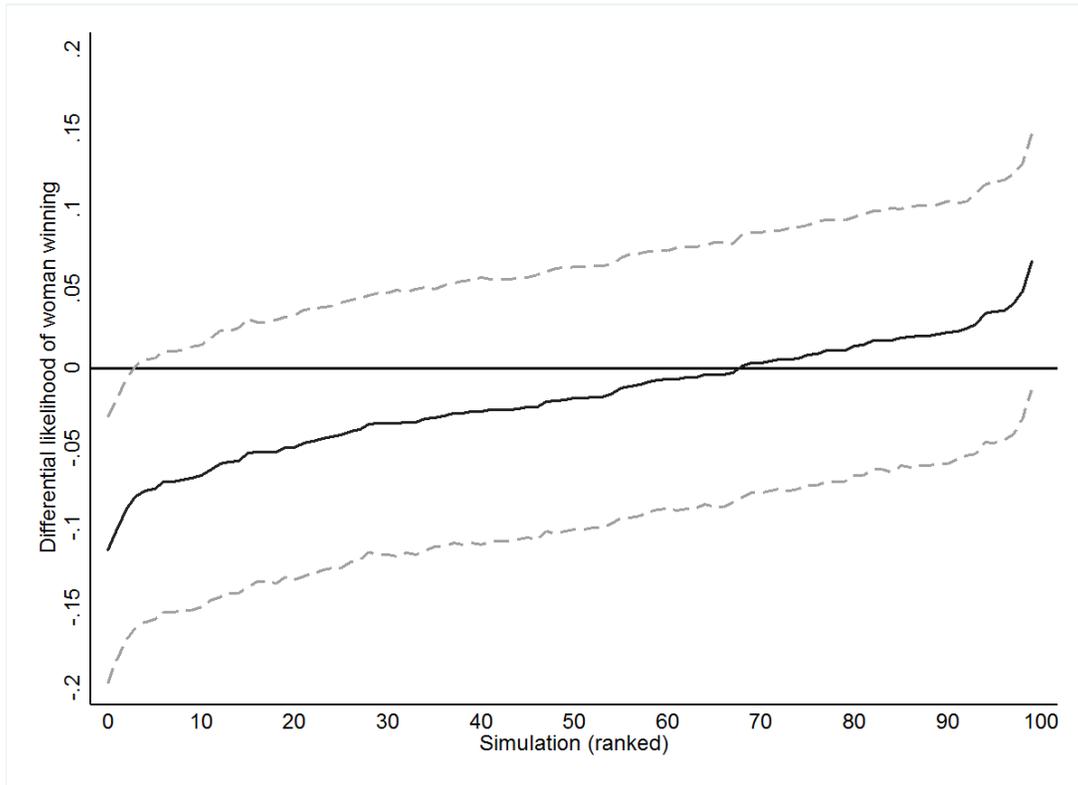# Leaning in or not leaning out?
Opt-out choice framing attenuates gender differences in the decision to compete

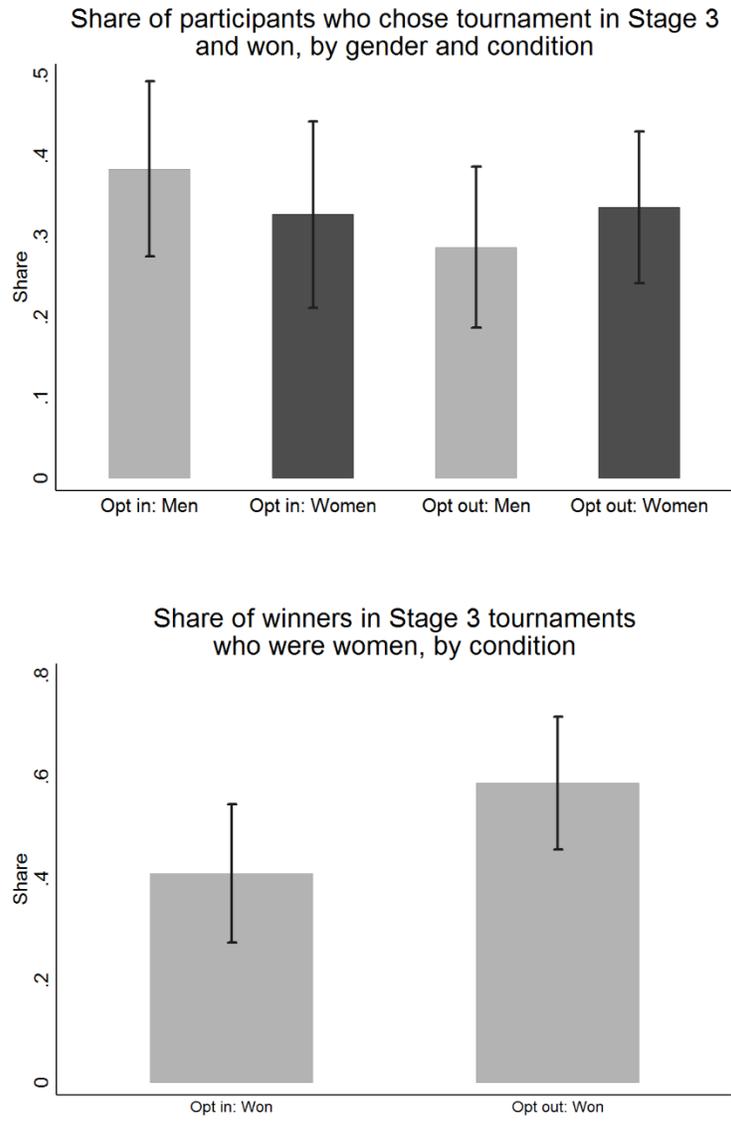## APPENDIX

Figure A1: Simulated gender differences in the likelihood of winning a tournament in Stage 2

Notes. The black solid line in the graph reports the estimated coefficient estimates (in increasing order) on an indicator for a participant being a woman in 100 linear regressions where this indicator is the only explanatory variable (in addition to a constant) and the outcome variable is a binary indicator for whether a participant is a winner in a tournament. The grey dashed lines represent the estimated 95% confidence intervals around each estimated coefficient on the indicator do the participant being a woman. For each regression, we assigned a participant to three distinct randomly selected other participants. Note that these randomly created groups are not the ones within which a participant actually competed in the experiment. Moreover, unlike the groups to which each participant was assigned in the experiment, in these simulations the groups are without replacement, i.e. participants in a given group cannot also be in another group. Each of the 100 simulation re-shuffled the groups. The purpose of this exercise is to further test for the presence of underlying gender differences in the probability of success the tournaments in stage 2.

