

Quasi-Replication of “Alcohol and Self-Control: A Field Experiment in India”

Buddy Anderson

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Replication Paper

The paper partially replicated in what follows is Frank Schilbach’s *Alcohol and Self-Control: A Field Experiment in India*. As I am interested in experimental economics, particularly field experiments, this was an excellent learning opportunity for a multitude of reasons. For one, I learned a little about STATA. My experience with coding in general has been limited up to this point so exposure to a new language is always valuable, particularly a language that is widely used in academia. Secondly, I learned a little more about R than I previously knew. And arguably most importantly, I dissected an experiment and attempted to follow the reasoning of a practiced experimental economist so as to better understand what it is I might be doing for my dissertation.

An experience with STATA

- After finding an interesting paper I needed to make sure I could actually run their code
- I went through the process of running their code, which took a great deal longer than anticipated as I had to repeatedly alter certain aspects or install packages before the code would actually run without error
- For example:

```
*****
*****
*Figure 4 lower panel:
*The Impact of Incentives on Day Drinking and Overall Drinking
*Time of first drink
*****

*Buddy had to install distplot 11/02/2020
ssc install distplot, replace

* BIG ISSUE HERE

*distplot line time_first_drink if day_in_study > 4 & day_in_study < 20, ///
*mc(gsl) by(tx_group) xtitle("Time of day (24h)") ytitle("Fraction of individuals who started drinking") ///
*lc(gsl forest_green maroon) lwidth(medthick) ///
*lpattern(solid longdash dot solid) legend(label(1 "Incentives") label(2 "Choice") label(3 "Control") rows(1)) ///
*xline(18, lcolor(navy)) xsc(r(6 24)) xlabel(6(2)24) text(0.8 15.4 "Study office opens {&arr}", color(navy)) ///
*graphregion(color(white)) bgcolor(white) title("Time of First Drink") recast(line)

*graph export "$figures/3d_Time_drinks_figure_FINAL.eps", replace
```

Replicating STATA

- After successfully running the STATA code and generating the same figures and tables the authors used in their paper I shifted to replicating some of their results
- Of primary interest was graphical replication as those are the things that normally stick in your mind from a study
- The following few slides compare and contrast figures that I was able to reproduce with some level of success

Now with R

First, let's source the code from a seprate script

- The following graph was called from a script that is part of this project, but not part of the Rmarkdown document
- This is an extremely useful reference tool for future projects requiring real time updating with data!!!

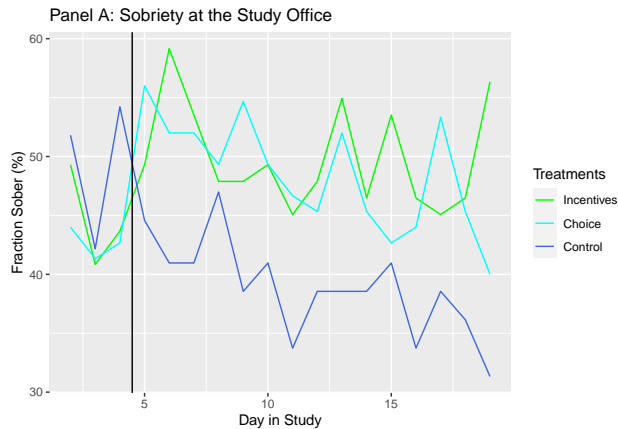


Figure 1: Graph Generated in Seprate Script

Now compare to original

- These graphs are fairly similar, but certainly more could be done to make them closer to identical

