MATERIALS APPENDIX FOR: CORRELATION NEGLECT IN STUDENT-TO-SCHOOL MATCHING

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CONTENTS

1. CONTENTS OF EXPERIMENT 1

In this appendix we present the instructions for Experiment 1. Subjects received these instructions in print and they were read out loud.

The instructions are for the treatment in which the subjects saw the uncorrelated arm first. Note that the instructions for the treatment in which the subjects saw the correlated arm first are identical except for the order of those two modules.

After the instructions, we also present the consent form and display the sequence of screens that subjects who saw the uncorrelated arm first faced.

1.1. **Instructions and Screen Shots.**

INSTRUCTIONS - Preamble

This LEMA session consists of two Studies, Study 1 and Study 2. Study 1 is in 3 Parts. Study 2 is in 2 Parts. You will be paid for both Studies. Furthermore, payment in all Parts are completely independent: nothing you do in one Part has any impact whatsoever in any other Part and no decision you make at any point can increase, decrease, or change in any other way your opportunities in any other Part.

Date: **April 2023**.

Study 1 - Preamble

Study 1 consists of 3 Parts. Each Part will consist of 9 Rounds for a total of 27 Rounds. In Study 1, your earnings will be determined by your choices in only one, randomly chosen, Round. Thus it is in your best interest to treat each Round in isolation, as if it were the one that mattered for payment.

1.2. **Part I.** Part I is in 9 Rounds. In this part of the study, you will face a simulation of applying to college. In each Round, there are three colleges accepting applications, College A, College B and College C, and you will choose where to apply.

Your earnings in a Round:

Your earnings will depend on the college where you ultimately enroll.

- If you enroll in College A, you will receive a $10 bonus.
- If you enroll in College B, you will receive a $5 bonus.
- If you enroll in College C, you will receive a $2.5 bonus.

However, you may only apply to two colleges, and you have to tell us your first choice and your second choice.

(1) If your first choice admits you, you will enroll in your first choice college and earn the bonus associated with that college.
(2) If your first choice rejects you and your second choice admits you, you will enroll in your second choice college and earn the bonus associated with that college.
(3) If both your first choice and second choice reject you, you will receive no bonus.

College Admissions:

College admissions depend on test scores. If you apply to a college, they will admit you only if your test score is greater than or equal to the minimum score that they accept.

(1) Each college has its own admissions test.
(2) Your tests scores are randomly and independently generated between 0 and 99. That means that:
   - Your test score for College A and has an equal probability of being any whole number from 0 to 99.
   - Your test score for College B also has an equal probability of being any whole number from 0 to 99.
   - Your test score for College C also has an equal probability of being any whole number from 0 to 99.

   Your test scores for Colleges A, B and C have no bearing on one another: each is a whole number that is randomly chosen from the 0 to 99 interval.
(3) Your test scores are randomly generated at the start of Part I and will remain the same for all the Rounds in Part I.
(4) Those test scores will not be revealed to you. Thus you will move from one Round to the next without knowing which college you enrolled in (if any) in the previous Round.

All the Rounds will have the same format. The minimum score a college accepts will be presented to you in a table. For example, that table will look like:

	Bonus if you enroll	**Minimum test score**
College A	$10	65
College B	$5	45
College C	$2.5	15

Here, to be able to be admitted to College A, your test score for College A has to be at least 65. In order to be admitted to College B, your test score for College B has to be at least 45. In order to be admitted to College C, your test score for College C has to be at least 15.

Below that table, you will see the three colleges in a list and will have to rank two of them by dragging and dropping those two, in order, into the table called "Application List":

Items	**Application List**
College A	
College B	
College C	

If this Part is chosen to count, only one Round will matter for payment. So it is in your best interest to treat each Round in isolation, as if it were the one that mattered for payment.

Do you have any questions?

Before we start Part I, you will face an example scenario (practice Round) where you can familiarize yourself with the screen and procedures. Nothing you do in this practice Round impacts your earnings in any way.

1.3. **Part II.** Part II is in 9 Rounds. This Part of the study is identical to Part I, except that now, **the same test score will be used for ALL colleges.**

Your earnings in a Round:

Just like in Part I, your earnings will depend on the college where you ultimately enroll.

- If you enroll in College A, you will receive a $10 bonus.
- If you enroll in College B, you will receive a $5 bonus.
- If you enroll in College C, you will receive a $2.5 bonus.

Similarly to Part I, you may only apply to two colleges, and you have to tell us your first choice and your second choice.

(1) If your first choice admits you, you will enroll in your first choice college and earn the bonus associated with that college.
(2) If your first choice rejects you and your second choice admits you, you will enroll in your second choice college and earn the bonus associated with that college.
(3) If both your first choice and second choice reject you, you will receive no bonus.

College Admissions:

College admissions depend on a test score. If you apply to a college, they will admit you only if your test score is greater than or equal to the minimum score that they accept.

(1) The same admissions test is accepted by all colleges.
(2) Your test score is randomly generated, and has an equal probability of being any whole number from 0 to 99.
(3) Your test score is randomly generated at the start of Part II and will remain the same for all the Rounds in Part II.
(4) Your test score will not be revealed to you. Thus you will move from one Round to the next without knowing which college you enrolled in (if any) in the previous Round.

All the Rounds will have the same format. The minimum score a college accepts will be presented to you in a table. For example, that table will look like:

	Bonus if you enroll	**Minimum test score**
College A	$10	65
College B	$5	45
College C	$2.5	15

Here, to be able to be admitted to College A, your test score has to be at least 65. In order to be admitted to College B, your test score has to be at least 45. In order to be admitted to College C, your test score has to be at least 15.

Below that table, you will see the three colleges in a list and will have to rank two of them by dragging and dropping those two, in order, into the table called "Application List":

Items	**Application List**
College A	
College B	
College C	

If this Part is chosen to count, only one Round will matter for payment. So it is in your best interest to treat each Round in isolation as if it were the one that mattered for payment.

Do you have any questions?

Before we start Part II, you will face an example scenario (practice Round) where you can familiarize yourself with the screen and procedures. Nothing you do in this practice Round impacts your earnings in any way.

1.4. **Part III.** Part III is in 9 Rounds. In each Round of this Part of the study, you will be asked to choose between two options. Each option is a lottery.

Here is an example of a Round that you can encounter (the choices you face will be different and will vary from Round to Round):

◯ \$10 with 45% chance \$0 with 55% chance	◯ \$5 with 40% chance \$2.50 with 60% chance

In this example, you have a choice between:

- a lottery in which you have a 45% chance of earning \$10 and a 55% chance of earning \$0. OR
- a lottery in which you have a 40% chance of earning \$5 and a 60% chance of earning \$2.50.

Here are how your earnings would be determined if this were the Round that mattered for payment:

- If you chose the lottery on the left, if this were the Round that mattered for payment, the computer would run the lottery you selected. Then, with 45% chance you would earn \$10 and with %55 chance you would earn \$0.
- If instead you chose the pair on the right, if this were the Round that mattered for payment, the computer would run the lottery you selected. Then, with 40% chance you would earn \$5 and with 60% chance you would earn \$2.50.

If this Part is chosen to count, only one Round will matter for payment. So it is in your best interest to treat each Round as if it were the one that mattered for payment.

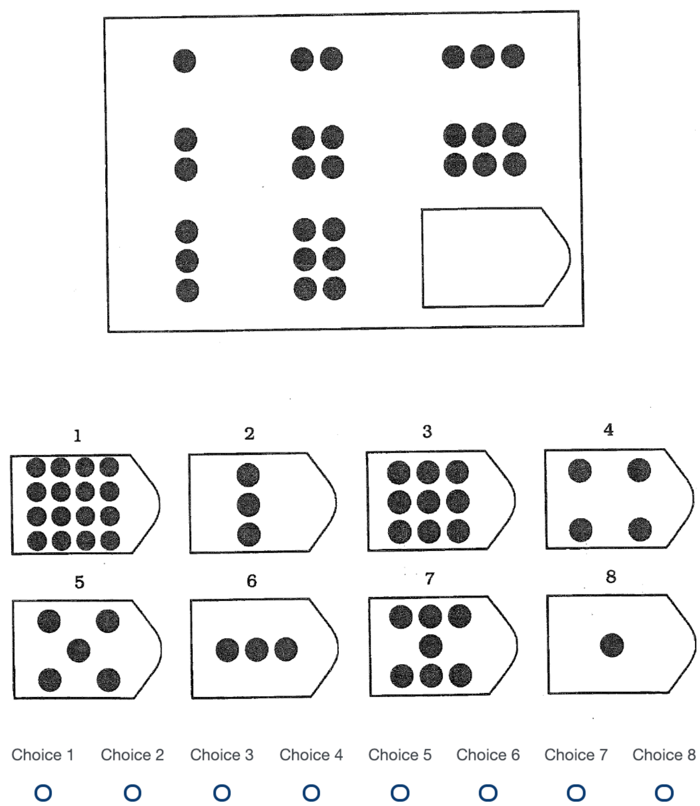
Do you have any questions?

1.5. **Study 2.** Welcome to Study 2. Study 2 consists of 2 Parts. You will be paid for each Part. We will hand out instructions for Part II when you have completed Part I.

1.6. **Part I.** Part I lasts for exactly 5 minutes. During those 5 minutes you will face a series of problems. These problems are taken from a test of spatial reasoning.

Each problem consists of a series of patterns. One of the patterns has been removed. Your task is to find the missing pattern to complete problem.

An example of such a problem is below:



You have 8 options to choose from to complete the pattern in each problem. Simply select your choice by clicking the number of the choice that completes the pattern.

You will receive $1 per correctly solved problem. Please solve as many of these problems as you can in 5 minutes.

There is a timer at the top of the page for your reference.

1.7. **Part II.** This Part consists of 3 Rounds. **In each Round, you will have to estimate a different, unknown number X.** That is, the X number for the first Round has been randomly determined, and that X number is independent from the X number that has randomly been determined for the second Round, and that X number is independent from the X number that has been randomly determined for the third Round. In each Round, the number X that has been chosen will not be revealed to you.

As will be explained in more detail below, you will receive some information about this number. Then you will be asked to provide an estimate for X.

Your earnings in a Round will depend on how precisely you estimate X, i.e., how close your estimate is to the actual number X. Only one of the three Rounds will count for payment, and you will be paid according to the precision of your estimate in that Round. This will be explained in more detail in the next section. You can earn either \$10 or \$0. Below we describe how you can earn \$10.

