REVIEW PAPER

Academic freedom, the impact agenda, and pressures to publish: understanding the driving forces in higher education

Hamid Golhasany[1] · Blane Harvey[1]

Abstract

Academic freedom is critical for the sound production and dissemination of new knowledge. However, the growing emphasis that research funders have placed on the societal impact of research has concerned some scholars, particularly with regard to its potential impact on their academic freedom. These concerns can be about pressures to research with immediate applications, scientific impartiality and reduced investment into fundamental research. However, we argue that these concerns can also relate to the ever-growing pressure to publish, experienced by most academics (the so-called 'publish or perish' culture). Understanding the dynamic between academic freedom and the impact agenda would be incomplete, we argue, without accounting for the effects of the publish or perish culture in academia. For this purpose, we first investigated the justification for academic freedom and the function it is supposed to perform. Our analysis then examined the relationship between academic freedom and the impact agenda on the fundamental level with a focus on societal impact, knowledge mobilization, and accountability in using public funds. Finally, this discussion paper highlighted the effects of the publish or perish culture in academia as they contradict the shared values of academic freedom and the impact agenda. Ultimately, these effects pose a serious threat to academic freedom by questioning its underlying justification and function. We conclude that addressing the effects of the publish or perish culture has more urgency and significance for academics in order to protect academic freedom.

Keywords Academic freedom · Research impact · Social contract · Knowledge mobilization · Publish or perish culture

✉ Hamid Golhasany
   Hamid.golhasany@mail.mcgill.ca

1 Department of Integrated Studies in Education, Faculty of Education, McGill University, Montreal, QC, Canada

Introduction

In recent years, higher education and research funding systems around the world have increasingly promoted the *impact agenda* (Williams and Grant 2018; Sutton 2020). As a set of policies, the impact agenda refers to the heightened expectations of academia's contributions to society through the generation of more relevant knowledge to address contemporary challenges or concerns (Bandola-Gill 2019). In this sense, the concept of research impact differs from the traditional meaning of academic impact and instead refers to societal changes that are attributable to research projects. Most famously, The Higher Education Funding Council for England (HEFCE) defined research impact as "an effect on, change or benefit to the economy, society, culture, public policy or services, health, the environment or quality of life, beyond academia" (Higher Education Funding Council for England 2011). In this sense, the impact agenda highlights accountability and transparency as principles in doing research and using public resources (Davies et al. 2005; Pettigrew 2011; Creutzfeldt et al. 2019; Mahony and Weiner 2019; Watermeyer and Chubb 2019).

Based on these principles, many research funding systems have begun developing performance assessment structures that seek to define and assess societal impact. For instance, the *Research Excellence Framework (REF)* in the United Kingdom gauged the relevance of academic output to societal needs and priorities when examining their academic quality (often referred to as excellence). Similar research impact assessment systems have been adopted in Australia, the Netherlands, and New Zealand (MacGregor et al. 2020). By assessing research impact alongside more traditional research excellence factors such as a publication outlet's Impact Factor, these evaluation frameworks push the impact agenda further into academic communities (Smith et al. 2011; Mitchell 2019).

Considering these frameworks' influence on the performance evaluation of researchers and universities, they have been targeted with criticism and concern due to their potential effects on academic freedom (Martin 2011; Smith et al. 2011; McGettigan 2013; Bandola-Gill 2019; Johnson and Orr 2020). Academic freedom refers to the independence of academics to carry out academic work (research, teaching, and service) without external pressures and interference (Robinson and Moulton 2001; Poff 2012). Some academics worry that accountability measures under the new evaluation frameworks assessing the societal impact of their research could lead to increased managerialism and curbs on their freedom and professional autonomy (Deem et al. 2007; Anderson 2008; Shore 2008). More specifically, academics have raised concerns about the impact agenda's effect on a researcher's autonomy in setting research agendas, funding for fundamental research, the narrow definitions and metrics for societal impact, and potential adverse impacts on academic quality (or research excellence) (Pettigrew 2011; Watermeyer 2016; Machen 2019).

Although the concerns about ensuring that an increasing emphasis on societal impact does not compromise academic freedom are well-founded, we argue that an assessment of the influence of the impact agenda on academic freedom may require a more nuanced analysis than has been undertaken to date. More specifically, we

make the case that an analysis of these dynamics is incomplete without consideration of the effects of a third phenomenon: academia's 'publish or perish' culture. Publish or perish culture refers to the pressures on academics to produce increasing numbers of academic outputs (e.g., peer-reviewed articles) in order to maintain or advance their academic standing (van Dalen and Henkens 2012; Moosa 2018). Past research has demonstrated the negative effects of this culture on scholarly work (Fanelli 2010; van Dalen and Henkens 2012) and on knowledge mobilization or community-engaged research, which are essential to benefiting society from investing in research (Hall et al. 2016).

