The Irrelevance of Irrelevant Events

The Impact of Attrition on Busby, Druckman, and Fredendall (2017)

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Introduction

Busby, Druckman, and Fredenall (2017)

- **Question:** Can the outcome of a sporting event impact presidential approval?
- **Hypothesis:** Event outcome will cause presidential approval to increase (decrease) among students from the winning (losing) school
- **Argument:** Results support this hypothesis

Irrelevant Event Claims

- Positive (negative) events increase (decrease) support for incumbents
  - Punish incumbents after shark attacks, droughts & floods (Achen and Bartels (2016))
  - Sports victories increase voter support and opinion favorability (Healy et al. (2010))
  - Losing causes a decline in presidential approval (Busby and Druckman (2018))

Questions

- Do random events before an election have a bigger impact than campaigns?
  - Kalla and Broockman (2018) find campaign contact deteriorates and/or has no effect
- If people are susceptible to irrelevant events, what does this mean for campaigns?

Experimental Design

Setting

- 2015 College Football National Championship game takes place on January 12

Subjects

- Two subject pools of sampled email addresses from student directories
  - Subject Pool 1 - Students from The Ohio State University
  - Subject Pool 2 - Students form the University of Oregon

Randomization

- Randomly allocate student "email subjects" to treatment and control groups
  - Control: Subjects receive a email survey before the game (Jan 10-12)
  - Treatment: Subjects receive a email survey after the game (Jan 13-15)
  - Follow survey: Control (Jan 17) and Treatment (Jan 20)

Treatment & Average Treatment Effect (ATE)

- Experiment 1: The treatment is the experience of winning for the winning team
- Experiment 2: The treatment is the experience of losing for the losing team
- ATE: The difference in presidential approval between treatment and control group

Presidential Approval

How much do you disapprove or approve of the way Barack Obama is handling his job as president? Please select one resonse.

- 1 = Strongly Disapprove, 2 = Disapprove, 3 = Somewhat Disapprove,
- 4 = Neither, 5 = Somewhat Approve, 6 = Approve, 7 = Strongly Approve

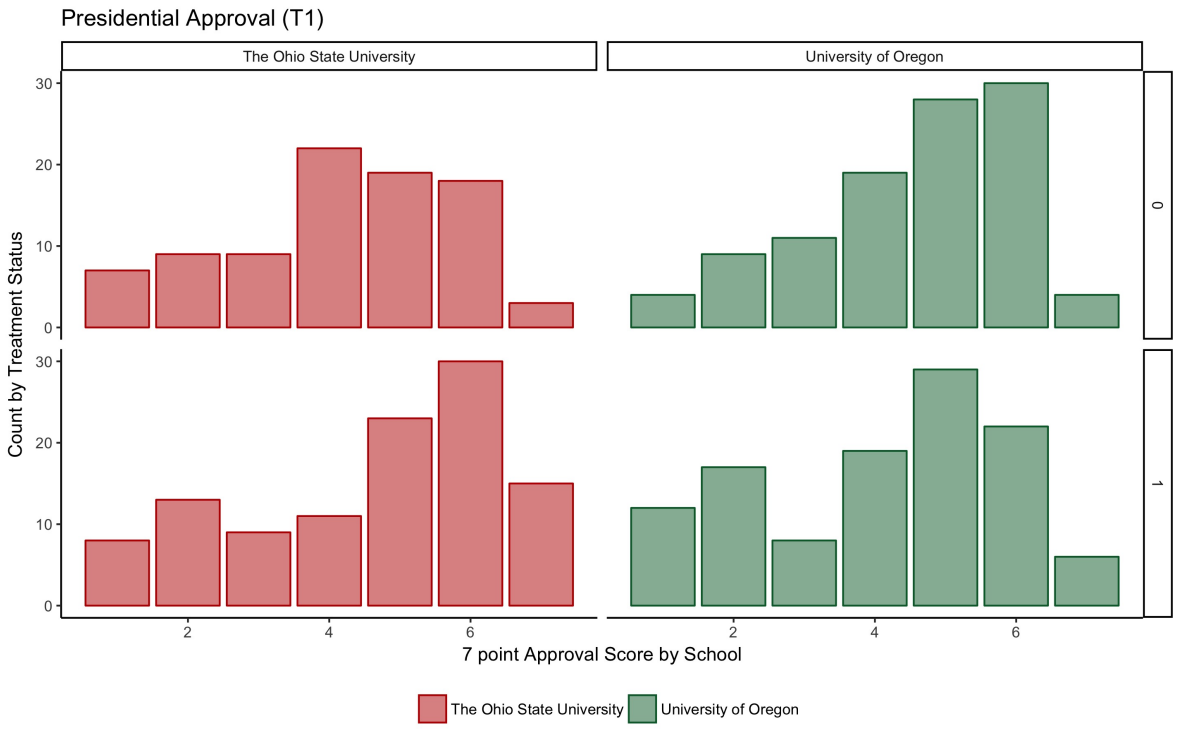

Figure 1: Presidential Approval by University and Treatment Condition

Findings

Replicated Findings

- OSU students (winning team) experience an increase in presidential approval
- UO students (losing team) experience a decline in presidential approval
- Results do not persist over time as evidenced by the T2 approval

