



Le Rendez-vous des Somnologues
Retrouvez-nous les 07 & 08 décembre 2018 à Berlin
Berlin Marriott Hotel, Inge-Beisheim-Platz 1, 10785 Berlin



Sommeil et TDAH : de l'enfant à l'âge adulte

Stéphanie Bioulac

Clinique du sommeil, CHU Pellegrin, Bordeaux
USR CNRS SANPSY 3413, Bordeaux



université
de **BORDEAUX**



LE T.D.A/H EN IMAGES

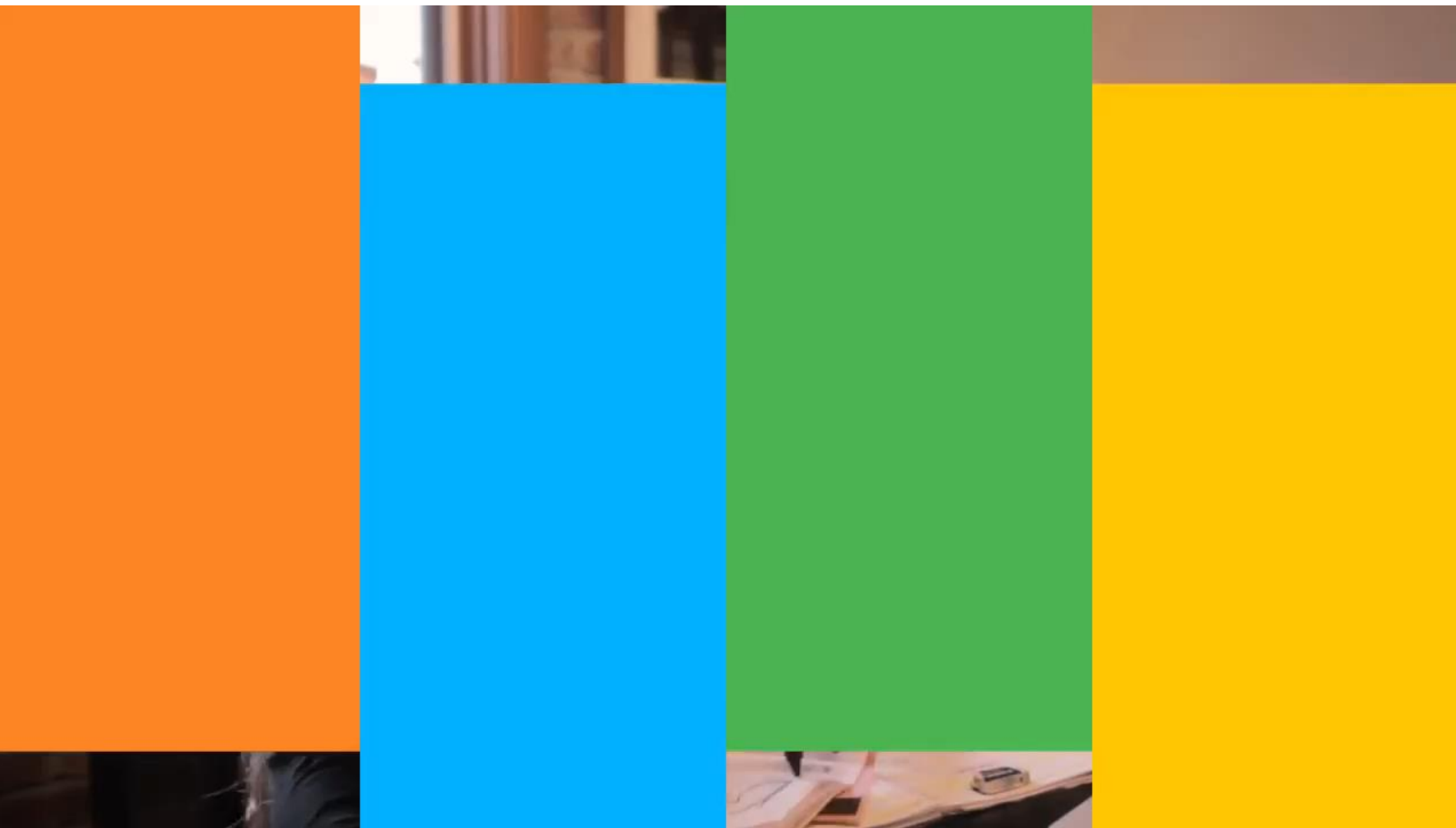
TROUBLES AVEC DEFICIT DE L'ATTENTION
(AVEC OU SANS HYPERACTIVITE)