Given the significance of academic freedom and the rapid rise in prominence of the impact agenda over the past decade, a more fundamental analysis of the intersection of academic freedom, the impact agenda, and publish or perish culture is necessary to understand the driving forces in higher education, and ultimately protect academic freedom. Our analytic framing, which posits that publish or perish culture is a powerful mediator of the relationship between the pursuit of research impact in line with principles of academic freedom, remains underexamined in current literature on these issues. This paper offers an initial theoretical contribution toward understanding this dynamic, which we hope will stimulate further debate and analysis among research and educational policy communities. To do so, we explore the following questions: What is the relationship between academic freedom, the impact agenda, and publish or perish culture? And how can academic freedom be protected concerning these significant forces? For this purpose, we first examine the nature and purpose of academic freedom and why it has been given to academics. Then our analysis considers its relationship with the impact agenda and how in theory, they are aligned in their values to benefit the society and demonstrate accountability. The final section of the present paper discusses the three effects of the publish or perish culture that contradict the shared values of the impact agenda and academic freedom.

Uncovering the dynamics between three contentious concepts

The utilitarian case for academic freedom

Understanding the principal purpose of academic freedom is an essential starting point for assessing its relationship to research impact and the impact agenda. To this end, Fish (2014) asks the following illustrative questions:

> How does one justify academic freedom? Why should members of a particular profession be granted latitudes and exemptions not enjoyed by other citizens?... Why should college and university professors be free to choose the direction of their research while researchers who work for industry and government must go down the paths mandated by their employers? (p. 1)

The answer to these questions may lie in framings of academic freedom's function. Some past research has argued that academic freedom has a *utilitarian* function

(Weidner 2003). This essentially means that it is critical to ensure academic freedom in academia because of the contributions that publicly funded research can make to advancing or preventing harm to society (Horn 1999; Abdel-Motaal 2002; McGuinness 2002; Rochford 2003; Karran 2009; Matei and Iwinska 2018).

Although, when explaining academic freedom, the reference to this function is often implicit (Teichler 2015), the "external justification" (Fish 2014) or "academic freedom is necessary for democracy" thesis (Fish 2014, p. 48) is widely accepted among academics. For instance, statements of academic freedom, either from universities or scientific associations, attest to the utilitarian nature of academic freedom. The Canadian Association of University Teachers (2018), for example, has explicitly used this justification for academic freedom at the very beginning of their statement:

> The institution [universities and colleges] serves the common good of society, through searching for, and disseminating, knowledge, and understanding and through fostering independent thinking and expression in academic staff and students. These ends cannot be achieved without academic freedom. All academic staff members have the right to academic freedom. (para. 1)

The external justification for academic freedom also means that, for academia to preserve its freedom, it has to be conscious of its social significance (Bernal 1938; Sawer 1987) and be responsive to societal challenges (Ayres 2014; Appiagyei-Atua et al. 2015). This bilateral relationship is seen as a social contract between academia and the general public in which academia provides "widely diffused benefits to society and the economy in return for allowing an unusual degree of intellectual autonomy and internal self-governance to the recipients of federal support" (Brooks 1990).

Academic freedom and the impact agenda

On the theoretical level, the impact agenda's emphasis on research relevance and public accountability appears consistent with the external justification of academic freedom and its utilitarian function. First, the emphasis on the societal relevance of research activities means that academia needs to be more attentive to the needs and priorities of the communities that provide the research funding. Secondly, the increased request for accountability would encourage academia to improve its capability to deal with instances of misconduct and better demonstrate self-governance. This section discusses these two points in more detail.

The impact agenda underscores the significance of research to societal needs in multiple ways. One way is through research-funding organizations as they frame the creation of socioeconomic impact as a formal responsibility of academia. They then subsequently ask for evidence of fulfilling this responsibility. These reframings happen mainly by introducing funding requirements and including impact in assessment measures (e.g., the UK's Research Excellence Framework). These are important as they suggest the increased importance of research relevance and societal impact in

the performance assessments of researchers and research groups alongside other traditional measures such as novelty.

