

## The Exploratory Power of Sleep Effort, Dysfunctional Beliefs, and Arousal for Insomnia Severity and Psg Determined Sleep

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**Introduction:** Differences between subjective sleep perception and sleep determined by polysomnography (PSG) are prevalent in patients with primary insomnia, indicating that the two measures are partially independent.

**Objectives:** To identify individualized treatment strategies, it is important to understand the potentially different mechanisms influencing subjective and PSG determined sleep.

**Aims:** The aim of this study was to investigate to which extent sleep effort, dysfunctional beliefs and attitudes about sleep, and pre-sleep arousal are associated with subjective insomnia severity and PSG-determined sleep.

**Methods:** 47 patients with primary insomnia and 52 good sleeper controls underwent two nights of PSG and filled in the Glasgow Sleep Effort Scale, the Dysfunctional Beliefs and Attitudes about Sleep Scale, the Pre-Sleep Arousal Scale and the Insomnia Severity Index. Regression analyses adjusted for age, gender, depressive symptoms, and group status were conducted to investigate the impact of the three predictors on subjective insomnia severity and PSG-determined total sleep time.

**Results:** Subjective insomnia severity was positively associated with sleep effort. PSG determined total sleep time was negatively associated with somatic pre-sleep arousal and dysfunctional beliefs and attitudes about sleep.

**Conclusions:** The pattern of results suggests that subjective insomnia severity and PSG determined total sleep time are driven by different mechanisms. Being associated with subjective sleep disturbance, which defines the diagnosis of insomnia, the reduction of sleep effort appears to be an important therapeutic target for all patients. Somatic pre-sleep arousal and dysfunctional beliefs could be a target for patients who suffer from markedly reduced PSG determined total sleep time.