

Defying body clock linked to depression and lower wellbeing

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People whose sleep pattern goes against their natural body clock are more likely to have depression and lower levels of wellbeing, according to a largescale new study.

Research led by the University of Exeter, published in *Molecular Psychiatry*, also found the most robust evidence to date that being genetically programmed to be an early riser is protective against major [depression](#), and improves wellbeing. Researchers suggest this may be because society is set up to be more aligned to early risers, through the standard 9-5 working pattern.

COVID-19 has led to more flexible working patterns and this research may help make the case for more adaptable working habits to suit individuals' needs.

The team built on [previous research](#) which mapped 351 genes linked to being an early riser, or a night owl. They used a statistical process called Mendelian Randomisation to examine whether these genes were causally associated with seven [mental health](#) and wellbeing outcomes, including [major depression](#), using data on more than 450,000 UK adults from UK Biobank's biomedical database and research resource. As well as the [genetic information](#), participants also completed a questionnaire on whether they were a morning person or an evening person.

The team also developed a new measure of "social jetlag" that measures the variation in [sleep pattern](#) between work and free days. They measured this in more than 85,000 UK Biobank participants for whom sleep data was available, via wrist-worn activity monitors. They found that people who were more misaligned from their natural body clock were more likely to report depression and anxiety and have lower wellbeing.

Lead author Jessica O'Loughlin, of the University of Exeter, said: "We found that people who were misaligned from their natural body clock were more likely to report depression, anxiety and have lower wellbeing. We also found the most robust evidence yet that being a morning person is protective of depression and improves wellbeing.

We think this could be explained by the fact that the demands of society mean night owls are more likely to defy their natural body clocks, by having to wake up early for work."

Overall, the research team found that morning people were more likely to be aligned to their natural body clock. They then tested the effect by looking at shift workers, and found that morningness may not be protective for depression in [shift workers](#), meaning morning people who work shifts may not have improved mental health and wellbeing, however, this was inconclusive.

Senior author Dr. Jessica Tyrrell, of the University of Exeter, said: "The COVID-19 pandemic has introduced a new flexibility in working patterns for many people. Our research indicates that aligning working schedules to an individual's natural [body](#) clock may improve mental health and [wellbeing](#) in night owls."

The study is entitled "Using Mendelian Randomization methods to understand whether diurnal preference is causally related to mental health," and published in *Molecular Psychiatry*.

More information: *Molecular Psychiatry* (2021).
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