The emphasis on the societal relevance of research also happens by requiring researchers to include and execute knowledge mobilization plans in research projects. Knowledge mobilization is the process of increasing reciprocal connection and flow of knowledge between researchers and knowledge users with the ultimate goal of creating societal impacts (Social Sciences and Humanities Research Council 2019). This covers a wide range of possible activities, from the inclusion of anticipated knowledge users in the design of the research itself, to broadening the forms and spaces for sharing research findings as they are identified. Past literature has described the socioeconomic impact of research as the goal, and knowledge mobilization as the process for achieving it (Phipps et al. 2016). By making knowledge mobilization activities a necessary part of academic work, the impact agenda emphasizes the importance of societal benefits from knowledge generated via research.

Another way that the impact agenda finds a compatible dynamic with academic freedom is the demand to enhance societal and fiscal accountability. This accountability is necessary to the public who invest in the academic activities, or to people who may put the research and its evidence into use (Dobrow et al. 2017). First, the impact agenda advocates forming partnerships and then giving active roles to those partners. This is especially warranted at the initial stages of research design in order to create impact (Phipps et al. 2016). Accordingly, forming partnerships increases societal accountability by making research questions more relevant to local needs and priorities. Moreover, it ensures that the knowledge produced is fully mobilized into policy or practice through the most suitable formats (e.g., workshops, policy briefs). This helps the partners to use the knowledge effectively. Actively engaging in the research process also strengthens the commitment of partners to use the research results (Abma et al. 2017).

Forming partnerships and including non-academic stakeholders in the research process also enhances fiscal accountability by increasing the transparency in academic work (Campbell 2010; Klenk and Wyatt 2015). Even though non-academic stakeholders' participation in research projects can concern some academics regarding the disinterestedness and impartiality of science (Jasanoff 1987), having an active voice in co-designing and co-managing the projects allows the non-academic partners to share authority. Their engagement ultimately increases transparency in the way that academia functions (Newton and Scott-Findlay 2007; Lozhkina 2019).

Professional autonomy and its functions

Intellectual or *professional autonomy* is a concept that is often used interchangeably with academic freedom (Matei and Iwinska 2018), but it constitutes another dimension of academic freedom (Brooks 1990; Guston 2020). More than anything, it highlights the public's confidence and trust in academia's capability to *govern* itself efficiently (Barnes 2020). Professional autonomy is the ability to set the university missions, hire staff, allocate funding to research fields, and address scientific

misconduct—ideally in a collegial format (Ashby 1966; Moodie 1996; Horn 1999; Trowler 2001; Marginson 2002; Horwitz 2004; Dill 2020). Professional autonomy is significant for academic freedom because it could address the two important challenges of the utilitarian function of academic freedom and the impact agenda.

The first concern about the utilitarian function of academic freedom is that over-emphasizing applied research for solving societal challenges could put 'pure' or fundamental research in a disadvantaged position (Chubb 2017). Harm can be done in the form of reducing funds available for fundamental research and decreasing researchers' willingness to engage in fields or sub-fields without immediate applications (Oancea 2013). Fundamental research is necessary for the progression of scientific knowledge, as many scientific breakthroughs build upon them (Holt Gary et al. 2016). For instance, even though new molecular technologies such as CRISPR-Cas have come to be known as scientific breakthroughs, the basic research that underpins them is typically overlooked or under-valued (Ronai and Griffiths 2019).

If pushing toward more applied (or use-oriented) research translates into the reduction of funding for fundamental research, then academic freedom is challenged. This is due to the idea that researchers will not have the autonomy to follow their professional insights and investigate issues that could pave the way for future breakthroughs. Eventually, this limitation could lead academia to struggle to uphold its end of the social contract because the production of new knowledge is not sustained.

The second major concern relates to the interests of different groups. If the function of academic freedom is to ultimately benefit society, who is in the position to determine what that benefit should look like? For instance, if the notion of 'impact' is interpreted narrowly (e.g., as economic or commercial benefits) in assessment frameworks, many disciplines in the Humanities and Social Sciences could struggle to demonstrate their contribution. This was the case when impact was being initially defined for the Research Excellence Framework (REF) in the UK (Chubb and Reed 2017). Due to such concerns, more than 17,000 scholars signed a petition demanding that the UK government drop the proposal of an 'economic and social impact' assessment within the REF (Looseley 2011). Moreover, it is important to note that society's interests and those of governments distributing funds for research are not always aligned. For example, in dictatorships or totalitarian regimes, political agendas could use the utilitarian justification to control the research topics, censor new understandings, or misuse scientific evidence to justify their political positions and thus curb academic freedom. The outcome of such a situation is not only the collapse of academic freedom but also the eventual surrendering of society's freedom (Polanyi, as cited in Hartl 2012).

