Web Appendix

Not My Type:

Why Affective Decision-Makers Are Reluctant to

Make Financial Decisions

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Web appendixes A–H contain stimuli, pretests, and ancillary analyses referenced in the article.

WEB APPENDIX A

Measures Used in Studies 1A and 1B
Note. Items with asterisk were used in Study 1B.

Lay Rationalism (Hsee et al. 2015)
Each item is scored from 1 = strongly disagree to 7 = strongly agree.
(1) When making decisions, I like to analyze financial costs and benefits and resist the influence of my feelings.
(2) When choosing between two options, one of which makes me feel better and the other better serves the goal I want to achieve, I choose the one that makes me feel better. (R)*
(3) When making decisions, I think about what I want to achieve rather than how I feel.
(4) When choosing between two options, one of which is financially superior and the other "feels" better to me, I choose the one that is financially better.
(5) When choosing between products, I rely on my gut feelings rather than on product specifications (numbers and objective descriptions). (R)*
(6) When making decisions, I focus on objective facts rather than subjective feelings.*

Situation-Specific Thinking Style (SSTS; Novak and Hoffman 2009)
Each item is scored from 1 = definitely false to 7 = definitely true.
(1) Generally, I figure things out logically.*
(2) I often use my gut feelings. (R)*
(3) I often use my heart as a guide for my actions. (R)*
(4) I tend to reason things out carefully.*

Financial Decision Avoidance ($\alpha = .83$)
Each item is scored from 1 = strongly disagree to 7 = strongly agree.
(1) I try to avoid situations that require me to make financial decisions.*
(2) I prefer not to make any decisions related to money.*
(3) I don't like to think about issues involving investments and financial decisions.*

Decision Avoidance: Clothes shopping ($\alpha = .91$)
Each item is scored from 1 = strongly disagree to 7 = strongly agree.
(1) I try to avoid situations that require me to make decisions about clothes shopping.
(2) I prefer not to make any decisions related to clothes shopping.
(3) I don't like to think about issues involving clothes shopping.

Decision Avoidance: Food ($\alpha = .96$)
Each item is scored from 1 = strongly disagree to 7 = strongly agree.
(1) I try to avoid situations that require me to make food choices.
(2) I prefer not to make any decisions related to food.
(3) I don't like to think about issues involving food.

Decision Avoidance: Health/Medical decisions ($\alpha = .92$)
Each item is scored from 1 = strongly disagree to 7 = strongly agree.
(1) I try to avoid situations that require me to make medical decisions.
(2) I prefer not to make any decisions related to health.
(3) I don't like to think about issues involving medical decisions.

Objective Financial Knowledge: Financial Literacy (Agnew and Szykman 2005; Hung et al. 2009; Lusardi and Mitchell 2007; van Rooij et al. 2011; $\alpha = .62$)
(Correct responses in italics)
(1) Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, would you be able to buy:
       • More than today with the money in this account

• Exactly the same as today with the money in this account
• *Less than today with the money in this account*
• Don't know
• Refuse to answer

(2) Do you think that the following statement is true or false? "Bonds are normally riskier than stocks."

True / *False /* Don't know / Refuse to answer

(3) Considering a long time period (for example, 10 or 20 years), which asset described below normally gives the highest return?

Savings accounts / *Stocks /* Bonds / Don't know / Refuse to answer

(4) Normally, which asset described below displays the highest fluctuations over time?

Savings accounts / *Stocks /* Bonds / Don't know / Refuse to answer

(5) When an investor spreads his money among different assets, does the risk of losing a lot of money:

Increase / *Decrease /* Stay the same / Don't know / Refuse to answer

(6) Do you think that the following statement is true or false? "If you were to invest $1,000 in a stock mutual fund, it would be possible to have less than $1,000 when you withdraw your money."

True / False / Don't know / Refuse to answer

(7) Do you think that the following statement is true or false? "A stock mutual fund combines the money of many investors to buy a variety of stocks."

True / False / Don't know / Refuse to answer

(8) Suppose you have $100 in a savings account and the interest rate is 20% per year and you never withdraw money or interest payments. After 5 years, how much would you have in this account in total?

