

The background is a dense, grayscale collage of various newspaper clippings and articles. Some visible text includes "humanité", "CHILE", "AURORA DE CHILE", and "l'Humanité".

# **Does Labelling Opinion Articles impact its persuasiveness**

W241-2: Jay Zuniga, Armand Kok,  
Younus Ahmed and Kevin Pang

## SeaWorld Employees Place Orcas In Plastic Bags Of Water While Cleaning Tanks



# Background

# Context

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Our current environment is one of divisiveness. One of the causes for this is that identifying 'fact' is much harder with information on tv, print and online interspersing fact and opinions together, making it harder for people to distinguish them from one another.

# Hypothesis

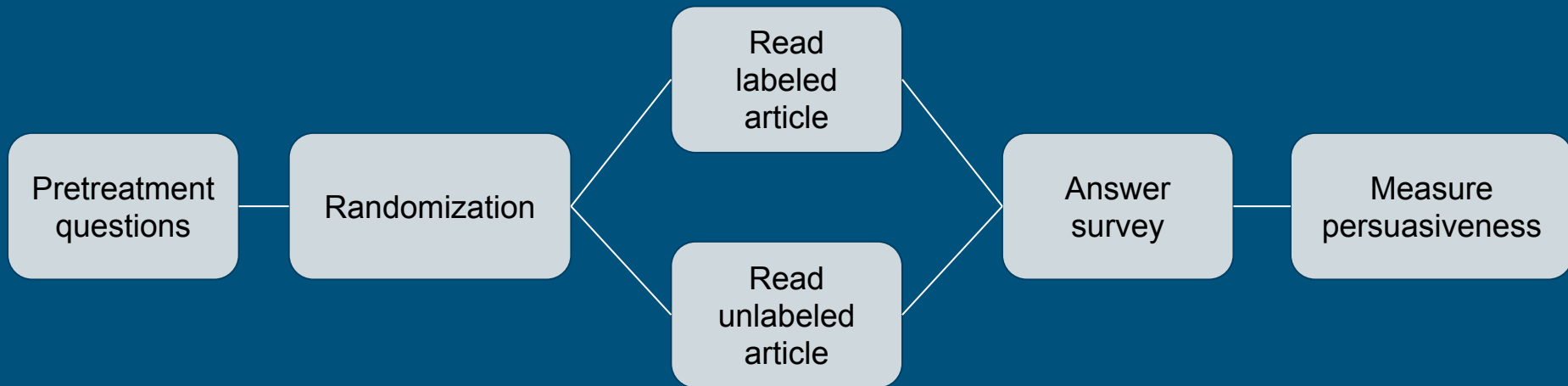


Our team would like to explore the impact of labeling on the persuasiveness of the message - specifically, does labelling an article as opinion impact (strengthen or weaken) how strongly you respond to its position.

# Experiment Design

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High Level design of the experiment. Specific details will be discussed in implementation section