These potential hazards exist, and actual instances have happened to different degrees in some countries (Ayres 2014; Guston 2020). However, professional autonomy in academia could be critical to preserving academic freedom. Academia, through its collegial system of governance, has the potential to determine collectively agreed responses to these hazards and uphold academic values and standards. For example, in the case of the Research Excellence Framework in the UK, ultimately, impact was given a more comprehensive definition to be consistent with the nature of contributions in different disciplines. The change happened in response

to the academic community addressing the instrumental and economic definitions within earlier policy discussions, such as in the Warry report (Dunlop 2018).

Challenges of the publish or perish culture

To this point, we have explored the theoretical dynamic between academic freedom with the impact agenda. However, understanding the concerns for academic freedom will be limited unless we consider another major force affecting the relationship between academia and broader society. Within the utilitarian justification of academic freedom, the publish or perish culture works against two major promises of academic freedom: benefiting society with new knowledge and demonstrating academia's ability to self-govern. Benefiting society with publicly funded research and increasing accountability were also the two main objectives of the impact agenda, as noted above. In this section, our analysis explores how the publish or perish culture in higher education introduces three main challenges to the realization of these shared goals by: narrowing the scope scholarly work, restricting knowledge mobilization activities, and pushing researchers to commit academic misconduct.

Narrowing the scope of scholarly work

Academics are expected to perform three primary functions: teaching, conducting research, and performing service (Moosa 2018). However, the rise of the publish or perish culture has meant that scholars in many universities are under increasing pressure to regularly publish in high-ranking peer-reviewed journals in order to demonstrate their productivity and to secure tenure and promotion (Miller Alan et al. 2011; Hammersley 2014; Doyle and Cuthill 2015; Baron and Russell-Bennett 2016; Grančay et al. 2017; Morrish 2020). This pressure frequently comes at the expense of performing other kinds of academic duties, such as mentoring graduate students or teaching undergraduate courses (van Dalen and Henkens 2012; Wadesango 2014; Moosa 2018). Cole (2000) has referred to this as a dilemma in Education departments, where academics face a choice between committing to their professional community, which values "teaching excellence, service to the professional community, and ties with the public and professional sector" (p. 38), and accepting university norms, "which emphasize scholarship (narrowly defined), research funding, and academic prestige" (p. 38). Even though these two are not entirely exclusive, teacher educators must still "serve two masters" (Reynolds 1995) to survive in academia.

Other than devaluing the non-research aspects of academic work, publish or perish culture is also adversely influencing research work itself, which could hurt the sustainable production of knowledge in the long term. For instance, it can force researchers to choose particular topics of focus to increase the chances of publishing their findings and accelerating the peer-review process. In this process, many theoretical, critical, and novel research topics may be ignored in favor of conventional trendy topics or the ones likely to produce publishable outputs in a short time (De Rond and Miller 2005; Slater 2012; Lee 2014; Moustafa 2015). In one notable example, Foster et al.'s (2015) comparative study of 'risky

innovation' and 'productive tradition' in chemistry and biomedicine concluded that over 60 percent of published papers eschewed innovation to answer established questions and build on tradition. They concluded that "an innovative publication is more likely to achieve high impact than a conservative one, but the additional reward does not compensate for the risk of failing to publish" (p. 875).

Restricting knowledge mobilization

Knowledge mobilization is another aspect of contemporary scholarly work and the contractual nature of academic freedom that is impacted by the publish or perish culture. The Social Sciences and Humanities Research Council in Canada points out that:

> Knowledge mobilization is about ensuring that all citizens benefit from publicly funded research. It can take many forms, but the essential objective is to allow research knowledge to flow both within the academic world and between academic researchers and the wider community. By moving research knowledge into society, knowledge mobilization increases its intellectual, economic, social, and cultural impact (SSHRC, as cited in Cooper et al. 2018)

For research to contribute to any change in society, it needs to reach and be accessible to change agents in society, such as policymakers and practitioners. In this regard, Phipps et al. (2016) describe two further stages of mobilizing knowledge after research dissemination (commonly understood as publishing in scientific journals and presenting in academic conferences). Based on this model, research has to pass through an *uptake stage*, in which a change agent obtains research evidence, and the *implementation stage*, where research evidence improves or affects the current policies or services. Therefore, it is essential for researchers to actively participate in the uptake and implementation stages of mobilizing research evidence to achieve impact.

