

# Belief in fake news. Echo chambers and digital citizenship Effects identifying fake news

Evidence from Chile

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# ¿Can we identify fake or real news if are related to our opinion?

[Poner fotos de los procesos políticos que se han ocurrido en Chile y la batalla por la información que la apareja]

**How does membership in echo chambers and digital citizenship affect our scores distinguishing fake news from real news?**



# ¿What do we know about the relationship between echo chambers and misinformation?

- **Information bias:** endemic consumption of information that is politically similar to one's own thinking and the distancing, rejection or impossibility of consuming information of different political thinking.
- **Spread of disinformation:** those who belong to echo chambers spread information faster, generate rumors and reach audiences that do not directly exceed those rumors.

# Hypothesis

**1) There will be less accuracy in rating fake and real news when it comes to rating political opposite's view news headlines over like-minded news headlines or control group.**

**1.a) Those who have a high level of echo chamber membership will not exhibit greater differences in the headline hit rate between like-minded and contrarian thinking, compared to the control group.**

**1.b) Those with higher levels of digital citizenship will have greater accuracy in rating false and true headlines in all conditions**

# Methods

## Sample

## Randomization

## Experimental survey

- 690 participant in a survey experiment from CESS Santiago de Chile's poll.
- Block randomization with Eco Chamber membership and levels of digital citizenship (both binaries: 1 = Hight Eco Chamber membership; 1 = High Digital Citizenship levels)
- We showed to participants 7 different news headlines, and asked them to rate them as true or false. We have three experimental conditions
- We also ask about gender, income, education and age range

### ¿How to define treatments?

Using self political positions questions

T1 (Like-Minded)	T2 (Opposite)	T3 (Control)
<p>If the person self-identifies as a leftist, he/she is given a set of right-wing headlines.</p> <p>If the person self-identifies as right-wing, he/she is given the left-wing headline set</p> <p>If the person self-identifies as centrist or non-ideological, he/she is randomized to a mixture of the left and right sets.</p>	<p>The set of headlines in line with their ideology is delivered (left, right, center and without ideology)</p>	<p>Random selection of 7 headlines from each ideology (4 falses and 3 true)</p>

### Where do news headlines come from?

We selected news headlines that were disseminated through social media and checked by independent fact-checking agencies, such as fast Check and "decodificador".

## Set of news headlines related to ideologies

Left wing related	Right wing related	Center related	Without ideology related
"Comptroller's Office authorizes controls in domiciles without authorization of the dwellers, for sanitary purposes". (Real)	"Comptroller's Office authorizes controls in domiciles without authorization of the dwellers, for sanitary purposes". (Real)	"Comptroller's Office authorizes controls in domiciles without authorization of the dwellers, for sanitary purposes". (Real)	"Comptroller's Office authorizes controls in domiciles without authorization of the dwellers, for sanitary purposes". (Real)
"'Vamos Chilenos': Almost no senior citizens will receive the benefits of the campaign led by Don Francisco [famous TV personality]." (False)	"Massive changes of address were part of electoral fraud in the election of Jorge Sharp in Valparaíso municipal election, 2016." (False)	"New law project allowing euthanasia does not contemplate that the patient may repent." (False)	"'Vamos Chilenos': Almost no senior citizens will receive the benefits of the campaign led by Don Francisco [famous TV personality]." (False)
"The patent to test Covid-19 was filed in 2015." (False)	"The patent to test Covid-19 was filed in 2015." (False)	"The patent to test Covid-19 was filed in 2015." (False)	"The patent to test Covid-19 was filed in 2015." (False)
"Sebastián Piñera owns AFP Habitat [Private mortgages company]" (False)	"Today destroying a city bus is free and there is no penalty." (False)	"Sebastián Piñera owns AFP Habitat." (False)	"Sebastián Piñera owns AFP Habitat." (False)
"Constanza Hube: 'There is no problem if a forestry company burning down a National Park, economic freedom is sacred above all else'" (False)	"INDH human rights observers arrested for carrying Molotov cocktails on 'the day of the young activist' ". (False)	It's official: the State of China now controls the monopoly of the electricity supply of 57% of Chileans". (Real)	"Congressmen who performed remote work spent more than \$165 million in transportation." (Real)
"Women fall back more than ten years in their participation in the labor market." (Real)	"Former Navy Commander, Edmundo Gonzalez: 'If they let us act, we will put an end to terrorism in 72 hours'. (Real)	Pepe Mujica: "Chile would be one of the best countries to live in and a world economic power if its citizens would unite and remove the politicians who have robbed them for years". (False)	Pepe Mujica: "Chile would be one of the best countries to live in and a world economic power if its citizens would unite and remove the politicians who have robbed them for years". (False)
"Michelle Bachelet's government built ditches in Colchane". (Real)	"Military officer who led caravan of drug traffickers arrested". (Real)	"Former Navy Commander, Edmundo Gonzalez: 'If they let us act, we will put an end to terrorism in 72 hours'. (Real)	"Michelle Bachelet's government built ditches in Colchane". (Real)

