


Beyond the numbers

Rethinking research performance
evaluations for quality and impact



@zehraskin

Hacettepe University

Adam Mickiewicz University

Scholarly Communication Network

TÜBİTAK ULAKBİM - 2218

DIAMAS (Developing Institutional
Publishing Models to Advance Scholarly
Communication)





Understanding *research*
before *research evaluation*

Tower Bloxx

- Benjamin Franklin, kite experiment, 1752
 - Royal Society of London, Peter Collinson
- Volta, the invention of the battery, 1800
 - Royal Society of London, Joseph Banks
- Michael Faraday, electric dynamo, 1832
 - Philosophical Transactions of Royal Society of London
- Edison, electric light bulb, 1879
 - Patented, 1880



Questions[☆]...

But was Benjamin Franklin really the first person to discover electricity? Maybe not! At the turn of the 17th century, English scientist William Gilbert established the science underlying the study of electricity and magnetism. Inspired by Gilbert's work, another Englishman, Sir Thomas Browne, made further investigations and wrote books about his findings. Gilbert and Browne are credited with being the first scientists to use the term "electricity."

Answers...

Thales of Miletus

Greek philosopher Thales of Miletus discovered that rubbing amber (fossilised tree sap) with animal fur would attract objects like feathers. Without truly knowing it, he had noticed the effects of magnetism and static electricity.

William Gilbert (624 BCE to 546 BCE)

In his book *De Magnete*, English scientist William Gilbert coined the term 'electricus' in 1600, which means 'amber-like'. Polymath Sir Thomas Browne later altered the word slightly, changing it to 'electricity' in 1646

Otto von Guericke (1602-1686)

Building on Gilbert and Browne's work, German scientist Otto von Guericke successfully produced static electricity by rotating a ball of sulfur with a crank and using his free hand to rub the rotating sulfur.

Stephen Gray (1666-1736)

Stephen Gray discovered the difference between electrical insulators and conductors, finding that electricity would "[flow along wires](#)".

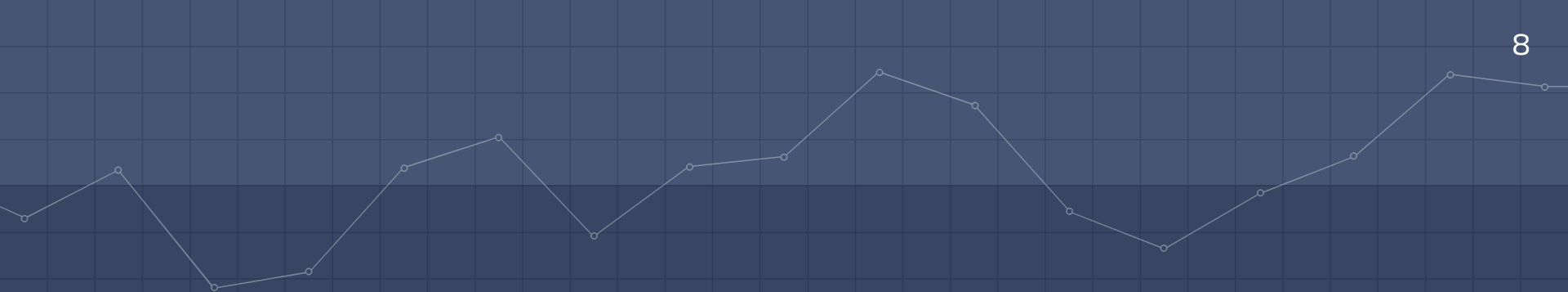
Ewald Georg von Kleist (1700-1748) and Pieter van Musschenbroek (1692-1761)

In 1745, the two scientists invented the Leyden jar. This was a key invention in the build-up of our understanding of electricity. The Leyden jar was a glass jar or vial coated on the inside and outside with metal foil. This device was able to store electricity.

HOW DO WE KNOW?

