

Paranoid delusions and threatening hallucinations: A prospective study of sleep paralysis experiences [☆]

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Abstract

Previously we reported a three-factor structure for hallucinations accompanying sleep paralysis (SP). These earlier analyses were, however, based on retrospective accounts. In a prospective study, 383 individuals reported individual episodes online providing further evidence for the three-factor structure as well as clearer conceptually meaningful relations among factors than retrospective studies. In addition, reports of individual episodes permitted a more fine-grained analysis of the internal structure of factors to assess predictions based on the hypothesis that a sensed or felt presence (FP) is a core experience affecting other SP hallucinations. Results were generally consistent with this hypothesis. In particular, associations among, and temporal stability of, sensory hallucinations were largely explained by their common association with FP. The findings are consistent with REM initiation of a threat activated vigilance system with pervasive effects on the SP experience and suggest a potential model for the thematic organization of nightmares and dreams more generally.

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1. Introduction

Sleep paralysis (SP) consists of a brief experience of paralysis at sleep onset or offset (ICSD, 1990). Prevalence estimates of approximately 25–30% of the general population are common but vary considerably, with reports of 6–40% having had at least one experience of SP (Arikawa, Templer, Brown, Cannon, & Thomas-Dodson, 1999; Awadalla et al., 2004; Cheyne, Newby-Clark, & Rueffer, 1999a, Cheyne, Rueffer, & Newby-Clark, 1999b; Fukuda, Ogilvie, Chilcott, Vendittelli, & Takeuchi, 1998; Kotorii et al., 2001; Ohayon, Zulley, Guilleminault, & Smirne, 1999; Spanos, McNulty, DuBreuil, Pires, & Burgess, 1995). Thus, by even the most

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conservative estimates, SP hallucinations are remarkably common anomalous experiences. Compelling affective and sensory experiences frequently accompany SP, although individuals vary considerably in terms of number, intensity, and frequency of such experiences (Buzzi & Cirignotta, 2000; Cheyne, 2005; Cheyne et al., 1999a; Fukuda et al., 1998; Ohayon et al., 1999). SP hallucinations appear to be much more likely to be frightening than conventional dreams (Parker & Blackmore, 2002), essentially constituting a waking nightmare (Cheyne et al., 1999b). Indeed, it is evident that early medical and scholarly writing on the nightmare (e.g., MacNish, 1834; Waller, 1812) clearly and unambiguously describes SP hallucinations as prototypical nightmares (Harris, 2004; Liddon, 1967).

Our previous research has provided consistent evidence that the majority of SP experiences fall into three major categories: Intruder, Incubus, and Vestibular–Motor (V–M) experiences (Cheyne et al., 1999b). We have now replicated this three-factor structure in several large samples varying in age, frequency of SP experience, and a variety of demographic variables (Cheyne, 2003, 2005). In addition, Intruder and V–M hallucinations have been found to be differently lateralized (Girard & Cheyne, 2004) and to have different spatial attributes (Cheyne & Girard, 2004).

1.1. Intruder and incubus hallucinations

Intruder experiences involve a feeling of a presence (FP: defined for participants as a feeling of something present, independent of actually seeing or hearing something) and sensory (Visual, Auditory, and Tactile = VAT) hallucinations as well as a specific hallucination that something is pulling at the bedcovers. *Incubus* experiences include difficulty breathing, feelings of suffocation, smothering, or choking, sensations of pressure (typically on the chest), pain, and thoughts of imminent death. For both types of experiences, these sensations occur both as isolated sensations and as more elaborate narratives. Thus, in the case of Incubus experiences, these are sometimes violent physical and sexual assault experiences. Intruder and Incubus factors are typically moderately positively correlated with one another and with intense fear and, especially when vivid and elaborate, may be interpreted as threat and assault, respectively (Cheyne, 2003, 2005; Cheyne et al., 1999b).

A major hypothesis guiding the present research states that many of the Intruder and Incubus experiences are importantly affected by FP. The general conceptual model underlying this hypothesis is outlined in Fig. 1.

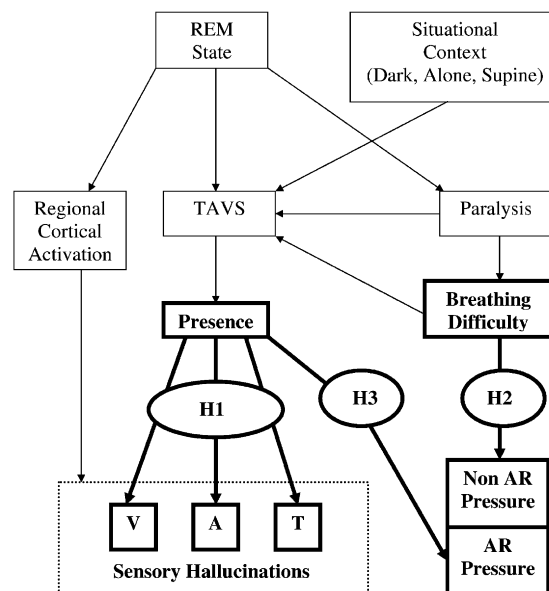


Fig. 1. Proposed sequence of events producing sensory hallucinations: Components measured and tested are in bold. Abbreviations: REM, rapid eye movement; TAVS, Threat Activated Vigilance System; V, A, T, Visual, Auditory, and Tactile; AR, agent-related; H1, H2, H3, three major hypotheses tested—See text.

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