After you have provided your estimate, we will compare your estimate to the true value of X and see how close you are to being right. You will receive \$10 if the square of the distance between your estimate and the actual number X is less than or equal to a number k (which is unknown to you). If the square of the distance is larger than k, you will receive 0 dollars. This number k lies somewhere between 0 and 10,000, and the computer chose k randomly with each number between 0 and 10,000 being equally likely. The determination of your earnings can be expressed with the following formula:

- Payment = \$10, if $(X - \text{"your estimate"})^2 \leq k$
- Payment = \$0, if $(X - \text{"your estimate"})^2 > k$

While this formula might look complicated, the underlying principle is very simple: the better your estimate, i.e., the smaller the distance between your estimate and the true value of X, the higher the likelihood that you will receive the \$10. In other words, you should try to estimate X as best you can.

Consider the following example: suppose that in a Round the computer drew the number **X = 150**. In addition, suppose that **k = 500**. You would then earn the following amount of money depending on your estimate:

If Your Estimate $= 50$ $\rightarrow(150 - \text{Your Estimate})^2 = (150-50)^2 = 100^2 = 10,000 > k$ $\rightarrow$ *earnings* $= \$0$

If Your Estimate $= 100$ $\rightarrow(150 - \text{Your Estimate})^2 = (150-100)^2 = 50^2 = 2,500 > k$ $\rightarrow$ *earnings* $= \$0$

If Your Estimate $= 130$ $\rightarrow(150 - \text{Your Estimate})^2 = (150-130)^2 = 20^2 = 400 \leq k$ $\rightarrow$ *earnings* $= \$10$

If Your Estimate $= 150$ $\rightarrow(150 - \text{Your Estimate})^2 = (150-150)^2 = 0^2 = 0 \leq k$ $\rightarrow$ *earnings* $= \$10$

If Your Estimate $= 170$ $\rightarrow(150 - \text{Your Estimate})^2 = (150-170)^2 = (-20)^2 = 400 \leq k$ $\rightarrow$ *earnings* $= \$10$

If Your Estimate $= 200$ $\rightarrow(150 - \text{Your Estimate})^2 = (150-200)^2 = (-50)^2 = 2,500 > k$ $\rightarrow$ *earnings* $= \$0$

If Your Estimate $= 250$ $\rightarrow(150 - \text{Your Estimate})^2 = (150-250)^2 = (-100)^2 = 10,000 > k$ $\rightarrow$ *earnings* $= \$0$

You can see that your chances of receiving $10 only depend on the absolute distance. That is, it does not matter whether you overestimate or underestimate the true number by the same amount, since the square of the distance will be the same.

The estimation task:

As already mentioned, in each Round you will have to provide an estimate regarding an unknown number X. Also, as already mentioned, for each Round the the number X is different. You will not know this number. A computer has drawn this number for each Round from a probability distribution, that is displayed below. The distribution you see in Figure 1 is what is called a normal distribution. The distribution has a mean of 0 and a standard deviation of 500. Although you will not know the number X, the graph tells you something about the range from which X was drawn by the computer.

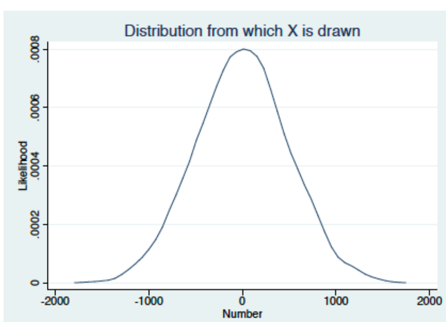


FIGURE 1. Distribution from which the computer drew X from.

Information regarding the estimation tasks:

Your task in each Round is to provide an estimate about a randomly drawn number X (unknown to you). To help you estimate X, in each Round you will receive different computer-generated pieces of information about the correct value of X. In each Round, you will see this information and then enter your own estimate.

This information comes from the following two types of devices:

- First, there are four "Estimation Devices" (Estimation Devices A, B, C and D), which themselves provide an estimate of X.
- Second, there are four "Communication Machines" (Communication Machines 1, 2, 3 and 4), which observe the estimates of the Estimation Devices and compute their own estimate from these reports.

The Estimation Devices provide an estimate about the number X, and the estimates of these devices are completely independent from each other. The Estimation Devices have determined an estimate by randomly drawing a number from a normal distribution, as seen below in Figure 2. The Estimation Devices all have the same quality, i.e., they are equally good in determining estimates.

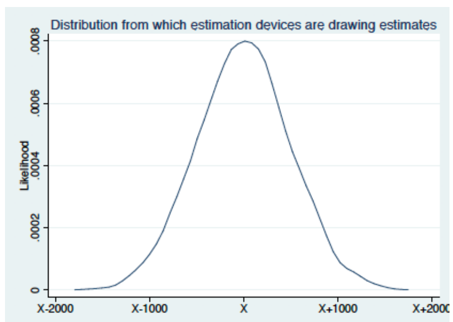


FIGURE 2. Distribution from which the Estimation Devices draw their estimates.

Importantly, this distribution takes as mean the number X, and a standard deviation of 500. You can see that the highest point of the bell curve is at the number X, i.e., the correct value. The further you move away from X, the less likely it is that the corresponding numbers are drawn from the Estimation Devices.

This means that the Estimation Devices are good at solving the estimation task. If the Estimation Devices would provide a large number of estimates, then the average of these estimates would be correct. While almost every individual estimate will be incorrect, the average taken over many estimates will be very precise. In addition, many estimates will be rather close to the correct value.

In short:

(1) The Estimation Devices give you an estimate that they have drawn from a normal distribution with mean X. This means that the Estimation Devices are good at solving the estimation task. If the Estimation Devices would provide a large number of estimates, i.e., if they would draw many times from the normal distribution, then the average of these estimates would be correct (or very precise).
(2) The Estimation Devices make mistakes, but it is much more likely that the estimate is close to the true value than that it is very far away.
(3) For every estimation task, there are a total of four Estimation Devices (A, B, C, D). These four devices, which are completely independent and separate from each other, each randomly draw an estimate from the normal distribution (with mean X and a standard deviation of 500).

Apart from the Estimation Devices, there are also four Communication Machines (1, 2, 3, 4). These Communication Machines do not determine their own estimates. Figure 3 below shows how the Estimation Devices A, B, C and D transmit their estimates to the Communication Machines 1, 2, 3 and 4, and then how those Communication Machines communicate that information to you.

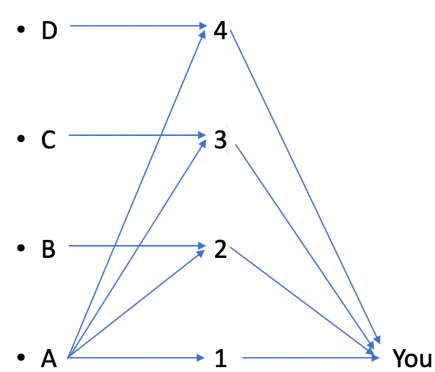


FIGURE 3. Communication Machine 1 transmits the estimate generated by Estimation Device A. Each of the three other Communication Machines receives the estimate of Estimation Device A and of one other Estimation Device, as described by the arrows. They compute their own estimate by taking the average of the two estimates.

This means that you will receive the following information:

(1) As is evident from Figure 3, Communication Machine 1 receives the estimate from Estimation Device A and reports A's estimate to you.
(2) All the other Communication Machines all see the estimate of Estimation Device A and of one other Estimation Device. As you can see in Figure 3:
    - Communication Machine 2 receives the estimates of Estimation Devices A and B.
    - Communication Machine 3 receives the estimates of Estimation Devices A and C.
    - Communication Machine 4 receives the estimates of Estimation Devices A and D.

    Communication Machines 2, 3, 4 take the average of the two estimates they see and each report this average to you.

The following simple example illustrates this. We again assume that the value of X is 150. Let's assume for this example that the estimates of the four Estimation Devices are as follows:

- Estimation Device A: 81
- Estimation Device B: 127
- Estimation Device C: 209
- Estimation Device D: 176

Communication Machine 1 would then report the estimate of Estimation Device A (i.e., 81). Communication Machines 2, 3 and 4 would take the average of the two estimates they see, as described above. Communication Machines 1, 2, 3 and 4 would thus report the following estimates:

- Communication Machine 1: 81
- Communication Machine 2: 104 (104 is the average of 81 and 127)
- Communication Machine 3: 145 (145 is the average of 81 and 209)
- Communication Machine 4: 128.5 (128.5 is the average of 81 and 176).

Thus, for this estimation task, you would see the following information on your computer screen:

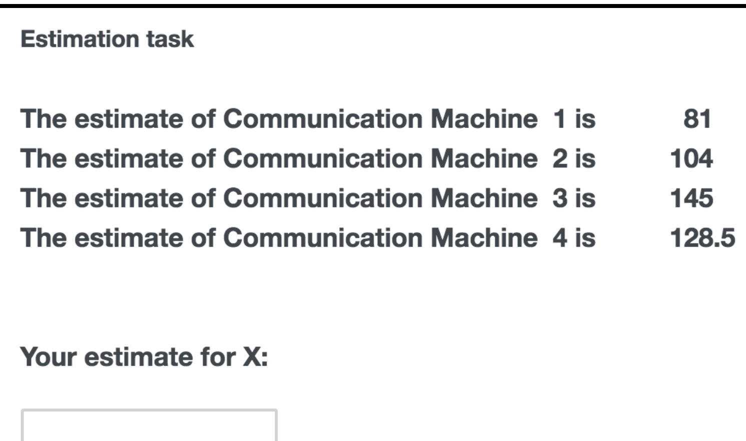


FIGURE 4. Screen shot example.

SUMMARY

- In this Part, you will face 3 different estimations tasks (1 in each Round).
- Your earnings depend on how precise your answer in the estimation task was, i.e., how close it was to the correct value. Only one of these 3 Rounds matter for your earnings. Since each of the 3 estimation tasks are potentially payoff-relevant, you should answer carefully in all 3 Rounds.
- For each estimation task, you will be provided with computer-generated information regarding the number X you have to estimate.
- The structure of the information will be as follows: In each Round, each of the four Estimation Devices provide estimates that come from a random draw from a normal distribution with mean X. These devices are always equally good at estimating X.
- In addition, there are four Communication Machines which process the estimates they observe from the Estimation Devices and then report an estimate derived from these estimates.
- Please take a look again at Figure 3, which we've reproduced below. There you can see which estimates the respective Communication Machines observe, how they are processed and how they map into the estimate which the respective Communication Machine report.
- For each estimation task, you receive the following information: You will see the estimates from Communication Machines 1, 2, 3 and 4.
- After observing this information, you will then be given a maximum of 5 minutes to think about your own estimate and then enter it into your computer. You can enter any number (positive or negative) for your estimate of X.

