Supplemental Information for "Women Don't Run? Election Aversion and Candidate Entry"*

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Measurement Tasks

Belief Elicitation

The timing of Part 4 in the experiment was a bit tricky. First, we needed to elicit beliefs before subjects learned anything about other members' scores (as they would in the truthful campaign treatments). Second, we needed to ensure that the process of estimating others' scores would not influence or otherwise bias their decisions to become a candidate. That is, to the extent that subjects do not normally estimate the scores of others explicitly, asking them to do so would alter their decision-making process. Thus, we interrupted Part 3 of the experiment by announcing and completing the Part 4 estimation task *after* subjects made their candidate entry decisions but *before* the election.

Guessing a score exactly earns \$10 while other guesses earn \$5 divided by the absolute difference between the guess and true score. Thus, payments for guesses are increasing in the accuracy of the guess. This incentive structure is used by Gächter and Renner (2010) and Croson (2000). While there is a growing experimental literature on belief elicitation, most experiments elicit probabilities of binary outcomes using complicated scoring rules. In contrast, we needed to elicit beliefs about a multinomial distribution in a way that could be explained relatively simply and without the need to instruct subjects in the meaning of probabilities. For a related elicitation procedure about distributional beliefs, see Jones and Linardi (2012). As described in the instructions, we also paid each subject for correctly guessing whether or not each of the other group members decided to volunteer or run, paying them an additional \$5 for each correct guess.

To guard against hedging, if Part 4 was selected for payment, we randomly selected a set of guesses corresponding to only one of the other members for payment. For example, if we selected the guess about the highest scorer for payment, a subject who correctly guessed the score and both Parts 2 and 3 decisions of the high scorer would earn the maximum of \$20. Alternatively, if we selected guesses about the lowest scorer for payment and the subject's guess about the lowest scorer differs by 10 from the true score and neither guess about the lowest scorer's Part 2 or Part 3 decisions are correct, then the subject would earn only \$0.50.

Risk Elicitation Task

As we explained in the theoretical analysis, volunteering lowers amount of risk in the random selection of representative. To construct the payoffs in the lotteries of our modified Holt-Laury task, consider a situation in which a subject with a score of 10 knows that two other group members, with scores of x and $x + 10$ respectively, have already decided to volunteer. Each binary choice corresponds to an integer value of x from 1 to 9. Option A corresponds to the lottery from not volunteering. For example, if $x = 1$, then Option A yields payoffs of $1 \times \$0.50 + 10 \times \$0.25 = \$3.00$ and $11 \times \$0.50 + 10 \times \$0.25 = \$8.00$ with equal probability. Option B corresponds to the lottery from volunteering. If $x = 1$, for example, then Option B yields payoffs of $\$3.00, \$7.50$, and $\$8.00$ with equal probability, where the middle option is the subject's own payoff from being selected as the representative and having a score of 10. See the Appendix for a screenshot showing the task interface and the lottery payoffs. Each choice corresponds to an integer value of $x \in \{1, \ldots, 9\}$, where the net expected benefit of choosing B over A is decreasing in x, with the expected values of A and B equal when $x = 5$. Perfectly risk neutral expected payoff-maximizing subjects will switch from choosing B when $x < 5$ to choosing A when $x > 5$. Because choosing B is less risky, subjects who exhibit greater risk aversion will switch from B to A at higher values of x, and therefore the number of times a subject chooses B provides a measure of risk aversion.

Figure 1: Estimation task screen

	Part 1 Number of correct sums	Part 2 Decision Willing to be considered for representative?	Part 3 Decision Willing to be a candidate?
Highest		☐ Willing	☐ Candidate
2nd highest		☐ Willing	☐ Candidate
3rd highest		☐ Willing	☐ Candidate
Lowest		☐ Willing	☐ Candidate

Figure 2: Lottery choice task screen

	Option A		Option B		
Chance	1/2	1/2	1/3	1/3	1/3
Choice 1	$3.00	$8.00	$3.00	$7.50	$8.00
Choice 2	$3.50	$8.50	$3.50	$7.50	$8.50
Choice 3	$4.00	$9.00	$4.00	$7.50	$9.00
Choice 4	$4.50	$9.50	$4.50	$7.50	$9.50
Choice 5	$5.00	$10.00	$5.00	$7.50	$10.00
Choice 6	$5.50	$10.50	$5.50	$7.50	$10.50
Choice 7	$6.00	$11.00	$6.00	$7.50	$11.00
Choice 8	$6.50	$11.50	$6.50	$7.50	$11.50
Choice 9	$7.00	$12.00	$7.00	$7.50	$12.00

Theoretical Analysis

Volunteering

As the baseline case for analysis, we consider random selection without costs and benefits (the VNO mechanism). Let s_i denote individual i's ability or score (which is known), and let v_j be a random variable that denotes the score of a volunteer $j \neq i$, for $j \in \{1, \ldots, n\}$. We further assume that the v_j are independently drawn from the same distribution with CDF $F(v_j)$. Thus, n represents i's belief about the number of other members who volunteered and $F(v_j)$ denotes i's beliefs about the distribution their scores.

Assume that every individual has a Bernoulli utility function over money $u(x)$ that is increasing and weakly concave, $u'(x) > 0$ and $u''(x) \leq 0$, where x denotes i's monetary payoff. In our experimental setup, $x = s_i + 2r$, where r denotes the score of the representative who was randomly selected.[1] If i is risk neutral, then we can assume linear utility $u(x) = x$, and i's decision rule amounts to a simple comparison of her own score with the *expected score* of the other volunteers.

Proposition 1. *Given i's beliefs about v_i, if member i is risk neutral, she prefers to volunteer in the* VNO *condition if and only if $s_i \geq E[s]$.*

Proof. Let $v_i \in \{0, 1\}$ denote whether i volunteres. If i does not volunteer ($v_i = 0$), then the expected value of the representative's score is $E[v_j]$ and her expected utility is

$$EU(v_i = 0) = s_i + 2E[v_j]\,. \tag{1}$$

If i does volunteer ($v_i = 1$) given n other volunteers, then she is selected as the representative with probability $1/(n + 1)$ and with probability $n/(n + 1)$ another volunteer is selected. Her expected utility from running would be

$$EU(v_i = 1) = \frac{1}{n+1}\,(3s_i) + \frac{n}{n+1}\,(s_i + 2E[v_j]) \tag{2}$$

A few lines of algebra shows that $EU(v_i = 1) \geq EU(v_i = 0)$ if and only if $s_i \geq E[v_j]$. $\square$

In words, risk neutral group members will use a simple cutoff: members prefer to volunteer if they believe they are above the average ability of the other volunteers.

[1] Technically, $x = \frac{s_i + 2r}{4}$, but we can omit the denominator since doing so simply amounts to a rescaling of the scores s_i.

