

The Socioeconomic Level is Not Necessarily Associated with a Higher Exposure to Air Pollution

*A study published in *Environment International* analyses a possible environmental inequity in 16 European cities*

Researchers from the [Barcelona Institute of Global Health \(ISGlobal\)](#), a centre supported by the “la Caixa” Foundation, have participated in a study that **discards a clear association between socioeconomic level and exposure to air pollution in Europe**. The research team, composed by **scientists from 25 European institutions**, has analysed **data from more than 5,700 people in 16 western European cities**. The results have been published in the journal *Environment International*.

“Contrary to what we may have expected, **the results have been heterogeneous in the different cities analysed**” explains the study coordinator Bénédicte Jacquemin, researcher at ISGlobal and INSERM.

To determine the socioeconomic level of the participants in the study, the authors took into account **the education level and the occupation at the individual level**, as well as **the unemployment rate at the neighbourhood-level**. The **NO₂ annual concentration exposure** was estimated using data from the ESCAPE project.

The 16 cities analysed are situated in 8 countries of Western Europe. In 14 of them, no significant association was found between estimated socioeconomic level and exposure to air pollution. However, **independently of the individual status, the exposure to NO₂ was higher for residents of neighbourhoods with the highest unemployment rates in 11 of the 16 cities**. Interestingly, in Barcelona and Oviedo the association was inversed, i.e. participants living in areas with high unemployment rates were less exposed to pollution.

Two other cities that showed certain peculiarities were Verona and Lyon, where a lower education level was significantly associated with a lower exposure to air pollution.

“Although the results of this study are not conclusive, they do **suggest that the urban characteristics of each city determine the exposure levels of individuals according to their socioeconomic position**”, adds Jacquemin.

The unequal distribution of environmental threats according to the social, economic or demographic situation is known as **environmental inequity**. Although the study published in *Environmental International* did not find consistent associations, the authors recommend further research at the international level in order to better understand if social position can influence the health impact of air pollution.

The 16 cities included in the study were Albacete, Antwerp, Barcelona, Galdakao, Geneva, Grenoble, Huelva, Ipswich, Lyon, Marseille, Norwich, Oviedo, Paris, Pavia, Turin and Verona.

Reference

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About ISGlobal

The Barcelona Institute for Global Health, ISGlobal, is the fruit of an innovative alliance between the "la Caixa" Foundation and academic and government institutions to contribute to the efforts undertaken by the international community to address the challenges in global health. ISGlobal is a consolidated hub of excellence in research that has grown out of work first started in the world of health care by the Hospital Clínic and the Parc de Salut MAR and in the academic sphere by the University of Barcelona and Pompeu Fabra University. The pivotal mechanism of its work model is the transfer of knowledge generated by scientific research to practice, a task undertaken by the institute's Education and Policy and Global Development departments. ISGlobal a member of the CERCA programme of the Generalitat de Catalunya.

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FUNDACIÓN RAMÓN ARECES