



////Title: Examining Behavioural Changes During COVID-19 Lockdowns

////Standfirst:

The COVID-19 pandemic has dramatically changed how people work, travel, spend their free time, and interact with each other. This change was in large part influenced by the restrictions that governments put in place to limit the spread of the virus. Researchers at the Economic and Social Research Council Centre for Time Use Research, part of University College London, have been monitoring how people's behaviours changed across different stages of the pandemic.

////Main text:

Over the past two years, governments worldwide have been implementing new rules and measures to reduce the spread of COVID-19, in order to limit hospital admissions and prevent death. This included urging people to work from home, close their businesses, wear protective masks, get tested for the virus before travelling, and in particularly critical moments, to only leave the house when strictly necessary.

These new rules have had a serious impact on the lives of most people worldwide, causing them to change their routine interactions and daily activities. While we are all aware of the changes that followed COVID-19 restrictions, so far there have been relatively few studies investigating the detailed behavioural effects of the new regulations as the pandemic played out.

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Oriel Sullivan, Jonathan Gershuny and the other authors of this research, all at University College London, have recently analysed how people changed their behaviour over the different phases of COVID-19 restrictions in the United Kingdom.

The team collected more than 6000 whole-day diaries from nearly 3000 people living in the UK. These diaries collect detailed records of daily behaviour from respondents, by working systematically through entire days, asking specific questions about each successive activity over the course of the day, including social interactions during activities, and their locations. They also asked the diarists about how much they were enjoying each successive period of the day.

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The diaries were collected at four different stages: before the COVID-19 outbreak, during the first lockdown in May and June 2020, in August 2020 when restrictive measures were relaxed, and during the second lockdown in November 2020. Subsequently, the group has collected similar diaries during the third lockdown in January 2021, and in August of this year following the lifting of most restrictions.



They considered the risk of infection associated with different combinations of activities, locations and social interactions, to investigate whether people had engaged in more or less risky activities during the four pandemic stages so far examined.

They compared people's reported behaviour before the pandemic to those during the first two lockdowns, and during the period between when measures were relaxed, finding evidence of significant changes. Perhaps not surprisingly, they found that during both lockdowns, people's engagement in high-risk behaviours was lower compared to both the pre-pandemic stage and when measures were relaxed.

However, they also observed that during the second UK lockdown, in November 2020, people reported engaging in more high-risk behaviours than they did during the first lockdown. In other words, on average, people tended to avoid high-risk situations and remained mostly at home during the first lockdown, while they engaged in somewhat more activities that could put them at risk of contracting the virus during the second lockdown.

The team found that people spent on average about 35 minutes per day longer in high-risk situations during the second lockdown than they did in the first lockdown—though still substantially less time than before the pandemic. This difference in engagement in high-risk activities applied to both genders, and to all age groups they examined except for the oldest age group of over 55 years, who are less likely to work and are at greater risk of severe disease.

There are various possible explanations for the difference in high-risk activity engagement between the first two lockdowns. This could be due to differences in the exact restrictions during the first two lockdowns. Or perhaps people's perception of risk changed, or people were simply tired of staying indoors and more willing to break the rules.

The team found no evidence that people were simply tired of regulations, as they observed no significant change between the two lockdowns in the amount of time people reported engaging in leisure activities outside the home.

However, one of the most important findings of the research was that the increase in high-risk activity associated with the second lockdown was related to more work being done in the workplace compared to the first lockdown. In their paper, the team speculates that this could in part be due to schools being open in November, which would have enabled parents to go back to work. In addition, although regulations governing businesses and the hospitality sector were the same during both lockdowns, more businesses decided to open, while still respecting COVID-19 rules, during the second lockdown.

While the vaccination campaign is now helping to curb the spread of COVID-19, the pandemic is not yet over and people worldwide will likely continue to face restrictions for some time to come. Evidence of changes in people's behaviour as a result of COVID-19 restrictions helps to inform the development of more effective regulations or public health campaigns.



Overall, these results confirm that lockdown measures do have a significant impact on people's behaviour and daily activities, and identify some specific differences in lockdown restrictions that make a difference to risk-related behaviour. The data gathered by this team of researchers will be combined with other data collected during the pandemic, particularly surveys of close physical contact with others that are already used by experts monitoring infections, so as to improve the effectiveness of COVID-19 restrictions in the UK and beyond.

This SciPod is a summary of the paper 'Using time-use diaries to track changing behavior across successive stages of COVID-19 social restrictions', from *Proceedings of the National Academy of Sciences of the United States of America*. [doi: 10.1073/pnas.2101724118](https://doi.org/10.1073/pnas.2101724118)

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