**Project Title:** Assessing the impact of social defeat on schizotypal experiences

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**Level:** PhD

**Background to the project:**

Up until recently, the dominant view within psychiatry has been that psychosocial stressors play only a minor role in the development of psychosis-proneness (schizotypal experiences). This viewpoint has been challenged by increasingly strong epidemiological evidence in which various psychosocial stressors (e.g. urbanicity, migration) have been identified as robust predictors of mental health problems. Selten and Cantor-Graee (2005) propose that a common underlying mechanism may explain the relationship between these psychosocial stressors and the development of psychiatric disorders. This mechanism is known as ‘social defeat’ and refers to the subjective feeling that one is in a subordinate position or has been labelled with an outsider status (Selten & Cantor-Graee 2005).

Support for this hypothesis comes from a large body of epidemiological research, in which social defeat is a plausible outcome of a variety of psychosocial stressors. For example, patterns of mental health problems amongst migrants provide support for the social defeat hypothesis. Research has consistently found higher rates of mental health problems amongst migrants compared to indigenous populations (Fearon et al., 2006; Cantor-Graee & Selten, 2005). In the UK alone, migrants are estimated to be up to 8 times as likely to develop a severe condition such as schizophrenia compared to the rest of the population (Fearon et al., 2006). This is likely due to the discrimination, lack of social support and marginalisation often faced by migrants (Bentall & Fernyhough, 2008). Comparisons of sub-groups of migrants adds further support to the social defeat hypothesis. Higher rates for severe disorders have been found for migrants from developing countries moving to developed countries (Cantor-Graee & Selten, 2005). Moreover, there is robust evidence of an ethnic density effect; i.e. severe psychiatric disorders occur more frequently amongst migrants who live in areas where they are part of a clear minority (Boydell, et al 2001). All of these findings point to a common underlying process; migration which results in a subordinate or outsider status appears to have a more deleterious impact on mental health.

Similarly, urbanicity is one of the most robust predictors of serious psychiatric disorders such as schizophrenia (Kelly et al., 2010; Krabbendam & Van Os, 2005). The evidence suggests that this association is due to causation (i.e. urban environment influencing the development of psychosis) rather than selection (i.e. people who are at high-risk of developing psychosis moving to an urban area) (Krabbendam & Van Os, 2005; Van Os, 2004). Interestingly, this association has been found to be independent of factors such as ethnicity, drug use, neuropsychological impairment, birth complications, pollution and childhood socioeconomic status (van os et al 2004). Bentall and Fernyhough (2008, p.1013) suggest that “many urban areas probably provide the toxic social circumstances that have been implicated in the high rates of psychosis found in immigrant communities, e.g., experiences of victimization and powerlessness”.
Further psychosocial predictors of serious mental health problems include low IQ (Zammit et al. 2004), hearing difficulties (Thewissen et al. 2005) and physical and sexual abuse (Shevlin, McElroy & Murphy, 2014). The concept of social defeat appears to underlie each of these factors. For example, people with low IQ or hearing problems face a variety of difficulties in everyday life (e.g. gaining employment) that could lead to feelings of marginalisation (Selten & Cantor-Graae 2007). Research also indicates that people who suffer physical and/or sexual abuse either in childhood or adulthood are more likely to experience feelings of loneliness, perceived stigma and powerlessness (Shevlin, McElroy & Murphy, 2014; Coffey et al., 1996). Taken together, these findings suggest that those who are most likely to feel subservient, excluded or marginalised by society are at greater risk of developing severe mental health problems.

The idea of social defeat is further supported by evidence of a cumulative effect of social disadvantage on mental health. For instance, Morgan and colleagues (2008) examined the impact of social disadvantage on the development of psychosis. Their sample consisted of first-episode psychosis patients (n = 390) and case controls (n= 391). Their measures of social disadvantage included information on sex, ethnicity, education, employment, housing, social networks and IQ. They found a strong linear relationship between cumulative disadvantage and the odds of developing psychosis and that first episode patients were significantly more disadvantaged than controls. Higher rates of psychosis were found in the Black Caribbean ethnic group compared to the White British group, however, cumulative disadvantage was significantly more common in the Black Caribbean group. Again, this finding suggests that those who are most socially disadvantaged are most susceptible to developing severe psychiatric disorders.

Methods to be used:
This research project has ethics approval to access and analyse a secondary data resource – the third National Epidemiologic Survey on Alcohol and Related Conditions (NESARC-III). This survey data was collected and is managed by the US National Institute on Alcohol and Alcohol Abuse (NIAAA). Briefly, the NESARC-III was sponsored, designed and directed by the NIAAA between April 2012 and June 2013. It is a cross-sectional survey, based on a nationally representative sample of the civilian non-institutionalized population of the United States aged 18 years and older. A multi-stage probability sampling survey design was used to select respondents for recruitment. Primary sampling units were counties or groups of contiguous counties, secondary sampling units (SSUs) comprised groups of Census-defined blocks, and tertiary sampling units were households within SSUs. Eligible adults within sampled households were randomly selected. Hispanics, Blacks, and Asians were oversampled. The total sample size was 36,309. The overall response rate was 60.1%. Further details of the survey can be accessed here https://www.niaaa.nih.gov/research/nesarc-iii

The semi-structured Diagnostic Interview used to collect information was the NIAAA Alcohol Use Disorder and Associated Disabilities Interview Schedule (AUDADIS-5). The AUDADIS-5 collects a wealth of information via a computerised-assisted personal interview (face-to-face in the person’s home), including: background information; alcohol, drug and tobacco use and dependence; mood and anxiety disorders;
childhood experiences; family history of mental health difficulties; personality characteristics; and treatment-seeking behaviour.

**Objectives of the research:**
The primary aim is to model the occurrence and co-occurrence of social defeat factors and assess their relationship with schizotypal experiences. Specifically, the following hypotheses will be tested.

1. Test if there are homogenous groups that represent quantitatively and qualitatively different levels of social defeat. Indicators for social defeat will include (Absolute and relative poverty, Urbanicity and population density, Migrant status, Minority religious affiliation, Low educational achievement, Living alone, Sexual orientation, Single and multiple indices discrimination, and Physical health problems).
2. Test alternative factor analytic models of schizotypal experiences.
3. Assess the relationship between social defeat factors and schizotypal experience dimensions.

**Skills required of applicant:**
- Be able to demonstrate a strong interest in pursuing a doctoral degree in the area of mental health research
- Have a strong interest in working with quantitative data resources and be eager to develop their skills in this area
- Be enthusiastic and willing to work independently (under supervision)

**References:**


