The "Cazamentiras" Project
Busting Fake News in the Field

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LUISS DataLab - 9/12/2022

Fake news & (Behavioral) Economics: some history

- **Alcott and Gentzkow (2017):** **Fake news and the 2016 US Presidential Election**
  - *"Fake news arises in equilibrium because it is cheaper to provide than precise signals, because consumers cannot costlessly infer accuracy, and because **consumers may enjoy partisan news**…"*

- **Pennycook and Rand (2021):** **The Psychology of Fake News**
  - The most popular explanations put forward by the literature include:

  1. **Cognitive dissonance** (Kahan, 2013),
  2. **Lack of cognitive reflection** (Bago et al, 2020);
  3. **Rational inattention** (Lorenz-Spreen et al., 2019),
  4. **Overconfidence** (Salovic et al, 2021)
  5. **Confirmation bias** (Charness and Dave, 2017).

Our reference framework

L_0
L_1
L_2
L_3

N
P_1 P_2 P_3
B_1 B_2
C_1 C_2 C_3
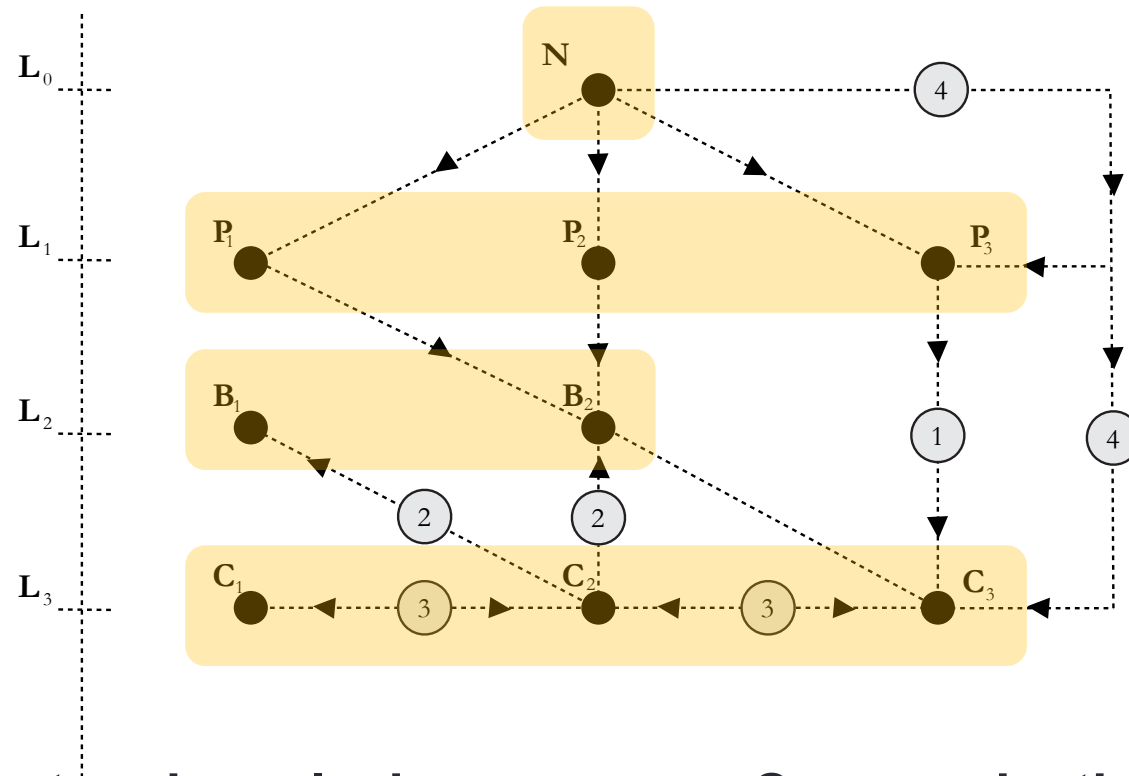
- **A 4-level network analysis**
1. **Nature**
2. **Producers**
3. **Broadcasters**
4. **Consumers**
- (Strategic) Information Transmission

- **Communication patterns**
1. **S-R (Cheap-Talk) Games**
2. **Selective exposure**
3. **Echo-chambers, Retweets […]**
4. **(Correlated) signals**

The project

- **Cazamentiras** ("LiesBusters") is a prize contest involving (undergraduate) students of the Faculty of Economics & Business Administration of the Universidad de Alicante in the Spring of 2022
- It involves **5+3** incentivized tasks distributed along 6 weeks
  1. **5 tasks** consist of assessing the degree of "truthfulness" of 12 titles/pictures found in the social media and certified by Fact Checkers
  2. **3 additional tasks** consist of surveys to distill individual characteristics
  3. **Incentives:** completing all tasks -> € 10; Winner (1/group of 20): -> € 50.

Experimental design

- **Recruitment**: we targeted 12 groups belonging to 37 classes within the Faculty. We presented the basic rules of the game to each and every group (10' standard presentation). All the interaction thereafter took place via e-mails and through the contest website

- **Communication:** participants, in the moment of enrolling, would give their informed consent to participate. They would receive notice of a new task via e-mail anticipating when (and for how how long) the task would be available for completion.

- **Tasks:** all tasks were administered as **Google quizzes**.