Figure A2: Likelihood of winning by gender and condition

Share of participants who chose tournament in Stage 3 and won, by gender and condition

Share of winners in Stage 3 tournaments who were women, by condition

Notes: The graphs displays the shares of subject who chose tournament in Stage 3 and won, by gender and condition; and the share of tournament winners who were women, by condition. The vertical lines and caps indicate 95% confidence intervals.

Table A1: Correct responses in Stage 3 and anxiety levels: Regression estimates

Outcome variable:	# of correct answers in stage 3						Average anxiety					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Woman	-0.137						0.100**					
	(0.341)						(0.041)					
Conditions in stage 3, by gender												
Opt in: Woman		0.187						0.074				
		(0.293)						(0.052)				
Opt out: Man		-0.303						-0.030				
		(0.282)						(0.064)				
Opt out: Woman		-0.190						0.083				
		(0.322)						(0.062)				
Conditions and compensation choices in stage 3, by gender												
Opt out, piece rate: Man			-1.573*	-1.456**	-1.508**	-1.496**			-0.151	-0.153	-0.152	-0.157
			(0.841)	(0.589)	(0.592)	(0.589)			(0.115)	(0.118)	(0.118)	(0.119)
Opt in, piece rate: Woman			-0.133	-0.120	-0.166	-0.150			0.029	0.029	0.030	0.026
			(0.722)	(0.535)	(0.539)	(0.531)			(0.105)	(0.108)	(0.109)	(0.109)
Opt out, piece rate: Woman			-0.633	-0.843	-0.918*	-0.863*			-0.070	-0.065	-0.064	-0.067
			(0.956)	(0.503)	(0.505)	(0.505)			(0.106)	(0.108)	(0.107)	(0.110)
Opt in, tournament: Man			1.639*	-0.038	-0.168	-0.084			-0.094	-0.056	-0.054	-0.061
			(0.904)	(0.450)	(0.442)	(0.440)			(0.103)	(0.107)	(0.109)	(0.107)
Opt out, tournament: Man			0.854	-0.110	-0.252	-0.183			-0.065	-0.042	-0.040	-0.050
			(0.779)	(0.439)	(0.448)	(0.440)			(0.126)	(0.125)	(0.127)	(0.128)
Opt in, tournament: Woman			1.367	0.495	0.380	0.451			0.017	0.037	0.039	0.032
			(0.851)	(0.543)	(0.544)	(0.543)			(0.091)	(0.094)	(0.095)	(0.096)
Opt out, tournament: Woman			1.061	0.033	-0.061	-0.010			0.053	0.075	0.077	0.071
			(0.916)	(0.524)	(0.519)	(0.515)			(0.125)	(0.123)	(0.122)	(0.125)
# correct answ. in stage 2		0.867***		0.910***	0.889***	0.920***		-0.019***		-0.021***	-0.021***	-0.020***
		(0.036)		(0.037)	(0.039)	(0.039)		(0.005)		(0.006)	(0.007)	(0.006)
# correct in stage 2 - # correct in stage 1				-0.194***	-0.200***	-0.198***				0.006	0.006	0.006
				(0.067)	(0.068)	(0.067)				(0.007)	(0.007)	(0.007)
Guessed rank in stage 2 tournament					-0.174						0.003	
					(0.113)						(0.028)	
(Over)confidence						0.112						0.012
						(0.081)						(0.020)
Constant	10.874***	1.984***	10.133***	1.913***	2.587***	1.830***	1.650***	1.858***	1.727***	1.912***	1.901***	1.904***
	(0.258)	(0.503)	(0.683)	(0.611)	(0.726)	(0.648)	(0.034)	(0.072)	(0.090)	(0.112)	(0.154)	(0.112)
Observations	482	482	482	482	482	482	482	482	482	482	482	482
Pseudo R2	0.000	0.682	0.049	0.704	0.705	0.705	0.011	0.033	0.018	0.042	0.042	0.042

Notes: The table reports parameter estimates for linear regression models where the outcomes variables are the number of correct responses in stage 3 by each participants (columns 1 through 6) and the anxiety index (columns 7 through 12). Regressors include the experimental conditions (opt-in vs. opt-out frame) interacted with the gender of the participant (the omitted category is men in the opt-in condition); the experimental conditions (opt-in vs. opt-out frame) interacted with the gender of the participant and the choice of compensation scheme (the omitted category is men in the opt-in condition who chose piece rate); the number of correct responses in Stage 2, and the difference between the correct answers in Stage 1 and those in Stage 1; the positions that each participant guessed to have achieved in the tournament in Stage 2 (out of four position, rank 1 being the winner); and the difference between the actual position and the guessed position, as a measure of (over) confidence. The average number of correct responses and the average anxiety index for men are 10.87 and 1.56, respectively; for men in the opt in condition are 11.32 and 1.58, respectively; the average number of correct responses and the average anxiety index for men in the opt in condition who choice piece rate compensation are 10.13 and 1.97, respectively. Estimated standard errors, clustered at the session level (there were 36 sessions) are in parentheses. * p<0.1, ** p<0.05, *** p<0.01 (two-sided tests).

Table A2: Guessed rank in stage 2, and (over)confidence

Outcome variable:	Guessed rank for stage 2	(Over)Confidence
	(1)	(2)
Woman	0.215**	-0.104
	(0.085)	(0.088)
# correct answ. in stage 2	-0.182***	-0.077***
	(0.019)	(0.014)
# correct in stage 2 - # correct in stage 1	-0.038	0.029*
	(0.025)	(0.015)
Observations	482	482
Pseudo R2	0.131	0.0213

Notes: The table reports parameter estimates from ordered probit regressions where the outcome variable is the guessed tournament rank in stage 2 (column 1) and the difference between the actual rank and the guessed rank (column 2), and the regressors are the gender of the respondent, the number of correct responses in stage 2, and the difference between the number of correct responses in stage 2 and stage 1. Estimated standard errors, clustered at the session level (there were 36 sessions) are in parentheses. * $p<0.1$, ** $p<0.05$, *** $p<0.01$ (two-sided tests).

