



**ADHD E COVID**  
**LO STATO DELL'ARTE IN ITALIA**  
RESPONSABILE SCIENTIFICO DOTT.SSA MARIA GRAZIA MELEGARI

SABATO  
**17**  
GIUGNO  
ORE 9.00

# Stress acuto e cronico durante lo scoppio della pandemia da COVID-19: la risposta dei soggetti con diagnosi di ADHD

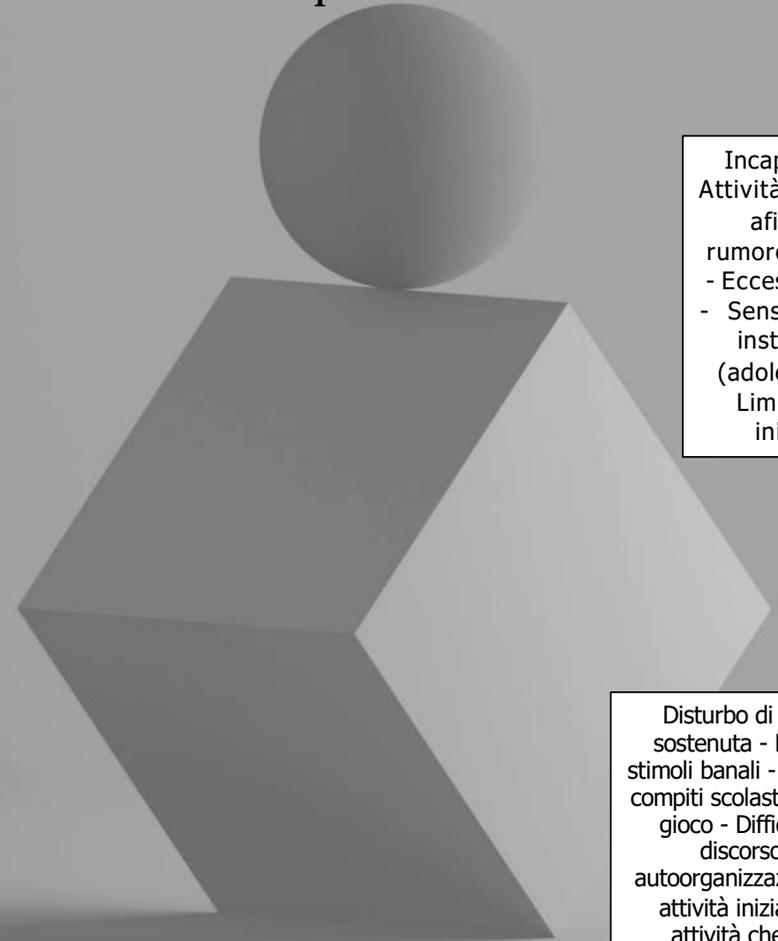
Dr.ssa Sara Uccella  
Neuropsichiatra Infantile  
Psicoterapeuta



Istituto Giannina Gaslini UO Neuropsichiatria Infantile- UO Neonatologia  
Ricercatore c/o Università degli Studi di Genova

## Varie ipotesi eziopatogenetiche

50% comorbidità psichiatrica associata



Incapacità a star fermi -  
Attività motoria incongrua e  
afinalistica - Gioco  
rumoroso e disorganizzato  
- Eccessive verbalizzazioni  
- Sensazione soggettiva di  
instabilità e tensione  
(adolescenti ed adulti) -  
Limitate possibilità di  
inibizione motoria

Disturbo di attenzione focale e  
sostenuta - Facile distraibilità da  
stimoli banali - Difficile esecuzione di  
compiti scolastici, attività quotidiane,  
gioco - Difficoltà nel seguire un  
discorso - Incapacità di  
autoorganizzazione - Interruzione di  
attività iniziate - Evitamento di  
attività che richiedono sforzo  
cognitivo - Ruolo parziale della  
motivazione

# ADHD

Iperattività  
motoria

Impulsività

Difficoltà di controllo  
comportamentale - Incapacità a  
differire la risposta automatica  
ad uno stimolo (es. una  
domanda) - Scarsa capacità di  
riflessione - Difficoltà a rispettare  
il proprio turno - Tendenza ad  
interrompere gli altri - Difficoltà  
nel valutare le conseguenze di  
una azione - Tendenza ad esporsi  
a situazioni pericolose, con  
possibili danni fisici

