P609 | Validation of the French version of Children's Chronotype Questionnaire in school-aged children: a study in Luxembourgish population

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Objectives/Introduction: Human behaviour diferences are determined by factors such as the circadian phase preference. Adults have been well examined concerning performance variation during the work schedules depending on chronotype. However there is a serious gap on research of children respecting the evaluation and understanding of their sleep patterns, specifically referring the chronotype variability. The main goal was to validate the Children's Chronotype Questionnaire (CCTQ, Werner, LeBourgeois, Geiger et al., 2009) for French language and to identify chronotype and specific sleep habits differences of young children of Luxembourgish schools, according to age and different school schedules.

Methods: After completing the procedure for the adapation of the CCTQ to the French Language, the instrument was administrated, during a 2 month-period, to the parents of 173 children, aged between four and 11 years old, in Luxembourg. The CCTQ measures the sleep and wake behaviours in three specific levels/scales with a total of 27 items: midsleep phase (duration of sleep time) for free days and school days (1), morningness and eveningness (M/E) (2), and chronotype (3).

Results: The CCTQ presented good internal consistency (α 0.70) but lower compared to the original version (0.81). Correlation coefficients were positively high (r = 0.91). Children showed different punctuations considering the M/E (58 morning type, 66 evening type, the other subjects were identified as intermediate type) being that the morning type demonstrated lower midsleep phase (a difference of 23 min) with statistical significance compared to the evening type subjects (n = 173, p = 0.017, η^2 0.06). Their sleep habits significantly differ ($p < 0.05$) regarding awake and sleep behaviors and schedule preferences considering age (p = 0.000, η^2 0.83) - mostly between four and 10 yr old - and considering school timetables (p = 0.009, η^2 0.136) - mostly between children attending to the full day school timetable (that includes classes during both morning and afternoon, differently from the other two timetables: only morning or only afternoon).

Conclusions: This study presents the first validated French version of the CCTQ and highlights that chronotype of children should be strongly considered by valid measures such as the CCTQ to understand how to implement more adequate timetables for testing in specific academic areas.

Disclosure: Nothing to disclose.

P610 | Not all circadian disruption protocols are created equal

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Objectives/Introduction: Light is the primary entraining cue for the circadian system, adjusting biological time to the external environment, however it also has direct effects on arousal and sleep. The demands of our modern 24/7 society, with increasing exposure to artificial light at inappropriate times of day, is widely considered to be detrimental to our physiology. Evidence comes from studies using aberrant light/dark (LD) cycles to produce circadian disruption in mouse models. A range of different protocols have been used, including constant light (LL), jet-lag (JL), dim light at night (DLAN), and non-24 hr LD cycles (T-cycles). To date, no detailed comparison of the effects of these different protocols has been conducted.

Methods: We used passive infra-red (PIR) sensors to simultaneously measure activity and immobility-defined sleep in wild-type C57BL/6J mice under different protocols, including LL, JL, DLAN and T20 (10 hr light: 10 hr dark). We compared the effects of these different protocols on commonly used measures of circadian disruption including periodogram power (Qp), intradaily variability (IV) and interdaily stability (IS), as well on the architecture of immobility-defined sleep.

Results: Different LD conditions produced different effects on circadian activity. Whilst IV is increased and IS were decreased under all conditions (n = 24, IV ANOVA $F(1,20) = 28.8$ $p < 0.0001$, IS ANOVA $F(1,20) = 295.6$, $p < 0.0001$) decreases in Qp were only observed under LL and T20 (LL $p < 0.0001$, T20 $p = 0.0053$). All conditions change the distribution of immobility-defined sleep. Moreover, the effects of some protocols persisted after animals were returned to normal LD conditions.

Conclusions: Our data suggests that commonly used protocols exert different effects on sleep and circadian rhythms. These data provide a framework to understand the effects of these protocols on other biological processes such as cognition.

Disclosure: Nothing to disclose.

P611 | Chronotypes differ influence in the weekday/weekend variability of pain in patients with fibromyalgia

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Objectives/Introduction: Chronotypes have been associated with pain. Pain is dynamic and change day to day by individual difference. However, little is known about the pain lever between weekday/weekend in patients with fibromyalgia among difference chronotype.