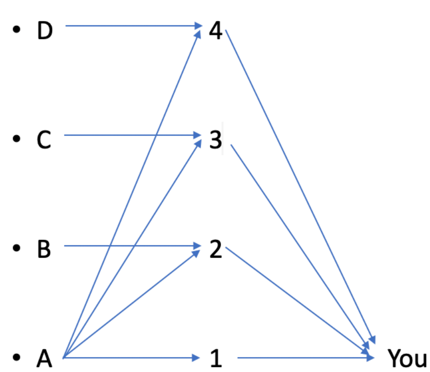


FIGURE 3

INFORMED CONSENT FORM FOR SOCIAL SCIENCE RESEARCH
The Pennsylvania State University

Title of Project: Decision-Making.

Principal Investigator: Chloe Tergiman, 332A Business Bldg
University Park, PA 16802
(814)863-4372; chloejt@gmail.com

1. Purpose of the Study: The purpose of this research study is to study decision-making.

2. Procedures to be followed: Subjects will be tasked to read instructions and make decisions at a computer terminal.

3. Discomforts and Risks: There are no risks in participating in this research beyond those experienced in everyday life.

4. Benefits: Subjects may develop economic decision-making skills and earn monetary pay-off

5. Duration: The study will last 1 hour.

6. Statement of Confidentiality: Your participation in this research is confidential. No identify information is stored in the data file. If this research is published, no information that would identify you will be written. The following may review and copy records related to this research: The Office of Human Research Protections in the U.S. Department of Health and Human Services, the Social Science Institutional Review Board and the PSU Office for Research Protections.

7. Right to Ask Questions: Please contact Chloe Tergiman at (814)863-4372 with questions, complaints or concerns about the research. You can also call this number if you feel this study has harmed you. If you have questions about your rights as a research participant, contact Penn State's Office for Research Protections at (814) 865-1775.

8. Compensation: Participants will receive $7 plus whatever you earn in the experiments you participate in. No other compensation is provided. You must stay until the end to receive your earnings beyond the $7 show up fee.

9. Voluntary Participation: You do not have to participate in this research. You can end your participation at any time by telling the person in charge. Refusal to take part in or withdrawing from this study will involve no penalty or loss of benefits you would receive otherwise.

10. The aggregate data collected in this experiment will be used in future academic publications.

Completion and submission of the survey is considered your implied consent to participate in this study. Please keep this form for your records.

FIGURE 4. Consent form

PennState

To ensure that you understand the scenarios presented, you will now complete a brief example. In this example, the monetary payments are purely hypothetical and nothing you do here will impact your payment or opportunities in the real scenario. It is only in the real scenario that your choices will matter for payment.

Example Scenario: You are making a college application decision. There are three colleges accepting applications, listed in the table below.

	Bonus if you enroll	**Minimum test score**
College A	$10	75
College B	$5	50
College C	$2.5	25

If you apply to a college, they will admit you only if your test score is greater than or equal to the minimum score that they accept. Each college has its own test. Each test score is randomly generated, and has an equal probability of being any whole number from 0 to 99. While your three test scores have already been generated, you will not know what they are.

In the real scenario, you would receive the bonus listed for the college where you enroll. However, you may only apply to two colleges, and you have to tell us your first choice and your second choice. If your first choice admits you, you would enroll in your first choice college. If your first choice rejects you and your second choice admits you, you would enroll in your second choice college. If both your first choice and second choice reject you, you would receive no additional bonus.

Please indicate your first-choice and your second-choice applications below. Click-and-drag the colleges to their final position.

Items

College A

College B

College C

Application list

→

FIGURE 5. Practice scenario in uncorrelated arm

Example scenario outcome:

While you won't know your test scores in the "real" Rounds, in this example, **your randomly generated test scores were:**
College A: 80.
College B: 47.
College C: 22.

Your first choice was College A
Your second choice was College C

Therefore, you would have been admitted to your first-choice college, College A. If this were the real scenario, you would earn $10.

As a reminder, the payoffs and test score requirements for the difference colleges were:

	Bonus if you enroll	**Minimum test score**
College A	$10	75
College B	$5	50
College C	$2.5	25

Because your test score was higher than the minimum test score for your first choice, you would enroll in College A and receive a bonus payment of $10.

→

FIGURE 6. Results page for practice scenario in uncorrelated arm.

PennState

Real Scenario: You are making a college application decision. There are three colleges accepting applications, listed in the table below.

	Bonus if you enroll	Minimum test score
College A	$ 10	50
College B	$ 5	90
College C	$ 2.5	0

If you apply to a college, they will admit you only if your test score is greater than or equal to the minimum score that they accept. Each college has its own test. Each test score is randomly generated, and has an equal probability of being any whole number from 0 to 99.

Please indicate your first-choice and your second-choice applications below.

Items

College A

College B

College C

Application List

→

FIGURE 7. Example ("real") scenario in uncorrelated arm.

PennState

To ensure that you understand the scenarios presented, you will now complete a brief example. In this example, the monetary payments are purely hypothetical and nothing you do here will impact your payment or opportunities in the real scenario. It is only in the real scenario that your choices can matter for payment.

Example Scenario: You are making a college application decision. There are three colleges accepting applications, listed in the table below.

	Bonus if you enroll	**Minimum test score**
College A	$10	75
College B	$5	50
College C	$2.5	25

If you apply to a college, they will admit you only if your test score is greater than or equal to the minimum score that they accept. The same test is accepted by all colleges. It is randomly generated, and has an equal probability of being any whole number from 0 to 99. While your score has already been generated, you will not know what it is.

In the real scenario, you would receive the bonus listed for the college where you enroll. However, you may only apply to two colleges, and you have to tell us your first choice and your second choice. If your first choice admits you, you would enroll in your first choice school. If your first choice rejects you and your second choice admits you, you would enroll in your second choice college. If both your first choice and second choice reject you, you would receive no additional bonus.

Please indicate your first-choice and your second-choice applications below. Click-and-drag the colleges to their final position.

Items

College A

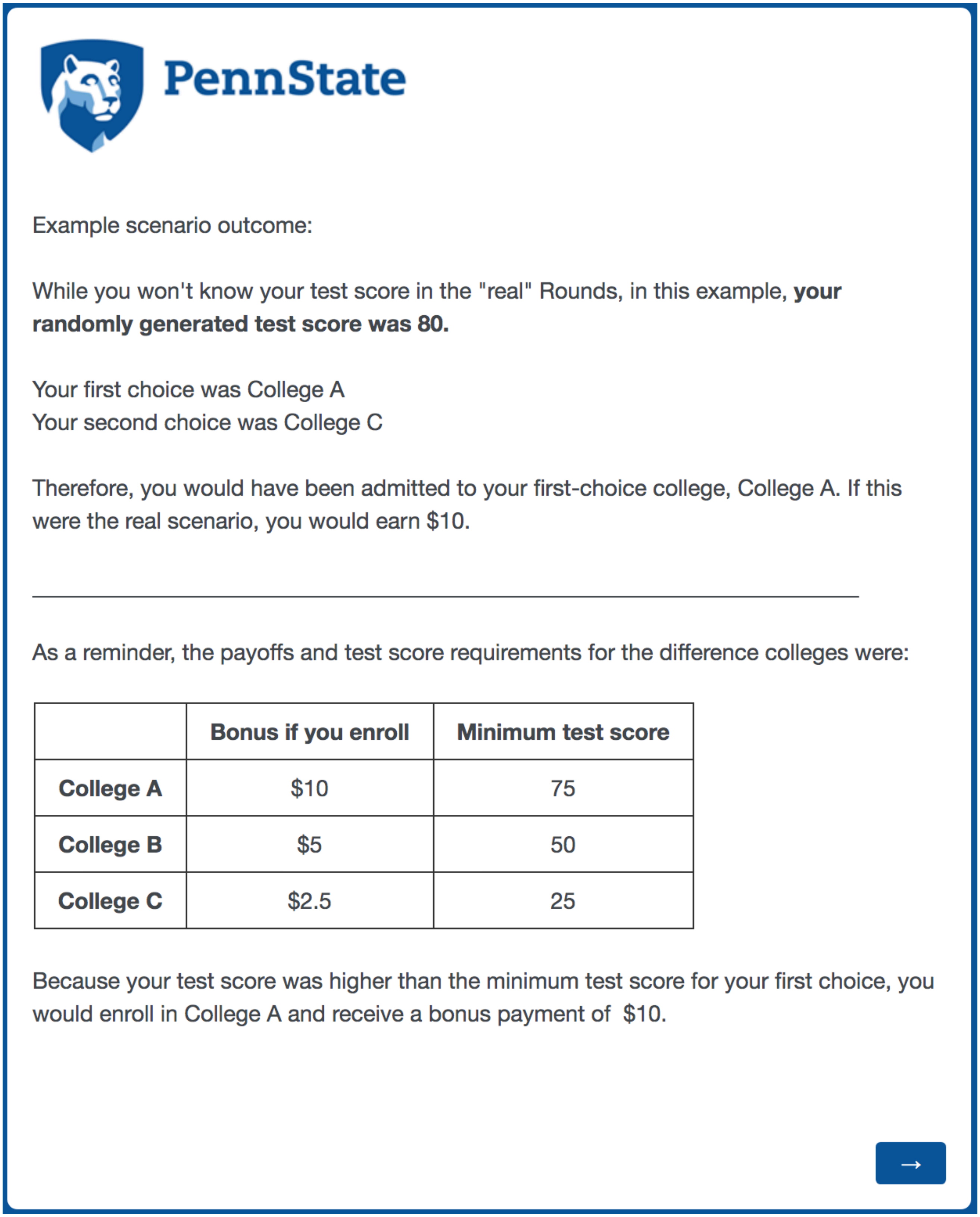
College B

College C

Application list

→

FIGURE 8. Practice scenario in correlated arm.



PennState

Example scenario outcome:

While you won't know your test score in the "real" Rounds, in this example, **your randomly generated test score was 80.**

Your first choice was College A
Your second choice was College C

Therefore, you would have been admitted to your first-choice college, College A. If this were the real scenario, you would earn $10.

As a reminder, the payoffs and test score requirements for the difference colleges were:

	Bonus if you enroll	Minimum test score
College A	$10	75
College B	$5	50
College C	$2.5	25

Because your test score was higher than the minimum test score for your first choice, you would enroll in College A and receive a bonus payment of $10.

→

FIGURE 9. Results page for practice scenario in correlated arm.

PennState

Real Scenario: You are making a college application decision. There are three colleges accepting applications, listed in the table below.