Although risk aversion changes the exact value of the cutoff, it does not dramatically affect the basic nature of the decision rule. A risk averse individual will prefer to volunteer if and only if $u(3s_i) \geq EU(s_i + 2v_j)$. Let c be the certainty equivalent where $u(c) = EU(s_i + 2v_j)$. Thus, the cutoff rule is for i to volunteer if and only if $s_i \geq c$. And since $u(\cdot)$ is concave, $c < s_i + 2E[v_j]$, yielding the next result.

Proposition 2. *If i is risk averse, then she prefers to volunteer in the* VNO *condition if and only if $s_i \geq c$ where $c < s_i + 2E[v_j]$.*

To provide a clearer picture of the logic underlying this somewhat counterintuitive result, consider an example in which only the best and worst members volunteer (with abilities b_i and w_i, respectively) and where i's ability is exactly the midpoint between them. If i is risk neutral, she will be indifferent between volunteering and not volunteering because the expected score of a randomly selected representative remains the same (i.e., her score s_i equals the cutoff $\frac{b_i+w_i}{2}$. If she is risk averse, however, she prefers to volunteer because, even though volunteering leaves the expected score unchanged, it lowers the probability of extreme scores and raises the probability of a moderate score, thereby *reducing the variance* of the outcomes.

Importantly, our analysis of the effects of risk aversion on the decision to volunteer has two implications for our experiment. First, every group member who believes their ability is above average should choose to volunteer *regardless of their degree of risk aversion*. Second, below average members will be willing to volunteer if they are sufficiently risk averse; correspondingly, greater risk aversion implies a lower average quality of volunteers.

To analyze how other-regarding preferences might affect the decision to volunteer, let $\alpha \in [0, 1]$ be the weight that i puts on the sum of all other group members' payoffs. For simplicity, suppose that i is risk neutral (since we know that the effect of risk aversion is to always lower the cutoff). In the case of random selection with no costs or benefits (*VNO*), i's decision rule does not depend on i's level of altruism, α. Intuitively, this should be the case since every group member is affected equally by increases or decreases in the expected value of the representative's score.

Proposition 3. *If i is risk neutral and weights the sum of other group members' payoffs by $\alpha \in [0, 1]$, then she prefers to volunteer in the* VNO *condition if and only $s_i \geq E[v_j]$.*

Proof. If i does not run, her utility is

$$EU(v_i = 0) = s_i + 2E[v_j] + \alpha\,(12E[v_j]) \tag{3}$$

while if i does run, her utility is

$$EU(v_i = 1) = \frac{1}{n+1}(3s_i + 12\alpha s_i) + \frac{n}{n+1} EU(v_i = 0)$$

The decision rule for i is to prefer to run if and only if

$$\begin{aligned} \frac{1}{n+1}(3s_i + 12\alpha s_i) + \frac{n}{n+1} EU(v_i = 0) &\geq EU(v_i = 0) \\ (3s_i + 12\alpha s_i) &\geq s_i + 2E[v_j] + \alpha\left(12E[v_j]\right) \\ (2 + 12\alpha)\, s_i &\geq (2 + 12\alpha)\, E[v_j] \\ s_i &\geq E[v_j] \end{aligned}$$

□

Next, we consider the general case for volunteering with costs and benefits—the *VCB* condition—where the degree of i's level of other-regarding preferences is represented by $\alpha \in [0, 1]$. If i does not volunteer, her expected utility accounts for the fact that one group member will receive the benefit of being selected as the representative and n volunteers pay a cost of volunteering.

$$EU(v_i = 0) = s_i + 2E[v_j] + \alpha\left(12E[v_j] + 8 - 4n\right) \tag{4}$$

If i does volunteer, then her expected benefits must take into account the fact that there is a $1/(n+1)$ chance that she is selected and receives the benefits of being selected and will pay the cost with certainty.

$$EU(v_i = 1) = \frac{1}{n+1}\left(3s_i + 4 + \alpha(12s_i - 4n)\right) + \frac{n}{n+1}\left(s_i + 2E[v_j] - 4 + \alpha\left(12E[v_j] + 8 - 4n\right)\right) \tag{5}$$

Comparing (4) and (5) yields the following cutoff rule.

Proposition 4. *If i is risk neutral and weights the sum of other group members' payoffs by $\alpha \in [0, 1]$, then she prefers to volunteer in the* VCB *condition if and only*

$$s_i \geq E[v_j] + \frac{4\alpha + 2n - 2}{1 + 6\alpha} \tag{6}$$

Since the second term on the right-hand side of the inequality is always positive (regardless of n or α), the cutoff is higher in the *VCB* condition than in the *VNO* condition. Thus, introducing the direct costs and benefits of volunteering will decrease the likelihood of volunteering.

In terms of comparative statics, note that the cutoff rule in (6) is increasing in $E[v_j]$ in exactly the same way as the cutoff rule in the *VNO* condition. However, it is also increasing in n, so as an individual's beliefs about competition increases, the minimum score for an individual to be willing to volunteer increases. Beliefs about competition should therefore lower the probability of volunteering. In terms of the cutoff rule's responsiveness to α, the first derivative of the cutoff in (6) is

$$\frac{\partial}{\partial\alpha}\left(\frac{4\alpha+2n-2)}{1+6\alpha}\right)=\frac{4(4-3n)}{(1+6\alpha)^2}$$

And the effect of other-regarding preferences is conditional on n. The the cutoff is decreasing in α for $n > 1$ and increasing in α for $n \leq 1$. This interaction is driven by beliefs about competition and the cost of volunteering. Intuitively, when there is very little competition, the expected direct benefits for the other volunteers is positive (either \$1 for $n = 0$ or \$2 for $n = 1$), and by volunteering i reduces the expected benefit much more than when there are already many volunteers and the expected benefit of volunteering is negative.

Running for Office

Analyzing the decision to run for office (in the election treatments) is a bit more complicated (especially when campaigns are truthful). Even when an individual is risk neutral, the decision rule depends not just on the expected value of the distribution $F(v_j)$ but also on its overall the shape of the distribution. In this analysis, we restrict our attention to the case of linear utility, $u(x) = x$, purely selfish candidates. and symmetric distributions for $F(v_j)$. Our formal analysis focuses on truthful campaigns in the *TNO* and *TCB* conditions. It is not necessary to provide a formal analysis of the decision to run in the chat campaign environment because the decision will either be equivalent to the analysis of truthful campaigns (if individuals believe campaigns select the best candidate) or equivalent to the analysis of volunteering under random selection (if individuals believe that campaigns are noisy, strategic processes and therefore akin to random selection).

We begin with truthful campaigns without costs or benefits (*TNO*). If $n = 0$, then the decision to run for office when there are no other volunteers or candidates is the same as under the random selection mechanism: prefer to run if and only if $s_i \geq E[v_j]$. This is because when $n = 0$ and there are no costs or benefits, i's choice is between her guaranteed selection or a random group member.

