

# Concurrent developmental course of sleep problems and emotional/behavioral problems in childhood and adolescence as reflected by the dysregulation profile

Biyao Wang, Peter R Eastwood, Andreas Becker, Corinna Isensee, Janice W Y Wong, Rae-Chi Huang, Kevin C Runions, Richard M Stewart, Thomas Meyer, L G Brüni ... [Show more](#)

*Sleep*, Volume 42, Issue 3, March 2019, zsy243, <https://doi.org/10.1093/sleep/zsy243>

**Published:** 06 December 2018 **Article history** ▼

Views ▼ Cite Permissions Share ▼

## Abstract

### Objectives

Longitudinal data on the course and relationship of concurrent psychopathology in youth are scarce but are of need for better practical patient care and prevention. This study explores the course of (and relationships over time) between sleep problems and concurrent dimensional difficulties relating to anxiety/depression, attention deficiency, and aggressive behaviors in childhood and adolescence. The latter three may jointly form a broad syndrome, the dysregulation profile.

### Methods

Young people from the Raine Study, a large community cohort sample ( $N = 1625$ ) were followed from age 5 to 17 years. Developmental courses of sleep problems and its concurrent regulatory difficulties were estimated separately and jointly.

### Results

The majority of adolescents reported low levels of problems and which appeared to be stable over time, while a small group (rates between 7.8% and 10.1%) reported enduring problematic developmental courses. Sleep problems and regulatory difficulties shared a strong association in their development over time (individual's probabilities of having the same courses, i.e. low-low and high-high, were between 89.8% and 92.3%). Furthermore, having persistent sleep problems over time was associated with an increased risk of having regulatory difficulties by approximately 10 times, and vice versa.

### Conclusion

Findings from this study provide empirical evidence for a strong mutual association in the development of sleep problems and difficulties of dysregulation with emotion, cognition, and aggression. It may be suggested that a positive screening of one such psychopathological dimension should lead to a careful assessment, not only to reduce the problem in question but also to prevent the youth from further problems.

This article is published and distributed under the terms of the Oxford University Press, Standard Journals Publication Model ([https://academic.oup.com/journals/pages/open\\_access/funder\\_policies/chorus/standard\\_publication\\_model](https://academic.oup.com/journals/pages/open_access/funder_policies/chorus/standard_publication_model))

Topic:

[adolescent](#)

[emotions](#)

[aggressive behavior](#)

[child](#)

[sleep disorders](#)

[mixed anxiety-depressive disorder](#)

[behavioral problems](#)

**Issue Section:** [Sleep Across the Lifespan](#)

You do not currently have access to this article.

## Sign in

Don't already have an Oxford Academic account? [Register](#)

### Oxford Academic account

Email address / Username [?](#)

Password

[Sign In](#)

[Forgot password?](#)

[Don't have an account?](#)

### Sleep Research Society members



[Sign in via society site](#)

### American Academy of Sleep Medicine members

## Sign in via your Institution

[Sign in](#)

## Purchase

---

[Subscription prices and ordering](#)

## Short-term Access

To purchase short term access, please sign in to your Oxford Academic account above.

Don't already have an Oxford Academic account? [Register](#)

Concurrent developmental course of sleep problems and emotional/behavioral problems in childhood and adolescence as reflected by the dysregulation profile - 24 Hours access

EUR €36.00

GBP £28.00

USD \$45.00

## Rental

This article is also available for rental through DeepDyve.



[View Metrics](#)

### Email alerts

[New issue alert](#)

[Advance article alerts](#)

[Article activity alert](#)

[Subject alert](#)

---

[Receive exclusive offers and updates from Oxford Academic](#)

## More on this topic

The Complex Associations Among Sleep Quality, Anxiety-Depression, and Quality of Life in Patients with Extreme Obesity

“No Thanks, It Keeps Me Awake”: The Genetics of Coffee-Attributed Sleep Disturbance

Sleep Problems and Hospitalization for Self-Harm: A 15-Year Follow-Up of 9,000 Norwegian Adolescents. The Young-HUNT Study

Newly identified sleep–wake and circadian circuits as potential therapeutic targets

## Related articles in

[Google Scholar](#)

## Related articles in PubMed

Ecthyma gangrenosum in a 3-year-old boy post heart transplantation.

Recruiting fathers for parenting research using online advertising campaigns: Evidence from an Australian study.

American Pediatric Society 2019 Presidential Address: striving to be a lasting blessing to the community.

Psychiatric-disorder-related behavioral phenotypes and cortical hyperactivity in a mouse model of 3q29 deletion syndrome.

## Citing articles via

[Google Scholar](#)

[CrossRef](#)

**Latest** | **Most Read** | **Most Cited**

Characterization of the sleep disorder of anti-IgLON5 disease

Actigraphic detection of periodic limb movements: development and validation of a potential device-independent algorithm. A proof of concept study

Simultaneous tonic and phasic REM sleep without atonia best predicts early phenocconversion to neurodegenerative disease in idiopathic REM sleep behavior

disorder

Residual symptoms after natural remission of insomnia: associations with relapse over 4 years

Sleep duration and fragmentation in relation to leukocyte DNA methylation in adolescents

**Looking for your next opportunity?**

Chair of Pain Research  
Boston, Massachusetts

---

PEDIATRIC EMERGENCY PHYSICIAN  
Saskatoon Shines, Saskatchewan

---

Endowed Chair of Occupational Health/Medicine  
Saint John, New Brunswick

---

CHIEF OF THE DIVISION OF ALLERGY, IMMUNOLOGY AND INFECTIOUS DISEASE  
New Brunswick, New Jersey

[View all jobs](#)

**OXFORD**  
UNIVERSITY PRESS

[About SLEEP](#)

[Editorial Board](#)

[Author Guidelines](#)

[Facebook](#)

[Twitter](#)

[Contact Us](#)

[Purchase](#)

[Recommend to your Library](#)

[Advertising and Corporate Services](#)

[Journals Career Network](#)

Online ISSN 1550-9109

Print ISSN 0161-8105

Copyright © 2019 Sleep Research Society

[About Us](#)

[Contact Us](#)

[Careers](#)

[Help](#)

[Access & Purchase](#)

[Rights & Permissions](#)

[Open Access](#)

**Connect**

[Join Our Mailing List](#)

[OUPblog](#)

[Twitter](#)

[Facebook](#)

[YouTube](#)

[Tumblr](#)

**Resources**

**Explore**

[Authors](#)

[Librarians](#)

[Societies](#)

[Sponsors & Advertisers](#)

[Press & Media](#)

[Agents](#)

[Shop OUP Academic](#)

[Oxford Dictionaries](#)

[Oxford Index](#)

[Epigeum](#)

[OUP Worldwide](#)

[University of Oxford](#)

*Oxford University Press is a department of the University of Oxford. It furthers the University's objective of excellence in research, scholarship, and education by publishing worldwide*

[Copyright © 2019 Oxford University Press](#)

[Accessibility](#)

[Get Adobe Reader](#)

[Cookie Policy](#)

[Privacy Policy](#)

[Legal Notice](#)

[Site Map](#)