Table A3: Choice of tournament compensation for stage 1 performance (stage 4)

	Outcome variable:	Choice of tournament pay for stage 1 performance (stage 4)	
Woman	-0.121**		
	(0.051)		
Conditions in stage 3, by gender			
Opt in: Woman		-0.084	
		(0.072)	
Opt out: Man		0.038	
		(0.068)	
Opt out: Woman		-0.121*	
		(0.067)	
Conditions and compensation choices in stage 3, by gender			
Opt out, piece rate: Man			-0.084
			(0.150)
Opt in, piece rate: Woman			0.175
			(0.116)
Opt out, piece rate: Woman			-0.074
			(0.146)
Opt in, tournament: Man			0.371***
			(0.091)
Opt out, tournament: Man			0.413***
			(0.085)
Opt in, tournament: Woman			0.240**
			(0.111)
Opt out, tournament: Woman			0.240**
			(0.098)
# correct answ. in stage 1	0.024***	0.024***	0.021***
	(0.008)	(0.008)	(0.008)
Observations	482	482	482
Pseudo R2	0.0330	0.0340	0.0996

Notes: The table reports parameter estimates from probit regression models where the outcome is equal to 1 if a participant selected a tournament based compensation for their performance in Stage 1, and 0 if they chose a piece-rate compensation. Regressors include the experimental conditions (opt-in vs. opt-out frame) interacted with the gender of the participant (the omitted category is men in the opt-in condition); the experimental conditions (opt-in vs. opt-out frame) interacted with the gender of the participant and the choice of compensation scheme (the omitted category is men in the opt-in condition who chose piece rate); and the number of correct responses in stage 1. The estimates indicate marginal effects, where the baseline is a male participant (column1), a male participant in the opt-in condition (column 2), and a male participant in the opt-in condition who chose piece rate in Stage 3 (column 3), with 8.52 correct answers in stage 1. The share of men who chose tournament compensation in stage 4 is 0.586 (58.6%); the share for men in the opt-in condition is 0.569 (56.9%); and the share of men in the opt-in condition who chose piece rate in Stage 3 and tournament compensation in Stage 4 is 0.267 (26.7%). Estimated standard errors, clustered at the session level (there were 36 sessions) are in parentheses. * $p<0.1$, ** $p<0.05$, *** $p<0.01$.

Instructions for Experiment 1

Before we begin the study, please fill out the following questionnaire.

Sex	○ Male ○ Female	Ethnicity	○ Asian ○ African American ○ Caucasian ○ Hispanic ○ Other
Age		What year of undergraduate studies are you currently in?	○ First year ○ Second year ○ Third year ○ Fourth year ○ Fifth year or more
What is the highest education degree you have so far?	○ Highschool / GED ○ Bachelor ○ Masters ○ Ph. D. ○ none of the above	Major	○ Arts ○ Business ○ Humanities ○ Natural Sciences ○ Social Sciences ○ Physical Sciences ○ Other

OK

Welcome to the experiment. PLEASE READ THESE INSTRUCTIONS CAREFULLY.
DO NOT PRESS OK UNTIL THE RESEARCHER TELLS YOU TO DO SO.

You are participating in a study in which you can earn some money. The amount will depend on how well you do in a task (described below).
At the end of the study, we will calculate your earnings and you will be paid in cash.

The task of our experiment is to **add up sets of five two-digit numbers.**
You are not allowed to use a calculator, but may use scratch paper.
You will have **5 minutes** to solve as many problems as you can.

In our study, you will complete three rounds of the same task described above. You will additionally complete a fourth task that involves making a
choice.
Only one of these rounds will be randomly chosen to calculate your payment at the end of experiment.

You will earn 1 point for every correct answer. You will earn 0 points for every incorrect answer.

Each round of the task may differ in how your compensation is determined based on these points.
We will inform you of the task-specific compensation scheme right before you start each round.

In some rounds of the task, **you will be completing the task alone.**
other rounds, **your performance may be assessed in relation to three other randomly selected individuals who have or are currently**
completing the study .

The study is conducted anonymously. Participants will be identified only by code numbers.

If you have any questions, please let the researcher know now. The researcher will now also distribute the scrap paper.

OK

Round 1 Instructions: Piece Rate
PLEASE READ THESE INSTRUCTIONS CAREFULLY.

If this round is randomly selected for payment, **you will receive 50 cents per correct answer.**

You have 5 minutes to complete the addition task.

If you have any questions, please let the researcher know now by raising your hand.

Please press OK when you are ready to begin the task.

OK

24   94   88   25   96   [   ]

Submit

Your number of correct summations was   0

Next

Round 2 Instructions: Tournament
PLEASE READ THESE INSTRUCTIONS CAREFULLY.

If this round is randomly selected for payment, **your performance on the task will be compared to three other randomly selected participants who have completed or are currently completing this task.**
The participant who solves the largest number of correct problems in the group receives $2.00 per correct answer, and the other participants receive no payment.
If there is a tie, the winner is chosen randomly among the high scorers.

Here are your competitors for this round:
Competitor 1: Male
Competitor 2: Male
Competitor 3: Female

You have 5 minutes to complete the addition task.

If you have any questions, please let the researcher know now by raising your hand.

Please press OK when you are ready to begin the task.

OK

Your number of correct summations was   0

Next

Round 3 Instructions: Choice
PLEASE READ THESE INSTRUCTIONS CAREFULLY.

If this round is randomly selected for payment, **you will receive 50 cents per correct answer.**

However, in this round, you can also choose instead to opt in to the tournament compensation scheme.
If you choose the tournament compensation scheme, **your performance will be compared to the performance of the same three other participants from the previous tournament round.**
If you solve the largest number of correct problems compared to other participants in the previous round, you will receive $2.00 per correct answer. Otherwise, you will receive no payment for this round.
If there is a tie, the winner is chosen randomly among the high scorers.

As a reminder, here are your competitors if you select the tournament:

Competitor 1: Female

Competitor 2: Male

Competitor 3: Male

If you would like to OPT IN to be compensated by the tournament compensation scheme, please check the box below.

○ Opt in to Tournament pay

Otherwise, please press the next button.

If you have any questions, please let the researcher know now by raising your hand.

Next

Round 3 Instructions: Choice
PLEASE READ THESE INSTRUCTIONS CAREFULLY.