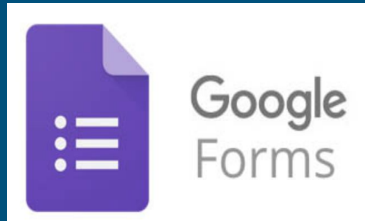
# Considerations

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Delivery



Survey  
Tool



Topic  
Type



## WOMAN ARRESTED FOR TRAINING SQUIRRELS TO ATTACK HER EX- BOYFRIEND



2M



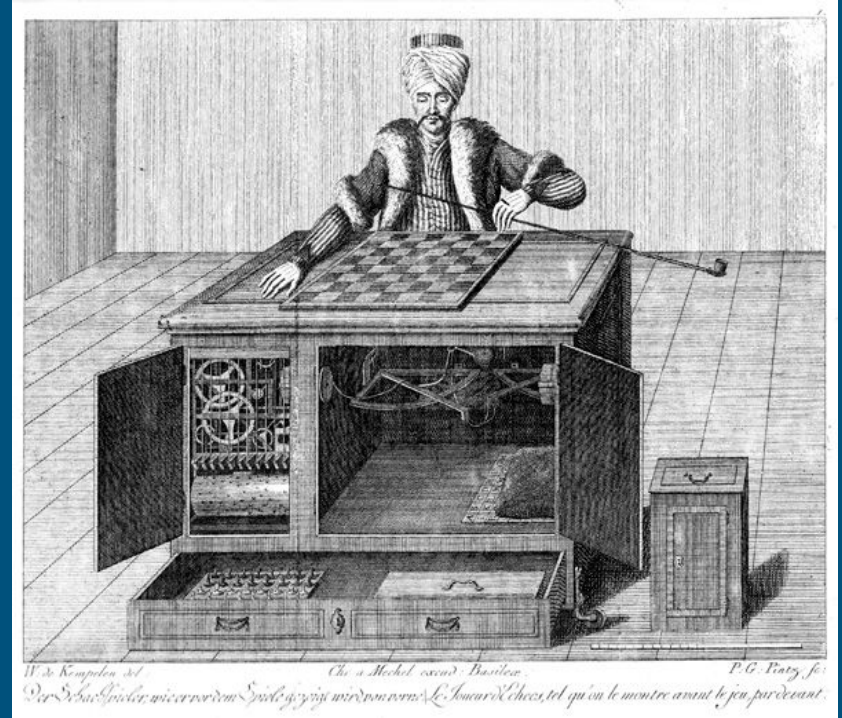
45-year old Janice Smith was arrested this morning by officers of the Detroit Police Department, for allegedly capturing numerous squirrels and training them to attack her former lover.

# Experiment Implementation



# Components

- Qualtrics
- Amazon MTurk





# MTurk

Answer Survey About An Article

Requester: Armand Kok

Reward: \$0.40 per HIT

HITs available: 0

Duration: 25 Minutes

Qualifications Required: Location is US

## HIT Preview

Survey Link Instructions (Click to expand)

Survey link: [click here](#)

Provide the survey code here:

e.g. 123456

Submit

# Survey Design

## Pre-Treatment Questions

### Political Identification:

Please tell us which American political party you identify with.

- ☐ Republican
- ☒ Democratic
- ☐ Independent
- ☐ Other

### Age Brackets:

Please let us know which bracket you are in.

- ☐ Below 18
- ☒ 18-24
- ☐ 26-35
- ☐ 36-48
- ☐ 49-59
- ☐ 59 or older

Click to write the question text



I'm not a robot



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# Treatment vs Control

## We Know How to Conquer Tuberculosis

Why aren't outbreaks in poor countries treated the same way as those in rich ones?

Sept. 26, 2018

Why aren't outbreaks in poor countries treated the same way as those in rich ones?

In 1962, the renowned epidemiologist George Comstock had a realization that would help rid modern America of one of the world's enduring scourges. Despite the advent of antibiotics, tuberculosis had remained endemic in parts of the country. Those miracle drugs were good at curing individual cases of TB, but people could pass the disease on to others long before they developed obvious symptoms, received proper diagnoses or were effectively cured.

## We Know How to Conquer Tuberculosis

Why aren't outbreaks in poor countries treated the same way as those in rich ones?

By The Editorial Board

The Editorial board represents the opinions of the board, its editor and the publisher. It is separate from the newsroom and the Op-Ed section

Sept. 26, 2018

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# Survey Design

## Outcomes

How would you grade the articles effectiveness with arguing for Anti-TB initiatives?

Not very effective

Very effective

1

2

3

4

5

☐☐☐☐☐

How likely are you to support Anti-TB initiatives given the chance after reading the article?

Not likely

Very likely

1

2

3

4

5

☐☐☐☐☐

How likely are you to recommend or share this article with others?

Not likely

Very likely

1

2

3

4

5

☐☐☐☐☐

# Data Collection Phases

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Three phases of data collection:

- Pilot run - 20 observations
- Placebo Test - 100 observations
- Primary run - 200 observations