Considering these functions, knowledge mobilization makes significant contributions to societal impact by narrowing the gap between universities and change agents in society (Lavis 2006). Therefore, institutional support in the form of funding and incentives is needed to maximize researchers' involvement in knowledge mobilization (Cooper et al. 2018; Bayley and Phipps 2019). However, under the influences of the publish or perish culture, universities and research organizations tend to place excessive importance on the productivity of researchers (interpreted solely as academic *output*) rather than on supporting knowledge mobilization to achieve broader impact (Sá et al. 2011). In fact, peer-reviewed papers are described as the "currency" of academia for obtaining research funds or promotions (Hering 2016). When the rewards structure in academia places this amount of importance on the quantitative recording of publications, it neglects the importance of knowledge mobilization activities, which are necessary for mobilizing the research evidence into policy or practice. In this context, knowledge mobilization becomes an unnecessary function done on top of everything else (Levin 2008).

Increasing academic misconduct

Academia's privileges of professional autonomy and academic freedom are based on the assumption of its ability to self-regulate (Lee 2012). Gerber (2001) explains that researchers "…need affirmative authority to shape the environment in which they carry out their responsibilities" (p. 23). Hence, governance in academia should be based on academic values, not on external or vocational pressures, when deciding on matters such as funding, tenure, promotion, and performance evaluation. In this way, the privilege to self-regulate reflects the general public's belief in the ability and willingness of the academic community to regulate the behavior of its members (Braxton and Bayer 1994; Barnes 2020).

Despite such trust in the ability of academics for self-regulation, Fang et al.'s (2012) study on research misconduct reported a tenfold increase in the percentage of scientific papers retracted because of misconducts since 1975. Such questionable research practices include falsification, fabrication, salami-slicing (i.e., breaking a single study into multiple publications), citation stacking (i.e., forcing or making inappropriate citations), and biased reporting (Tijdink et al. 2014). One major reason for this growing tendency toward academic misconduct is the pressure to increase output and accelerate the publication process (Errami and Garner 2008; Elliott 2013; Moosa 2018). As such, various forms of academic misconduct, whether due to intentional or unintentional errors on the authors' part, may "…be justified by the prestige and recognition gained by increasing the number of publications attributed to the author, as well as to secure patents, research grants, or funding" (de Assisa et al. 2019). Therefore, with increased pressure of the publish or perish culture, the value and importance of getting papers published can outmatch the reliability and societal relevance of its results (Fanelli 2010; Moustafa 2015).

The above discussions delineate the challenges that the publish or perish culture poses to the ability of academics to self-govern. Consequently, it also reflects the challenges to academic freedom, as self-regulation is an essential aspect of it. This challenge becomes even more daunting if universities attempt to avoid addressing the incidents rigorously in fear of repercussions, such as embarrassment or loss of funding (Shamoo and Resnik 2009).

Conclusion

This paper analyzed the relationship between academic freedom, the impact agenda, and the publish or perish culture in academia. Its end goal was to provide a more complete picture by looking at the driving forces in academia that collectively influence academic freedom but seldom are examined together. For this purpose, our analysis discussed the chief reason academic freedom exists and its serving function. Then, it highlighted the impact agenda's emphasis on research relevance and accountability and examined how they suitably fit with academic freedom's values of benefiting society with new research and professional autonomy. The last section argued that the publish or perish culture works against these shared values by

limiting scholarly work, restricting knowledge mobilization and increasing academic misconduct.

Based on these discussions, it is evident that addressing the interfering effects of the publish or perish culture is a more urgent and significant matter if academic work is to be characterized by freedom and societal impact. This culture's barriers to academic work, such as restricting knowledge mobilization, pose more crucial problems to academic freedom and professional autonomy as they undermine the underlying external justification for having them. The three highlighted effects of this culture can act as the starting points to improve academic work and contribute to the sustainability of academic freedom. These arguments invite further reflection on balancing the career value of academic outputs (such as revising performance metrics) and encouraging the greater engagement of researchers in KMb (such as increasing universities' support).

As the arguments of this paper do not go beyond theoretical analyses, further research is needed to deepen our understanding of how to best translate these insights into policies and actions. Above all, studies are needed to explore the appropriate balance of research productivity and research impact. This should give specific consideration to factors such as the funding source, field of study, research environment, and the academic seniority of researchers. Empirical studies could also illuminate the correlation between research productivity, academic misconduct, research quality, and achievement of societal impacts. Finally, ethnographic investigations could demonstrate the experiences of successful researchers in achieving societal impact with their research projects. For instance, if they have confronted threatening challenges to their academic freedom in creating societal impact.

