INSTITUTE
OF ECONOMICS

Scuola Superiore
Sant'Anna

LEM | Laboratory of Economics and Management

Institute of Economics
Scuola Superiore Sant'Anna

Piazza Martiri della Libertà, 33 - 56127 Pisa, Italy
ph. +39 050 88.33.43
institute.economics@sssup.it

LEM
WORKING PAPER SERIES

The Effect of Lobbies' Narratives on Academics' Perceptions of Scientific Publishing: An Information Provision Experiment

Giulia Rossello [a,b]
Arianna Martinelli [a]

[a] Institute of Economics and EMbeDS, Scuola Superiore Sant'Anna, Pisa, Italy.
[b] UNU-MERIT, Maastricht University, Maastricht, the Netherlands.

2023/14 **March 2023**
ISSN(ONLINE) 2284-0400

The Effect of Lobbies' Narratives on Academics' Perceptions of Scientific Publishing: An Information Provision Experiment*

Giulia Rossello[1,2] and Arianna Martinelli[1]

[1]Istituto di Economia Scuola Superiore Sant'Anna, Martiri della Libertà 33 56127 Pisa, Italy
[2]UNU-MERIT Maastricht University, Boschstraat 24 6211 AX Maastricht, the Netherlands

March 29, 2023

Abstract

This paper presents experimental evidence on the impact of opposite copyright lobbies' narratives on scholars' views toward the publishing system. We conduct the empirical analysis by running a large-scale information provision experiment on a representative population of European scholars. Scholars were individually randomized into a control group or one of two promotional videos presenting opposite lobbying interests. The first video presents the publisher's narrative, featuring publishers as innovative firms and the guardians of ethics and scientific advance. While the second presents copyright activists' narrative featuring publishers as greedy and unethical. We document scholars' general discontent towards the publishing system. However, both lobbyist narratives change perceptions towards their cause. Overall, publishers' lobbyist information has a slightly smaller persuasive effect, linked to a small part of the population that exhibits a strong emotional reaction. Additional information is accompanied by a slight increase in the probability of taking the action of being informed, especially when we control for the scholar's quality.

JEL codes: D83, I23, O34,

Keywords: Scientific Publishers, Academics' Perception, Information Provision Experiment, Copyright and Knowledge Diffusion.

*Financial support was provided through the European Commission H2020 project ReCreating Europe under the grant agreement No 870626.

1 Introduction

Corporate lobbies and advocacy groups influence modern democracy with partisan information. The phenomenon is extensive. Registered lobbies are more than 13,000 in Washington, spending 9 billion dollars annually in lobbying activities.[1] [2] While lobbies in the transparency register in Europe are 12,540 in 2023 and have grown by 15% since 2016.[3] Given the pervasiveness of lobbies' information, economists have examined how lobbies' information affects decision-making (Olson, 1965; Bertrand et al., 2020, 2021). However, lobbies' persuasion attempt goes beyond politics, providing narratives and partisan information to affect public opinion (Bertrand et al., 2021). Recent literature examined how partisan information affects beliefs in the general population by looking at the persuasion that employs quantitative (Alesina et al., 2018) or didascalic information (Colonnelli et al., 2021). However, the role of narratives is mostly unexplored (Haaland et al., 2020), disregarding the type of persuasion which employs empathy and emotions. Existing research on narratives, conducted in developing contexts, found that narratives highly affect aspirations and socio-economic outcomes (Riley, 2022; Bernard et al., 2014; Banerjee et al., 2019), suggesting that narratives might have an important role in changing perception. However, it is still unknown whether lobbies' narratives affect perception. On the one hand, research on marketing shows that narratives in advertisements persuade consumers to like or buy a product (Rodgers et al., 2014; Scott Armstrong, 2011), but, on the other hand, lobbies' narratives might be perceived as a non-credible source of information when individuals are aware of their interests and, thus, ineffective in changing beliefs about a broader issue (Haaland et al., 2020; Coibion et al., 2020).

While interest groups may have expertise on topics of direct relevance to them, they

[1] Brad Plumer, 2011, Washington Post, "Corporate lobbying is a very exclusive club", available at https://www.washingtonpost.com/blogs/ezra-klein/post/corporate-lobbying-is-a-very-exclusive-club/2011/11/08/gIQAPLln0M_blog.html. Accessed February, 2023

[2] Lee Fang, 2014, The Nation, "Where Have All the Lobbyists Gone? On paper, the influence-peddling business is drying up. But lobbying money is flooding into Washington, DC, like never before. What's going on?", available at https://www.thenation.com/article/archive/shadow-lobbying-complex/. Accessed in February 2023.

[3] Available at https://www.europarl.europa.eu/news/en/headlines/eu-affairs/20180108STO91215/transparency-register-who-is-lobbying-the-eu-infographic. Accessed February 2023.

might present biased information to promote their self-interests (Bertrand et al., 2021). Therefore, lobbies' persuasion attempts are often worrisome since their self-interest might interfere with the public one. Academic publishing is an interesting sector where opposing lobbies influence future directions (such as the Open Science transition). While it is clear that academic publishers are more than passive printers of research articles, the public debate about them is polarized by contrasting lobbies' narratives. On the one hand, copyright activists represent the advocacy groups leading the Open Science transition and advocating for a revision of copyright law. On the other hand, publishers often engage in anti-open access lobbying to maintain their role in communicating scientific results.[4]

The potential influence of copyright lobbies' narratives in shaping the views of academics about the publishing system interests society enlarge. The scientific publishing system affects knowledge production and diffusion, having consequences beyond the work of researchers. Publishers decide how to communicate research results, who can access them, and how. Publishers' copyright might limit access to new scientific knowledge reducing practitioners' abilities (outside academia) to follow new discoveries. Constraints in accessing new knowledge might reduce the quality of physicians' healthcare or slow the development of cutting-edge technologies (Bendezú-Quispe et al., 2016; Bohannon, 2016). Publishers' algorithms and metrics indicators determine the order of records shown in bibliography search, decide how many pages can be web-scraped on their repositories, and inform university boards about the quality of departments and colleagues. These actions, and many more, involve publishers' decisions, potentially directing scientific discoveries and generating the academic lead.

In this paper, we test the persuasiveness of lobbies' narratives. We show experimental evidence on the effect of opposing narratives of copyright lobbies on scholars' views about the academic publishing system. Scholars are knowledgeable about the publishing system, directly involved in it, and aware of lobbies' interests. Therefore, they can either empathize or consider copyright lobbies' narratives non-credible, making it hard to predict persuasion. We randomize

[4]Jon Tennant, 2018, The Guardian, "Elsevier are corrupting open science in Europe", available at `https://www.theguardian.com/science/political-science/2018/jun/29/elsevier-are-corrupting-open-science-in-europe`. Accessed February 2023

2420 scholars working in European Universities to either a control group, receiving salience exposure on the topic of copyright in academia, or to one of the two short-video, providing either a publisher's or a copyright activist's narrative. To be sure we present the real copyright lobbies' narrative we use one public advertisement of Elsevier, for the publishers' narrative and its counter-advertise, made by #FixCopyright, promoting a boycott against Elsevier.[5] In the videos, the publisher's narrative features his activity as innovative, supportive of the scientific community, and fundamental to the integrity of science fighting bigotry, censorship, and frauds. In contrast, the video of copyright activists' narrative presents their activity as an act of civil resistance representing researchers' interests. At the same time, it features publishers as immoral oligopolies making excessive profits from journal fees, preventing knowledge diffusion, and harming the scientific communities by restricting their research activity and exploiting their free labour.

