Methods: In an ongoing study, 37 healthy, male participants have so far completed a 2-week study protocol. Volunteers were assigned to one of four luminance groups which differed in brightness levels (27 cd/m2 - 280 cd/m2). Illuminance ranged between 7 and 85 lx. Within the four groups each volunteer was exposed to a low melanopic (LM) and a high melanopic condition (HM). The LM and HM differed in melanopic irradiance (ca. 3-fold change), but matched in terms of cone excitation (metamers). Before, during and after the light exposure, volunteers performed a psychomotor vigilance task (PVT). Subjective alertness and melatonin levels were continuously measured in half-hourly intervals throughout scheduled wakefulness in the 17-h in lab study.
Results: Preliminary analysis yielded an overall alerting response in the HM vs. the LM condition ($p<0.05$) concomitant with a trend of reduced melatonin levels in HM vs. LM ($p=0.08$). So far, we could not observe a difference in PVT performance for HM and LM (Reaction time responses between 100 and 500 ms). Since we are still lacking statistical power in the ongoing study, we cannot yet satisfactorily interpret interaction effects between melanopic condition and brightness.
Conclusion: Our data indicate that rather low brightness levels of high melanopic display light impacts alertness and melatonin levels in the evening. Thus, metameric low melanopic display light may be a promising method to attenuate activating properties of evening light on circadian physiology without affecting visual appearance.
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A RANDOMIZED FACTORIAL STUDY TO UNDERSTAND THE COMPONENTS OF BEHAVIORAL SLEEP EXTENSION

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Introduction: Recent studies have demonstrated that behavioral sleep extension can increase sleep duration among short sleepers. However, little is known about the contribution of the intervention components. The goal of this study is to examine the effects of a fitbit and coaching on sleep extension in a behavioral sleep extension intervention.
Methods: Participants included adults aged 25 to 65 years with sleep duration <7 hours who were randomized into one of four groups: self-management, Fitbit, coaching, or Fitbit + coaching. The self-management group did not receive any intervention materials. The other three groups received sleep educational materials emailed weekly. The coaching intervention (5-min telephone call) was delivered weekly for 6 weeks to the coaching and Fitbit+coaching groups to enhance motivation. Assessments were completed at baseline, post intervention (6 weeks), and 12-week follow- up. Participants completed self-report questionnaires and actigraphy at study visits. Results were analyzed using mixed models.
Results: Enrollment and data collection were ended prematurely due to the COVID-19 pandemic. Participants included 32 adults (self-management n=8, coaching n=11, Fitbit n=11, and Fitbit+coaching n=8). Fitbit+coaching group increased hours of sleep by 0.62 h hours more (95% CI: 0.04, 1.20; $p=0.047$) than the self-management group between their first and second visit. Coaching and the Fitbit groups showed estimated improvements over the self-management group as well: 0.54 h and 0.39 h, respectively, though their differences were not found to be statistically significant ($p=0.081$ and $p=0.20$, respectively). At the 12-week follow-up visit, there were no statistically significant differences between groups but the Fitbit+coaching group did maintain their sleep improvement.
Conclusion: These results suggest that sleep extension intervention components may affect the pattern of sleep changes, but more research is needed to refine and explore changes in sleep with behavioral interventions.
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EFFECT OF 3 CONSECUTIVE NIGHTS OF ALCOHOL ON SLEEP VARIABLES: PRELIMINARY REPORT.

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Introduction: The effects of a moderate dose of alcohol one hour before bedtime on sleep have not often been studied nor is the effect across nights well known. We therefore sought to test whether such effects as sleep disruption, increased early-night slow wave sleep (SWS), and reduced early-night REM sleep would be sustained across nights.
Methods: Twenty-five healthy participants (13 male; ages 22–69 yr, mean = 35) reporting moderate drinking kept a fixed sleep schedule (8–9 h TIB, confirmed by actigraphy) for about one week before two 3-night sleep studies in the lab separated by ≥ 3 days. Participants drank either mixer alone or a beverage containing alcohol targeting a breath alcohol content (BrAC) of 0.08% in a counter-balanced order over 45 min ending 1 hr before lights out. Sleep was scored using Rechtschaffen & Kales (1968) rules in 30-sec epochs. Mixed-effects models examined beverage type, study night, and the interaction of beverage and night for 13 variables: sleep efficiency, sleep latency, REM latency, and full-night percent of Stage 1, Stage 2, SWS, and REM sleep; and percent of SWS and REM sleep by thirds of night.
Results: A significant effect of Night was seen for sleep efficiency ($F(2,120)=3.79$; $p=.025$) and sleep latency ($F(2,120)=5.19$;$p=.007$), both lower on N1, as well as for REM latency, longer on N1 ($F(2,120)=6.52$;$p=.002$). REM latency was longer with alcohol ($F(1,120)=14.16$; $p<.000$) and no interaction was apparent. St2% was higher ($F(1,120)=4.47$; $p=.037$) and REM% lower ($F(1,120)=4.41$; $p=.038$) with alcohol, whereas overnight SWS% was unaffected; none showed an effect of night or an interaction. SWS% in the first ($F(1,120)=10.51$; $p=.002$) and second thirds ($F(1,120)=8.27$; $p=.005$) of the night was higher with alcohol and unaffected in the last third. REM% in the first third alone was higher with alcohol ($F(1,120)=10.71$; $p=.01$).
Conclusion: These findings show only modest effects of pre-sleep alcohol consumption (targeting 0.08% BrAC) on subsequent sleep in healthy drinkers, with no evidence of a cumulative impact across three nights. We aim to increase the sample size and examine effects on next-day cognitive function in subsequent analyses.
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MEASUREMENT OF TAPPING DURING THE INTERSTIMULUS INTERVAL AS A VALIDATION METRIC FOR THE 3-MINUTE PSYCHOMOTOR VIGILANCE TEST

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Introduction: The Psychomotor Vigilance Test is a well-validated measure of sustained attention used to assess daytime alertness in sleep research studies.1 It is commonly used in a variety of research settings