When $n > 0$ and campaigns are truthful, we assume that all voters will vote for the highest ability candidate, who is then subsequently elected. If i does not run, her expected payoff is $s_i + 2E[v_j]$, as it was before. If i does run, then the probability of winning depends on where her own score is higher relative to the other candidate's score in the distribution $F(v_j)$, winning if $s_i > v_j$ (for all $j \in \{1, \ldots, n\}$ and losing if $s_i < v_j$ (for at least one j). Notice that her payoff from losing will always be higher than the payoff from winning because she loses the election only if another candidate has a higher score than she does. The intuition here is that when campaigns are truthful, her own score s_i sets the *minimum* score of the representative; in other words, her own score sets the floor. Thus, provided that $n > 0$, there is no downside to running for office.

Proposition 5. *In the* TNO *condition, if the highest ability candidate is always selected when campaigns are truthful and there are no costs or benefits of running for office, then any group member who believes* $n > 0$ *will run for office while any group member who believes* $n = 0$ *will prefer to run if and only if* $s_i \geq E[v_j]$.

With costs and benefits, the analysis of truthful campaigns (*TCB*) becomes even more complicated. We first sketch some insights from the general analysis and then turn to a numerical example to derive additional insights. As in the previous section, we assume $u(x) = x$ and that $F(v_j)$ is symmetric.

For $n = 0$, it is straightforward to show that i prefers to run if and only if $s_i \geq E[v_j] - 2$. This is identical to the volunteer decision in the *VCB* condition because the choice is essentially between a randomly selected representative versus guaranteeing that i is the representative. In addition, if i runs, there is also a guaranteed benefit of an additional \$2 payoff, which lowers the cutoff value. In other words, if i's score is 2 points below $E[v_j]$ she is indifferent between running and not running because the guaranteed bonus of \$2 compensates for the loss of not having a better representative.

For $n > 1$, the mathematics become much more complicated as the result of electoral competition (increases in the belief about n). As with the *TNO* condition, we assume that the highest ability candidate wins with certainty. There are two countervailing effects. As n increases, it lowers the probability that s_i is the highest score (lowering the probability of receiving the bonus). But it also increases the expected score of the highest candidate. We can think of the intuition as follows. The more candidates there are, the more draws from the distribution $F(v_j)$ we get, and because the best candidate is always selected, each additional draw can only increase (and never decrease) the score of the representative who is ultimately selected.

When we add costs and benefits to analyze the *TCB* condition, the complexity of the calcluations increases even further. The expected payoffs are calculated by integrating over the joint distribution of the n other candidates' abilities. Formally, we assume that v_j are independent, the joint distribution is $\prod_{j=1}^{n} f(v_j)$, where $f(v_j)$ is the PDF of the distribution of v_j.

In the case of $n = 1$, the expected utility from not running is (where $c \in \{0, 1\}$ denotes whether i is a candidate)

$$EU(c = 0|n = 1) = s + 2E[v_1]$$

$$\begin{aligned} EU(c = 1|n = 1) &= \int_{-\infty}^{s} (3s + 4)\, f(v_1)dv_1 + \int_{s}^{\infty} (s + 2v_1 - 4)\, f(v_1)dv_1 \\ &= s + F(s)\,(2s + 4) + (1 - F(s))\,(2E[v_1|v_1 > s] - 4) \end{aligned}$$

and the decision rule is to prefer to run if and only if

$$(F(s)s + (1 - F(s))E[v_1|v_1 > s]) + 2(2F(s) - 1) \geq E[v_1] \tag{7}$$

The first two terms on the left-hand side represent the expected value of the representative's score if i runs while the remainder of the left-hand side is the private expected benefit of being a candidate.

As n increases, the mathematical expressions become more complicated. In the case of $n = 2$, the expected utility from not running is

$$EU(c = 0|n = 2) = 2\int_{-\infty}^{\infty}\int_{-\infty}^{v_1} (s + 2v_1)\, f(v_1)f(v_2)dv_2dv_1$$

and the expected utility from running is

$$\begin{aligned} EU(c = 1|n = 2) &= \int_{-\infty}^{s}\int_{-\infty}^{s} (3s + 4)\, f(v_1)f(v_2)dv_2dv_1 \\ &\quad +2\int_{s}^{\infty}\int_{s}^{v_1} (s + 2v_1 - 4)\, f(v_1)f(v_2)dv_2dv_1 \end{aligned}$$

For $n > 2$, the relevant expected utility values are

$$EU(c = 0|n = 3) = 3\int_{-\infty}^{\infty}\int_{-\infty}^{v_1}\int_{-\infty}^{v_1} (s + 2v_1)\, f(v_1)f(v_2)f(v_3)dv_3dv_2dv_1$$

$$\begin{aligned} EU(c = 1|n = 3) &= \int_{-\infty}^{s}\int_{-\infty}^{s}\int_{-\infty}^{s} (3s + 4)\, f(v_1)f(v_2)f(v_3)dv_3dv_2dv_1 \\ &\quad +3\int_{s}^{\infty}\int_{s}^{v_1}\int_{s}^{v_1} (s + 2v_1 - 4)\, f(v_1)f(v_2)f(v_3)dv_3dv_2dv_1 \end{aligned}$$

$$EU(c=0|n=4) = 4\int_{-\infty}^{\infty}\int_{-\infty}^{v_1}\int_{-\infty}^{v_1}\int_{-\infty}^{v_1}(s+2v_1)\, f(v_1)f(v_2)f(v_3)f(v_4)dv_4dv_3dv_2dv_1$$

$$\begin{aligned} EU(c=1|n=4) \quad = \quad & \int_{-\infty}^{s}\int_{-\infty}^{s}\int_{-\infty}^{s}\int_{-\infty}^{s}(3s+4)\, f(v_1)f(v_2)f(v_3)f(v_4)dv_4dv_3dv_2dv_1 \\ & +4\int_{s}^{\infty}\int_{s}^{v_1}\int_{s}^{v_1}\int_{s}^{v_1}(s+2v_1-4)\, f(v_1)f(v_2)f(v_3)f(v_4)dv_4dv_3dv_2dv_1 \end{aligned}$$

These expressions are difficult to evaluate without imposing additional structure. Thus, we assume that v_i are continuous and uniformly distributed over the interval $[0, 20]$ and that the PDF is $f(v_i) = \frac{1}{20}$. We then calculate the numerical cutoff values for the *TCB* condition and compare them to the cutoffs for *VNO* and *VCB* in Table A1.

Table A1: Numerical Comparison of Cutoff Values

n	*VNO*	*VCB*	*TCB*
0	10	8	8
1	10	10	5.8
2	10	12	10.4
3	10	14	13
4	10	16	15

Table A1 shows that for the uniform distribution and $n > 0$, the cutoff for *TCB* is always lower than the cutoff for *VCB*, which has identical incentives but differs only in the selection mechanism. The numerical analysis confirms our intuition that even when there are costs and benefits, truthful campaigns encourage individuals to run. This is because by running an individual group member sets the minimum representative's score to be her own score, and this will increase the expected score of the representative. The only exception is $n = 0$, which is identical to the *VCB* condition because running guarantees being selected as the representative.

