

Sleep Patterns in Children with Tics

Stella JP Haffner, David Horner, Jens Richardt Møllegaard Jepsen, Bjørn Ebdrup, Rebecca Vinding, Klaus Bønnelykke, & Nanette Mol Debes



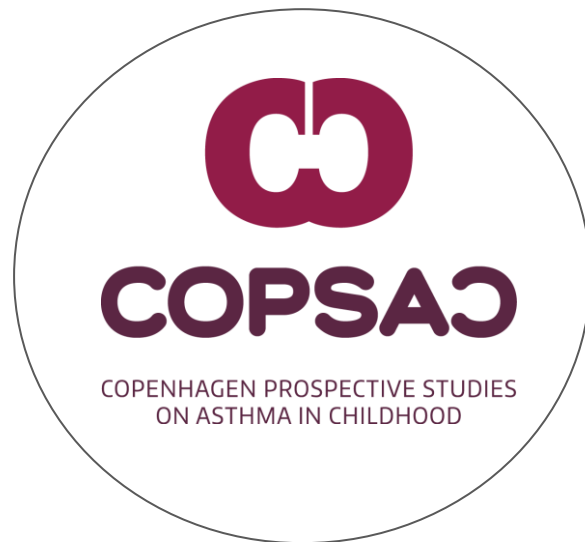


COPSAO

COPENHAGEN PROSPECTIVE STUDIES
ON ASTHMA IN CHILDHOOD



**Herlev
Hospital**



Detect persistent, transient, or TS tics + comorbidities

2013	KSADS-PL SCREEN INTERVIEW: <u>Tic Disorders</u>		page 36 of 52
<p>1 Motor Tics</p> <p><i>Has there ever been a time when you noticed your muscles moved in a way that you did not want them to, or that you didn't expect? Like raising your eyebrows (demonstrate), blinking a whole lot (demonstrate), scrunching up your nose (demonstrate), shrugging your shoulders (demonstrate), or moving your head like this (demonstrate)? Ever blink a whole lot or real hard and not be able to stop? About how often did this happen?</i></p> <p>NOTE: RATE BASED ON REPORT AND OBSERVATION.</p> <p>Do not rate positively if due to compulsions of OCD or stereotypic movements of PDD.</p>			
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()	()	()	0 - No information.
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	P	C	S
<p>2 Phonic Tics</p> <p><i>Has there ever been a time when you made noises that you didn't want to make, repeated sounds or words that you don't want to say? Like sniffing, coughing, or clearing your throat when you didn't have a cold? Making animal sounds or grunting sounds, or even repeating things that you or other people said?</i></p> <p>NOTE: RATE BASED ON REPORT AND OBSERVATION.</p>			
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KSADS-PL SCREEN INTERVIEW:
Tic Disorders

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Participants wore actigraphy devices for 14 days at age 10 and at age 13



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Time of sleep onset, sleep duration, number of nighttime awakenings, and total minutes awake after sleep onset were extracted

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A series of univariate linear models assessed the relationship between the sleep behavior domains and psychiatric variables



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Demographics & Diagnosis (n = 593)