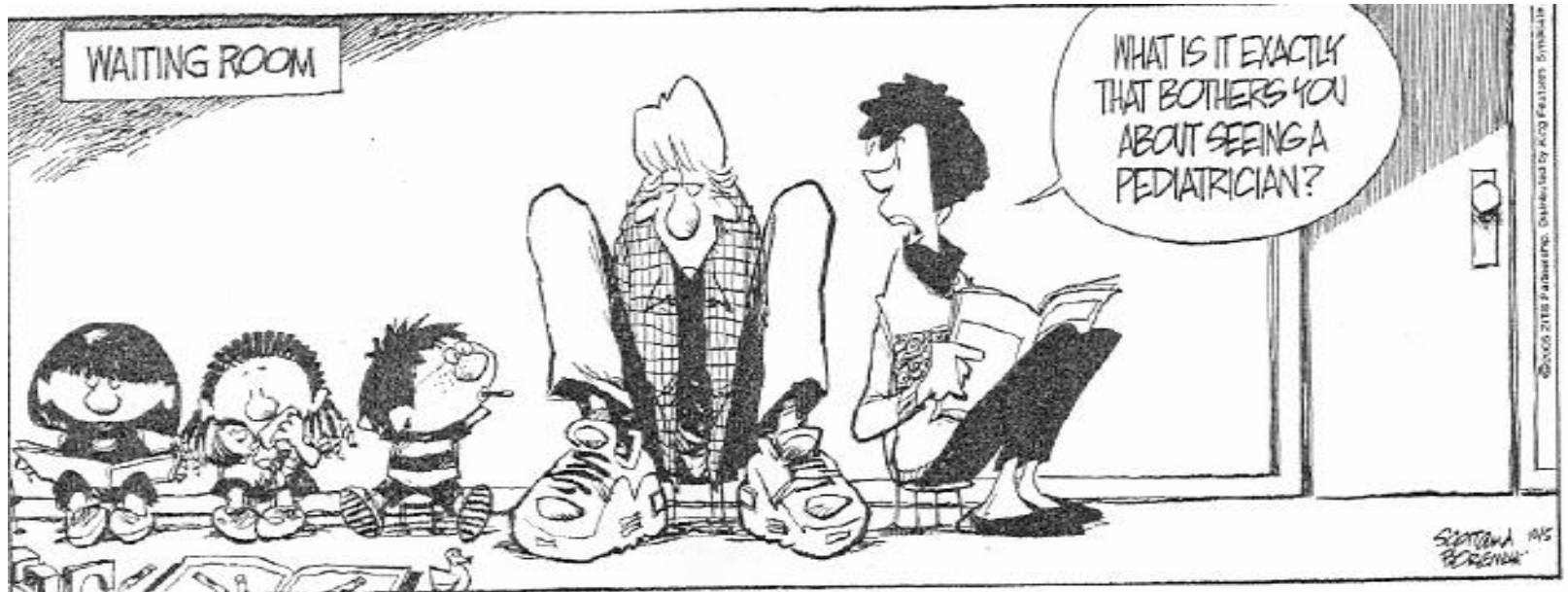


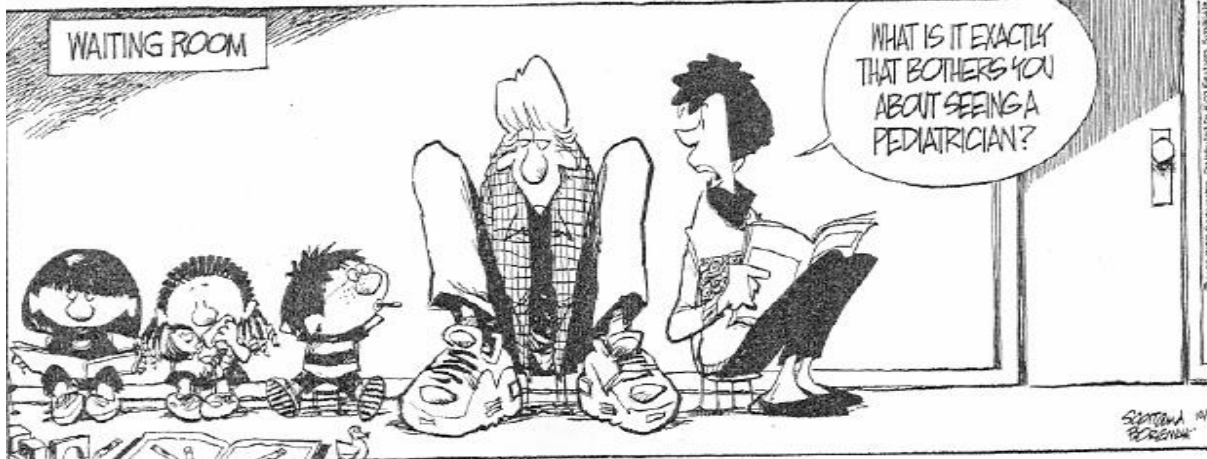
Hyperactivité motrice et cognitive





Trouble développemental

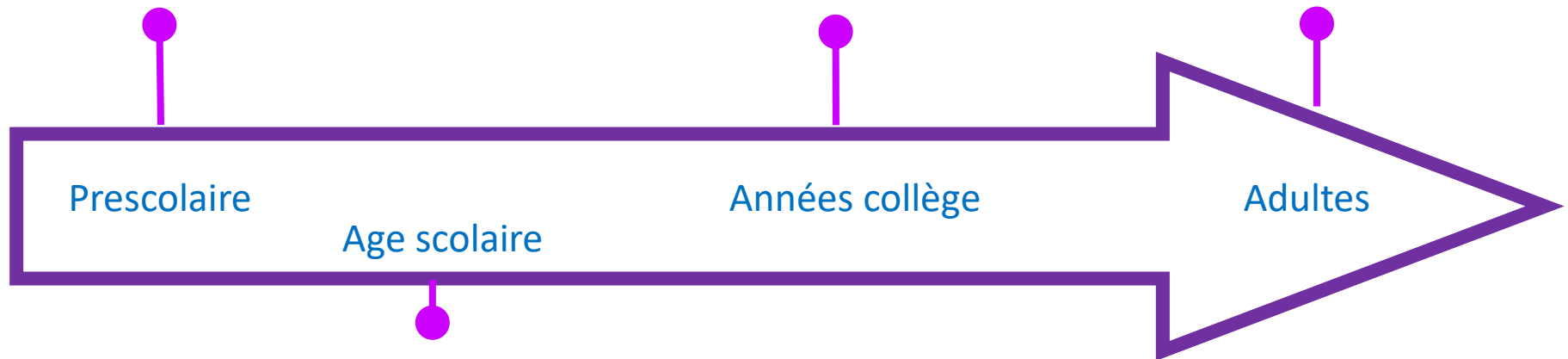




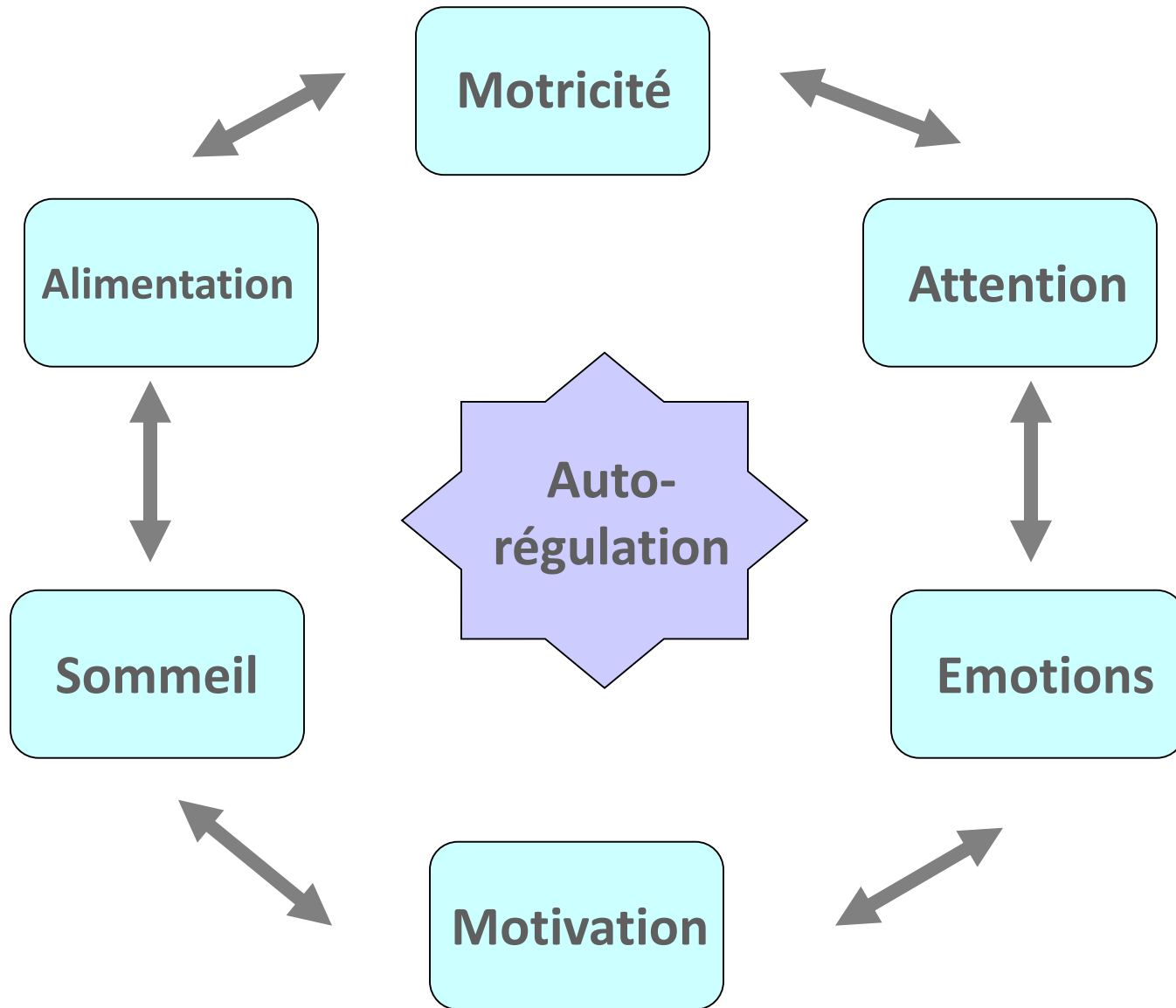
Perturbation
comportementale

Echec scolaire
Echec académique
Abus de substances

Blessures/accidents
Abus de substances



Problèmes scolaires
Difficultés avec les interactions sociales



Dysfonctionnement de systèmes d'autorégulation

Empruntée à D Purper



50% à 74% des sujets TDAH présentent des Troubles du Sommeil

Comorbidités ou Diagnostics différentiels?