More than $200 / Exactly $200 / Less than $200 / Don't know / Refuse to answer

Subjective Financial Knowledge: Consumer Confidence in Financial Information Search (Fernandes et al. 2014; $\alpha = .94$)
Each item is scored from 1 = strongly disagree to 7 = strongly agree.
(1) I am confident in my ability to recognize a good financial investment.
(2) I know what investments to look for to get the most return on my money.
(3) I know the right questions to ask when making financial investment decisions.
(4) I have the skills required to make sound financial investments.
(5) I know the right sources to consult to make wise financial decisions.

Generalized Self-Efficacy (Chen et al. 2001; $\alpha = .90$)
Each item is scored from 1 = strongly disagree to 7 = strongly agree.
(1) I will be able to achieve most of the goals that I have set for myself.
(2) When facing difficult tasks, I am certain that I will accomplish them.
(3) In general, I think that I can obtain outcomes that are important to me.
(4) I believe I can succeed at most any endeavor to which I set my mind.
(5) I will be able to successfully overcome many challenges.

Preference for Numerical Information (Fernandes et al. 2014; $\alpha = .57$)
Each item is scored from 1 = strongly disagree to 7 = strongly agree.
(1) I enjoy work that requires the use of numbers.
(2) I find it satisfying to solve day-to-day problems involving numbers.
(3) Numerical information is very useful in everyday life.
(4) I prefer not to pay attention to information involving numbers (reverse coded).
(5) I don't like to think about issues involving numbers (reverse coded).
(6) I like to make calculations using numerical information.
(7) I don't find numerical information to be relevant for most situations (reverse coded).
(8) I think it is important to learn and use numerical information to make well-informed decisions.

Financial Behaviors
1. Have you set aside emergency or rainy day funds that would cover your expenses for 3 months, in case of sickness, job loss, economic downturn, or other emergencies? (yes/no)
2. Have you ever tried to figure out how much you need to save for retirement?* (yes/no)
3. Have you ever opened a savings account or bought a CD?* (yes/no)

4. Have you ever bought a savings bond or other bonds?* (yes/no)
5. Have you ever invested in mutual funds?* (yes/no)
6. Have you ever invested in individual stocks?*(yes/no)
7. Over the past two years, how frequently have you been late paying credit card bills?*(1 = never, 3 = once or twice since had credit cards, 5 = once or twice per year, 7 = more than twice per year)
8. How often have you bounced a check?* (1= never, 3 = once or twice in lifetime, 5 = once or twice per year; 7 = more than twice per year)
9. When you sign up for a credit card, how closely do you read the information related to interest rates and other financial terms?* (1 = don't read at all, 3 = just glance at it, 5 = read enough to understand the contract, 7 = read every word)
10. When opening a bank account, how carefully do you read service agreement?* (1 = don't read at all, 3 = just glance at it, 5 = read enough to understand the contract, 7 = read every word)
11. Please indicate below the option that best describes your payments on credit cards (1 = generally pays minimum each month, 4 = occasionally pays off monthly, 7 = always pays off monthly)
12. How often do you check your bank account?* (1 = never to 7 = always)
13. How often do you look for ways to improve your financial situations?* (1 = never to 7 = always)
14. How accurately do you know your current credit score?* (1= I have no idea, 4 = I have a vague idea, 7 = I know exactly)
15. Do you read financial analyses before making investment decisions?* (1 = never to 7 = always)
16. How well do you know the fee and interest structure in your bank account?* (1 = not at all to 7 = very much)

Demographic variables
1. How old are you?
2. I am female/male
3. What is the highest level of education you have completed? (Elementary school / Middle school / High school / Some college (no degree) / 2-year college degree / 4-year college degree / Graduate degree)
4. Approximately what is your household income? ($0-$20,000 / $20,001-$40,000 / $40,001-$60,000 / $60,001-$80,000 / $80,001-$100,000 / $100,001-$120,000 / $120,001-$140,000 / More than $140,000 / Decline to answer)