Data availability Data sharing is not applicable to this article as no datasets were generated or analyzed during the current study.

Research ethics approval Ethics approval is not applicable to this article as no data collection with humans or animals was involved in this study.

References

Abdel-Motaal MB (2002) Academic freedom and civil society: some personal reflections. High Educ Pol 15(4):365–370

Abma TA, Cook T, Rämgård M, Kleba E, Harris J, Wallerstein N (2017) Social impact of participatory health research: collaborative non-linear processes of knowledge mobilization. Educ Action Res 25(4):489–505

Anderson G (2008) Mapping academic resistance in the Managerial University. Organization 15(2):251–270

Appiagyei-Atua K, Beiter KD, Karran T (2015) The composite theory: an african contribution to the academic freedom discourse. S Afr J Human Rights 31(2):315–329

Ashby E (1966) Technology and the academics: an essay on universities and the scientific revolution. Macmillan

Ayres S (2014) Rethinking policy and politics: reflections on contemporary debates in policy studies. Policy Press, Bristol

Bandola-Gill J (2019) Between relevance and excellence? Research impact agenda and the production of policy knowledge. Sci Public Policy 46(6):895–905

Barnes J (2020) Collegial governance in postwar Australian universities. Hist Educ Rev 49:149

Baron S, Russell-Bennett R (2016) Editorial: beyond publish or perish: the importance of citations and how to get them. J Serv Mark 30(3):257–260

Bayley JE, Phipps D (2019) Institutional impact health workbook. Bingley, Emerald Publishing

Bernal JD (1938) The social function of science. Stephen Austin and Sons, Hertford

Braxton JM, Bayer AE (1994) Perceptions of research misconduct and an analysis of their correlates. J High Educ 65(3):351–372

Brooks H (1990) Lessons of history: successive challenges to science policy. In: Cozzens SE, Healey P, Rip A, Ziman J (eds) The research system in transition. Dordrecht, Springer, pp 11–22

Campbell B (2010) Applying knowledge to generate action: a community-based knowledge translation framework. J Contin Educ Heal Prof 30(1):65–71

Canadian Association of University Teachers (2018) Academic freedom. https://www.caut.ca/about-us/caut-policy/lists/caut-policy-statements/policy-statement-on-academic-freedom. Accessed 10 July 2020

Chubb JA (2017) Instrumentalism and epistemic responsibility: researchers and the impact agenda in the UK and Australia. University of York, York

Chubb J, Reed M (2017) Epistemic responsibility as an edifying force in academic research: investigating the moral challenges and opportunities of an impact agenda in the UK and Australia. Palgr Commun 3(1):20

Cole AL (2000) Academic freedom and the publish or perish paradox in schools of education. Teach Educ Q 27(2):33–48

Cooper A, Rodway J, Read R (2018) Knowledge mobilization practices of educational researchers across Canada. Can J High Educ 48(1):1–21

Creutzfeldt N, Mason M, McConnachie K (2019) Routledge handbook of socio-legal theory and methods. Taylor & Francis

Davies H, Nutley S, Walter I (2005) Assessing the impact of social science research: conceptual, methodological and practical issues.

de Assisa AJB, Holandab CA, de Amorima RFB (2019) A new side of an old problem: self-plagiarism in scientific publications. Geriatr Gerontol Aging 13(2):95–102

De Rond M, Miller AN (2005) Publish or perish: bane or boon of academic life? J Manag Inq 14(4):321–329

Deem R, Hillyard S, Reed M, Reed M (2007) Knowledge, higher education, and the new managerialism: the changing management of UK universities. OUP, Oxford

Dill DD (2020) Enhancing academic quality and collegial control: insights from US policy on the ethical conduct of human subjects' research. High Educ Pol 33(1):45–64

Dobrow MJ, Miller FA, Frank C, Brown AD (2017) Understanding relevance of health research: considerations in the context of research impact assessment. Health Res Pol Syst 15(1):31

Doyle J, Cuthill M (2015) Does 'get visible or vanish' herald the end of 'publish or perish'? High Educ Res Dev 34(3):671–674

Dunlop CA (2018) The political economy of politics and international studies impact: REF2014 case analysis. Br Polit 13(3):270–294

Elliott DB (2013) Salami slicing and the SPU: publish or perish? Ophthalmic Physiol Opt 33(6):625–626