**Retard de
phase**

Insomnie

**Réveils
nocturnes**

**MPJ
SJSR**

TDAH

Parasomnies

SAOS

**Retard de
phase**

Insomnie

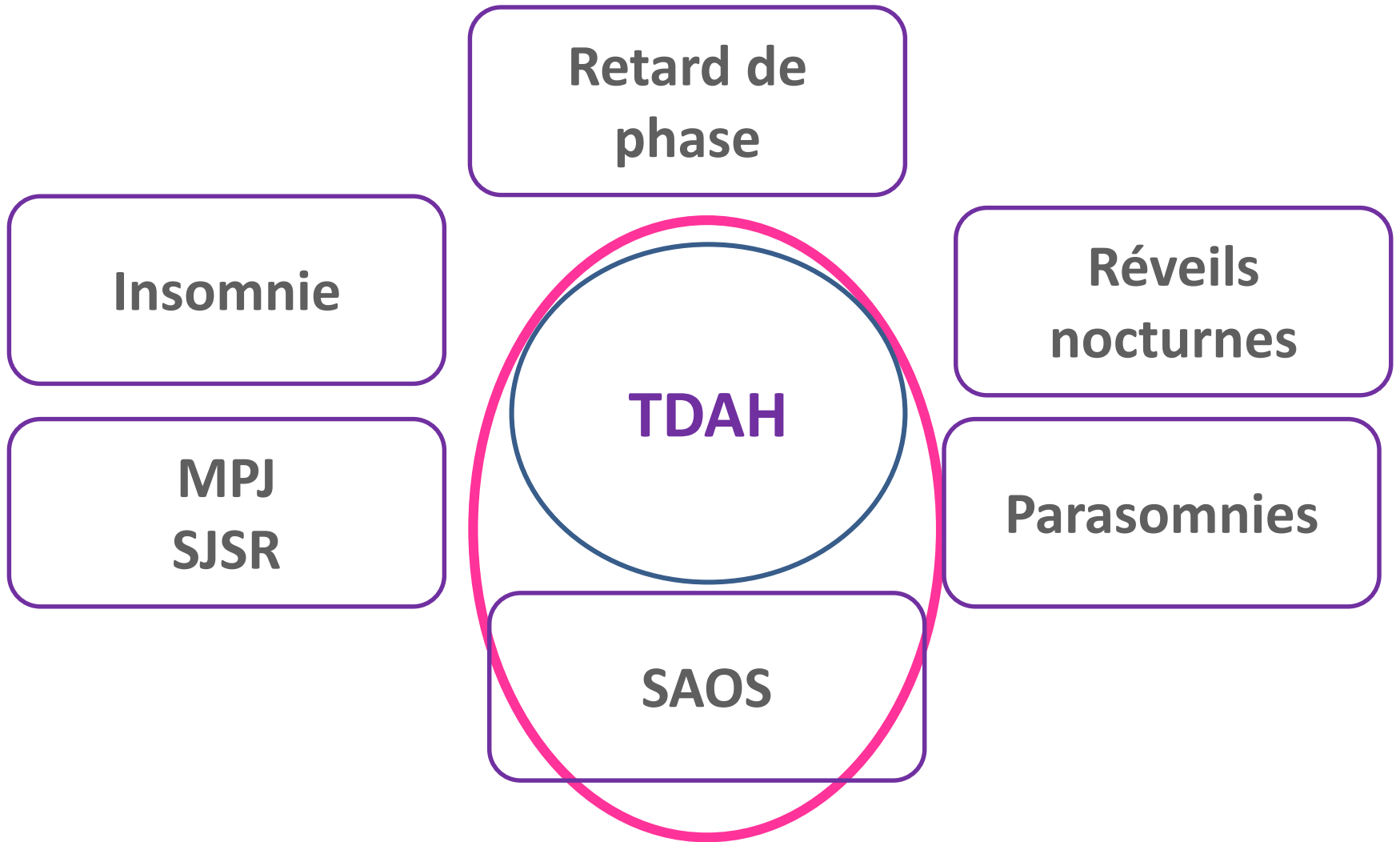
**Réveils
nocturnes**

**MPJ
SJSR**

Parasomnies

TDAH

SAOS





SAOS



Ronflement
Respiration nocturne
bruyante
Pauses respiratoires
Polyurie nocturne
Sueurs nocturnes
Hypersalivation
Sommeil agité

Hyperactivité
Impulsivité
Déficit attention
SDE
Irritabilité



**TDAH-like
symptômes**

SAOS



TDAH-like
symptômes

SAOS



TDAH



Contents lists available at [ScienceDirect](#)

Sleep Medicine Reviews

journal homepage: www.elsevier.com/locate/smr



CLINICAL REVIEW

Attention deficit hyperactivity disorder and sleep disordered breathing in pediatric populations: A meta-analysis

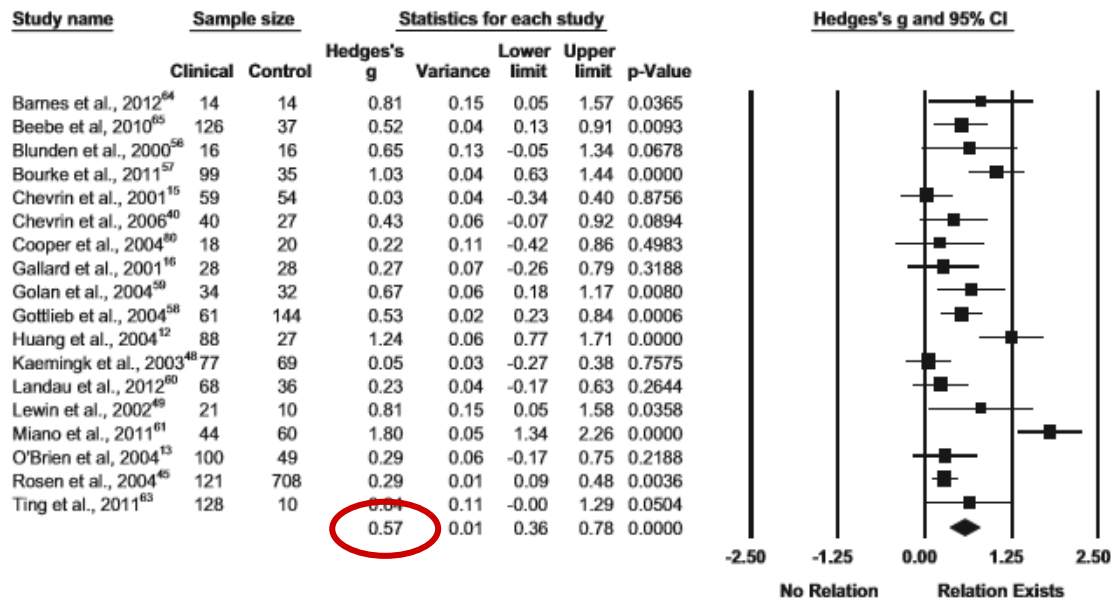
Karim Sedky^{a,*}, David S. Bennett^b, Karen S. Carvalho^b