Our experiment testifies how lobbies' narratives might affect scholars' thoughts about the publishing system. Scholars are very discontent about the publishing system, but both lobbies' narratives are compelling. More precisely, scholars perceive publishers 2.9% less unethical when they are exposed to a publisher's narrative. However, it does not affect their thoughts about copyright-violating platforms or referee compensation. About emotions, the publisher's narrative increases disgust by 13% and anger by 3%. However, it mildly decreases sadness and indifference by 3% and 7%. Additionally, the publisher's narrative does not affect the action of being informed. In contrast, the copyright activist's narrative affects the perception of pirate platforms but does not affect their perception of publishers or referee compensation. The narrative of the copyright activist reduced the perception that Sci-Hub is illegal by 3.5%. In terms of emotions and action, the negative framing of publishers decreases indifference by 34% and raises negative emotions of anger (+13%), disgust (+9%), and sadness (+18%). This is accompanied by a slight increase in the probability of taking the action of being informed, especially when we control for the scholar's quality. Additionally, we find that a small part of the population reacts emotionally and backfires when exposed to the publisher's narrative. This

[5]See their twitter page `https://twitter.com/fixit_eu`. Additional information of their activities are available `https://edri.org/about-us/who-we-are/` and `https://saveyourinternet.eu/?noredirect=true#impact`; Accessed February 2023

becomes more evident when we control for the researcher's quality.

The academic publishing market is oligopolistic. The largest company, Reed-Elsevier, covers 25% of the whole market [6] and in 2019 made revenues of 2.6 Billion Dollars with an operating profit margin of almost 40% (Lewis, 2017); [7] As in most concentrated markets, the lobbying activities are vibrant, covering both corporate lobbies, promoting firms' interests, and advocacy groups (often) opposing them. In the case of academic publishing, publishers spend a lot of money on public campaigns to diffuse their narrative to persuade the scientific community. To a lesser extent, copyright activists also put effort and money into contrasting publishers' lobbying activities with petitions, counter-advertising, and social media campaigns. Our experiment demonstrates that copyright lobbies' narratives persuade the scientific community. However, we find that the narrative of copyright activists has a slightly larger effect. This finding relates to the target's characteristics and the empathy mechanism. Considering the target, academics are highly argumentative and informed agents, potentially hard to persuade by lobbies. On the other hand, publishers might also be less capable of generating identification and empathy with the scientific community compared to copyright activists. Public awareness campaigns of copyright activists are more able to speak to this community. Our results shed light on the persuasive potential of narratives in shaping perception. In particular, our contribution shows that lobbies' narratives are also persuasive, irrespectively that their apparent interests are known by their target. Our research is a first attempt to examine the role of lobbies' narratives in shaping beliefs.

2 Information Provision Experiments

Economists' interest in persuasion stems from the long tradition of studying how agents' beliefs form and evolve given available information and market and non-market interaction (DellaVigna and Gentzkow, 2010). To build our experiment, we consider the recent literature study-

[6] https://en.wikipedia.org/wiki/Elsevier; last access July 2022.

[7] To give a comparison Alphabet (Google) has profit margins of 28%. https://www.macrotrends.net/stocks/charts/GOOG/alphabet/profit-margins, accessed July 2022

ing the effect of information provision experiments providing partisan information (Colonnelli et al., 2021). This literature often uses quantitative information (such as government statistics or probabilities) (Alesina et al., 2018) or general educational content Colonnelli et al. (2021). The novelty of our work is in testing lobbies' narratives as a specific type of information which, as underlined in Haaland et al. (2020), was not investigated before. A narrative is a qualitative type of information, a way of explaining or understanding events, that often relies on anecdotes, stories, and suggestions. Narratives are often informal ways to generate empathy and identification, which is potentially highly effective. However, since lobbies are known to advocate for specific interests, their narratives might not be convincing.

We use two real-world narratives contained in public advertisement campaigns as treatment. This approach has two main advantages. First, it ensures that the narrative of the interest group and the persuasion attempt is genuine. To our knowledge, only two studies use a video narrative as an information provision Riley (2022); Bernard et al. (2014). However, our study more broadly connects to the growing economic literature examining how media affects beliefs and behaviours (DellaVigna and Kaplan, 2007; Ferrara et al., 2012; Aubrey et al., 2014; Kearney and Levine, 2015; Banerjee et al., 2019; Bursztyn et al., 2020).

Second, our method reduced the costs for researchers since they do not have to create ad-hoc videos. Its cost-effectiveness was also described by Riley (2022). Like us, she uses a video not designed for the intervention. She used an inspiring movie featuring a Female of poor background excelling in math as an inspiring role model. Her results on school attainment were comparable to those of more complex and ad-hoc designs, highlighting the persuasive potential of genuine video narratives.

3 Methods and Data

This section describes the data collection strategy, the survey structure, and the measures we used. After, we explain the details of our experiment and our econometric model.

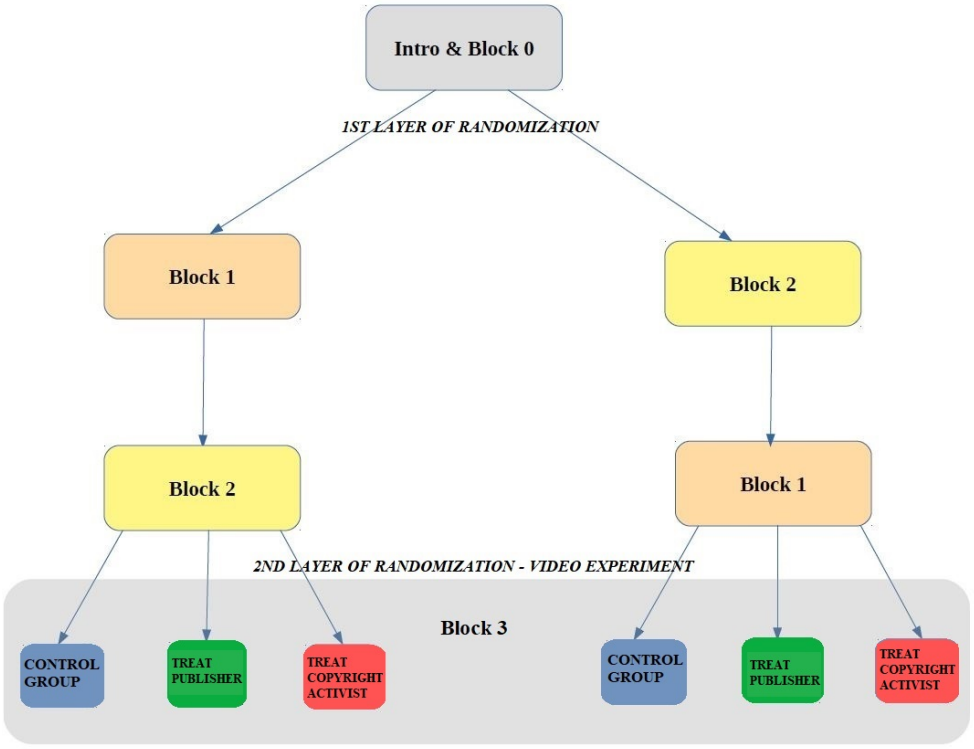
3.1 Data Collection

We collected experimental survey data between June and October 2021. We designed and distributed our survey using an online platform. To be representative of European scholars working at top universities, we stratify the collection of emails as follows. We selected 6 European countries which account for the different European university systems: Germany (Centre-European), Italy (Souther-European), The Netherlands and Sweden (Northern-European), Hungary (Eastern-European), and Ireland (Anglo-Saxon System). We selected the top 5 universities in each country following the 2021 Times Higher Education (THE) World University Ranking. We web-scrapped over 19700 institutional webpages of those 30 universities, collecting 104000 email addresses. We collected department-team-specific webpages' URLs and created page-specific web-scraping codes when necessary. Our supervised semi-automatic web-scraping algorithm ensures that we send our survey to the entire population in the target institutions. Our method is unique since past surveys on scholars rely on emails collected from articles in Web of Science (WOS) or SCOPUS or those provided by national funding agencies. In contrast, our email collection strategy does not suffer from the well-known "publication bias" and the "language bias" of those types of samples. Our sample includes non-research active academics, it covers all fields (e.g. scholars in humanities often publish works non-indexed in WOS), all types of job contracts (e.g. part-time, contract professors, teaching contracts, emeritus), and types of personnel (e.g. administrative staff, librarians, technicians, PhD students, Post-Docs).[8] We collected 2420 responses, and in Table 1, column 1, we show summary statistics of the whole sample. 38% of our sample are Female, 18% have a Foreign nationality, 54% are faculty members, the average age is 44 years old, and 74% Published at least one article indexed in SCOPUS. Concerning the scientific disciplines, 42% of respondents are in Social Sciences and Humanities, 29% are in Physical Sciences and Engineering, 18% are in Life Sciences, and the remaining 11% work in cross-domain disciplines.