- **Anonymity:** all participants, at the time of enrolment, choose a **nickname** that would be used for the rest of the experiment. The presence of **financial incentives** prevents the possibility of a completely anonymous interaction.

- **Scoring.** One correct answer is worth 1 point; a void/incorrect answer is worth 0 point. At the end of the experiment, the participant with the highest number of points receives an Amazon cheque worth € 50.

- **A participation fee of € 10 (in the form of an Amazon cheque) is awarded to each participant completing all tasks.** No reward for incomplete participation.

- **SOME NUMBERS** Enrolled participants: **375**. Active participants: **232**.

Incentivized tasks

Este gráfico lo publicó en sus redes sociales el Partido Popular.

Donald Tusk, exprimer ministro de Polonia, y actual Presidente del Partido Popular Europeo, publicó esta foto en sus cuentas de Facebook y Twitter con la inscripción: "¡Solo no le digas, por favor, que endurecer las sanciones sería demasiado caro para Europa!", haciendo referencia a las sanciones a Putin debidas a la guerra en Ucrania.

Pablo Casado, exlíder del Partido Popular, afirmó en un debate electoral respecto a España que: «De cada 500.000 embarazos, 100.000 acaban en una interrupción voluntaria».

"De cada 500.000 embarazos, 100.000 acaban en una interrupción voluntaria"

Pablo Casado
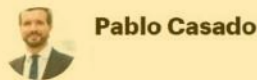
El portavoz de Ciudadanos en el Congreso, Edmundo Bal, aseguró que "se han caído del caballo y han apostado por prorrogar la vida útil de las centrales nucleares alemanas y de interrumpir el programa de cierre de las nucleares".

[En Alemania] "han apostado por prorrogar la vida útil de las centrales nucleares alemanas y de interrumpir el programa de cierra de las nucleares"

Edmundo Bal
Portavoz y diputado

19-04-22

La diputada y presidenta de las Nuevas Generaciones del Partido Popular (PP), Bea Fanjul, aseguró en el acto de su partido que "el 40% de los jóvenes está en paro, el 20% sufre fracaso escolar y el 60% ni siquiera puede irse a vivir fuera de casa de sus padres".

"Mientras el 40% de los jóvenes está en paro, el 20% sufre fracaso escolar y el 60% ni siquiera puede irse a vivir fuera de casa de sus padres"

Beatriz Álvarez Fanjul
Diputada

01-04-22

Fact-checkers

Google Fact Check Tools

Explorer
Markup Tool
APIs

Fact Check Explorer

Covid 19

Spanish

La OMS cambió la definición de pandemia justo antes del COVID-19

Maldita.es rating: Falso
No, la OMS no "cambió la definición de pandemia justo antes de empezar el COVID-19": el término oficial que se emplea es 'emergencia de salud pública de importancia internacional', vigente desde 2005

2 days ago

Pandemia

Organización Mundial de la Salud

COVID-19

Maldita.es

Snopes

Claim

Researchers at Michigan State University created transparent solar panels that have the potential to power buildings and can be retrofitted to older glass exteriors or windows.

Rating

True
About this rating

Top Fact Checks

The 'Starbucks Cup-Size Scam' Video Is an Old Internet Prank

Does Video Show Amber Heard Sniffing Cocaine at Depp v. Heard Trial?

Did Kevin Costner Say Amber Heard Entered His Trailer Naked While Filming

Newtral — Zona de verificación — Todos

Partido Popular | PSOE | Vox | Ciudadanos | Unidas Podemos | Junts per Catalunya | ERC | PSC-PSOE | En Comú Podem

FACT CHECKS | FAKES | ARTÍCULOS

"El 63,5% del empleo creado en Andalucía en el último año es femenino, 17 puntos por encima de la media nacional"

Juan Manuel Moreno
Presidente de Andalucía

Engañoso

"Llevamos 90 reales decretos leyes

81 Verdad a medias

414 Falso
1 nuevo

28 Verdadero

259 Engañoso
3 nuevos

AFP Fact Check

TOP NEWS | REGIONS | TOPICS

Russian KFC rebrands as 'Siberian Fried Chicken'?