WEB APPENDIX B

Exploratory Factor Analysis in Study 1A

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6
Credit Card Sign Up Information	**.884**	-.078	-.042	.056	-.036	.202
Bank Account Service Agreement	**.832**	-.122	.086	.049	.060	.158
Know Bank Fees	**.671**	-.260	.251	.148	.184	-.244
Read Financial Analysis	**.507**	-.002	.489	.139	.305	.011
Clothing Decision Avoidance	-.128	**.792**	.090	.023	.053	-.085
Medical Decision Avoidance	-.090	**.768**	-.117	.086	-.123	.027
Food Decision Avoidance	-.026	**.691**	.098	-.421	.029	-.260
Financial Decision Avoidance	-.248	**.562**	-.077	-.469	-.151	-.088
Invest in Mutual funds	.003	.116	**.809**	.230	-.127	.157
Invest in Bonds	.012	.024	**.732**	.075	.186	.010
Know How Much to Save for Retirement	.170	-.115	**.635**	.124	.130	.090
Lay Rationalism	.143	-.005	.130	**.802**	.089	.102
Objective Financial Knowledge	.020	-.102	.339	**.672**	.142	.106
Preference for Numerical Info.	.014	.156	.033	.240	**.831**	.126
Self-efficacy	.109	-.426	.167	.159	**.667**	.099
Subjective Financial Knowledge	.230	-.157	.459	-.203	**.578**	.044
Late paying credit card bills	.061	-.170	.008	.225	.030	**.765**
Credit Card Payment	.151	-.043	.265	.009	.189	**.747**

Note. Extracted six factors using principal component analysis with varimax-rotation (Kaiser Normalization)

Principal component analysis with varimax rotation reveals six factors with eigenvalue larger than 1, explaining 67.76% of the total variance.

Regarding factors 2, 4, and 5, combining those items into composite measures does not appear conceptually valid or useful. Specifically, factor 2 includes avoidant tendencies in several distinct decision domains, and while these are likely to be driven in part by common personality traits (e.g., procrastination), we purposefully included them in the study to test whether the relationship between lay-rationalism and avoidance was domain-specific. Thus, combining these measures into a single composite item is counterproductive.

Factor 4 includes two conceptually independent constructs, namely, lay-rationalism (self-perceptions concerning thinking style) and objective financial knowledge (measured through a short test). While correlated in our sample, these two constructs are clearly conceptually distinct and combining them would result in loss of valuable information. A similar argument can be made about Factor 5, which includes distinct individual difference dimensions validated in prior research.

Factors 1, 3, and 6 appear conceptually valid, representing bank account knowledge, investment experience, and responsible credit card use, respectively. Therefore, we use composite measures representing these factors in Table 1.

WEB APPENDIX C

Exploratory Factor Analysis in Study 1B

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Bank Account Service Agreement	**.869**	.008	.103	.080	.064
Read Financial Analysis	**.841**	-.155	-.047	-.019	-.063
Credit Card Sign Up Information	**.782**	-.116	-.034	-.060	-.265
Know Bank Fees	**.589**	-.123	-.074	.333	-.178
Know Credit Scores	**.466**	-.364	-.119	.224	.011
Invest in Individual Stocks	-.034	**.769**	.026	-.177	.199
Invest in Mutual Funds	.002	**.767**	.079	-.123	-.070
Invest in Bonds	-.175	**.754**	.058	.018	.000
Know How Much to Save for Retirement	-.216	**.514**	-.017	.010	.205
Late Paying Credit Card Bills	-.038	-.019	**.846**	.060	.093
Bounced a Check	-.017	.135	**.845**	.011	.085
Check Bank Account	-.019	-.058	.188	**.766**	-.095
Look for Ways to Improve Financial Situation	.366	-.158	-.024	**.643**	-.033
Opened a Savings Account or Bought a CD	.004	.079	.481	**-.574**	.003
Financial Decision Avoidance	-.047	.086	.053	-.298	**.762**
Perceived Thinking Style	.170	-.106	-.128	-.101	**-.717**

Note. Extracted six factors using principal component analysis with varimax-rotation (Kaiser Normalization)

Principal component analysis with varimax rotation reveals five factors with eigenvalue larger than 1, explaining 61.76% of the total variance.

Factors 1, 2, and 3 appear conceptually valid, representing carefully reading financial information, actual investment experience, and debt management habits, respectively. Therefore, we use composite measures representing these factors in Table 3.

Factor 4 includes three items, of which two appear conceptually related (opening a bank account and checking one's bank account) while the other one (look for ways to improve one's

financial situation) is unrelated. Therefore, we aggregated the first two ("Using Bank Account")

separately from the third ("Improve Financial Situation"). See Table 3.