7

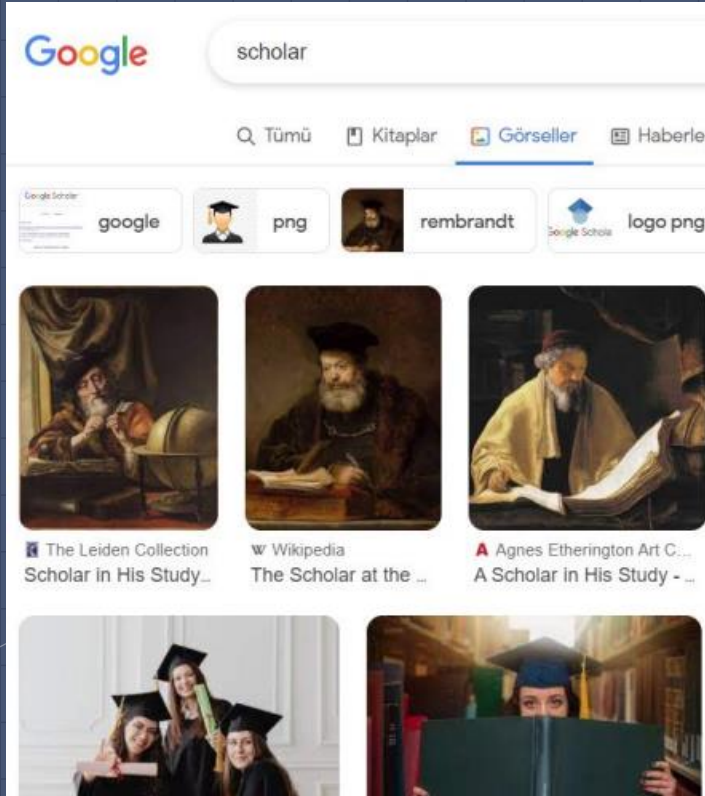




Communication

Scholarly vs. Science

Scholarly Communication



Science Communication



Differences

Target audience



Purpose



Channels





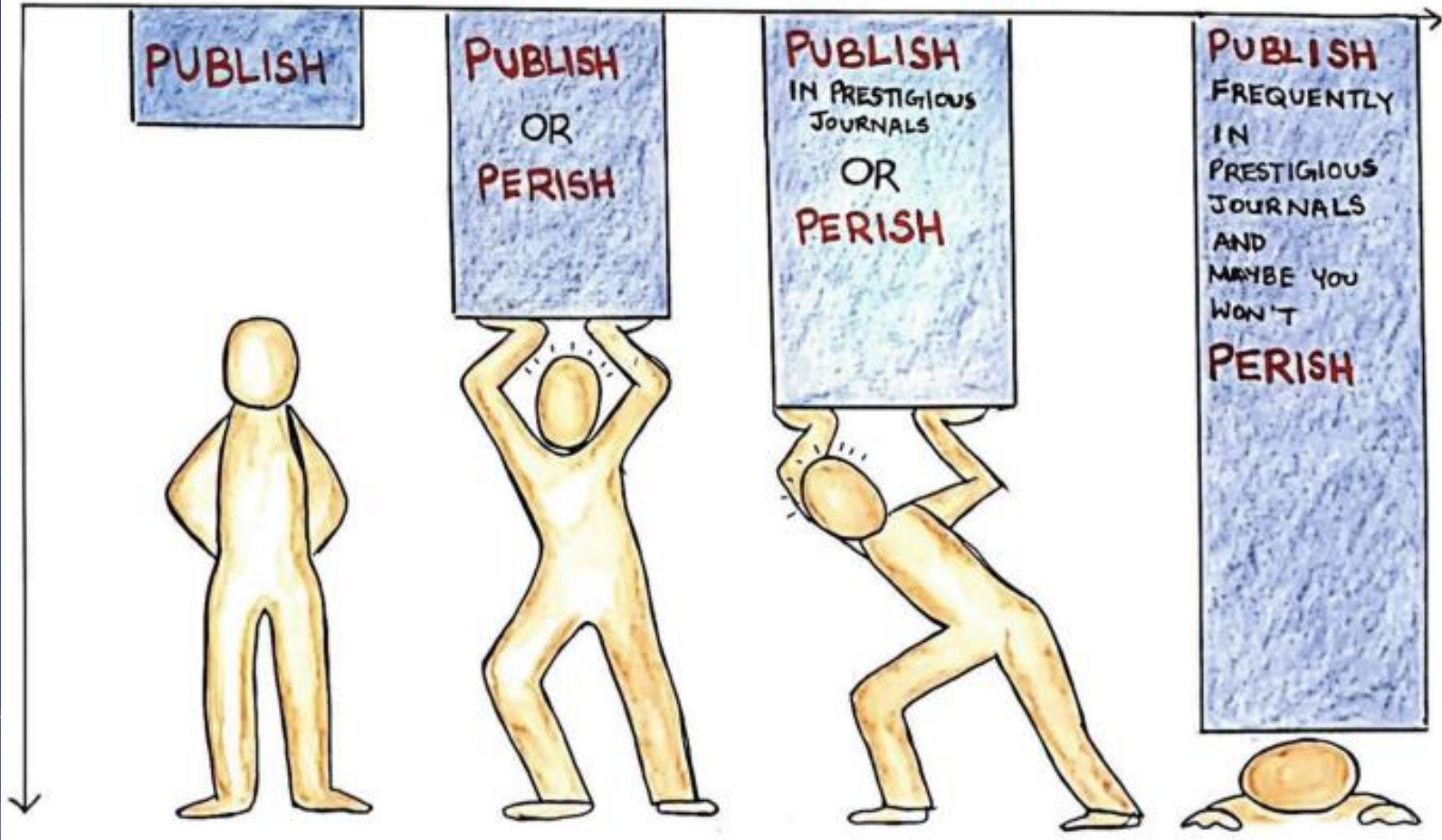
The two important questions

Who is science for?

What is science for?