Session Information and Sample Characteristics

Table A2: Session Information

Session	Date	Treatment	Men	Women
1	1/24/13	ChatCB	10	10
2	1/24/13	ChatCB	10	10
3	1/24/13	ChatNO	10	10
4	2/1/13	TruthCB	10	10
5	2/1/13	TruthCB	10	10
6	2/1/13	TruthNO	10	10
7	2/8/13	TruthNO	10	10
8	2/8/13	TruthCB	10	10
9	2/11/13	ChatNO	9	11
10	2/11/13	TruthNO	10	10
11	2/21/13	ChatNO	10	10
12	2/21/13	ChatCB	10	10
13	3/5/13	ChatCB	10	10
14	3/5/13	TruthNO	10	10
15	3/5/13	ChatNO	11	9
16	3/19/13	ChatNO	10	10
17	4/5/13	TruthCB	5	5
18	4/19/13	TruthCB	8	12

Table A3: Demographic Characteristics and Randomization Checks

Race/Ethnicity

	ChatCB	ChatNO	TruthCB	TruthNO	Total
Asian	11.3	9.0	17.8	18.8	14.0
Black	6.3	4.0	7.8	7.5	6.3
Caucasian	76.3	83.0	72.2	70.0	75.7
Hispanic	1.3	1.0	0.0	1.3	0.9
Other	5.0	3.0	2.2	2.5	3.1

$$\chi^2_{(12)} = 9.27, p = 0.68$$

Age

	ChatCB	ChatNO	TruthCB	TruthNO	Total
Mean	20.1	20.0	19.9	19.9	20.0
St. Dev.	1.7	2.0	1.7	1.3	1.7

$$F = 0.44, p = 0.73$$

Majors

	ChatCB	ChatNO	TruthCB	TruthNO	Total
Arts and Humanities	7.5	5.0	10.0	13.8	8.9
Business	32.5	35.0	26.7	26.3	30.3
Natural Sciences	13.8	18.0	15.6	22.5	17.4
Social Sciences	20.0	16.0	13.3	17.5	16.6
Physical Sciences	2.5	9.0	7.8	5.0	6.3
Other	23.8	17.0	26.7	15.0	20.6

$$\chi^2_{(15)} = 16.39, p = 0.36$$

Your intelligence is something about you that you can't change very much

	ChatCB	ChatNO	TruthCB	TruthNO	Total
Strongly Agree	5.0	4.0	1.1	0.0	2.6
Agree	10.0	8.0	11.1	8.8	9.4
Mostly Agree	21.3	32.0	25.6	31.3	27.7
Mostly Disagree	23.8	24.0	30.0	27.5	26.3
Disagree	25.0	25.0	21.1	26.3	24.3
Strongly Disagree	15.0	7.0	11.1	6.3	9.7

$$\chi^2_{(15)} = 14.05, p = 0.52$$

Table A3: Demographic Characteristics and Randomization Checks (continued)

Political Ideology

	ChatCB	ChatNO	TruthCB	TruthNO	Total
Ext Liberal	2.5	3.0	2.2	5.0	3.1
Liberal	23.8	25.0	21.1	31.3	25.1
Slightly Liberal	16.3	23.0	17.8	15.0	18.3
Moderate	33.8	21.0	33.3	28.8	28.9
Slightly Cons.	7.5	18.0	11.1	13.8	12.9
Conservative	12.5	9.0	12.2	6.3	10.0
Ext Cons.	3.8	1.0	2.2	0.0	1.7

$$\chi^2_{(18)} = 18.39, p = 0.43$$

Party

	ChatCB	ChatNO	TruthCB	TruthNO	Total
Democrat	37.5	49.0	40.0	36.3	41.1
Republican	21.3	26.0	23.3	23.8	23.7
Independent	26.3	13.0	27.8	28.8	23.4
Other	15.0	12.0	8.9	11.3	11.7

$$\chi^2_{(9)} = 10.66, p = 0.30$$

Have you ever thought of having a career in politics?

	ChatCB	ChatNO	TruthCB	TruthNO	Total
A Lot	7.5	6.0	2.2	2.5	4.6
Sometimes	13.8	10.0	16.7	11.3	12.9
A Little	30.0	23.0	30.0	36.3	29.4
Never	45.0	54.0	47.8	43.8	48.0
Don't Know	3.8	7.0	3.3	6.3	5.1

$$\chi^2_{(12)} = 11.27, p = 0.51$$

Probit Analysis

This section of the Appendix provides additional details about the probit analysis reported in Table 2 of the manuscript. What we are interested in is understanding how each factor (task ability, beliefs, etc.) affects the decision to enter, whether the effects of manipulating the electoral environment persist after controlling for these factors, and whether different factors are more important for one gender than another. As noted in the text, we stack the data so that the dependent variable is the *Choice* to represent. Thus, there are two observations for each subject: one for the choice to volunteer in Part 2 and one for the choice to be a candidate in Part 3. Stacking the data in this way allows us to estimate both the between- and within-subjects effects within the same statistical model. To correct for within-subject dependence, we cluster the standard errors by individual.

The first model specification provides us with baseline estimates of the effects of varying the selection mechanism on the probability of entering while controlling only for task ability. The specification includes a subject's mean-adjusted *Score* on the Part 1 Piece Rate task and a set of dummy variables for the electoral environment.[2] The omitted case is the decision to volunteer in Part 2 under the no cost condition (*VCB*).

The results for the first model show that our interpretation of the aggregate results remain after controlling for task ability. Women and men are equally sensitive to task performance, and when controlling for performance, women are less likely to run in all of the election treatments except for *TNO*. We also find that men and women are equally responsive to the addition of private costs and benefits under the random selection mechanism in Part 2. Thus, even when we account for task ability, women appear to be election averse, and such election aversion is not simply due to the costs of running for office. Moreover, for women, even though the magnitude of the effect for the *CCB* condition is larger than for the *CNO* or *TCB* conditions, an F test cannot reject their equality, thus reinforcing our interpretation that the process of campaigning and the cost of campaigning are each sufficient to deter women's participation in the candidate selection process.

The effects of manipulating the electoral environment remain unchanged when we add beliefs and risk aversion measures to the model, which gives us even greater confidence in the strength of our findings. In the second specification, we include two summary measures of beliefs implied by our theoretical analysis. These measures are

[2] Thus, $Score = 0$ indicates a subject with an average score. We do this so that the treatment effects are more easily interpretable (as effects for average scorers) when we include interaction terms.

calculated from the Part 4 elicitation task. *Believed Number Others* is a measure of the expected competition for representative. It is the number of other group members that a subject expects to be in the pool of potential representatives (the number of volunteers if the observation corresponds to the Part 2 decision and the number of candidates for the Part 3 decision). *Believed Average Score* is the implied belief about average ability of the pool. It is the average expected volunteer's score if the number of volunteers is non-zero in Part 2, the average expected candidate's score if the number of candidates is non-zero in Part 3, and the average group score if the belief about the number of volunteers or candidates is 0. We also include a measure of risk aversion in the second specification. *Safe Choices* is the number of times that the subject chose Option B in the Part 5 Lottery Choice task; higher numbers of safe choices indicate greater risk aversion.