Siberian Fried Chicken

ALTERED IMAGE

ЗАКАЗ | ВЫДАЧА

AFP

Score distribution

- The maximum score is 12x5=60.
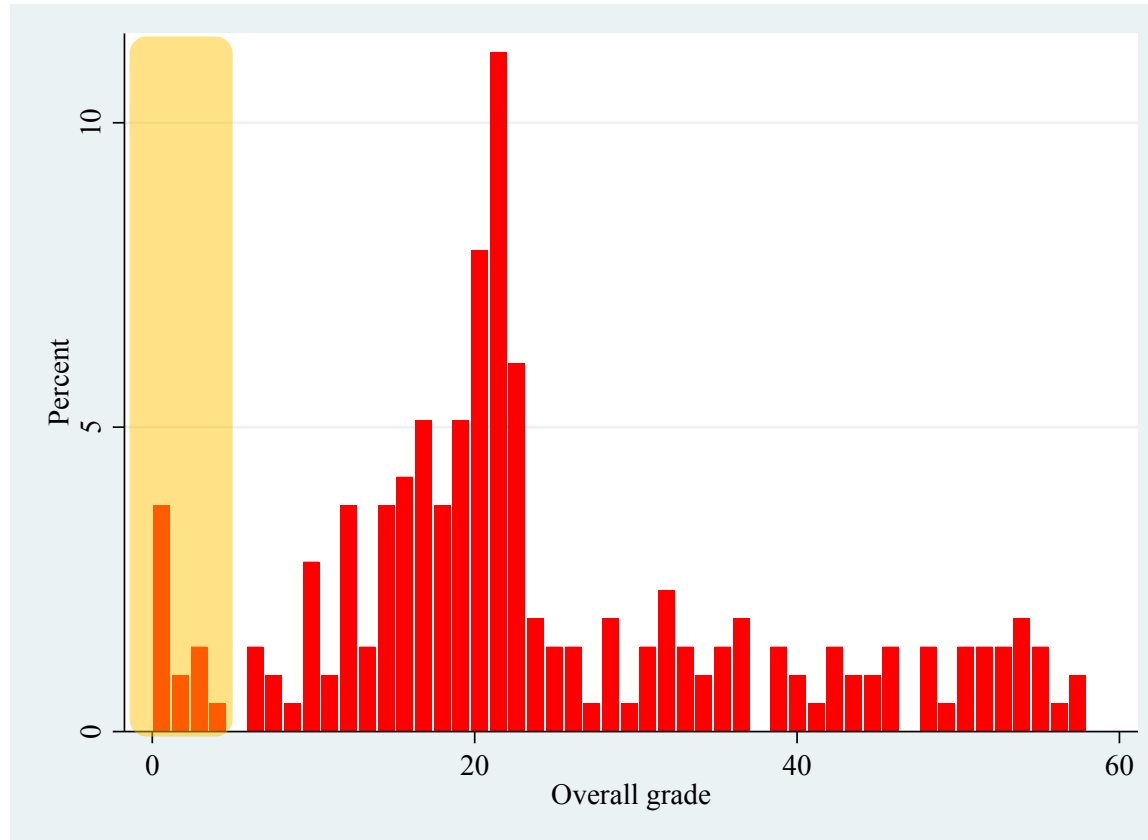
- In what follows, we shall only consider participants with a **score greater than 5** […]

Sneak preview

- Before entering into details, we summarize here our main stylized facts:

- **NOT CORRELATED**

1. Gender
2. Income/wealth
3. GPA
4. Family education background
5. Economic preferences
   - Risk preferences
   - Time preferences
6. Psychological traits
   - (Over)confidence
   - Trust

- **CORRELATED**

1. Cognitive ability (CRT, +)
2. Psychological traits:
   - Confirmation bias (-)
3. Access devices
4. Social media platforms
5. Network analysis proxies (-)
6. Political **position** (-)
7. Political **distance** (+)

GENDER, CRT & GPA

```
pwcorr score female GPA risk_id impatient CRT_CAT_1 CRT_CAT_2 if score > 5, sig
```

	score	female	GPA	risk_id	impati~t	CRT_CA~1	CRT_CA~2
score	1.0000						
female	-0.0550	1.0000					
	0.5739						
GPA	0.0631	-0.1818	1.0000				
	0.5225	0.0634					
risk_id	-0.0308	-0.1479	-0.0925	1.0000			
	0.7525	0.1284	0.3482				
impatient	0.0609	-0.1096	0.0279	0.0040	1.0000		
	0.5333	0.2609	0.7772	0.9675			
CRT_CAT_1	-0.1818	0.2360	-0.1400	-0.0770	0.0264	1.0000	
	0.0610	0.0144	0.1542	0.4303	0.7873		
CRT_CAT_2	0.1997	-0.2184	0.1539	0.0903	-0.1078	-0.8934	1.0000
	0.0392	0.0238	0.1169	0.3552	0.2690	0.0000	

Gender and (non incentivized) risk aversion

```
pwcorr score female risk_id if score>5, sig

                    score    female   risk_id

         score     1.0000


        female    -0.0550    1.0000
                   0.5739


       risk_id    -0.0308   -0.1479    1.0000
                   0.7525    0.1284
```