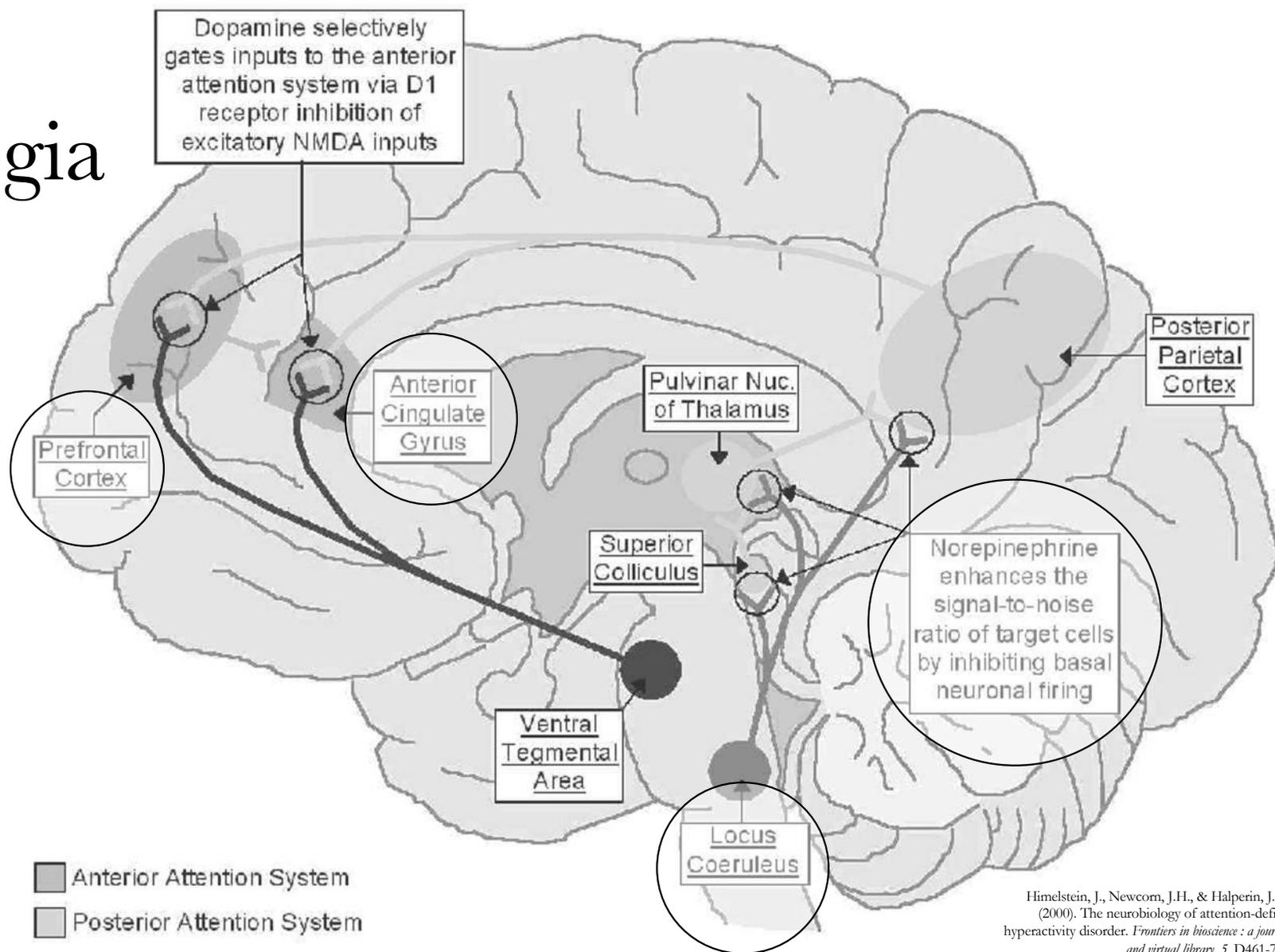
Disattenzione

**Criteri  
DSM-5  
(APA  
2013)\***

**\* No differenze con DSM-5 TR in uscita ora**

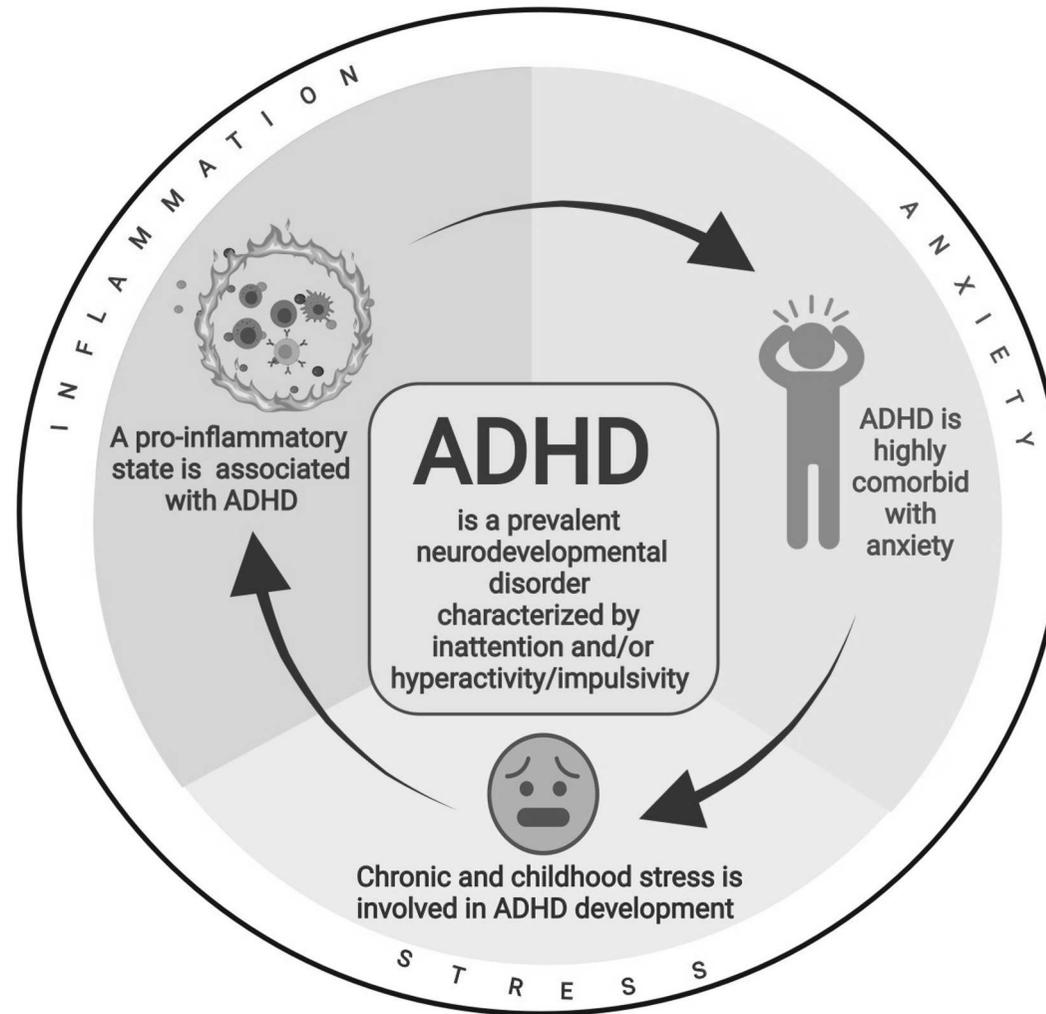
# Neurobiologia ADHD

- attenzione sostenuta
- controllo inibitorio



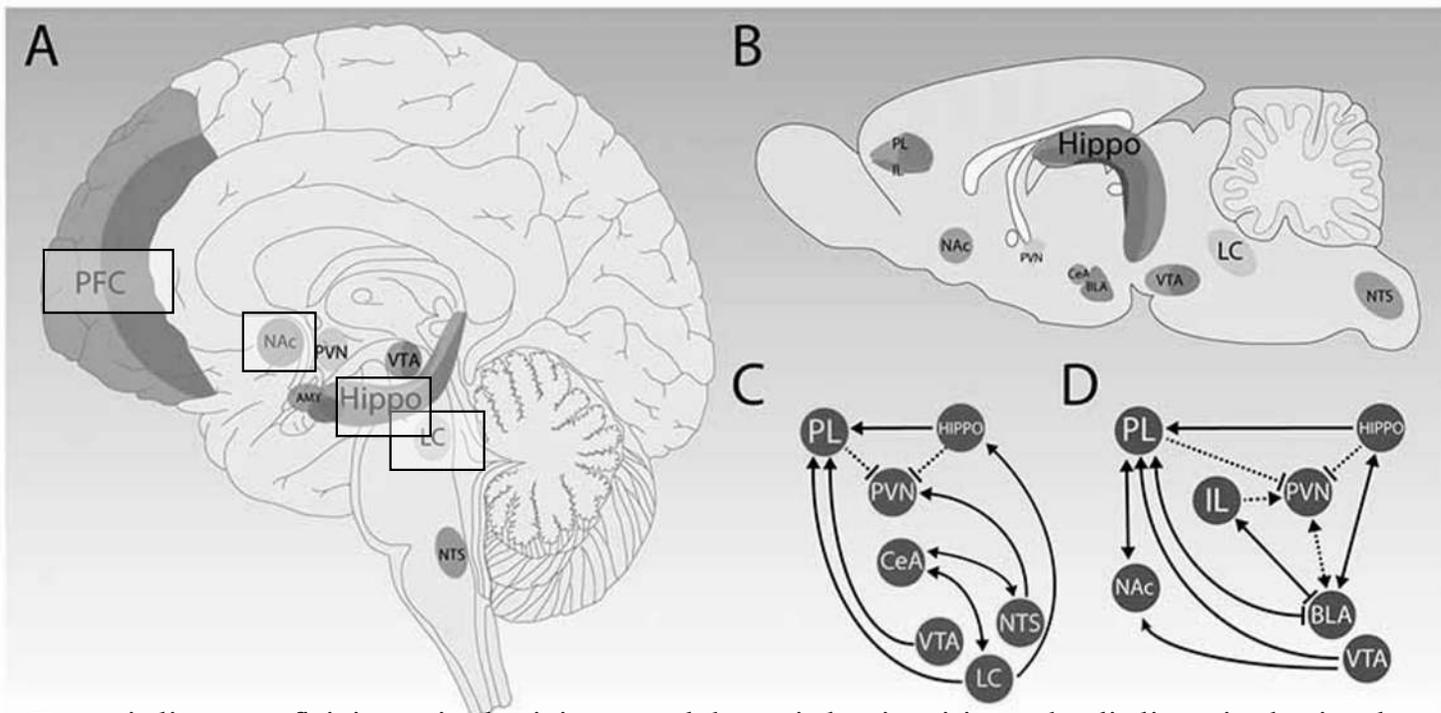
Himelstein, J., Newcom, J.H., & Halperin, J.M. (2000). The neurobiology of attention-deficit hyperactivity disorder. *Frontiers in bioscience : a journal and virtual library*, 5, D461-78 .