^aCooper Hospital Rowan University, Camden, NJ, USA

^bDrexel University College of Medicine, Philadelphia, PA, USA

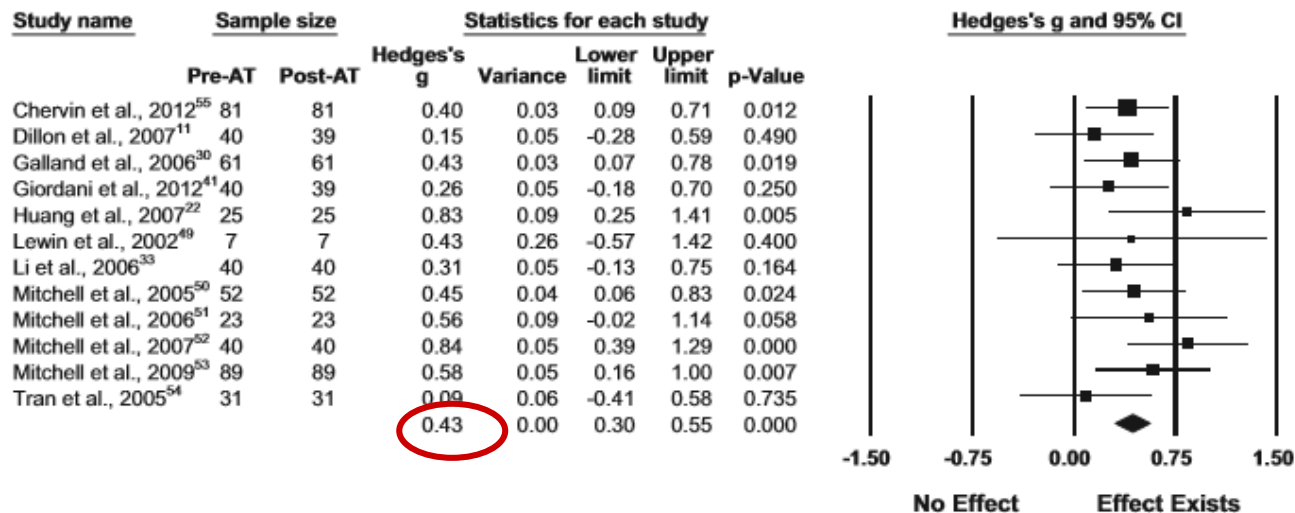


- Méta-analyse
 - 18 études
 - 1113 enfants avec pathologies
 - 874 enfants avec TROS
 - ADHD RS
 - 239 enfants diagnostiqués TDAH
 - PSG
 - 1405 enfants contrôles



• Plus de symptômes de TDAH chez sujets TROS

Fig. 1. Randomized effect size (Hedges' g) for the relationship between attention deficit hyperactivity disorder (ADHD) symptoms and sleep disordered breathing (SDB).



• Amélioration symptômes TDAH après amygdalectomie

Fig. 2. Pre- versus post-adenotonsillectomy (AT) as compared by the attention deficit hyperactivity disorder (ADHD) symptom level. Group-A signifies pre-AT while group-B is post-AT.



Contents lists available at SciVerse ScienceDirect

Medical Hypotheses

journal homepage: www.elsevier.com/locate/mehy



The sleep phenotypes of attention deficit hyperactivity disorder: The role of arousal during sleep and implications for treatment

Silvia Miano *, Pasquale Parisi, Maria Pia Villa

Neuroscience, Mental Health and Sense Organs Department, Chair of Pediatrics, Sleep Disorder Centre, "La Sapienza" University, II Faculty, Medicine, Rome, Italy

Hypoarousal state « primary ADHD »: « narcolepsy like »

Delayed sleep onset insomnia

Sleep disordered breathing

RLS/ PLM

Sleep epilepsy/EEG interictal epileptiform discharges



The sleep phenotypes of attention deficit hyperactivity disorder: The role of arousal during sleep and implications for treatment

Silvia Miano *, Pasquale Parisi, Maria Pia Villa

Neuroscience, Mental Health and Sense Organs Department, Chair of Pediatrics, Sleep Disorder Centre, "La Sapienza" University, II Faculty, Medicine, Rome, Italy

Sleep disordered breathing



Evaluation standardisée

Histoire développementale

Explorer le réveil

Prise en charge du SAOS avant la mise sous MPH





Adults with Attention Deficit Hyperactivity Disorder Report High Symptom Levels of Troubled Sleep, Restless Legs, and Cataplexy

268 TDAH adultes
202 Contrôles

Bjørn Bjorvatn^{1,2}, Erlend J. Brevik^{3,4,5}, Astri J. Lundervold^{4,5}, Anne Halmøy^{3,4}, Maj-Britt Posserud^{3,4}, Johanne T. Instanes^{1,4} and Jan Haavik^{3,4}*

¹ Department of Global Public Health and Primary Care, University of Bergen, Bergen, Norway, ² Norwegian Competence Center for Sleep Disorders, Haukeland University Hospital, Bergen, Norway, ³ Division of Psychiatry, Haukeland University Hospital, Bergen, Norway, ⁴ Department of Biomedicine, K.G. Jebsen Centre for Neuropsychiatric Disorders, University of Bergen, Bergen, Norway, ⁵ Department of Biological and Medical Psychology, University of Bergen, Bergen, Norway

ADHD patients reported more sleep problems than controls

- Lifetime occurrence of sleep problems 82.6 vs. 36.5%
- Hypnotics use (61.4 vs. 20.2%)
- Current sleep duration below 6h (26.6 vs. 7.6%)

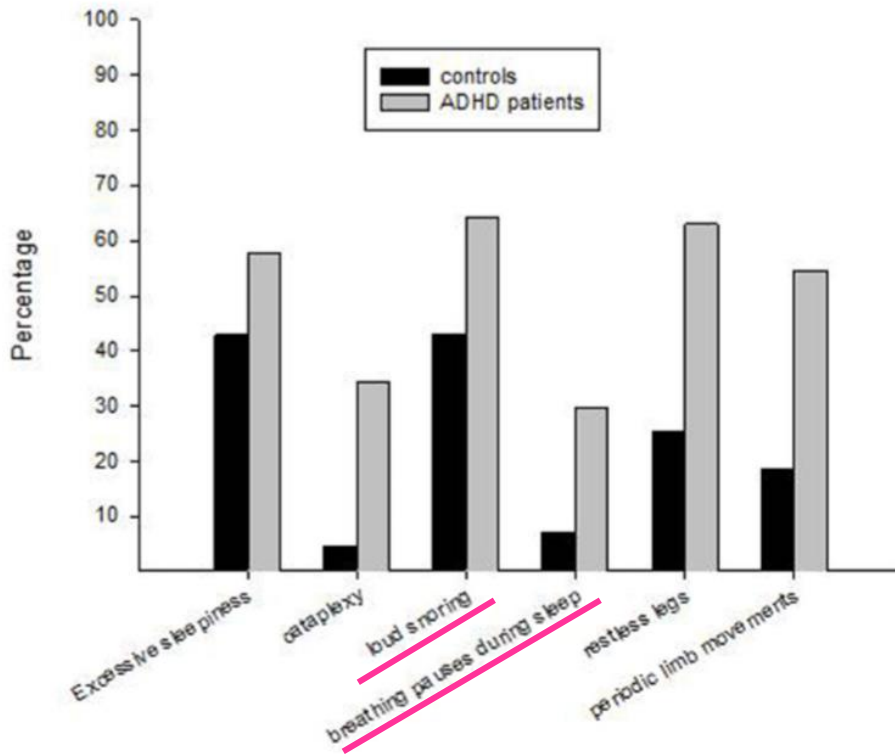


FIGURE 1 | Self-reported symptoms/signs of specific sleep disorders in Norwegian adults with clinically ascertained ADHD ($n = 268$) compared to a representative control group ($n = 202$). The percentages indicate frequencies of symptoms/signs experienced “sometimes” or more often during the past 4 weeks.