Errami M, Garner H (2008) A tale of two citations. Nature 451(7177):397–399

Fanelli D (2010) Do pressures to publish increase scientists' bias? An empirical support from US states data. PLoS ONE 5(4):e10271

Fang FC, Steen RG, Casadevall A (2012) Misconduct accounts for the majority of retracted scientific publications. Proc Natl Acad Sci 109(42):17028

Fish S (2014) Versions of academic freedom: from professionalism to revolution. University of Chicago Press

Foster JG, Rzhetsky A, Evans JA (2015) Tradition and innovation in scientists' research strategies. Am Sociol Rev 80(5):875–908

Gerber LG (2001) Inextricably linked: shared governance and academic freedom. Acad Bull AAUP 87(3):22–24

Grančay M, Vveinhardt J, Šumilo Ē (2017) Publish or perish: how Central and Eastern European economists have dealt with the ever-increasing academic publishing requirements 2000–2015. Scientometrics 111(3):1813–1837

Guston DH (2020) Social contract for science. Encyclopedia of Science, Technology, and Ethics. https://www.encyclopedia.com/science/encyclopedias-almanacs-transcripts-and-maps/social-contract-science

Hall HM, Walsh J, Greenwood R, Vodden K (2016) Advancing innovation in Newfoundland and Labrador: insights for knowledge mobilization and university-community engagement. J Commun Engag Scholar 9(1):4

Hammersley M (2014) The perils of 'impact' for academic social science. Contemp Social Sci 9(3):345–355

Hartl P (2012) Michael Polanyi on freedom of science. Synth Philos 54(2):307

Hering JG (2016) Do we need more research or better implementation through knowledge brokering? Sustain Sci 11(2):363–369

Higher Education Funding Council for England (2011) Assessment framework and guidance on submissions https://www.ref.ac.uk/2014/media/ref/content/pub/assessmentframeworkandguidanceonsubmissions/GOS%20including%20addendum.pdf

Holt Gary D, Goulding Jack S, Akintoye A (2016) Enablers, challenges and relationships between research impact and theory generation. Eng Constr Archit Manag 23(1):20–39

Horn M (1999) Academic freedom in Canada: a history. University of Toronto Press, Toronto

Horwitz P (2004) Grutter's first amendment. BCL Rev 46:461

Jasanoff SS (1987) Contested boundaries in policy-relevant science. Soc Stud Sci 17(2):195–230

Johnson S, Orr K (2020) What is business school research for? Academic and stakeholder perspectives, politics and relationality. Stud High Educ 45(3):557–578

Karran T (2009) Academic freedom: in justification of a universal ideal. Stud High Educ 34(3):263–283

Klenk NL, Wyatt S (2015) The design and management of multi-stakeholder research networks to maximize knowledge mobilization and innovation opportunities in the forest sector. Forest Policy Econ 61:77–86

Lavis JN (2006) Research, public policymaking, and knowledge-translation processes: Canadian efforts to build bridges. J Contin Educ Heal Prof 26(1):37–45

Lee J (2012) The past, present, and future of scientific misconduct research: what has been done? What needs to be done? J Profr 6(1)

Lee I (2014) Publish or perish: the myth and reality of academic publishing. Lang Teach 47(2):250–261

Levin B (2008) Thinking about knowledge mobilization

Looseley D (2011) Making an 'impact': some personal reflections on the Humanities in the UK. Arts Human High Educ 10(1):9–18

Lozhkina A (2019) Knowledge mobilization: local community engagement, sustainability, and adaptive governance. University of Regina, Faculty of Graduate Studies and Research

MacGregor S, Phipps D, Edwards CM, Kyffin J (2020) Active engagement of canadian research institutions will foster the future of knowledge mobilization and research impact. Int J Educ Policy Leadersh 16(5)

Machen R (2019) Critical research impact: on making space for alternatives. Area 52(2):1–13. https://doi.org/10.1111/area.12574

Mahony P, Weiner G (2019) Neo-liberalism and the state of higher education in the UK. J Furth High Educ 43(4):560–572

Marginson S (2002) Nation-building universities in a global environment: the case of Australia. High Educ 43(3):409–428

Martin B (2011) The research excellence framework and the 'impact agenda': are we creating a Frankenstein monster? Res Eval 20(3):247–254

Matei L, Iwinska J (2018) Diverging paths? Institutional autonomy and academic freedom in the European Higher Education Area. In: Curaj A, Deca L, Pricopie R (eds) European Higher Education Area: the impact of past and future policies. Springer, Cham, pp 345–368

