The educational quiz was particularly influential in reducing the opening of options accounts (-29%).

- We believe this is because participants were most likely to get the options quiz questions wrong (23% fewer correct responses than the other accounts), leading them to rethink opening an account.

Percentage of participants that opened each account by treatment group			
Treatment group	Margin	Options	Crypto
Control	49.25%	56.77%	60.40%
Applied risk warning	40.67% (-17%)	45.73% (-19%)	56.40% (-7%)
Checkbox confirmation	52.30% (+6%)	56.91% (0%)	62.20% (+3%)
Educational quiz	45.96% (-7%)	40.28% (-29%)	54.75% (-9%)

The effects appear strongest on conservative and moderately-risk seeking investors, with no observed effect on “aggressive” investors



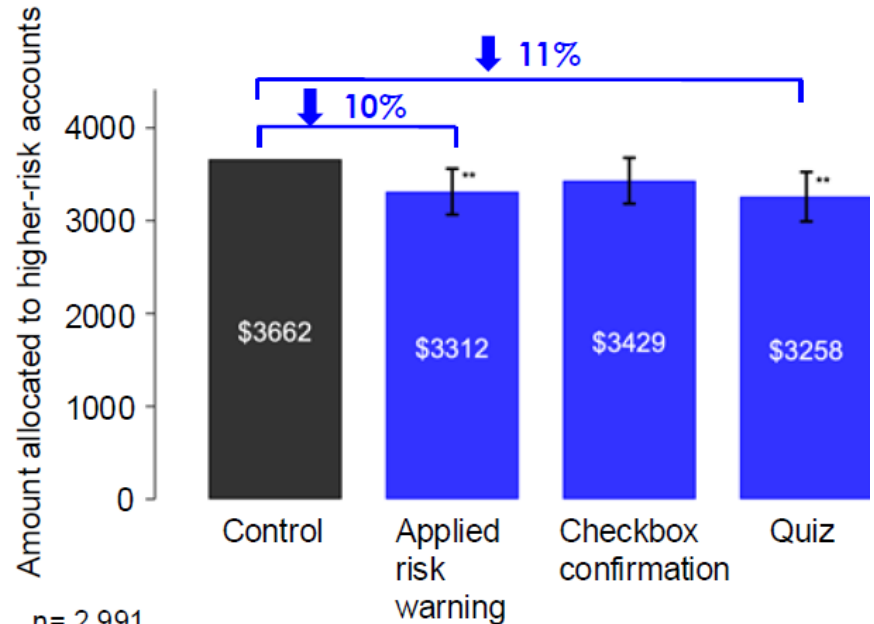
This data should be interpreted with caution, as the sample sizes are very small, especially for aggressive investors. ³⁹

The influence of applied risk warnings and educational quizzes during account opening extends to subsequent investment decisions

Consistent with the impact on account opening, both **the applied risk warning and educational quiz** had a **clear impact on trading, reducing higher risk investments by 10–11%** compared to the control group, while the **checkbox confirmation had no impact**.

- The consistency between account-opening and trading outcomes strengthens our confidence in the effect.
- Decision-making supports introduced at account opening can influence subsequent investment choices, at least when those decisions are made shortly after.
- Applied risk and interactive approaches, like quizzes, may also be effective decision-supports during trading execution (with appropriate modifications for context).