- No correlation also with a similar proxy of (MPL) **IMPATIENCE**

Gender & (over)confidence

- En general, dirías **que eres más inteligente** ¿de qué **% de la población** de estudiantes de la UA?

```
. tab female Conf_DUMMY, row
```
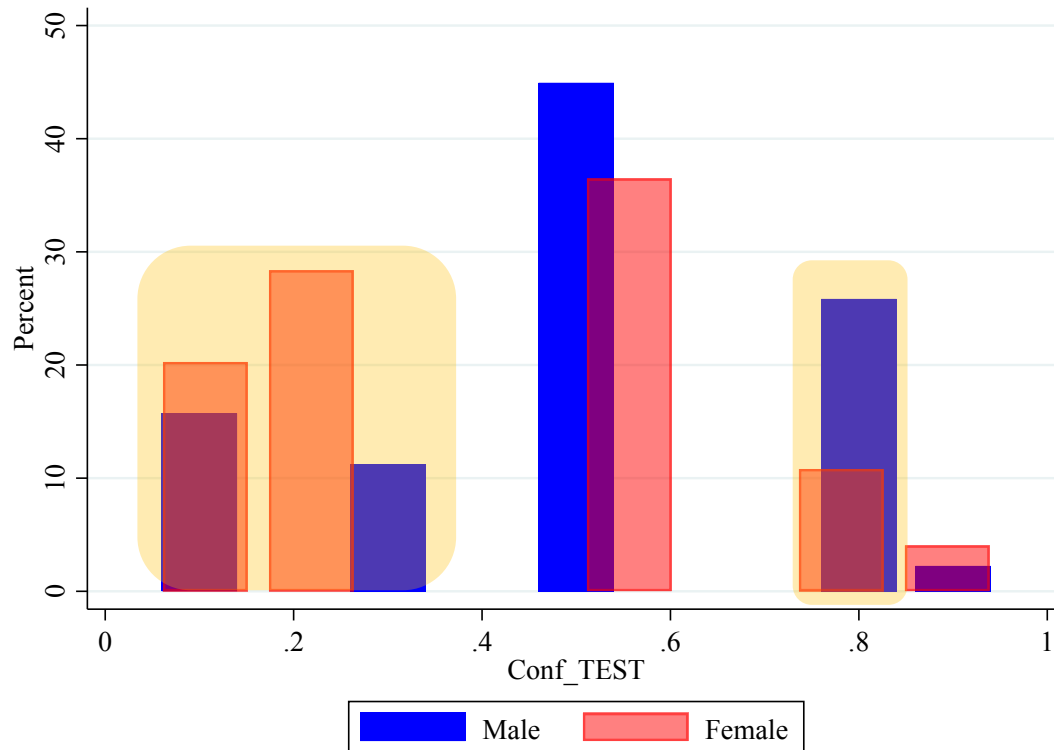
Key	
frequency	
row percentage	

	Conf_DUMMY		
female	0	1	Total
0	24	86	110
	21.82	78.18	100.00
1	36	72	108
	33.33	66.67	100.00
Total	60	158	218
	27.52	72.48	100.00

	female Conf_D~Y	
female	1.0000	
Conf_DUMMY	−0.1289	1.0000
	0.0574	

Confirmation bias

1. Confío en **los sitios web de noticias** y aplicaciones que uso regularmente

2. Confío más en la **información que leo fuera de línea**, como en un periódico impreso o una revista, que en la información que leo online.

3. Principalmente leo sitios webs de noticias y aplicaciones que **parecen compartir mis valores y opiniones**.

4. Trato de hacer un esfuerzo para ver sitios web de noticias con una **perspectiva política diferente a la mía**.

- Por favor, dinos: en general, en una escala donde 1 es **"se puede confiar en la mayoría de la gente"** y 7 es **"nunca se es lo suficiente cuidadoso tratando con la gente"**.¿dónde te colocarías?

- Cuando buscas información objetiva online, por ejemplo en motores de búsqueda como Google, ¿**qué piensas sobre la información que encuentras**?

	score	Conf_D	News_1_D	News_2_D
score	1.0000			
Conf_D	-0.0732	1.0000		
	0.3576			
News_1_D	0.0757	0.0464	1.0000	
	0.3416	0.5604		
News_2_D	0.0757	0.0464	1.0000	1.0000
	0.3416	0.5604	0.0000	
News_3_D	-0.1756	0.0920	0.2098	0.2098
	0.0263	0.2472	0.0078	0.0078
News_4_D	0.0079	0.0901	0.0784	0.0784
	0.9205	0.2571	0.3241	0.3241
trust_P_D	0.0690	-0.0624	0.2033	0.2033
	0.3860	0.4332	0.0099	0.0099
trust_N_D	0.0254	0.0339	0.2607	0.2607
	0.7563	0.6780	0.0012	0.0012

Trust and … the Confirmation Bias

1. Confío en los sitios web de noticias y aplicaciones que uso regularmente

2. Confío más en la información que leo fuera de línea, como en un periódico impreso o una revista, que en la información que leo online

3. **Principalmente leo sitios webs de noticias y aplicaciones que parecen compartir mis valores y opiniones**

4. Trato de hacer un esfuerzo para ver sitios web de noticias con una perspectiva política diferente a la mía.

|	score	News_1_D	News_2_D
score	1.0000		
News_1_D	0.0757	1.0000	
	0.3416		
News_2_D	0.0757	1.0000	1.0000
	0.3416	0.0000	
News_3_D	−0.1756	0.2098	0.2098
	0.0263	0.0078	0.0078
News_4_D	0.0079	0.0784	0.0784
	0.9205	0.3241	0.3241

Trust

trust [truhst] SHOW IPA 🔊 ☆

See synonyms for: trust / trusted / trusting / trustable on Thesaurus.com

🍎 Elementary Level

noun

1 reliance on the integrity, strength, ability, surety, etc., of a person or thing; confidence.

2 confident expectation of something; hope.