When we add beliefs and risk measures, the magnitudes of the coefficients for the selection mechanism variables diminish slightly but remain qualitatively similar. Again, we see that the probability that men choose to volunteer or run in the election does not depend on the selection mechanism while women are election averse in all but the *TCB* treatment. The estimates for the second specification also show that beliefs affect the decision to enter while risk aversion plays an insignificant role. Although the coefficients for *Safe Choices* are negative for both men and women (contrary to expected payoff maximization but consistent with intuition), they are also small in magnitude and statistically significant only for women (at the 0.10 level). Risk aversion appears to play a very minor part in subjects' decision calculus.

For both men and women, the coefficients for *Believed Average Score* are negative and statistically significant. This is consistent with the theoretical analysis: When subjects believe that the pool of volunteers or candidates is of higher quality, they are less likely to enter. While the magnitude of the coefficient is larger for women, an F test cannot reject the hypothesis that the coefficients are equal across sub-samples ($\chi^2_{(1)} = 1.70$, $p = 0.19$). The coefficients for *Believed Number Others* are also statistically significant, but positive. The directions of these latter coefficients, however, are inconsistent with our theoretical expectations: entry decisions should be negatively related to the number of other group members in the pool because increasing competition reduces the expected benefit from running. Although it is somewhat puzzling that we find subjects to be more likely to enter when they think others are more likely to enter as well, we speculate that this might be because *Believed Number Others* captures beliefs about descriptive social norms (e.g., Cialdini, Reno and Kallgren 1990, Gerber and Rogers 2009) or the social desirability of representing others rather than expectations about the intensity of competition.

In the third specification, we allow subjects' level of responsiveness to task ability to vary across selection mechanisms and treatments by interacting each of the dummy variables with *Score*. For the most part, none of the interaction terms are statisticlly significant, meaning that subjects' responsiveness to performance on the task does not vary across treatments. The only exception is the interaction for women in the *TNO* treatment. It is negative and statistically significant, meaning that women are less responsive to task ability; nevertheless the sum of the main effect and interaction remains positive and statistically significant.

All of the analyses reported in the paper are robust to the exclusion of experimental sessions that did not have an equal division of 10 men and 10 women and also to the inclusion of additional demographic and political control variables (e.g., race, partisanship, ideology). Estimates for these additional specifications are reported in Tables A4 and A5.

Table A4: Probit analysis using only sessions with 10 men and 10 women

	Men			Women		
Score	0.14*	0.35*	0.31*	0.15*	0.29*	0.44*
	(0.03)	(0.06)	(0.08)	(0.03)	(0.06)	(0.10)
Volunteer Cost	-0.38	-0.15	-0.04	-0.4	-0.25	-0.53
	(0.25)	(0.28)	(0.28)	(0.24)	(0.27)	(0.32)
Election Chat-Cost	-0.27	-0.02	0.00	-1.07*	-0.86*	-1.12
	(0.29)	(0.33)	(0.34)	(0.27)	(0.29)	(0.34)
Election Chat-No Cost	-0.46	-0.32	-0.18	-0.65*	-0.5	-0.76*
	(0.31)	(0.37)	(0.38)	(0.29)	(0.32)	(0.36)
Election Truth-Cost	-0.43	-0.18	-0.08	-1.02*	-0.74*	-0.96*
	(0.32)	(0.35)	(0.35)	(0.29)	(0.32)	(0.36)
Election Truth-No Cost	0.03	0.28	0.37	-0.19	-0.03	-0.31
	(0.28)	(0.28)	(0.36)	(0.26)	(0.31)	(0.33)
Safe Choices		-0.1	-0.09		-0.07	-0.08
		(0.06)	(0.06)		(0.05)	(0.06)
Believed Number Others		0.35*	0.34*		0.51*	0.54*
		(0.09)	(0.09)		(0.09)	(0.09)
Believed Average Score		-0.28*	-0.28*		-0.21*	-0.22*
		(0.06)	(0.06)		(0.05)	(0.05)
Vol Cost x Score			0.11			-0.2
			(0.09)			(0.12)
Elect Chat-Cost x Score			0.04			-0.06
			(0.09)			(0.12)
Elect Chat-No Cost x Score			-0.1			-0.16
			(0.09)			(0.13)
Elect Truth-Cost x Score			0.15			-0.07
			(0.14)			(0.15)
Elect Truth-No Cost x Score			0.08			-0.31*
			(0.13)			(0.13)
Constant	1.05*	3.81*	3.77*	1.09*	2.60*	3.01*
	(0.20)	(0.83)	(0.84)	(0.17)	(0.74)	(0.74)
Log likelihood	-134.3	-110.56	-108.13	-148.1	-119.25	-115.36
N	280	280	280	280	280	280

Notes: * $p < 0.05$. Robust standard errors clustered by subject in parentheses.

Table A5: Probit analysis including demographic control variables

	Men			Women		
Score	0.18*	0.38*	0.32*	0.12*	0.25*	0.39*
	(0.03)	(0.05)	(0.07)	(0.03)	(0.05)	(0.09)
Volunteer Cost	-0.42	-0.30	-0.19	-0.38	-0.42	-0.64*
	(0.24)	(0.25)	(0.27)	(0.21)	(0.24)	(0.30)
Election Chat-Cost	-0.26	-0.14	-0.13	-1.04*	-0.94*	-1.14*
	(0.30)	(0.32)	(0.33)	(0.25)	(0.28)	(0.34)
Election Chat-No Cost	-0.31	-0.15	-0.09	-0.74*	-0.59*	-0.82*
	(0.27)	(0.30)	(0.29)	(0.22)	(0.25)	(0.29)
Election Truth-Cost	-0.41	-0.14	0.08	-0.85*	-0.68*	-0.89*
	(0.27)	(0.30)	(0.33)	(0.24)	(0.27)	(0.32)
Election Truth-No Cost	0.08	0.26	0.28	-0.14	-0.12	-0.36
	(0.29)	(0.29)	(0.37)	(0.26)	(0.30)	(0.33)
Safe Choices		-0.08	-0.08		-0.08	-0.08*
		(0.05)	(0.05)		(0.05)	(0.05)
Believed Number Others		0.36*	0.36*		0.51*	0.53*
		(0.09)	(0.08)		(0.09)	(0.09)
Believed Average Score		-0.27*	-0.26*		-0.19*	-0.2*
		(0.05)	(0.05)		(0.04)	(0.04)
Vol Cost x Score			0.10			-0.15
			(0.09)			(0.11)
Elect Chat-Cost x Score			0.02			-0.04
			(0.09)			(0.11)
Elect Chat-No Cost x Score			-0.02			-0.16
			(0.08)			(0.11)
Elect Truth-Cost x Score			0.23			-0.15
			(0.13)			(0.11)
Elect Truth-No Cost x Score			0.04			-0.28*
			(0.13)			(0.13)
Ambition	0.25	0.26	0.27	0.08	0.03	0.01
	(0.11)	(0.11)	(0.11)	(0.11)	(0.13)	(0.13)
Ideology	0.02	0.07	0.06	-0.05	0.03	0.01
	(0.09)	(0.10)	(0.10)	(0.09)	(0.10)	(0.11)
Democrat	0.02	0.08	0.11	-0.02	-0.21	-0.25
	(0.21)	(0.22)	(0.22)	(0.21)	(0.23)	(0.23)
Republican	0.10	0.14	0.21	0.48*	0.15	0.16
	(0.31)	(0.33)	(0.31)	(0.28)	(0.33)	(0.34)
Constant	0.80*	3.28*	3.10*	0.95*	2.61*	2.93*
	(0.22)	(0.69)	(0.70)	(0.20)	(0.68)	(0.67)
Log likelihood	-158.05	-131.97	-129.29	-191.27	-155.51	-152.07
N	346	346	346	354	354	354

Notes: * p < 0.05. Robust standard errors clustered by subject in parentheses.