8 participants with symptoms of Transient Tics Disorder



14 participants with symptoms of Persistent Tic Disorder

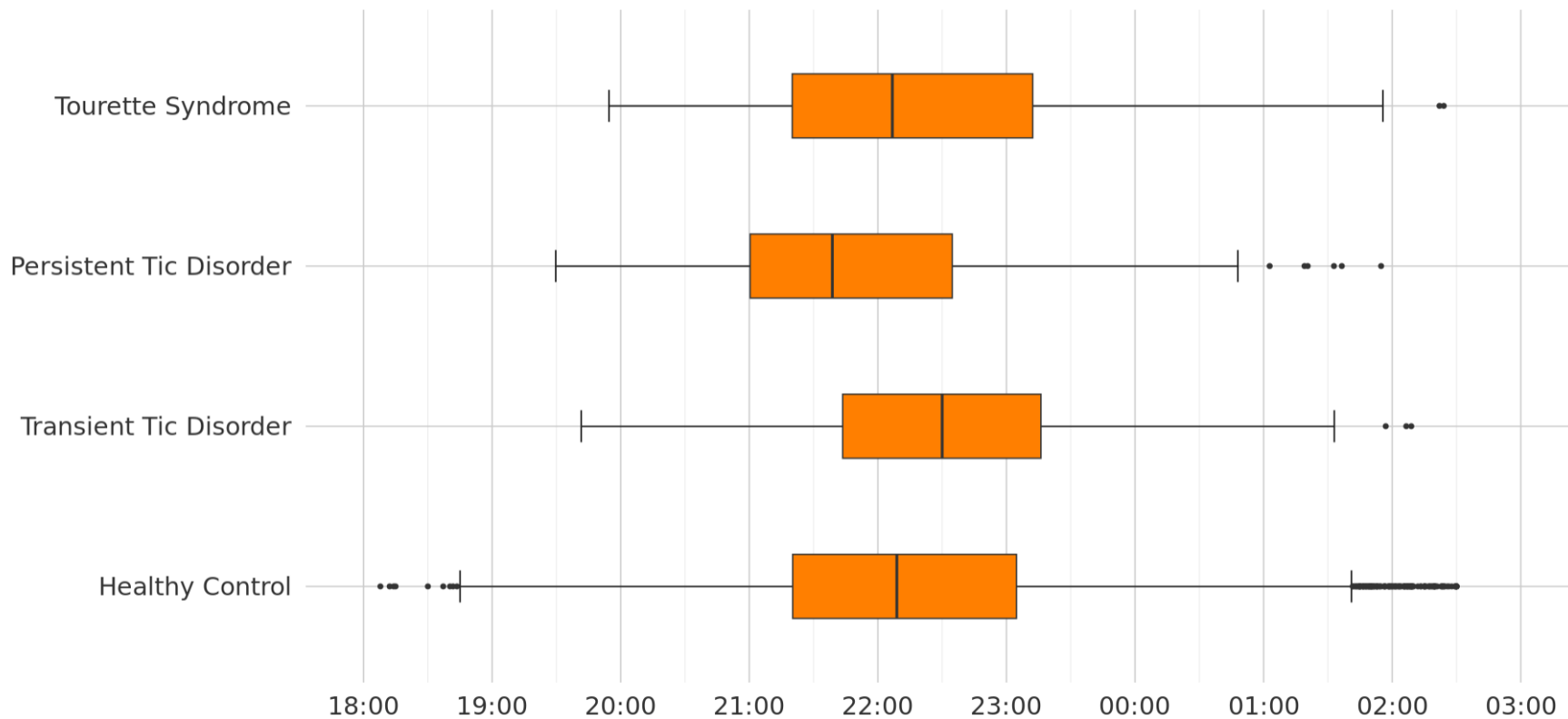


8 participants with symptoms of Tourette Syndrome

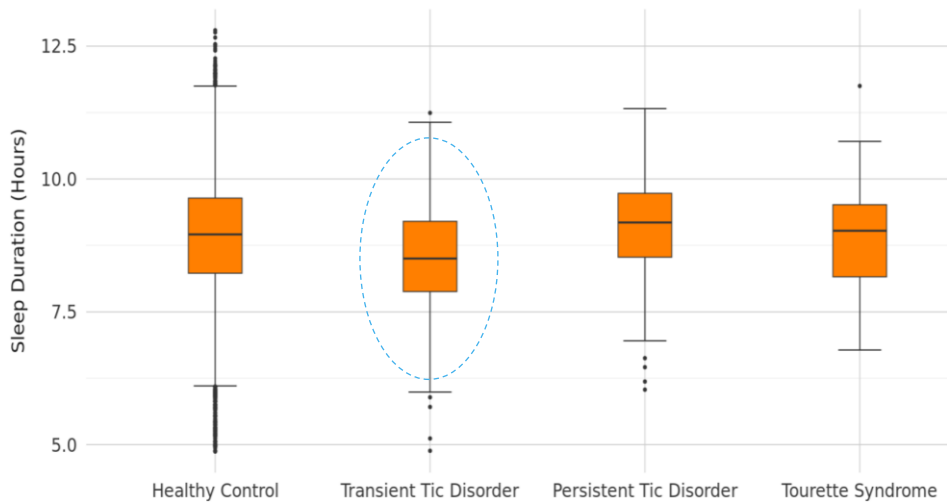
Comorbidities

- ADHD (22%)
- OCD (2%)
- Autism (3%)
- Anxiety (2%)
- OPP (2%)
- Psychosis (<1%)