Figure 10: Amount allocated to higher-risk accounts by treatment group



n = 2,991

** p < 0.0167, * p < 0.025, + p < 0.05

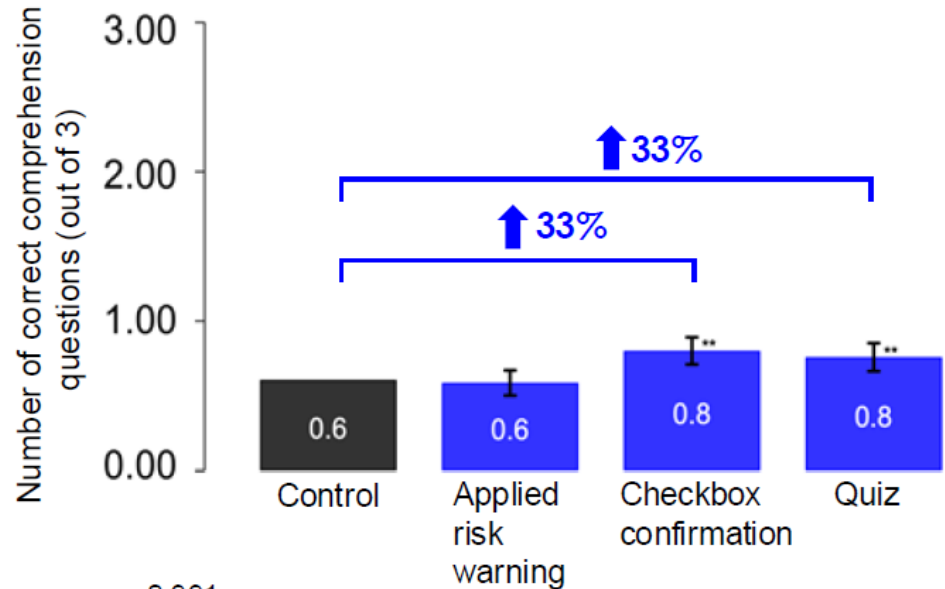
Primary analysis, controlling for interest, age, and gender

Checkbox confirmations and educational quizzes increased general knowledge of risks, but this type of knowledge does not appear to drive investor decisions (1/2)

Overall, **comprehension of the conceptual risks associated with crypto, options, and margin were low**. Even in the groups with the highest average comprehension scores, the average participant answered fewer than 1 question correctly out of the 3 we asked (one question on each type of product).

Continued on next slide.

Figure 11: Conceptual knowledge of risks by treatment group



n= 2,991

** p < 0.0167, * p < 0.025, + p < 0.05

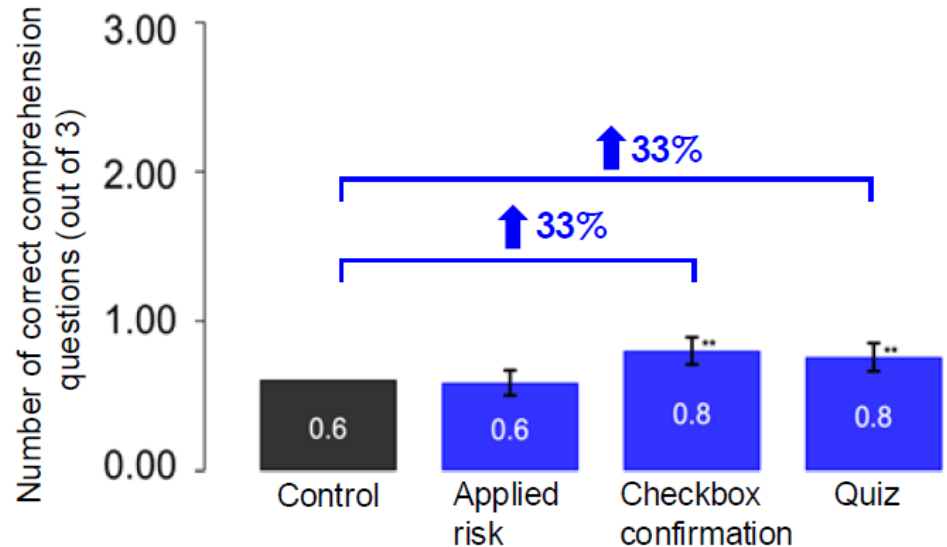
Primary analysis, controlling for interest, age, and gender

Checkbox confirmations and educational quizzes increased general knowledge of risks, but this type of knowledge does not appear to drive investor decisions (2/2)

Both the **checkbox confirmation** and **educational quiz** improved knowledge of the general risks associated with the three types of products, **increasing correct answers by 33%** relative to the control group. However, the **applied risk warning** **did not increase knowledge of general risks**.

- **There is no clear and consistent relationship between understanding of conceptual risks and behaviour change.** While the checkbox group had higher conceptual knowledge than the control, that did not translate into number of accounts opened. The inverse was true for the applied risk warning.

Figure 11: Conceptual knowledge of risks by treatment group



n = 2,991

** p < 0.0167, * p < 0.025, + p < 0.05

Primary analysis, controlling for interest, age, and gender

Visual prominence of information and active engagement increase comprehension, but general risk knowledge has limited impact on decisions (1/2)

The type of general or conceptual risk information we tested participants on was most visually prominent in the checkbox confirmation, especially for options. We see the largest gains in comprehension in this group / product.

- As one might expect, more visually prominent information is more likely to increase comprehension.