Mixed Gender Competition and Attitudes

To address concerns about whether mixed gender competition might be a necessary condition for our results and to investigate whether attitudinal measures of risk and social orientations might be mediators of election aversion, we conducted additional sessions of the *CCB* treatment with only women participants. One session had 15 women and the other had 10 women, for a total of 25 women in two sessions.

We measured attitudes by adding a variety of survey batteries to the post-experiment questionnaire. The specific question wordings are given in Table A6. For risk orientation, we used questions from Kam's (2012) risk acceptance scale and added an additional question from Dohmen and Falk (2011). We code the items so that our 8-item scale measures *risk avoidance* (rather than risk acceptance).[3] To measure *trust*, we used a subset of 5 items analyzed by Glaeser, Laibson, Scheinkman and Soutter (2000), including three of the trust questions from the General Social Survey. We also constructed three different measures of prosocial attitudes: a 6-item *altruism* scale, a 4-item *individualism* scale, and a 4-item *collectivism* scale. The items in the altruism scale are from Cooper, Poe and Bateman (2004) and the individualism and collectivism questions are from Triandis and Gelfand (1998) (we use questions that tap both the horizontal and vertical dimensions of the latter two scales but do not distinguish between them in our measures). Summary statistics for each of these measures are provided in Table A7.

Before discussing the results, we note that we had serious reservations about conducting single-sex sessions because we were concerned that we might provide strong cues about gender that we carefully sought to avoid in our original design. In our lab, mixed gender sessions are the norm, so subjects participating in our experiment would not notice anything out of the ordinary. Indeed, the post-experiment questionnaire suggests that we were successfully able to avoid priming gender, as no subjects suspected that the objective of the experiment had anything to do with gender and no subjects mentioned gender considerations in their verbal explanations of their decision making process. Thus, if mixed gender competition mattered at all in the original sessions, they would only operate through *implicit* or *unconscious* reasoning processes (i.e., "System 1" in the language of dual process theory). But if the women in the single-sex conditions recognized there were no men participating in the study, we risked the possibility that gender considerations would become salient features of their *explicit* and *conscious* decision making process (i.e., "System 2"). If this turned out to be the case, we would have lost a degree of experimental control,

[3] All of our scales are constructed by rescaling each variable so that it is between 0 and 1 and then taking the average.

Table A6: Risk and social orientation survey items

Scale Item	Question
Risk 1	On a scale from 1 to 7, how do you normally see yourself: are you generally a person who is fully prepared to take risks (1) or do you try to avoid taking risks (7)?
Risk 2	Some people say you should be cautious about making major changes in life. Suppose these people are located at 1. Others say that you will never achieve much in life unless you act boldly. Suppose these people are located at 7. And others have views in between. Where would you place yourself on this scale? (reverse coded)
Risk 3	Suppose you were betting on horses and were a big winner in the third or fourth race. Would you be more likely to continue playing or take your winnings? (Definitely continue to definitely take my winnings, 4 categories)
Risk 4	I would like to explore strange places. (Strongly disagree to strongly agree, 5 categories, reverse coded)
Risk 5	I like to do frightening things. (Strongly disagree to strongly agree, 5 categories, reverse coded)
Risk 6	I like new and exciting experiences, even if I have to break the rules. (Strongly disagree to strongly agree, 5 categories, reverse coded)
Risk 7	I prefer friends who are exciting and unpredictable. (Strongly disagree to strongly agree, 5 categories, reverse coded)
Risk 8	In general, how easy or difficult is it for you to accept taking risks? (Very easy to very difficult, 4 categories)
Trust 1	On a scale from 1 to 7, generally speaking, would you say that most people can be trusted (1) or that you can't be too careful in dealing with people (7)? (reverse coded)
Trust 2	On a scale from 1 to 7, do you think most people would try to take advantage of you if they got a chance (1), or would they try to be fair (7)?
Trust 3	Would you say that most of the time people try to be helpful (1), or that they are mostly just looking out for themselves (7)? (reverse coded)
Trust 4	You can’t count on strangers anymore. (Strongly disagree to strongly agree, 5 categories, reverse coded)
Trust 5	Do you agree or disagree with the following statement? I am trustworthy. (Strongly disagree to strongly agree, 5 categories)

Table A6: Risk and social orientation survey items (continued)

Scale Item	**Question**
Altruism 1	My personal actions can greatly improve the well-being of people I don't know. (Strongly disagree to strongly agree, 5 categories)
Altruism 2	My responsibility is to take care only of my family and myself. (Strongly disagree to strongly agree, 5 categories, reverse coded)
Altruism 3	It is my duty to help other people when they are unable to help themselves. (Strongly disagree to strongly agree, 5 categories)
Altruism 4	The individual alone is responsible for his or her own well-being in life. (Strongly disagree to strongly agree, 5 categories, reverse coded)
Altruism 5	Many of society's problems result from selfish behavior. (Strongly disagree to strongly agree, 5 categories)
Altruism 6	Contributions to community organizations rarely improve the lives of others. (Strongly disagree to strongly agree, 5 categories, reverse coded)
Individualism 1	I'd rather depend on myself than others. (Strongly disagree to strongly agree, 5 categories)
Individualism 2	My personal identity, independent of others, is very important to me. (Strongly disagree to strongly agree, 5 categories)
Individualism 3	It is important that I do my job better than others. (Strongly disagree to strongly agree, 5 categories)
Individualism 4	When another person does better than I do, I get tense and aroused. (Strongly disagree to strongly agree, 5 categories)
Collectivism 1	If a fellow university student gets a prize, I would feel proud. (Strongly disagree to strongly agree, 5 categories, modified from original)
Collectivism 2	I feel good when I cooperate with others. (Strongly disagree to strongly agree, 5 categories)
Collectivism 3	It is my duty to take care of my group, even when I have to sacrifice what I want. (Strongly disagree to strongly agree, 5 categories)
Collectivism 4	Family members should stick together, no matter what sacrifices are required. (Strongly disagree to strongly agree, 5 categories)

Table A7: Attitudinal Scales Summary Statistics

	Mean	St Dev	Min	Max
Risk Avoidance Scale	0.423	0.112	0.208	0.615
Trust Scale	0.425	0.073	0.300	0.583
Altruism Scale	0.365	0.130	0.083	0.583
Individualism Scale	0.318	0.108	0.125	0.500
Collectivism Scale	0.305	0.116	0.063	0.500

and it seems to us a difficult design problem to be able to manipulate unconscious considerations about mixed versus single sex gender competition. Fortunately, none of the women in the single sex condition thought the experiment was explicitly about gender. However, one woman wondered "why there are only girls here" in her additional comments. It is possible that other women noticed this as well but did not think to mention it in their comments.

