

EDITORIAL

Natural hazards and life course consequences in a time of pandemic

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This special issue brings together studies from the UK, Ireland, Australia, Ethiopia, South Korea and Switzerland focused on the impact of the COVID-19 pandemic. It is worth noting that while longitudinal in nature, the data from these studies spans the first two years of the pandemic and that the experiences of populations in these countries were very different. The UK, Ireland and Switzerland all experienced very high daily cases relative to the other three countries in this special issue with peaks in March 2020, November/December 2020 and December 2021 (Figure 1). For Australia, Ethiopia and South Korea COVID-19 cases were very low across the first two years of the pandemic (with a rise in cases in December 2021 in Australia).

Government responses to the pandemic also varied with the Oxford University stringency index (Hale et al, 2021), which records daily variation in the strictness of ‘lockdown style’ closure and containment policies that primarily restrict people’s behaviour including school and workplace closures, restrictions on public events and gatherings, stay at home requirements and restrictions on movement varying between countries and over time. Scores can range from 0 (lowest possible value) to 100 (highest possible value). Given most governments applied different policies to those who were vaccinated and those who were not from 2021, Figure 2 also displays separate stringency indices for these two groups. In the first few months of the pandemic all countries had an index of 80 or above (Figure 2). The only developing country with a study in this special issue, Ethiopia, maintained a high level of policy stringency well after September 2020. Australia maintained a high level of policy stringency throughout the whole of 2020 although there was substantial variation between states and territories (Edwards et al, 2022). After the first few months South Korea eased back to between 40 to 60 on the stringency index and continued in this fashion across the course of the pandemic. Ireland also scaled back their level of stringency to just over 40 in mid-2020 and then raised it towards the

Figure 1: Daily new confirmed COVID-19 cases per million people, seven-day rolling average



Figure 2: Stringency index by country



Source: Hale, T., Angrist, N., Goldszmidt, R. et al. A global panel database of pandemic policies (Oxford COVID-19 Government Response Tracker). *Nat Hum Behav* 5, 529–538 (2021). <https://doi.org/10.1038/s41562-021-01079-8>
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Source: Hale et al (2021).

end of 2021 (corresponding to the large number of cases they were experiencing). Switzerland followed a similar pattern to Ireland, in that there was a peak in policy stringency in March 2020 followed by a decline and then a second peak in policy stringency late in 2020; however, in the case of Switzerland the level was around 60 during late 2020 and early 2021. In the UK, the policy stringency index did not drop below 60 over the first 12 months of the pandemic but then moved between 40 to 60 from April 2021.

Key themes of this special issue

The papers in this special issue fall into three themes. Two papers focus on difficulties that women experienced in balancing work and child care: [Youngeun Nam and Christie Sennott \(2023\)](#), 'Korean mothers' career aspirations in the context of the COVID-19 pandemic: a longitudinal qualitative study'; and [Bożena Wielgoszewska, Alex Bryson, Monica Costa Dias, Francesca Foliano, Heather Joshi and David Wilkinson \(2023\)](#), 'Exploring the reasons for labour market gender inequality a year into the COVID-19 pandemic: evidence from the UK cohort studies'. The second set of papers focused on the educational and mental health impacts of the pandemic: [Stephen Bayley, Darge Wole Meshesha, Pauline Rose, Tassew Woldehanna, Louise Yorke and Paul Ramchandani \(2023\)](#), 'Ruptured school trajectories: understanding the impact of COVID-19 on school dropout, socio-emotional and academic learning using a longitudinal design'; [Hannah S. Klaas, Ursina Kuhn, Valérie-Anne Ryser, Jan-Erik Refle, Robin Tillmann and Marieke Voorpostel \(2023\)](#), 'A dynamic perspective on the evolution of perceived stress levels in Switzerland: drivers before and during the COVID-19 pandemic'. The final set of papers focus on methodological issues in the implementation of longitudinal surveys during the pandemic: [Nicholas Biddle and Kate Sollis \(2023\)](#), 'Determinants of participation in a longitudinal survey during the COVID-19 pandemic: the case of a low-infection country'; [Lisa Kelly, Aisling Murray, Amanda Quail and Eoin McNamara \(2023\)](#), 'Adaptations to a cohort study in response to the COVID-19 pandemic: insights from Growing Up in Ireland'. We discuss the key findings and learnings from these studies and conclude with some general observations from this special issue.