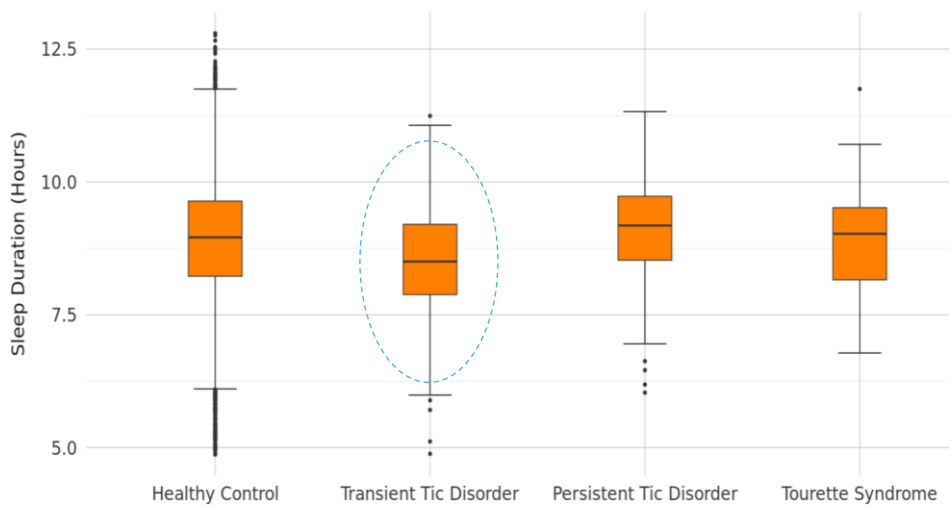
Comparing Time of Sleep Onset by Tic Diagnosis