TABLE 2 | Logistic regression analyses with self-reported sleep variables as predictors and clinically ascertained ADHD among Norwegian adults as the dependent variable.

	Adjusted OR ^a (95% CI) <i>n</i> = 438–462
Ever had sleep problems?	
No	1.00
Yes	8.90 (5.69–13.92)
Ever used hypnotics?	
No	1.00
Yes	6.47 (4.20–9.97)
Sleep quality	
Good-very good	1.00
Intermediate-very bad	6.07 (3.93–9.39)
Sleep duration	
6 h or more	1.00
Below 6 h	4.63 (2.54–8.42)
Excessive daytime sleepiness ^b	
Never	1.00
Sometimes-always	1.82 (1.25–2.65)
Cataplexy ^b	
Never	1.00
Sometimes-always	11.53 (5.61–23.69)
Loud snoring ^b	
Never	1.00
Sometimes-always	2.31 (1.55–3.43)
Breathing pauses during sleep ^b	
Never	1.00
Sometimes-always	5.45 (2.92–10.19)
Restless legs ^b	
Never	1.00
Sometimes-always	4.95 (3.29–7.45)
Periodic limb movements ^b	
Never	1.00

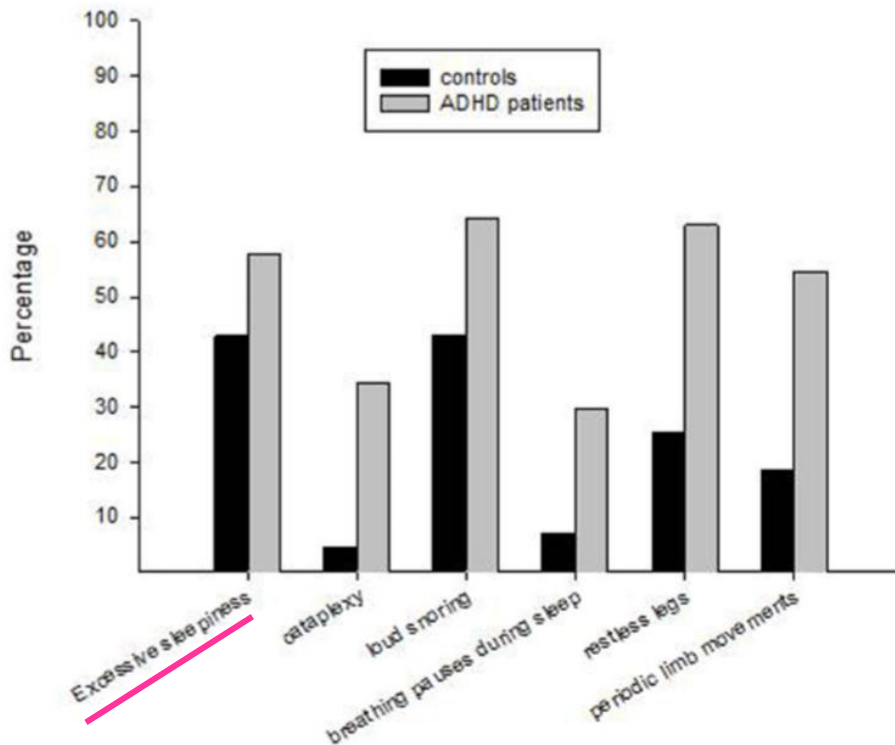
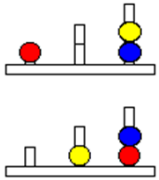


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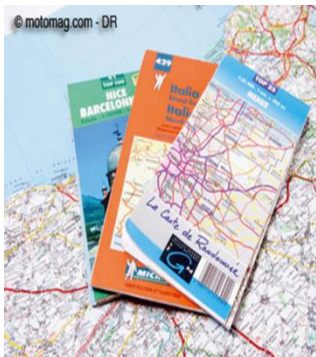
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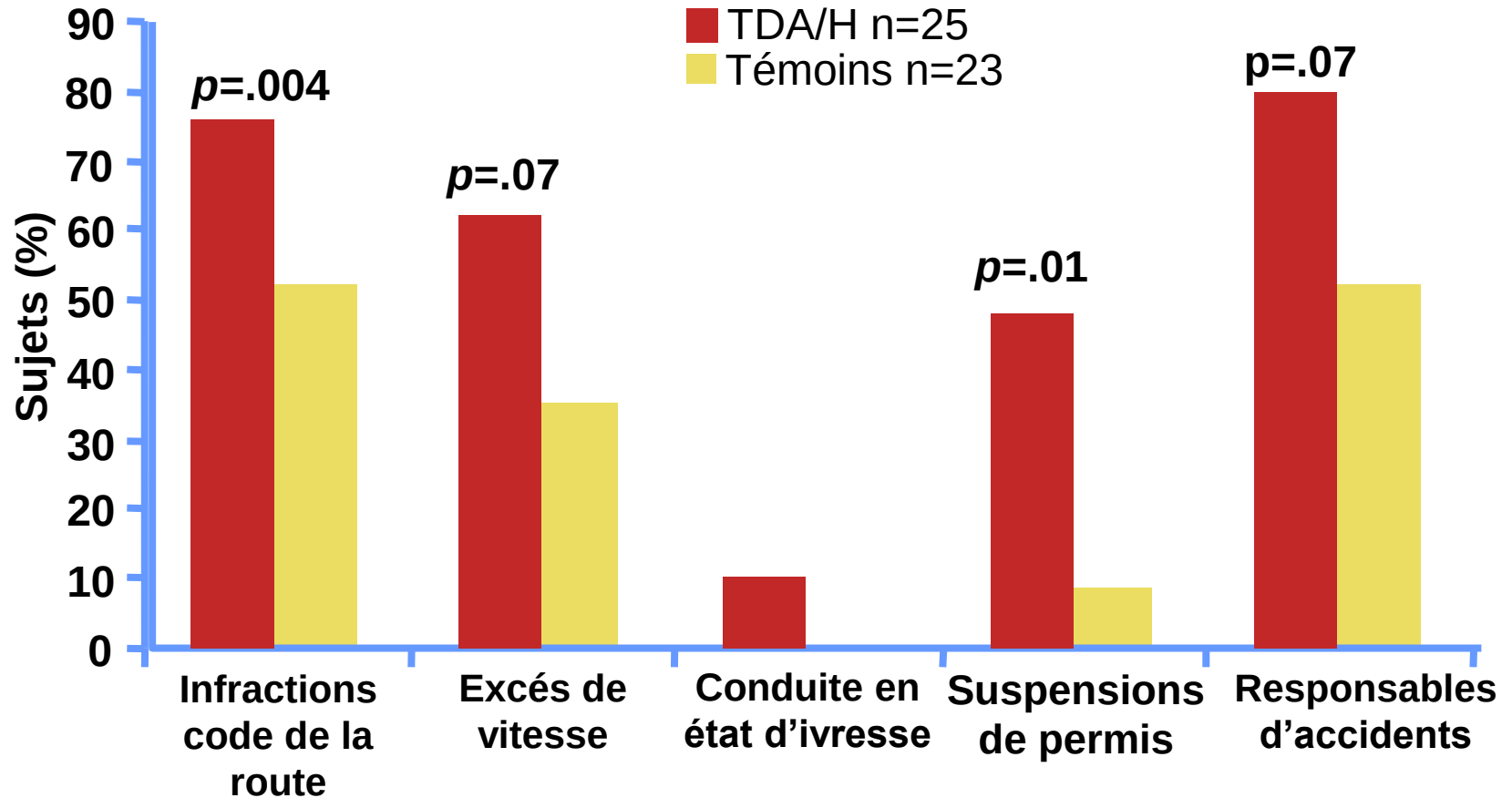
La conduite automobile