Table 1: Replication of Busby and Druckman (2018) Game Effects

	Approval (T1)		Approval (T2)	
	OSU	UO	OSU	UO
	Model 1	Model 2	Model 3	Model 4
Treated	0.449^{*}	-0.447^{**}	0.046	-0.030
	(0.251)	(0.224)	(0.262)	(0.293)
Constant	4.184^{***}	4.562^{***}	3.983^{***}	4.604^{***}
	(0.187)	(0.161)	(0.193)	(0.215)
N	196	218	127	114
R-squared	0.016	0.018	0.0002	0.0001
Adj. R-squared	0.011	0.014	-0.008	-0.009

$^{***}p < .01$; $^{**}p < .05$; $^{*}p < .1$

Attrition

Problem of Missing Data

- Attrition occurs when an experiment fails to measure outcomes for some subjects
  - Creates bias because subjects unrandomize the experiment (Gerber and Green (2012))
  - Busby et al. (2017) implicitly assume attrition is not an issue by not addressing it (p. SI1)
- This experiment has two rounds of attrition

Table 2: Response Rate by University and Group

		Responses		Response Rate			
		Total		Original		Replication	
Group	Size (N)	T1	T2	T1	T2	T1	T2
OSU Before (C)	808	87	58	10.8	66.7	10.8	7.2
OSU After (T)	836	109	69	13.0	63.3	13.0	8.3
OSU Total	1644	196	127	11.9	64.8	11.9	7.7
UO Before (C)	1010	105	53	10.4	50.5	10.4	5.2
UO After (T)	1007	113	61	11.2	54.0	11.2	6.1
UO Total	2017	218	114	10.8	52.3	10.8	5.7

Distribution of Data

- Attrition could occur for a variety of reasons
  - Ex: Travel, graduation, game outcome itself
  - Should also be concerned with party identification response rate

Table 3: Presidential Approval and Party ID by University and Group

		Time 1		Time 2
Group		Approval	Party ID	Approval
Ohio State				
Control	Mean	4.18	3.59	3.98
	(Sd)	(1.61)	(1.72)	(1.61)
	N	87	83	58
Treatment	Mean	4.63	3.82	4.03
	(Sd)	(1.84)	(1.65)	(1.33)
	N	109	101	69
All	Mean	4.43	3.72	4.01
	(Sd)	(1.75)	(1.68)	(1.46)
	N	196	184	127
Oregon				
Control	Mean	4.56	2.94	4.6
	(Sd)	(1.5)	(1.5)	(1.58)
	N	105	94	53
Treatment	Mean	4.12	3.06	4.57
	(Sd)	(1.77)	(1.65)	(1.54)
	N	113	106	61
All	Mean	4.33	3	4.59
	(Sd)	(1.66)	(1.58)	(1.55)
	N	218	200	114

Replication

Extreme Value Bounds

- Method imposes minimal assumptions on the data
- Demonstrates width of the range of possible true ATE values

Table 4: Extreme Value Bound Estimation

	OSU Lower	OSU Upper	ORE Lower	ORE Upper
	Model 1	Model 2	Model 3	Model 4
Treated	-5.223^{***}	5.349^{***}	-5.397^{***}	5.306^{***}
	(0.060)	(0.053)	(0.046)	(0.051)
Constant	6.697^{***}	1.343^{***}	6.747^{***}	1.370^{***}
	(0.043)	(0.038)	(0.032)	(0.036)
N	1644	1644	2017	2017
R-squared	0.820	0.860	0.874	0.844
Adj. R-squared	0.820	0.860	0.874	0.844

$^{***}p < .01$; $^{**}p < .05$; $^{*}p < .1$

Conclusions

Critiques

- **Attrition**
  - The problem of attrition creates bias and uncertainty
- **Baseline Characteristics**
  - They fail to collect baseline characteristics prior to randomization, thus preventing the use of control variables
- **Non Compliance**
  - May exist if individuals fail to watch the game
  - Busby et al. (2017) assume that all individuals have the same treatment effect regardless of whether you watched the game.
  - i.e. Treatment is being from the winning or losing school rather than experiencing the win or loss
- **Heterogeneous Treatment Effects:** Could imagine attending the game has a different impact than watching the game with friends or alone

Conclusion

- Despite strong assertions, it is not possible to conclude that the findings suggest irrelevant events cause people's attitudes about the president to change
- A better research design is needed to actually test this question

Citations I

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