The psychological effect of an urban environment on individuals with persecutory delusions: The Camberwell walk study

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Abstract

Background: Epidemiological studies have found that individuals who live in urban areas are at increased risk of developing psychosis. However, it is unknown whether exposure to urban environments exacerbates psychotic symptoms in people who have a diagnosed psychotic disorder. The aim of the study was to examine the psychological and clinical effects of exposure to one specific deprived urban environment on individuals with persecutory delusions. It was predicted that the urban environment would affect emotional and reasoning processes highlighted in a cognitive model of persecutory delusions and would increase paranoia.

Method: Thirty patients with persecutory delusions were randomised to exposure to a deprived urban environment or to a brief mindfulness relaxation task. After exposure, assessments of symptoms, reasoning, and affective processes were taken. Thirty matched non-clinical participants also completed the study measures to enable interpretation of the test scores.

Results: In individuals with persecutory delusions, exposure to the urban environment, rather than participation in a mindfulness task, increased levels of anxiety, negative beliefs about others and jumping to conclusions. It also increased paranoia. The individuals with persecutory delusions scored significantly differently from the non-clinical group on all measures.

Conclusions: For individuals with psychosis, spending time in an urban environment makes them think more negatively about other people and increases anxiety and the jumping to conclusions reasoning bias. Their paranoia is also increased. A number of processes hypothesised in cognitive models to lead to paranoid thoughts are exacerbated by a deprived urban environment. Further research is needed to clarify which aspects of urban environments cause the negative effects. Methodological challenges in the research area are raised.

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1. Introduction

An impressively consistent literature now shows that the occurrence of psychosis is increased in urban environments (e.g. Van Os, 2004; Sundquist et al., 2004; Marcelis et al., 1998; Kirkbride et al., 2006). For example, in a longitudinal study of 4.4 million people in Sweden those people living in the most densely populated areas had 68–77% greater risk of developing psychosis than those in the least populated areas (Sundquist et al., 2004). However, less is known about whether exposure to urban environments increases psychotic symptoms in people who are already diagnosed with a psychotic illness. In
examining this question, it is also possible to investigate the effects on cognitive and emotional processes resulting from environmental exposure, which might be involved in developing or exacerbating symptoms (Freeman, 2007; Garety et al., 2007).

The aim of the study was, therefore, to investigate, for the first time, the effects of brief exposure to a specific urban environment on psychotic processes and symptoms. We hypothesised that entering an urban environment would lead to exacerbation of psychological processes implicated in a cognitive model of persecutory delusions (Freeman et al., 2002; Freeman, 2007; Garety et al., 2001). That is, we predicted that spending time in a busy inner London high street would make an individual with current persecutory delusions more anxious, more negative about the self and others and increase the jumping to conclusions reasoning bias. Feeling more threatened, pessimistic and quick to make decisions would, in turn, be likely to increase paranoid thinking in a circular relationship. In this study, we did not set out to investigate which aspects, if any, of an urban environment, would be responsible for observed effects. The emphasis was on testing the effects of exposure to a real-life situation, routinely encountered by patients. This study of going into a busy street converges both with the traditional stress-vulnerability perspective on psychosis (e.g. Zubin and Spring, 1977) and with recent research indicating that people with psychosis are especially emotionally reactive to everyday stress (see review by Myin-Germeys and van Os, 2007).

2. Method

2.1. Participants

The main group comprised thirty individuals with current persecutory delusions (see Table 1). The inclusion criteria were: a current persecutory delusion as defined by Freeman and Garety (2000); a diagnosis of non-affective psychosis (schizophrenia, delusional disorder, schizo-affective psychosis); and aged 18–65 years. The exclusion criteria were: primary diagnosis of alcohol or substance dependency, organic syndrome or learning disability. Age and IQ matched non-clinical control individuals (n=30) also participated.

2.2. Design

The study was a randomised experimental design with two groups. Clinical participants with current persecutory delusions were randomly allocated to one of two conditions (urban environment exposure or mindfulness) each lasting approximately 10 min. Randomisation to experimental condition was conducted by an individual independent of the study and occurred in a ‘block’ format. A non-clinical group did not participate in the experimental conditions but completed the assessment measures to aid interpretation of the experimental groups’ measure scores.

2.3. Procedure

Before commencing the study, ethical approval was provided by the local research ethics committee and written informed consent for participation was obtained from all participants. The clinical participants then completed pre-task measures, before exposure to the 10 min experimental conditions. After the experimental exposure, they then completed post task measures, which took approximately 15 min. The non-clinical participants completed the measures in one short session, lasting approximately 30 min.

2.3.1. The experimental conditions

In the ‘urban environment exposure’ condition, lasting approximately 10 min, participants were accompanied to a busy shopping street in Camberwell and then on their own purchased a newspaper of their choice (see Fig. 1). This exposure was designed to be mildly anxiety increasing. In the Index of Multiple Deprivation (2004) provided by the National Office of Statistics, this part of Camberwell was ranked as highly deprived (placed 2437 out of 32,482 areas in England, where 1 was the most deprived and 32,482 the least deprived).

In the ‘mindfulness’ condition, participants were engaged in a mindfulness task in a quiet testing room in a psychiatric academic centre, designed to be relaxing and reduce state anxiety. They were presented with a (pre-recorded) ‘mindfulness of breath’ exercise narrated by Kabat-Zinn (2005), lasting 10 min. Following the mindfulness task, participants completed the remaining study measures.

2.4. Measures

2.4.1. Pre-exposure

Experimental participants completed five measures pre-exposure (clinical symptom measures, an estimate of intelligence, and two assessments of current state distress).

2.4.2. Positive and negative syndrome scale (PANSS: Kay, 1991)

The PANSS is a 30 item scale which assesses the phenomena associated with schizophrenia. Symptoms
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