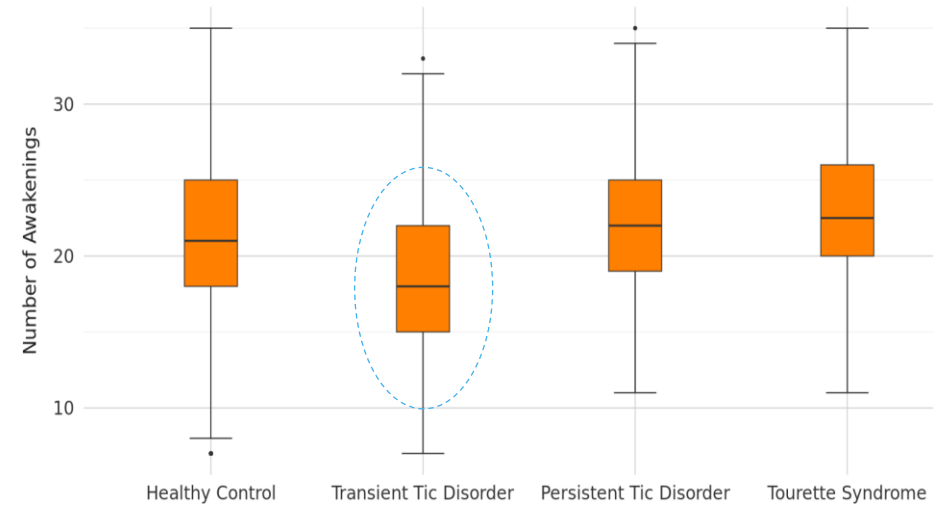
Sleep Duration by Tic Diagnosis



Sleep Duration by Tic Diagnosis

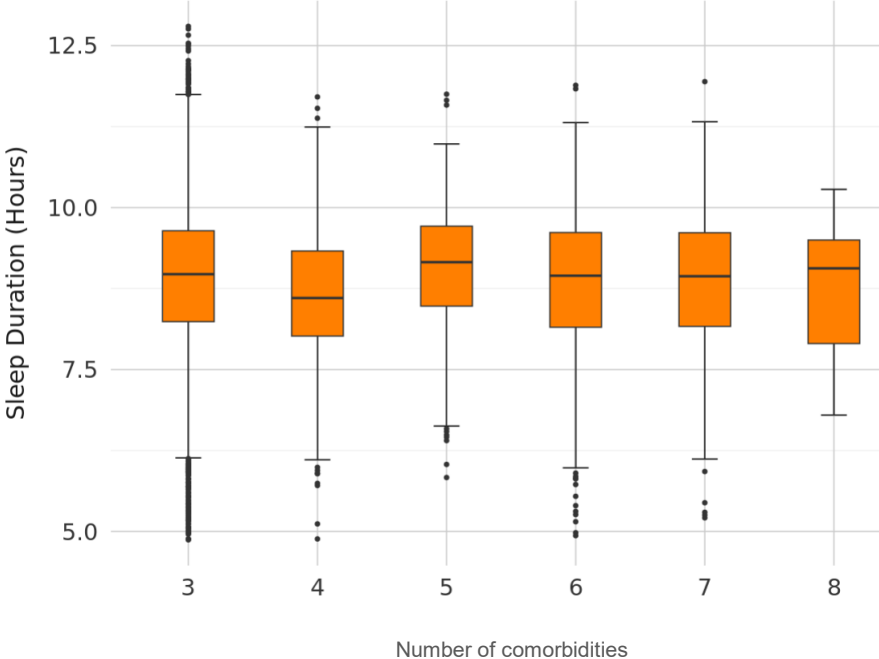


Number of Awakenings by Tic Diagnosis

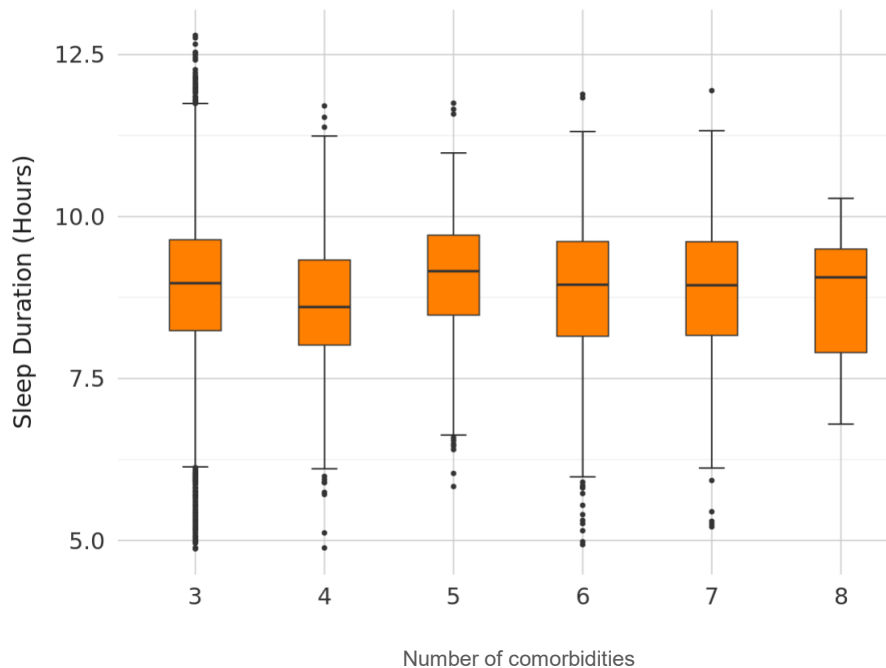


What are the important clinical variables?

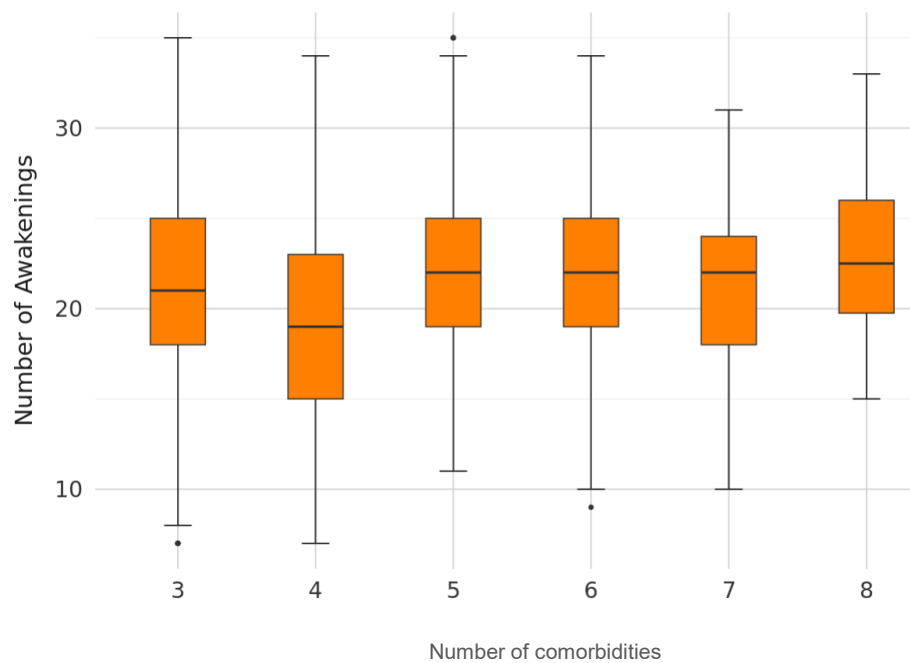
Sleep Duration Across Comorbidity Burden