The Maldevelopment of Academia

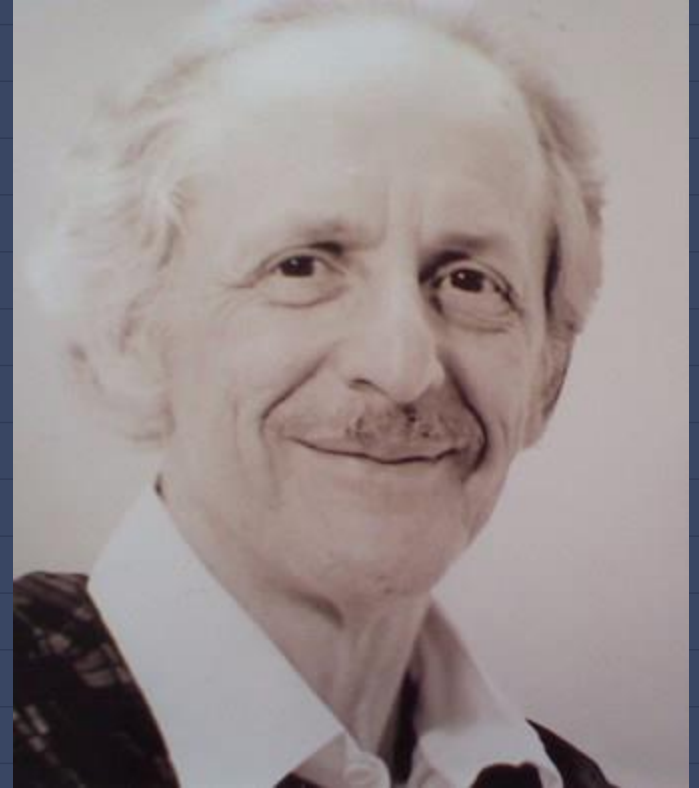


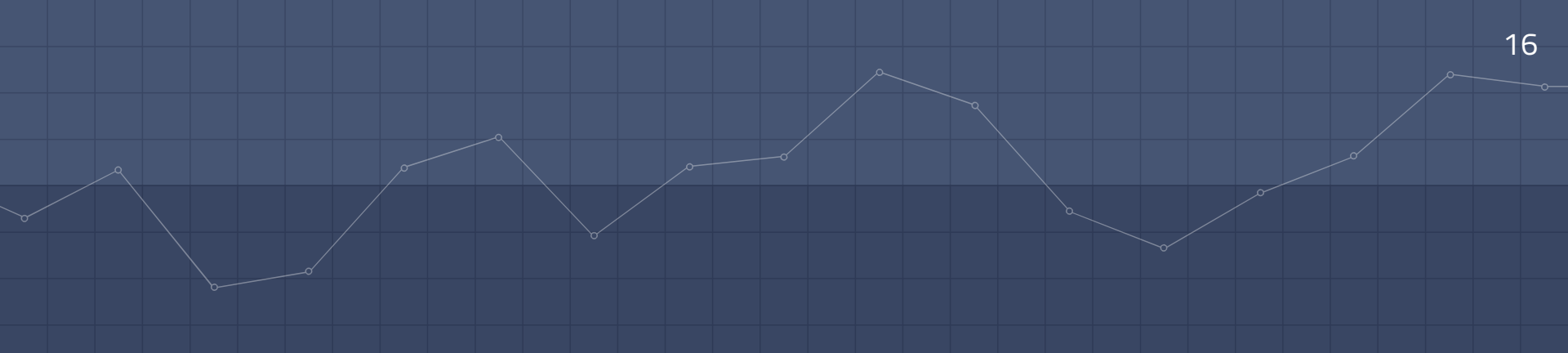
WHY?

Eugene Garfield

a.k.a. *The father of scientometrics*

The man who invented citation indexes





... offered an easy tool for
measuring science

To whom?

... (2008) Assessing the impact of online syllabi on Science and Technology 59: 2060-2065.

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... (2010) The immediacy index (DI): experiences using a Chinese recommendation system. *Journal of the American Society for Information Science and Technology* 61: 1155-1168.

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36. Priem J, Piwowar HA, Hemminger BM (2012) Almetrics in the wild: scholarly impact measurement. *ArXiv.org*. Available: <http://arxiv.org/abs/1203.4745>. Accessed 2013 January 21.

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38. Rowlands I, Nicholas D (2007) The missing link: Journal usage in citation analysis versus reader survey. *Journal of the American Society for Information Science and Technology* 58: 222-228.

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Web of Science

Select a database: Web of Science Core Collection

Basic Search | Author Search™ | Cited Reference Search | Advanced Search

Example: oil spill* mediterranean

Topic

Search Search tips

+ Add row | Reset

Scopus

Search Sources Lists SciVal

Document search

Documents | Authors | Affiliations | Advanced

Search Article title, Abstract, Keywords

E.g. "cognitive psychology" AND syntax

> Limit

All research, all researchers, all research outputs and all citations are the same.

Are they?

Some conceptual problems...

- **Quality**
 - What is quality?
- **Inequalities**
 - The world is not an equal place
- **Systems**
 - Designed by/for pure scientists
- **Favoring scholarly communication**
 - Science is only for scientists
- **Changing world**
 - Unchanging systems

*Nothing is so inequitable as
equality itself
(Pliny the Younger)*



Some facts

Matthew effect in science

Matthew Mathilda effect in science

Global north, south and the east

Academic job market

Funding based science or science funding

...





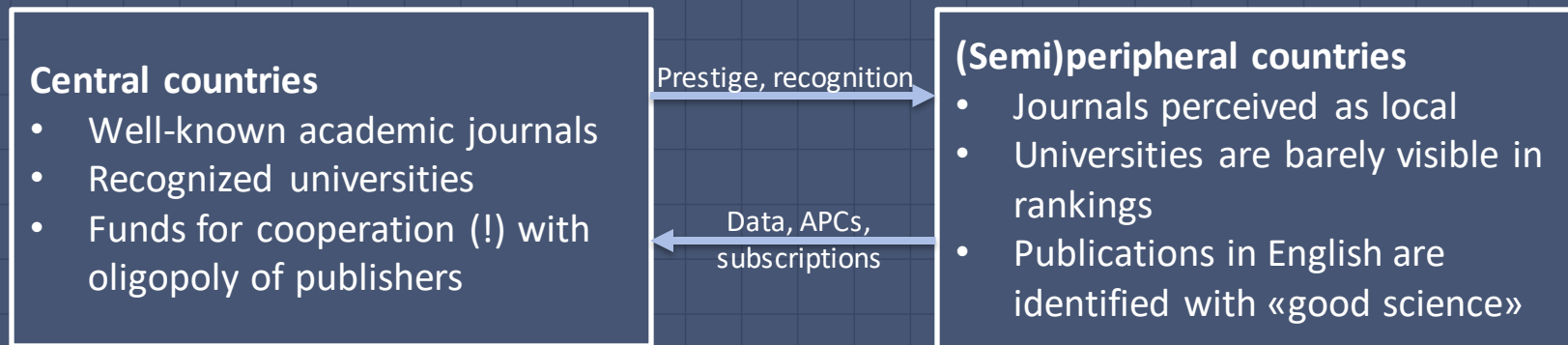
The goal

The reality





Science today?