If this round is randomly selected for payment, **your performance will be compared to the performance of the same three other participants from the previous tournament round.**
If you solve the largest number of correct problems compared to other participants in the previous round, you will receive $2.00 per correct answer. Otherwise, you will receive no payment for this round.
If there is a tie, the winner is chosen randomly among the high scorers.

However, in this round, you can also choose to opt out of the tournament and instead to return to the piece rate compensation scheme.
If you choose to opt out of the tournament scheme, **you will receive 50 cents per correct answer.**

As a reminder, here are your competitors if you select the tournament:

Competitor 1: Male

Competitor 2: Male

Competitor 3: Female

If you would like OPT OUT of the tournament compensation scheme, please check the button below.

○ Opt out of tournament pay

Otherwise, please press the next button.

If you have any questions, please let the researcher know now by raising your hand.

Next

Your number of correct summations was   0

Next

Round 4 Instructions: Submit Round 1 Piece Rate
PLEASE READ THESE INSTRUCTIONS CAREFULLY.

In this round, you can choose whether to submit the Task 1 Piece Rate (first round) performance to be paid by either a piece rate or a tournament.

If this round is randomly selected for compensation and you choose piece rate in this round, you will be paid $0.50 per correct answer from your round 1 performance.

If this round is randomly selected for compensation and you choose tournament in this round, your performance in round 1 will be compared to three other participants' performance in round 1.
You win if you solve more problems in the task 1 Piece Rate than the other people in your goup.
If you win the tournament, you will receive $2.00 per correct answer for this round. If you do not win the tournament, you will receive no payment for this round.

In case of a tie, the winner is determined randomly.

As a reminder, here are your competitors if you select the tournament:

Male

Male

Female

Here is the number of correct answers you gave in Task 1: Piece rate (first round):

0

Please make your choice

◦ Piece Rate
◦ Tournament

If you have any questions, please let the researcher know now by raising your hand.

Next

TASK 1: PIECE RATE

In the task-1 piece rate, what do you think your rank was relative to the other participants in your group?

If you guess correctly, you receive $0.50.

○ Best
○ Second Best
○ Third Best
○ Fourth Best

OK

TASK 2: TOURNAMENT

In the task-2 tournament, what do you think your rank was relative to the other participants in your group?

If you guess correctly, you receive $0.50.

- Best
- Second Best
- Third Best
- Fourth Best

OK

Please fill out the following questionnaire about HOW YOU FELT during this experimental session.

I felt calm.	○ Not at all ○ Somewhat ○ Moderately so ○ Very much so	I felt tense.	○ Not at all ○ Somewhat ○ Moderately so ○ Very much so	I felt upset.	○ Not at all ○ Somewhat ○ Moderately so ○ Very much so
I felt relaxed,	○ Not at all ○ Somewhat ○ Moderately so ○ Very much so	I felt content.	○ Not at all ○ Somewhat ○ Moderately so ○ Very much so	I felt worried	○ Not at all ○ Somewhat ○ Moderately so ○ Very much so

OK

Thank you for participating in this study!

Here is a summary of your performance.

Task 1: Piece Rate. Number of correct answers: 0

Task 1 profits IF selected for compensation: 0.00

Task 2: Tournament. Number of correct answers: 0

You did not win the tournament.

Task 2 profits IF selected for compensation: 0.00

Task 3: Choice. Number of correct answers: 0

You decided to participate in the   Piece Rate

Task 3 profits IF selected for compensation: 0.00

Task 4:Submit Piece Rate. Number of correct answers: 0

You decided to participate in the   Piece Rate

Task 3 profits IF selected for compensation: 0.00

This round was randomly selected for compensation   1

Did you guess your performance in the first round correctly and receive $0.50?   No.

Did you guess your performance in the second round correctly and receive $0.50?   No.

Your compensation is   0.00

Please raise your hand to let the researcher know that you have finished.

Next

Instructions for Experiment 2

Check

Before you proceed, please enter your MTurk ID in the box below to prove that you are not a robot.

What is your MTurk ID?

Click the button below to proceed.

Next

Consent Form

INFORMATION: You are invited to voluntarily participate in a research project titled "Individual and Situational Influences on the Preference to Compete" being conducted by Chong He, who is a doctoral student at the University of Toronto. This research is being supervised by Professor Sonia Kang. The purpose of this research project is to examine individual differences and situation factors that affect individuals' preference to compete. As a participant, you will view job applications and profiles of previous applicants and be asked to make a decision on these profiles. You will answer a brief questionnaire. The task will take around 15 minutes, and will be conducted online.

PARTICIPATION: Your participation in this study is completely voluntary. You may withdraw from the study at any time during the experimental session without penalty or loss of benefits to which you are entitled. You are also free to omit the answer to any question without penalty or loss to benefits to which you are entitled. Upon completion of the session, you will receive a full written explanation about the purpose of this research.

RISKS: The questions and tasks posed to participants in the survey are minimally invasive and pertain to thoughts and tasks that you may commonly experience in daily life. You may choose to skip questions that you do not feel comfortable answering.

BENEFITS: You will have the opportunity to observe the methods that researchers use and to contribute to the body of knowledge regarding various careers and professions in society. Other benefits you may expect from the study are an increased understanding of organizational behaviour and an opportunity to contribute to scientific research.

CONFIDENTIALITY: Your responses will be kept completely confidential: Confidentiality of your research records will be strictly maintained by assigning all the data you provide a code number, and all data will be kept by the research team in an encrypted file, in a locked office/computer and/or stored on encrypted USB keys. The results of this study may be reported in conference presentations and journal articles. Note, however, that the responses of individual participants will not be identified in any reports of this research; only aggregated data (e.g., averages from all participants) will be reported.

The research study you are participating in may be reviewed for quality assurance to make sure that the required laws and guidelines are followed. If chosen, (a) representative(s) of the Human Research Ethics Program (HREP) may access study-related data and/or consent materials as part of the review. All information accessed by the HREP will be upheld to the same level of confidentiality that has been stated by the research team.

COMPENSATION: Participants will receive $1.50 for participating in the study. Participants will also have the opportunity to earn a bonus payment for their performance in the study. Participants will be asked to make a promotion decision about applicants, and will be compensated for the performance of that applicant.

WITHDRAWAL: Participants who begin the study but choose to withdraw prior to its completion will still receive their full research participation fee and financial bonus, and their data will be destroyed. Participants will not be able to withdraw their data following completion of the study, as the identifying information will have been removed.