Factor 5 includes perceived thinking style and financial decision avoidance, our two key

variables. While correlated (consistent with our conceptualization), these variables are clearly

conceptually distinct, so we report them separately in Table 3.

WEB APPENDIX D

Perceived decision style manipulation used in studies 2, 4, and 5

<u>**Screen 1:**</u>

TASK 1
Decision-Making Survey

In this task, you will be asked to answer questions regarding consumer decision making.

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<u>**Screen 2:**</u>

Decision-Making Style Survey

You—like everyone else—have a decision style that reflects the way you typically visualize and think about situations. Your style is determined from behaviors and attitudes such as which things you dislike, how you approach problems, and how you make decisions. The following decision-style inventory will help you identify your patterns and understand your style.

In this task, you will be asked to read scenarios regarding different consumer decision-making situations. Please read carefully and select the option that you prefer. Remember, there are no right or wrong answers. Therefore, your choice should reflect how you feel about the question and what you prefer to do, not what you believe is correct or desirable.

After completing the task, you will receive a description of your decision-making style **compared to other participants who previously took this survey**, along with some insights on decision making that are designed to help you improve this important skill.

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Screen 3:
Please read each scenario carefully and choose the option you prefer.

Scenario 1: Sports

You save up $150 that you have set aside for your sports interests (e.g., golf, ice skating/hockey). You can spend this money in two ways. Please select the option you prefer.

○ Buy $150 worth of sports equipment (e.g., a new golf club or ice skates).

○ Get $150 worth of hours of access to a sports facility (e.g., a driving range, an ice rink).

> **NOTE:** this decision was followed by eight additional generic choices unrelated to financial decisions (adapted from Tully et al. 2015).

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Screen 4:

Before submitting your responses, please share your demographic information in order to improve the accuracy of the results.
1. How old are you?
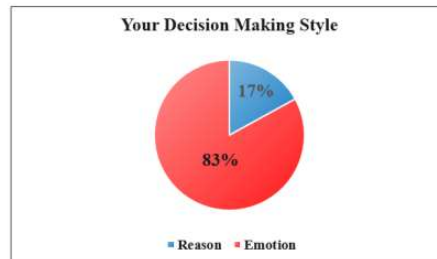2. I am Female/Male

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Screen 5:

Please wait for your results.

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Screen 6:
Affective condition

RESULTS

Based on your responses...

YOU ARE AN **EMOTION**-BASED DECISION MAKER.

Your Decision Making Style

17%

83%

■ Reason ■ Emotion

Compared to the decisions of other participants who share similar demographic characteristics with you, **your decisions are mostly driven by *emotions*** rather than reasons.
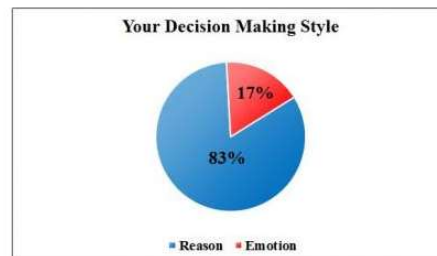
Click >> to learn more about your decision making style.

Analytical condition

RESULTS

Based on your responses...

YOU ARE AN **REASON**-BASED DECISION MAKER.

Your Decision Making Style

17%

83%

■ Reason ■ Emotion

Compared to the decisions of other participants who share similar demographic characteristics with you, **your decisions are mostly driven by *reasons*** rather than emotions.

Click >> to learn more about your decision making style.

Screen 7:
Affective condition

RESULTS
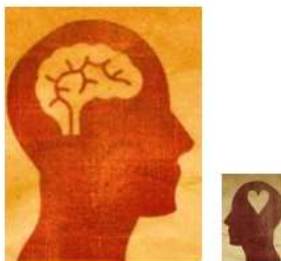
What exactly is emotion-based decision making?

Emotion-based decision making is a method for selecting among possible choices that is based on feelings and intuition. We're trained to regard emotions as irrational impulses that are likely to lead us astray. But researchers have consistently proved that emotions are rooted in the predictions of highly flexible brain cells which are constantly adjusting their connections to reflect reality. Every time you make a mistake or encounter something new, your brain cells are busy changing themselves. Emotions are profoundly smart and constantly learning, they are not simply animal instincts that must be tamed.

