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Metacognitive factors and alterations of attention related to predisposition to hallucinations☆

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Abstract

The aim of the present study was to analyze the relationship between predisposition to hallucinations, metacognitive variables and attentional deficits. To this end we applied the Revised Hallucinations Scale (RHS); the Meta-Cognitions Questionnaire (MCQ), the Beck Depression Inventory (BDI) and two tests from the Cognitive Laboratory Battery (COGLAB). The results obtained indicate that negative beliefs about the uncontrollability and danger of thoughts and loss of cognitive confidence are closely related to high scores in predisposition to hallucinations; likewise, these people present various difficulties in attention. We discuss the implications of these results in relation to the literature on the cognitive processes of hallucination.

Keywords: Predisposition to hallucinations; Auditory hallucinations; Metacognitive beliefs; Attention; Schizophrenia; Mood; Voices; Self-consciousness

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1. Introduction

There is an important tradition in psychology that suggests that psychotic symptoms may be distributed along a continuum (Eysenck, 1952; Straus, 1969). In relation to this, recent research on predisposition to hallucinations can help us in the study of the variables involved in hallucinatory processes (Krabbendam, Myin-Germeys, & van Os, 2004; Larøi & Van der Linden, in press; Larøi, Van der Linden, & Marczewski, 2004; Verdoux & van Os, 2002).

A number of studies have shown that hallucinations may be a function of a tendency to display an external attribution bias for internal events (Bentall & Slade, 1985; Blakemore, Smith, Steel, Johnstone, & Frith, 2000). In particular, they imply a difficulty for distinguishing between appearance and reality that is influenced by top-down processes, including beliefs and expectations (Bentall, 1990; Flavell, 1986; Perona, 2004). Morrison, Haddock, and Tarrier (1995) argue that diverse metacognitions inconsistent with intrusive thoughts lead to their external attribution as auditory hallucinations, and that such misattribution is maintained by reducing cognitive dissonance. It is also suggested that the appraisal of the resulting hallucinatory experience elicits behavioral, emotional and physiological responses that may be involved in the maintenance process.

On the other hand, Chadwick and Birchwood (1994) have demonstrated that beliefs about voices are meaningfully related to their emotional and behavioral consequences, and Wells and Butler (1997) have suggested that meta-cognitive beliefs about hallucinations will also influence emotional and behavioral responses to them.

Recently, the Self-Regulatory Executive Function (S-REF) model, which had been applied to different emotional disorders (Wells, 2000; Wells & Matthews, 1994, 1996), has also been proposed as a framework for understanding auditory hallucinations. This model is based on the notion that vulnerability to psychological disorders is characterized by an excess of self-focused attention, ruminative processing, attentional bias, and the activation of dysfunctional self-beliefs and self-appraisal. These aspects would also be present in hallucinations, which are maintained by processes including selective attention and hypervigilance to idiosyncratic threat cues (Ensum & Morrison, 2004; Lobban, Haddock, Kinderman, & Wells, 2002; Morrison, Wells, & Nothard, 2000).

However, although all of these studies emphasize, apart from metacognitive variables, attentional processes as a fundamental aspect to take into account in the study of hallucinations, none of them has used laboratory tests for measuring attention, despite a wealth of literature showing that such tests can serve as indicators of vulnerability to schizophrenia (Cornblatt & Obuchowski, 1997; Hambrecht, Lammertink, Klosterkötter, Matuschek, & Pukrop, 2002).

On the other hand, an aspect that may affect the results, in relation to both attention and metacognitive variables, is the emotional one. Specifically, hearing voices has been linked to the presence of depressive symptoms in patients (Barnes, Curson, Liddle, & Patel, 1989; Berrios & Bulbena, 1987; Lobban et al., 2002). Likewise, motivational aspects may contribute to modifying the results in tests of attention (Ruiz, Cangas, & López, 2003).

The present work thus has two aims. First, to determine the extent to which laboratory tests of attention can help to explain the cognitive processes involved in hallucinations. And second, to study in what way depression may affect the results for variables related to hallucinations.