[8]We should remark that we had oversampled our population. We could not identify and eliminate the purely administrative staff non-involved in copyright-related research or teaching. We had a filter-out option for the administrative personnel. However, most of them did not enter the survey in the first place. In Europe, the ratio between administrative and academic staff is between 1:1 and 2:1. Therefore, it is likely that more than half of our emails have been sent to them.

3.2 Survey Structure and Measures

Figure 1: Experimental Design



Note: This figure illustrates the experimental design, including the randomization layers. Block 0 introduces the survey and presents questions on demographic characteristics. Block 1 asks about scholars' perceptions and knowledge of copyright law and teaching and research exceptions. Block 2 focuses on academic piracy towards publishers (use of Sci-Hub). Block 3 randomly assigns respondents to three groups and asks our 4 main questions. The 3 groups are: the control group, the treatment with the publisher' narrative, and the treatment with the copyright activist's narrative.

Most of our questionnaire is about the knowledge and perception of copyright and digital piracy related to the work of academics. We design the content of the questionnaire to ensure that respondents recall to their memory the broad issue of copyright in the academic such as research and teaching exceptions, journal copyright, journal access, and academic piracy. The complete text and additional details on our survey are available in Rossello et al. (2022).

Our survey is structured into four blocks, and figure 1 displays them and the randomization layers. In Block 0, we introduce the survey, present the consent form, and ask about demographic characteristics. After Block 0, we have a first randomization layer where we randomized the order of Blocks 1 and 2 to reduce survey fatigue and response bias. In Block

1, we ask questions about knowledge and perception of copyright law, research and teaching exceptions, institutional norms, moral justification for piracy, and subjective norms. In Block 2, we focus on the channels used to access scientific knowledge, including forms of academic piracy (e.g. platforms violating publishers' copyright-like Sci-Hub). We introduce a second randomization layer in Block 3 which contains our experimental variation that manipulates the framing of the publishing system with short videos of copyright lobbies' narratives. After the randomization and the videos, we include five questions (see Appendix C for a list) to measure perception, emotions, and actions related to the academic publishing system.

Measuring Perception on Specific Issues of Academic Publishing. We measure scholars' perception of publishing issues using three slider-choice questions, where the respondent moves the slide cursor to express their perception as a quantity from 0 to 100. The measure of perception using quantitative point beliefs has advantages over more common qualitative measures such as the Likert scale (e.g. from "strongly agree" to "strongly disagree"). It measures perception as a continuous variable allowing interpersonal comparability, and it is easier to understand and more convenient in regression analysis (Haaland et al., 2020). Our measures of perceptions towards scientific publishers cover three aspects: i) publishers' business model, ii) digital piracy, and iii) publishers' exploitative work.

Concerning publishers business model, we ask: *"How much adequate is the sentence to describe your thoughts: Big publishers (like Springer-Nature or Elsevier) have an unethical business model and their profits rely on the free work of academics."*. This is our main outcome variable which ranges from 0 *"Not at all adequate"* to 100 *"Very adequate"*. Regarding respondent's perception on piracy against scientific publishers, we ask: *"How much adequate is the sentence to describe your thoughts: Sci-Hub is illegal and should remain illegal."* where responses can range from 0 *"Not at all adequate"* to 100 *"Very adequate"*. Finally, regarding the exploitation of scholars' free work, we ask: *"How adequate or inadequate is the sentence to describe your thoughts: Papers' referees should receive monetary compensation from their review work."*. Also in this case, responses can range from 0 *"Not at all adequate"* to 100 *"Very*

adequate". These three questions highlights respondent's opinion on the scientific publishing and the peer-review system.

Measuring Emotions in Relation to the Academic Publishing. We examine the emotions that agents have related to the academic publishers with a single-choice question. We ask respondents to indicate which emotion best matches their feelings about the video content (or survey content for the control group). Respondents can select only one emotion from a list of 7 items. The list includes anger, fear, sadness, disgust, enjoyment, indifference, and others. The list follows the traditional emotion labeling used in psychology to express commonly understood emotions. This method allows measuring emotions as easy and recognizable discrete phenomena. Thus, we further encode each of the 7 emotions as a dummy variable equal to one if the respondent selected it and zero otherwise.

Measuring the Willingness of Taking Action about Academic Publishing. We measure the willingness to take actions related to the issue of academic publishing with a yes or no single-choice question. We ask whether they would like to be informed of future updates related to our project. Throughout the survey (from the presentation to the questions) our project is described as interested in investigating issues related to copyright, scientific publishers, and access to scientific literature. Any interest in following up on the survey's result can be interpreted as an active attempt to acquire additional information on the topic of academic publishing and copyright. In this way, we test their action for getting additional information on the system of academic publishing.

3.3 Experimental Variation

In this section, we describe our experiment and discuss its motivation. Our goal is to manipulate the perception of the publishing system testing the persuasiveness of copyright lobbies' narratives. We manipulate perception by randomly exposing scholars to either a control group or to

one of the two treatments showing video advertisements with narratives of opposite copyright lobbies. At the beginning of Block 3, we randomly assign respondents into 3 groups: a control group, a treated group exposed to the video of the publisher's narratives, featuring publishers as good for society (T_Publisher), and a treated group exposed to the video with the copyright activist's narrative, featuring publishers as bad for society (T_Activist).

Our control group received no video but was treated with saliency by asking them to think for a few minutes about the survey contents. This allows us to be sure we can isolate the effect of priming from the genuine beliefs updating. Asking the control group to think about the content of our survey ensures that we elicited prior beliefs both in the treatment and in the control group, following suggestions for best practices in information provision experiments Haaland et al. (2020). Our approach guarantees that both respondents in the treatment and the control group are primed on the issue of interest. Related to the content of the survey, we asked many questions focusing on different aspects of copyright in academia. For example, we asked respondents what they think about copyright law, copyright exceptions for teaching and research purposes, current copyright issues under consideration by the European Commission (such as data mining on copyright-protected materials and length of quotations), academic piracy, access to scientific articles, quality of library services, and use of Sci-Hub.

We should note that not treating the control group with a placebo video might have one potential limitation. The latter exists when there is a potential effect of being treated with a video, irrespective of its content. For example, in a similar experiment on narratives, Riley (2022) treated the control group with a placebo movie to isolate the effect of the inspiring treatment video to the one of going to the cinema. In her case, the placebo was motivated by the fact that for children in Uganda going to the cinema is unusual, and most of them had never been before. In that case, a placebo was necessary. However, in our case, the treatment videos are short advertisements that people are used to. Therefore, we believe that the information contained in our survey and the fact that we ask respondents to think about that before answering our outcome variables is sufficient to elicit priors.

