

INTRODUCTION

High rates of comorbidity are a hallmark of mental health conditions in both adolescence and adulthood¹. The ubiquity of co-occurrence implies that higher-order factors, such as internalizing or externalizing disorders, can describe the structure and variance in mental health, and that psychiatric disorders can be accurately conceptualized from a dimensional and transdiagnostic point of view². As with comorbidity, an omnipresent feature presenting across categorically defined psychiatric diagnoses is disrupted sleep³. However, sleep remains an understudied variable in dimensional and transdiagnostic approaches. Therefore, the goal of this study was to investigate the associations between higher-order factors of mental health and sleep quality in early adolescence.

METHODS

Participants

The current study included 55 medication free participants, aged 11 to 12 years (mean = 11.60 (± 0.5); 26 girls) recruited as part of a longitudinal study on sleep and mental health in adolescence.

Measurements

- **Self- and parent-reports of mental health:** Mental health was assessed using a variety of questionnaires, covering a wide range of symptoms, reflecting the study's transdiagnostic approach. Both parent and child report were used to gain a comprehensive view on psychopathology.
- **Pittsburgh Sleep Quality Index (PSQI):** The Pittsburgh Sleep Quality Index (PSQI) was used to measure sleep. The PSQI is a questionnaire covering subjective sleep quality in the past four weeks, that asks, among other indicators, about sleep duration.

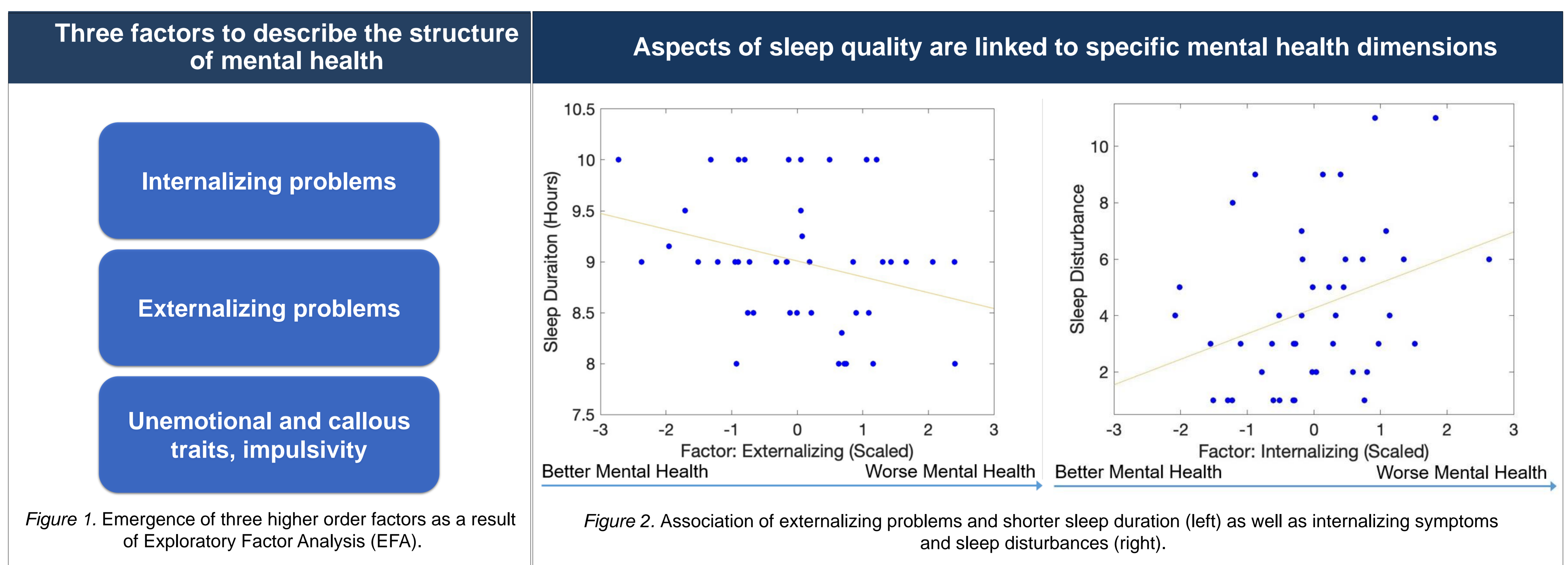
Procedure

Mental health and sleep quality and duration were measured at baseline, i.e., at the start of the year-long study duration, using a secure online data capture.

Research questions and statistics

- The latent structure of mental health was investigated using Exploratory Factor Analysis (EFA). To determine the number of factors extracted, the Eigenvalue of each factor was plotted using a scree test in conjunction with parallel analysis.
- To elucidate the associations between the latent factors identified and different facets of sleep quality, correlational analysis was applied. The extracted factors were scaled prior to conducting the correlation.

RESULTS



As a result of Exploratory Factor Analysis (EFA), three higher order factors were retained based on inspection of a scree plot (figure 1). The dimensions roughly corresponded to internalizing problems, externalizing problems and unemotional and callous traits. Pearson correlations between the extracted higher order factors with sleep quality and sleep duration pointed to an association of externalizing problems and shorter sleep duration ($r = -0.29$, $p = .04$), while internalizing symptoms were correlated with more sleep disturbances ($r = 0.33$; $p = .029$; figure 2).

CONCLUSION

The association between diminished sleep quality and internalizing problems found in our sample is in line with current literature; disrupted sleep is reported by the vast majority of adolescents with depression, which is one of the key internalizing disorders. Moreover, the link between shorter sleep duration and the externalizing factor identified is compatible with previous evidence suggesting reduced sleep quantity in developmental samples with Attention-deficit/hyperactivity disorder (ADHD). In summary, we find distinct associations between sleep quality and duration and internalizing and externalizing symptoms in our preliminary analyses, indicating a differential impact of these two facets on sleep.

REFERENCES

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