Turning now to the results from these additional sessions, we reproduced the main result that women are more likely to volunteer when the representative is selected randomly in Part 2 than they are to become candidates when the representative is selected by election in Part 3. In Part 2, 80% of women (20 out of 25) volunteered, while in Part 3, only 56% (14 out of 25) ran as candidates in the election ($p = 0.07$).

To assess whether any of our attitudinal measures of risk and social orientation mediate election aversion, Table A8 presents a series of probit models. We first estimate a basic specification with performance and an election dummy to measure election aversion. Then, because we have a small sample size, we estimate specifications that add only one of the attitude scales to test whether any of these variables mediate election aversion. For comparison, a final specification includes all of the attitude scales in an encompassing model. We find that none of the attitudinal variables mediate election aversion. The election coefficient is statistically significant in all of the specifications and the point estimate does not change much in magnitude when the potential mediators are added to the probit model. Furthemore, neither the risk scale nor any of the prosocial orientation scales (altruism, individualism, collectivism) are statistically significant. The only significant attitudinal variable is the trust scale, but note that its inclusion does not affect the election coefficient. Trust

Table A8: Mediation analysis

Score	0.22*	0.26*	0.26*	0.22*	0.22*	0.22*	0.32*
	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)	(0.07)	(0.10)
Election	-0.84*	-0.86*	-0.88	-0.84*	-0.84*	-0.84*	-0.93*
	(0.43)	(0.43)	(0.46)	(0.43)	(0.42)	(0.43)	(0.47)
Risk Avoidance Scale		-2.06					-2.38
		(1.52)					(1.75)
Trust Scale			-5.24				-6.81*
			(2.97)				(2.73)
Altruism Scale				0.81			-0.04
				(1.65)			(1.97)
Individualism Scale					-0.66		-1.80
					(1.90)		(2.07)
Collectivism Scale						-0.11	0.79
						(1.70)	(1.97)
Constant	-1.05	-0.44	0.94	-1.35	-0.84	-1.01	2.5
	(0.71)	(0.83)	(1.27)	(1.00)	(0.90)	(0.80)	(1.76)
Log likelihood	-25.25	-24.77	-23.66	-25.14	-25.2	-25.25	-22.67
N	50	50	50	50	50	50	50

* $p < 0.05$. Each column reports coefficient estimates for a separate probit regression model. Robust standard errors clustered by subject in parentheses.

is therefore correlated with the decision to become a candidate, but it is not itself a mediator of election aversion. Interestingly, the coefficient is negative. Contrary to what we speculate in the text of the paper, it turns out that women who are more trusting are *less* likely to become candidates. We speculate here that this might be because they "trust" that another subject will do a good job as the representative. Although we cannot draw any firm conclusions about the role of trust attitudes from this analysis, it raises an intriguing avenue for future research.

To summarize: We find that election aversion—specifically, women's sensitivity to the institutional environment—neither diminishes in single sex competitive environments nor is it mediated by attitudes about risk or social orientations.

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Supplemental Information: Experiment Instructions

Bold text (other than headings) denotes differences in instructions by condition, with condition abbreviations indicated in brackets. (CCB = Chat Cost Benefit, CNO = Chat No Cost Benefit, TCB = Truth Cost Benefit, TNO = Truth No Cost Benefit)

Instructions

General Information

This is an experiment on decision making. The University of Pittsburgh and the National Science Foundation have provided funds for this research.

There are five parts to this experiment. At the end of the experiment, one of the five parts will be randomly chosen to determine your payment for the experiment. Follow the instructions closely, as we will explain how you will earn money and how your earnings will depend on the choices that you make. In addition to the $7 participation payment, these earnings will be paid to you, in cash, at the end of the experiment.

You will be paid your earnings privately, meaning that no other participant will find out how much you earn. Also, we will hand out and read the instructions for each part before beginning that part. Each participant will have a printed copy of the instructions. You may refer to your printed instructions at any time during the experiment.

If you have any questions during the experiment, please raise your hand and wait for an experimenter to come to you. Please do not talk, exclaim, or try to communicate with other participants during the experiment. Also, please ensure that your cell phones are turned off and put away. Participants intentionally violating the rules will be asked to leave and may not be paid.

The Experiment

The computer has randomly placed you into a group with four other participants. You will not know who among the other participants are in your group and they will not know that you are in theirs. Your only communication with your fellow group members will be through the computer.

In the experiment, you will be asked to perform a mathematical task and you will be paid based at least partly on your ability to perform this task well. This task has been chosen because there are no differences based on education level, socio-economic status, gender, or race in the ability of people to perform the task well.

We will now begin the first part of the experiment.

Supplemental Information: Experiment Instructions

Part One: Piece Rate.

In the first section of the experiment, you will be asked to calculate the sum of five randomly chosen two-digit numbers. You will have 5 minutes to solve as many of these sums as you can. You can use the provided scratch paper to help you, but you cannot use a calculator. When you have an answer, enter it into the provided space and click the "Submit" button. The computer will automatically tell you if you were correct or not. It will also keep a running tally of how many correct and incorrect answers you have. This is private information for you only. None of the other participants in the experiment will see how many correct and incorrect answers you have.

If Part 1 is randomly selected for payment, you will be paid 75 cents for each correct answer you provide in the 5 minutes. Note that your payment will not decrease if you provide an incorrect answer.

Please do not talk with one another.

IF YOU HAVE ANY QUESTIONS, PLEASE RAISE YOUR HAND.

Supplemental Information: Experiment Instructions

Part Two: Group Representation.

As in Part 1 you will be given 5 minutes to calculate as many correct sums of series of five randomly chosen two-digit numbers. However, your payoffs will be based upon both your own performance and the performance of a representative from your group. The computer will randomly select a representative from the members of your group who indicated that they are willing to be the representative. This part of the experiment comprises two steps.

Step #1: Decide if you are willing to be the representative for your group. The computer will then randomly select a representative.

Step #2: Complete the mathematical task again.

After the selection of the representative, everyone will perform the mathematical task again, exactly as before. If Part 2 is randomly selected for payment, you will be paid 25 cents for each correct answer you provide and 50 cents for each correct answer your representative provides during Part 2. (If you are the representative, you will be paid 75 cents for each correct answer you provide; other group members will earn 50 cents for each correct answer you provide.)

