

Wind farm noise may not be more disruptive to sleep than other sources

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Residents who live within 10 km of a wind farm report more sleep issues from other sources, such as insomnia, stress and snoring spouses, than the nearby wind farms, a Flinders University study has found.

Using geographic and random sampling methods, the team surveyed over 500 South Australians—living either within 10km of a wind farm or within 800m of a major road, as well as those in a quiet rural area—asking them if they experienced any [sleep disruptions](#) and, if yes, what the residents themselves believed was the cause.

"Due to the unique sound made by wind farms and the known sleep disruption from other [noise](#) sources, such as road traffic, it's important to investigate the potential relationships between noise and sleep disturbance," says lead investigator Professor Peter Catchside from Flinders Health and Medical Research Institute: Sleep Health.

"In the survey, we found that the proportion of residents living near [wind farms](#) who reported moderate-to-severe sleep difficulties for any reason was not different compared to those living in quiet rural areas," says lead author Georgina Rawson from Flinders Health and Medical Research Institute: Sleep Health.

"Of all residents living within 10 km of a wind farm who responded to the survey, only 0.3 percent attributed sleep disturbance to wind farm noise, which was no higher than the rate of sleep disturbance attributed to road traffic or other noise sources (2.2%) and less than sleep disturbance attributed to any other cause (16.1%), such as insomnia."

The research also compared the rate of sleep disturbance reported by residents near a wind farm to those who lived nearby to a busy road (defined as having more than 50,000 cars passing through every day); with the road traffic residents almost twice as likely to report noise-related sleep disturbance than residents living near a wind farm.

"Overall, within the survey group there was a low prevalence of noise-related sleep complaints. Consequently, much larger surveys would be required to better estimate the prevalence of wind farm noise-related

sleep impacts on nearby communities," says Professor Catcheside.

"However, ongoing analysis of our recently completed laboratory study will help to clarify wind farm compared to road traffic noise effects on direct measurements of sleep."

The [preliminary research](#) will be presented at the Australasian Sleep Association's SleepDownUnder 2021 conference being held virtually this week.

Alongside the [survey results](#), Flinders University researchers will also present findings from a lab study examining the effect of replicated wind farm noise on people's sleep.

As part of a large laboratory study, Flinders University Ph.D. Candidate Tessa Liebich, studied 68 participants who were a mixture of individuals with and without self-reported sleep issues and who lived near a wind farm, a busy suburban [road](#) or a quiet rural area.

Study participants were exposed to nights of continuous wind farm noise, wind farm noise only during sleep periods, wind farm noise only during wake periods and a quiet control night, in random order, while undergoing detailed sleep monitoring.

In this study, wind farm noise did not appear to effect traditional sleep measurements, including the time taken to fall asleep and time spent asleep during the night.

"Well-controlled studies of wind farm noise on sleep are lacking, despite people's complaints and the known effects of other types of noise on sleep," says Ms Liebich from Flinders Health and Medical Research Institute: Sleep Health.

"Despite no effect being observed using our traditional measures of sleep in this study, work is still ongoing to test for sleep disruption effects in more sensitive sleep measurements and with [wind farm](#) noise compared to [road traffic](#) noise."

Provided by Flinders University

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