# Neurobiologia ADHD



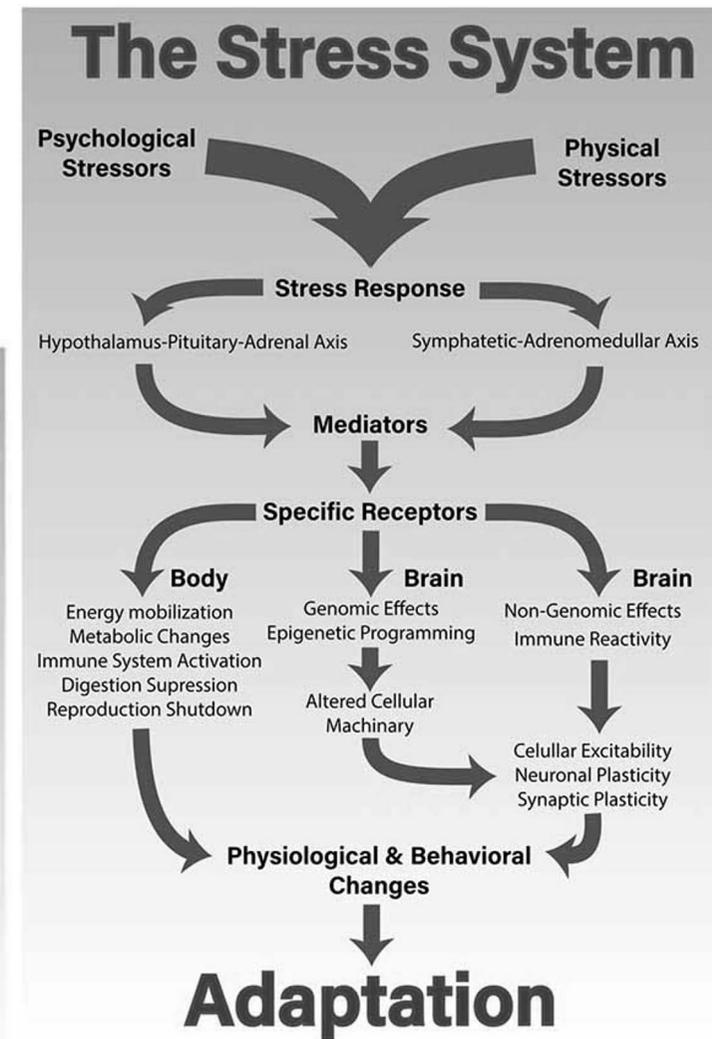
The studies reviewed here support a **multidirectional** relationship between **stress, anxiety, and inflammation** with **ADHD**, but how these variables connect to each other has yet to be clarified. **Untangling** these relationships will have **diagnostic, therapeutic and prognostic** implications for ADHD patients.

# Neurobiologia dello stress e del trauma



Fattori di stress fisici e psicologici sono elaborati da circuiti cerebrali diversi, che in alcuni casi possono sovrapporsi. **Indipendentemente dall'elaborazione del fattore di stress, il sistema dello stress si attiva in modo coordinato.**

Dr.ssa Sara Uccella



Godoy LD, Rossignoli MT, Delfino-Pereira P, Garcia-Cairasco N and Umeoka EHL (2018) A Comprehensive Overview on Stress Neurobiology: Basic Concepts and Clinical Implications. Front. Behav. Neurosci. 12:127

# Fight or flight system

Popolazione

Soggetti fragili

**Soggetti con ADHD**

Pandemia COVID-19



# Impatto delle pandemie

> Disaster Med Public Health Prep. 2013 Feb;7(1):105-10. doi: 10.1017/dmp.2013.22.

## Posttraumatic stress disorder in parents and youth after health-related disasters

Ginny Sprang, Miriam Silman

PMID: 24618142 DOI: 10.1017/dmp.2013.22

Review > J Am Acad Child Adolesc Psychiatry. 2020 Jun 3;59(6):856-867. doi: 10.1016/j.jaac.2020.05.009. Online ahead of print.

## Rapid Systematic Review: The Impact of Social Isolation and Loneliness on the Mental Health of Children and Adolescents in the Context of COVID-19

Maria Elizabeth Loades, Eleanor Chatburn, Nina Higson-Sweeney, Shirley Reynolds, Roz Shafran, Amberly Brigden, Catherine Linney, Megan Niamh McManus, Catherine Borwick, Esther Crawley

PMID: 32504808 PMCID: PMC7267797 DOI: 10.1016/j.jaac.2020.05.009

Review > Lancet. 2020 Mar 14;395(10227):912-920. doi: 10.1016/S0140-6736(20)30460-8. Epub 2020 Feb 26.