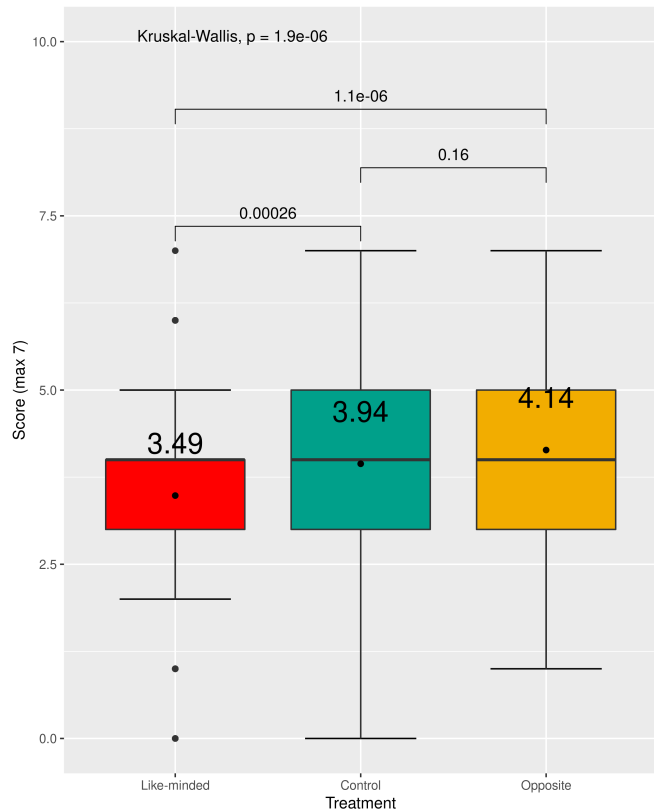


# Results



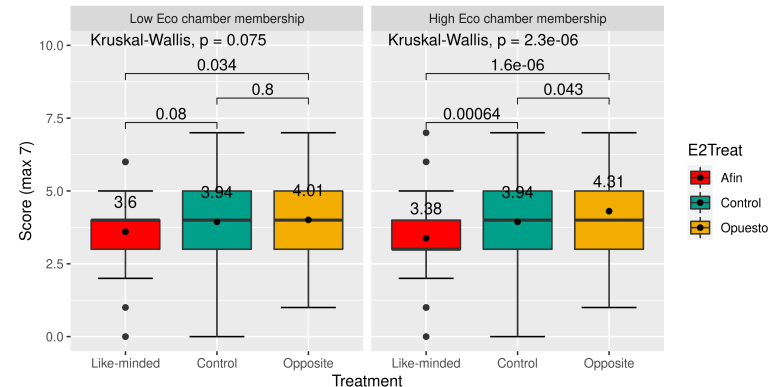
CENTRO DE  
INVESTIGACIÓN EN  
COMPLEJIDAD SOCIAL

## Experiment: Accuracy scores for true and false news headlines



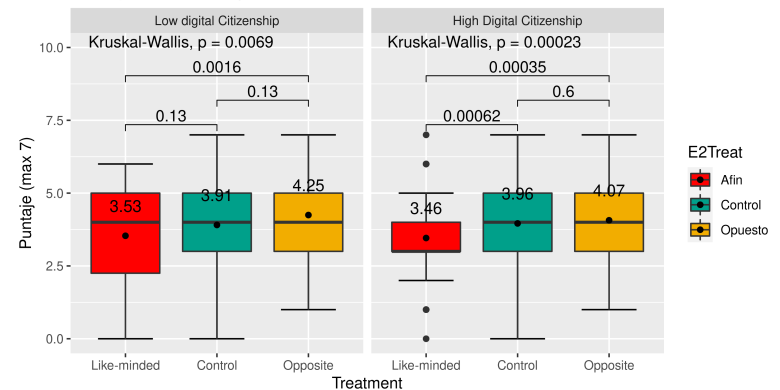
source: Own elaboration

## By Eco Chamber's membership



Source: Own elaboration

## By Digital Citizenship



Source: Own elaboration

	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>
(Intercept)	3.942***	3.932***	3.975***
	(0.089)	(0.105)	(0.119)
E2Treat_Afin	-0.456***	-0.456***	-0.457***
	(0.124)	(0.124)	(0.124)
E2Treat_Opuesto	0.197	0.199	0.196
	(0.126)	(0.127)	(0.127)
HomoIndex		0.019	0.045
		(0.102)	(0.108)
DigitIndex			-0.085
			(0.112)
Num.Obs.	690	690	690
AIC	2362.6	2364.5	2365.9
BIC	2290.7	2297.2	2302.2

# Discussion

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- Motivated skepticism (Taber & Lodge, 2006)

# ¡Thank You!

Slide created by **xaringan** package.

El chakra viene de remark.js, **knitr**, y R Markdown.

# Appendix