- En general, en una escala donde 1 es "**nunca se es lo suficiente cuidadoso tratando con la gente**". y 7 es "**se puede confiar en la mayoría de la gente**" ¿dónde te colocarías?
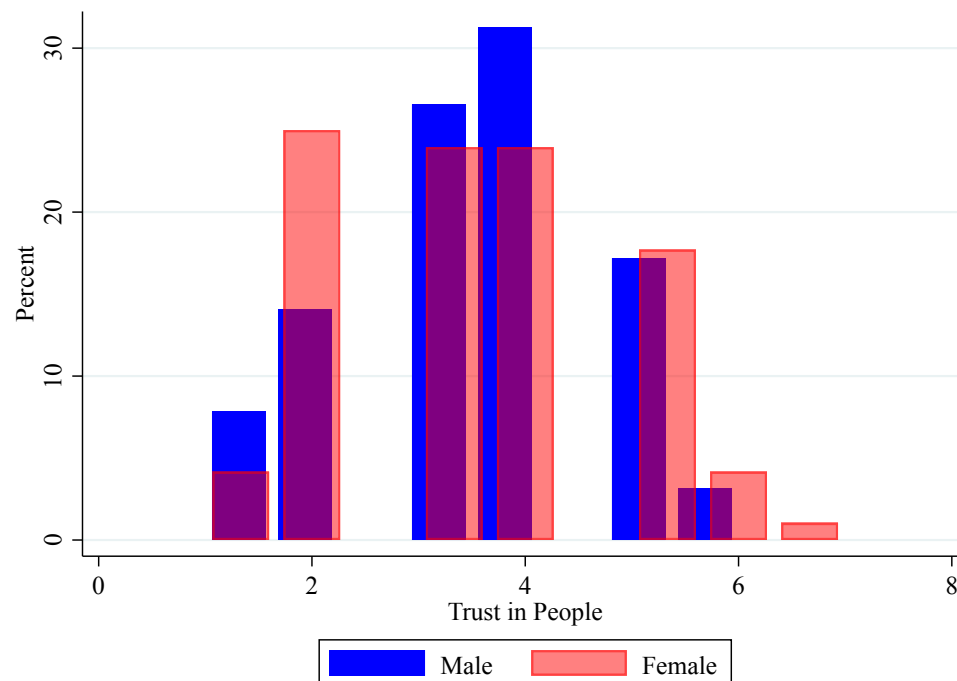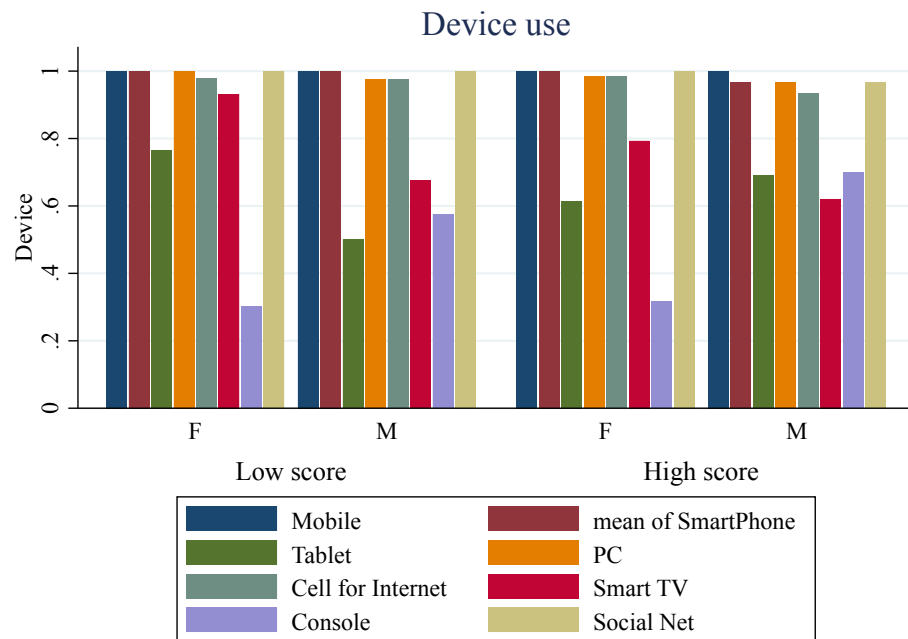

pwcorr trust_P_D trust_N_D female score, sig

	trus~P_D	trus~N_D	female	score
trust_P_D	1.0000			
trust_N_D	0.0521	1.0000		
	0.5239			
female	-0.0459	0.0244	1.0000	
	0.5640	0.7656		
score	0.0690	0.0254	-0.0851	1.0000
	0.3860	0.7563	0.2845	

Trust and … the Confirmation Bias

1. Confío en lo que mis amigos publican en las redes sociales
2. Confío en todo lo publicado en las redes sociales
3. **Principalmente leo publicaciones en las redes sociales que parecen compartir mis valores y opiniones**
4. Trato de ver en las redes sociales publicaciones de medios con una perspectiva política diferente a la mía
5. La información que veo online, depende principalmente de la gente con la que estoy conectado/a en redes sociales

	score	Trus~1_D	Trus~2_D	Trus~3_D
score	1.0000			
Trust_1_D	-0.1205	1.0000		
	0.1289			
Trust_2_D	0.0542	0.1115	1.0000	
	0.4964	0.1602		
Trust_3_D	-0.1402	0.2523	0.1128	1.0000
	0.0770	0.0013	0.1554	
Trust_4_D	0.0372	-0.0264	-0.0247	-0.0947
	0.6409	0.7407	0.7561	0.2336
Trust_5_D	-0.1030	0.1883	-0.0721	0.2991
	0.1951	0.0171	0.3650	0.0001