Good guys, bad guys

As Plan S Takes Effect, Some Anticipate Inequitable Outcomes

The plan's signatories seek to make the results of their funded research available to all, but some scientists say the transition to open access has led to climbing publication fees and could exacerbate global disparities.



Alejandra Manjarrez
Aug 3, 2021 | 5+ min read

PDF VERSION



In the three years since its announcement, [Plan S](#), an initiative dedicated to making scientific research publicly available, has attracted new members, including international organizations and government funding agencies from around the world. A number of researchers question the global impact of Plan S's implementation, however, raising concerns that its stringent open-access mandates have contributed to an increase in associated publishing costs that could potentially cut into research budgets and exacerbate inequalities that already exist in science publishing.

ABOVE: © ISTOCK.COM,
XPOINT

See "[Plan S: The Ambitious Initiative to End the Reign of Paywalls](#)"

Plan S is a set of requirements drafted in September 2018 by a newly formed group of 11 national funding agencies across Europe collectively dubbed cOAlition S and supported by the European Commission and, initially, the European Research Council. The group aims to end the reign of paywalls and promote a transition to a fully open-access publishing model in science.

Traditionally, scientific journals have been sustained by subscriptions paid by libraries, institutions, and individual readers, while authors have published mostly for free. The number of journals and their subscription fees have grown in recent decades. For instance, one [analysis](#) reported 515- and 479-percent increases in the average price of library subscriptions to physical science and medical journals, respectively, between 1984 and 2001. The fast rise in subscription prices has been one of the motivations behind the push for open-access publishing, in which authors pay a fee known as an article processing charge (APC) to publish, but content is freely available.

nature

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NEWS | 16 February 2022 | Correction 22 February 2022

Open-access publishing fees deter researchers in the global south

Authors in low-income countries rarely published free-to-read papers, even when they qualified for publication-fee waivers.

[Diana Kwon](#)




Good guys, bad guys

Table 4 Publication times in terms of country group income

From: Factors affecting time to publication in information science

Country group income	N	%	Median
Collaboration of Upper Middle, Lower Middle- & Low-Income countries	12	0.3	246
Collaboration of Lower Middle- and Low-Income countries	98	2.6	216
Collaboration of High Income, Upper Middle Income, Lower Middle- & Low-Income countries	13	0.3	206
Collaboration of High Income and Upper Middle-Income countries	478	12.5	196
Upper Middle-Income countries	631	16.5	192
Collaboration of High Income and Lower Middle- & Low-Income countries	60	1.6	192
High Income countries	2524	66.2	170

How Inclusive Are the International Conferences? Attending Conferences in an Unequal World

[Güleda Doğan](#) , [Zehra Taşkın](#), [Emanuel Kulczycki](#) & [Krystian Szadkowski](#)

Conference paper | [First Online: 10 March 2023](#)

550 Accesses | **11** [Altmetric](#)

Part of the [Lecture Notes in Computer Science](#) book series (LNCS, volume 13971)

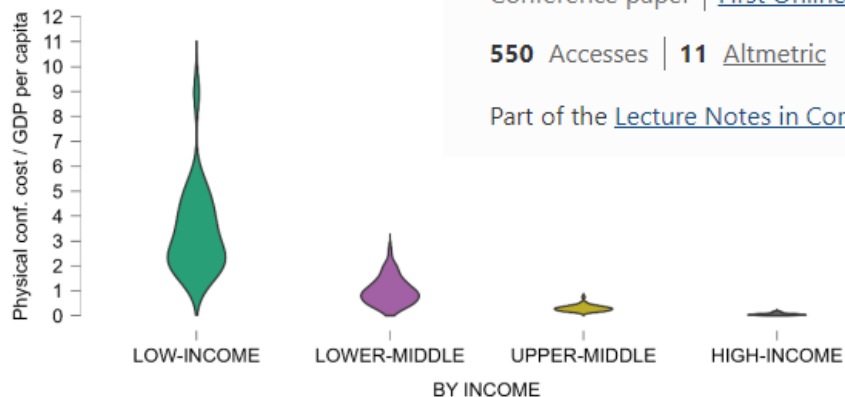
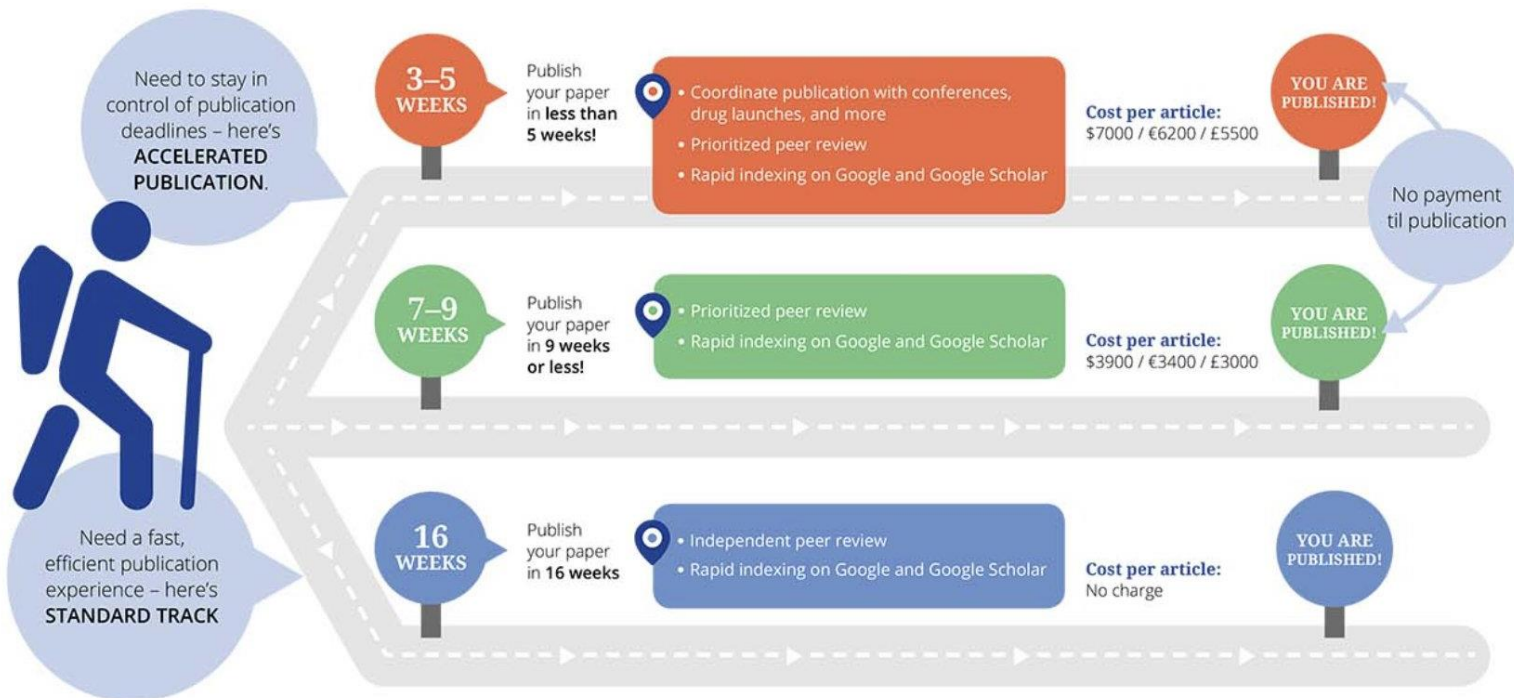


