

City life could present psychosis risk for adolescents

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Living in a city could significantly increase young people's vulnerability to psychotic experiences, according to a new study from King's College London and Duke University.

Published today in *Schizophrenia Bulletin*, the study found that British adolescents raised in major cities in England and Wales were over 40 per cent more likely to report [psychotic experiences](#) (e.g. hearing voices and feeling extremely paranoid) than their rural counterparts.

Neighbourhood conditions and crime were strong contributing factors. Among adolescents who had grown up in the most adverse neighbourhoods and been victim of a violent crime, 62 per cent reported psychotic experiences. This high rate of psychotic experiences was almost three times greater than among adolescents living in more favourable [neighbourhood](#) conditions who had not experienced violent crime (21 per cent).

Adolescence is a particularly vulnerable time for the development of mental health difficulties -around 70 per cent of adults with [mental health problems](#) are thought to become unwell for the first time during adolescence. Up to one in three [young people](#) at some point have psychotic experiences, and these individuals have an elevated risk for schizophrenia and other mental health problems in adulthood as well as increased rates of suicide. Yet little is known about the potential impact of social surroundings - such as living in a [city](#) - on adolescent expressions of psychosis.

Previous research from the team at King's College London and Duke University reported higher rates of [psychotic symptoms](#) among children living in cities, but this new study is the first to examine the effects of city life on psychotic experiences during adolescence.

The researchers from King's interviewed more than 2,000 British 18-year-olds about psychotic experiences since the age of 12. The authors note that they were only looking for subclinical experiences of psychosis, rather than evidence of a diagnosable, clinical disorder. Adolescents were considered to have psychotic experiences if they

reported at least one out of thirteen potential experiences including, for example, that they heard voices that others could not, believed they were being spied on, or their food was being poisoned.

Levels of 'urbanicity' were assigned to each participant via their postcode, using data from the Office of National Statistics. Neighbourhood social factors, such as trust, support and cooperation between neighbours, and signs of threat like muggings, assaults and vandalism were measured through surveys of over 5,000 immediate neighbours of the participants. Finally, personal victimisation by [violent crime](#) was assessed through interviews with the participants themselves.

Adolescents raised in urban versus rural neighbourhoods were significantly more likely to have psychotic experiences, and this association remained significant after considering a range of other factors, including family socioeconomic status, family psychiatric history, and [adolescent](#) cannabis use.

Among those who lived in the largest, most densely populated cities, 34 per cent subsequently reported psychotic experiences between age 12 and 18, compared to 24 per cent of adolescents in rural settings.

Almost half of the association between city life and psychotic experiences was explained by adverse and threatening social characteristics of urban neighbourhoods, including lack of trust and support between neighbours, and high levels of threat in the neighbourhood.

The study authors suggest a number of reasons why living in a city could pose a risk for psychotic experiences, including a heightened biological response to stress, which can in turn disrupt the activity of dopamine in the brain. Excess dopamine is the best biological explanation researchers currently have for [psychotic illnesses](#) such as schizophrenia.

They also propose that adolescents growing up in threatening neighbourhoods could develop maladaptive cognitive responses, such as hypervigilance (e.g. becoming excessively aware of potential threats) and attributing negative intentions to people, which might lead them to become paranoid about those around them.

Jo Newbury, first author of the study, from the Institute of Psychiatry, Psychology & Neuroscience (IoPPN) at King's College London, said: 'Our study suggests that the effects of city life on psychotic experiences are not limited to childhood but continue into late adolescence, which is one of the peak ages at which clinical psychotic disorders are typically diagnosed.'

Dr Helen Fisher, senior author from IoPPN at King's College London, said: 'These findings highlight the importance of early, preventative strategies for reducing psychosis risk and suggests that adolescents living in threatening neighbourhoods within cities should be made a priority. If we intervene early enough, for example by offering psychological therapies and support to help them cope better with stressful [experiences](#), we could reduce young people's risk for developing psychosis and other mental health problems further down the line.'

Professor Candice Odgers, senior author from Duke University, said: 'As increasing numbers of young people around the world are living in cities, there is a growing need to improve our understanding of how both built and social features of urban settings are supporting and challenging young people's mental health.'

Provided by King's College London

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