(Access) devices

The type of device through which you access the news has a **gender component**

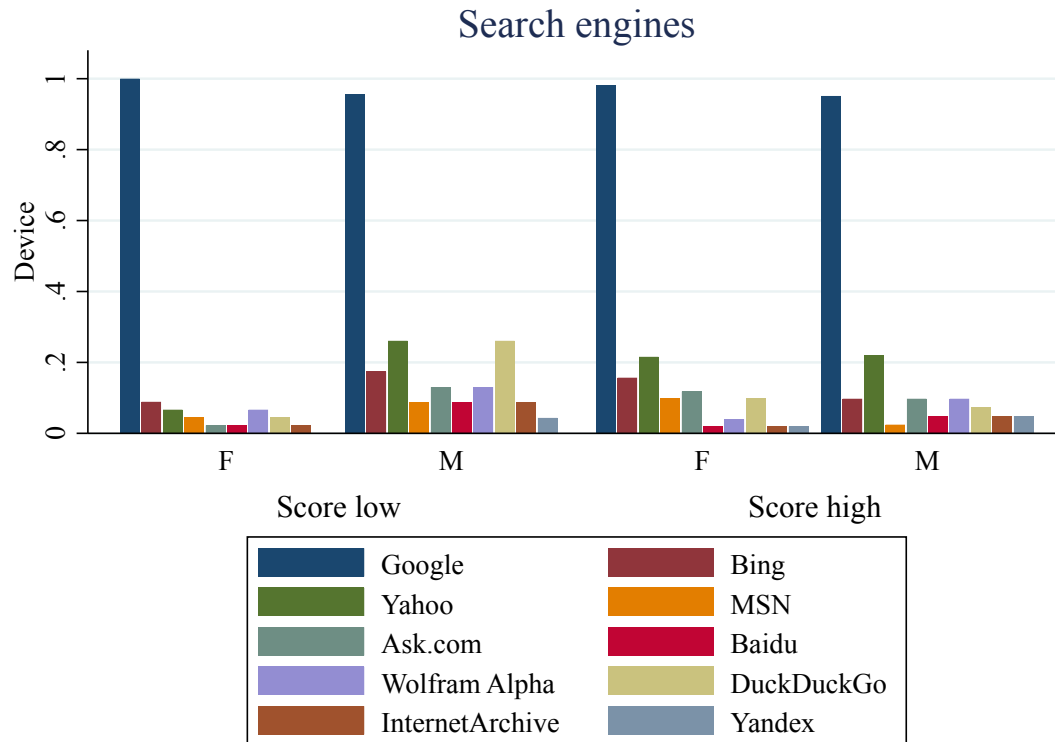The type of device through which you access the news has an impact of your ability of FN detection

Web platforms

Platform (accounts)
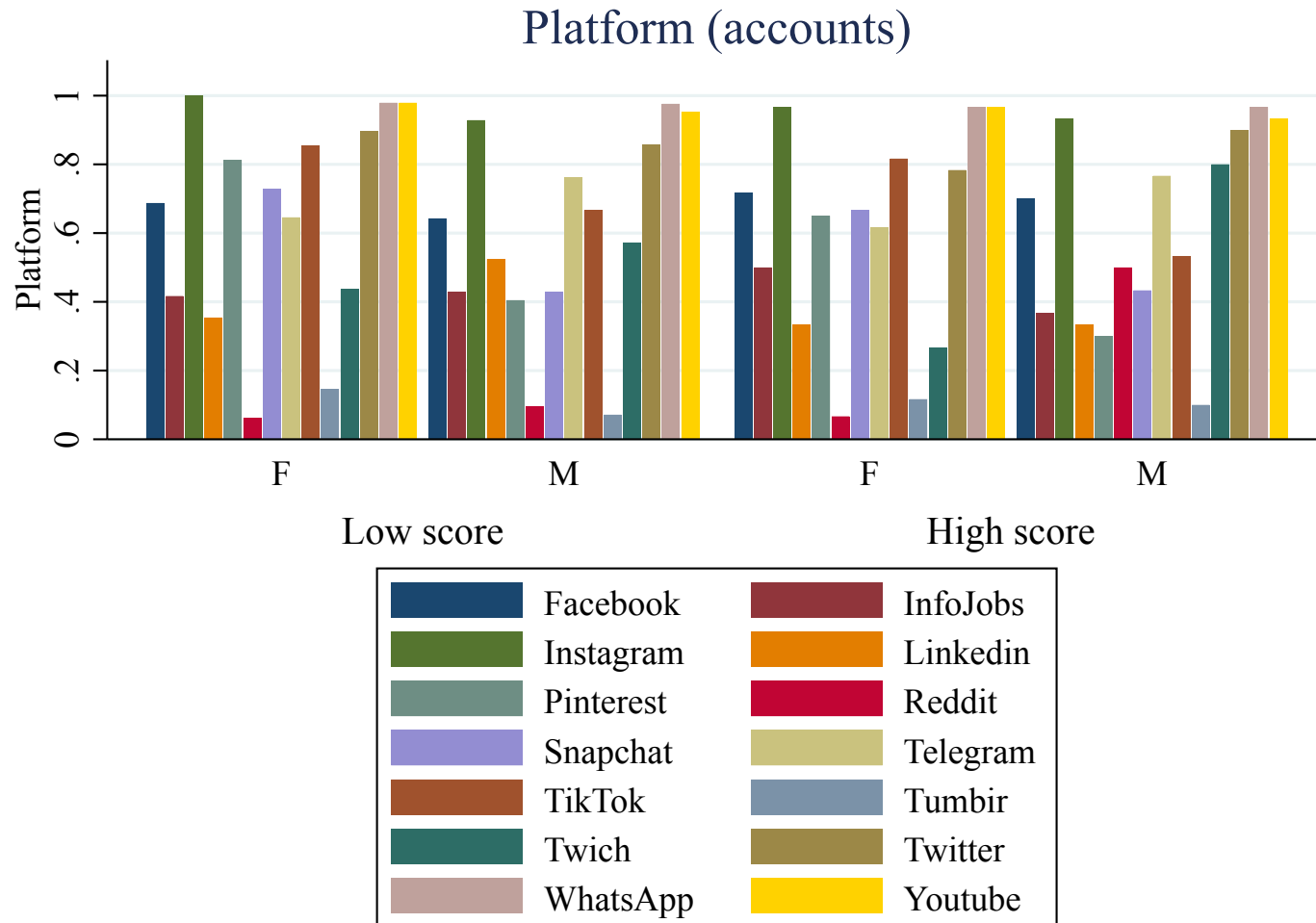
	score_6	female
score_6	1.0000	
female	0.1105	1.0000
	0.1396	
InfoJobs_D	0.1512	0.0594
	0.0428	0.4282
Instagram_D	-0.0708	0.1290
	0.3451	0.0843
Pinterest_D	-0.0488	0.3582
	0.5153	0.0000
Reddit_D	0.1699	-0.2774
	0.0226	0.0002
Snapchat_D	0.0956	0.2627
	0.2018	0.0004
Telegram_D	-0.0235	-0.1414
	0.7539	0.0583
TikTok_D	0.0013	0.2496
	0.9866	0.0007
Twich_D	-0.0755	-0.3180
	0.3136	0.0000
Twitter_D	-0.1397	-0.0572
	0.0615	0.4459

