

Abstract P073 Figure 1 A dot plot comparing the mean Stroop test scores during and after Ramadan for each participant, where an asterisk (*) denotes a significant difference where $\mathrm{p}<0.05$


Abstract P073 Figure 2 A bar graph comparing the difference in percentage accuracy during and after Ramadan in males and females
effect of sleep interruption on cognitive performance in students during Ramadan compared to normal sleep patterns.
Methods Participants were university students, recruited with ethical approval, who regularly (and during the study) had 79 hours total sleep. Following sleep interruption during Ramadan (30-90 mins at dawn), participants performed a Stroop test twice within an hour of awakening to assess processing speed and attention. Subsequently, the same test was performed after Ramadan with a maximum sleep interruption of 5 minutes. Participants' time-differences between congruent and incongruent tasks, plus percentage accuracy, were compared between sleep interruption and normal sleep (baseline) for each participant, using Wilcoxon Signed Rank and T-tests Results 70 students were recruited; 40 were excluded following an eligibility survey and 34 completed the study ( 15 males, 19 females). Stroop times were significantly slower
during Ramadan, compared to minimal sleep interruption post-Ramadan [ $\mathrm{p}<0.001$ ] (figure 1). There was no significant difference in mean percentage accuracy between during and after Ramadan, in either sex [females $p=0.11$; males $p=0.80$ ] (figure 2).
Discussion The main finding of this study was that sleep interruption due to Ramadan is associated with decreased speed of cognitive functioning, but not with a decrease in accuracy in students aged 18-25 years. These preliminary findings suggest that further research to investigate the effect of the effect of sleep interruption on memory and decision-making, which are key in exam-performance, would be of value. Other confounders such as hydration and chronotype should also be considered.

## REFERENCES

1. Bahammam Ahmed.Sleep pattern, daytime sleepiness, and eating habits during the month of Ramadan. Sleep and Hypnosis 2003;5:165-174.
2. Miyasita A, Fukuda K, Inugami M. Effects of sleep interruption on REM-NREM cycle in nocturnal human sleep. Electroencephalography and Clinical Neurophysiology (1989);[online] 73(2):107-116. Available at: https://doi.org/10.1016/0013-4694(89)90189-2

## P074 A SHORT DEVICE-BASED QUESTIONNAIRE 'SLEEPHUBS CHECK-UP' TO ENGAGE THE GENERAL POPULATION IN UNDERSTANDING MORE ABOUT THEIR SLEEP

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The increased number of people complaining of poor sleep puts a strain on health services where many doctors have neither the time or experience to deal with sleep problems. While it seems that we are good at offering potential solutions to the perceived problem of poor sleep, sleep questionnaires have historically not been written from the general public point of view, and often not easily accessible. The SleepHubs Check-up (SHC) is a 4-6 question device-based questionnaire designed for use by the layman as it is quick and easy to complete and focuses on three categories commonly associated with poor sleep: daytime sleepiness, snoring, and insomnia. Based on the results of the SHC, individuals are assigned into one of three categories: Probable good sleeper - no need to worry further, Possible reasonable sleeper but room for some improvement, possible sleep health issue, clinically relevant, further investigation required.

We undertook a pilot study to engage adults in the SleepHubs Check-up. The responses to the questions were automatically scored and individually weighted. The scores were compared with that of the Insomnia severity Index (ISI), Stop Bang and OSA probability based on the MAP index (MAPI).

One hundred adults ( $55 \%$ female) with an average age of 43 years and average BMI of $26.4 \mathrm{Kg} / \mathrm{m}^{2}$ were recruited. Statistical analysis showed a positive correlation ( $>80 \%$ ) between SHC and probability of Insomnia using the Insomnia severity Index. Additionally, the SHC score accurately identified individuals at risk of OSA when compared to Stop Bang and MAPI scores.

The SleepHubs Check-up assignment and categorisation criteria has shown to be effective and it is proposed could act as an instrument for use in both research and as a screening
tool for clinicians in the health care environment enabling quick identification and assignment of individuals that may have a sleep issue.

## P075 DOES TOTAL DAILY SCREEN TIME AFFECT OUR SLEEP QUALITY?

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Background The percentage of adults spending $>40 \mathrm{hrs} /$ week online has increased by $14 \%$ in the last decade. ${ }^{1}$ Increased screen time is associated with poor sleep quality, which in turn influences memory and attention. This study tested the hypothesis that increased daily screen time was associated with significantly decreased sleep quality.
Methods Data was collected, with ethical approval, over three mornings (May 2019) from 399 randomly selected members of the public in South Kensington. A questionnaire with 15 questions, including age, gender, total daily screen time, sleep onset latency, and daytime alertness was used. A representative sample size of 369 was calculated, based on the daily footfall of Exhibition Road $(32,422) .16$ responses were excluded due to incomplete questionnaires, sleep disorders and jet lag.
Results Data from participants aged 18-34 was selected for analysis ( $\mathrm{n}=223,55.9 \%$ of the total responses). Respondents who answered 'no' to the question 'Have you had enough sleep to feel alert?' had a significantly higher mean total screen time than those who answered 'yes' (figure 1: Mean $\pm$ SEM, alert ('yes'): $10 \pm 0.38$ hours, not alert ('no'): 11.2 $\pm 0.45$ hours, $\mathrm{p}=0.02$ ). There was no significant correlation


Abstract P075 Figure 1 A bar graph showing self-reported mean daily total screen time (mean $\pm$ SEM) against the responses to the question 'During the pastweek, have you received enough sleep to feel alert?' in 18-34 year olds. There was a significantly higher mean daily screen time in individuals who responded ' no ' $(\mathrm{p}=0.024$ )


Abstract P075 Figure 2 A bar graph showing self-reported mean dailytotal screen time in hours (mean $\pm$ SEM) against the self-reported sleep onset latency in minutes in 18-34yearolds. No significant correlation was found between daily screen time and sleep onset latency (Spearman's $\rho=0.059$ and $\mathrm{p}=0.38$ )
between the total daily screen time and sleep onset latency (Figure 2: spearman's $\rho=0.059$ and $\mathrm{p}=0.38$ ).
Conclusion The main finding of this study was that increased total daily screen time was associated with reduced daytime alertness, and a reduced sleep quality in members of the public aged 18-34 years. Although, screen time did not have a significant impact on sleep onset latency. This research could potentially raise awareness about the impact of screen time on sleep, and help inform future research into this area.
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## REFERENCE

1. Ofcom. A decade of digital dependency. Available from: https://www.ofcom.org. uk/about-ofcom/latest/features-and-news/decade-of-digital-dependency [Accessed 04.06.19]

## P076 SIGNPOSTING FOR SNORING: DOES IT OPTIMISE USE OF GP TIME? ONLINE SURVEYS OF PATIENTS AND SLEEP-TRAINED DENTISTS

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Introduction $30_{1}-95_{2} \%$ of adults search online for health information, and online systems are increasingly used to optimise GP clinical time. Intra-oral devices (MADs) are recommended by $\mathrm{NICE}_{3}$ for snoring, mild OSA and where PAP is refused or not complied with.

If SRBD services are to cope with increasing demand, signposting non-somnolent patients (without major co-morbidities) directly to sleep-trained dentists could offer a way to optimise both GP time and improve access to MADs.