Please put your initials in the blank below to indicate that you have read the results carefully and understand them clearly.

Analytical condition

RESULTS

What exactly is reason-based decision making?

Reason-based decision making is a method for systematically selecting among possible choices that is based on reason and facts. In other words, it is a practice of methodically gathering, analyzing, and evaluating information. It is one of the most vital and effective ways of making decisions, as it is the act of clearly thinking through options that will lead to a final choice. Reasons can lead to actionable conclusions and help define whether the choice is sound.

Please put your initials in the blank below to indicate that you have read the results carefully and understand them clearly.

Screen 8:
Affective condition

Life experiences of an emotion-based decision maker

In order to improve the accuracy and effectiveness of our current survey, we are interested in learning about **emotion-based decision makers' life experiences.** Please read the following and answer the question.

As an emotion-based decision maker, please take a few moments to think about one of the most significant decisions you made, in any area of life (e.g., an item you bought), where your decision was based on your emotions, gut-feeling, or intuition. Think about a decision that turned out well – that is, a decision where you relied on your emotions, gut-feeling, or intuition and you were consequently satisfied with your decision.

When you are ready, briefly describe this situation you thought about in the space below (please write at least 3 sentences).

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Analytical condition

Life experiences of a reason-based decision maker

In order to improve the accuracy and effectiveness of our current survey, we are interested in learning about **reason-based decision makers' life experiences.** Please read the following and answer the question.

As a reason-based decision maker, please take a few moments to think about one of the most significant decisions you made, in any area of life (e.g., an item you bought), where your decision was based on your rational analysis or reasoning. Think about a decision that turned out well – that is, a decision where you relied on your rational analysis or reasoning and you were consequently satisfied with your decision.

When you are ready, briefly describe this situation you thought about in the space below (please write at least 3 sentences).

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WEB APPENDIX E

Testing perceived expertise and decision confidence alternative accounts for Study 2

We examined whether our manipulation might have influenced perceptions of expertise, confidence, or experimental demand. One may wonder whether reflecting on prior decisions involving analytical thinking might have influenced people's perceptions of their prior experience or confidence in making financial decisions. To test this, we ran a separate study (N = 109). After completing the decision style manipulation described in Study 2, participants rated their prior experience (i.e., *"How much prior experience do you have in making financial decisions?," "To what extent are you experienced in making financial decisions?"*; α = .97, combined to an index) and confidence (i.e., "*How confident are you in making financial decisions*?," "*How well do you think you can make financial decisions?*"; α = .92, combined to an index). Analyses indicate that the experimental manipulation had no effect on participants' perceptions of their prior experience making financial decisions ($F(1, 107) < 1$, $p = .51$), or their confidence making financial decisions ($F(1, 107) < 1$, $p = .37$). These findings cast doubt on the possibility that perceived experience or confidence were driving our results.

WEB APPENDIX F

Testing subjective knowledge, self-efficacy, and preference for numerical information alternative accounts for Study 3A

We ran a separate pretest (N = 75) to examine whether our manipulation might have influenced perceived financial knowledge, self-efficacy perceptions, or preference for numerical information. One may wonder whether reflecting on prior decisions involving analytical thinking might have influenced people's subjective financial knowledge or generalized self-efficacy perceptions. Alternatively, one may wonder whether our manipulation influenced how comfortable people feel about numerical information: maybe asking participants to choose between two assignments after the decision style manipulation made them feel that we were suggesting that they should or should not choose the financial investment option.

After completing the decision style manipulation described in Study 3A, we measured perceived financial knowledge, self-efficacy perceptions, and preference for numerical information as in Study 1A (see Appendix A). Analyses indicate that the experimental manipulation had no effect on participants' perceptions of their financial knowledge ($F(1, 73) < 1, p = .66$), their generalized self-efficacy perceptions ($F(1, 73) < 1, p = .34$), or their preference for numerical information ($F(1, 73) < 1, p = .65$). These findings cast doubt on the possibility that perceived financial knowledge, self-efficacy perceptions, or preference for numerical information were driving our results.