BLUE GREEN YELLOW
PINK RED ORANGE
GREY BLACK PURPLE
TAN WHITE BROWN



TDAH et conduite



Barkley RA et al. *Pediatrics*, 1996

The article you requested is

**Excessive Daytime Sleepiness in Adult Patients
With ADHD as Measured by the Maintenance of
Wakefulness Test, an Electrophysiologic
Measure**

**Stéphanie Bioulac, MD, PhD; Cyril Chaufton, MD; Jacques Taillard,
PhD; Astrid Claret, MD; Patricia Sagaspe, PhD; Colette Fabrigoule,
PhD; Manuel P. Bouvard, MD; and Pierre Philip, MD, PhD**

J Clin Psychiatry 2015

10.4088/JCP.14m09087

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Méthodologie

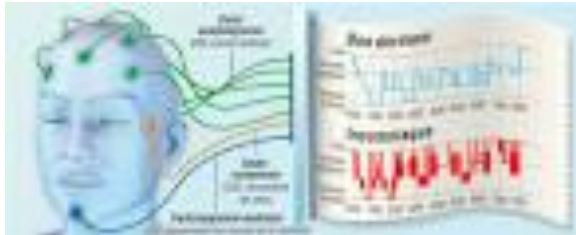
Evaluation Sommeil

PSG

Test Maintien d'Eveil

Evaluation Cognitive

Evaluation conduite



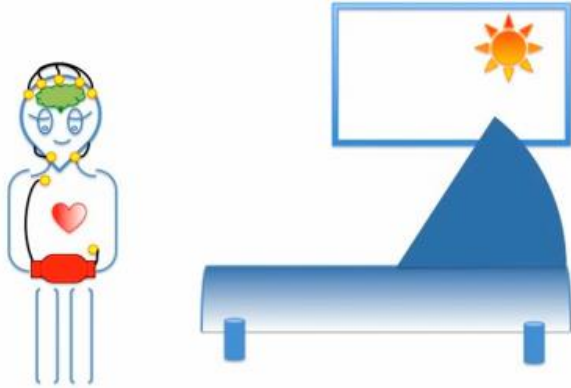
Bioulac et al, 2015

Bioulac et al, 2016

Tests de Maintien d'éveil: TME

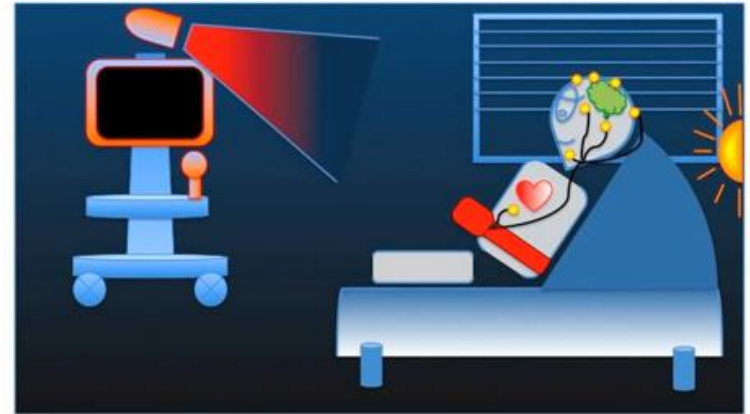
But de l'examen

Mesurer la possibilité de vous maintenir éveillé dans des conditions propices à l'endormissement



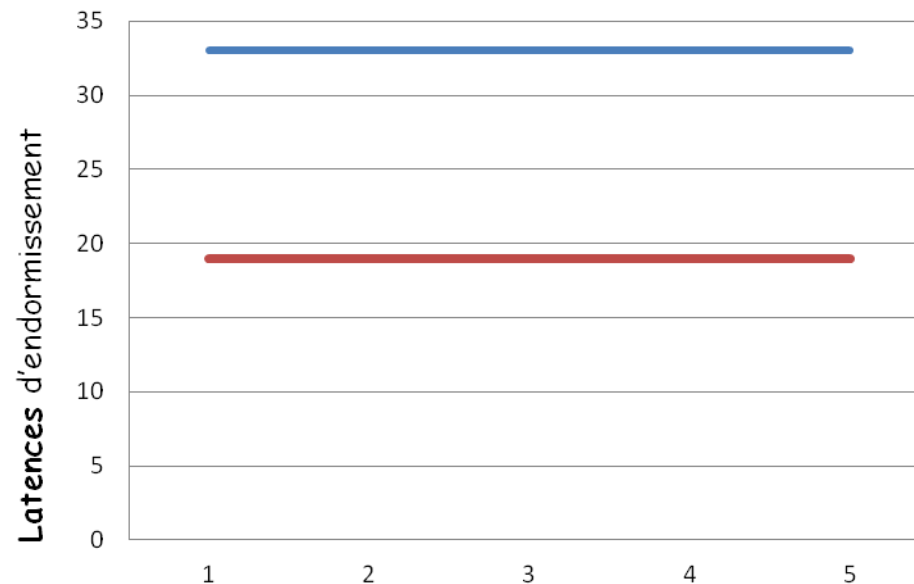
A chaque test

On vous demandera de vous maintenir éveillé durant 40 minutes



LE > 33 min:
sujets alertes

LE ≤ 19 min:
pathologique



Méthodologie

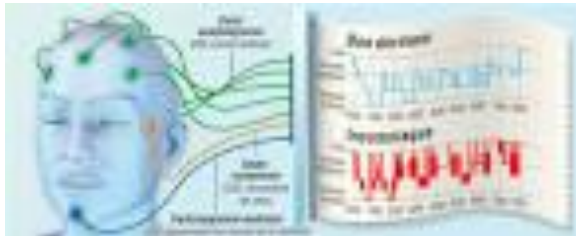
Evaluation Sommeil

PSG

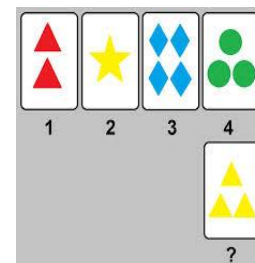
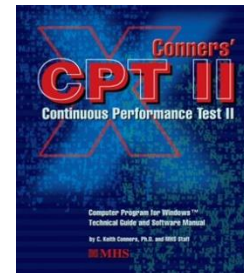
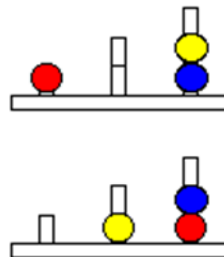
Test Maintien d'Eveil

