



The  
image  
part with  
relations

MACSS Conference  
Lightning Talk

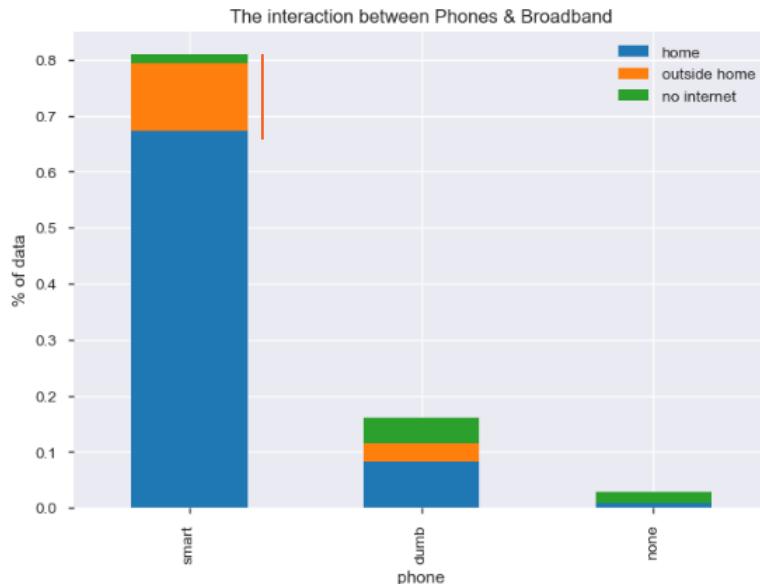
Laurence (w4rner) Warner  
[w4rner.tech](http://w4rner.tech)

Advisor: Prof. Ben Soltoff

Research Topic:

'Smartphone Dependence'

Smartphone + no Broadband => Smartphone dependent



Perspective 1:  
Smartphone Dependence  
as lack of alternative  
devices.

The image part with relations

Research Question:  
Which US demographic  
factors are associated  
with smartphone  
dependence?

Data: Pew Research 2018

Contributor: Darian  
Bailey



The image part with relations

```
Optimization terminated successfully.  
Current function value: 0.337199  
Iterations 7
```

#### Logistic Regression

Dep. Variable:	dep	No. Observations:	1561			
Model:	Logit	Df Residuals:	1550			
Method:	MLE	Df Model:	10			
Date:	Mon, 30 Jul 2018	Pseudo R-squ.:	0.1563			
Time:	19:29:09	Log-Likelihood:	-526.37			
converged:	True	LL-Null:	-623.85			
		LLR p-value:	1.807e-36			
	coef	std err	z	P> z	[0.025	0.975]
const	2.4003	0.446	5.384	0.000	1.526	3.274
sex	-0.2434	0.163	-1.494	0.135	-0.563	0.076
age	-0.3054	0.072	-4.264	0.000	-0.446	-0.165
educ	-0.2246	0.054	-4.151	0.000	-0.331	-0.119
non_hisp	-0.8502	0.234	-3.636	0.000	-1.309	-0.392
inc	-0.2428	0.038	-6.466	0.000	-0.316	-0.169
white	0.4396	0.305	1.440	0.150	-0.159	1.038
black	0.7382	0.353	2.092	0.036	0.047	1.430
asian	0.0807	0.584	0.138	0.890	-1.063	1.225
other	1.7867	0.770	2.320	0.020	0.277	3.296
native	1.3406	0.563	2.382	0.017	0.237	2.444

Statistically significant negative relationships:

- Intuitive: Age, Income
- Notable: Education



The  
image  
part with  
relations

# Too Small to Bridge the Digital Divide: Demographic Inequalities in Smartphone Technology Uptake. \*

Laurence Warner<sup>†</sup>

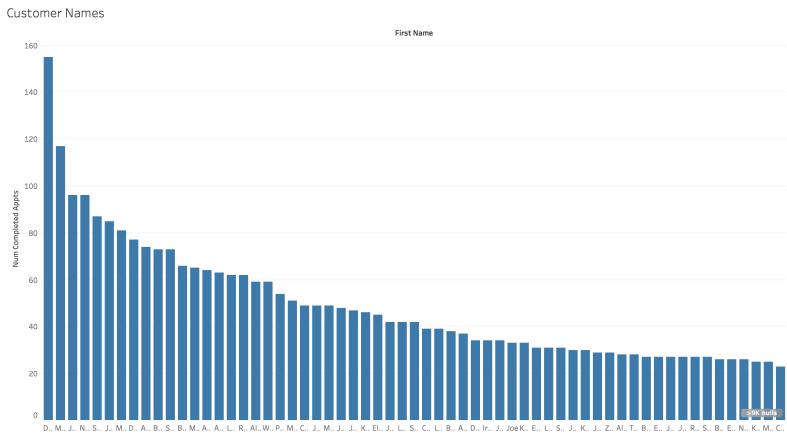
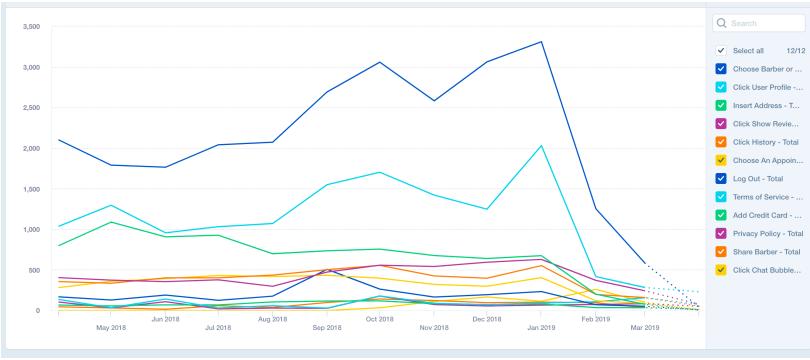
July 31, 2018

