

Largest study to date measures impact of pandemic and first lockdown on mental health and wellbeing in UK

The largest study of its kind ever conducted on the impact of the Covid-19 pandemic and lockdown in the UK reveals wide-ranging positive and negative effects on the population's mental health and wellbeing, published today (16 July) in *Nature Communications*. The findings help identify those that may be most at risk, and benefits that could be carried forward as the country emerges from the pandemic.

Supported by the UK Dementia Research Institute and led by researchers from Imperial College London, the '[Great British Intelligence Test](#)' has been collecting data from the beginning of 2020 throughout the pandemic to better understand the UK's cognition and mental health. It reveals that a range of factors such as a person's age, occupation and living arrangements heavily influenced people's experience of the initial stages of the pandemic.

With the help of the BBC2's *Horizon* programme, over 370,000 members of the public took part in the study, either immediately prior to the pandemic (January 2020) or at the height of lockdown (May-June 2020). Using an online survey, the team asked a series of questions about mental health including how often the participant had experienced a specified symptom (e.g. feeling down, depressed or anxious) over the past weeks.

In May 2020, the study was extended to specifically address the effects of the pandemic on people's daily lives and their outlook for the future. The team were able to exploit the power of this uniquely large and detailed dataset to dissect differences in the impact of the pandemic on multiple aspects of mental health and daily life and relate them to age, sex, handedness, ethnicity, employment status, first language, country of residence, education level, earnings, medical conditions, personality and psychiatric traits.

The '[Great British Intelligence Test](#)' is still open for participants and can be accessed [here](#).

The key findings from the study reveal:

- Over the whole population, the largest changes were seen in anxiety levels, with the number of people reporting feeling anxious or on edge 'several times a week or more' increasing from 24% to 33% and the number of people reporting 'never' decreasing from 18% to 8%.
- Age was the biggest factor when looking at impact of the pandemic on anxiety levels with older people (60-80 years old) most affected. The group also scored highest in anxiety about 'consequences of themselves or loved ones being infected.' The data indicated higher levels of depression in this age group during the first lockdown as well.
- Prior to the pandemic, teenagers and young adults (16-26 years old) showed substantially greater anxiety and depression symptoms than other age groups with a small decrease in depression around the first lockdown. Teenagers also reported the greatest disruption to lifestyle and conflict at home.
- Among the positive experiences reported across the population, more than 70% of respondents indicated that they were spending less and saving more, over 65% enjoying the

simpler things in life more, over 65% a greater sense of community and over 80% were more in touch with loved ones they previously had trouble finding time for thanks to applications for video-calls.

- There was no change in people reporting problems getting to sleep or staying asleep but numbers of hours asleep at night did increase and a small decrease in tiredness was seen. Students showed the biggest increase in average numbers of hours slept at approximately 30 minutes more per night.
- More than 85% of people were concerned for the health of loved ones, which was markedly higher than the concern about one's own health (around 50%).
- In response to changes brought about by the pandemic, health workers showed very large differences to the broader population, having less free time and being less likely to report positives such as being more relaxed. They also were more likely to report greater work engagement and less likely to report disrupted lifestyle.
- People who had been furloughed were less stressed and tired compared with healthcare workers, whereas those with loss of income reported more life disruption and less positive outlook compared with those who had retained their jobs.
- Disabled or shielded people had some of the most negative perceptions, reporting little benefit from positives of the pandemic including greater free time, being more relaxed, more wildlife and a more pleasant environment.
- People living with small children also perceived a disproportionate impact, reporting the lowest benefit from increased time and less stress. This group experienced the highest conflict in the household but did report having more time for people at home. Co-habiting with parents was also associated with the largest increases in conflict at home during the lockdown.
- People with pre-existing conditions that pre-dispose to Covid-19 risk, including diabetes, lung, heart and weakened immune system, scored highly on perceived 'health concerns.' This was greater still for people with anxiety disorders and obsessive compulsive disorder (OCD). People with attention deficit hyperactivity disorder (ADHD) reported marginally higher conflict at home.
- Personality, technology use and compulsivity traits were strongly related and collectively accounted for substantial variation in pandemic impact. For example, people who reported having increased health concerns tended to have higher insecurity, addiction to technology and stress from technology. Notably, it was not the amount of time spent online, but type of online behaviour that predicted mental health problems.
- A third of people reported drinking more alcohol during the first pandemic lockdown.
- Quality of available outside space predicted more positive reports across the board including 'more time and less stress', less 'disruption of lifestyle', less 'health concerns', less 'conflict at home' and greater perception of 'improved environment' i.e. more wildlife and a more pleasant environment.

The study is a collaboration between researchers from Imperial College London, King's College London, the University of Cambridge, the University of Chicago, the University of Southampton, and the NHS Foundation Trusts of Southern Health and Cambridgeshire and Peterborough.