Evaluation Cognitive

Evaluation conduite



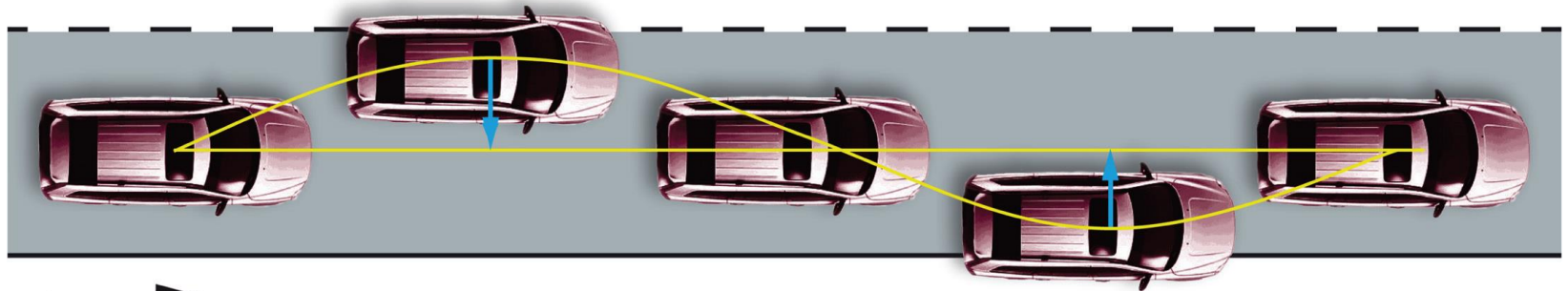
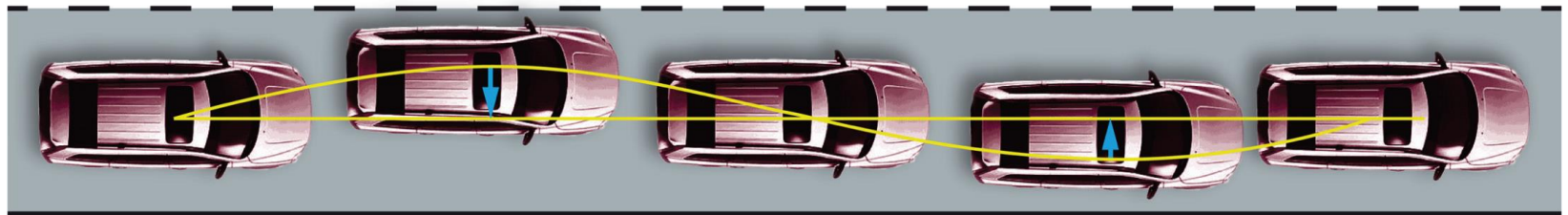
BLUE GREEN YELLOW
PINK RED ORANGE
GREY BLACK PURPLE
TAN WHITE BROWN



Oktal



Performances de conduite



Déviations standard du véhicule sur la voie SD

Verster et al., 2011

Population

	40 sujets TDAH	19 sujets contrôles
--	----------------	------------------------

TME

40 sujets TDAH

19 sujets
contrôles

TME

Somnolents
(0-19 min)

Intermédiaires
(20-33 min)

Alertes
(34-44
min)

(34-44
min)

Moy TME

14.2 ($\pm$ 3.6
min)

28($\pm$ 4.4min)

38.6 ($\pm$
2.2 min)

39 ($\pm$ 1.2
min)

Nombres
sujets

14

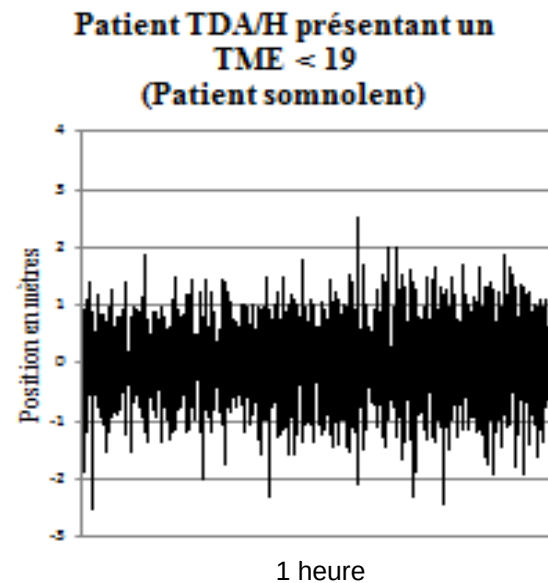
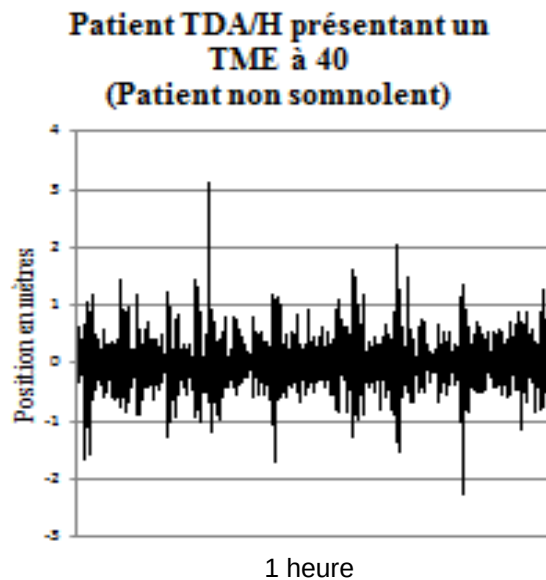
20

6

Performance de conduite

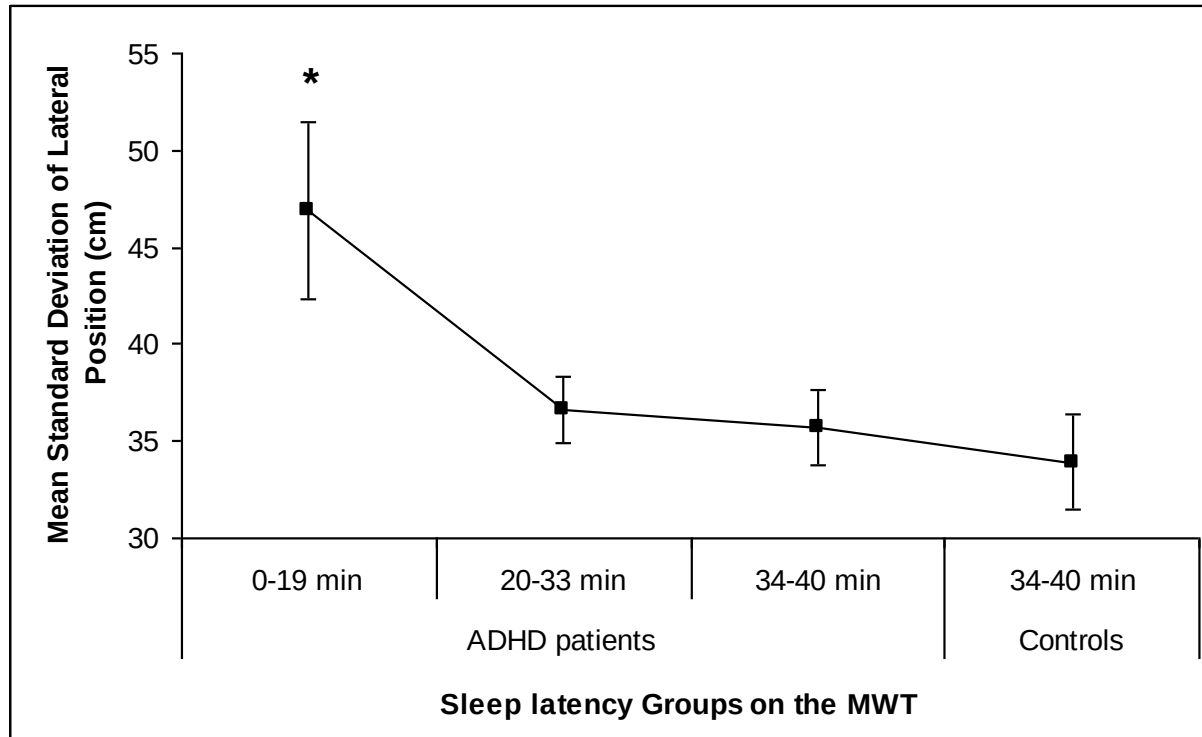


**Stabilité de la trajectoire du véhicule
en fonction du niveau de somnolence**



Le sujet somnolent présente plus de difficultés à maintenir une trajectoire stable que le sujet non somnolent