This general or conceptual risk information was less visually prominent in the educational quiz (especially for options), which focused on assessing participants' existing knowledge, not on increasing knowledge.

Continued on next slide.

Percent that answered comprehension questions correctly (and % change)			
Treatment group	Margin	Options	Crypto
Control	13.03%	22.93%	24.69%
Applied risk warning	12.80% (-2%)	24.27% (+6%)	21.60% (-13%)
Checkbox confirmation	16.26% (+25%)	31.17% (+36%)	32.93% (+33%)
Educational quiz	17.30% (+33%)	25.67% (+12%)	33.33% (+35%)

Visual prominence of information and active engagement increase comprehension, but general risk knowledge has limited impact on decisions (2/2)

However, we still see large increases in comprehension in the educational quiz group.

- The active processing required in the quiz may boost comprehension. The increase may also be partly due to differences in pre-existing knowledge, as more participants in this group dropped out of the study, perhaps because they could not answer the questions and felt demotivated. The attrition rate was 19.50% in the control group, 21.41% in the applied risk warning group, 23.04% in the checkbox confirmation group and 29.95% in the educational quiz group.

As described, the applied risk warning had no impact on comprehension. That is because it was focused on translating risk into concrete terms, which we did not assess.

Concrete knowledge and active processing appear more important in supporting investing choices than general or conceptual knowledge of risks.

Percent that answered comprehension questions correctly (and % change)			
Treatment group	Margin	Options	Crypto
Control	13.03%	22.93%	24.69%
Applied risk warning	12.80% (-2%)	24.27% (+6%)	21.60% (-13%)
Checkbox confirmation	16.26% (+25%)	31.17% (+36%)	32.93% (+33%)
Educational quiz	17.30% (+33%)	25.67% (+12%)	33.33% (+35%)

Perceived general level of risk was quite similar for all types of higher risk investments, and did not correlate with investment choices (1/4)

Decision supports increased risk perceptions. These increases were similar across products and treatment groups. They are driven by an increase in the proportion of participants that rated investment choices as “High Risk” or “Very High Risk.”

Similar to general risk comprehension, the relationship between perceived risk and investor choices is weak. We hypothesize this is also due to the abstract or conceptual nature of the risk assessments being captured in this question.

Perceived general level of risk was quite similar for all types of higher risk investments, and did not correlate with investment choices (2/4)

Perceived risk of crypto by treatment group

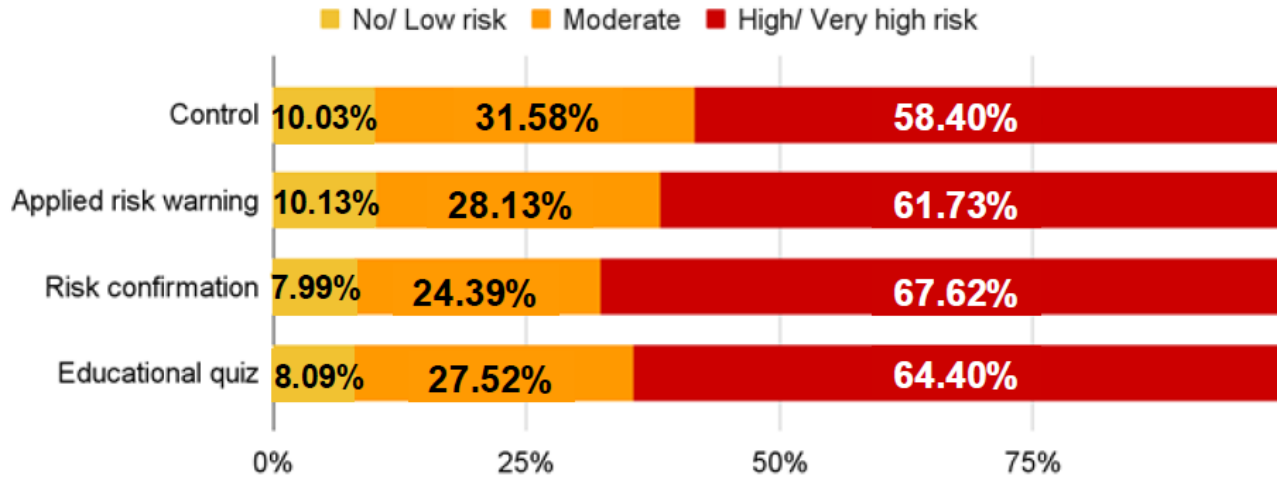


Figure 12: Perceived risk by treatment group for crypto

Perceived general level of risk was quite similar for all types of higher risk investments, and did not correlate with investment choices (3/4)