## 1 Abstract

Advances in communication technology has revolutionized American society. Internet, high-speed broadband and mobile phone technology have all swept across society to near-ubiquity. However, there was a 'digital divide' in speed of uptake across socioeconomic groups in society. Moreover, there still exists a 'usage gap' in which social groups derive differential benefits from new technology. Internet-enabled smartphones represent a huge technological advance in the way we access the internet, and some detect a bright future for mobile-only internet. Whilst smartphone ownership in general is correlated with high socioeconomic status, there is a growing portion of the country who rely upon this technology and are deemed 'smartphone dependent'. This paper shows that smartphone dependence is most prevalent amongst already disadvantaged groups. Considering sociological theories of inequality, this could forebode a widening digital divide.

Keywords: Technology, Internet, Demographics, Sociology, Statistical Inference, Limited Dependent Variable Models





The image part with relations

Supplementary Data:



30k users.

**SHORTCUT**

Advice: Prof. Paolo  
Parigi, Stanford  
University



The  
image  
part with  
relations

Perspective 2: Smartphone Dependence as behavioral addiction

**First Week**  
**Flip Phone:**  
**The**  
**Smartphone**  
**Detox**

|

Research Question: Is Digital Detox effective at reducing smartphone usage?

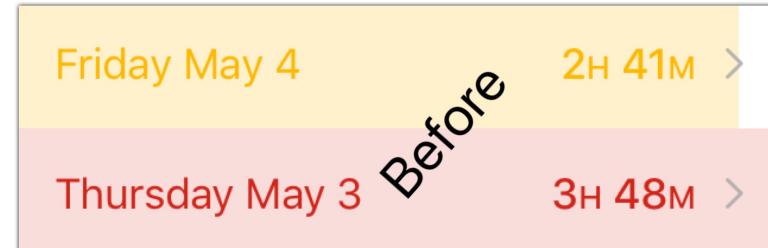
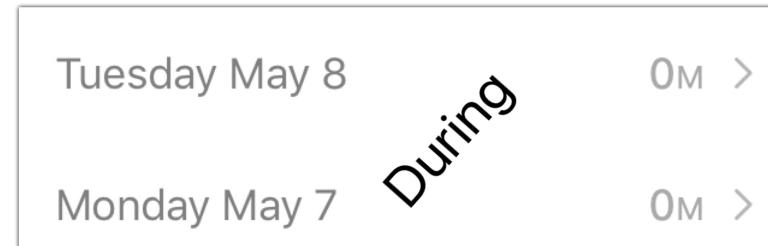
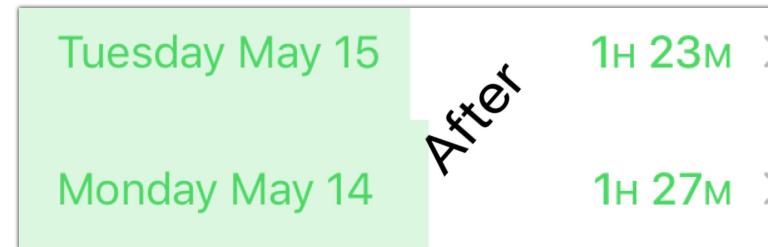
Data: First Week Flip Phone

Contributors: Bhargav Desikan & Abe Pandit

---

 The image part with relations

# Screen Time Tracking



The image part with relations

# Pilot Study

“During the three days without my phone, I found myself constantly tapping around for my phone and having heart palpitations until I realized my phone was safe and sound in a locked box. I found myself checking the time using wall clocks instead of checking the time on my phone. I don't wear watches. While doing my AP Spanish homework, I couldn't just look up a vocabulary word if the definition had slipped my mind. I had to think of a synonym or completely rewrite the phrase. My productivity levels skyrocketed, all three days I finished almost all of my homework whilst at school. Overall, I do think the absence of my phone increased my level of productivity and I was able to accomplish more.”

“The phone detox challenge was very hard and challenging through out my school day. The detox really made me realize the things I can't do without my phone. I participated four out of the five days of the challenge. My average screen time before the detox was 5 hours and 29 minutes per day. After the challenge, my screen time reduced 2 hours, to 3 hours and 44 minutes per day. One challenge that I faced was communication. It was very hard to contact my friends because I could not call them to find out where they were. Also, in some of my classes we have lots of spare time to get on our phones and because I was phoneless it forced me to be more productive and do work for other classes, which brought my grades up. Another challenge was checking my grades for my classes, but the hardest part of being with out a phone was checking the time. Although I know how to read the wall clocks in my classes, my first resort for checking the time is my phone. Apps that I missed the most was Instagram and YouTube, which was the apps that took up most of my screen time. The detox did not make me associate with different people, but it really made me focus on my work. Although the detox made me focus more on my work and be more attentive in class, I feel as if our generation revolves around phones because they are necessities throughout our everyday lives.”

Average daily screen time (hours)		
Week Before	Week After	
1	2	0.25
2	4	0
3	5.3	4
4	5.75	3.2
5	4	2.75
6	6.5	5.5
Average	4.6	2.6
% Reduction		43



The  
image  
part with  
relations

# Questions?

Suggestions?

---



The  
image  
part with  
relations

# Questions?

Suggestions?

Slide Design:

---