Fig. 2. The ratio of iConference2023 participation cost for physical event to GDP by country income groups.

Inequalities...



Choose your Publication Route



Should open access lead to closed research? The trends towards paying to perform research

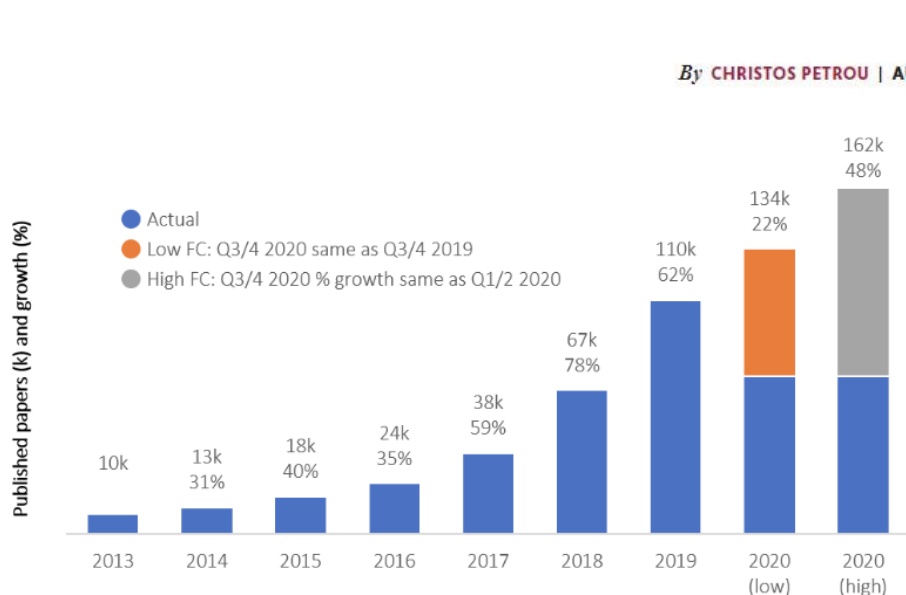
Table 2 Forty major journals selected by the total number of research articles, or the total number of OA research articles, published in 2020

From: Should open access lead to closed research? The trends towards paying to perform research

No	Journals title	OA type	APC (USD)	Publisher
1	Scientific Reports	Gold	1990	Nature Portfolio
2	IEEE Access	Gold	1750	IEEE
3	PLOS One	Gold	1749	Public Library Science
4	Sustainability	Gold	2071	MDPI
5	International Journal of Molecular Sciences	Gold	2180	MDPI
6	International Journal of Environmental Research and Public Health	Gold	2507	MDPI
7	Applied Sciences-Basel	Gold	2180	MDPI
8	Sensors	Gold	2398	MDPI
9	Science of the Total Environment	Hybrid	3400	Elsevier
10	Energies	Gold	2180	MDPI
11	Nature Communications	Gold	5560	Nature Portfolio
12	Molecules	Gold	2180	MDPI
13	ACS Applied Materials & Interfaces	Hybrid	5000	Amer Chemical Soc
14	Materials	Gold	2180	MDPI
15	Medicine	Gold	1950	Lippincott Williams & Wilkins
16	Environmental Science and Pollution Research	Hybrid	3280	Springer Nature
17	Physical Review B	Hybrid	250	Amer Physical Soc
18	Journal of Cleaner Production	Hybrid	3850	Elsevier
19	RSC Advances	Gold	1005	Royal Soc Chemistry