Perceived risk of margin by treatment group

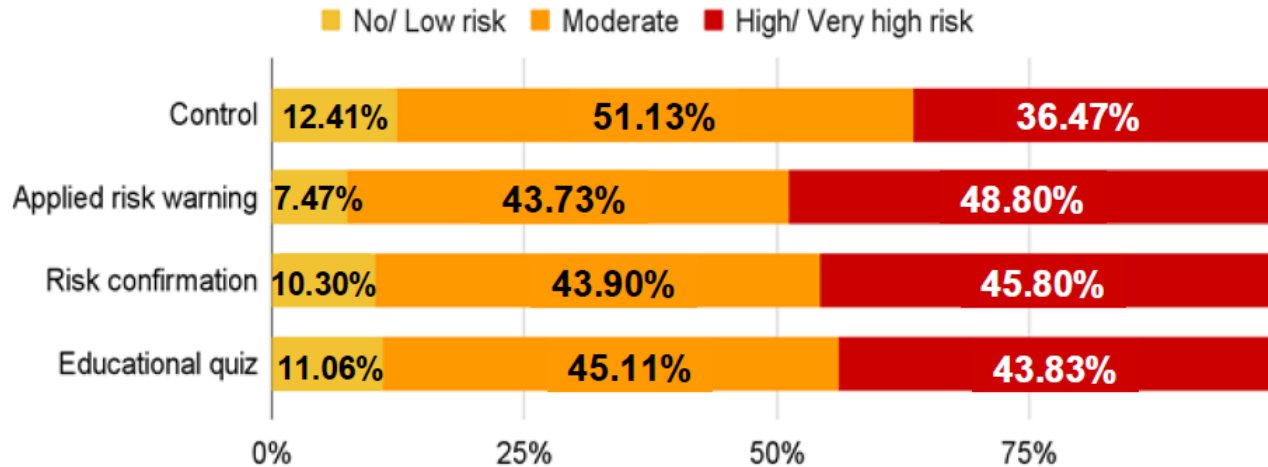


Figure 13: Perceived risk by treatment group for margin

Perceived general level of risk was quite similar for all types of higher risk investments, and did not correlate with investment choices (4/4)

Perceived risk of options by treatment group

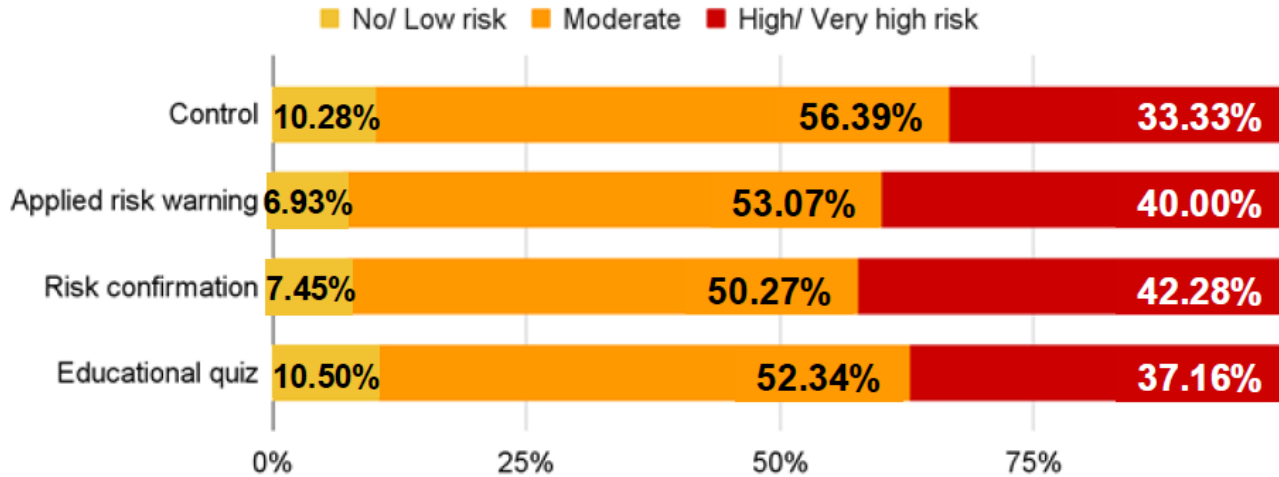


Figure 14: Perceived risk by treatment group for options

Subgroup analysis: Key findings (1/2)

Account opening was higher among younger, male, and higher-income participants.

