

# Study finds stronger correlation between heat, humidity and suicide among women and youth

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For a number of years now empirical evidence has suggested that the effects of human-caused climate change, and heat in particular, could

have a significant impact on mental health. For example, previous links between heatwaves and temperature increase and suicide have been made in countries such as Australia, the US, Mexico, India, Finland as well as England and Wales.

However, new research investigating the relationship between [suicide](#) and heat on a global level has found that temperature alone may not be enough to understand the risks posed by a rapidly changing climate but that humidity also must be considered.

The new study, published today in *Scientific Reports*, conducted by an international team of academics, has found some startling key findings that could have much wider implications if the planet continues in the same climate trajectory.

The study, which analyzed data from 60 countries between 1979 and 2016, investigated the potential correlation between fatal intentional self-harm (suicide), heatwaves and humidity.

It looked at data from organizations such as the World Health Organization (WHO), the European Center for Medium-Range Weather Forecasts (ECMWF), and the UK's Met. Office Hadley Center to study incidences of heatwaves, [relative humidity](#) compared to population and recorded incidents of suicide.

The investigation found a significant correlation between periods of intense humidity and the prevalence of suicide—whilst also finding an increased risk of fatal intentional self-harm in relation to humidity than that of heatwaves.

Additionally, the research also found that both younger age groups and women seemed to be more significantly affected by incidents of fatal self-harm with changes in both humidity and heatwaves, in comparison

with the rest of the population, raising questions as to the unequal socio-economic impact of rising temperatures going forward.

The conceptualisation of the study was directed by Dr. Sonja Ayeb Karlsson, from the University of Sussex and United Nations University's Institute for Environment and Human Security in Bonn, Germany, co-author and [mental health](#)-lead of The Lancet Countdown initiative tracking the connections between climate change and public health which new 2021 study warns about how we have reached 'code red for a healthy future.'

The suicide, heat and humidity investigation was carried out in collaboration with co-author Fernando Florido Ngu and Prof. Ilan Kelman from University College London and University of Agder, Norway; and Dr. Jonathan Chambers from University of Geneva, Switzerland.

Dr. Sonja Ayeb Karlsson from the University of Sussex and UNU-EHS, who co-authored the journal article, said: "The study found interesting trends related to the increased suicide rates among particularly women and youth in relation to humidity. Women and children are known to be suffering disproportionately from the impacts of climate change and extreme weather events due to social structures and power relations. We need to look further into these relations and the contextual reasons behind this in diverse geographical areas and social groups."

Prof. Ilan Kelman from University College London and University of Agder, Norway said: "This study contributes to preventing suicide by understanding much better possible contributing factors. People suffer so much day-to-day and we hope that our study can contextualize the role of [climate change](#), such as by explaining the importance of [humidity](#) alongside heat."

**More information:** Fernando Florido Ngu et al, Correlating heatwaves and relative humidity with suicide (fatal intentional self-harm), *Scientific Reports* (2021). [DOI: 10.1038/s41598-021-01448-3](https://doi.org/10.1038/s41598-021-01448-3)

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