CONTACT: If you have questions at any time about the study or the procedures, you may contact Chong He (Chong.He16@rotman.utoronto.ca) or Dr. Sonia Kang (sonia.kang@utoronto.ca). If you would like to know about the results of the research, you may contact the investigators as well. This project has been reviewed and approved by the University of Toronto Office of Research Ethics. Participants can contact the Research Oversight and Compliance Office – Human Research Ethics Program at ethics.review@utoronto.ca or 416-946-3273 if they have questions about their rights as participants.

CONSENT: I have read and understand the above information. I can request a copy of this form. I agree to participate in this study. If I do not consent to participate in this study, I will close and exit this page.

Do you consent to participate in the study?

◯ Yes

◯ No

[Next]

Instructions 1/4

PLEASE READ THESE INSTRUCTIONS CAREFULLY. We will ask you to describe to us your understanding of these instructions at the end of the instructions. Please note that you will not be able to come back to this page once you click next.

<u>Background</u>

In this study, you will be helping us make a decision about whom to promote among potential applicants.

In a separate, previous study, a separate group of participants has performed some math tasks before this session. At the end of one round (we will call this Round 1), participants were given a choice about how they would like to be compensated for their performance on the same math task **in the next round (Round 2)**. They were asked to indicate whether they would like to receive a piece-rate compensation ($0.50 per correct answer), or a competitive tournament compensation (in which their performance was compared to the performance of three other participants; if their score was the highest, they received $2.00 per correct answer; if their score was not the highest, they received $0). After this choice, participants engaged in the math task again in a second round.

To summarize, in Round 1, all participants were compensated on a tournament scheme like the one described above, without having a choice. In Round 2, they had a choice between the piece rate and the tournament scheme.

Click below to continue reading the instructions. **Please note that you will not be able to come back to this page once you click next.**

Next

Instructions 2/4

PLEASE READ THESE INSTRUCTIONS CAREFULLY. We will ask you to describe to us your understanding of these instructions at the end of the instructions. Please note that you will not be able to come back to this page once you click next.

Current Task For You

In the current task we would like you to put yourself as **an evaluator who is using information about the participants from the previous study to make a choice to promote a participant to a higher position with a higher wage.**

You will receive information on the participants who indicated that they would like to compete in the tournament for Round 2. **Please think of the competitive tournament as a competition for a promotion and think of these previous participants as applicants for a promotion.** You will be shown information about these applicants. After viewing this information, you will be asked to select the applicant you choose to promote.

If the applicant you choose to promote actually won the tournament in Round 2, you will receive additional compensation.

In total, you will be shown three groups of four, and will be asked to make three "promotion" choices, one for each group.

Click below to continue reading the instructions. **Please note that you will not be able to come back to this page once you click next.**

Next

Instructions 3/4

PLEASE READ THESE INSTRUCTIONS CAREFULLY. We will ask you to describe to us your understanding of these instructions at the end of the instructions. Please note that you will not be able to come back to this page once you click next.

Compensation

You have the opportunity to earn some money in this study. The amount will depend on the choices that you have to make. At the end of the study, we will calculate your earnings, and you will be paid in cash.

Your compensation will depend on whether the applicant you selected for promotion actually won the tournament in Round 2. As a reminder, in Round 2, the winner was determined by the person who answered the highest number of answers correctly in a group of four *in that Round*. **If the applicant you selected was actually a winner of a tournament in Round 2, you will be paid $0.75. If the applicant you selected was not a winner in a tournament in Round 2, you will not receive bonus compensation.**

In this study, you will make three choices. **At the end, one random group will be chosen for payment. If, in your decision for the randomly selected group, you picked the actual winner, than you will receive $0.75; otherwise you will not receive any compensation in addition to your participation fee.**

Click below to continue reading the instructions. **Please note that you will not be able to come back to this page once you click next.**

Next

Instructions 4/4

Instructions Continued

PLEASE READ THESE INSTRUCTIONS CAREFULLY. We will ask you to describe to us your understanding of these instructions at the end of the instructions. Please note that you will not be able to come back to this page once you click next.

We will now explain more in detail how the task worked. **Please make sure you pay attention to this explanation.**

In the previous session, participants completed two rounds of a math task, where they were asked to add up five two-digit numbers. Participants had 5 minutes to complete as many of these equations as possible.

Here is what the math task looked like: in the blue, blank cell, the respondents were asked to add the five numbers in the row.

Round 1

In Round 1, participants completed the math task for 5 minutes. Participants were then shown their performance in the first round. For this round, all participants were paid on a tournament scheme: in a group of four, the respondents with the highest number of correct answers would receive $2 for each correct answer, whereas the other three would receive no compensation.

Round 2

Participants were told that for Round 2, they would be **automatically enrolled in the non-competitive piece-rate compensation.** In other words, they were by default enrolled in a compensation scheme whereby they were paid $0.50 per correct answer.