[CCB, TCB] Your payoffs from Part 2 of the experiment also depend on whether you are willing to be the representative, and whether you are randomly selected. If you choose to be willing to be the representative, your Part 2 payoff will be reduced by 1 dollar. At the same time, if you are willing to be the representative and you are selected, your Part 2 payoff will increase by 2 dollars. For example, if you are willing to be the representative and you are randomly chosen, your payoff for Part 2 will increase by 1 dollar. If you are willing to be the representative and you are not randomly chosen, your payoff for Part 2 will decrease by 1 dollar.

If no one is willing to be the representative from your group, then one will be selected at random from all of the members of your group, and payoffs will depend only on performance on the task.

Remember not to talk with anyone during the experiment.

IF YOU HAVE ANY QUESTIONS, PLEASE RAISE YOUR HAND.

Part Three: Election.

As in Parts 1 and 2, you will be given 5 minutes to calculate as many correct sums of series of five randomly chosen two-digit numbers. In this stage, your payoffs will be based upon both your own performance and the performance of an elected representative from your group. This part of the experiment comprises four steps.

Step #1: Decide if you want to run for election to represent your group.

Step #2: If you run, send a message to your group.

Step #3: Vote in the election.

Step #4: Complete the mathematical task again.

After the election, everyone will perform the mathematical task again, exactly as before. If Part 3 is randomly selected for payment, you will be paid 25 cents for each correct answer you provide and 50 cents for each correct answer your representative provides during Part 3. (If you are the representative, you will be paid 75 cents for each correct answer you provide; other group members will earn 50 cents for each correct answer you provide.)

[CCB, TCB] Your payoffs from Part 3 of the experiment also depend on whether you are a candidate and the results of the election. If you choose to be a candidate, your Part 3 payoff will be *reduced* by 1 dollar. At the same time, if you choose to be a candidate and you are elected, your Part 3 payoff will *increase* by 2 dollars if you win the election. For example, if you run for office and win, your payoff for Part 3 will be increased by 1 dollar. If you run for office and do not win, your payoff for Part 3 will decrease by 1 dollar.

If you are the only candidate, then you will be the representative **[CCB, TCB] and your Part 3 payoff will increase by 1 dollar.**

If there are no candidates, then a representative will be selected at random from your group **[CCB, TCB] and payoffs will depend only on performance on the task.**

[CCB, CNO] If you have decided to be a candidate for the representative of your group and there is at least one other candidate, you will be able to send a message to all members of your group (of 150 characters or less). Members of your group will see your message before they make their voting decisions. This message is the only information members of the group will know about each candidate before they decide for whom to vote. Candidates may write anything they choose, provided that it is under 150 characters and does not contain obscene or offensive language. Be sure to hit enter when you are finished with your message. You will have an opportunity to confirm that your message is correct before it is sent to the members of your group.

[TCB, TNO] If there is more than one candidate for the election in your group, all members of your group will learn each candidate's score from the mathematical task in Part I of the experiment. That score is the only information the other members of the group will have about any of the candidates.

Note that you must vote, you can vote only once and you may vote for yourself if you choose.

If there is a tie vote among the candidates who have chosen to run, one of the tied candidates will be chosen at random to be the representative.

Remember not to talk with anyone during the experiment.

IF YOU HAVE ANY QUESTIONS, PLEASE RAISE YOUR HAND.

Part Four: Estimation.

We will return to **Part Three: Election** in a moment. For now, we'd like to ask you a few questions about how you think the other members of your group performed on the mathematical task, and what decisions they made about representing the group. You will be paid based on how accurate your predictions are. Remember that you will be making predictions only about the other four members of your group, not yourself. In other words, you will be asked to make predictions about the performance and decisions of the highest performer, the second highest performer, the third highest performer, and the lowest performer. These rankings do not include you; we are asking *only* about the other four members of the group.

Specifically, we want to know how well you think each person in your group did on the task in Part 1 *and* what you thought their decisions were in Parts 2 and 3. Once we have completed reading the instructions, you will be able to enter and submit your estimates in the table provided on the screen.

If Part 4 is selected for payment, your earnings will be determined as follows. First, we will randomly select one of the other members of your group to use to determine your earnings (i.e., the highest performer, second highest, third highest, or lowest). Each of the other members is equally likely to be selected. We will then compute your payment based on the accuracy of your predictions for that member. If your estimate of their Part 1 score is exactly correct, you will receive $10, but if your estimate is not exactly correct, you will be paid $5 divided by the (absolute) difference between your estimate and that member's actual score (with the amount rounded to the nearest quarter).

So, for example, if the highest scorer's true score in Part 1 was some number X and your estimate was X exactly, you will earn $10. And, for example, if the correct score for, say, the second-highest performer was some number Y and your estimate was Y+1 or Y-1, you would be paid $5/1 = $5.00. If your estimate was Y+5 or Y-5, then your estimate was off by 5 and you will be paid $5/5 = $1. In other words, your payment for the score will go down as your estimate decreases in accuracy, and it will go up as your estimate increases in accuracy.

In addition, you will earn another $5 for each decision you predict correctly; that is, you will earn $5 more if you correctly predict whether the member was willing to be the representative in Part 2 and another $5 if you correctly predict whether the member chose to be a candidate in Part 3.

So, for example, if the highest scorer from the rest of your group is selected for payment and your estimate of the highest score in Part 1 is exactly correct and you also predicted their decisions in BOTH Parts 2 and 3 correctly, you would earn $10 + $5 + $5 = $20 if that choice is randomly selected for payment. Or, as another example, if the lowest scorer was randomly selected for payment, and you were 10 off on your prediction of that score and predicted neither of the lowest scorer's decisions correctly, you would earn $5/10+$0+$0= $0.50.

When you are satisfied with all of your choices, click the "OK" button to submit them.

IF YOU HAVE ANY QUESTIONS, PLEASE RAISE YOUR HAND.

Part Five: Lottery Choices.

In this section, you will make a series of nine choices. For each choice, you will decide between two lotteries. If this section is chosen for payment, we will randomly select one of the nine choices, and you will play the lottery you selected and that lottery will determine your payment for the experiment.

For each choice, you must pick option A or option B. The option you have selected will turn red to indicate your choice. You may change your mind for any choice, up until the point that you click the “OK” button. You must make a selection for each of the nine choices.

If this section is chosen for payment, we will roll a ten-sided die to determine the choice for which you will be paid. If the result of the die roll is a number from one to nine, that number corresponds with the choice for which you will be paid. If the result of the die roll is a ten, we will re-roll the die until it lands on a number from one to nine, and that number will correspond with the choice for which you will be paid.

Once we have randomly selected a lottery using this method, we will then roll a six-sided die to determine the amount you will be paid. If you have chosen Option A, a roll of one through three corresponds with the smaller payment, and a roll of four through six corresponds with a larger payment. If you have chosen Option B, a roll of one or two corresponds with the smaller payment, a roll of three or four corresponds with the middle payment, and a roll of five or six corresponds with the higher payment.

Remember that you must pick an option for each of the nine choices.

When you are satisfied with all of your choices, click the “OK” button to submit them.

IF YOU HAVE ANY QUESTIONS, PLEASE RAISE YOUR HAND.