Difficulties in balancing work and child care for working women during the pandemic

In many countries women's employment and capacity to work were disproportionately affected by the pandemic. Government policy responses to the pandemic frequently involved school and workplace closures ([Hale et al, 2021](#)). Women are supposed to have greater childcare responsibilities and the nature of the work women were engaged in (in part because of childcare responsibilities) was more greatly impacted by workplace closures ([Madgavkar et al, 2020](#); [Biddle and Gray, 2021](#)) or because they were more likely to work in areas that were deemed essential ([Alon et al, 2021](#)). Using data on 10,892 employed participants from four British nationally representative cohort studies, [Wielgoszewska and colleagues \(2023\)](#) explored the differential labour market impacts of women one year into the COVID-19 pandemic compared to men. They report that women who were employed prior to the pandemic were less likely to remain employed in February/March of 2021 than their male counterparts. This

finding was more pronounced for women who were partnered and had children. Some of these sex-differences were explained by the fact that women were employed in jobs that were more greatly affected by workplace closures and the furlough scheme. Taking account of the job characteristics of partners, the number of children and age of the youngest child in the household did not explain the gap in employment rates and consequently the authors suggest that differences in preferences, discrimination and social norms about who is expected to look after children may explain the persistence in gender gaps in employment. Whether these gender gaps in employment remain will be an important focus of research given facilitation of remote work, the value of second jobs to many households in an era of high inflation and the value and independence that can be derived from work across the life course (Loscocco and Roschelle, 1991).

The next study provides complementary insights to Wielgoszewska et al. Nam and Sennott (2023) report on a longitudinal qualitative study of 32 working mothers of young children in South Korea focused on how mothers' career aspirations were affected over the course of 2019 and 2020. All working mothers experienced increased care demands with the onset of the pandemic; however, career aspirations were influenced by beliefs about who should be responsible for childcare. Mothers who had more egalitarian beliefs (that care should be shared), experienced career advancements and sought promotion whereas those who thought that childcare was primarily their responsibility opted out of professional careers, lost enthusiasm for work and relinquished their career aspirations. The authors conclude that attitudes of fathers towards active engagement in childcare and government support of parents in this regard are likely to be critical to ensure women can continue to work in a society where long working hours make balancing a career and family difficult.

Education and mental health impacts of the pandemic

Unique among the countries examined in this issue is a longitudinal study of the effects of the pandemic on educational outcomes in Ethiopia, with data collected in 2019 and then again in 2021, just as its schools had reopened. It is unique because it is a lower-income country, and as such its educational policies are designed to achieve universal *primary* school enrolment. This was nearly the case by 2019, but this study by Bayley and colleagues (2023) found that despite efforts to provide education during school closures through electronic media (such as radio), poorer regions lacked the equipment needed, and primary school dropout rates estimated from the data were around 11%. The study found that older, female or low-performing students were at greater risk of dropout, widening existing inequalities. This study also examined math achievement and socio-emotional learning (SEL). It is probably one of the few longitudinal, lower-income nation studies of SEL in this context. They demonstrate that academic achievement and SEL work in a form of feedback loop, and they identify significant declines in SEL over the period studied, with larger impacts on rural students. To make this concrete, the authors point out that primary school students in 2021 *less often* agreed with statements like 'Other people like me' and 'I make friends easily' than they had two years prior. Through a careful study of achievement, they also find a decline, and again rural students are affected the most. The authors suggest SEL be examined more often and that SEL-promoting activities be part of contemporary curriculum.