Guest Post – MDPI's Remarkable Growth

By **CHRISTOS PETROU** | AI



Attribute	2015	2019
Citability	Low	Average
Reputation / brand	Poor	Fair
Processing speed	Fast	Very fast
Acceptance rate	High	High
Market appeal & reach	<ul style="list-style-type: none"> Journals appeal to researchers that seek assured and fast dissemination of their work Journals & brand are not known broadly across the research community and do not inspire trust 	<ul style="list-style-type: none"> Journals appeal to researchers that seek assured and very fast dissemination of their work in known, trusted, and discoverable journals Reputation no longer a deterring factor for researchers
Volume of content	Low to moderate: approx. 17 th largest publisher	High: 5 th largest publisher

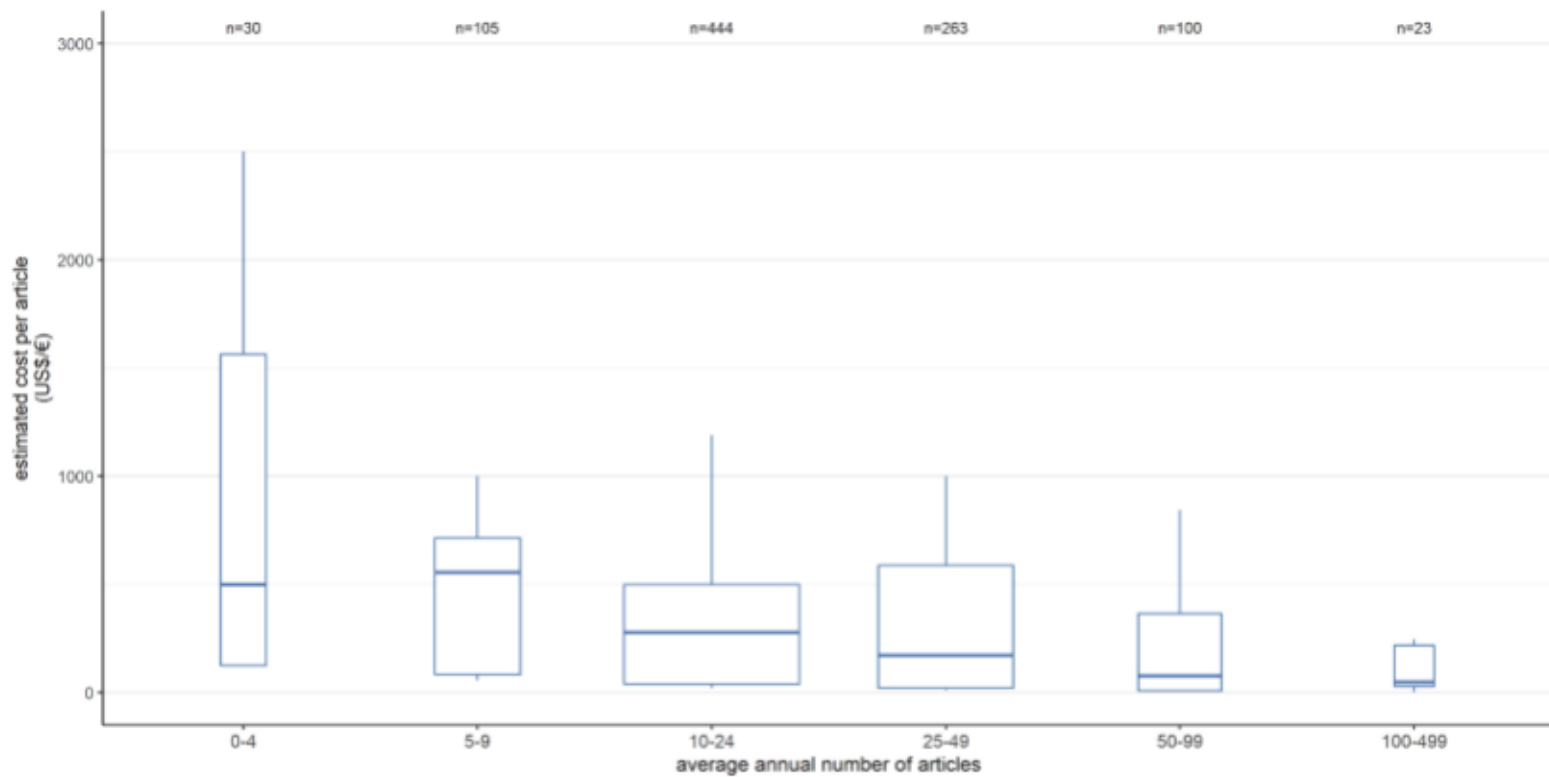


Figure 5. Distribution of estimated cost per article for diamond OA journals by journal size