However, **they had the option to explicitly apply and compete in the tournament compensation, where they would receive $2.00 per correct answer if they won and $0 if they did not win.**
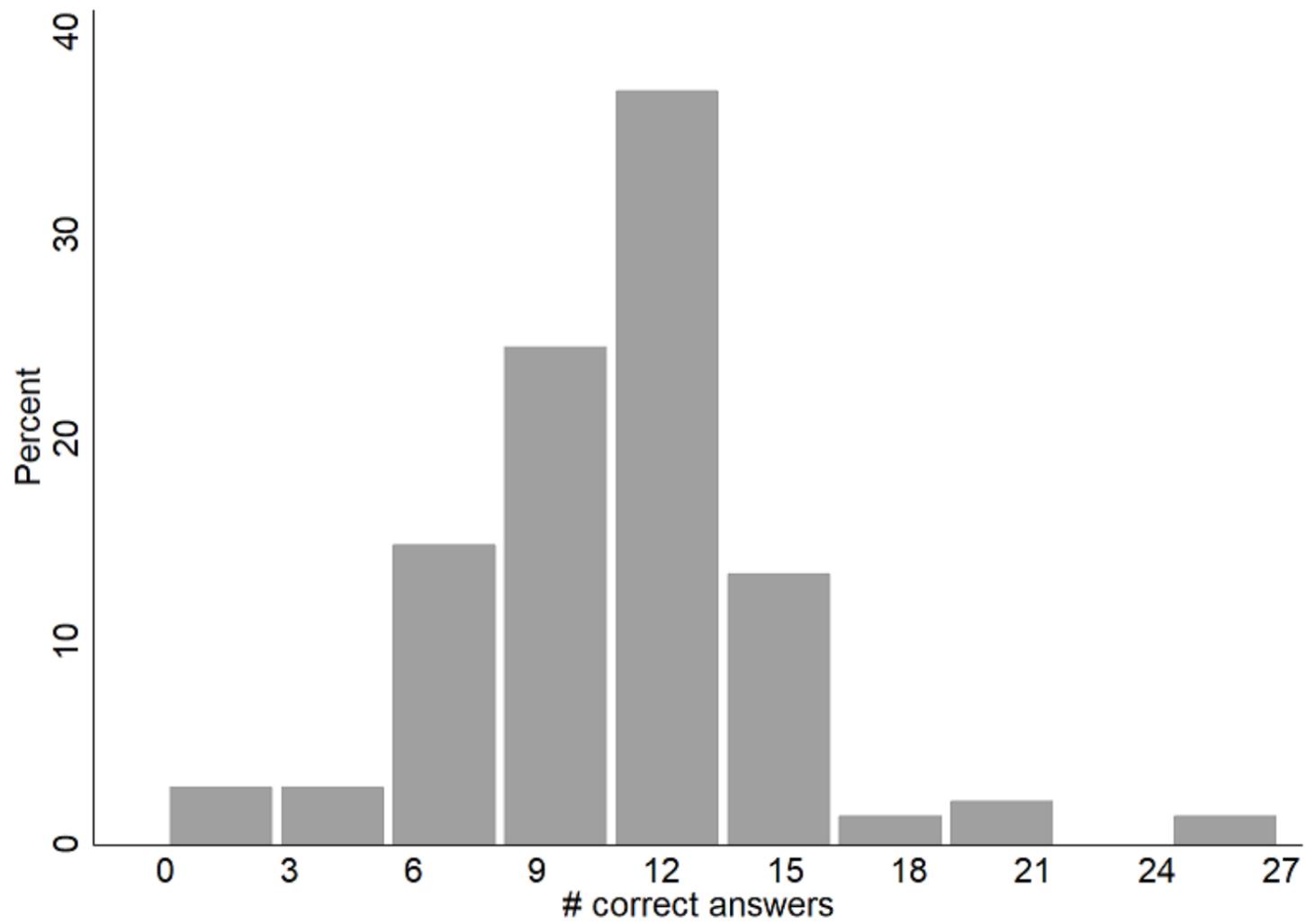
Here is what the choice looked like to the participants.

Now, in this task, you will receive information on the participants who explicitly indicated that they would like to compete in the tournament.

Please imagine that you are hiring for a job that requires workers to quickly and accurately perform math tasks in a professional setting. Think of the competitive tournament as a competition for a promotion and think of these previous participants as applicants for a promotion in this professional setting. You will be shown information about these applicants. After viewing this information, you will be asked to select the applicant you choose to promote.

On average, participants scored 10.9 in Round 1. The scores for the first round ranged from 0 being the minimum score to 27 being the highest score.

Here is the full distribution of correct answers in Round 1.

For your choice of promotion, **we include only participants who pass a qualification threshold (at least a score of 9)**, as we have excluded participants who scored in the bottom 25% in Round 1 (scores lower than 9).

As a reminder, your compensation will depend on whether the applicant you selected for promotion actually won the promotion in Round 2.

Click the button below to proceed. **Please note that you will not be able to come back to this page once you click next.**

Next

Instructions 4/4

Instructions Continued

PLEASE READ THESE INSTRUCTIONS CAREFULLY. We will ask you to describe to us your understanding of these instructions at the end of the instructions. Please note that you will not be able to come back to this page once you click next.

We will now explain more in detail how the task worked. **Please make sure you pay attention to this explanation.**

In the previous session, participants completed two rounds of a math task, where they were asked to add up five two-digit numbers. Participants had 5 minutes to complete as many of these equations as possible.

Here is what the math task looked like: in the blue, blank cell, the respondents were asked to add the five numbers in the row.

Round 1

In Round 1, participants completed the math task for 5 minutes. Participants were then shown their performance in the first round. For this round, all participants were paid on a tournament scheme: in a group of four, the respondents with the highest number of correct answers would receive $2 for each correct answer, whereas the other three would receive no compensation.

Round 2

Participants were told that for round 2, they would be **automatically enrolled in a competitive tournament compensation.** In other words, they were automatically enrolled in the compensation where they were competing with 3 other participants and they would receive $2.00 per correct answer if they won and $0 if they did not win.

However, **they had the option to opt out of the competitive tournament compensation, and get paid instead by a non-competitive piece rate compensation whereby they would receive $0.50 per correct answer.**

Here is what the choice looked like to the participants.

Period

1 out of 1

Remaining time: 57

PLEASE READ THESE INSTRUCTIONS CAREFULLY.

If this round is randomly selected for payment, **your performance will be compared to the performance of the same three other participants from the previous tournament round.**
If you solve the largest number of correct problems compared to other participants in the previous round, you will receive $2.00 per correct answer. Otherwise, you will receive no payment for this round.
If there is a tie, the winner is chosen randomly among the high scorers.

However, in this round, you can also choose to opt out of the tournament and instead to return to the piece rate compensation scheme. If you choose to opt out of the tournament scheme, **you will receive 50 cents per correct answer.**

If you would like OPT OUT of the tournament compensation scheme, please check the button below.

○ Opt out of tournament pay

Otherwise, please press the next button.

**If you have any questions, please let the researcher know now by raising your hand.**

Next

Now, in this task, you will receive information on the participants who explicitly indicated that they would like to compete in the tournament.

Please think of the competitive tournament as a competition for a promotion and think of these previous participants as applicants for a promotion. You will be shown information about these applicants. After viewing this information, you will be asked to select the applicant you choose to promote.