- **Younger age groups opened more accounts** (18-24 = 1.61 accounts; 25-44 = 1.78 accounts), compared to older age groups (45-64 = 1.45 accounts; 65+ = 0.93 accounts).
- **Men opened more accounts** compared to female and other participants (male = 1.69; female and other participants = 1.40).
- **Higher-income participants opened more accounts** (\$100,000-150,000 = 1.67; \$150,000+ = 1.69), compared to lower-income participants (<\$55,000 = 1.49; \$55,000-\$100,000 = 1.54).

Less conservative investors, investors with fewer years of experience, and working age participants opened more accounts. Note these results may be explained by age.

- **Moderate and aggressive investors opened more accounts** (moderate = 1.75; aggressive = 2.01), compared to very conservative (1.42) and conservative investors (1.47).
- **More experienced investors** (>10 years) **opened fewer accounts** (1.33), compared to investors with less than 5 years (1.64) and 5-10 years of experience (1.73).
- **Retired participants opened fewer accounts** (retired = 0.84), compared to employed (1.67), unemployed (1.58), and other participants (1.43).

Subgroup analysis: Key findings (2/2)

Amount of investable assets, education, and language background had little impact on account opening.

- Amount of investable assets had very little impact on account opening (<\$50,000 = 1.52; ≥\$50,000 = 1.59).
- Education level did not affect accounts opened (associate degree or less = 1.54; bachelor's degree or more = 1.58).
- Francophone and Anglophone participants opened around the same number of accounts (English = 1.53; French = 1.63).

Overall, these patterns in account opening by demographic group are unsurprising. Many of the patterns are logical, with younger, more aggressive, and higher-income participants taking on more risk. They also reflect consistent and established patterns, like men taking on more risk than women.

Appendix: Intervention screens

Applied risk warning

Participants are shown the intervention after indicating initial interest. They must click the “x” to continue to the final confirmation.