	Bonus if you enroll	Minimum test score
College A	$ 10	50
College B	$ 5	45
College C	$ 2.5	0

If you apply to a college, they will admit you only if your test score is greater than or equal to the minimum score that they accept. The same test is accepted by all colleges. The test score is randomly generated, and has an equal probability of being any whole number from 0 to 99.

Please indicate your first-choice and your second-choice applications below.

Items

College A

College B

College C

Application List

→

FIGURE 10. Example ("real") scenario in correlated arm.

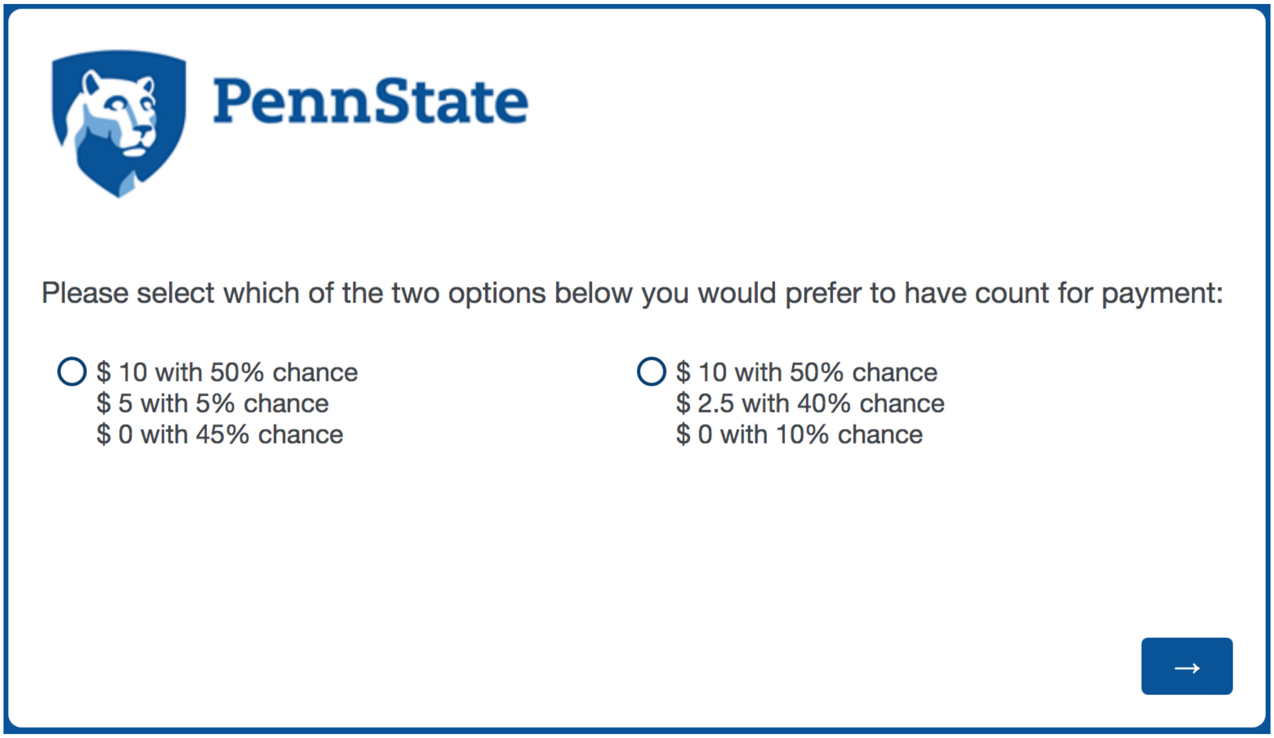


FIGURE 11. Example of matching risky gamble

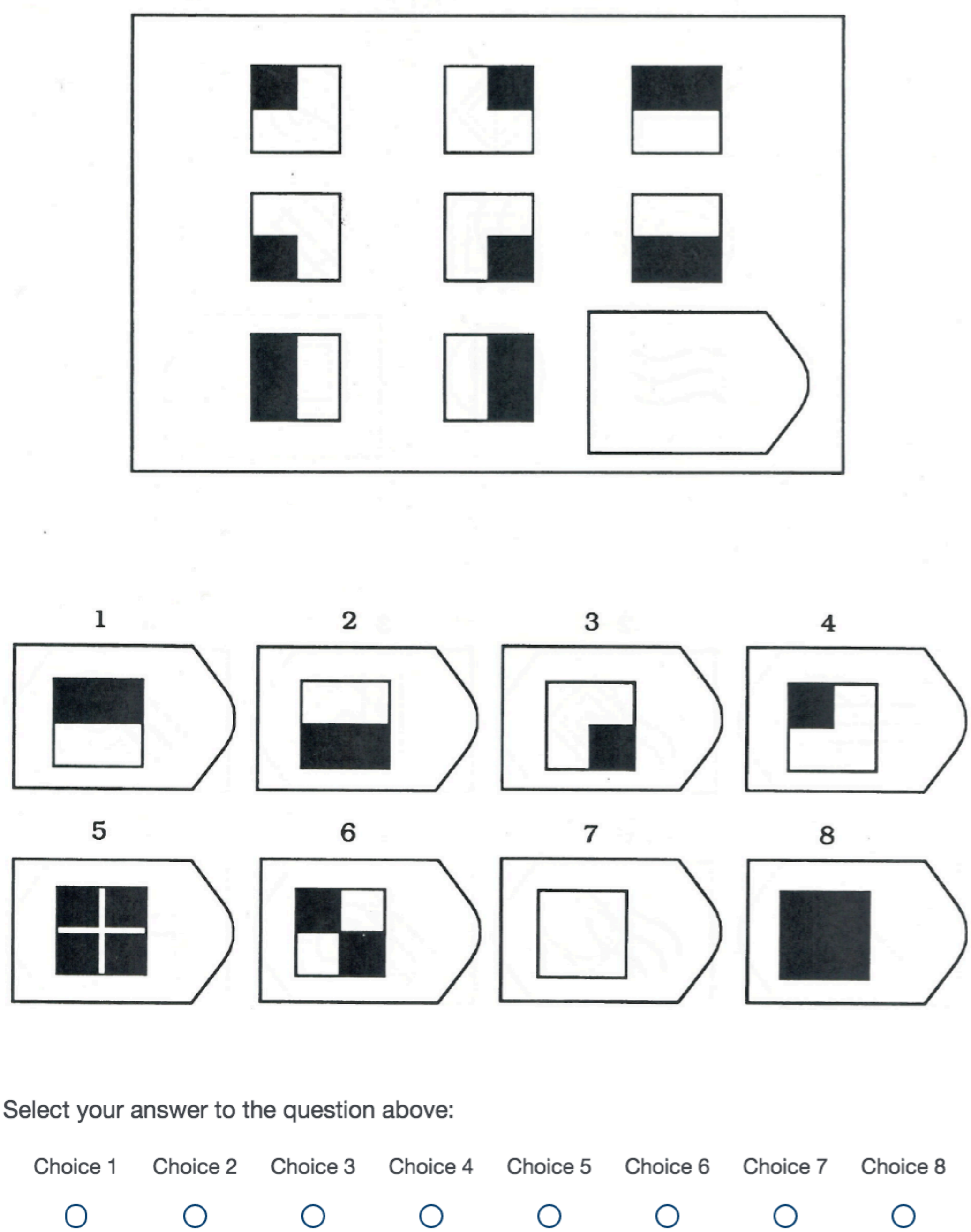


FIGURE 12. Example of Raven question

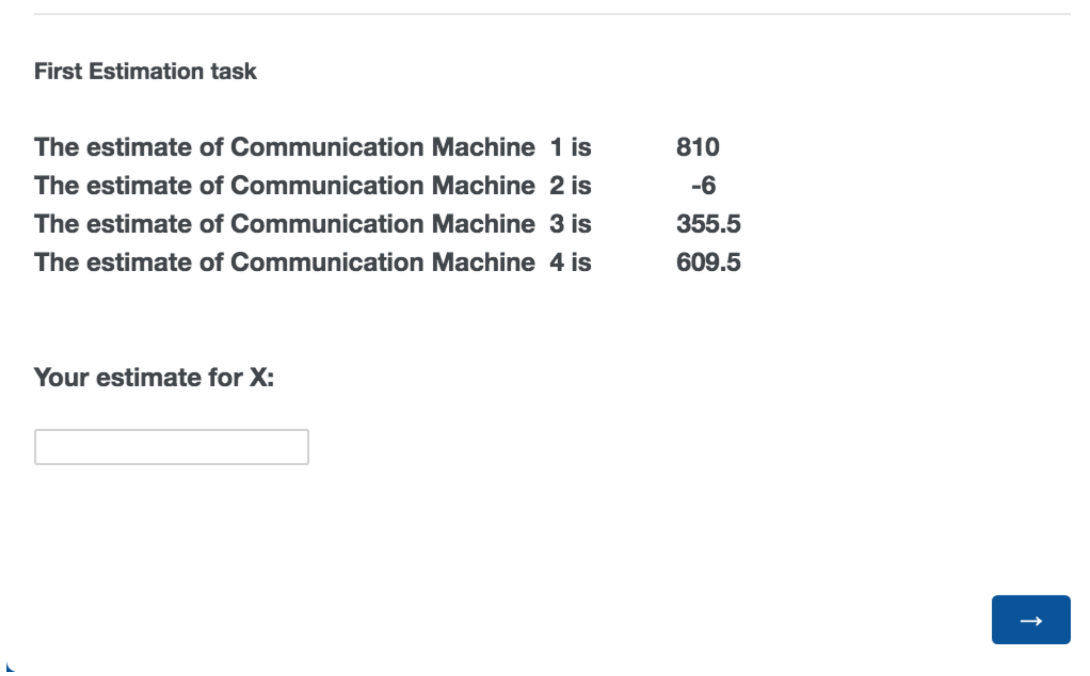
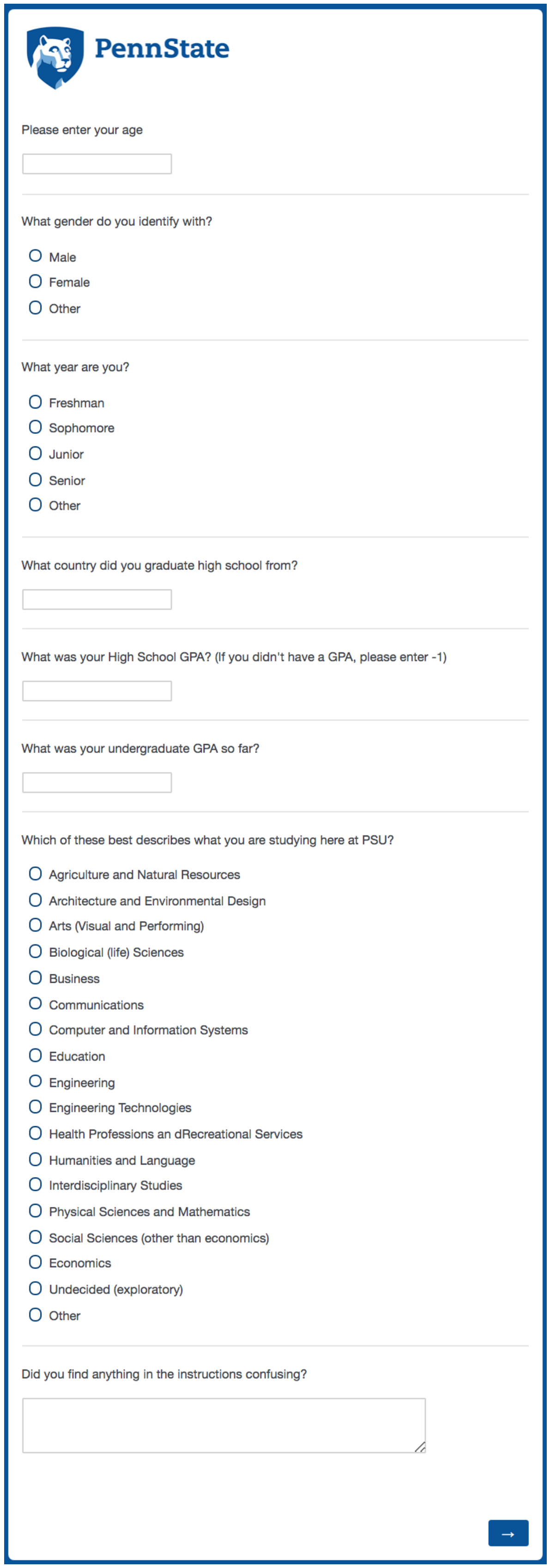