## The psychological impact of quarantine and how to reduce it: rapid review of the evidence

Samantha K Brooks<sup>1</sup>, Rebecca K Webster<sup>2</sup>, Louise E Smith<sup>2</sup>, Lisa Woodland<sup>2</sup>, Simon Wessely<sup>2</sup>, Neil Greenberg<sup>2</sup>, Gideon James Rubin<sup>2</sup>

Affiliations + expand

PMID: 32112714 PMCID: PMC7158942 DOI: 10.1016/S0140-6736(20)30460-8

Paura del contagio

Rischi sanitari

Inadeguatezza delle informazioni dei mezzi di comunicazione

Distribuzione delle risorse

Isolamento sociale

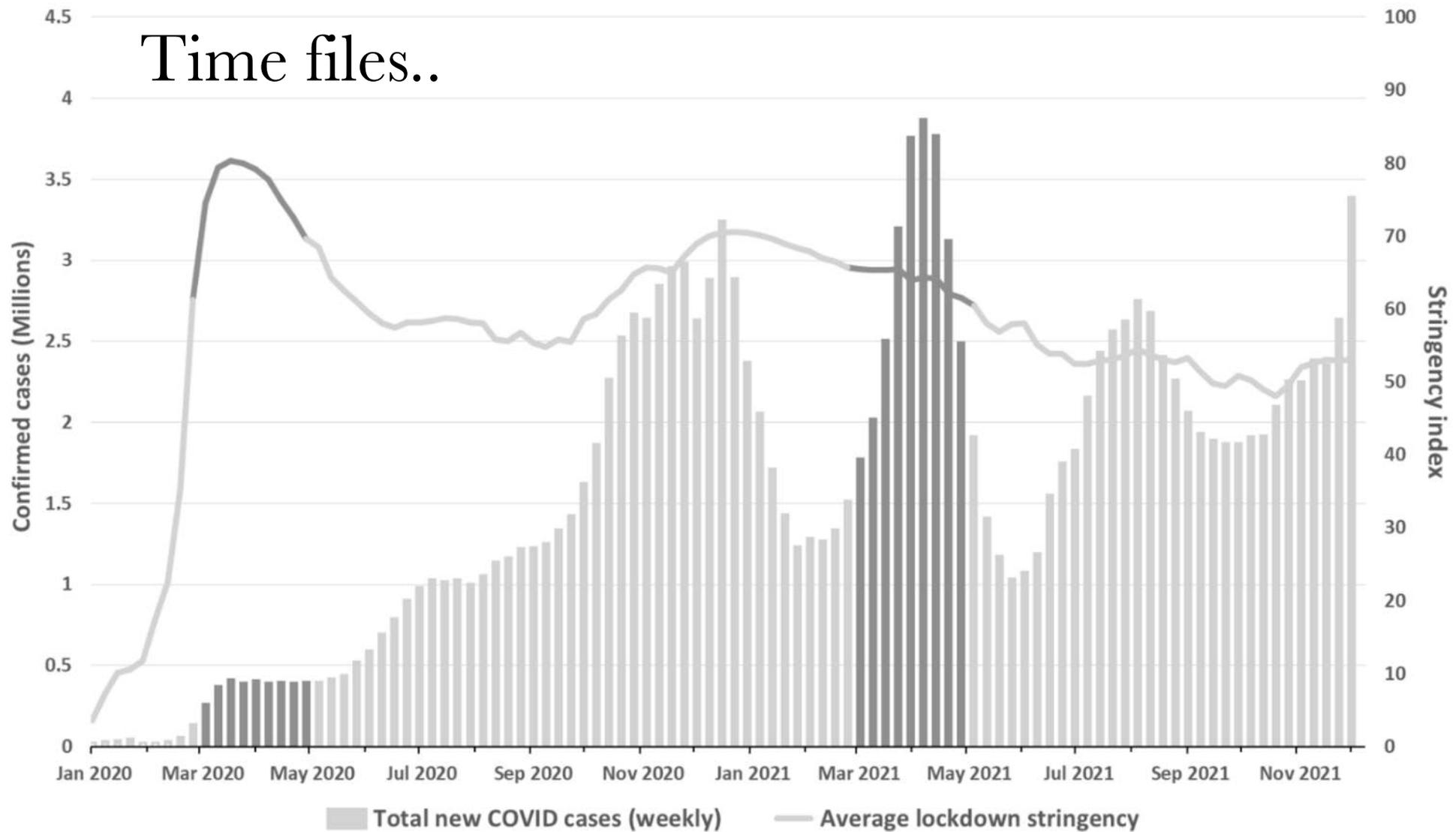
Danno economico

Stress legato al confinamento/distanziamento fisico

Durata del confinamento e delle quarantene

Frustrazione/tristezza

# Time files..



# Time files..

ARTICLE

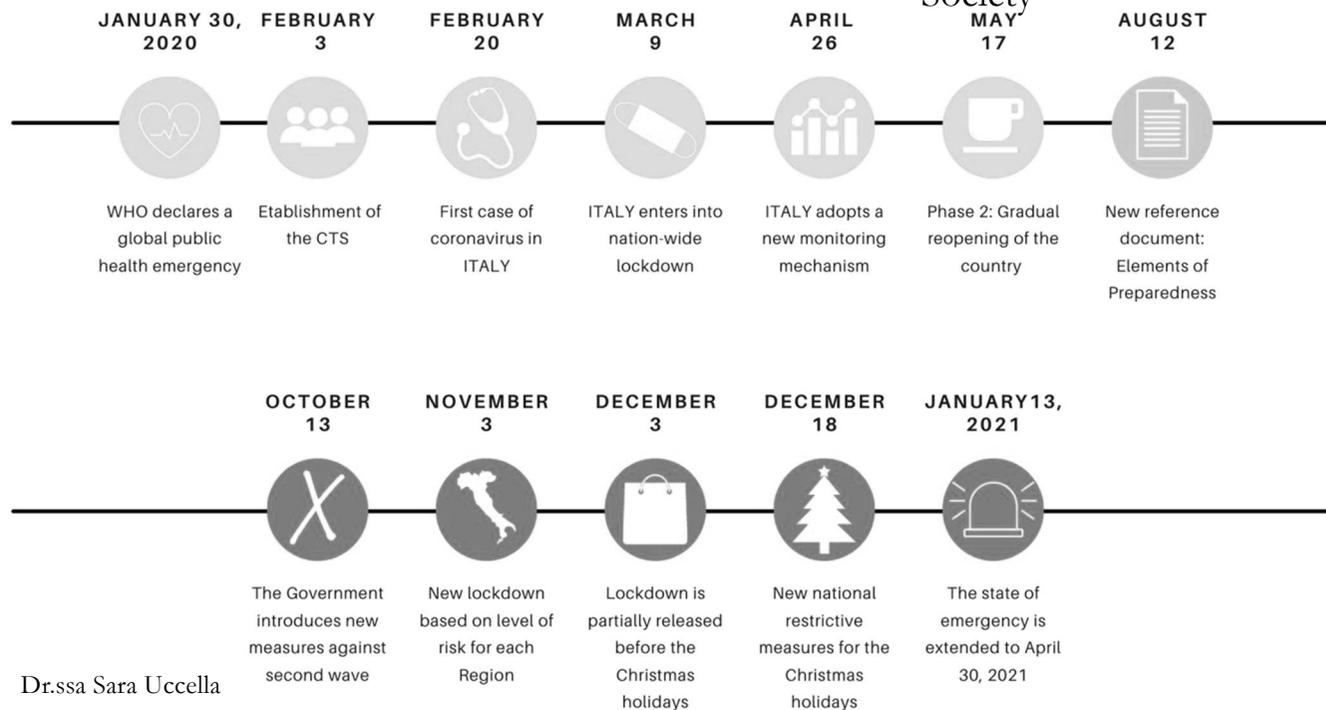
Check for updates

<https://doi.org/10.1057/s41599-022-01042-6> OPEN

Mobilization of expert knowledge and advice for the management of the Covid-19 emergency in Italy in 2020