Search engines

Search engines

	score	Google_D	Bing_D	Yahoo_D	MSN_D A
score	1.0000				
Google_D	−0.1651 0.0370	1.0000			
Bing_D	0.0382 0.6314	−0.0605 0.4471	1.0000		
Yahoo_D	0.0296 0.7100	−0.0286 0.7198	0.3618 0.0000	1.0000	
MSN_D	0.1159 0.1445	−0.2894 0.0002	0.2147 0.0064	0.0796 0.3171	1.0000
.sk_com_D	0.1715 0.0302	−0.2338 0.0029	0.1505 0.0575	0.3711 0.0000	0.1942 0.0139
Baidu_D	0.0763 0.3379	−0.8112 0.0000	0.1243 0.1172	−0.0075 0.9253	0.4927 0.0000
Wolfram_Al~D	0.0729 0.3595	−0.4104 0.0000	−0.0359 0.6524	−0.0724 0.3631	0.2206 0.0051
DuckDuckGo_D	0.0539 0.4986	−0.3469 0.0000	0.1260 0.1124	0.0054 0.9459	0.3443 0.0000
InternetAr~D	0.0865 0.2766	−0.8112 0.0000	0.1243 0.1172	0.0779 0.3274	0.2208 0.0050
Yandex_D	0.1839 0.0200	−0.7436 0.0000	0.0605 0.4471	0.1325 0.0949	0.1240 0.1181
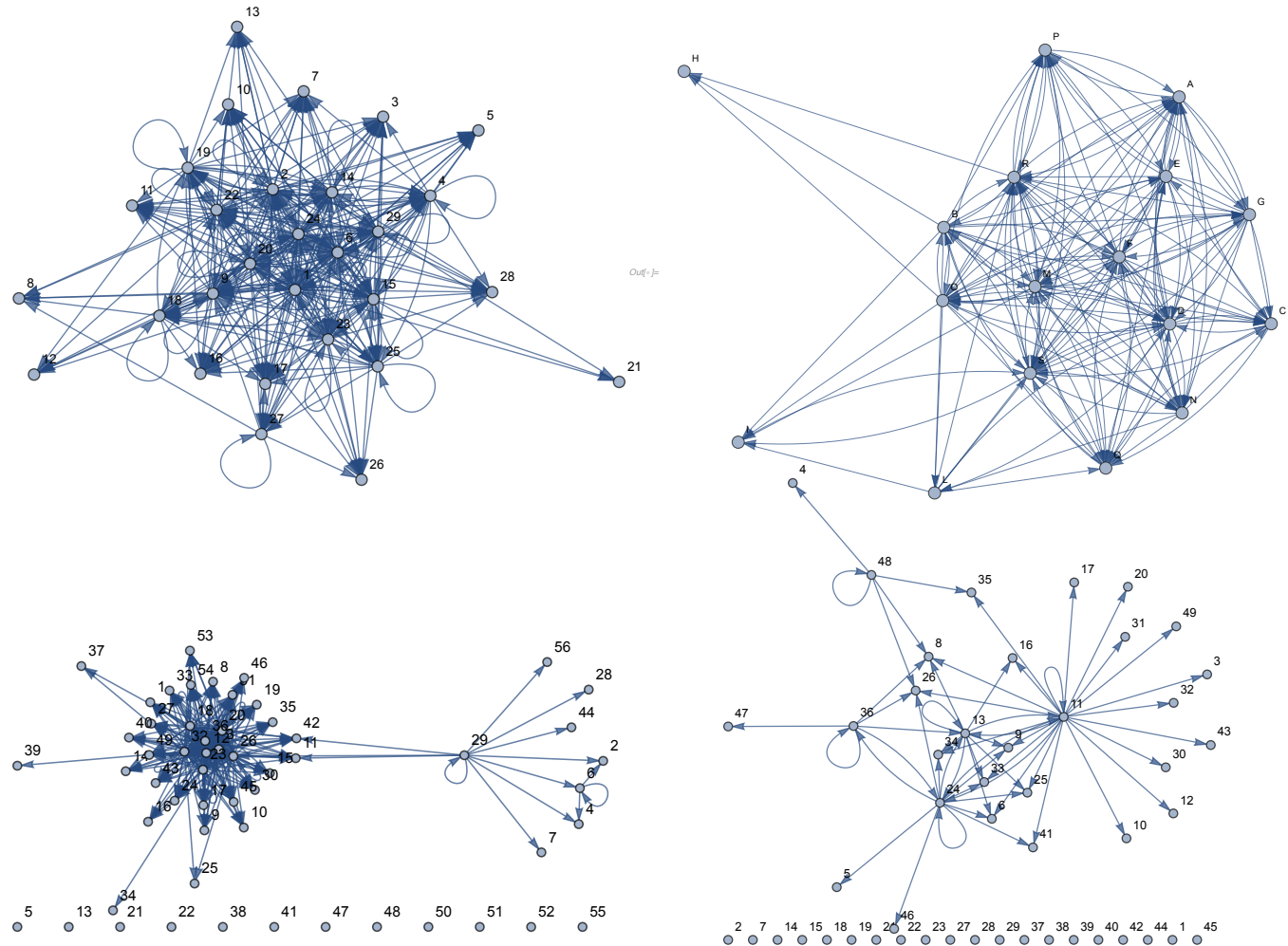
Network analysis