# INFOWARS

RADIO SHOW NEWS VIDEOS STORE TOP STORIES BREAKING NEWS CON

## REPORT: NO GLOBAL WARMING FOR 215 MONTHS

So-called “pause” in global warming has baffled climate scientists

Michael Bastasch | Daily Caller - SEPTEMBER 8, 2014

Comments



# Data

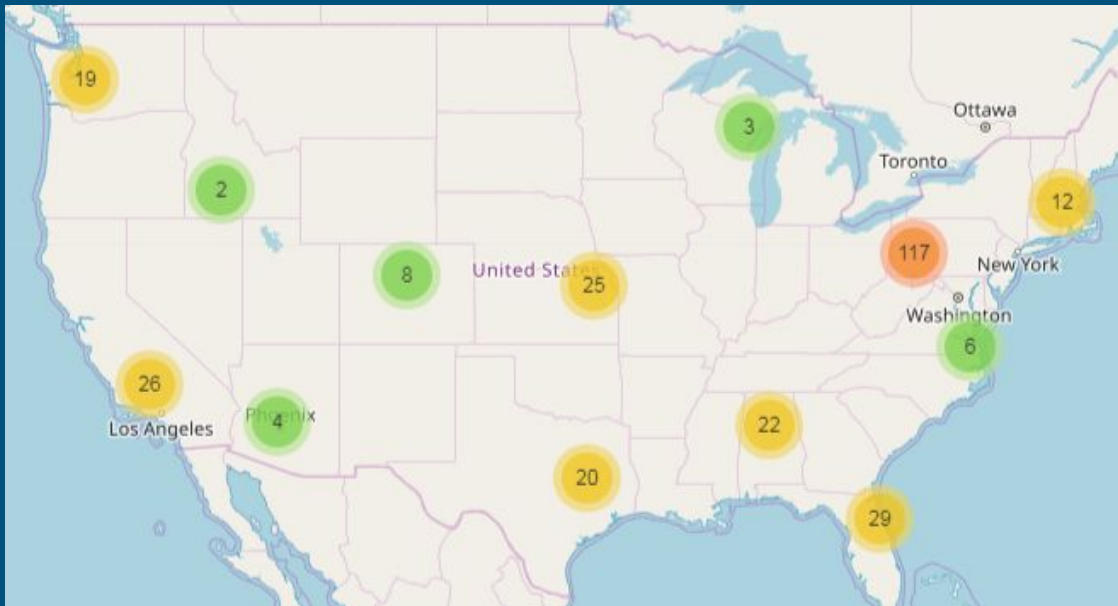
# High level data features

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OUTCOMES	COVARIATES	META / COMPREHENSION
Article Effectiveness	Gender	Location Lat / Lon
Article Factual?	Political identification	Worker ID*
Support TB?	Age	MTurk Code
Recommend Article?	Group (Treatment vs. Control)	Time To Submit Article
	Phase	Point Of Article
		Finished

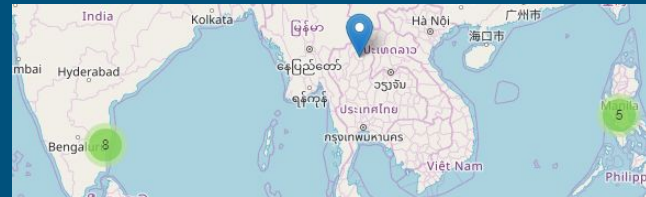


# Location Of Workers (Qualtrics)



MTurkers come from different parts of U.S

VPN Users?

