

INTRODUCTION

Several previous studies have shown that morningness positively correlates with the academic achievement of university students. It is also well known that morning types have better self-control and sleep quality. Additionally, more academically successful students also have better self-control and sleep quality. However, no research has investigated the role of self-control and sleep quality as the mechanisms behind the link between chronotype and academic achievement. Our study aimed to examine whether self-control and sleep quality could explain the relationship between chronotype and academic achievement in a student sample, which was evaluated cross-sectionally.

We conducted an online survey that was completed by more than 500 Slovenian university students (56 % female, mean age 21,6 years). The Morningness-Eveningness questionnaire (MEQ), Brief-Self Control Scale (BSCS), and Pittsburgh Sleep Quality Index (PSQI) were used to assess chronotype, self-control, and sleep quality, respectively. Additionally, academic achievement was determined using two measures: the objective (the average grade for the winter 2022/2023 exam period) and the subjective (the subjective assessment of one's academic achievement according to the reference group in one's studies) measure.

RESULTS

Our results showed that 59.7 % of university students are intermediate types, 23.3 % are evening, and 16.9 % are morning types. 65.9 % of participants reported poor sleep quality – their PSQI score was higher than the cut-off score 5. In average, students scored 6 (SD = 2.9) on the Pittsburgh Sleep Quality Index and 41.46 (SD = 8.47) on the Brief-Self Control Scale. Their average grade was 8.37 (SD = 0.93) (on a scale 1-10), and average subjective assessment of one's academic achievement was 3.42 (SD = 1.04) (on a scale 1-5).

Mediation analyses revealed that self-control fully mediates the relationship between one's chronotype and both measures of academic achievement.

