

31st of May 2013

Title of project: The Effect of Environmental Stressors on Cognitive Performance in a Simulated Helicopter Environment

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Aim of the study

The aim of the study was to investigate the effects of environmental stressors (noise and vibration) on cognitive performance in a simulated helicopter environment. The project also investigated whether individual differences such as gender and the phases of the menstrual cycle interacted with environmental stressors and cognitive performance. Cognitive performance was measured by using three different tasks; response inhibition, word monitoring and prospective memory.

How the money was used

The funding enabled the purchase of a second car vibration seat and a foot vibration massager. These two items were used to increase the vibration felt by the participants during the experiment. More vibration was very important for the experiment to be successfully carried out, as the vibration constituted one of the environmental stressors. Furthermore, the grant money was used to purchase a headphone adaptor to improve sound quality for the word monitoring task and a jacket plug for the external helicopter noise. This was used to further simulate a helicopter environment.

Main findings and promotion of the social good.

The study found that participants in the helicopter condition performed significantly better compared to the control condition, this was attributed to the possibly arousing effects of the low-frequency vibration. Furthermore the study found that male participants performed better compared to female participants and there the seemed to be an effect of the different phases of the menstrual cycle. This finding will be further explored in a future study.

The project promoted the social good by working with the Scottish Air Ambulance Service, which is a local community-based air rescue organisation. Furthermore, the findings made by this study has stimulated further research into how the effects of the helicopter environment and individual difference can affect performance.