We selected two real-world public advertisement campaigns as our treatments. The

use of real-world advertisement campaigns ensures that our experiment is the genuine representation of the two opposite interest groups. And it respects the form and substance of copyright lobbies' persuasion arguments. We use a video of a public advertisement campaign of a group of copyright activists to present the activists' narrative. In contrast, we rely on an advertisement for Elsevier for representing the publisher's narrative. The publisher's advertisement presents publishers positively, while activists present them negatively. The full text of the two video treatments is available in Appendix A. We present the details of two video treatments below.

Treatment of Copyright Activists' Narrative. The copyright activists' narrative, featuring publishers negatively, is a video of a public campaign #FixCopyright of Copyright for Creativity (C4C), a group of European copyright activists based in Brussels. The group's activities are well documented on its website. The group is registered in the official EU Transparency Register in the section In-house lobbyists. The group wrote a Copyright Manifesto and organized several events with members of the European Parliament, the UK House of Lords and Commons, industry, institutions, and creatives to discuss the future of copyright in Europe.[9] They describe their goal in their declaration for Europe *"[...] We believe that copyright law in Europe needs to be reformed in order to better protect the rights of creators and users. We call on the European Commission to take action on this issue. Copyright law in Europe is currently outdated and does not reflect the reality of the digital age. It is not fit for purpose and urgently needs to be reformed."*.

The video we use as treatment of copyright activists' narrative is distributed on their YouTube channel, and we directly incorporated it in our survey. The link to the video is the following `https://youtu.be/QUtNdk7g_wY` (Accessed February 2023). We force respondent to enter the video at 0.55 seconds to ensure that the videos have the same length as the other and presents a coherent meaning. The video also advertises the *"The Cost of Knowledge"* campaign, which was a petition boycotting Elsevier. Thus, the video is a counter-advertisement of Elsevier presenting the publisher's business model and the journals' copyright negatively.

[9] Additional information on their activities are available at `https://copyright4creativity.eu/`. Accessed February 2023

The video's narrative features publishers as exploitative of the researchers and universities. The video is a stylized animation picture where the main character is called Copy. Copy is a young and dynamic character expert of copyright, while in contrast, the publisher is a fat, elderly character with a mustache and a top hat who drinks champagne in his suit. First, Copy explains how copyright works in scientific publishing, comparing it with the book industry. The comparison highlights that in the book industry, there is one author, one publication, and many readers that buy the book and in this way a publisher makes profits. In contrast, in scientific publishing is harder to imagine how profits can be made since there are (often) many authors per publication and few readers. Second, Copy highlights that scholars must publish to progress in their careers and keep their jobs. After, the video represents the publishers' business model as circular using a dramatic narrative: *"It's publish or perish!!! And that's where scientific publishers step in. In exchange for, most, if not all, of the copyright of the research, they will publish an article. Without paying the researcher or asking him for money to publish. Now isn't this a clever deal! And once they've gathered all of that knowledge in a huge catalog guess whom they sell access to that stuff to... Bingo! The universities, who already paid the researchers who were used to filling the catalog in the first place. Which creates a model that looks like this. [here it is shown a schema with money going from universities to the publishers] I mean... Don't you find it a bit shocking?"* The schema presented, is a powerful narrative to highlight the public costs and unfairness of publishers' business model. The video then advertises the public petition to change the publishing system, *"The Cost of Knowledge"* campaign. Additionally, the video presents the issue of data mining on publishers' copyrighted material. It explains how publishers ask additional fees for mining their materials or impose limitations on the number of documents, type of content, and techniques. The video ends with activists' manifesto *"Now the EU copyright review urgently needs to curb this business of copyright that is smothering science. Copyright is a tool, not a goal! The goal is human knowledge and better access to this knowledge for everyone"*.

Treatment of Publisher's Narrative. The publisher's narrative, featuring publishers positively, is a video of Elsevier's public advertisement campaign. Elsevier is one of the largest scientific publishers. We ensure that the message of the video contains a positive narrative on

scientific publishers, and it accurately represents the corporate business values including in the survey the YouTube video they distributed on their account. the link to the video is available at `https://youtu.be/dFvnGt8Qw3g` (Accessed February 2023). The video presents the company as innovative, exemplary, and faithful. The publisher's business model is presented as aligned with those of the scientific community and the video narrative is inspiring and influential. The video has attractive and simple graphics with subsequent frames of scientists, laboratories, teams, historical pictures, modern databases, and computers. The corporation shows how its business model changed over time keeping unchanged their corporate values. In the video, first the corporation presents itself as serving the scientific community helping the diffusion of knowledge, using the following words *"Every day, professionals in health and science strive to make ground-breaking discoveries, make better decisions and deliver better care. And we help them do it by empowering people with knowledge"*. After, the video highlights how supporting knowledge is not always easy and provides a historical example. The video narrative describes how the funder of Elsevier took high risks, publishing English translations of the work of Jewish Scholars exiled by the Nazi regime. It described it as *"a brave, innovative decision, that ensured that ground-breaking knowledge reached a global audience."* In particular, in the video narrative the historical example aims at demonstrate how the company challenged the conversions to protect the integrity of science and ensure the diffusion of knowledge against discrimination and false beliefs.

Then, the video makes a parallel between Elsevier founder's risky decision of helping Jewish refugees and the one of investing in new technologies today. This shows how the company makes "brave decisions" in developing new technologies and it explains past and present successes. For example, the video describes how the company *"pioneer cutting-edge technology to support the international science and medical community"* and how *"before people had even heard of the World Wide Web, we created a revolutionary pilot to send articles via on-line connections"*. Then the video highlights the company's present leading position in scientific publishing and then concludes by describing their core values: *"We are digital and lead the way in big data and information analytics expertise. In everything we do, we'll never stop striving to help expand the boundaries of understanding, for the benefit of humanity"*.

Table 1: Sample Averages and Balance Across Variables

Variable	(1) Whole Sample	(2) Control Group	(3) T_Activist	(4) T_Publisher	(5) T_Activist vs Control	(6) T_Publisher vs Control	(7) T_Activist vs T_Publisher
Female	0.378	0.388	0.361	0.384	-0.026	-0.004	-0.022
	(0.485)	(0.487)	(0.481)	(0.487)	(0.024)	(0.024)	(0.024)
Foreign	0.184	0.184	0.183	0.187	-0.001	0.003	-0.004
	(0.388)	(0.388)	(0.387)	(0.390)	(0.019)	(0.019)	(0.020)
Age	43.934	44.636	43.523	43.570	-1.113*	-1.066	-0.047
	(13.256)	(13.515)	(13.230)	(12.975)	(0.663)	(0.660)	(0.667)
Moral justification	2.930	2.911	2.923	2.959	0.012	0.047	-0.035
	(1.215)	(1.214)	(1.229)	(1.202)	(0.061)	(0.060)	(0.062)
Satisfaction of library services	6.546	6.592	6.468	6.574	-0.124	-0.018	-0.106
	(1.564)	(1.514)	(1.594)	(1.588)	(0.077)	(0.077)	(0.080)
Colleagues' piracy perception	4.174	4.137	4.215	4.172	0.078	0.035	0.043
	(2.075)	(2.081)	(2.060)	(2.084)	(0.103)	(0.103)	(0.105)
Published before	0.735	0.745	0.741	0.718	-0.003	-0.027	0.023
	(0.441)	(0.436)	(0.438)	(0.450)	(0.022)	(0.022)	(0.022)
FWCI (SciVal)	0.977	0.966	0.947	1.018	-0.019	0.026	0.072
	(1.895)	(1.414)	(1.272)	(2.712)	(0.066)	(0.054)	(0.107)
Observations	2420	854	789	777	1,643	1,631	1,566

Notes: This table reports summary statistics of the whole sample as well as the balance between treatment and control groups in our experiment. Field Weighted Citation Impact (FWCI) is provided by SciVal and indicates how the number of citations received by an entity's publications compares with the average number of citations received by all other similar publications in the data universe. An author's score $> 1/< 1$ indicates she is above/below the global average for similar publications. Columns 1-4 report averages and standard deviation in parenthesis. In Columns 5-7 we check for balance through univariate regressions of an indicator variable equal to one if the individual is subject to a given treatment on each control variable separately. Significance levels are * for $p < 0.10$, ** for $p < 0.05$, and *** for $p < 0.01$. and robust standard errors are in parenthesis

Balance of the Sample. In our experimental setting, a key assumption for our design to be valid is that the treatment and the control groups are random samples from the same population sharing the same characteristics. In other words, it is crucial the absence of a statistical difference between the treatment and control groups.