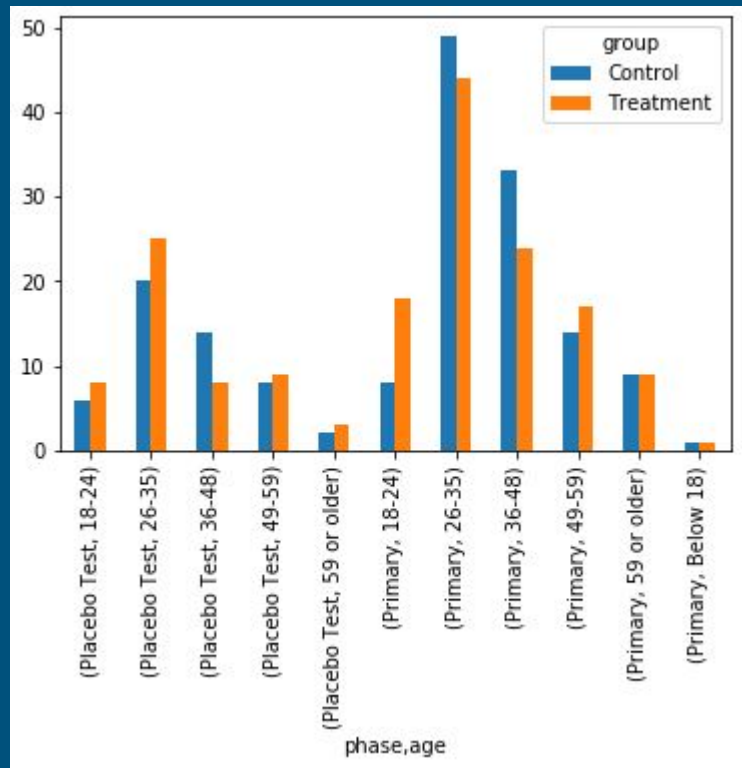


# EDA

Article Reading Time in seconds

		count	mean	std	min	25%	50%	75%	max
phase	group								
Placebo Test	Control	50	154	167	2	10	133	231	870
	Treatment	53	148	126	3	49	152	215	614
Primary	Control	106	171	145	1	66	148	245	858
	Treatment	101	173	156	2	28	161	242	735

- Compliance checks
- People who took mere seconds didn't read the article
- Comprehension may vary depending on whether the worker read the article



- Covariate is pretty balanced between treatment/control

## **BREAKING NEWS**



WASHINGTON 8.2.2017

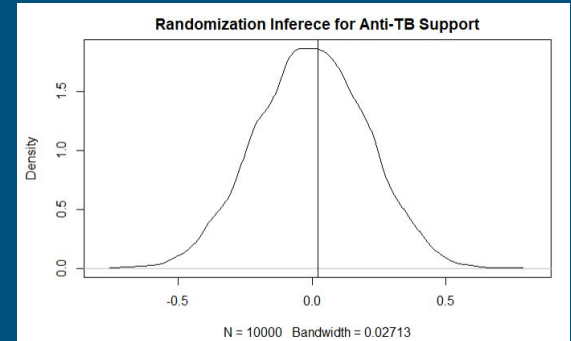
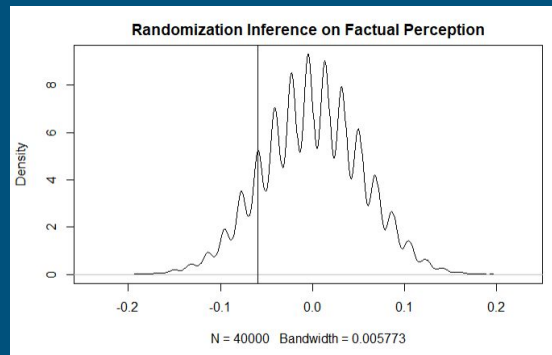
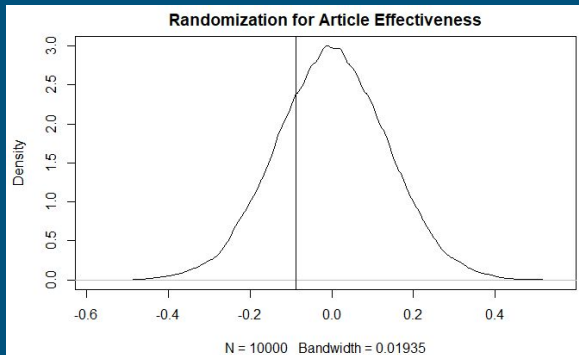
**In breaking news, Trump's personal library has burned down today.**

**The fire consumed both books and in a tragic twist he hadn't even finished coloring the second one.**

# Analysis and Conclusions

# Placebo run

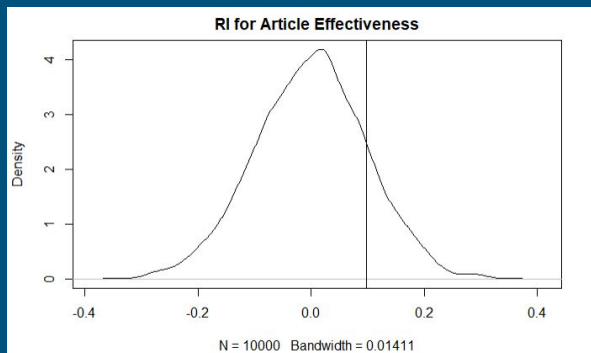
- To validate randomization process and experimental setup, the unlabeled version of the article that was intended for the control group was given to both treatment and control group.
- Results indicate, via randomization inference across all outcome variables, that there was no statistically significant difference between treatment and control. Covariates were also well-balanced between both groups.