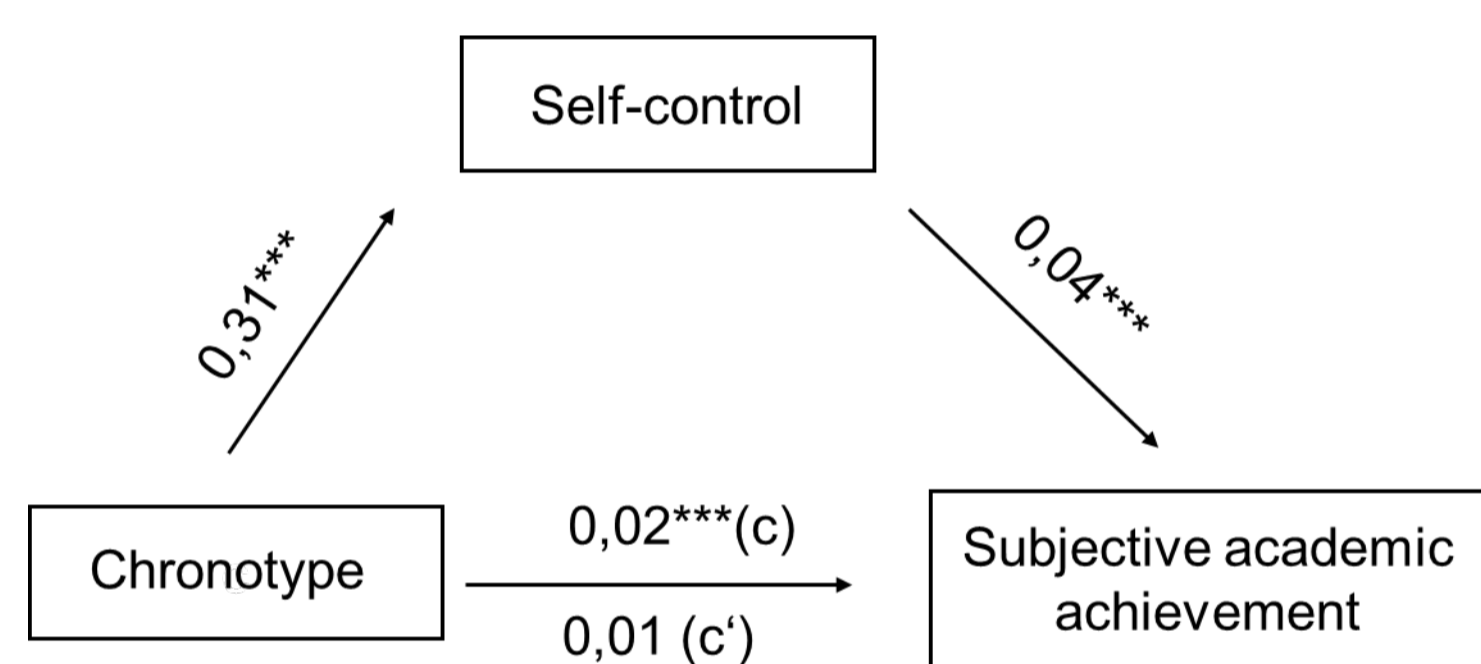


Figure 1. Mediation role of self-control in the association between chronotype and subjective academic achievement

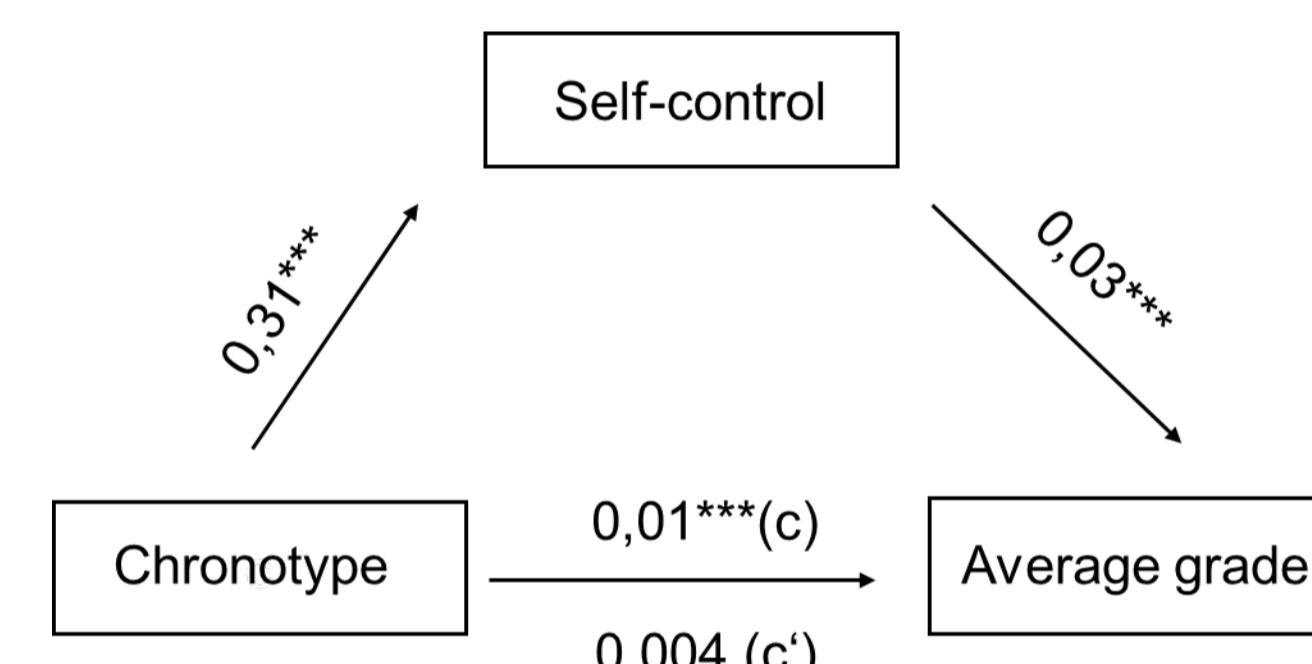


Figure 2. Mediation role of self-control in the association between chronotype and average grade

The link between one's chronotype and the objective academic achievement measure was established irrespective of sleep quality. However, the link between one's chronotype and the subjective academic achievement measure was partially mediated by sleep quality.