Study Lead Dr Adam Hampshire, from the Department of Brain Science at Imperial College London, and Associate Member of the UK Dementia Research Institute, said:

“It's clear to see that nearly everyone's everyday life, mental health and outlook has been profoundly affected by this pandemic and the associated lockdowns, but in very different ways. This unique study helps us go beyond average effects in order to quantify this individual impact and identify where our most vulnerable lie in society.

Although anxiety levels increased across all ages, older people were disproportionately affected, also showing higher levels of depression, and getting fewer hours of sleep. There are multiple reasons why this may be the case including isolation from loved ones and the worries that come with being the most at risk to the virus. I believe this older demographic has not received enough attention and must be prioritised for care and mental health interventions, especially those who are clinically vulnerable and may feel left behind as we move out of lockdown.

We know that healthcare workers also experience disproportionate psychological effects of outbreaks such as Covid-19. Their wellbeing is especially crucial, not only during the pandemic, but also beyond with an escalating backlog. Unsurprisingly people living with their parents or with small children also indicate greater conflicts at home which can affect our mental health over time.

The surveys also revealed that a surprising proportion of people experienced substantial positives from the first lockdown including a greater sense of community, improved environment, connection with loved ones, reduced commute times and more spare time for family and pursuits. There are things that we can learn from people's positive experiences that can help us to improve our lives as we emerge from the pandemic. Notably, access to pleasant outdoor space was also very important in the perception of the pandemic, relating positively to people feeling less stressed and tired, having fewer health concerns and a more positive outlook. This data not only adds to growing evidence of the benefits of green space to mental health, but also shows that this is important in resilience against negatives of the pandemic.”

Study co-investigator, Samuel Chamberlain, Professor of Psychiatry, University of Southampton, said:

“It was interesting to look at factors such as personality traits and technology use during the pandemic, which usually aren't measured in pandemic related research. We found that these variables were very important in explaining who was most impacted by lockdown. The study also highlights that use of the Internet during the pandemic has been helpful for some (e.g. allowing video-call contact with loved ones) but problematic for others (linked with stress and negative outcomes).”

Study co-investigator, Dr Peter Hellyer, Postdoctoral Fellow, King's College London, added:

“It appears that it's not the time spent online that's necessarily associated with negative experiences, but other aspects including higher stress caused by reading news articles. In fact, technology was incredibly beneficial in keeping people connected during this time. This indicates that we should not focus so much on limiting screen time as encouraging healthy online behaviours”.

On the next steps, Study Lead Dr Adam Hampshire, from the Department of Brain Science at Imperial College London, and Associate Member of the UK Dementia Research Institute, said:

“Our next step in this study has been to re-contact survey respondents six and twelve months later to see how people have adapted to the prolonged pandemic conditions and how they are coping as lockdown measures ease. We’ll also be examining data collected from children under 16 as it’s so important to assess mental health effects in the lowest age groups.

Additionally, we have reports from more than 50,000 people describing, in their own words, the main positives and negatives of the pandemic, their most useful coping strategies and their perspectives on the pandemic’s origins and governmental response. We will be publishing further work applying AI methods to derive new insights from this data, with the aim to learn as much as we can that can help us not only in future pandemics, but also as we emerge and begin to rebuild our daily lives.”

-ENDS-

Notes to editors:

About the UK Dementia Research Institute

The national UK Dementia Research Institute (UK DRI) is the single biggest investment in dementia research in the UK. Established in 2017 by its founding funders, the Medical Research Council, Alzheimer’s Society and Alzheimer’s Research UK, the £290 million institute is hosted across six leading UK universities: University of Cambridge, Cardiff University, University of Edinburgh, Imperial College London and King’s College London, with its central hub at UCL. The UK DRI works on ways to prevent, treat and care for people with all types of dementia, and ways to keep the brain healthy. www.ukdri.ac.uk

About Imperial College London

Imperial College London is one of the world's leading universities. The College's 17,000 students and 8,000 staff are expanding the frontiers of knowledge in science, medicine, engineering and business, and translating their discoveries into benefits for our society. Imperial is the UK's most international university, according to Times Higher Education, with academic ties to more than 150 countries. Reuters named the College as the UK's most innovative university because of its exceptional entrepreneurial culture and ties to industry. <http://www.imperial.ac.uk/>

About the ‘Great British Intelligence Test’

The Great British Intelligence Test was a study run by Dr Adam Hampshire with the support of the UK Dementia Research Institute (UK DRI) and in collaboration with BBC2 Horizon in 2020. The study enables cognitive performance and mental health to be mapped across age and detailed sociodemographic profiles from approximately 390,000 members of the UK public. Due to the high-profile promotion by BBC and the broad deployability of the ‘Cognitron’ platform, developed by Dr Adam Hampshire, Dr Peter Hellyer and Mr William Trender, the study includes one of the largest, detailed and representative cross sections of the UK population ever captured. Unintentionally, this data collection coincided with the Covid-19 pandemic. Given the unexpected and sudden nature of the pandemic, this makes the dataset a completely unique research resource. People who would like to take part in the study still can at <https://gbit.cognitron.co.uk>.