FIGURE 13. Example of Enke-Zimmermann correlation neglect task.



PennState

Please enter your age

What gender do you identify with?

- Male
- Female
- Other

What year are you?

- Freshman
- Sophomore
- Junior
- Senior
- Other

What country did you graduate high school from?

What was your High School GPA? (If you didn't have a GPA, please enter -1)

What was your undergraduate GPA so far?

Which of these best describes what you are studying here at PSU?

- Agriculture and Natural Resources
- Architecture and Environmental Design
- Arts (Visual and Performing)
- Biological (life) Sciences
- Business
- Communications
- Computer and Information Systems
- Education
- Engineering
- Engineering Technologies
- Health Professions an dRecreational Services
- Humanities and Language
- Interdisciplinary Studies
- Physical Sciences and Mathematics
- Social Sciences (other than economics)
- Economics
- Undecided (exploratory)
- Other

Did you find anything in the instructions confusing?

→

FIGURE 14. Demographic questionnaire.

2. Contents of Experiment 2

This section presents a screen-by-screen walk through of Experiment 2. Any annotations not part of the original survey text are in blue.

This is a consent form. Please read it carefully.

You are being asked to take part in a research study on decision-making. Your participation is voluntary and is greatly appreciated. If you agree to be in this study, you will be asked to fill out a brief survey. This survey will take approximately 6 minutes to complete.

Eligibility: All Prolific participants over the age of 18 are eligible to participate, but may participate only once.

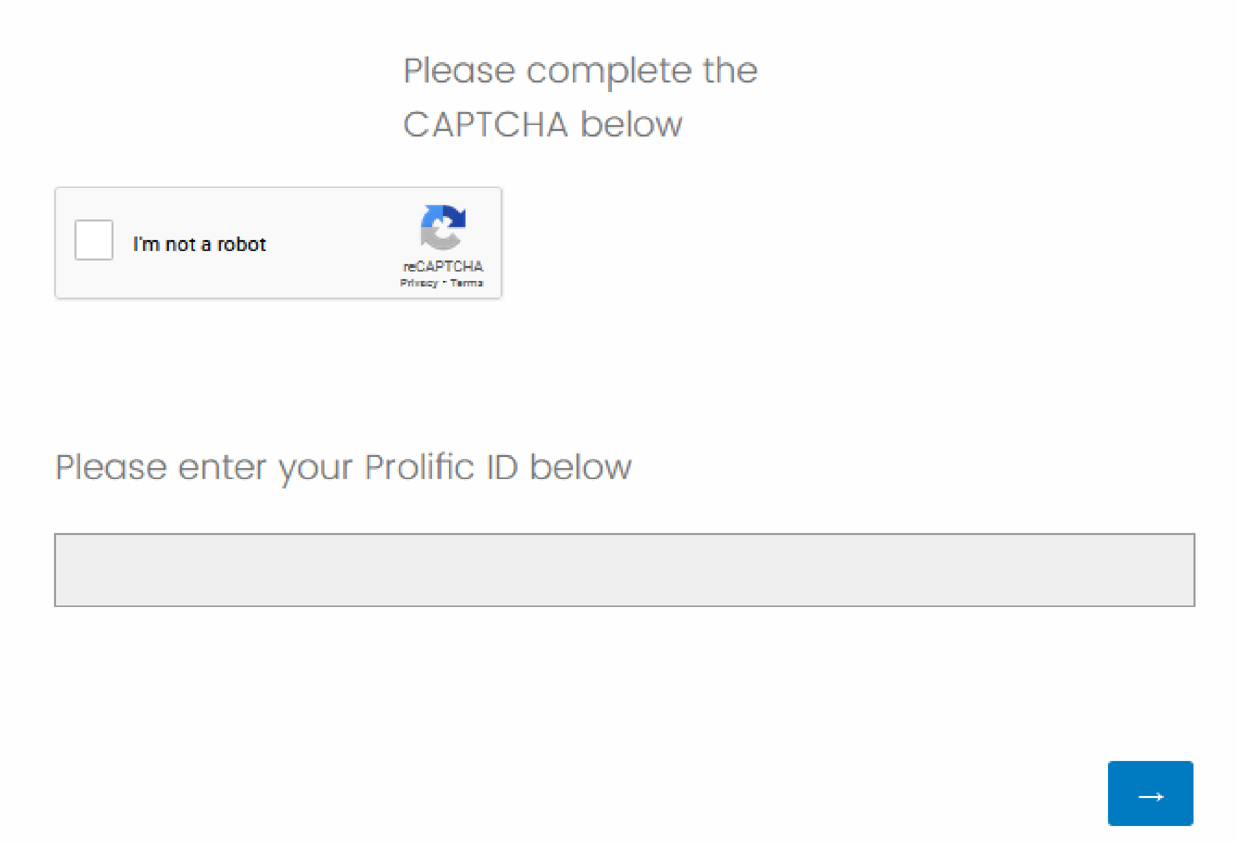
Compensation: All participants earn $1 for completing the survey. An additional bonus is paid based on decisions that you make. The average bonus payment is approximately $5.

Confidentiality: This study is anonymous. You will never be asked to provide your name or identifying information.

Contact Information: This study is being conducted by economics researchers Alex Rees-Jones, Ran Shorrer, and Chloe Tergiman. If you encounter any issues while completing the study or have any questions, please contact us on Prolific and we will respond as soon as we can (usually within the same day).

Agreement to Participate
By clicking to continue, you are indicating that you have read this consent form and that you voluntarily agree to participate in the study.

○ I agree to participate


Please complete the CAPTCHA below

I'm not a robot

reCAPTCHA

Privacy - Terms

Please enter your Prolific ID below

→

Overview:

In this study you will face a simulation of applying to college. There are three colleges accepting applications, College A, College B, and College C. You will choose where to apply.

Your bonus in this study will depend on the college where you ultimately enroll. If you enroll in College A, you will receive a $10.00 bonus. If you enroll in College B, you will receive a $5.00 bonus. If you enroll in College C, you will receive a $2.50 bonus.

You may only apply to two colleges. You will have to tell us your first choice and your second choice. If your first choice admits you, you will enroll in your first-choice college and earn the bonus associated with that college. If your first choice rejects you and your second choice admits you, you will enroll in your second-choice college and earn the bonus associated with that college. If both your first choice and second choice reject you, you will receive no bonus.

→

College Admissions:

We will now tell you how colleges decide whom to admit.

College admissions depend on a test score. If you apply to a college, they will admit you only if your test score is greater than or equal to the minimum score that they accept.

The same admissions test is accepted by all colleges. Your test score is randomly generated, and has an equal probability of being any whole number from 0 to 99.

When making your decision about where to apply, you will not know your test score.

The minimum score that a college accepts will be presented to you in a table. For example, that table could look like this:

	Bonus if you enroll	**Minimum test score**
College A	$10.00	65
College B	$5.00	45
College C	$2.50	15

In the uncorrelated control branch, the enclosed text is replaced with...

Each college has its own admissions test. Your test scores are randomly and independently generated numbers ranging from 0 to 99. That means that:

- Your test score for College A has an equal probability of being any whole number from 0 to 99.
- Your test score for College B has an equal probability of being any whole number from 0 to 99.
- Your test score for College C has an equal probability of being any whole number from 0 to 99.

Your test scores for Colleges A, B, and C have no bearing on one another: a good (or bad) score for one college does not change the chances that you get a good (or bad) score at another college. When making your decision about where to apply, you will not know your test scores.

In this example, to be eligible for admission to College A, your test score has to be at least 65. To be eligible for admission to College B, your test score has to be at least 45. To be eligible for admission to College C, your test score has to be at least 15. These thresholds will be different in different scenarios.

Below that table, you will see the three colleges in a list. You will have to rank two of them by dragging and dropping those two, in order, onto your application list.

You will now face an example scenario where you can familiarize yourself with the screen and procedures. This serves as a practice round: nothing you do in this example scenario impacts your bonus in any way.

In the sequential branch, the enclosed paragraph is replaced with...

Below that table, you will see the three colleges in a list. You will have to rank two of them by dragging and dropping your first choice onto the list called "First Choice", clicking the button below, and then dragging and dropping your second choice onto the list called "Second Choice" on the next page.

Practice Round:

To ensure that you understand the scenarios presented, you will now complete a brief example. In this example, the monetary payments are purely hypothetical. Nothing you do here will impact your payment or your opportunities in the “real” scenario that determines your bonus payment.

Example Scenario: You are making a college application decision. There are three colleges accepting applications, listed in the table below:

	Bonus if you enroll	**Minimum test score**
College A	$10.00	75
College B	$5.00	50
College C	$2.50	25

If you apply to a college, they will admit you only if your test score is greater than or equal to the minimum score that they accept.