McGettigan A (2013) The great university gamble. Markets and the Future of Higher Education, Pluto Press, Money

McGuinness K (2002) The concept of academic freedom, Edwin Mellen Pr

Miller Alan N, Taylor Shannon G, Bedeian Arthur G (2011) Publish or perish: academic life as management faculty live it. Career Dev Int 16(5):422–445

Mitchell V (2019) A proposed framework and tool for non-economic research impact measurement. High Educ Res Dev 38(4):819–832

Moodie GC (1996) On justifying the different claims to academic freedom. Minerva 34(2):129–150

Moosa IA (2018) Publish or perish: origin and perceived benefits: perceived benefits versus unintended consequences. Publish or Perish, Edward Elgar Publishing

Morrish L (2020) Academic freedom and the disciplinary regime in the Neoliberal University. In: Dawes S, Lenormand M (eds) Neoliberalism in context: governance, subjectivity and knowledge. Springer, Cham, pp 235–253

Moustafa K (2015) The disaster of the impact factor. Sci Eng Ethics 21(1):139–142

Newton MS, Scott-Findlay S (2007) Taking stock of current societal, political and academic stakeholders in the Canadian healthcare knowledge translation agenda. Implement Sci 2(1):32

Oancea A (2013) Interpretations of research impact in seven disciplines. Eur Educ Res J 12(2):242–250

Pettigrew AM (2011) Scholarship with impact. Br J Manag 22(3):347–354

Phipps D, Cummins J, Pepler DJ, Craig W, Cardinal S (2016) The co-produced pathway to impact describes knowledge mobilization processes. J Commun Engag Scholarsh 9(1):31–40

Poff DC (2012) Research funding and academic freedom. In: Chadwick R (ed) Encyclopedia of applied ethics (second edition). Academic Press, San Diego, pp 797–804

Reynolds RJ (1995) The professional self-esteem of teacher educators. J Teach Educ 46(3):216–227

Robinson G, Moulton J (2001) Academic freedom. Encycl Ethics 10–13

Rochford F (2003) Academic freedom as insubordination: the legalisation of the academy. Educ Law 15(4):249–262

Ronai I, Griffiths PE (2019) The case for basic biological research. Trends Mol Med 25(2):65–69

Sá CM, Li SX, Faubert B (2011) Faculties of education and institutional strategies for knowledge mobilization: an exploratory study. High Educ 61(5):501–512

Sawer M (1987) Academic freedom and social responsibility. Politics 22(1):1–7

Shamoo AE, Resnik DB (2009) Responsible conduct of research. Oxford University Press, Oxford

Shore C (2008) Audit culture and Illiberal governance: universities and the politics of accountability. Anthropol Theory 8(3):278–298

Slater T (2012) Impacted geographers: a response to Pain, Kesby and Askins. Area 44(1):117–119

Smith S, Ward V, House A (2011) 'Impact' in the proposals for the UK's research excellence framework: shifting the boundaries of academic autonomy. Res Policy 40(10):1369–1379

Social Sciences and Humanities Research Council (2019) Definitions of terms. https://www.sshrc-crsh.gc.ca/funding-financement/programs-programmes/definitions-eng.aspx. Accessed 10 July 2020

Sutton E (2020) The increasing significance of impact within the Research Excellence Framework (REF). Radiography.

Teichler U (2015) Socially relevant and socially responsible higher education: a disputed goal. J New Gener Sci 13(2):113–126

Tijdink JK, Verbeke R, Smulders YM (2014) Publication pressure and scientific misconduct in medical scientists. J Empir Res Hum Res Ethics 9(5):64–71

Trowler PR (2001) Academic tribes and territories. McGraw-Hill Education, London

van Dalen HP, Henkens K (2012) Intended and unintended consequences of a publish-or-perish culture: a worldwide survey. J Am Soc Inform Sci Technol 63(7):1282–1293

Wadesango N (2014) Publish or perish: impediments to research output and publication. Int J Educ Sci 6(1):57–63

Watermeyer R (2016) Impact in the REF: issues and obstacles. Stud High Educ 41(2):199–214

Watermeyer R, Chubb J (2019) Evaluating 'impact' in the UK's Research Excellence Framework (REF): liminality, looseness and new modalities of scholarly distinction. Stud High Educ 44(9):1554–1566

Weidner DJ (2003) Academic freedom and the obligation to earn it. J Law Educ 32:445

Williams K, Grant J (2018) A comparative review of how the policy and procedures to assess research impact evolved in Australia and the UK. Res Eval 27(2):93–105