Figure 15: Applied risk warning, account opening screen for margin

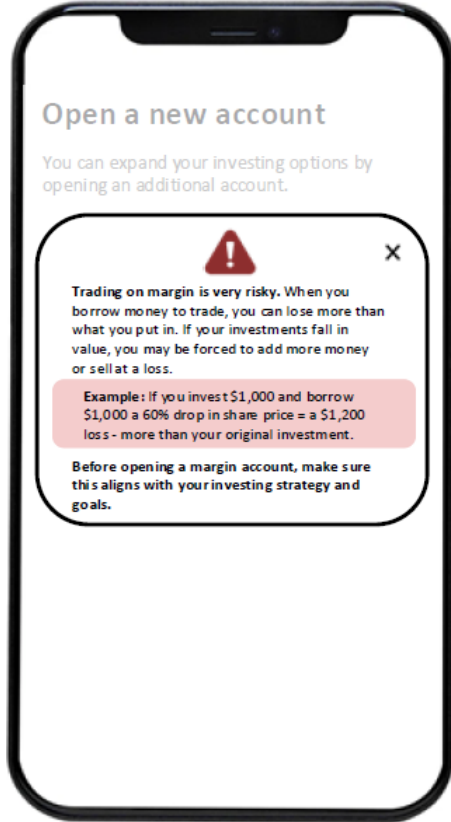


Figure 16: Applied risk warning, account opening screen for crypto

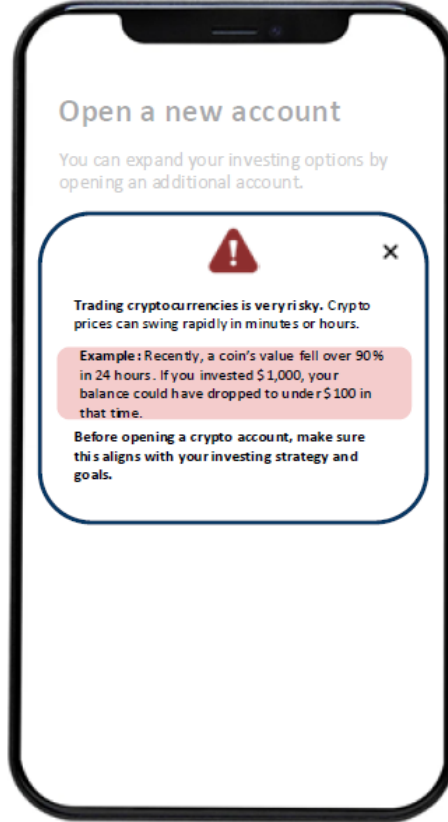
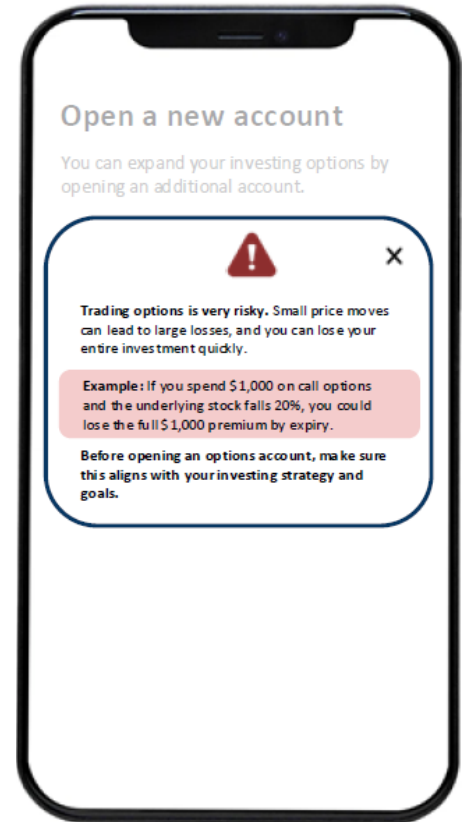