On average, participants scored 10.5 in Round 1. The scores for the first round ranged from 0 being the minimum score to 18 being the highest score.
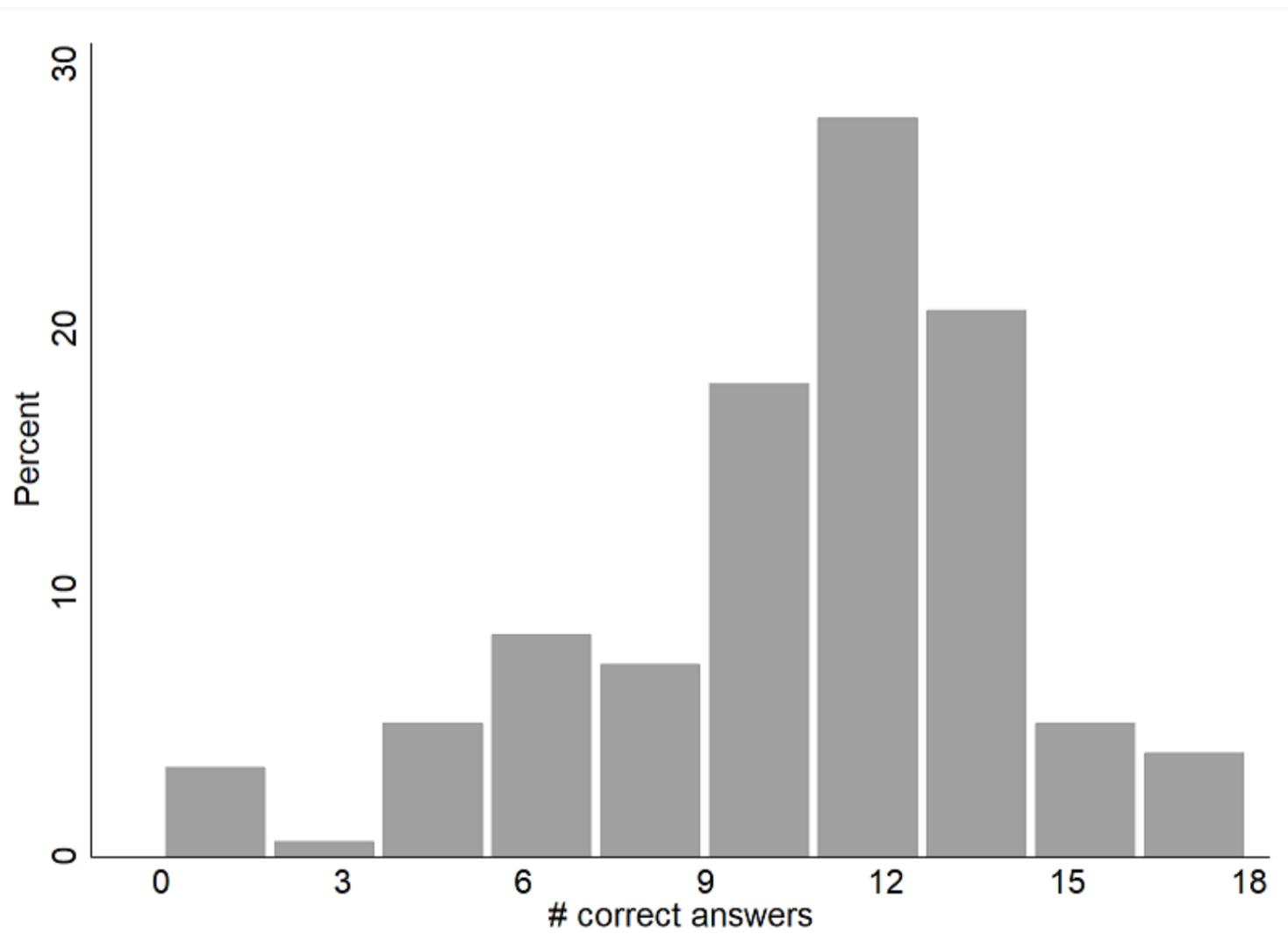
Here is the full distribution of correct answers in Round 1.

For your choice of promotion, **we include only participants who pass a qualification threshold (at least a score of 9)**, as we have excluded participants who scored in the bottom 25% in Round 1 (scores lower than 9).

As a reminder, your compensation will depend on whether the applicant you selected for promotion actually won the promotion in Round 2.

Click the button below to proceed. **Please note that you will not be able to come back to this page once you click next.**

Next

Instructions Continued

Comprehension Check

To gauge your understanding of our instructions, we would like to ask you to briefly describe to us how the task worked.

Q1. What kind of task did the participants from the previous study perform?
- ○ Reading task
- ● Math task
- ○ Word search task
- ○ Personality task

Q2. What choice did participants have in the beginning of Round 2 of the task?
- ○ Choice of the kind of task for the next round
- ○ Choice of continuing the study or not
- ● Choice of compensation between tournament and piece rate in the next round
- ○ Choice of competitors for the next round

Click the button below to begin the task.

Next

Applicant Decision 1/3

Instructions

You will be shown the profiles of four participants who have applied to compete for the promotion in Round 2, which include their information and performance in Round 1. **Your task is to select an individual participant whom to reward the promotion from this group of four.**

As a reminder, your compensation will depend on whether the applicant you select for promotion in this task actually won the promotion in Round 2. All applicants were automatically enrolled in the piece-rate but have opted in to compete for the promotion.

Below is the profile of Applicant 1.

Applicant 1	
Gender	Male
Age	23
Year of Study	Fourth year
Program of Study	Business
Round 1 Score	16

Applicant 1 was automatically enrolled in the piece-rate but has opted in to compete for the promotion.

Next

Applicant Decision 1/3

Instructions

You will be shown the profiles of four participants who have applied to compete for the promotion in Round 2, which include their information and performance in Round 1. **Your task is to select an individual participant whom to reward the promotion from this group of four.**

As a reminder, your compensation will depend on whether the applicant you select for promotion in this task actually won the promotion in Round 2. All applicants were automatically enrolled in the piece-rate but have opted in to compete for the promotion.

Below are the profiles of *all the applicants*.

Applicant 1

Gender	Male
Age	23
Year of Study	Fourth year
Program of Study	Business
Round 1 Score	16

Applicant 1 was automatically enrolled in the piece-rate but has opted in to compete for the promotion.

Applicant 2

Gender	Male
Age	22
Year of Study	Fifth year or more
Program of Study	Business
Round 1 Score	9

Applicant 2 was automatically enrolled in the piece-rate but has opted in to compete for the promotion.

Applicant 3

Gender	Female
Age	18
Year of Study	First year
Program of Study	Business
Round 1 Score	12

Applicant 3 was automatically enrolled in the piece-rate but has opted in to compete for the promotion.