# Article Effectiveness Outcome

-Measure of reader's perception on how effective the article was after receiving either treatment or control

ITT

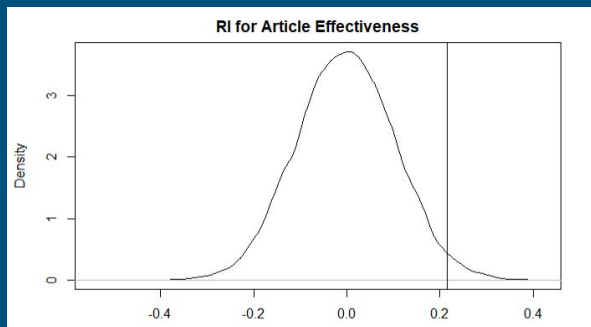


t test of coefficients:

	Estimate	Std. Error	t value	Pr(> t )
(Intercept)	4.179245	0.067070	62.3119	<2e-16 ***
groupTreatment	0.097982	0.100609	0.9739	0.3313

---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

CACE



t test of coefficients:

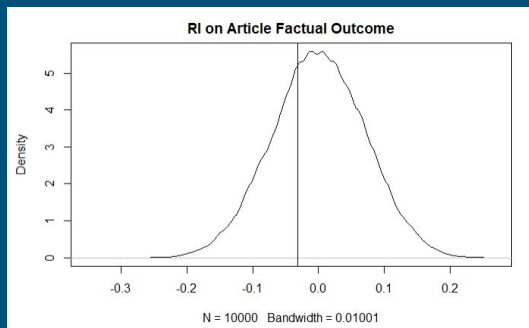
	Estimate	Std. Error	t value	Pr(> t )
(Intercept)	4.236559	0.069426	61.0231	< 2e-16 ***
groupTreatment	0.215496	0.104922	2.0539	0.04158 *

---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

# Article Factual Outcome

-Measure of reader's perception on how factual the article was after receiving either treatment or control

ITT

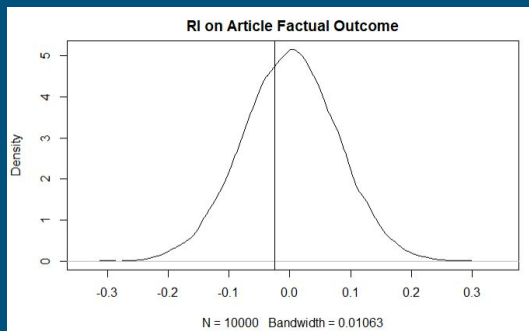


t test of coefficients:

	Estimate	Std. Error	t value	Pr(> t )	
(Intercept)	0.566038	0.048597	11.6475	<2e-16	***
groupTreatment	-0.031384	0.069818	-0.4495	0.6535	

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Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

CACE



t test of coefficients:

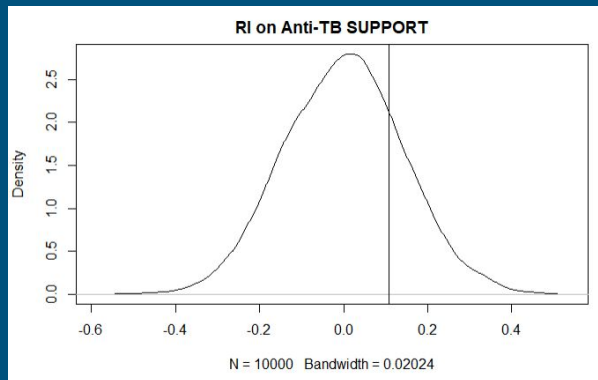
	Estimate	Std. Error	t value	Pr(> t )	
(Intercept)	0.559140	0.052043	10.7438	<2e-16	***
groupTreatment	-0.024893	0.078819	-0.3158	0.7525	