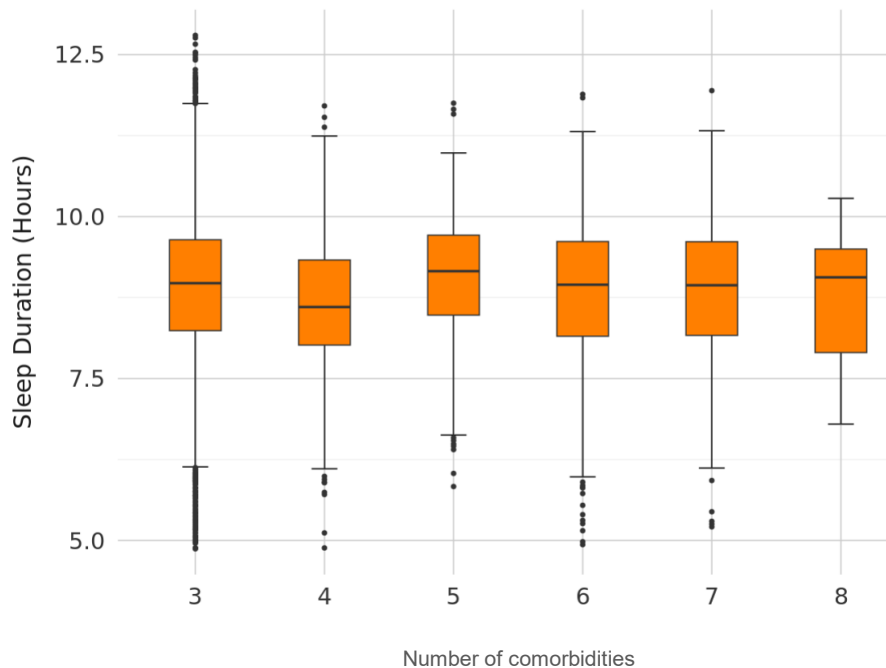
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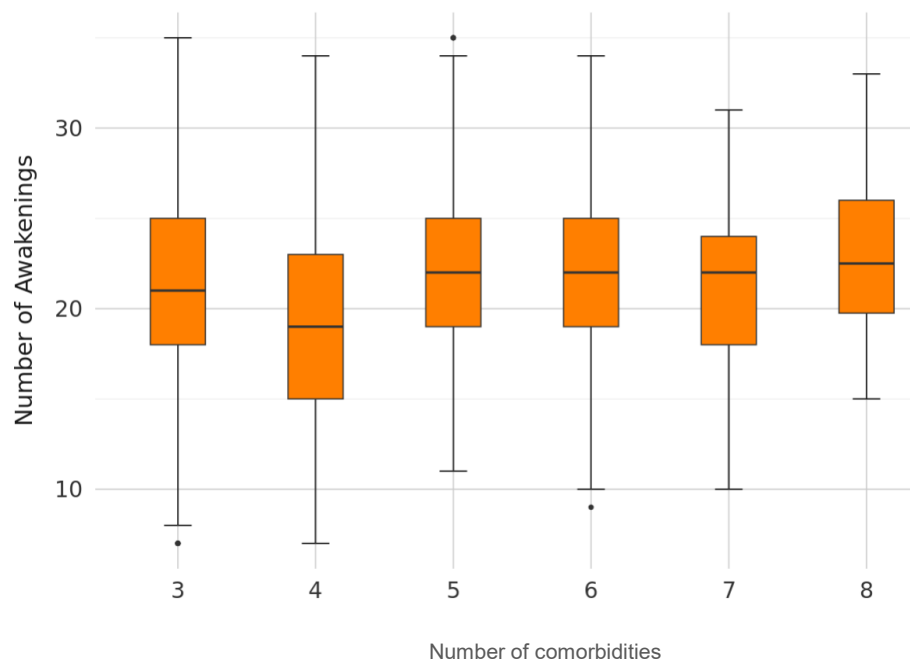
Number of Awakenings Across Comorbidity Burden



Sleep Duration Across Comorbidity Burden



Number of Awakenings Across Comorbidity Burden



>>> No association detected

Hypothesis 1: Measurement incoherence

- a. Pringsheim and co. (2020) found poor subjective sleep quality but adequate objective sleep quality
- b. Survey data more likely to show worse sleep quality
- c. Ticking children sleep poorly in PSG lab





Hypothesis 2: Morbidity effects

- a. Tics alone don't cause poor sleep
- b. Severe tics cause poor sleep
- c. Comorbidity alone doesn't cause poor sleep
- d. Severe comorbidity causes poor sleep
- e. Tic-associated health problems (e.g. muscle pain) cause poor sleep