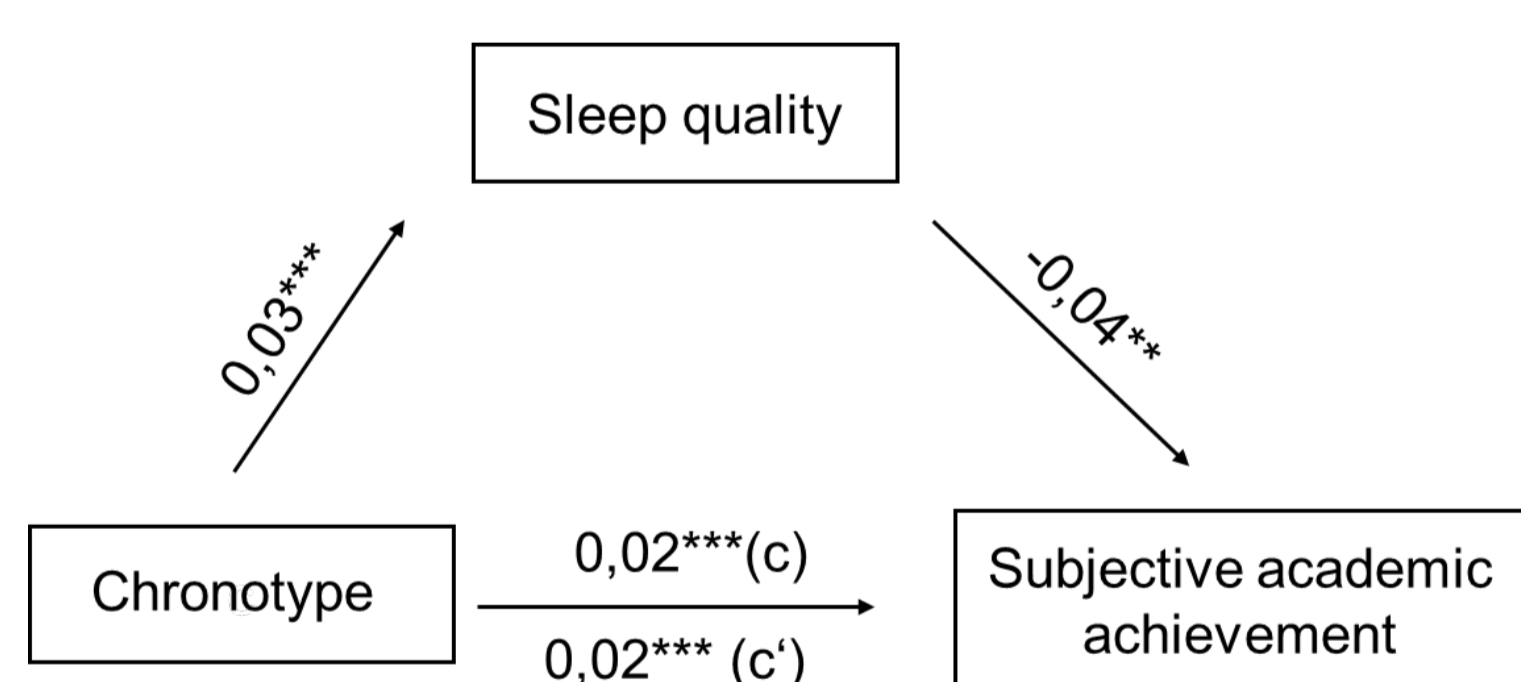


Figure 3. Mediation role of sleep quality in the association between chronotype and subjective academic achievement

