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RESEARCH NOTE

Many brains are better than one: the importance of interdisciplinary studies on COVID-19 in and beyond tourism

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ABSTRACT

As the COVID-19 outbreak expands across the globe, researchers in both the medical and health sciences and social sciences continue to share timely insight meant to enlighten all sectors of society. In this paper, a cross-disciplinary team of tourism and public health academics critically consider how these and other seemingly disparate research domains can cooperate on timely research endeavours, including but not limited to COVID-19. This article provides a brief overview of the intricacies of interdisciplinary work. We then discuss some of the diverse challenges and benefits of cross-disciplinary research. Future interdisciplinary research collaboration opportunities regarding COVID-19, within and outside tourism, are also proposed. Our conclusions should promote multidisciplinary research into global health problems as a way to enhance social welfare.

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Introduction

The novel coronavirus (COVID-19) pandemic outbreak was first reported in Wuhan, China and spread rapidly worldwide via human-to-human transmission. As COVID-19 moved across the globe, Europe soon became the epicentre of the pandemic but has since been overtaken by the United States (Johns Hopkins University, 2020). As COVID-19 becomes increasingly widespread, medical and health scientists have started to investigate its viral origins (Andersen et al., 2020), transmission estimates (Wu et al., 2020), and associated clinical trials (Cao et al., 2020). These efforts are intended to inform recommendations for best practices in disease prevention and control to halt the spread of the virus.

Generally, the well-reputed medical and health sciences represent 'hard' or 'real' sciences that aim to explain life functioning. Areas of specialisation include anatomy, physiology, and pathology along with biochemistry, immunology, virology, microbiology, molecular biology, genetics, preventive medicine, and public health. As the world comes together to fight COVID-19, professionals in these sciences are facing great public pressure to research and develop vaccinations and medications to save lives.

Assuredly, the exponential effects of this outbreak on industry and everyday life have been top of mind for academics, practitioners, and government departments as of late. Attention around COVID-19 is therefore not limited to the hard sciences; calls for research are swiftly emerging in other domains such as social science. Active areas of study include policymaking, social distancing, border control, and self-isolation practices. Relevant findings are intended to contribute to the prevention, management, and understanding of the wider societal consequences of COVID-19. Although the virus emerged relatively recently, social science research has already provided valuable insight into racial discrimination sparked by COVID-19 (Wen et al., 2020; Zheng et al., 2020) and how game consumption in tourism may change after the pandemic (Ying et al., 2020).

Why interdisciplinary research?

While discrete perspectives on COVID-19 certainly hold value, interdisciplinary research can play a key role in navigating this unprecedented global health crisis. Interdisciplinary work is widely considered a hotbed for innovation and a worthwhile means of tackling complex problems (Okumus et al., 2018). It therefore holds a clear place in academia (Gewin, 2014), as insights from diverse perspectives afford researchers a clearer understanding of topics of interest. Cross-disciplinary research can be commissioned as well; for example, industry players often call upon experts to address broad societal

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challenges, including economic, ecological, and population-based trends attributable to globalisation (Langfeldt et al., 2012). Interdisciplinary approaches can also reveal robust theoretical frameworks with which to consider institutional, social, environmental, economic, and political trends that affect overall health and well-being (Rosenfield, 1992). COVID-19 is sure to affect diverse industries including medicine, public health, tourism and hospitality, and others. The spread and consequences of this illness thus lend themselves to interdisciplinary exploration.

Interdisciplinary research has touched an array of fields. Certain academic specialities reflect interdisciplinarity in the most literal sense, such as biochemistry. Other interdisciplinary efforts have emerged naturally from global changes. Work related to gerontology and healthy aging is spurred by the world's rapidly expanding elderly population (United Nations, 2019). Obesity studies are a natural consequence of the global obesity epidemic, as worldwide obesity has effectively tripled since 1975 (World Health Organization, 2020). The effects of climate change have attracted the attention of policymakers, the public, and numerous industries given its far-reaching impacts (e.g. Aliperti et al., 2019). Similarly, COVID-19 has already been shown to exert crippling effects on the economy, including in travel and tourism. For instance, Dass and McDermott (2020) estimated that the tourism industry will see a US$22 billion decline in Chinese outbound spending and 9 million fewer inbound tourists due to COVID-19.

To this point, however, scarce work integrating the medical/health (e.g. public health) and social sciences (e.g. tourism and hospitality) has sought to understand the COVID-19 outbreak. Such collaboration seems intuitively promising: while medical and health-related research may focus on more granular factors (e.g. genes), social scientists generally assume a big-picture perspective. It only makes sense to blend these respective strengths through interdisciplinary collaboration to unveil comprehensive, digestible knowledge with potentially broad impact.

Therefore, with respect to COVID-19, interdisciplinary research is needed to effectively deliver medical knowledge to the public. Pandemic-related rumours are born from uncertainty, partly due to evolving knowledge of the disease. Related information also tends not to be presented in a way that lay audiences can understand. To rectify this problem, social scientists should provide input into medical studies to maximise the reach of these findings. This way, even if the general public's familiarity with timely medical research is limited, they can remain informed of COVID-19-related developments based on interdisciplinary work.

