Pre-Analysis Plans in Behavioral and Experimental Economics

Johannes Haushofer

Princeton University, NBER, Busara Center

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What should be in it

1. Basic design (treatments, conditions)
2. Sample size and power calculation
3. Outcome variables, including precise definition
4. Econometric specifications, including how you will get standard errors (clustering, robust, randomization inference etc.)
5. Criteria for including/excluding data (e.g. outliers)
6. Explicit hypotheses
7. Approaches for dealing with attrition
8. Robustness checks (e.g. inclusion vs. omission of controls)
9. Dimensions of heterogeneity (this is especially protective)
10. Approach for multiple inference correction (e.g. FWER vs. FDR)

Why write one? The Social Planner View

Benefits

1. Improves transparency: clear ex ante what the researcher planned
2. Reduces false positives: fewer forking paths, less p-hacking
3. Reduces the filedrawer problem; others can ask what happened to your project.

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1. Time cost. I don't think this is very large, see below.
2. Stifles exploratory work. I don't think this is true, see below.
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Reducing costs:

1. Time cost: make the PAP your methods section later
2. Exploratory work: datamine to your heart's delight! Just be honest about it.
3. Pre-specifying the wrong analyses: Be honest about your thought process and hope for sensible readers/referees.

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Why write one? The Job Market View

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Costs

1. The job market cares more about interesting findings than PAPs. On the margin, PAPs not very helpful.

2. Rigor and transparency can be demonstrated in other ways (e.g. good robustness checks, honesty about "warts" of the paper).

3. More difficult with a PAP to make serendipitous discoveries the main story. That's as it should be, but complicates your job market.

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So I actually think it's not job-market optimal to write PAPs. But the social planner wants you to. What should you do?

- ▶ Take the long view: it will feel better in the long run to be on the right side of history
- ▶ Marginal costs are small, exploratory analyses are still possible, and it will protect some serendipitous results, e.g. surprising interactions
- ▶ Advisors: you should require them of your students

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3. I can't possibly pre-specify everything I might want to do!
   - Flag exploratory analyses
   - File follow-up PAPs
   - Even the best PAPs still leave researcher degrees of freedom. If you're feeling virtuous, write a mock paper or put in dummy tables.