

The Impact of the COVID-19 Pandemic on Global Research

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Abstract

The COVID-19 pandemic is transforming the academic world. International collaboration and competition continue through the crisis. The global research community is showing openness, resilience, and humanism. The forced immobility of researchers raises both challenges and opportunities for change. Inequality, ethical concerns, and questions on research impacts are intensified by the pandemic. A reflection on current changes helps to reimagine and rebuild future global research.

COVID-19 is reshaping the world, including the academic world. What we were familiar with as “normal” is fading away and will need to be rewritten. This article reviews the impact of COVID-19 on global research and proposes a new definition of the post-COVID academic world.

Research Networks: Collaboration and Competition

The world is witnessing a fast-growing body of research on COVID-19. International organizations, governments, scientific journals, and funding bodies have been calling researchers to join forces to tackle the crisis. Early bibliometric evidence suggests a continued existence of cross-border, interdisciplinary, cross-sectoral, and multilateral collaboration.

On the other hand, competition and rivalry persist. The global race for a COVID-19 vaccine is a telling example of the influence of competition, and how scientific research and the intrinsic pursuit of knowledge is tangled with individual interests, institutional benefits, commercial values, public good, and (geo)political factors. In particular, the pandemic has exacerbated existing geopolitical tensions, resulting for instance in further restrictions on academic mobility and partnerships between China and the United States, two major influential producers of global research. It remains unclear if research in China, the United States, and other countries will be reoriented toward a more global, regional, national, or local agenda.

Research Ecology: Humanism and Openness

The COVID-19 pandemic is reshaping the ecology of global research, rebuilding the relationship among humans (e.g., researchers, participants, stakeholders) and with nonhuman subjects (e.g., knowledge, resources, publications).

The research world is showing resilience, solidarity, and humanism. The lockdown period is not a work retreat. Rather, it is a challenging time for academics to work under restrictions and uncertainty. Nonetheless, research continues worldwide. Academics have quickly adapted to the complete transfer to online teaching, online meeting, and online research. Many are offering their colleagues, participants, and students compassion and mutual support, sharing vulnerability and solidarity. Furthermore, managerial culture seems to be temporarily giving way to a humanistic approach, prioritizing researchers as human beings rather than “producers of research outputs,” and emphasizing wellbeing rather than performance and productivity. Research assessments, such as tenure track clocks at US universities, are being postponed. Funding bodies have adjusted their plans for projects, researchers, and students, allowing extensions and changes.

While countries are being locked down, science has become more open. Since the outbreak of COVID-19, an increasing number of funding bodies, publishers, journals, institutions, and researchers are embracing open science. Publications, courses, archives, and databases are shared online freely, openly, quickly, and widely. Such open data, including genome sequences, has enabled an early start worldwide to develop diagnostics and vaccines against COVID-19. For COVID-related research, the number of preprints soars, peer-review procedures are accelerated, and open access to publications is granted with special temporary schemes to remove paywalls.

Research Life: Immobility and Inequality

Due to travel restrictions, the academic world has moved to a combination of physical immobility and disconnection, coupled with virtual mobility and connectivity. This is redefining the concept of, and approaches to, international collaboration and partnership. Emphasis has shifted from cross-border movements of people and equipment to a focus on cross-border

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flows of data, information, and knowledge. Conferences and meetings have been cancelled or postponed, with many moved to online platforms. Transfers to virtual spaces have increased the inclusivity, accessibility, cost-efficiency, and environmental friendliness of such events, but also trigger concerns over digital equality, security, and privacy.

The pandemic impacts academics disproportionately—they are weathering the same storm, but under different shelters. For instance, journals' statistics reveal a lower submission rate from female researchers during the lockdown. Academics from Black, Asian, and ethnic minority groups are facing threats, attacks, or extra emotional labor due to COVID-related racism. As a result of funding cuts and revenue loss, there are less available academic positions, particularly disadvantaging those without tenured positions.

Emerging evidence suggests exacerbated inequality within academia, depending on factors like gender, race, faith, ethnicity, social class, health condition, caregiving responsibility, discipline, institution, career stage, administrative or teaching role, country or place of birth, and country or place of residence. The inequality is not only showcased by declined research productivity within certain groups, but also by negative impacts on their short/long-term financial status, job security, career advancement, physical health, and mental wellbeing. The pandemic did not create the inequality that we are witnessing, but it has intensified it: Underlying the tip of the iceberg, is preexisting and institutionalized injustice in global research, with imprints of managerialism, performativity, discrimination, othering, marketization, and the politicization of research. Treating only the symptoms of inequality is not enough, it is the system that needs restructuring.

Research Ethics and Impact: Integrity and Responsibility

The scientific world faces new or intensified ethical challenges. Due to the limitation on mobility and social contact, researchers have to adapt to digital and innovative methods, resulting in ethical concerns over such approaches. The race for fast-track and COVID-related funding, projects, activities, and publications triggers questions on the rigor, integrity, quality, impact, risk, and value of such research for research communities, participants, funders, and society. Moreover, the emphasis on “urgency” marginalizes disciplines not directly related to COVID-19 (particularly in the humanities and social sciences), while research fields with a potential for immediate impact become predominant, better acknowledged, and well-funded.

During the pandemic, research serves as a beacon of hope. Scientific evidence is considered influential to governments' responses and public behavior. However, to what extent has research generated positive societal impacts, to what extent has it been used and communicated responsibly, and to what extent is it trusted? Answers to these questions vary across governments, media channels, and communities. Misinterpretation and misuse of research happens, such as using preprints that have not gone through peer review as clickbait or as “solid” evidence for policy claims.

Redefining Future Global Research

We are standing at the crossroads of our past, present, and future. We are carrying historical baggage and knowledge into the current crisis. Meanwhile, our present experiences will be marked in history books and looked back upon by future generations.

At this point, it is crucial to reflect on the changes that are currently taking place. Changes can be temporary, but decisions to act on them or not will be transformative for our future. For instance, will the current open and humanistic culture become a “COVID limited edition,” or will it remain as a new set of norms? Immobility can be temporary, but repositioning relationships—with ourselves and with others—is long-lasting.

What will the “new norms” imply for global research? Can things that are currently changed become transformed forever? More specifically, witnessing how global research can jointly benefit humankind, how can research be understood beyond a zero-sum game, as a global common good? With evidence for potential positive changes, how can we sustain those changes and build a global research community that is open, equal, ethical, robust, sustainable, humanistic, diversified but also collaborative, responsible, and trustworthy?

There may not be immediate or definitive answers to these questions. Nonetheless, addressing them will require a long-term vision, structural changes, and collective commitment from all academics, stakeholders, institutions, and countries around the world. ▲

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