In Table 1, columns 2-4, we show, respectively, summary statistics of the control group (N=854), and the two treated groups, *T_Activist* is the group treated with copyright activist's narrative (N=789) and *T_Publisher* is the one treated with publishers' narrative (N=777). In Table 1, columns 5-7, we test the balance of our experimental groups testing whether the treatment and the control groups are different from each other. We perform univariate regressions of an indicator for each treatment group on the demographic characteristics. We can observe that we achieved a good balance where our treated groups do not differ from the con-

trol group in terms of relevant demographic characteristics.[10]

3.4 Econometric Model

In our experiment, we provide causal evidence on how new partisan information affects scholars' perception and changes what scholars think about the system of academic publishing. We consider three sets of outcome variables: 1) perception of specific issues on academic publishing, (2) emotions related to academic publishing, and (3) whether scholars are willing to take action.

The first set of outcome variables ranges from 1 to 100 and captures the perception of academic publishers' business model, copyright-violating platforms (Sci-Hub), and referee's compensation. The first *Publishers are unethical* measures how much scholars perceived the publishers' business model as unethical. The second, *Sci-Hub is illegal* quantifies how much scholars think that Sci-Hub is illegal. The last variable examining perception is *Referees should be paid* which assesses how much respondents agree that the referee work should be remunerated.

The second set of outcome variables assesses scholars' emotions about the system of academic publishing. We consider emotions as dichotomous variables asking whether they experience or not the following emotions: *Anger*, *Disgust*, *Sadness*, and *Indifference*[11]

Finally, the last variable indicates the action of being informed. In particular, the variable *I want to get informed* is equal to one if respondents want to receive further information about our research project involving the issue of copyright in academia, and zero otherwise. [12]

[10]The balance of our sample holds with only one exception. The group *T_Activist* is slightly younger than the control group, but there is no difference in their moral justification for doing piracy, thus we can exclude that they differ significantly in terms of demographic characteristics and prior beliefs on publishers.

[11]we did not include the emotion of fear, enjoyment, and the category other because only a few indicated them.

[12]Additional details of our outcome variables are in section 3.2.

We thus estimate a set of simple OLS regressions as follows:

$$Y_i = \alpha + \sum_{j=1}^{2} \beta_j T_i^j + v_i \tag{1}$$

$$Y_i = \alpha + \sum_{j=1}^{2} \beta_j T_i^j + \delta FWCI(SciVal) + \sum_{j=1}^{2} \lambda_j T_i^j \times FWCI(SciVal) + v_i \tag{2}$$

Y is one of our outcome variable of each respondent i described above. Where T_j are our treatment dummies, equal to one if belonging to the treatment j and zero otherwise, where the baseline dummy is the control group and the two treatment dummies are *T_Publisher* and *T_Activist*. Equation 1 is our baseline model. Additionally, in equation 2 we examine whether the scholar's research quality affects our treatment. To measure research quality we use the individual Field Weighted Citation Impact (*FWCI*) computed by SciVal. The index measures scholar's quality because it indicates how the number of citations received by an entity's publications compares with the average number of citations received by all other similar publications in the SCOPUS database. Thus, the measure incorporates the different citing habits of disciplines. An author's score $> 1/< 1$ indicates she/he is above/below the global average for similar publications.

4 Results

In this section, we present our results. First, we show the baseline perception of the academic publishing system. Then, in the remaining two subsections, we show the results of our experiment which manipulates perception. The experiment varies perceptions about the academic publishing system and compares it with the baseline (*Control Group*). We provide partisan information presented in the narrative of opposite copyright lobbies: Publisher's narrative featuring publishers as good for science (*T_Publisher*) and copyright activists' one featuring publishers negatively (*T_Activist*). We test the effects of lobbies' narratives on perception, emotions,

and action. First, we report results on the perception related to specific issues on publishing. After, we show results about emotions about academic publishing and whether scholars want to take action and acquire information.

4.1 Descriptive Results

Table 2: Baseline Perception of the System of Academic Publishing

	N	Mean	Sd	Min	Max
Perception on specific issues					
Publishers are unethical	854	78.758	24.522	0	100
Sci-Hub is illegal	664	30.801	30.905	0	100
Referees should be paid	751	56.748	34.511	0	100
Emotions in relation to scientific publishing					
Anger	854	0.047	0.211	0	1
Disgust	854	0.023	0.151	0	1
Sadness	854	0.169	0.374	0	1
Indifference	854	0.478	0.500	0	1
Action in relation to scientific publishing					
I want to get informed	803	0.506	0.500	0	1

Notes: The table provides statistics on the perceptions of the system of publishing. The sample consist of respondents in the control group

Table 2 shows what scholars think about the system of academic publishing. The table shows the summary statistics of the baseline group of scholars, the control group, who did not receive any treatment. On average, scholars strongly think that the business model of academic publishers is unethical with a score of 79%. And specularly, scholars tolerate pirate platforms that violate publishers' copyright. The score for considering Sci-Hub illegal is 31%. In contrast, scholars disagree about what a different system should look like. In fact, when we ask whether the work of article referees should be remunerated we find a large heterogeneity. The average score for agreeing that referees should be compensated is 57% with a standard deviation of

35%. Further, we examine emotions. Scholars' main feeling about the status quo of the system of academic publishers is indifference. 48% of scholars are indifferent, 17% feel sadness, 5% of feel anger, and 2% are disgusted. For what concerns their action in relation to the publishing status quo, they appear fairly split. Half of our respondents take the action of being informed about our project on copyright issues in academia.

These descriptive results are interesting. They suggest that besides it exists discontent about the publishing system, there is a general pessimism of possibilities to change it, and, no consensus over viable solutions.

4.2 Perception in Relation of Specific Publishing Issue

Table 3: The Video Experiment and Effect on Specific Publishing Issues

	(1) Publishers are unethical	(2) Sci-Hub is illegal	(3) Referee should be paid
T_Activist	-0.574	-3.453**	-0.264
	(1.193)	(1.650)	(1.779)
T_Publisher	-2.899**	-0.531	0.804
	(1.249)	(1.711)	(1.827)
Observations	2420	1953	2151
T_Activist vs T_Publisher	0.064	0.079	0.558
Mean D.V. Control	78.758	30.801	56.748
SD D.V. Control	24.522	30.905	34.511

Note: This table shows the treatment effects of our experiment varying publishers framing with opposite copyright lobbies' narrative. *T_Activist* is an indicator variable equal to 1 for the sample of individuals subject to the video treatment of copyright activits' narrative. *T_Publisher* is an indicator variable equal to 1 for the sample of individuals subject publishers' narrative video treatment. All dependent variables are measured on a scale in the range of 0 to 100. *Publishers are unethical* represents how strongly individuals see the business model of publishers as unethical. *Sci-Hub is illegal* represents how strongly individuals see Sci-Hub as illegal. *Referees should be paid* represents how strongly individuals agree that the articles' referee should be compensated for their work. We report the mean and standard deviations of dependent variables in the control group and the p-value of the two sample t-test of the *T_Activist* vs. *T_Publisher*. Robust standard errors are in parentheses, and significance codes are + p<0.15 * p<0.10 ** p<0.05 *** p<0.01

In Table 3 we show the effect of varying perceptions about the publishing system on specific issues. We find that a positive narrative about publishers affects only the perceptions of their business model but has no effect on the perception of pirate platforms or referee compensation. More precisely, the group treated with the video of the publisher's narrative (*T_Publisher*) perceive publishers 2.9% less unethical than the control group (column 1). In contrast, a negative narrative of publishers affects the perception of pirate platforms violating publishers' copyright but does not affect their perception of publishers' or referee compensation. In particular, the group exposed to the video of copyright activist's narrative featuring publishers negatively

(*T_Activist*) think that Sci-Hub is less illegal by 3.5% (column 2) than the control group.