Silvia Camporesi<sup>1</sup>, Federica Angeli<sup>2</sup> & Giorgia Dal Fabbro<sup>3</sup>

UCL Research Group - Biotechnology and Society



Dr.ssa Sara Uccella

1. **sovraposizione tra consulenza tecnica e risposta politica** nella prima fase della pandemia

2. **predominanza di epidemiologi e specialisti di malattie infettive rispetto agli scienziati sociali** nella mobilitazione di esperti per la gestione della crisi in Italia

CONFERMA di gerarchie di conoscenza che privilegiano **le «scienze dure»** → la letteratura precedente indicava la necessità invece di integrare competenze economiche e sociali nelle scelte di salute pubblica

«Our findings suggest that expert politics can lead to the confirmation of knowledge hierarchies that privilege hard sciences, and corroborate prior literature indicating that economic and social expertise has not been well integrated into public health expert advice, constituting a major challenge for policymaking during a health emergency»

# Impatto psicologico dello scoppio della pandemia da COVID-19 e relativo confinamento

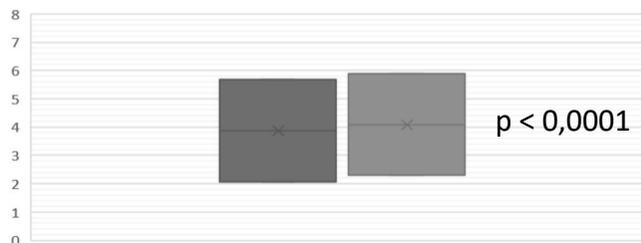
Il questionario FACE-COVID

• 73 domande, intervista semistrutturata, Marzo 2020

• Livelli di stress nelle famiglie da moderati a severi

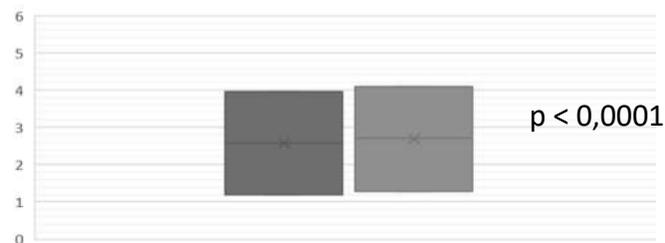
Covid Stress Score

■ Whole sample ■ Caregivers



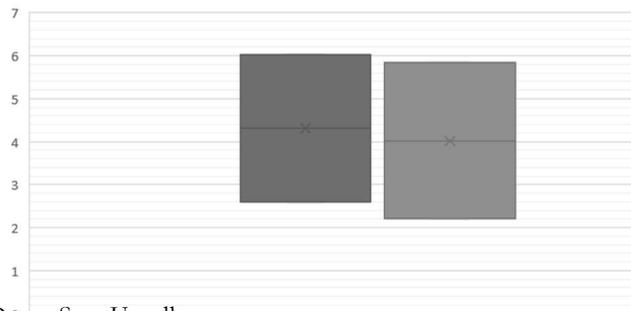
Sleep Score

■ Whole sample ■ Caregivers



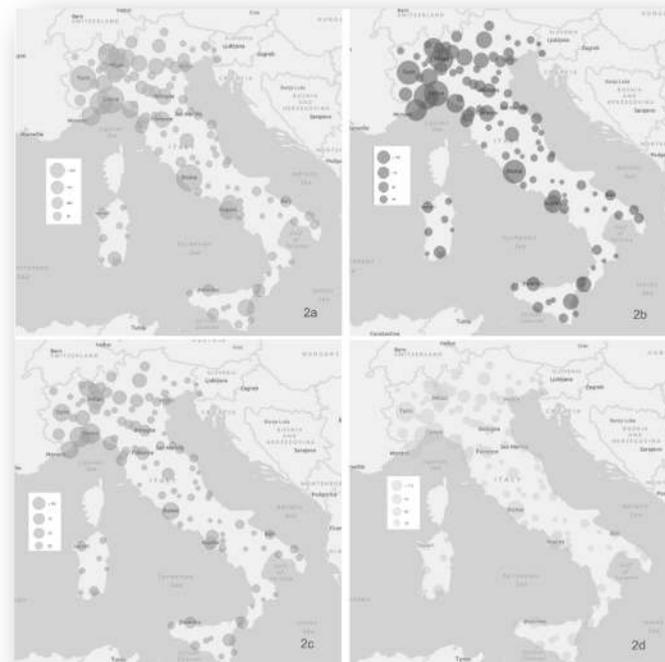
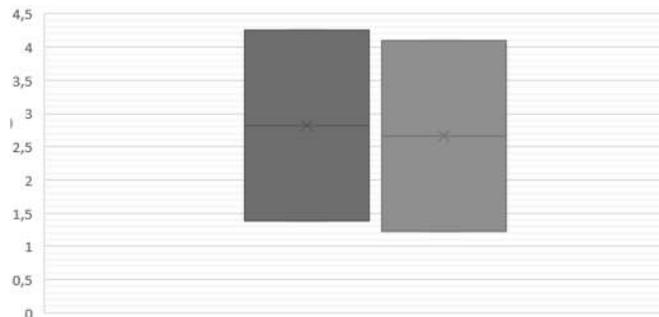
Covid Stress Score

■ Caregivers (children < 6yrs) ■ Caregivers (children 6-18 yrs)



Sleep Score

■ Caregivers (children < 6yrs) ■ Caregivers (children 6-18 yrs)



64.7% donne con un'età media di 40-45 anni

COVIDStress correlated with:

**PsW (r=0.362; p<0.0001)**

COVIDThreat (r=0.122; p<0.0001)