Conference participation

50% of non-native English speakers often decide not to give an oral presentation

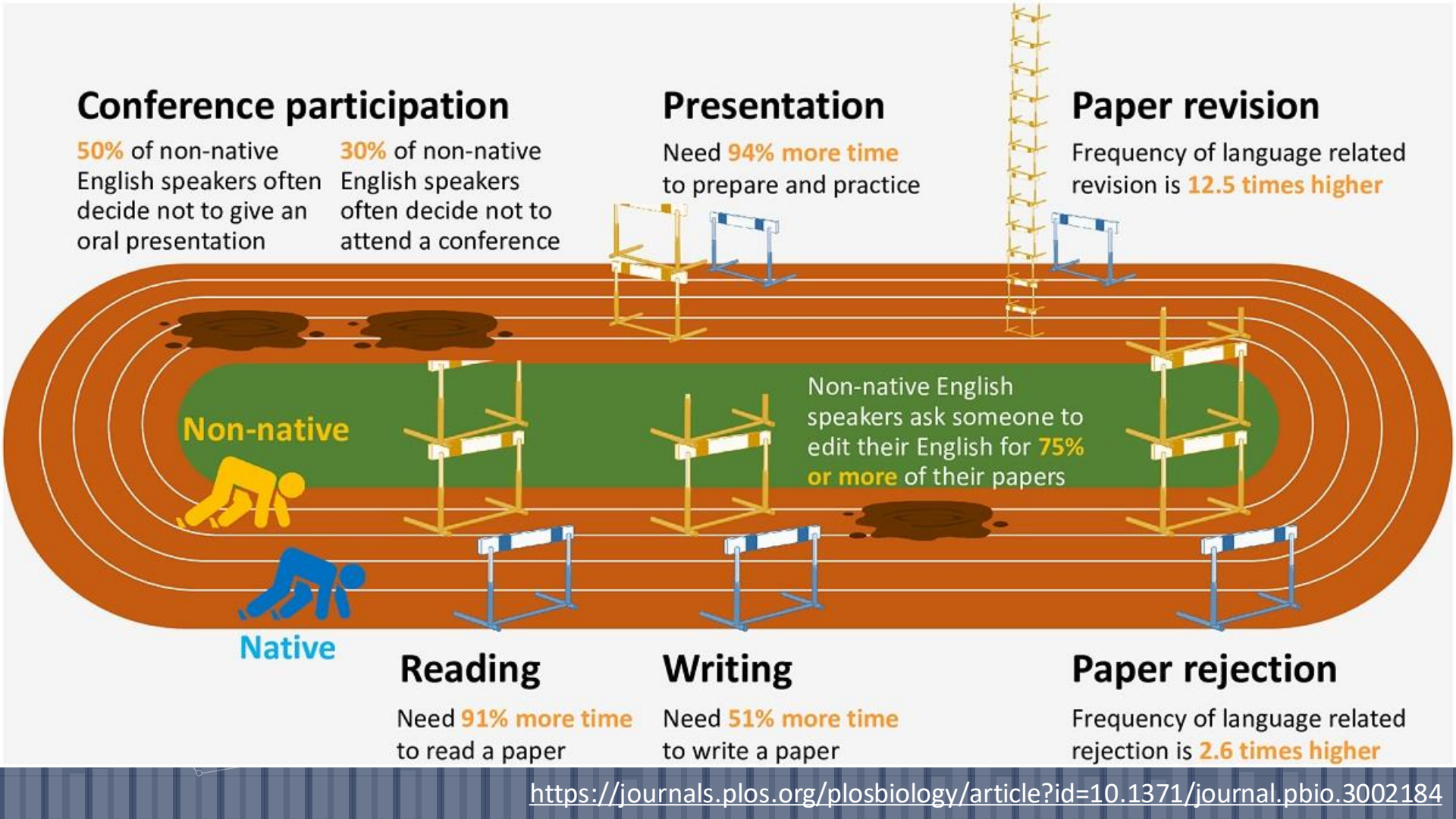
30% of non-native English speakers often decide not to attend a conference

Presentation

Need 94% more time to prepare and practice

Paper revision

Frequency of language related revision is 12.5 times higher



Non-native

Non-native English speakers ask someone to edit their English for 75% or more of their papers

Native

Reading

Need 91% more time to read a paper

Writing

Need 51% more time to write a paper

Paper rejection

Frequency of language related rejection is 2.6 times higher

Finally, there are some several language- or grammar-related issues. Please find a **native speaker** to help you proof read this article. Here I just provide some examples for your references:

1. P. 2 L. 16: "these publications" make me feel weird about what you are talking about, as previously the authors said "publications and references".
2. P. 3 L. 24 and P. 5 L. 12: indexes -> indices

P.S. I bought online proofing service (200 € - almost half of my scholarship) before submission.

One last point of view: the paper could use a round of **language** editing.
makes the paper harder to read than it should be.

In particular, both referees mentioned having some problems with the **language** of your paper. Therefore, I would like to suggest employing a professional English editing service to improve the clarity and readability of your manuscript.

P.S. One of the co-authors is a native speaker in that case.

Look at **language** as well in the last version.

Again, on content the paper is OK. But these English **language** errors simply must be corrected prior to the paper being acceptable for publication.

Almost all reviewer
reports when peer-review
is single blind



Consequences of the system...

Predatory publishing, ethical issues, hijacked journals, publish or perish culture...





Solution?

More responsible and diverse research
evaluation systems

Coalition for Advancing Research Assessment

Our vision is that the assessment of research, researchers and research organisations recognises the diverse outputs, practices and activities that maximise the quality and impact of research. This requires basing assessment primarily on qualitative judgement, for which peer review is central, supported by responsible use of quantitative indicators.

CoARA

**Identifying the diversity
of contributions and
careers**

**Responsible use of
quantitative indicators**

**Abandoning
inappropriate use of
journal based metrics
and h-index**

**Avoiding the use of
university rankings**

**Committing resources
to reforming research
assessments**

**Raising awareness of
research assessment
reform**



Signature-based activism?

DORA, Helsinki Initiative, more than our rank
etc.

KATEGORİLER ve PUANLAMA AYRINTILARI

1-SCI, SCI-EXP, SSCI VEYA AHCI KAPSAMINDAKİ DERGİLERDE YAYINLANMIŞ YAYINLAR	PUAN
a- ÖZGÜN ARAŞTIRMA MAKALESİ	
a1-Q1 kategorisindeki dergilerde yayınlanmış özgün araştırma makalesi	40
a2-Q2 kategorisindeki dergilerde yayınlanmış özgün araştırma makalesi	30
a3-Q3 kategorisindeki dergilerde yayınlanmış özgün araştırma makalesi	20
a4-Q4 kategorisindeki dergilerde yayınlanmış özgün araştırma makalesi	10
b- DERLEME	
b1-Q1 kategorisindeki dergilerde yayınlanmış derleme	40
b2-Q2 kategorisindeki dergilerde yayınlanmış derleme	30
b3-Q3 kategorisindeki dergilerde yayınlanmış derleme	20
b4-Q4 kategorisindeki dergilerde yayınlanmış derleme	10
c- "SHORT COMMUNICATION=BRIEF COMMUNICATION"	
c1-Q1 kategorisindeki dergilerde yayınlanmış "short communication=brief communication"	30
c2-Q2 kategorisindeki dergilerde yayınlanmış "short communication=brief communication"	22,5
c3-Q3 kategorisindeki dergilerde yayınlanmış "short communication=brief communication"	15
c4-Q4 kategorisindeki dergilerde yayınlanmış "short communication=brief communication"	7,5
d- VAKA/VAKA SERİSİ RAPORU, TEKNİK NOT, EDİTÖRE MEKTUP	