4.3 Emotions and Action in Relation to the Status-Quo

Table 4: The Video Experiment and Effect on Emotions and Action about the Status-Quo

	Emotions on status-quo				Action
	(1)	(2)	(3)	(4)	(5)
	Anger	Disgust	Sadness	Indifference	I want to get informed
T_Activist	0.129***	0.0881***	0.183***	-0.336***	0.0194
	(0.0154)	(0.0124)	(0.0198)	(0.0211)	(0.0255)
T_Publisher	0.0291**	0.130***	-0.0332**	-0.0711***	-0.00421
	(0.0119)	(0.0139)	(0.0150)	(0.0246)	(0.0257)
Observations	2420	2420	2420	2420	2260
T_Activist vs T_Publisher	0.000	0.015	0.000	0.000	0.367
Mean D.V. Control	0.047	0.023	0.169	0.478	0.506
SD D.V. Control	0.211	0.151	0.374	0.500	0.500

Note: This table shows the treatment effects of our experiment varying publishers framing with opposite copyright lobbies' narratives. *T_Activist* is an indicator variable equal to 1 for the sample of individuals subject to the video treatment of copyright activist's narrative. *T_Publisher* is an indicator variable equal to 1 for the sample of individuals subject to the video treatment of the publisher's narrative. All dependent variables are dichotomous. In Columns 1-4 the dependent variables represent respondents' emotions related to the system of academic publishing. *Anger* is equal to 1 if the respondent feels anger about the system of academic publishing and zero otherwise. *Disgust* is equal to 1 if the respondent feels disgusted about the system of academic publishing and zero otherwise. *Sadness* is equal to 1 if the respondent experienced sadness when thinking about the system of academic publishing and zero otherwise. *Indifference* is equal to 1 if the respondent is indifferent about the system of academic publishing and zero otherwise. In Column 5 the dependent variable represents an action. *I want to get informed* is equal to one if the respondent wanted to receive additional information about our project on copyright issues in academis. We report the mean and standard deviations of dependent variables in the control group and the p-value of the two sample t-test of the *T_Activist* vs. *T_Publisher*. Robust standard errors are in parentheses, and significance codes are + p<0.15 * p<0.10 ** p<0.05 *** p<0.01

Table 4 shows our experiment treatment effect on emotions and actions about the system of publishing.[13] In columns 1-4, we can observe that the probability of experiencing negative emotions increases, while the one of being indifferent decreases when we provide the narrative against publishers of copyright activists (*T_Activist*). The probability of feeling anger, disgust, and sadness raises respectively by 13%, 9%, and 18%. The sizeable effect of the treatment of the copyright activist's narrative is observed in the reduction of indifference, minus 34%.

[13]The table shows estimates of a linear probability model. We checked the predicted values and they correctly range between 0 and 1. Additionally, in appendix D1, we perform the logistic regression and results are consistent.

This is accompanied by a slight increase in the probability of taking the action of being informed (column 5), although it is not statistically significant at the selected significance levels. In contrast, the pro-publishers framing as intended by the publisher's advertisement narrative (*T_Publisher*) has the highest impact on disgust and a lower one on other emotions. The treatment of publisher narrative increases the probability of experiencing disgust by 13%. The probability of feeling anger increases mildly by 3%, while the one of feeling sadness and indifference decreases by 3% and 7%. Additionally, the treatment featuring publishers' positively does not affect the action of being informed, column 5.

Table 5: The Video Experiment and Heterogeneous Effect on Emotions and Action about the Status-Quo

	Emotions on status-quo				Action
	(1)	(2)	(3)	(4)	(5)
	Anger	Disgust	Sadness	Indifference	I want to get informed
T_Activist	0.105***	0.0941***	0.169***	-0.322***	0.0459+
	(0.0196)	(0.0154)	(0.0240)	(0.0263)	(0.0312)
T_Publisher	0.0144	0.127***	-0.0390**	-0.0637**	-0.0140
	(0.0144)	(0.0153)	(0.0167)	(0.0282)	(0.0289)
FWCI	-0.00968***	-0.000327	-0.00608	0.00793	-0.00178
	(0.00303)	(0.00531)	(0.00636)	(0.0126)	(0.0126)
T_Activist X FWCI	0.0257**	-0.00587	0.0163	-0.0139	-0.0264
	(0.0128)	(0.00878)	(0.0143)	(0.0161)	(0.0185)
T_Publisher X FWCI	0.0150**	0.00242	0.00612	-0.00841	0.0100
	(0.00701)	(0.00677)	(0.00674)	(0.0143)	(0.0130)
Observations	2416	2416	2416	2416	2257
F Statistic	20.31***	24.06***	26.51***	60.87***	2.273**

Note: This table shows the treatment effects of our experiment varying publishers framing with opposite copyright lobbies' narratives. *T_Activist* is an indicator variable equal to 1 for the sample of individuals subject to the video treatment of the copyright activist's narrative. *T_Publisher* is an indicator variable equal to 1 for the sample of individuals subject to the video treatment of the publisher's narrative. All dependent variables are dichotomous. In Columns 1-4 the dependent variables represent respondents' emotions related to the system of academic publishing. *Anger* is equal to 1 if the respondent feels anger about the system of academic publishing and zero otherwise. *Disgust* is equal to 1 if the respondent feels disgusted about the system of academic publishing and zero otherwise. *Sadness* is equal to 1 if the respondent experienced sadness when thinking about the system of academic publishing and zero otherwise. *Indifference* is equal to 1 if the respondent is indifferent about the system of academic publishing and zero otherwise. In Column 5 the dependent variable represents an action. *I want to get informed* is equal to one if the respondent wanted to receive additional information about our project copyright issues in academia. *FWCI* is the individual field weighted citation impact of each scholar downloaded from SciVal in March 2022. Robust standard errors are in parentheses, and significance codes are + p<0.15 * p<0.10 ** p<0.05 *** p<0.01.

In table 5 we explore the potential heterogeneous effect that the researcher's quality has on our treatment. Our hypothesis is that scholars' quality might affect the amount of interaction with publishers. And this might, in turn, affects their prior on publishers and thus the outcome of our treatment. We find that one unit increase of the scholar Field Weighted Citation Index decreases the probability of experiencing anger by 1% in the control group. In contrast, both treatments provoke a backfire effect ranging approximately from a 2% increase in the probability of feeling anger for each unit increase in the researcher's FWCI (Column 1).[14]

5 Discussion

Our results show that scholars in Europe have a large sense of discontent about the publishing system. We ask them about particular issues related to the system of academic publishing and how they feel or will act about it. We find that the publisher's business model is strongly perceived as unethical. Reaching an average of almost 80% agreement to the sentence *"Big publishers (like Springer-Nature or Elsevier) have an unethical business model and their profits rely on the free work of academics."* This perception is connected to the general acceptance of pirate platforms violating publishers' copyright. The agreement about the fact that Sci-Hub is illegal and should remain so is only 31%. However, the lack of agreement about referees' compensation highlights a lack of consensus about potential ways to overcome publishers' business practices. Further, our experiment allows us to understand better scholars' perceptions about publishers and test whether they could be manipulated. We vary perceptions providing a negative or a positive narrative about publishers embedded in copyright lobbies' advertisements. Overall, the negative narrative about publishers of the copyright activist is more effective, and it affects perception, emotion, and action more than the positive narrative. This suggests that scholars have in general strong priors about the publishing system. Thus, the persuasion at-

[14]We run the model in Table 4 column 1, for the sub-sample of those experiencing anger and for the ones who do not. Interestingly, the effect of the publisher's narrative treatment changes its signs in the sub-sample of those experiencing anger while it is stable for those not experiencing anger. This suggests that there is a part of the population which has a strong emotional reaction and backfires when the publishers are featured as good for science and society.

tempts of the publisher's narrative trying to advertise its positive role in science and knowledge have a limited scope. The latter is particularly evident while examining heterogeneous treatment effects across scholars' quality.