The same test is accepted by all colleges. It is randomly generated, and has an equal probability of being any whole number from 0 to 99. While your score has already been generated, you do not know what it is.

If this were the "real" scenario, you would receive the bonus listed for the college where you enroll. However, you may only apply to two colleges, and you have to tell us your first choice and your second choice. If your first choice admits you, you would enroll in your first-choice school. If your first choice rejects you and your second choice admits you, you would enroll in your second-choice college. If both your first choice and second choice reject you, you would receive no additional bonus.

In the uncorrelated control branch, the enclosed text is replaced with...

Each college has its own admissions test. Each test score is randomly generated, and has an equal probability of being any whole number from 0 to 99. While your scores have already been generated, you do not know what they are.

Practice Round Application:

	Bonus if you enroll	Minimum test score
College A	$10.00	75
College B	$5.00	50
College C	$2.50	25

Please submit your first and second choice colleges. You can do this by dragging and dropping those two, in order, into the table called "Application List."

Items

College A

College B

College C

Application List

In the sequential branch, the enclosed text is replaced with...

Please indicate your first choice:

Items

College A

College B

College C

First Choice

And a second screen appears after a selection is made in the first one...

Practice Round Application:

	Bonus if you enroll	Minimum test score
College A	$10.00	75
College B	$5.00	50
College C	$2.50	25

Your first choice was College A.
Please indicate your second choice:

Items	Second Choice
College B	
College C	

Practice Results:

Your randomly generated test score was 44.

Your first choice was College A.
Your second choice was College C.

Therefore, you would have been admitted to your second choice college, College C. If this were the real scenario, you would earn $2.50.

As a reminder, the payoffs and test score requirements for the different colleges were:

	Bonus if you enroll	Minimum test score
College A	$10.00	75
College B	$5.00	50
College C	$2.50	25

In the uncorrelated control branch, the enclosed text is replaced with...

Your randomly generated test scores for Colleges A, B, and C, were 66, 74, and 84, respectively.

At this point, the Extra Practice and Score Explanation branches present new pages before they join the other branches in transitioning to the real scenario.

SCORE EXPLANATION BRANCH ONLY

Additional Explanation:

Before moving to the simulation that will impact your bonus, we would like to provide additional explanation of the impact of different test scores. Imagine you were applying to the colleges in the table below:

	Bonus if you enroll	Minimum test score
College A	$10.00	75
College B	$5.00	50
College C	$2.50	25

Given these colleges, where would you get in?

- If your score is 75 or above, then you qualify for admission to all three colleges. You will therefore enroll at the college that you said you liked the best of those you applied to.
- If your score is less than 75 but is at least 50, then you qualify for admission to all colleges except College A. You will therefore enroll at the college that you said you liked best of those you applied to that are not College A.
- If your score is less than 50 but is at least 25, then you qualify for admission to College C only. You will therefore enroll at College C if you applied to it. Otherwise, you will remain unmatched.
- If your score is less than 25, then you do not qualify for admission to any college. You will remain unmatched regardless of where you applied.

Once you have read this additional explanation, please continue to the main simulation.

EXTRA PRACTICE BRANCH ONLY

Confirming Your Understanding:

Before moving to the simulation that will impact your bonus, we would like to confirm that you understand how the admissions process works.

To test your understanding, we will now ask you to correctly identify where an example student would be admitted. You must correctly answer the questions below to proceed.

The example student's test score is **88**.

The minimum score requirements for each school are presented in the table below:

	Bonus if you enroll	Minimum test score
College A	$10.00	80
College B	$5.00	50
College C	$2.50	20

If the student submits College A as their first choice and College B as their second choice, they will be admitted to:

- ○ College A
- ○ College B
- ○ College C
- ○ No College

If the student submits College A as their first choice and College C as their second choice, they will be admitted to:

- ○ College A
- ○ College B
- ○ College C
- ○ No College

The test score presented for the extra practice scenario is randomly drawn for each subject in the same manner as the incentivized scenario. Participants have 16 attempts to answer both questions correctly before the correct answers are presented to them. If they do not answer both correctly, they see a screen that looks like this with the same questions and answer options below it...

Confirming Your Understanding:

You incorrectly answered the second question. Please try again. As a reminder, your correct answer to the first question was College A and your incorrect answer to the second question was College B.

Before moving to the simulation that will impact your bonus, we would like to confirm that you understand how the admissions process works.

To test your understanding, we will now ask you to correctly identify where an example student would be admitted. You must correctly answer the questions below to proceed.

The example student's test score is **88**.

The minimum score requirements for each school are presented in the table below:

	Bonus if you enroll	Minimum test score
College A	$10.00	80
College B	$5.00	50
College C	$2.50	20

Once they answer both questions correctly, they see this screen...

CONGRATULATIONS!

**You answered both questions correctly.
You may now continue with the study.**

→

You will now face the simulation of applying to college where your decisions will impact your bonus.

In this final simulation, we will apply the same rules as you faced in the example scenario. The only change will be different test-score requirements for admissions. New test scores will be simulated, so the test scores that were presented in the example are no longer relevant. We will present the new test score requirements on the next page.

When deciding on where to apply, keep in mind that your second choice should be used as a backup. You will ONLY enroll in your second choice if your exam score is too low to be admitted to your first choice AND your exam score is high enough to be admitted to your second choice.

→

Only the UK Intervention branch sees the enclosed text– the area is blank for the other branches.

Application That Matters for Bonus:

The minimum test scores that colleges A, B, and C accept are presented below:

	Bonus if you enroll	Minimum test score
College A	$10.00	50
College B	$5.00	45
College C	$2.50	10

Please submit your first and second choice colleges. You can do this by dragging and dropping those two, in order, into the table called "Application List."

Items

College A

College B

College C

Application List

The sequential branch would see the following two screens...

Application That Matters for Bonus:

The minimum test scores that colleges A, B, and C accept are presented below:

	Bonus if you enroll	Minimum test score
College A	$10.00	50
College B	$5.00	45
College C	$2.50	10

Please indicate your first choice:

Items	First Choice
College A	
College B	
College C	

Application That Matters for Bonus:

	Bonus if you enroll	Minimum test score
College A	$10.00	50
College B	$5.00	45
College C	$2.50	10

Your first choice was College A.
Please indicate your second choice:

Items	Second Choice
College B	
College C	

At this point, the lottery branch would see the following screen...

Confirming Your Answer

Your first choice was College A and your second choice was College C.

With this selection, you have a 50% chance of enrolling in College A, a 40% chance of enrolling in College C, and a 10% chance of not enrolling in any college. For reference, the payoff table is below.

Would you like to confirm this choice or modify it? Please select the option below before clicking the button below.

- ○ Confirm
- ◉ Modify

	Bonus if you enroll	Minimum test score
College A	$10.00	50
College B	$5.00	45
College C	$2.50	10

If they select modify, they see the following screen...

	Bonus if you enroll	Minimum test score
College A	$10.00	50
College B	$5.00	45
College C	$2.50	10

Please submit your first and second choice colleges. You can do this by dragging and dropping those two, in order, into the table called "Application List." **You will be allowed to modify them again after seeing the probabilities.**

Items

College A

College B

College C

Application List

Once they modify their choice, they are returned to a similar screen...

Confirming Your Answer

Your first choice was College A and your second choice was College B.

With this selection, you have a 50% chance of enrolling in College A, a 5% chance of enrolling in College B, and a 45% chance of not enrolling in any college. For reference, the payoff table is below.

Would you like to confirm this choice or modify it? Please select the option below before clicking the button below.

○ Confirm

◉ Modify

	Bonus if you enroll	Minimum test score
College A	$10.00	50
College B	$5.00	45
College C	$2.50	10

On their sixth attempt, the bold text changes and reminds them that this decision is final...

	Bonus if you enroll	Minimum test score
College A	$10.00	50
College B	$5.00	45
College C	$2.50	10

Please submit your first and second choice colleges. You can do this by dragging and dropping those two, in order, into the table called "Application List." **This choice is final.**

Items	Application List
College C	1 College A
	2 College B

Real Results:

Your randomly generated test score was 90.

Your first choice was College A.
Your second choice was College C.

You were admitted to your first choice college, College A. Thus, you earned a bonus of $10.00.

As a reminder, the payoffs and test score requirements for the different colleges were:

	Bonus if you enroll	Minimum test score
College A	$10.00	50
College B	$5.00	45
College C	$2.50	10

In the uncorrelated control branch, the enclosed text is replaced with...

Your randomly generated test scores for Colleges A, B, and C, were 42, 70, and 37, respectively.

The survey is complete and participants are redirected to Prolific.

3. Contents of Experiment 3

This section presents a screen-by-screen walk through of Experiment 3. Since we have 2 treatment arms (Correlated First, Uncorrelated First), we provide annotations that indicate when the same page looks different by condition. Any annotations not part of the original survey text are in blue.

This is a consent form. Please read it carefully.

You are being asked to take part in a research study on decision-making. Your participation is voluntary and is greatly appreciated. If you agree to be in this study, you will be asked to fill out a brief survey. This survey will take approximately 10 minutes to complete.

Eligibility: All Prolific participants over the age of 18 are eligible to participate, but may participate only once.

Compensation: All participants earn $1.50 for completing the survey. An additional bonus is paid based on decisions that you make. The average bonus payment is approximately $3.50.

Confidentiality: This study is anonymous. You will never be asked to provide your name or identifying information.

Contact Information: This study is being conducted by economics researchers Alex Rees-Jones, Ran Shorrer, and Chloe Tergiman. If you encounter any issues while completing the study or have any questions, please contact us on Prolific and we will respond as soon as we can (usually within the same day).

Agreement to Participate

By clicking to continue, you are indicating that you have read this consent form and that you voluntarily agree to participate in the study.

○ I agree to participate

Please complete the CAPTCHA below

I'm not a robot

reCAPTCHA
Privacy - Terms

Please enter your Prolific ID below

→

Overview:

In this study you will face simulations of applying to college. There are three colleges accepting applications in each simulation: College A, College B, and College C. You will choose where to apply in 20 different simulations.

Within each simulation, you may only apply to two colleges. If your first choice admits you, you will enroll in your first-choice college. If your first choice rejects you and your second choice admits you, you will enroll in your second-choice college. If both your first choice and second choice reject you, you do not enroll in any college.

→

College Admissions:

We will now tell you how colleges decide whom to admit.

College admissions depend on a test score. If you apply to a college, they will admit you only if your test score is greater than or equal to the minimum score that they accept.

The same admissions test is accepted by all colleges. Your test score is randomly generated, and has an equal probability of being any whole number from 0 to 99.