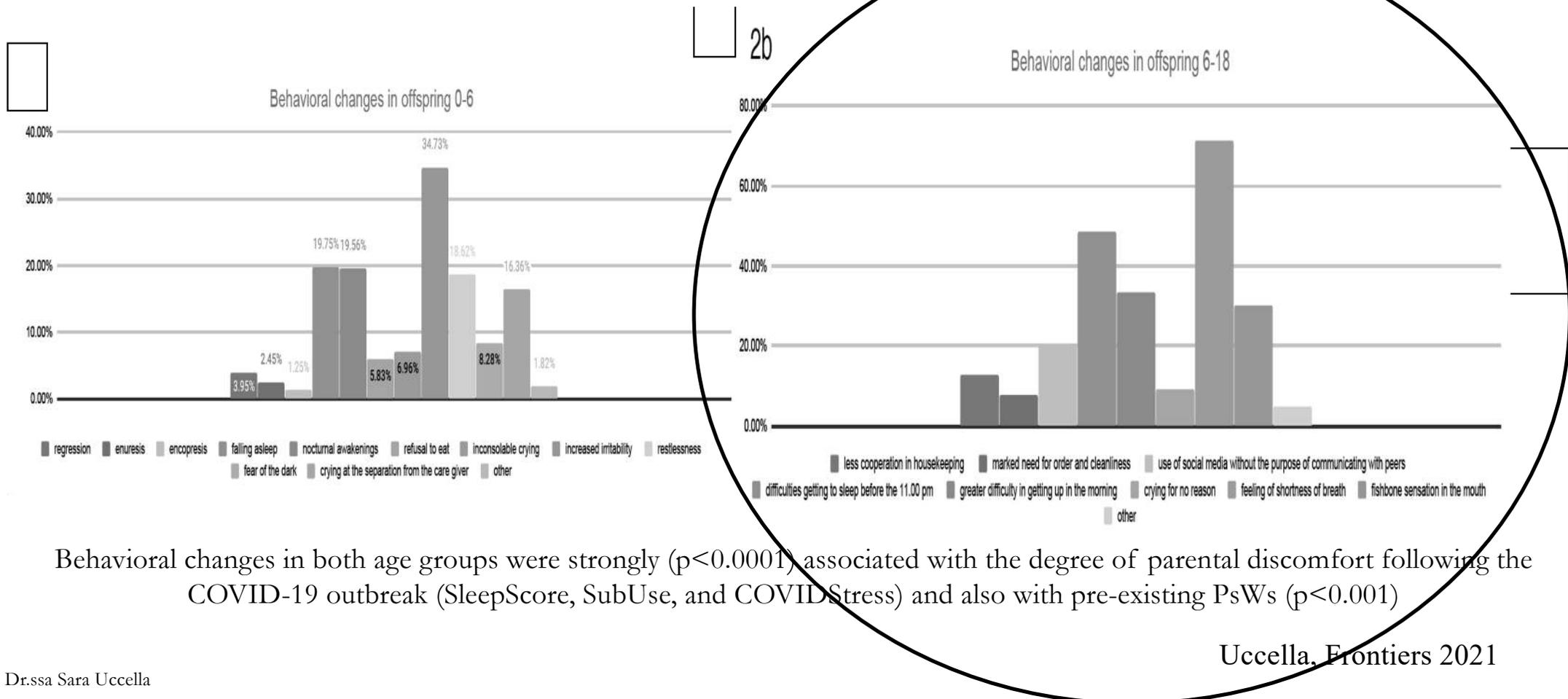
SubUse (r=0.158; p<0.0001)

SleepScore (r=0.496; p<0.0001)

# Impatto psicologico dello scoppio della pandemia da COVID-19 e relativo confinamento

Il questionario FACE-COVID

**Behavioral changes** in children were reported in **64.3%** and **72.5%** of the <6 years group and 6–18 years group, respectively.

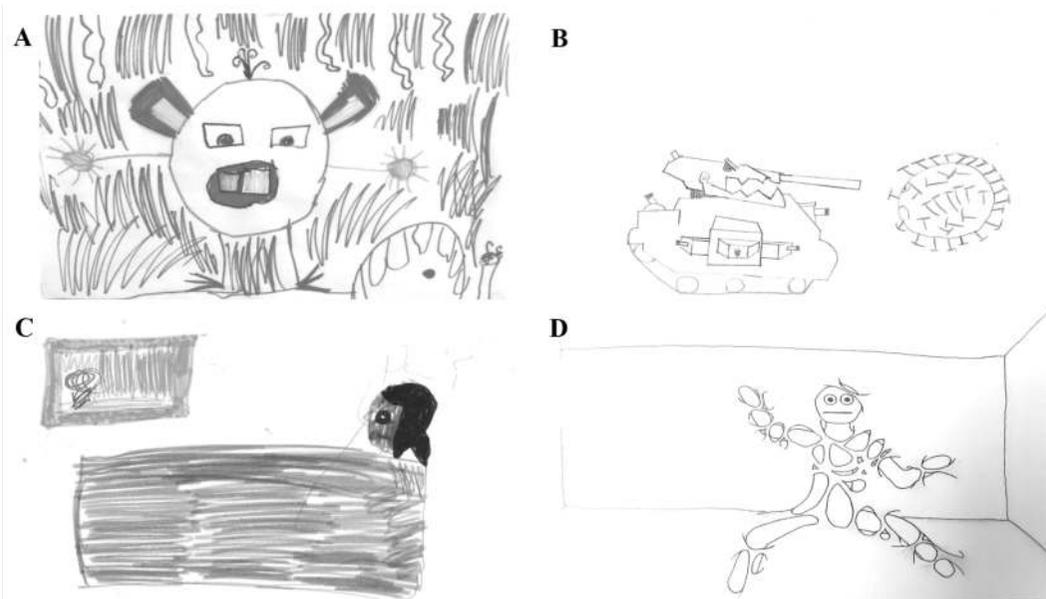


Behavioral changes in both age groups were strongly ( $p < 0.0001$ ) associated with the degree of parental discomfort following the COVID-19 outbreak (SleepScore, SubUse, and COVIDStress) and also with pre-existing PsWs ( $p < 0.001$ )

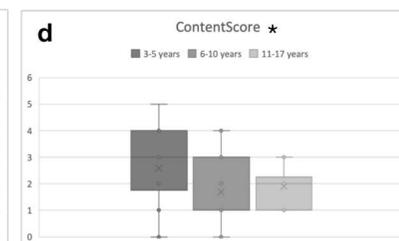
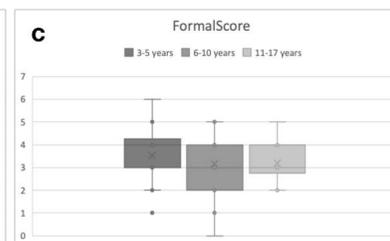
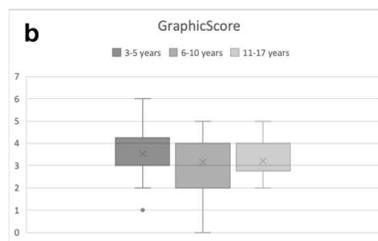
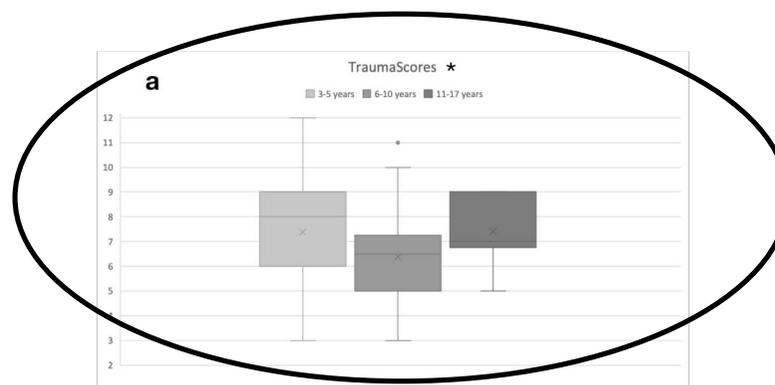
Uccella, Frontiers 2021

# Impatto psicologico dello scoppio della pandemia da COVID

il progetto FACE-COVID ed il lavoro sulle testimonianze dei bambini e adolescenti: sottoprogetto «Ciao come stai?»



