

Personality clue to 'wind turbine syndrome'

22 March 2013



(Phys.org) —Public concern about new technology infrastructure like mobile phone masts has been shown to trigger reports of ill health... and recently even the new 'green' technology of wind turbines has been blamed for medically unexplained non-specific symptoms.

But now, for the first time, a study by psychologists, engineers and built environment experts at The University of Nottingham, has found no link between the 'measured' level of noise from small and micro [wind turbines](#) and reports of ill health.

The research could be helpful in prompting pre-emptive action in future planning applications for small and medium sized wind turbines to help reassure those concerned about the impact of small and micro wind turbines on their wellbeing.

Midlands survey

This collaborative study involved researchers from the Faculty of Engineering as well as Social Sciences and was funded by the UK Energy Research Centre . It is the first project to examine how personality, and specifically 'negative orientated personality' (NOP), affects reported levels of non-specific symptoms like headache, sleeplessness, stomach upsets and general malaise. It was carried out as a public survey of 1270 households within 500 metres of eight 0.6kW micro-turbines and within 1 km of four 5kW wind turbines in two Midlands cities.

Dr Claire Lawrence from the University's School of Psychology said: "We measured the actual noise from the turbines and used [environmental noise](#) modelling software that helped us to predict how much sound is actually heard by those living in the vicinity. We found there was no relationship between the 'real' level of noise and reports of ill health. "

The personality traits measured from the 138 returned questionnaires were neuroticism, (propensity to be more anxious, to take longer to revert to an equilibrium), negative affectivity (the propensity to feel [negative emotions](#)), and also frustration intolerance (sensitivity towards frustrations, discomforts and annoyances).

Sounds of a turbine

The research involved extensive fieldwork to gather data to create a series of geographical sound maps using state of the art computer software. Ten sound types were selected based on previous published research into wind turbine noise. The sounds were; swooshing, screeching, whistling, humming, throbbing, thumping, scratching, high frequency, low frequency and buzzing. For each, participants were asked to rate how often they had heard each sound from the micro or small turbine near their home, and how loud each sound was to them on a scale of 0 (never noticed) to 4 (extremely loud.) A mean score was calculated for both the occurrence and loudness for each participant.

To take into account people's attitude to wind power the survey asked them about their attitude to it using a scale of 1 to 7, from very positive to very negative. The participants also reported their experience of 12 common symptoms such as headache and fatigue over the preceding six months.

No evidence of a link

The researchers concluded that the people who live near a turbine and can hear some noise, did not

suffer more non-specific health symptoms than people who could not in reality hear the same sound. The study indicated that generally it is not the turbine noise *per se* that is causing the symptoms. Indeed, for those individuals who did not score highly on these negative orientated personality traits, reporting hearing the sound was not associated with symptoms. This association was only evident for those higher in these traits.

While there is general public support for renewable energy, and indeed the majority of respondents in the reported study were positive about wind energy in general, it is acknowledged that individuals are often more negative when faced with the prospect of having wind turbines near their homes. This research is the first study ever carried out to show the relationship between personality and perception of wind turbine noise in relation to a so-called '[green technology](#)'. The results could be significant in informing local authority decision-making on the increasing number of planning applications for wind turbines across the UK.

More information: Taylor, J. et al. 2013. The influence of negative oriented personality traits on the effects of wind turbine noise, *Personality and Individual Differences*. 54(3), 338-343.

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dx.doi.org/10.1016/j.renene.2012.11.031

Provided by University of Nottingham

APA citation: Personality clue to 'wind turbine syndrome' (2013, March 22) retrieved 17 April 2021 from <https://phys.org/news/2013-03-personality-clue-turbine-syndrome.html>

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