

An Indian-Australian research partnership

Project Title: **Effect of sleep deprivation on decision making and vigilance among night shift workers**

Project Number **HSS0500**

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IITB Department:

Humanities and Social Sciences

Research Academy Themes:

Highlight which of the Academy's Theme(s) this project will address?

(Feel free to nominate more than one. For more information, see www.iitbmonash.org)

1. Advanced computational engineering, simulation and manufacture
2. Infrastructure Engineering
3. Clean Energy
4. Water
5. Nanotechnology
6. Biotechnology and Stem Cell Research
7. **Humanities and Social Sciences**

The research problem

Define the problem

The performance pressure and expectations from working population are increasing with lifestyle advancements. This constrains the availability of personal relaxation time and thus individuals often decide to trade off their sleep with work. As a result, the disrupted sleep leads to various health and occupational hazards. These impacts are not confined to the workers but also to the subjects/consumers in professions where faster decision making and vigilance are required. History followed by research is filled with the examples where decline in performance of

working population has been observed in night shift workers such as doctors, pilots, drivers etc. Researchers have found that tendency to evaluate risks is compromised in sleep deprived individuals (Watson, 2014; Horney, 2012). This in turn affects his/her decision making abilities which in turn promote the emergence of research in this very area.

Project aims

Define the aims of the project

To examine the effects of night shift work on decision making and vigilance.

Expected outcomes

Highlight the expected outcomes of the project

The cognitive deficit in decision making and vigilance when correlated with sleep deprivation would provide a new understanding about conspicuous occupational errors and accidents during night time when compared with day time patterns. This study of nocturnal vulnerabilities underlying the deployment of decision making and vigilance can contribute to designing effective countermeasures which can later be implemented to improve the performance and safety of night shift workers.

How will the project address the Goals of the above Themes?

Describe how the project will address the goals of one or more of the 6 Themes listed above.

Capabilities and Degrees Required

List the ideal set of capabilities that a student should have for this project. Feel free to be as specific or as general as you like. These capabilities will be input into the online application form and students who opt for this project will be required to show that they can demonstrate these capabilities.

First class Master's degree in psychology/ medicine/ cognitive neuroscience.

Applicants acquainted with the knowledge of EEG/ ERP and/or cognitive/ neuropsychology/ physiology would be encouraged.

Potential Collaborators

Please visit the IITB website www.iitb.ac.in OR Monash Website www.monash.edu to highlight some potential collaborators that would be best suited for the area of research you are intending to float.

Please provide a few key words relating to this project to make it easier for the students to apply.

Sleep deprivation, Decision making, Vigilance, Night shift workers