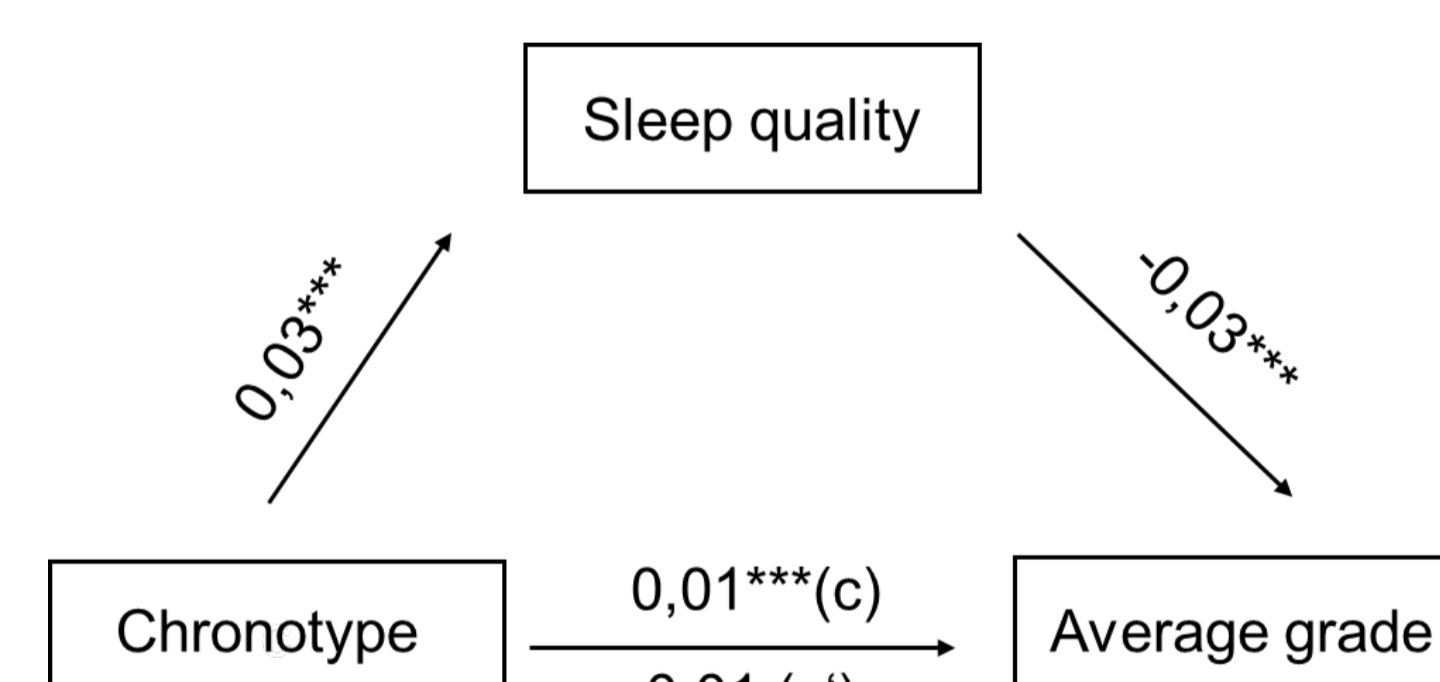


Figure 4. Mediation role of sleep quality in the association between chronotype and average grade

CONCLUSIONS

Our preliminary results show that self-control might be a mechanism behind the link between chronotype and academic achievement of university students and that sleep quality can partially explain the link between chronotype and subjective academic achievement. Our findings may add new knowledge to existing literature regarding mechanisms behind the link between chronotype and academic achievement of university students. These results emphasize that even though academic achievement is influenced by the biological predisposition of chronotype, university students still have control over their academic achievement due to being able to improve their self-control and sleep quality.

REFERENCES

Preckel, F., Lipnevich, A. A., Schneider, S., & Roberts, R. D. (2011). Chronotype, cognitive abilities, and academic achievement: A meta-analytic investigation. *Learning and Individual Differences*, 21(5), 483–492. <https://doi.org/10.1016/j.lindif.2011.07.003>

CONTACT

kmaucec12@gmail.com

<https://esleepeurope.eu/>