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Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

# Anti-TB Support Outcome

-Measure of reader's support for Anti-TB initiatives after receiving either the treatment or control article

ITT

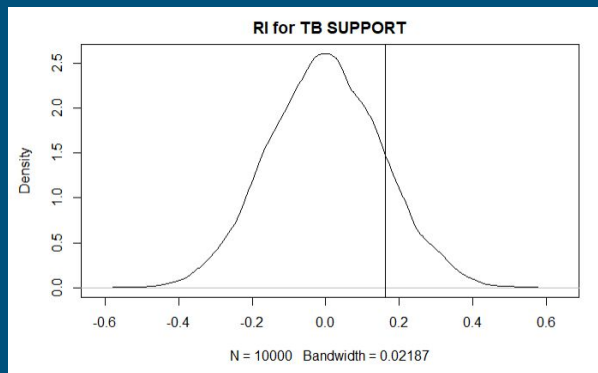


t test of coefficients:

	Estimate	Std. Error	t value	Pr(> t )
(Intercept)	3.99057	0.10124	39.4187	<2e-16 ***
groupTreatment	0.10844	0.14405	0.7528	0.4524

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Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

CACE



t test of coefficients:

	Estimate	Std. Error	t value	Pr(> t )
(Intercept)	4.04301	0.10529	38.3996	<2e-16 ***
groupTreatment	0.16247	0.15302	1.0617	0.2899

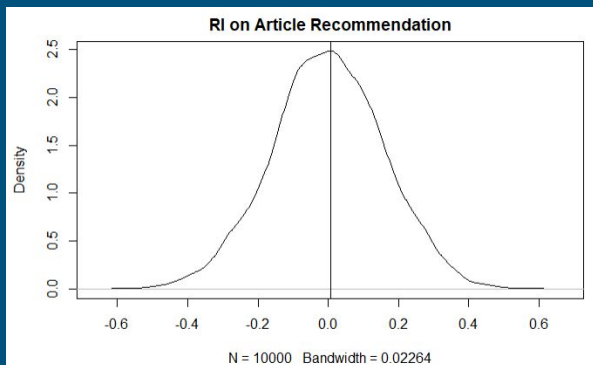
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Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1



# Article Recommendation Outcome

-Measure of reader's likelihood to recommend the article to others after receiving either the treatment or control article

ITT

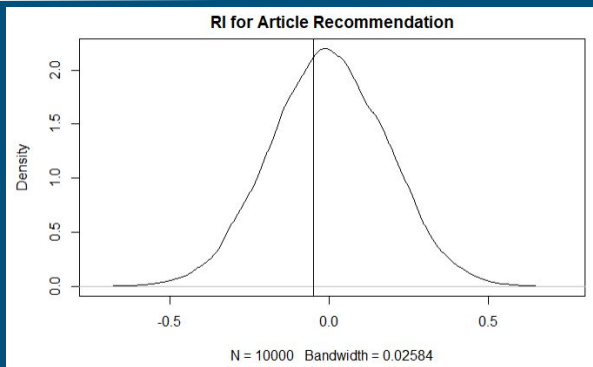


t test of coefficients:

	Estimate	Std. Error	t value	Pr(> t )
(Intercept)	3.5283019	0.1053727	33.4840	<2e-16 ***
groupTreatment	0.0063516	0.1612956	0.0394	0.9686

---  
signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

CACE



t test of coefficients:

	Estimate	Std. Error	t value	Pr(> t )
(Intercept)	3.569892	0.112328	31.7809	<2e-16 ***
groupTreatment	-0.049345	0.186147	-0.2651	0.7913

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signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

# Conclusions

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- The experiment did reveal a significant treatment effect on the article effectiveness outcome due to the presence of an “Opinion” Label, on the CACE level. No other treatment effects were significant.
- The covariate balance on both the placebo test and the experiment revealed that the randomization technique was successful and confirmed that we are producing unbiased estimates.
- Treatment effect may have been more effective if label was made more prominent on the treatment article or if the article contained less factual claims.



# Questions