When making your decisions about where to apply, you will not know your test score.

The minimum score that a college accepts will be presented to you in a table. For example, that table could look like this:

	Bonus if you enroll	Minimum test score
College A	$10.00	65
College B	$5.00	45
College C	$2.50	15

In the *uncorrelated* first branch, the enclosed text is replaced with...

Each college has its own admissions test. Your test scores are randomly and independently generated numbers ranging from 0 to 99. That means that:

- Your test score for College A has an equal probability of being any whole number from 0 to 99.
- Your test score for College B has an equal probability of being any whole number from 0 to 99.
- Your test score for College C has an equal probability of being any whole number from 0 to 99.

Your test scores for Colleges A, B, and C have no bearing on one another: a good (or bad) score for one college does not change the chances that you get a good (or bad) score at another college.

In this example, to be eligible for admission to College A, your test score has to be at least 65. To be eligible for admission to College B, your test score has to be at least 45. To be eligible for admission to College C, your test score has to be at least 15. These thresholds will be different in different simulations.

Your bonus in this study will depend on the college applications that you make. At the end of the study, we will randomly select one of the twenty simulations to be the simulation that “counts.” We will run that simulation and submit your application to the colleges in the manner that you selected. If you enroll in College A, you will receive a $10.00 bonus. If you enroll in College B, you will receive a $5.00 bonus. If you enroll in College C, you will receive a $2.50 bonus. If you do not enroll in any college, you will receive no bonus.

Throughout the study we will occasionally present simple questions that test if you have been reading the instructions. If you answer these questions incorrectly the study will end and you will not be eligible for a bonus.

Example Simulation:

You will now face an example simulation where you can familiarize yourself with the procedure for making your applications. After you make your decision on this screen, we will show you the outcome of this simulation. This simulation is only for practice. Nothing you do in this example simulation impacts your bonus in any way.

The minimum test scores that colleges A, B, and C accept are presented below:

	Bonus if you enroll	**Minimum test score**
College A	$10.00	75
College B	$5.00	50
College C	$2.50	25

Remember that you may only apply to two colleges. In the simulations that we present, it will always be in your best interest to list College A as your first choice. Your task in these simulations will be to choose whether to list College B or College C as your second choice. You do this by dragging and dropping the college of your choice into the second position in the table titled "Application List."

Please submit your college choices below.

Items	Application List
College B	1 College A
College C	

Results From Example Simulation:

Your randomly generated test score was 43.

Your first choice was College A.
Your second choice was College B.

Based on these test scores and your choices, you would not have been admitted to any college. This was only a practice simulation, and does not affect your bonus. However, if this were the simulation that "counts," you would earn no bonus.

As a reminder, the payoffs and test score requirements for the different colleges were:

	Bonus if you enroll	**Minimum test score**
College A	$10.00	75
College B	$5.00	50
College C	$2.50	25

In the *uncorrelated* first branch, the enclosed text is replaced with...

Your randomly generated test scores for Colleges A, B, and C, were 82, 36, and 48, respectively.

Confirming Your Understanding

Before we proceed, we will test your understanding of some basic features of this study. Please answer both questions below. **You must answer these questions correctly to remain in the study.**

How do these simulations affect your bonus?

- One simulation will be chosen to "count." In the simulation that counts, I will earn the bonus given by the college where I enroll.
- Every simulation "counts." In every simulation I will earn the bonus given by the college where I enroll.
- The simulations do not affect my bonus.

How are your test scores determined in these simulations?

- Each college runs its own test. Each college's test score is simulated independently as a random whole number ranging from 0 to 99.
- Each college accepts the same test. This single test score is simulated as a random whole number ranging from 0 to 99.

If the participant does not answer both questions correctly (the answer to the first is always the same while the answer to the second depends on treatment arm) they are shown this screen and then exit the survey...

You have incorrectly answered a question testing your understanding and are not eligible to continue with this study. Thank you for your participation.

→

First 10 Simulations

You will now face the first 10 simulations of applying to college. Any of these simulations could be randomly selected to determine your bonus.

In these simulations, we will apply the same rules as you faced in the example simulation. The only change will be different test-score requirements for admissions. New test scores will be simulated, so the test scores that were presented in the example are no longer relevant.

→

Simulation 1 of 20:

The minimum test scores that colleges A, B, and C accept are presented below:

	Bonus if you enroll	Minimum test score
College A	\$10.00	85
College B	\$5.00	85
College C	\$2.50	95

Please submit your college choices below.

Items

College B

College C

Application List

1 College A

→

Participants are shown 10 such simulations each with randomly chosen minimum test scores

New Simulation Details:

You have now completed 10 of the 20 simulations.

For the final 10 simulations, the set up will be very similar. Just like before, if one of these simulations is randomly selected as the simulation that "counts," you will earn the amount of money offered by the college that admits you. Colleges continue to decide whether to admit you based on posted test-score requirements.

Unlike before, each college has its own admissions test. Your test scores are randomly and independently generated numbers ranging from 0 to 99. That means that:

- Your test score for College A has an equal probability of being any whole number from 0 to 99.
- Your test score for College B has an equal probability of being any whole number from 0 to 99.
- Your test score for College C has an equal probability of being any whole number from 0 to 99.

Your test scores for Colleges A, B, and C have no bearing on one another: a good (or bad) score for one college does not change the chances that you get a good (or bad) score at another college. When making your decisions about where to apply, you will not know your test scores.

→

In the *uncorrelated* first branch, the enclosed text is replaced with...

Unlike before, the same admissions test is accepted by all colleges. Your test score is randomly generated, and has an equal probability of being any whole number from 0 to 99. When making your decisions about where to apply, you will not know your test score.

Testing Your Understanding

Before we proceed, we will test your understanding of the changes to the simulations. Please answer the question below. **You must answer this question correctly to remain in the study.**

How are your test scores determined in these simulations?

- ○ Each college runs its own test. Each college's test score is simulated independently as a random whole number ranging from 0 to 99.
- ○ Each college accepts the same test. This single test score is simulated as a random whole number ranging from 0 to 99.

→

If the participant does not answer the question correctly (which depends on treatment arm) they are shown this screen and then exit the survey...

You have incorrectly answered a question testing your understanding and are not eligible to continue with this study. Thank you for your participation.

→

Simulation 11 of 20:

The minimum test scores that colleges A, B, and C accept are presented below:

	Bonus if you enroll	Minimum test score
College A	$10.00	95
College B	$5.00	90
College C	$2.50	95

Please submit your college choices below.

Items

College B

College C

Application List

1 College A

→

Participants are shown 10 more such simulations each with semi-randomly chosen minimum test scores

Determining Your Bonus:

Thank you for completing the application simulations. To determine your bonus, we randomly selected one of the simulations to be played out as the simulation that “counts."

In the randomly selected simulation, your randomly generated test scores for Colleges A, B, and C, were 53, 57, and 82, respectively.

The payoffs and test score requirements for the different colleges were:

	Bonus if you enroll	Minimum test score
College A	$10.00	90
College B	$5.00	90
College C	$2.50	80

Your first choice was College A. Your second choice was College B.

You were not admitted to any college. Thus, you earned no bonus.

→

Note that the scores are randomly determined for each participant.
If the randomly chosen simulation is from the set of 10 *correlated* questions, the enclosed text is replaced with...

In the randomly selected simulation, your randomly generated test score was 18.

4. PREREGISTRATIONS

The preregistrations for Experiments 1,2, and 3 are available on the following pages.

Correlation Neglect in Student-to-School Matching (#18666)

Created: 01/17/2019 06:35 AM (PT)
Public: 10/17/2019 12:39 PM (PT)

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1) Have any data been collected for this study already?
No, no data have been collected for this study yet.

2) What's the main question being asked or hypothesis being tested in this study?
We are testing if students make more mistakes in college application decisions when schools' rankings of students are correlated vs. uncorrelated.

3) Describe the key dependent variable(s) specifying how they will be measured.
We present subjects with a series of college application scenarios. In each scenario, there are three different colleges where they could potentially enroll, each offering a different bonus payment and requiring different minimum test scores. The subject must choose two of the three to apply to, and rank order them. Call the highest paying college A, the second-highest B, and the lowest C.
Our DV is a categorical variable recording the application list submitted, indicating one of the six options: A>B, A>C, B>A, B>C, C>A, or C>B.

4) How many and which conditions will participants be assigned to?
There are two versions of the scenario set-up: one with a single test-score used by all schools (i.e., perfectly correlated evaluations) and one where each school has its own independent test score (i.e., perfectly uncorrelated evaluations). We have nine scenarios presented in each version, preserving the correlation structure but changing the test score requirements across schools. The nine versions are designed as matched pairs, so that for each correlated scenario there is a matching uncorrelated scenario that leads to the same distribution over final outcomes when the application lists of interest – A>B and A>C – are chosen.
Each subject will face both versions of the scenario set-up, allowing a within-subject comparison of responses. We randomly assign which appears first, allowing for a between-subjects comparison looking just at responses to the first correlation structure.

5) Specify exactly which analyses you will conduct to examine the main question/hypothesis.
We will conduct a Fisher's exact test to test for a different distribution of our DV by correlation condition. We will additionally conduct difference-of-proportions tests of the difference in the fraction of subjects submitting the application list A>B and A>C by correlation condition. We hypothesize that the list A>B will be more common under perfectly correlated evaluation. We will conduct these analyses for each of the nine matched pairs, as well as on the pooled preference data.
We will conduct this analysis in two ways: (1) using only the first scenario faced by each subject, and (2) using both scenarios from each subject. To the extent that results differ, we favor analysis (1) as the cleanest between-subject comparison.
We additionally have a battery of nine gamble choices, which each present a pure monetary gamble that is equivalent to the A>B vs A>C choice for the matched-pair scenarios. We will use these responses as a benchmark when evaluating whether responses to the correlated or uncorrelated scenario better reflects subjects' informed preferences. We predict that responses in the uncorrelated scenario will be closer to informed preference.

6) Describe exactly how outliers will be defined and handled, and your precise rule(s) for excluding observations.
We will exclude subjects who have documented experimental non-compliance in the lab, or who leave the experiment before it is completed.

7) How many observations will be collected or what will determine sample size? No need to justify decision, but be precise about exactly how the number will be determined.
We will run experimental sessions until we have 80 responses in each of the "correlated scenario first" and "uncorrelated scenario first" treatment arms.