WEB APPENDIX G

Financial decision avoidance task used in study 4

FINANCIAL FRAME

In this task, you will be asked to make a series of **financial decisions**. In each decision, you will be presented with **three retirement options** and will have to choose the best one. If you are not sure which option to choose, you can skip the question. After you complete the series of decisions, we will calculate the average quality of your choices. **You will receive a bonus based on the average quality of your decisions.** You will not be penalized for skipped questions-- the only thing that matters is the average quality of those questions you chose to answer.

Imagine that you are thinking of investing in an annuity. Which of the following would you choose? The cost of all three options is identical. If you are not sure how to respond, you may skip the question. Your bonus will be determined based on the average quality of your answered questions.

Annuity option A	Annuity Option B	Annuity Option C
Monthly payments start at $500	Monthly payments start at $600	Monthly payments start at $300
7% annual increase	3% annual increase	5% annual increase
Payments continue 10 years after your retirement.	Payments continue 5 years after your retirement.	Payments continue 30 years after your retirement.
Company rated AA	Company rated AAA	Company rated AAA

Annuity Option A	Annuity Option B	Annuity Option C	Skip this question
○	○	○	○

NOTE: this decision was followed by nine additional annuity choice problem. In each problem, participants could pick one of the annuity options or choose "skip this question".

LIFESTYLE FRAME

In this task, you will be asked to make a series of **lifestyle decisions**. In each decision, you will be presented with **three retirement lifestyle options** and will have to choose the best one. If you are not sure which option to choose, you can skip the question. After you complete the series of decisions, we will calculate the average quality of your choices. **You will receive a bonus based on the average quality of your lifestyle decisions.** You will not be penalized for skipped questions-- the only thing that matters is the average quality of those questions you chose to answer.

Imagine that you are thinking of choosing a retirement lifestyle option. Which of the following would you choose? The cost of all three options is identical. If you are not sure how to respond, you may skip the question. Your bonus will be determined based on the average quality of your answered questions.

Lifestyle Option A	Lifestyle Option B	Lifestyle Option C
Monthly payments start at $500 7% annual increase Payments continue 10 years after your retirement. Company rated AA	Monthly payments start at $600 3% annual increase Payments continue 5 years after your retirement. Company rated AAA	Monthly payments start at $300 5% annual increase Payments continue 30 years after your retirement. Company rated AAA

Lifestyle Option A	Lifestyle Option B	Lifestyle Option C	Skip this question
○	○	○	○

NOTE: this decision was followed by nine additional annuity choice problem. In each problem, participants could pick one of the annuity options or choose "skip this question".

WEB APPENDIX H

Testing experimental demand alternative accounts for Study 5

We tested whether our manipulation might have influenced experimental demand. One may wonder whether experimental demand played a role: maybe asking participants to choose between two assignments after the decision style manipulation made them feel that we were suggesting that they should or should not choose the financial investment option.

To test whether there our design created experimental demand, we showed participants the same two choice options used in the financial condition in Study 5 and asked them to choose which one they preferred to work on. Choice results replicated Study 5: participants were more likely to avoid the financial assignment and choose the assignment involving everyday experiences in the affective thinking style condition (61.10%) than in the analytical thinking condition (41.8%; $\chi^2(1) = 4.06$, $p = .044$). After participants made their selection, we asked them whether they felt that the researchers wanted them to decide one way or the other (yes or no), and if so, how exactly (i.e., *"choose the assignment on financial investments," "choose the assignment on daily experience,"* or *"I don't know"*). The results cast doubt on an experimental demand alternative account. Our decision style manipulation had no effect on participants' perception that the researchers wanted them to decide in a particular way (affective = 50.0% vs. analytical = 47.3%; $\chi^2(1) = .081$, $p = .78$). Even among participants who did indicate such a general belief (i.e., 48.6% of total participants), our decision style manipulation had no effect on perceptions of which specific assignment the researchers were presumably trying to favor ($\chi^2(2) = .011$, $p = .99$), and most of these respondents believed that the researchers wanted them to choose the financial decisions assignment (as opposed to the daily decisions assignment), regardless of decision style condition (affective = 63.0% vs. analytical = 61.5%).

Taken together, these findings rule out the possibility that our decisions style manipulation influenced assignment choice by introducing experimental demand.