

Pre-Analysis Plan for a Difference-in-Difference Design on Increasing Political Ambition and Efficacy in High School Students

We are conducting an ongoing difference-in-difference design to measure the efficacy of a high school lobbying program. In this program, high school students from across the country come to Washington, D.C. to lobby their federal elected officials and/or their staffs on a variety of topics relevant to them. Students also receive briefings and participate in trainings on federal policymaking.

We are measuring whether this program can increase the political ambition and feelings of political efficacy among its participants. In particular, we will measure whether this program reduces the gender gap in political ambition.

Our analysis is limited to a difference-in-difference design due to programmatic constraints. The partner organization is unable to implement a randomized experiment. Nonetheless, our analysis will be a difference-in-difference design in which we compare the pre- and post-participation attitudes using surveys of participating high school students. We are leveraging the fact that there will be six cohorts of participants spread over January-March 2019 for which we will have multiple pre- and post-surveys, as summarized in the below table (with approximate dates for fielding the surveys):

	Jan 11 Cohort	Jan 25 Cohort	Feb 8 Cohort	Feb 25 Cohort	March 1 Cohort	March 15 Cohort
Pre-Survey #1	1/3	1/3	1/3	1/18	1/28	2/15
Pre-Survey #2	n/a	1/18	1/18	1/28	2/15	2/28
Pre-Survey #3	n/a	n/a	1/28	2/15	2/28	3/6
Post-Survey #1	1/18	1/28	2/15	2/28	3/6	3/20
Post-Survey #2	1/28	2/15	2/28	3/6	3/20	4/1
Post-Survey #3	2/15	2/28	3/6	3/20	4/1	TBD
Post-Survey #4	2/28	3/6	3/20	4/1	TBD	TBD
Post-Survey #5	3/6	3/20	4/1	TBD	TBD	TBD
Post-Survey #6	3/20	4/1	TBD	TBD	TBD	TBD
Post-Survey #7	4/1	TBD	TBD	TBD	TBD	TBD

On each survey, we will ask two questions about political efficacy and three questions about political ambition.

Our efficacy questions are:

- Ordinary citizens can do a lot to influence the government in Washington if they are willing to make the effort.
- It's important to me to let my political representatives know how I feel about the issues.

Responses range from Strongly Agree to Strongly Disagree using a 7 point scale. We will code each question using a -3 to +3 scale. Our outcome measure will be an index in which we average together respondents' answers on these two questions.

Our ambition questions are, "How likely is it that, someday, when you're older, you might want to...":

- Work on a political campaign?
- Work for the government?
- Run for political office?

Responses range from Extremely Likely to Extremely Unlikely using a 7 point scale. We will code each question using a -3 to +3 scale. Our outcome measure will be an index in which we average together respondents' answers on these three questions.

Our principal hypothesis is that participation in the program will increase political ambition and efficacy.

Our analysis will take the following form:

$$Y_{i,t} = \gamma_t + \tau\omega_{i,t} + \alpha_i + \mu_{i,t},$$

where Y is our outcome measures (efficacy and ambition indices), γ_t is an indicator for the survey time period, $\omega_{i,t}$ is an indicator for whether individual i participated in the lobbying program before t (such that as soon as an individual participates between $t-1$ and t , this indicator is set to 1 and then is then always coded as participated thereafter), α_i is an individual-level fixed effect, $\mu_{i,t}$ are the idiosyncratic errors clustered at the individual level, and τ is the treatment effect of participating that we are estimating. The identification strategy of the differences-in-differences design rests on the fact that we have precise measures of participants' views both before and after they participate.

In addition, because of the large literature on a gender gap in political ambition (which we replicate in our 3 January survey), we will examine whether the program is particularly effective at increasing political ambition among female participants. In addition to the two indices described above, we will also examine effects solely on the "Run for political office" outcome measure since that is a primary outcome in that literature. We will examine whether there is an interaction between post-program political ambition and efficacy with gender. While we will report what we find, we are treating this matter as an open research question, not a directional hypothesis.

Finally, in the first survey immediately following the program, we will ask respondents a free response question on what they learned from the weekend. We will use these responses to these open-ended questions to qualitatively investigate potential mechanisms for any attitude changes.

Note that we are filing this PAP after the 3 January survey but prior to any post-program survey. Thus we are blind to all results at this time.