Applicant 4

Gender	Female
Age	18
Year of Study	First year
Program of Study	Business
Round 1 Score	9

Applicant 4 was automatically enrolled in the piece-rate but has opted in to compete for the promotion.

Please choose whom you would like to promote:

○ Applicant 1

○ Applicant 2

● Applicant 3

○ Applicant 4

Next

○ Applicant 1

○ Applicant 2

● Applicant 3

○ Applicant 4

Next

Applicant Decision 1/3

Instructions

You will be shown the profiles of four participants who have applied to compete for the promotion in Round 2, which include their information and performance in Round 1. **Your task is to select an individual participant whom to reward the promotion from this group of four.**

As a reminder, your compensation will depend on whether the applicant you select for promotion in this task actually won the promotion in Round 2. All applicants were by default enrolled in the competition and did not opt out of the competition.

Below is the profile of Applicant 1.

Applicant 1	
Gender	Male
Age	20
Year of Study	Second year
Program of Study	Business
Round 1 Score	10

Applicant 1 was by default enrolled in the competition and did not opt out of the competition.

Next

Applicant Decision 1/3

Instructions

You will be shown the profiles of four participants who have applied to compete for the promotion in Round 2, which include their information and performance in Round 1. **Your task is to select an individual participant whom to reward the promotion from this group of four.**

As a reminder, your compensation will depend on whether the applicant you select for promotion in this task actually won the promotion in Round 2. All applicants were by default enrolled in the competition and did not opt out of the competition.

Below are the profiles of *all the applicants.*

Applicant 1

Gender	Male
Age	20
Year of Study	Second year
Program of Study	Business
Round 1 Score	10

Applicant 1 was by default enrolled in the competition and did not opt out of the competition.

Applicant 2

Gender	Female
Age	21
Year of Study	Fourth year
Program of Study	Business
Round 1 Score	12

Applicant 2 was by default enrolled in the competition and did not opt out of the competition.

Applicant 3

Gender	Female
Age	21
Year of Study	Third year
Program of Study	Business
Round 1 Score	12

Applicant 3 was by default enrolled in the competition and did not opt out of the competition.

Applicant 4

Gender	Male
Age	18
Year of Study	First year
Program of Study	Business
Round 1 Score	12

Applicant 4 was by default enrolled in the competition and did not opt out of the competition.

Please choose whom you would like to promote:

○ Applicant 1

⬤ Applicant 2

⬤ Applicant 3

⬤ Applicant 4

Next

⬤ Applicant 2

⬤ Applicant 3

⬤ Applicant 4

Next

Demographic Questionnaire

Before we proceed to your results, please answer the following answers about yourself.

What is your age in years?

[   ]

What is your gender?

○ Male

○ Female

○ Other

○ Prefer not to answer

To what racial/ethnic group(s) do you identify??

○ White/Caucasian

○ Black/African American

○ Hispanic/Latino

○ East and Southeast Asian

○ South Asian

○ Other

We are interested in whether you have had experience making hiring decisions. How many years of experience have you had making hiring decisions? If you do have not had experience making hiring decision, please put 0.

[   ]

What is the highest education degree you have attained?

○ None

○ High school diploma

○ College degree

○ Bachelors degree from a university

○ Masters degree from a university

○ PhD degree from a university

○ JD/MD

Which of the following best describes your current labor market status?

○ Employed full time

○ Employed part time

○ Self-employed/Entrepreneur

○ Homemaker

○ Student

○ Retired

○ Unemployed

If you are employed, please indicate the industry in which you are employed. If not, please write NA.

[   ]

On **social policy matters**, do you think of yourself as liberal, moderate, or conservative?

○ Liberal

◯ Moderate

◯ Conservative

◯ Other

On **economic policy matters**, do you think of yourself as liberal, moderate, or conservative?

◯ Liberal

◯ Moderate

◯ Conservative

◯ Other

[Next]

Results

One random group will be chosen for payment. If, in your decision for the randomly selected group, you picked the actual winner, than you will receive $0.75; otherwise you will not receive any compensation in addition to your participation fee.

You will be compensated for group 3.

You chose Player 4 in this group.

Player 4 won the promotion in Round 2. You will be paid $0.75 as a bonus.

This is not the end of the study. Please press the next button below to proceed.

Next

Debriefing Form

THIS IS NOT THE END OF THE SURVEY. YOU MUST READ THE FORM AND CLICK THE BUTTON ON THE BOTTOM OF THIS PAGE TO SUBMIT YOUR HIT TO MTURK.

Thank you for your participation in this study. Your involvement is very important to us, without it, we are unable to conduct social science research. We appreciate your contribution and would like to tell you more about this study. The income inequality and employment discrimination by demographic characteristics (age, gender, ethnicity) are widely studied topics in the social sciences. In most organizations, promotion into leadership typically requires self-nomination via an application. However, past research citing gender differences in self-promotion and preference for competition suggests that this process could put women at a disadvantage, such that women might be less likely to apply for promotion to leadership positions.

We propose to apply well-established findings on choice architecture to the choice of applying for leadership positions. Research on behavioral nudges has established that opt-out choice framing is a powerful tool to encourage more enrollment because it changes the default to that of enrollment, while maintaining the choice to opt-out of the default. Drawing from this work, we are interested in studying whether changing the default of promotion schemes from a default where applicants must opt-in (i.e., self-nominate) to a default where applicants must opt-out (i.e., those who pass a performance and qualification threshold are automatically considered for the promotion, but can choose not to be considered) will reduce gender differences in the preference to apply for promotion to leadership positions. Thus, we asked you to evaluate applicants that had chosen to opt-in, or not opt-out of the competitive tournament to evaluate how this promotion frame affects observers' perceptions of male and female applicants.

In the process of analyzing the data, please note that we do not look at any individual's answers, but rather, we are interested in patterns of how people in general respond. Please remember that we will store all the records completely anonymously, and that no one will have access to your data except the research team. We hope that at this point, you have a general idea of the study. We thank you for participating today. If you have any questions, feel free to contact Dr. Sonia Kang at sonia.kang@rotman.utoronto.ca or the Office of Research Ethics at ethics.review@utoronto.ca or 416-946-3273 if you have any questions about your rights as participants in this research.

If you would like a copy of this debriefing, please feel free to print a copy for your personal records.

Thank you again for your participation.

YOU MUST CLICK THIS BUTTON TO SUBMIT YOUR RESPONSE TO MTURK.

Next