

Researcher is shining a light on sleeping patterns in autistic children

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An innovative research project is set to explore the relationships between light and sleep patterns in children with learning difficulties.

(Medical Xpress)—A researcher from Heriot-Watt University's School of the Built Environment is studying the association between exposure to blue light and sleeping patterns in children with Autistic Spectrum Disorders (ASD) or Attention Deficit Hyperactivity Disorder (ADHD).

Blue light and sleeping patterns

Blue light is the bright light strongest between mid-morning and mid-afternoon which helps us synchronise our body clock. It suppresses production of the brain chemical called melatonin, which helps us fall asleep.

PhD research student, Amanda Nioi, who is leading the study from Heriot-Watt, said, "While there is evidence of the impact of increased [blue light](#) on older people and adolescents, findings of the effect of blue light exposure in children with ASD and ADHD is very limited.

"The intention of the study is to profile the sleep patterns of children with ASD or ADHD and to further understand their daily light routine. This will include time spent indoors/outdoors and the use of light emitting electronic devices such as TV screens, smart phones and self-luminating tablets."

It's been known to researchers for some time that using computers and phones, especially before you go to bed, can lead to a poor night's sleep. However, a better understanding of this is required, particularly in young people who might spend increasing amounts of time playing computer games or searching the web on their phones.

Exploratory study

Amanda will work with volunteers from the Falkland House School in Fife, which specialises in the education of boys who require additional learning support. Five pupils will wear specially designed watches, called actiwatches, which contain sensors collecting light and movement data.

Amanda Nioi, who started her career as an architect before returning to university at Heriot-Watt last year to study the human factors of lighting and the non-visual effects, received funding from the Engineering and Physical Sciences Research Council (EPSRC) to carry out her research.

She added, "This is an exciting and exploratory study and both my supervisor, Dr Jenny Roe, and I are delighted Falkland House School are helping us with our research."

Falkland House School social work manager, Sheena Murray, co-ordinating the project for the school said, "This is a fascinating piece of research in trying to understand the impact of light on [sleep patterns](#) and we are delighted, as are the pupils, to be assisting Heriot-Watt University with this."

Provided by Heriot-Watt University

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