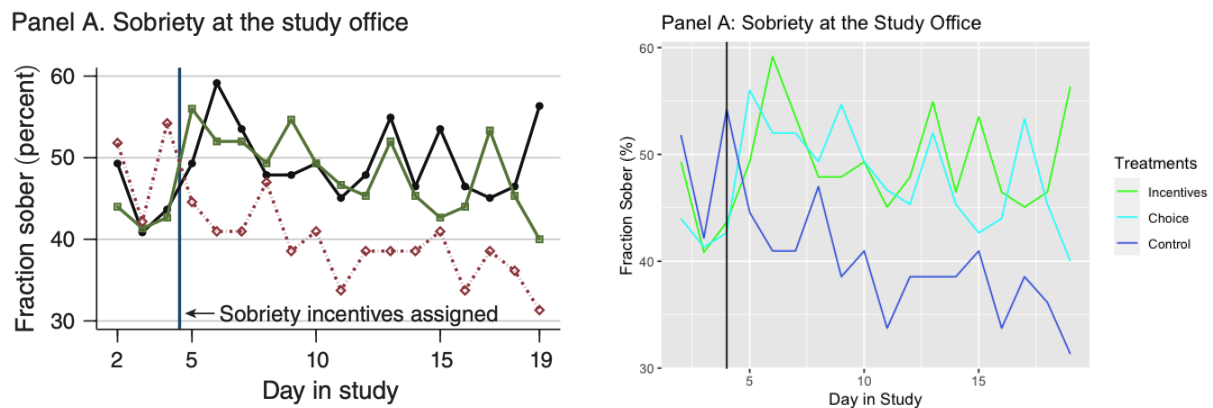


Figure 2: Comparrison of Figure 3, Panel A

Let's do the same type of thing with Table 3

Just kidding, this was advised against. We'll circle back if we have time.

Instead, lets consider an extension

- Maybe the results are being driven by heavy drinkers
- For instance, if you look at a simple histogram of the typical amount of drinks had by subjects...

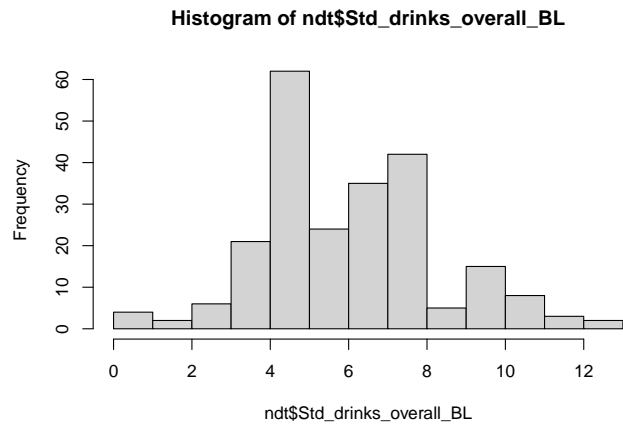


Figure 3: Histogram of Daily Standard Drinks

- ... you can see that a substantial portion of the subjects drink 7 or more drinks daily
- So what happens if we look at heterogeneous effects of “heavy” drinkers as oppsed to all others?

Heavy Drinkers vs. Others

- We define heavy drinkers as those that reported drinking more than 6 drinks each day

Table...

Table 1: Regression Results

	<i>Dependent variable:</i>		
	Treat_group	Choice_group	Control_group
	(1)	(2)	(3)
sober_dummy	0.013 (0.034)	0.034 (0.036)	-0.047 (0.039)
BAC_result	-0.451*** (0.143)	0.244 (0.153)	0.207 (0.163)
std_drinks_today	-0.003 (0.005)	-0.003 (0.005)	0.005 (0.005)
Constant	0.306*** (0.030)	0.280*** (0.032)	0.414*** (0.035)
Observations	1,742	1,742	1,742
R ²	0.021	0.001	0.014
Adjusted R ²	0.019	-0.0002	0.012
Residual Std. Error (df = 1738)	0.432	0.463	0.493
F Statistic (df = 3; 1738)	12.233***	0.867	8.011***
<i>Note:</i>		*p<0.1; **p<0.05; ***p<0.01	

Table 2: Regression Results

	<i>Dependent variable:</i>		
	Treat_group	Choice_group	Control_group
	(1)	(2)	(3)
sober_dummy	0.024 (0.038)	0.037 (0.039)	-0.061 (0.037)
BAC_result	-0.483** (0.197)	1.035*** (0.199)	-0.552*** (0.193)
std_drinks_today	0.016** (0.007)	-0.028*** (0.007)	0.013* (0.007)
Constant	0.316*** (0.036)	0.328*** (0.037)	0.356*** (0.036)
Observations	1,872	1,872	1,872
R ²	0.005	0.017	0.006
Adjusted R ²	0.004	0.016	0.004
Residual Std. Error (df = 1868)	0.470	0.476	0.461
F Statistic (df = 3; 1868)	3.437**	10.968***	3.731**
<i>Note:</i>		*p<0.1; **p<0.05; ***p<0.01	