The fourth article in this issue examines a mental health issue of deep importance: stress. Increased stress levels and managing the effects of these was part of the discourse surrounding the COVID-19 pandemic (see [Manchia et al, 2022](#) for a review). This impact, however, has been far from uniform, both between and within nations. The experience in Switzerland, a nation with a less stringent lockdown policy than other European nations (despite its relatively large disease incidence), defies traditional expectations, as [Klaas et al \(2023\)](#) amply demonstrate in their study. They use the Swiss Household Panel (SHP; [Tillmann et al, 2016](#)), a longitudinal, nationally representative survey, which notably included a supplemental survey in May and June 2020 and has been recording perceived stress at every interview. This provided data immediately before the pandemic, in its first quarter and in autumn 2020. The survey design allowed the researchers to evaluate short- and medium-term effects of the pandemic, as well as make stronger causal claims using the full panel of years prior to its outset. That panel revealed a secular trend since 2016 of *increasing* stress levels for the average individual followed by an overall stress *reduction* immediately following the first lockdown and then a return to pre-pandemic levels. The Swiss government's response to the pandemic included subsidies that provided financial security; the findings of this study suggest that under these policies, some differences in stress related to socio-economic factors were *reduced*. Counter to what might be expected, the experience of parents was one of reduced stress, at least in the medium term, and the authors provide us with important context that helps to explain such variation in these and other subpopulations of interest.

Longitudinal surveys in the time of a pandemic (methodological lessons)

Longitudinal surveys have played a key role in generating high quality and rapid evidence throughout the pandemic; however, if there is a high degree of selective attrition, then the evidence from these studies will be less generalisable than that of cross-sectional surveys. [Biddle and Sollis \(2023\)](#) report on factors associated with longitudinal participation in an online probability panel survey in Australia during the COVID-19 period. They find that the use of longitudinal survey weights do not entirely overcome the increased selective attrition and that females (compared to those who identified as males), 18–34-year-olds (compared to 55–64-year-olds) and those that were university educated (compared to no post-school qualification) were more likely to participate in subsequent waves. Notably for survey methodologists, conditional on the demographic characteristics examined, two short questions in April 2020 were predictive of future participation participants who were more likely to participate in subsequent waves were also more likely to predict whether at the end of the survey participants would indicate that they were glad to participate and that it was not distressing to complete. For researchers implementing longitudinal surveys during periods of crisis, monitoring participant survey experience could be an important metric to maximise the generalisability of findings.

Further details on how survey research can adapt to the challenges of a pandemic are given in the article by [Kelly and colleagues \(2023\)](#). Growing Up in Ireland (GUI) is a national, longitudinal study that emphasises the experiences of children and young adults. The article does not present findings from the pandemic, but rather provides insights and recommendations for how to pivot from an in-person interview

process – one that contains some sensitive information given adolescent respondents – into a telephone or web-based survey. They outline training issues, pilot results and, importantly, how to manage the problem of ‘burden’ for both the interviewer and interviewee. Care was taken to ensure consistency with prior years while at the same time adding enough COVID-specific questions to inform our understanding of the pandemic’s impact on Irish youth. Response rates were improved by testing a variety of approaches at the pilot phase. One of the surprising findings was the cost, environmental and management savings associated with the alternative protocol, and one recommendation for future studies is to consider training staff in a variety of interview techniques, both to be prepared for more complex data collection challenges and simply to be more efficient.

Conclusion

If there is any common theme to the effects of the pandemic, it is that *context matters*. Two articles, those by Wielgoszewska et al and Nam and Sennott, examine gender differences in labour market outcomes, in the UK and South Korea, respectively. Different research modalities are used in each, but both suggest that differences in outcomes are based on perceived social norms as well as changes in work brought on by the pandemic itself. In the two articles that examine education and (mental) health, by Bayley et al and Klass et al, the contrast between the governmental systems in place at the time of the pandemic stand as potential firewalls (or not) to prevent increasing inequality of outcomes. The contexts in these countries stand in great contrast. Lastly, Biddle and Sollis and Kelly et al look at survey methodology in two long-standing longitudinal studies that suggest that subgroups within these target populations require special attention if we wish to continue to monitor key aspects of their life course, or need to adjust our questionnaires in times of crisis.

Conflict of interest

The authors declare that there is no conflict of interest.

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