# Sleep and depression

# Stellingen

*Behorend bij het proefschrift:*
'Sleep and depression: genetic influences of the brain serotonergic system'

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1. There is strong, although indirect, evidence for the involvement of sleep in the relationship between 5-HTTLPR and (stress-related) depression (*this thesis*).

2. Administration of the serotonin precursor tryptophan might become a promising treatment strategy to compensate for the presumed elevated risk for insomnia in 5-HTTLPR S-allele relative to L-allele carriers (*this thesis*).

3. Sensitization of the hypothalamic-pituitary-adrenal (HPA) axis might well be a crucial component linking inadequate sleep to stress-related pathology (*this thesis*).

4. The 5-HTTLPR S-allele is associated with an elevated cortisol stress response relative to the L-allele although variations in sleep quality may profoundly confound this association (*this thesis*).

5. The influence of 5-HTTLPR on rapid eye movement (REM) sleep regulation more likely reflects acute effects of genetic variation in serotonin transporter expression rather than a developmental component (*this thesis*).

6. '… if an interaction exists in which the S-allele of 5-HTTLPR increases risk of depression only in stressed individuals, then it is not broadly generalizable, but must be of modest effect size and only observable in limited situations' (Culverhouse et al., 2018, *Molecular Psychiatry*, *23*(1), 133-142).

7. Uncovering the genetic architecture of depression comprises one of the greatest challenges in mental health research (Collins et al., 2011, *Nature*, *475*(7354), 27-30).

8. 'Due to the clinical and etiological heterogeneity of major depressive disorder it has been difficult to elucidate its pathophysiology' (Hasler et al., 2010, *World Psychiatry*, 9(3), 155-161).

9. Incorporating sleep in depression research could advance the discovery of genetic risk factors, pathophysiological mechanisms and therapeutic interventions (*valorization addendum*).

10. 'For a fervent materialist, few things in life bring more pleasure than contemplating the neurobiology of stress' (Sapolsky, 2015, *Nature Neuroscience, 18*(10), 1344-1346).