



Attributed to Agoraios

# Insomnia symptoms and their association with workplace productivity: cross-sectional and pre-post intervention analyses from a large multinational manufacturing company

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## Abstract

### Background

Symptoms of insomnia are common and might impact work productivity. We investigated the relationship between insomnia symptoms and workplace productivity in a global manufacturing company.

### Methods

Within an uncontrolled, cross-sectional study, employees from a US-based company were invited to participate in an online evaluation comprising the Sleep Condition Indicator (SCI) measuring symptoms of insomnia (high score indicating better sleep), 2 items of the Work Productivity and Impairment Index (WPAI) measuring ‘presenteeism’ and ‘absenteeism’ (high score indicating loss of work productivity) and 1 item of the Perceived Stress Scale (PSS) from January 2015 onwards. Pre-post, within-subject data were collected to preliminary test effects of ‘sleep tips’ and digital cognitive behavioral therapy (dCBT).

## Results

In 2798 employees [72% male; mean age 46.3( $SD\ 11.8$ ) yrs] sleep was poorest in plant staff [ $SCI = 3.70(2.73)$ ], then retail staff [ $4.34(3.02)$ ], then office staff [ $4.95(2.83)$ ]: overall  $F(2,2786) = 43.7, P < .0001$ . More insomnia symptoms were associated with WPAI presenteeism ( $r = -.489, P < .0001; R^2 = 23.9\%$ ). Insomnia symptoms also were the strongest predictor of work-related productivity, with stress only contributing a further 9%. A regression model for ‘absenteeism’ was statistically significant but of limited [predictive value](#) ( $R^2 = 3.4\%$ ). In a sample of 214 employees with pre- and post-intervention data, the SCI of those exposed to sleep tips significantly increased from  $5.36(3.28)$  to  $6.01(3.22)$ , [ $t(123) = -3.02, P = .003$ ] and from  $3.08(2.24)$  to  $6.03(2.97)$  for those who accessed dCBT [ $t(89) = -8.40, P < .001$ ].

## Conclusion

Symptoms of insomnia are associated with poor work productivity. Additionally, targeted insomnia interventions may offer potential to improve sleep and work productivity.