Barriers to interdisciplinary research

Undoubtedly, such work is not without obstacles. The very nature of interdisciplinary research – the need to marry multiple fields – complicates collaboration from the outset (Porter et al., 2007). Then researchers must determine how to blend their perspectives, particularly if their disciplines tend to approach scholarship differently (Pedersen, 2015). Indeed, different disciplines speak distinct theoretical languages rooted in diverse epistemic goals and strategies (Pedersen, 2016). Different disciplines also tend to take their own approaches to answering questions, which are accompanied by varying degrees of abstraction (Faye, 2007). In seeking to bridge two or more research domains, it is essential for researchers to carefully ponder how to pose meaningful questions to be addressed via useful methods. Collaborators must also devote substantial time and effort to cultivating relationships, establishing a shared language, and devising a common point of view from dissimilar stances (Laudel, 2006).

Even common research steps can be difficult to navigate with respect to interdisciplinary work. Grant and paper evaluations can appear biased against interdisciplinary projects, as reviewers may find it difficult to assess them fairly (Bromham et al., 2016). Research evaluation systems based on defined success metrics (e.g. the number of publications in refereed journals) may demerit interdisciplinary proposals that include hard-to-quantify outcomes, such as collaborative networks or data-sharing agreements (Porter et al., 2012). Moreover, although interdisciplinary studies can lead to noteworthy advances in theory and practice, the general quality of interdisciplinary work may differ from that of more focused research. Evaluations of the enduring academic impact of interdisciplinary research have also been inconsistent: some scholars have found interdisciplinary studies to offer concrete advantages over domain-specific efforts, while others have argued that interdisciplinary work is no higher-impact than its more targeted counterparts (Yegros-Yegros et al., 2015).

Given these potential challenges, equitable cooperation is essential to fostering productive cross-disciplinary research. Scholars in the hard and social sciences often face power imbalances, as the hard sciences have typically been granted more authority than soft. The humanities and social sciences are framed in many cases as addenda to seemingly more rigorous disciplines. It is therefore necessary to bring soft-science scholars on board in the initial stages of interdisciplinary project development. By focusing on cross-disciplinary cooperation from the beginning, scholars can

meld their domains more effectively to identify suitable research questions and methods (Pedersen, 2016).

Interdisciplinary research in medical/health science and tourism

The authors of this piece, who are respectively public health and tourism scholars, would therefore implore professionals in seemingly opposing disciplines to explore COVID-19 collaboratively. At present, we are conducting a cross-disciplinary study in psychology and health relative to the pandemic; our research applies reciprocal determinism in social psychology to analyse social perceptions of game consumption in China. The proposed model reflects updated public perceptions on the matter and can serve as a reference for epidemic outbreak control in public health policy and education. This and armed with professional research designs and clear objectives, the benefits of interdisciplinary research (e.g. in public health and tourism) surely outweigh the challenges.

The spread of COVID-19 and associated travel and movement bans have infiltrated nearly all aspects of daily life. These restrictions also threaten to cripple the tourism and hospitality industry; accommodation services have ground to a halt, and restaurants are shuttering. Tribe (1997) pointed out that tourism exemplifies a social science research area suited to countless study avenues. However, no work in the tourism literature appears to have integrated a medical or health sciences perspective to reveal theoretical and practical insight for the tourism and hospitality industry. Interdisciplinary research is thus strongly encouraged in this vein, particularly with regards to the current pandemic. For instance, COVID-19 has sparked public concerns about general cleanliness, hygiene, and healthcare accessibility.

However, it is not enough to simply emphasise the importance of these topics from a health perspective. Especially considering the scope of the outbreak's effects on tourism and hospitality, actionable implications are needed to help tourists, tourism practitioners, and industry policymakers behave responsibly now and as the industry begins to recover. In this sense, collaborative research projects will be crucial to enabling medical and health experts and tourism and hospitality professionals to come together and apply relevant medical knowledge to post-COVID-19 tourism industry recovery. Doing so will help to protect the health and well-being of various tourism stakeholders, from travellers to employees.

Concluding remarks

Medical knowledge must be shared with the intention of promoting public understanding. Unless tourism and hospitality practitioners fully comprehend how COVID-19 functions, they will likely struggle to recover from its effects. For instance, unless tourism employees can apply public health organisations' recommendations for COVID-19 prevention, customers will be reluctant to visit their businesses. A 'bridge' is clearly needed to carry medical knowledge to disciplines such as the social sciences; this connection will benefit the public. As tourism and hospitality work to recover from COVID-19, stakeholders' decisions must be based on reputable scientific evidence. It is also important to remember that COVID-19 is not the first catastrophe of its kind to strike the tourism industry; SARS brought similar consequences in 2003. The commonalities between these viruses suggest that the tourism community will gradually recover as it did from SARS. However, the scale of COVID-19 is much greater, and more drastic recovery measures will promote the tourism industry's success.

It is also worth noting that the potential for pandemic-related interdisciplinary research involving the hard and soft sciences extends far beyond the medical sciences and tourism, although such collaboration is highly salient amidst COVID-19. Additional directions of interest include identifying strategies to prevent COVID-19 and similar diseases or developing policies to protect and enhance public health. Scholars could further investigate the implications of pandemic-related discrimination for target populations and perpetrators. Such endeavours will amplify benefits for researchers, readers, and communities while raising awareness. Furthermore, leveraging the strengths of disparate domains can bring medical findings to a wider audience and showcase cutting-edge developments for the greater good – hence our emphatic call for medical/health and social scientists to work together toward eradicating the global health crisis of COVID-19 and preventing other pandemic outbreaks in the future.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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