L'analisi dei disegni confermava i segnali di disagio psicologico segnalati nel questionario a tutte le età, **soprattutto bambini prescolari ed adolescenti**



Di Profio, e Uccella Minerva  
Pediatrics, 2022

# ADHD e pandemia



## ADHD management during the COVID-19 pandemic: guidance from the European ADHD Guidelines Group



Published Online

The coronavirus disease 2019 (COVID-19) pandemic is creating unprecedented challenges at every level of society. Individuals with neurodevelopmental disorders, such as attention-deficit hyperactivity disorder (ADHD), are particularly vulnerable to the distress caused by the pandemic and physical distancing measures, and they

and management of ADHD during the COVID-19 virus pandemic (see full guidance in the appendix).

Given the requirement for physical distancing, all relevant service provision should continue via telephone or appropriate online video technology, in line with current recommendations for the use of telepsychiatry

### Gruppi a rischio:

- soggetti con disturbi del neurosviluppo (quindi anche ADHD)
- Adolescenti

Attività di rafforzamento delle capacità genitoriali

Telemedicina

Prosecuzione delle cure in atto

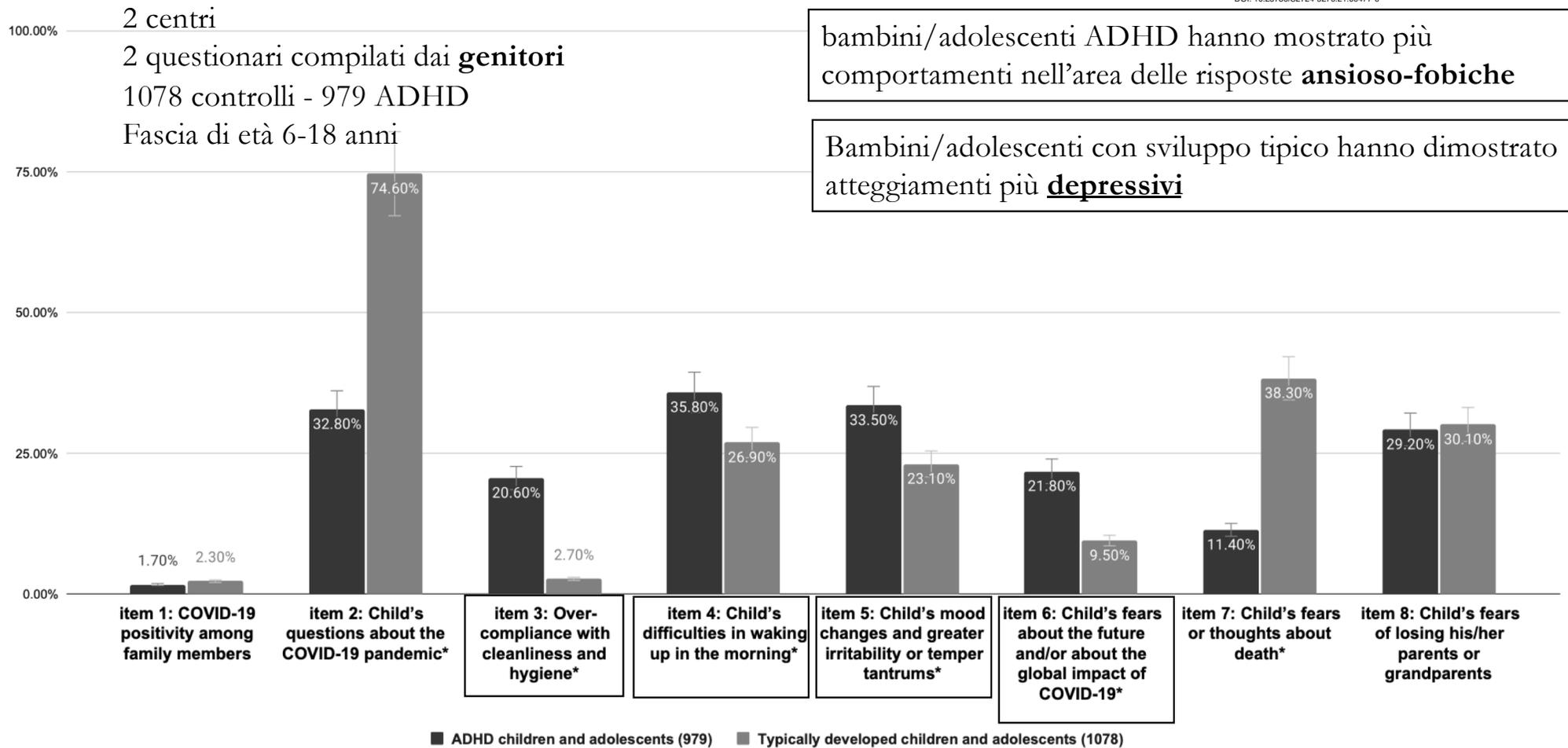
**Igiene del sonno**

# ADHD e confinamento (marzo 2020)

Stress symptoms and Coronavirus disease 2019 (COVID-19): a comparative study between Attention Deficit Hyperactivity Disorder and typically developing children and adolescents

Martina GIALONARDO, Sara UCCELLA, Fabrizio DE CARLI, Lino NOBILI, Oliviero BRUNI, Elisa DE GRANDIS, Maria Grazia MELEGARI