6 Conclusion

Today more than ever academic publishing system is under public scrutiny. The recent court case of Reed Elsevier against Sci-Hub in India exacerbates the tension between knowledge accessibility and publishers' copyright. The issue has to do with publishers' lobbies and their business practices, but also with how digital technologies changed replicability and the scope of copyright protection. Jon Tennant in a recent article in the Guardian highlights how Elsevier is lobbying to influence the transition to Open Science affecting EU regulation.[15] Opposite to publishers are copyright activists advocating for digital rights that also try to influence copyright regulation. Both lobbies' have their own narratives that use to persuade public opinion, policymakers, and practitioners to their cause. Lobbies' narratives are relevant because are simple means of communication that with empathy might impact beliefs that subsequently might have an influence on regulation. Besides that big publishers and advocacy groups of copyright activists spend a lot of money to create a narrative featuring them as good for science and society little is known about the effectiveness of their persuasion strategies.

In this paper, we test the effect that copyright lobbies' persuasion strategies have on scholars. We examine the effect of partisan framing on scholars' perceptions, emotions, and actions about the publishing system. We vary the framing picturing publishers' as bad or good for society and science, using a publisher narrative vis-à-vis the one of a copyright activist. We find that scholars have a strong discontent about the publishing system. But besides that, both lobbies' narratives persuade them to their cause. We also find that overall activists' narrative featuring publishers negatively is slightly more effective in influencing perception, and poten-

[15] Jon Tennant 2018, *Elsevier are corrupting open science in Europe* available at `https://www.theguardian.com/science/political-science/2018/jun/29/elsevier-are-corrupting-open-science-in-europe`

tially it operates in decreasing indifference about the issue. We also find that a significant part of the scholars' population, namely those with high research impact, are particularly irritated by publishers' narratives and persuasion attempts. In this part of the population, publishers' narrative generates a backfire effect of anger.

Past research of information provision experiments has used statistical or didactic information to shift persuasion. However, there is one type of information that might be highly persuasive, namely narratives. Our results are relevant for future research since they are a first attempt to understand how lobbies' narratives affect perception. We demonstrate that narratives can be effective also in persuading also individuals well-informed of lobbies' interests. However, we should remark on some limitations of the present study. First, our analysis is limited to a short-run persuasive effect, and we were not able to conduct additional surveys. Second, we had only one variable representing an action or behavior, and persuasion does not necessarily change behavior. Third, we focused on a segment of the population that is close to the topic while the general public might be affected differently by lobbies' narrative. In light of those limitations, our work can sparkle future research on the long term effects of lobbies narratives including beliefs and behavior in specific strata and the whole population. Besides its limitations, we think that our work has the advantage of using real-world lobbies' persuasion attempts using their narratives. Further, we were able to run a large-scale and cost-effective survey thanks to the sample and method used. Indeed, our research was highly cost-effective and it cost (including our wages) only 16 Euros for each respondent. Notwithstanding the limitations that our study has, we believe that it provides important evidence of how lobbies' narratives can be highly persuasive also with respect to agents informed about their specific interests. Our work has examined the persuasion of lobbies' narrative in the short run, we make no claim about long-run effects if any. However, past examples such as Brexit highlight how short-run persuasion and passing emotions might that long-run effects even when agents change their minds and persuasion was not intrinsic.[16]

[16]Seán Clarke, 2023, The Guardian, "Changing attitudes to Brexit, three years on", available on `https://www.theguardian.com/politics/ng-interactive/2023/jan/30/changing-attitudes-to-brexit-three-years-on`. Accessed February 2023

References

Alesina, A., S. Stantcheva, and E. Teso (2018). Intergenerational mobility and preferences for redistribution. *American Economic Review 108*(2), 521–554.

Aubrey, J. S., E. Behm-Morawitz, and K. Kim (2014). Understanding the effects of mtv's 16 and pregnant on adolescent girls' beliefs, attitudes, and behavioral intentions toward teen pregnancy. *Journal of health communication 19*(10), 1145–1160.

Banerjee, A., E. La Ferrara, and V. H. Orozco-Olvera (2019). The entertaining way to behavioral change: Fighting hiv with mtv. Technical report, National Bureau of Economic Research.

Bendezú-Quispe, G., W. Nieto-Gutiérrez, J. Pacheco-Mendoza, and A. Taype-Rondan (2016). Sci-hub and medical practice: an ethical dilemma in peru. *The lancet global health 4*(9), e608.

Bernard, T., S. Dercon, K. Orkin, A. Taffesse, et al. (2014). *The future in mind: Aspirations and forward-looking behaviour in rural Ethiopia*, Volume 10224. Centre for Economic Policy Research London.

Bertrand, M., M. Bombardini, R. Fisman, B. Hackinen, and F. Trebbi (2021). Hall of mirrors: Corporate philanthropy and strategic advocacy. *The Quarterly Journal of Economics 136*(4), 2413–2465.

Bertrand, M., M. Bombardini, R. Fisman, and F. Trebbi (2020). Tax-exempt lobbying: Corporate philanthropy as a tool for political influence. *American Economic Review 110*(7), 2065–2102.

Bohannon, J. (2016). Who's downloading pirated papers? everyone.

Bursztyn, L., A. Rao, C. P. Roth, and D. H. Yanagizawa-Drott (2020). Misinformation during a pandemic. Technical report, National Bureau of Economic Research.

Coibion, O., Y. Gorodnichenko, and M. Weber (2020). Does policy communication during covid work? Technical report, National Bureau of Economic Research.

Colonnelli, E., N. J. Gormsen, and T. McQuade (2021). Selfish corporations. *Chicago Booth Research Paper* (20-51).

DellaVigna, S. and M. Gentzkow (2010). Persuasion: Empirical evidence. *Annual Review of Economics 2*(1), 643–669.

DellaVigna, S. and E. Kaplan (2007). The fox news effect: Media bias and voting. *The Quarterly Journal of Economics 122*(3), 1187–1234.

Ferrara, E. L., A. Chong, and S. Duryea (2012). Soap operas and fertility: Evidence from brazil. *American Economic Journal: Applied Economics 4*(4), 1–31.

Haaland, I., C. Roth, and J. Wohlfart (2020). Designing information provision experiments.

Kearney, M. S. and P. B. Levine (2015). Media influences on social outcomes: The impact of mtv's 16 and pregnant on teen childbearing. *American Economic Review 105*(12), 3597–3632.

Lewis, D. W. (2017). Why elsevier's outrageous profit margins could turn out to be a good thing.

Olson, M. (1965). The logic of collective action harvard university press. *Cambridge, MA*.

Riley, E. (2022). Role models in movies: the impact of queen of katwe on students' educational attainment. *Review of Economics and Statistics*, 1–48.

Rodgers, S., E. Thorson, and Y. Jin (2014). Social science theories of traditional and internet advertising. *An integrated approach to communication theory and research*, 212–234.

Rossello, G., A. Martinelli, D. Ferri, and K. Donnellan (2022, July). Final report on case studies on the effectiveness of regulatory measures to increase digital access to academics and people with visual impairments.