8) Anything else you would like to pre-register? (e.g., secondary analyses, variables collected for exploratory purposes, unusual analyses planned?)
Secondary Analyses:
We will examine the two-way tabulation of subjects' responses to both versions of the scenario. Since material incentives are the same in each scenario, we are interested in the rate at which subjects provide different responses in the two versions. We are most interested in comparing the rate at which subjects list A>C in one condition and A>B in the other. We predict that A>B will be more common in the correlated condition.
We will additionally construct a within-subject measure of susceptibility to our mistake of interest by generating a within-subject count of the number of matched-pair scenarios where the subject listed A>B in the correlated scenario but A>C in the uncorrelated scenario. We will regress this measure on our experimental elicitation of performance on Raven's matrices and on a measure of correlation neglect generated from a version of Enke and Zimmerman's (EZ's) experimental design. The Raven's measure is simply the raw count of correct answers to Raven's matrices. Our EZ measure follows EZ's approach: we present three forecasting questions that each allow the calculation of the EZ chi parameter, and we take the subject's median calculated chi as their measure of susceptibility to correlation neglect.
After examining the association between our measure, Raven's performance, and EZ's correlation neglect measure, we will rerun the analyses including a

battery of demographic covariates: dummy variables for gender, having an English-speaking country of origin, and having a major that requires mathematics, as well as continuous measures of high-school and college GPA.

Correlation Neglect in Matching: Debiasing Study (#83001)

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1) Have any data been collected for this study already?
No, no data have been collected for this study yet.

2) What's the main question being asked or hypothesis being tested in this study?
We are testing several potential interventions meant to mitigate the role of correlation neglect in school-application decisions.

3) Describe the key dependent variable(s) specifying how they will be measured.
Subjects are presented with an incentivized school-choice scenario in which they must choose a rank ordering of two out of three schools. The school a subject is admitted to determines their bonus, with school A giving the largest bonus and school C giving the smallest. We are specifically interested in two strategies: the "aggressive strategy" of submitting ROL A>B and the "diversified strategy" of submitting ROL A>C. In our analyses, we will first look at the raw tabulation of all ROLs submitted by condition. In regression analyses, we will code two binary DVs that take the value of 1 when either the aggressive or diversified strategies are pursued.

4) How many and which conditions will participants be assigned to?
This experiment is focused on difference in application behavior across seven treatment arms. Five of these treatment arms involve "debiasing" interventions that are meant to mitigate the role of correlation neglect. Two of these treatment arms are "control" arms, closely matching the experimental design previously deployed in our Penn State study. The control arms present no new debiasing attempts and differ solely in whether admissions decisions are correlated or uncorrelated.

Subjects are also randomized into one of three different scenarios in which they make their choice. These align with three scenarios we have previously studied. While we are interested in differences across scenarios, the central purpose of this study is to examine the relative efficacy of debiasing interventions.

5) Specify exactly which analyses you will conduct to examine the main question/hypothesis.
Consistent with our prior PSU study, our interest in this study is to examine the rate of "aggressive strategies" (submitting the ROL A>B) and "diversified strategies" (submitting the ROL A>C). In the scenarios we have constructed, the aggressive strategy is an unwise option that will be viewed as particularly appealing to a subject with correlation neglect. Throughout our analysis, we will treat the rate of these strategies in the uncorrelated control arm as the benchmark for debiased behavior. We will treat the rate of these strategies in the correlated control arm as the benchmark for unmitigated correlation-neglectful behavior.

We will begin our analysis with a simple tabulation of the rates of all potential ROLs across the 7 treatment arms. We will use this to assess how the rate of aggressive, diversified, and other (B>C, B>A, C>A, and C>B) strategies changes across arms, particularly relative to the two control benchmarks.

To statistically test for differences in the rate of aggressive and diversified strategies across arms, we will conduct regressions of the following form. For testing aggressive strategies, the DV will be a dummy variable that equals 1if the subject submitted ROL A>B and 0 otherwise. Using standard OLS, we will regress this DV on dummy variables for each treatment arm and dummy variables for each scenario. We will apply heteroscedasticity-robust standard errors. Using these estimated coefficients, we will test for differences in the rate of aggressive strategies in each treatment arm compared to each of the control benchmarks. We will use the same approach for testing diversified strategies, merely changing the DV to equal 1 if the subject submitted ROL A>C.

6) Describe exactly how outliers will be defined and handled, and your precise rule(s) for excluding observations.
We will include all complete observations in the analyses described above.

7) How many observations will be collected or what will determine sample size? No need to justify decision, but be precise about exactly how the number will be determined.
We will target 2000 responses.

8) Anything else you would like to pre-register? (e.g., secondary analyses, variables collected for exploratory purposes, unusual analyses planned?)
As robustness tests, we will reconduct the two regressions mentioned above excluding observations that involve non-focal ROLs. In one set of robustness analyses, we will exclude all observations where the ROL is in non-alphabetical order (i.e., B>A, C>A, and C>B). In the other set of robustness analyses, we will exclude all observations where the ROL is anything other than the aggressive or diversified strategies.

Correlation neglect in matching: structural experiment (#103742)

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1) Have any data been collected for this study already?
No, no data have been collected for this study yet.

2) What's the main question being asked or hypothesis being tested in this study?
We are testing whether correlation neglect influences how people choose what colleges to apply to in an experimental simulation.

3) Describe the key dependent variable(s) specifying how they will be measured.
Subjects are presented with school-choice scenarios in which they must choose a rank ordering of two out of three schools. Each subject faces 20 of these scenarios and one is chosen at random to be played out at the end of the experiment. The school they match to in that scenario determines their bonus, with school A giving the largest bonus and school C giving the smallest. We are specifically interested in two strategies: the "aggressive strategy" of submitting rank order list (ROL) A>B and the "diversified strategy" of submitting ROL A>C, and students are restricted to submitting one of those two ROLs. Our key dependent variable is an indicator of which ROL was chosen; we have 20 observations of this DV for each subject.

4) How many and which conditions will participants be assigned to?
The 20 scenarios are presented in two groups, differing in the condition that governs the correlation present in schools' admissions decisions. In one condition all admissions are determined by a single test score (the correlated condition), and in the other condition admissions are determined by statistically independent college-specific test scores (the independent condition). Each subject faces 10 scenarios in each condition, and it is randomized which condition they see first.

5) Specify exactly which analyses you will conduct to examine the main question/hypothesis.
Analysis 1: In these analyses we regress a dummy variable indicating whether the aggressive strategy was chosen on a dummy variable indicating whether the decision was made under the correlated condition. We will examine four versions of this regression: the base regression just described, as well as regressions including fixed effects for each subject, for each unique combination of school-admissions thresholds, or both. As a benchmark for comparison, we will code an alternative DV that takes the value of 1 if an expected-value-maximizing subject would choose the aggressive strategy and run the same regressions with that alternative DV.
Analysis 2: We will estimate a logit utility model where the deterministic component of utility from listing an ROL takes the form $U=p_b*u_b + p_c*u_c$. We will do so by estimating a logit model using our calculated value of the probabilities p_b and p_c as the relevant independent variables, and we interpret the estimated coefficients on these variables as estimates of u_b and u_c. After estimating this model and determining the utility curvature implied in the full sample, we will reestimate the model using data from only the correlated condition and only from the independent condition. Model estimates would not differ by condition if all subjects were perfectly rational. In contrast, correlation neglect would lead these estimates to imply greater risk tolerance/risk lovingness when estimated from data from the correlated treatment arm.
Analysis 3: Our final test comes from estimating a logit utility model similar to that above. However, rather than using the objective true probabilities of p_b and p_c as the independent variables, we will instead use the values of p_b and p_c that one would calculate if one thought all admissions decisions were determined by independent test scores (denoted p^i_b or p^i_c) or if one thought that all admissions decisions were determined by a single test score (denoted p^c_b or p^c_c). We will interact these variables with an indicator indicating condition assignment. A fully rational agent would react to the independent-test-score-probabilities in the independent condition and would react to the single-test-score probabilities in the correlated condition. By contrast, a (fully) correlation neglectful agent would react to the independent-test-score probabilities in both conditions and would not react to the single-test-score probabilities in either condition. A partially neglectful agent would react only to the independent-test-score probabilities in the independent condition and would react to both sets of probabilities in the correlated condition, with the magnitude of response to each determined by the degree of partial correlation neglect.

6) Describe exactly how outliers will be defined and handled, and your precise rule(s) for excluding observations.
We exclude responses where the subject does not complete the full study.

7) How many observations will be collected or what will determine sample size? No need to justify decision, but be precise about exactly how the number will be determined.
We will target 150 responses.

8) Anything else you would like to pre-register? (e.g., secondary analyses, variables collected for exploratory purposes, unusual analyses planned?)
In all analyses involving multiple observations from the same subject we will cluster standard errors at the subject level.

Interpretation of our analysis 1 regressions: Full correlation neglect generates the prediction that agents will not respond to the correlation condition. Partial correlation neglect generates the prediction that agents will underreact to the correlation condition relative to the rational benchmark.

Interpretation of utility estimates in analysis 2 and 3: When utility estimates are normalized against the variance of the error term, directly comparing their magnitudes across regressions or samples can be complicated. We will primarily use our estimates of u_b and u_c to estimate implied curvature of the utility function, which is not affected by this normalization. Because school b yields a bonus of $5 and school c yields a bonus of $2.5, our estimates suggest linear utility if u_b=2*u_c, concavity if u_b<2*u_c, and convexity if u_b>2*u_c.

Structural estimation in analysis 3: We will use the results of analysis 3 to structurally estimate the parameters u_b, u_c, and a parameter analogous to a representative-agent value of the Enke-Zimmermann chi parameter (measuring partial correlation neglect). Our structural estimates come from minimizing the sum of the squared distances between each coefficient estimate in the reduced-form regression and the predicted value of that coefficient that comes from a given set of structural parameters. Let beta(x) denote the estimated coefficient on parameter x. Our model predicts that: beta(p^i_b * {T=I})=u_b; beta(p^i_c * {T=I})=u_c; beta(p^c_b * {T=I})=0; beta(p^c_c * {T=I})=0; beta(p^i_b * {T=C})=chi*u_b; beta(p^i_c * {T=C})= chi*u_c; beta(p^c_b * {T=C})=(1-chi)*u_b; beta(p^c_c * {T=C})=(1-chi)*u_c.

For the structural estimates we will present bootstrapped standard errors. Each iteration of the bootstrap procedure involves drawing a bootstrapped sample (treating subjects as the resampling cluster), estimating the reduced-form regression described in analysis 3, and calculating the minimum-distance estimators for the structural parameters.

We will explore our "analysis 1" results when restricting the data to only scenarios that involve a situation where the objective probability of acceptance at school B, conditional on rejection by school A, is zero, while the objective probability of acceptance at school C remains positive. This analysis is used to study variants of "scenario 5" from the PSU experiment.