Figure 17: Applied risk warning, account opening screen for options



Checkbox Confirmation

Figure 18: Checkbox confirmation, account opening screen for margin

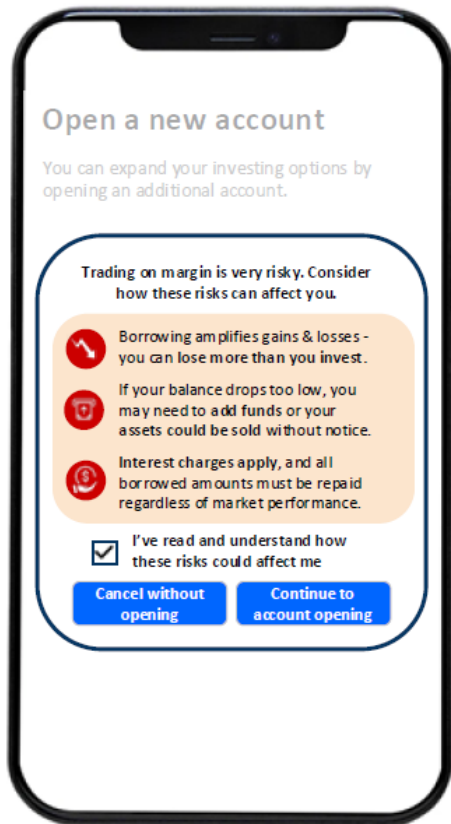


Figure 19: Checkbox confirmation, account opening screen for crypto

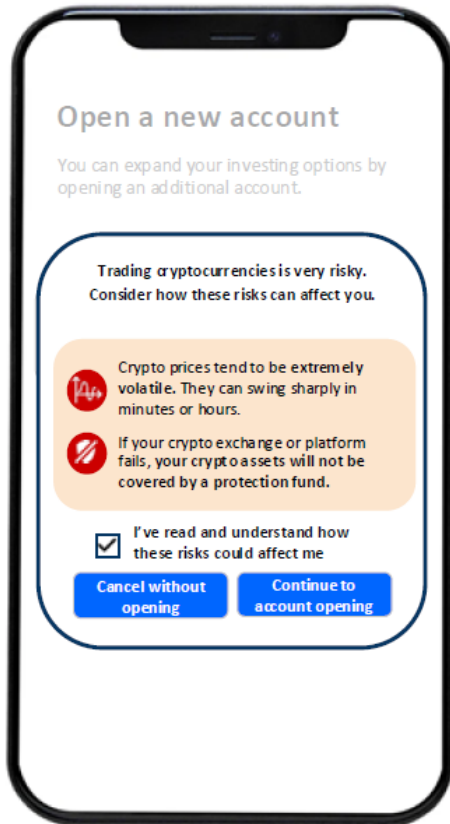
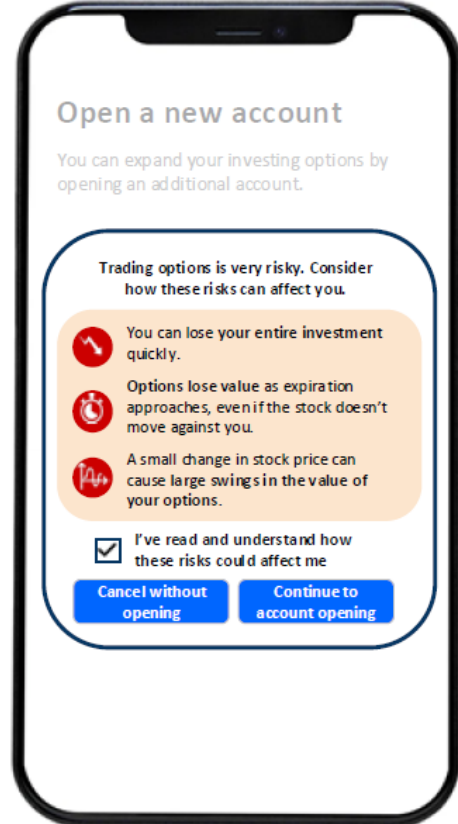


Figure 20: Checkbox confirmation, account opening screen for options



Educational Quiz (Q1)

Figure 21: Educational quiz (Q1), account opening screen for margin

Open a new account

You can expand your investing options by opening an additional account.

Margin Risk Check (1/2)

Take this short, two-question quiz to review key risks before you proceed. Your responses may help you decide if this account is the best fit for you.

1. If you purchase \$5,000 worth of a stock by paying \$2,500 in cash and using margin for the rest, what is the maximum you could lose?

- \$2500 + interest / trading fees
- \$5000 + interest / trading fees
- \$7500 + interest / trading fees
- \$0 as the principal is guaranteed

Skip question Next question

Figure 22: Educational quiz (Q1), account opening screen for crypto

Open a new account

You can expand your investing options by opening an additional account.

Crypto Risk Check (1/2)

Take this short, two-question quiz to review key risks before you proceed. Your responses may help you decide if this account is the best fit for you.

1. You invest \$1,000 in a new cryptocurrency. Within a single day, the price drops by 80%. Which of the following statements is true?

- You have \$200 left. A 80% rebound would be required to break even.
- You have \$800 left, but can file a deposit insurance claim to recover the rest.
- You have \$200 left. A 400% rebound would be required to break even.
- You have \$200 left, but can file a deposit insurance claim to recover the rest.

Skip question Next question

Figure 23: Educational quiz (Q1), account opening screen for options

Open a new account

You can expand your investing options by opening an additional account.

Options Risk Check (1/2)

Take this short, two-question quiz to review key risks before you proceed. Your responses may help you decide if this account is the best fit for you.

1. You sell (write) an uncovered call option and the stock price rises sharply. What could happen?

- You lose only the premium you received
- You may face unlimited losses if the stock keeps rising
- You are required to buy the stock at its lowest historical price
- The platform automatically cancels the option before losses grow

Skip question Next question

Educational Quiz (Q2)

