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The roles of locus of control and self-esteem in hallucination- and delusion-proneness in a non-clinical sample

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Abstract

Possessing either an external locus of control (LOC) or low self-esteem (SE) has been demonstrated prospectively to predict schizophrenia onset. This may be due to the consequences of these qualities for stress perception and resultant cortisol release. However, research with non-clinical samples has shown that only individuals with a combination of low SE and an external LOC show a significant cortisol response in response to a stressor. The current study hypothesized that low SE and an external LOC would be associated with greater proneness to hallucination-like experiences and delusion-like beliefs in a non-clinical sample ($N = 493$) than any other combination of these variables. A multiple linear regression found that the interaction between SE and LOC was not a significant predictor of either hallucination-like experiences or delusion-like beliefs. In line with previous research, LOC was found to be a significant, albeit weak, predictor of hallucination-like experiences and delusion-like beliefs. Implications for future research are examined, in addition to possible interventions in prodromal psychosis.

Keywords: Cortisol; Delusions; Hallucinations; Locus of control; Self-esteem

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1. Introduction

Schizophrenia is a disabling mental condition with a relatively low incidence of around 15 per 100,000 people (McGrath, 2005). Many of the psychotic experiences associated with schizophrenia, such as persecutory delusions and auditory verbal hallucinations, have been found to exist on a continuum reaching into the general population (Johns & van Os, 2001; Verdoux & van Os, 2002). The annual incidence of hallucinatory experiences in the healthy population has been found to be 4% (Johns, Nazroo, Bebbington, & Kuipers, 1998) and typically more than 25% of healthy samples endorse items on the Peters et al. Delusions Inventory (Peters, Joseph, Day, & Garety, 2004). It is therefore plausible that research into individual differences in proneness to psychotic symptoms in non-clinical populations will aid our understanding of the cognitive mechanisms behind such symptoms in pathological conditions.

One of the best ways to unravel the conundrum of psychotic symptoms is to examine what factors prospectively predict onset. One such predictive factor is locus of control (LOC). LOC is a personality trait that reflects the degree to which a person experiences events as due to their own actions (Rotter, 1966). Possession of an internal LOC signifies that the person expects reinforcement to be contingent on their own behaviour. An external LOC indicates that the individual expects reinforcement to be a function of chance or fate, under the control of powerful others, or simply unpredictable (Rotter, 1990). In one longitudinal study (Frenkel, Kugelmass, Nathan, & Ingraham, 1995) possessing an external LOC in adolescence was found to be a strong predictor of schizophrenia in adulthood. However, this study was unable to examine the relation between LOC and specific psychotic symptoms. Whilst subsequent research has demonstrated an association between an external LOC and the experience of persecutory delusions (Kaney & Bentall, 1989; Garety & Freeman, 1999), there is as yet only preliminary evidence that LOC is related to hallucination-proneness. In a non-clinical sample, Levine, Jonas, and Serper (2004) found that an external LOC (assessed using Rotter's (1966) scale) was associated with hallucination-proneness (assessed using the revised Launay–Slade Hallucination Scale [LSHS-R; Launay & Slade, 1981 modified by Bentall & Slade, 1985]). However, due to their small sample size ($N = 42$), Levine et al. (2004) noted that their study should be regarded as an "exploratory investigation between the locus-of-control and a predisposition towards hallucinations" (p. 27).

In addition to LOC, low self-esteem (SE) has been found to predict first onset of psychotic symptoms (Krabbendam et al., 2002). Numerous mechanisms have been proposed as to how SE may play a causal role in the development of psychosis. For example, it has been suggested that low SE may result in the deployment of psychosis as a defence mechanism (Bentall, 2003; Bentall & Kaney, 1996) and that low SE may strengthen the conviction with which some psychotic beliefs are held due to its consistency with the negative content of many such beliefs (Garety, Kuipers, Fowler, Freeman, & Bebbington, 2001). However, the role of SE is complicated when its relation to individual symptoms of psychosis are examined. For example, much work has investigated SE in relation to persecutory delusions. Whilst some studies have found explicit SE to be lower in individuals with persecutory delusions (e.g., Freeman et al., 1998) others have found such individuals' explicit SE to be the same as other patients with remitted persecutory delusions as well as healthy controls (Lyon, Kaney, & Bentall, 1994; McKay, Langdon, & Coltheart, 2007). Similarly, in a non-clinical sample, explicit SE (assessed using the Rosenberg self-esteem scale)