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News

City living marks the brain

Neuroscientists study social risk factor for mental illness.

Alison Abbott

Epidemiologists showed decades ago that people raised in cities are more prone to mental disorders than those raised in the countryside. But neuroscientists have avoided studying the connection, preferring to leave the disorderly realm of the social environment to social scientists. A paper in this issue of *Nature* represents a pioneering foray across that divide.

Using functional brain imaging, a group led by Andreas Meyer-Lindenberg of the University of Heidelberg's Central Institute of Mental Health in Mannheim, Germany, showed that specific brain structures in people from the city and the countryside respond differently to social stress (see pages **452** and **498**). Stress is a major factor in precipitating psychotic disorders such as schizophrenia.

The work is a first step towards defining how urban life can affect brain biology in a way that has a potentially major impact on society — schizophrenia affects one in 100 people. It may also open the way for greater cooperation between neuroscientists and social scientists. "There has been a long history of mutual antipathy, particularly in psychiatry," says sociologist Craig Morgan at the Institute of Psychiatry in London. "But this is the sort of study that can prove to both sides that they can gain from each others' insights."

Meyer-Lindenberg works on risk mechanisms in schizophrenia, and previously focused on the role of genes. But although a dozen or so genes have been linked to the disorder, "even the most powerful of these genes conveys only a 20% increased risk", he says. Yet schizophrenia is twice as common in those who are city-born and raised as in those from the countryside, and the bigger the city, the higher the risk (see 'Dose response?').



At a research institute in Mannheim, Leila Haddad scolds subjects to stress them while imaging their brains.

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