

Poor sleep and risk situations – an unholy union?

Since the invention of the light bulb, adults in most western countries have gone from sleeping over 9 to under 7 hours a night (Webb & Agnew, 1975). Getting a good night's sleep is becoming rare due to the increasing demands of the 24 hour society we live in. The serious adverse consequences for health and mental well-being of irregular sleep are beginning to be recognized and emerging evidence underlines that sufficient sleep is vital to cognitive function (Acheson et al., 2007). For instance, processing speed, sustained attention, verbal creativity and problem solving skills are all reduced if a person is exposed to sleep deprivation. One aspect of executive function that is relevant to real world problem-solving is risk taking behaviour. The majority of studies in this field have focussed on complete sleep deprivation and risk taking behaviour and have found increased risk taking propensity in sleep deprived individuals. While complete sleep deprivation is a relatively rare phenomenon in the wider public, the much more common problem of poor sleep quality and its possible impact on cognition has received very little attention so far.

The purpose of this study was, therefore, to examine the effect of poor sleep on risk taking behaviour as assessed by the Balloon Analogue Risk task (BART) and the Evaluation of Risk questionnaire (EVAR). Thirty-four healthy adults were identified either as poor sleepers or good sleepers via the PSQI and completed the risk-taking assessment in addition to a questionnaire battery consisting of the HADS, PANAS, MEQ and a one-week sleep diary. It was hypothesised that compared to good sleepers poor sleepers would show a higher risk-taking propensity on both, the EVAR and the BART. Data was analysed using t-tests, correlations and multiple regression.

Contrary to the initial hypothesis it was found that good sleepers showed higher risk-taking propensity than poor sleepers on most measures. In addition, results indicate that positive affect might play a mediating role in the effects of poor sleep on risk-taking. The grant I received from the settlement fund was crucial for the success of the study in that it enabled me to reward participants with sweets. Since the administered behavioural task consisted of repeated gambling it was important to have an incentive. This also enabled comparison with other risk-taking studies and gave my research a broader appeal. Overall, the current results highlight the crucial role of mood as a mediating factor of risk-taking propensity in poor sleepers which has so far been neglected in this area of research. By shedding light on the intricate relationship between mood, sleep quality and risk-taking this study has highlighted shortcomings in the field which should be taken into account by future studies. This will enable us to encompass risk-taking behaviour as the multi-layered phenomenon that it is and represents a crucial step in the development of much needed intervention techniques.