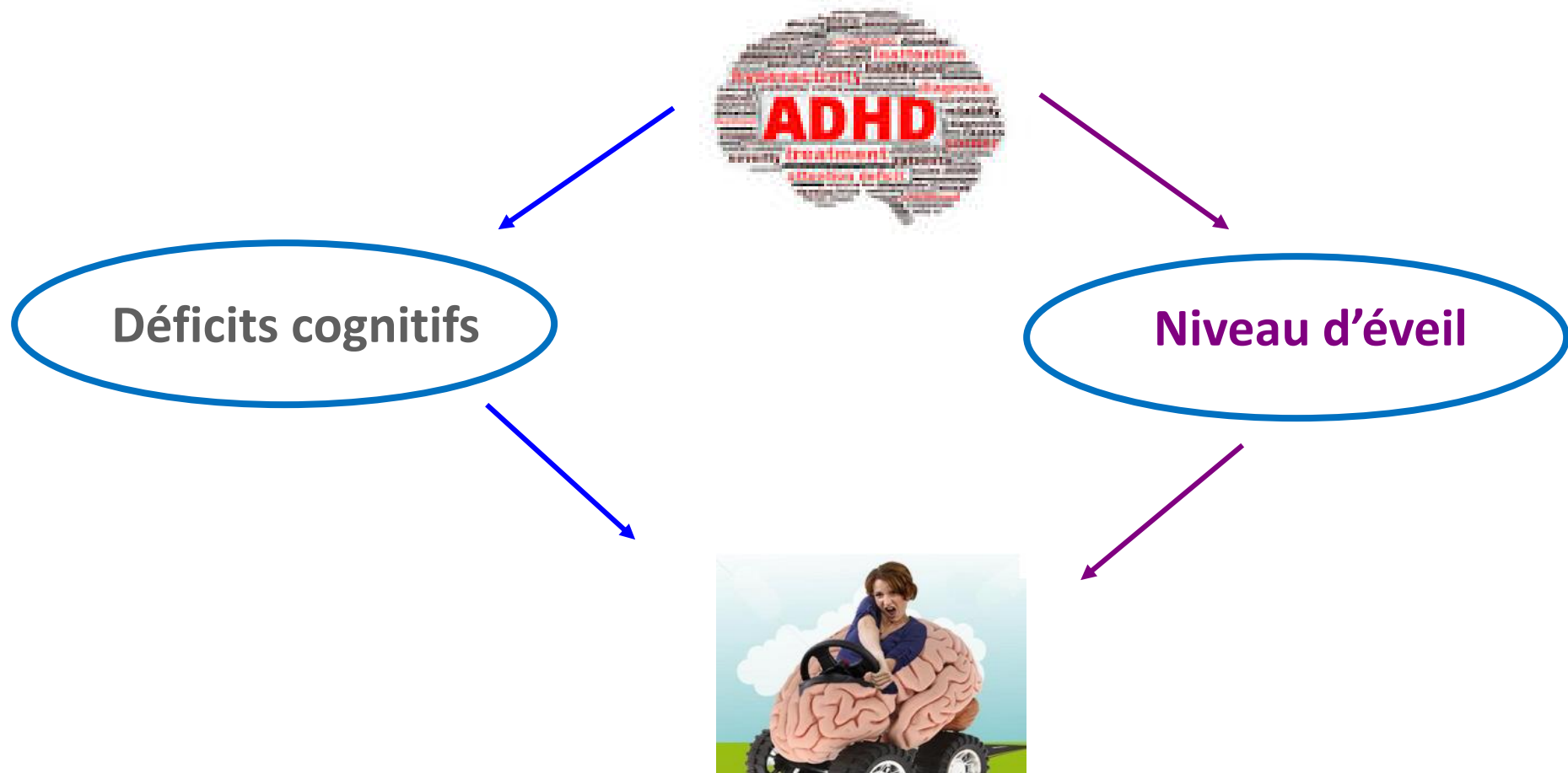
Performances de conduite sur simulateur



* $p < .05$

Les sujets TDAH somnolents :
Performances de conduite altérées

TDAH et Conduite automobile

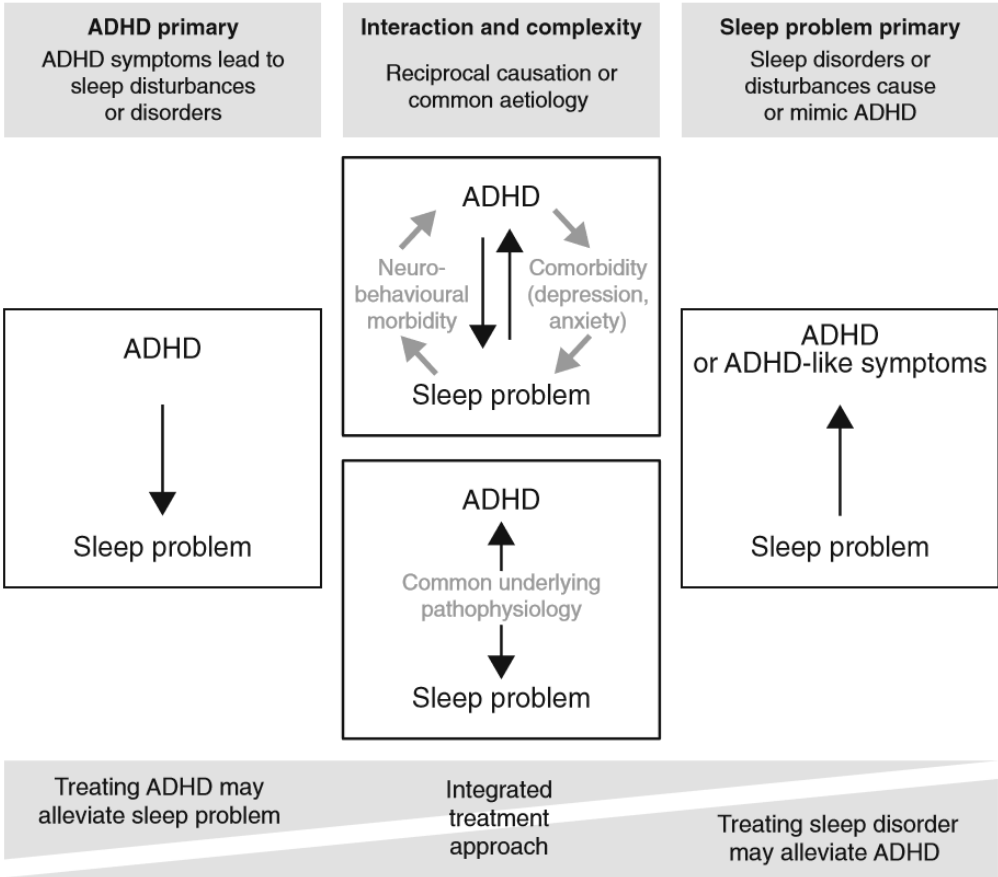


Performances de conduite altérées

Associations of sleep disturbance with ADHD: implications for treatment

Allan Hvolby

Fig. 4 Conceptual model of the modes of interaction between ADHD and sleep. *ADHD* attention-deficit/hyperactivity disorder



L 'hyperactivité comme processus adaptatif ...et s'il y avait des avantages

- Créatif
- Curieux, Rêveur, imaginatif,
- Intuitif
- Spontané, empathique
- Enthousiaste : avec une capacité à s'émerveiller
- Hyperfocalisation
- « La deadline, la meilleure ritaline! »
- Sensible, altruiste
- Besoin de déficit, de nouveautés
-