Figure 24: Educational quiz (Q2), account opening screen for margin

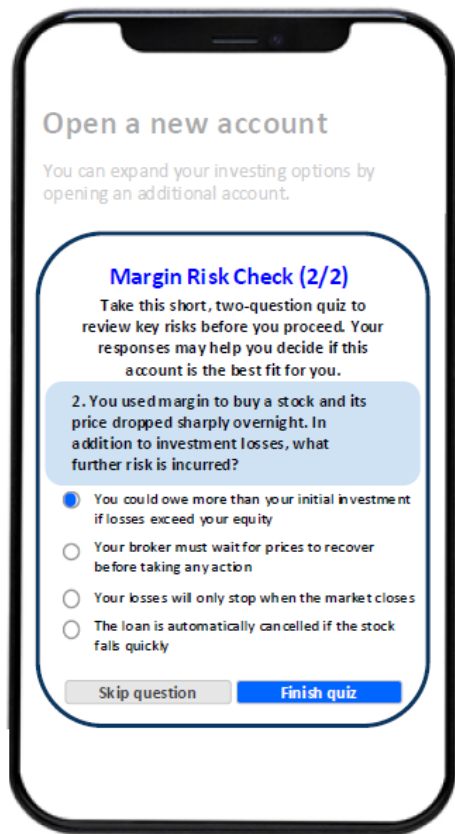


Figure 25: Educational quiz (Q2), account opening screen for crypto

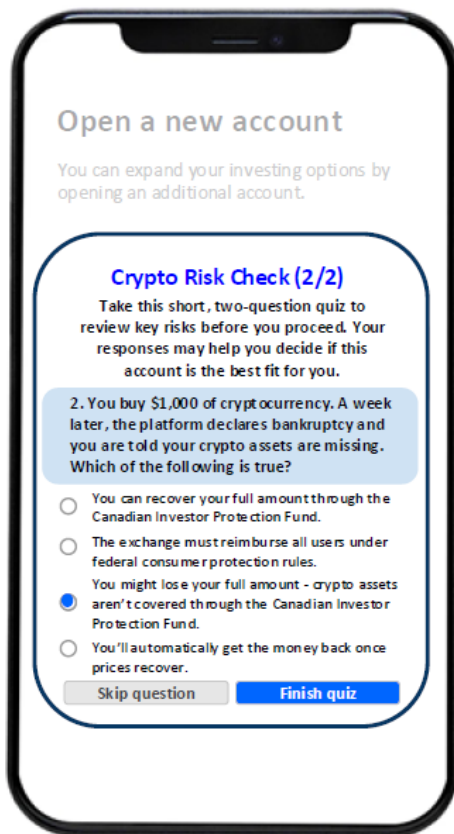
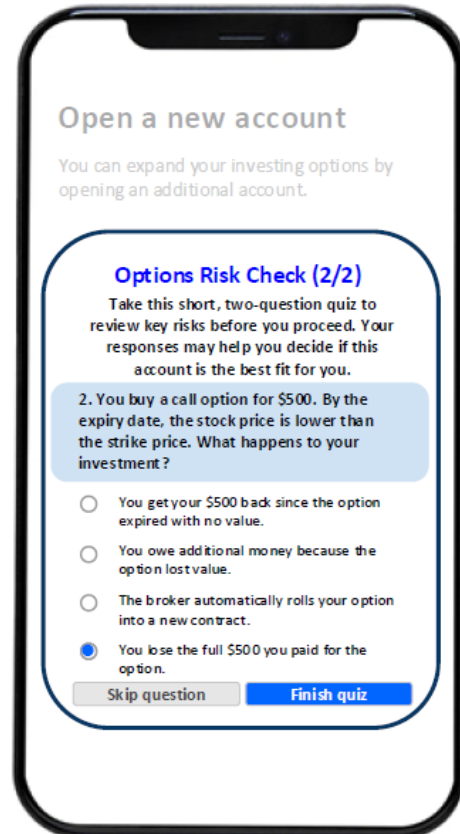


Figure 26: Educational quiz (Q2), account opening screen for options



Educational Quiz (Feedback - all)

Figure 27: 0/2 correct (both wrong or both skipped, or one wrong and one skipped) screen for educational quiz



Figure 28: 1/2 correct (either wrong or skipped) screen for educational quiz

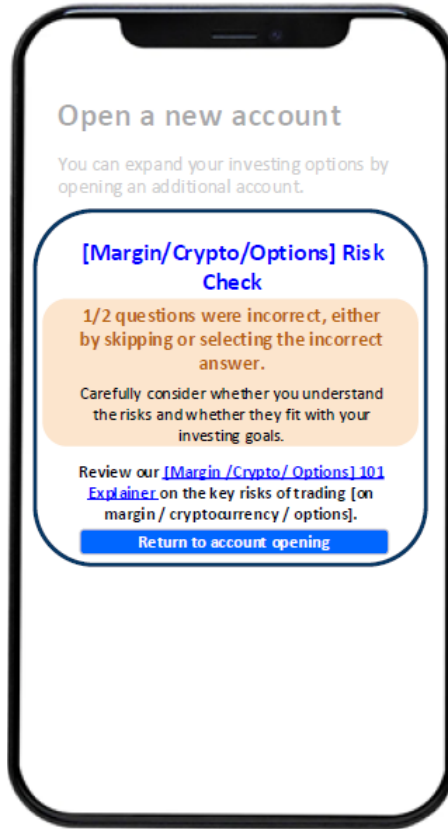


Figure 29: 2/2 correct screen for educational quiz