- One of the tasks of the debriefing section was to elicit participants' **social network** within their undergraduate class
- This provides a **directed graph** for each class that we can integrate in the analysis

Network analysis

	Score	OutDeg~e	InDegree	Degree	BC
Score	1.0000				
OutDegree	-0.2357 0.0723	1.0000			
InDegree	-0.0361 0.7860	0.5022 0.0001	1.0000		
Degree	-0.2173 0.0984	0.9869 0.0000	0.6353 0.0000	1.0000	
BC	-0.2707 0.0381	0.7656 0.0000	0.3779 0.0032	0.7543 0.0000	1.0000

- Here we report the statistical corrlations between participants' score and some classic individual measures used in network analysis (in/out/degree, betweenness centrality …)
- Our preliminary findings seem to show that this correlation is (if it exists) is **negative** […]

Exploring causality

ans_TRUE	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
partyNEW	-.0357585	.0127252	-2.81	0.005	-.0606995	-.0108174
Religion_1	.0150857	.0151851	0.99	0.320	-.0146766	.0448481
Religion_2	-.0215385	.0196153	-1.10	0.272	-.0599838	.0169068
Politics_1	.018623	.0127334	1.46	0.144	-.0063341	.04358
Politics_2	-.0145766	.0158363	-0.92	0.357	-.0456151	.0164619
SuperDiff	.0096511	.0055274	1.75	0.081	-.0011824	.0204845
CRT_CAT						
1	.0134457	.0705923	0.19	0.849	-.1249126	.1518039
2	.142166	.069337	2.05	0.040	.006268	.278064
Vaccine_Q	-.0354634	.0139641	-2.54	0.011	-.0628325	-.0080944
GlobalW_Q	.0399657	.0165137	2.42	0.016	.0075994	.072332
female	-.0350768	.038409	-0.91	0.361	-.1103571	.0402034
_cons	.4457715	.1562248	2.85	0.004	.1395765	.7519666
sigma_u	.21389596					
sigma_e	.43902768					
rho	.1918327	(fraction of variance due to u_i)				

- A (panel-data, random effect) LPM where the dependent variable is **ans_**TRUE, a binary index, positive for every correct answer
- **partyNEW** is self-reported political placement into a left(0)-right(7) spectrum. **SuperDiff** is the distance between the position of the politician and the position of the respondent
- **Vaccine_Q** and **GlobalW_Q** are proxies of respondents' positions on these trending topics

Where do we go from here […]

- **Critical thinking** as a **vaccine** in the **war** against dis/misinformation […]

- The keyword: **ENGAGEMENT**

- **Incentives** and **credibility** of the outcome (i.e., payment) mechanism

- **Support** from the University

- Privacy, anonymity, voluntary participation and **external validity**

- Moving more in the **field** (using **real platforms**, such as Twitter)

- **Retweet** Experiments

- **Interaction/Synergies** with (LUISS) School of Journalism / Media Platforms

¡Thank You!

LAboratory for Theoretical
and EXperimental Economics
Universidad de Alicante
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