Search signers



Per page ▾

Hacettepe University Journal of Faculty of Letters Turkey

Hacettepe University



More Than Our Rank

The *More Than Our Rank* initiative has been developed in response to some of the problematic features and effects of the global university rankings. It provides an opportunity for academic institutions to highlight the many and various ways they serve the world that are not reflected in their ranking position. This initiative is meant for every academic institution, whether ranked or unranked, top 10 or yet to place. It is an initiative for institutions who are proud of their ranking position but also recognize the limitations of the indicators used, and for those who feel that the rankings do not reflect their strengths or institutional mission. Every institution in the world is much more than their rank. This initiative is simply an opportunity to publicly say so and explain why.

Why participate?

By participating in the *More Than Our Rank* initiative, you are demonstrating a commitment to respect a broader and more diverse definition of

To find out more, why not listen back to

Early Adopter Institutions

We're grateful to the following early adopter institutions for their support of *More Than Our Rank*:



İZMİR YÜKSEK TEKNOLOJİ ENSTİTÜSÜ

BÜTÜN ÜNİVERSİTELER ARASINDA

TÜMA (Türkiye Üniversite Memnuniyet Araştırması) 2023 sonuçlarına göre

TÜRKİYE BİRİNCİSİ



İYTE
Araştırma Üniversiteleri 2021 Yılı Performans Sıralamasında
Devlet Üniversiteleri Arasında 4'üncü Sırada



Yükseköğretimin Oscarı "THE Awards Asia 2022"de
"Yılın Uluslararasılaşma Stratejisi Ödülü"

Kazananı

İYTE

İYTE

İYTE Yükseköğretimin Oscar'ı Olarak Bilinen
THE Awards Asia 2023'te
"Yılın Liderlik ve Yönetim Ekibi" ve
"Yılın Öğrencilere Yönelik Tanıtım Kampanyası"
Kategorilerinde Finale Kaldı

İYTE

TÜBİTAK'ın açıkladığı Avrupa Birliği projelerinden
en fazla fon alan kurumlar sıralamasına listeye
6. sıradan girdi

Gurur Duy İzmir!

İZMİR YÜKSEK TEKNOLOJİ ENSTİTÜSÜ
Yükseköğretim Kurulu tarafından Türkiye'nin
En Başarılı 4. Araştırma Üniversitesi Seçildi



Academic mental health and well-being are not about that...



BEING AN ACADEMIC MENTAL HEALTH AWARENESS

This poster explores some of the common stressors that academics, including professors, experience in their strive for academic success.



YESTERDAY'S NEWS

Given the competitive environment of research, keeping concurrent is vital to sustain your career. Pressure can impact mental health.



RACE TO THE BOTTOM

Saying no to opportunities can be very difficult even if it means overstretching. There always seems to be someone else willing to go further to be successful, like working extremely long hours.

EMOTIONAL FATIGUE



Often part of the job is to support and mentor PhD and undergrad students, having to listen and help sort their problems, but very little support exists for professors themselves.



MANAGING REJECTION

Unfortunately most activities lead to repeated rejection. It is hard to get used to rejection, particularly when your success hangs in the balance.



IMPOSTOR SYNDROME

Being surrounded by people brilliant at what they do can make you question if you deserve to be where you are and lose confidence.



TOP-DOWN PRESSURE

Often as an academic it can feel impossible to say no to requests from senior management, increasing workloads and strain.



PLATE JUGGLING

Balancing research, teaching, student mentoring, marking, outreach and admin work can lead to feelings of guilt and anxiety due to being stretched too thin.



UNDER THE MICROSCOPE

With regular academic performance reviews to evaluate what impact you bring to the university, there is little space to breathe. Metrics feel unrelenting.



WORK/LIFE BALANCE

Trying to be the best in your field and balancing caring responsibilities, or simply wanting a life outside of work can lead to guilt and burnout. With workloads so high it results in no time to do anything fun.



COMPETITIVE LANDSCAPE

Often feeling pitted against others, be it members of your own department, other departments, or universities, it can be hard to find allies and peers to talk to. Competition over collaboration is fostered.



EQUALITY AND DIVERSITY

Academia is not a meritocracy even though it often pretends to be. People are often discriminated against due to sexuality, gender, race, disability and/or faith.



CREATE A FAÇADE OR FAIL

Admitting that you are not coping due to pressures can be perceived as weakness. This also makes it hard to disclose pre-existing mental health conditions or disabilities.

SELF-HARMING?
SUICIDAL THOUGHTS?

CALL SAMARITANS NOW ON **116-123**

Part of the #mentalhealth series by Dr Zoe Ayres (@zjayres). Free to distribute. With thanks to several academics for useful conversations, including Prof Bhavik Patel (@BhavikAnilPatel) and Prof Adrian Dobbs (@APDobbs).

https://figshare.com/articles/figure/Academic_Mental_Health/13238243?file=25496228

Beyond the numbers

Rethinking research performance
evaluations for quality and impact