Scott Armstrong, J. (2011). Evidence-based advertising: An application to persuasion. *International Journal of Advertising 30*(5), 743–767.

A Video Treatment

A.1 T_Publisher Text

"Every day, professionals in health and science strive to make ground-breaking discoveries, make better decisions and deliver better care. And we help them do it by empowering people with knowledge.

But it isn't easy. There are always obstacles to overcome. [...] One of XXXXX's boldest risks as a company was publishing Jewish German scholars, exiled by the Nazi regime. Scientific progress was being crushed by prejudice and director XXXXX believe history would judge him harshly if he didn't help these refugees get heard. Risking imprisonment or worse, XXXXX Published before English translations of their vital work. It was a brave, innovative decision, and ensured that ground-breaking knowledge reached a global audience.

Today, we still believe we must make brave decisions. That's why we pioneer cutting-edge technology to support the international science and medical community. The volume of research has grown exponentially since the 50s, and we have continuously improved to the management of information and data. We were the world's first publisher to create and house a database, explored inventive new ways to deliver journals to scientists electronically, and before people had even heard of the World Wide Web, we created a revolutionary pilot to send articles via on-line connections. Each advancement was a bold step towards the launch of our first commercially available on-line platform.

We are a global information and analytics company. Number one in global science, technology and health publishing, working with almost every top US health system as well as leading systems around the world. We are digital, and lead the way in big data and information analytics expertise. In everything we do, we'll never stop striving to help expand the boundaries of understanding, for the benefit of humanity."

Figure A1: Video frames of the T_Publisher Video

A.2 T_Activist Text

"Hi I am Copy, from Copyright. [...] So what's the problem? Well as it is often the case with copyright it ends up of being a bit of a confusion that pops up between the common good and private interests. More specifically, the interests of scientific publishers. Now, when if we think of publishers, the model that usually comes to mind is, that there is one author, one book, and then plenty of readers, so plenty of profit. But that's not the case in the scientific world. With science things are always a bit more complicated it's more the situation of plenty of authors, one publication and very few readers, yeah that's how science works, it's not really show business.

In the scientific world researchers are paid in most cases by universities and if they want to keep their jobs, and hence their house, every one likes having a house, the partner, the dog, the cat, all of these good things, then they have to publish articles. It's publish or perish!!! And that's where scientific publishers step in. In exchange for, most, if not all, of the copyright of the research, they will publish an article. Without paying the researcher nor asking him for money to publish. Now isn't this a clever deal! And once they've gathered all of that knowledge in a huge catalogue, guess who they sell access of that stuff to.... Bingo! The universities, who already paid the researcher who were used to fill the catalogue in the first place. Which it creates a model that looks like this. I mean.. Don't you find it a bit shocking? Well you're not alone, a lot of scientists are trying to move things, Change things, in order to stop this privatization of knowledge.

But, let's get back to data mining as a scientific publishers own the copyright to most of the knowledge contained in these Published before works, they consider how much access people get over their content. Including if you want to mine it, once you've paid for it. If you just want to read it with your eyes that's probably fine, but if you want to mind the data in this thing then, oh! well... Maybe we'll tell you which tools you can use, and it might cost you more to mine it than it would to read it, and that we might restrict how many pages that you can actually use algorithms on per-day. And maybe you can only read the text, and you can't look at the images and the charts. Honestly, complete control freaks! Now the EU copyright review urgently needs to curb this business of copyright that is smothering science. Copyright is a tool, not a goal! The goal is human knowledge and better access to this knowledge for everyone. In our next video, we'll talk about artists, industry, and copyright. The good, the bad, and the ugly. So subscribed, and don't miss out on the fun, and goodbye."

Figure A2: Video frames of the T_Activist Video

B Survey Invitation

We are a research team from Sant'Anna School of Advanced Studies in Italy. This survey is part of the project *reCreating Europe* (`https://www.recreating.eu/`), funded by the European Commission under the H2020 Program.

Our research aims at understanding your views on how copyright law impacts your work as an academic.

Your participation in this survey is essential as it contributes to future policy design aimed at improving access and diffusion of scientific knowledge.

Our survey will allow you to express your views about copyright, scientific publishers, and access to the scientific literature.

You are free to withdraw from the study at any time without giving a reason.

All information that is collected about you during the research is confidential. No personal information will be distributed to any other unauthorised individual or third party. Answers will be elaborated as aggregate and anonymised data for research purposes related to the project. If you want to know more about data treatment and GDPR please look at this link: Data processing and GDPR

Our research received the ethical approval from Scuola Superiore Sant'Anna Research Ethics committee (`https://www.santannapisa.it/it/ateneo/comitato-etico-congiunto`), you can contact them via email at comitatoetico@santannapisa.it.

For any further information, or to withdraw your consent you can contact us at arianna.martinelli@santannapisa.it or giulia.rossello@santannapisa.it. Your input is very valuable for our project and it is a fundamental part of the project's successful development.

If you agree to take part in the study, please complete the **CONSENT FORM IN THE NEXT PAGE**

C Survey Questions Block 3

In this section we report the survey questions of our experiment, the rest of our survey questions in Block 0, Block 1, and Block 2 are available at Rossello et al. (2022).

Introduction visualised only if assigned to T_Publisher or T_Activist

Please click next and watch carefully the short video that follow. You will then be asked the last 4 questions that are about the video. Thank you for your cooperation. Please notice that the next button will be disabled for the entire duration of the video.

[new page]

Please click on the YouTube video, watch and listen carefully the video and after answer the questions. Do not skip parts of the video.

[Video]

End of introduction the following questions are visualised by all

Q3.1 About the [survey]/[video you just watched]. Which of the following emotions match best your feelings about the [survey][video] contents.

- Anger

- Fear
- Sadness
- Disgust
- Enjoyment
- Indifference
- Other [please indicate it]

Q3.2 How much adequate is the sentence to describe your thoughts: *SCI-HUB is illegal and should remain illegal.*

Q3.3 How much adequate is the sentence to describe your thoughts: *Big publishers (like Springer-Nature or Elsevier) have an unethical business model and their profits rely on the free work of academics.*

Q3.4 How adequate or inadequate is the sentence to describe your thoughts: *Papers' referees should receive monetary compensation from their review work.*

Q3.5 Do you want updates from this project?

- Yes

- No
- I Prefer not to say

D Robustness Checks

Table D1: Logistic regressions

	(1) Anger	(2) Disgust	(3) Sadness	(4) Indifference	(5) I want to get informed	(6) Anger	(7) Disgust	(8) Sadness	(9) Indifference	(10) I want to get informed
T_Activist	1.471***	1.655***	1.164***	-1.710***	0.0778	1.086***	1.708***	1.065***	-1.627***	0.186+
	(0.187)	(0.253)	(0.131)	(0.123)	(0.102)	(0.224)	(0.352)	(0.158)	(0.156)	(0.126)
T_Publisher	0.514**	2.020***	-0.363**	-0.289***	-0.0168	0.177	1.994***	-0.422**	-0.259**	-0.0622
	(0.211)	(0.247)	(0.166)	(0.100)	(0.103)	(0.238)	(0.341)	(0.181)	(0.115)	(0.117)
FWCI (SciVal)						-0.399**	-0.0148	-0.0655	0.0318	-0.00711
						(0.172)	(0.249)	(0.0775)	(0.0506)	(0.0504)
T_Activist X FWCI (SciVal)						0.498***	-0.0537	0.112	-0.0842	-0.108
						(0.185)	(0.263)	(0.0965)	(0.107)	(0.0767)
T_Publisher X FWCI (SciVal)						0.440**	0.0284	0.0660	-0.0338	0.0472
						(0.175)	(0.250)	(0.0824)	(0.0581)	(0.0559)
Observations	2420	2420	2420	2420	2260	2416	2416	2416	2416	2257