Minerva Pediatrics 2021 Oct 14  
DOI: 10.23736/S2724-5276.21.06477-6



# ADHD e confinamento (marzo 2020)

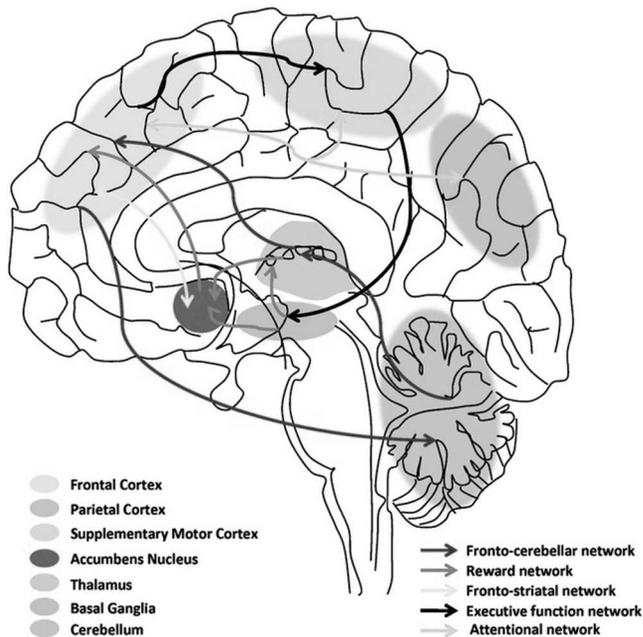
Stress symptoms and Coronavirus disease 2019 (COVID-19): a comparative study between Attention Deficit Hyperactivity Disorder and typically developing children and adolescents

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2 centri  
2 questionari compilati dai genitori  
1078 controlli - 979 ADHD  
Fascia di età 6-18 anni

bambini/adolescenti ADHD hanno mostrato più comportamenti nell'area delle risposte **ansioso-fobiche**



Profilo di ipervigilanza

Profilo impulsività

Osessione per l'igiene, paure anticipatorie legate all'infezione da COVID-19, igiene sonno

scoppi d'ira

Purper-Ouakil, D., Ramoz, N., Lepagnol-Bestel, AM. *et al.* Neurobiology of Attention Deficit/Hyperactivity Disorder. *Pediatr Res* **69**, 69–76 (2011).  
<https://doi.org/10.1203/PDR.0b013e318212b40f>

Dr.ssa Sara Uccella

# ADHD e pandemia effetti a medio- lungo termine

**Incremento utilizzo  
psicostimolanti 2019-  
2022**

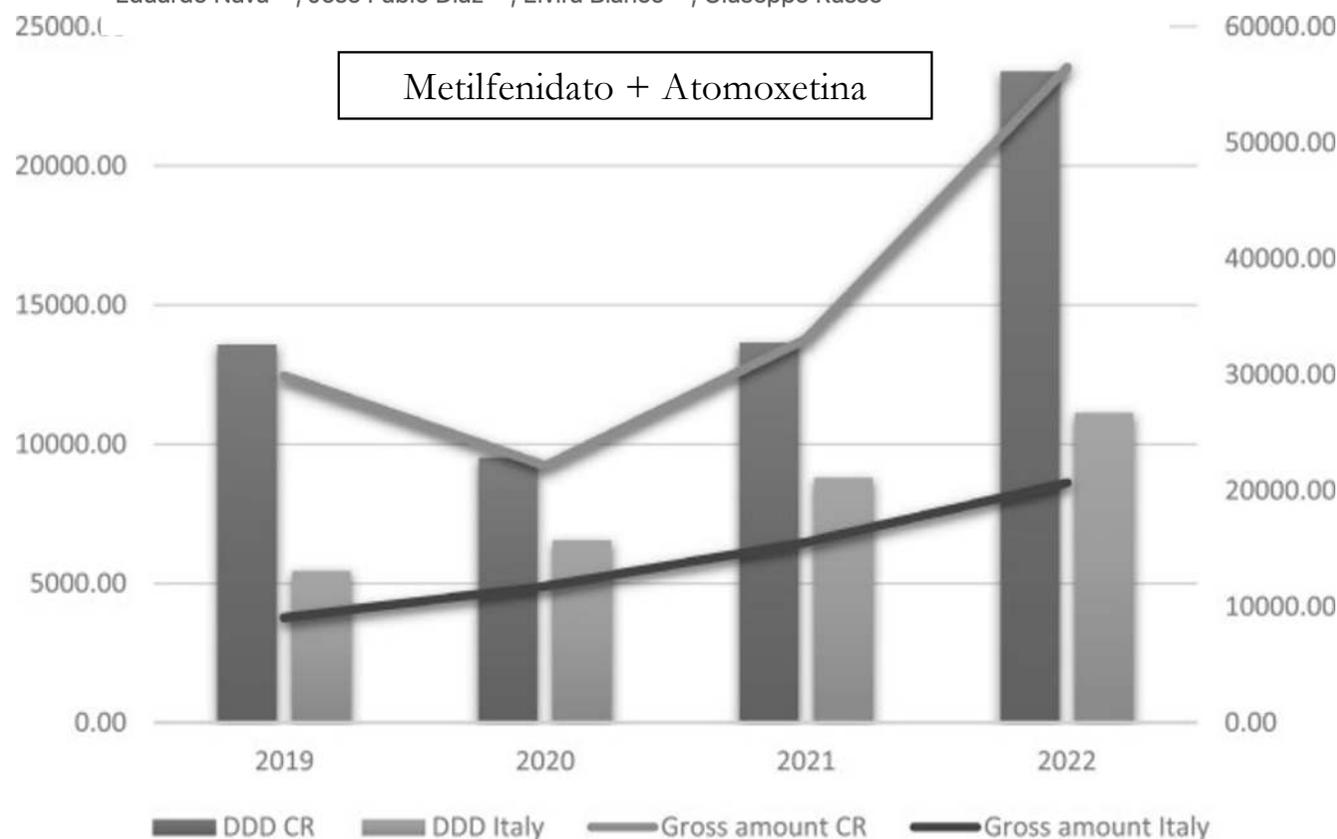
ASL3 Napoli, Italia - Clínica  
Biblica, Costarica

Dr.ssa Sara Uccella

> Eur Neuropsychopharmacol. 2023 Apr 21;73:62-64. doi: 10.1016/j.euroneuro.2023.04.010.  
Online ahead of print.

## The direct correlation between Covid-19 and Attention Deficit/Hyperactivity Disorder (ADHD)

Francesco Ferrara <sup>1</sup>, Esteban Zavaleta <sup>2</sup>, Antonio Vitiello <sup>3</sup>, Jorge Arturo Villalobos <sup>4</sup>,  
Andrea Zovi <sup>5</sup>, Roberto Langella <sup>6</sup>, Bruno Serrano <sup>4</sup>, Ugo Trama <sup>7</sup>, Sebastian Arguedas <sup>4</sup>,  
Eduardo Nava <sup>8</sup>, Jose Pablo Diaz <sup>4</sup>, Elvira Bianco <sup>9</sup>, Giuseppe Russo <sup>10</sup>



# ADHD e pandemia effetti a medio- lungo termine

Practical Meta-Analyses

## ADHD Symptoms Increased During the Covid-19 Pandemic: A Meta-Analysis

Maria A. Rogers<sup>1</sup>  and Jaidon MacLean<sup>2</sup>

Journal of Attention Disorders  
2023, Vol. 27(8) 800–811  
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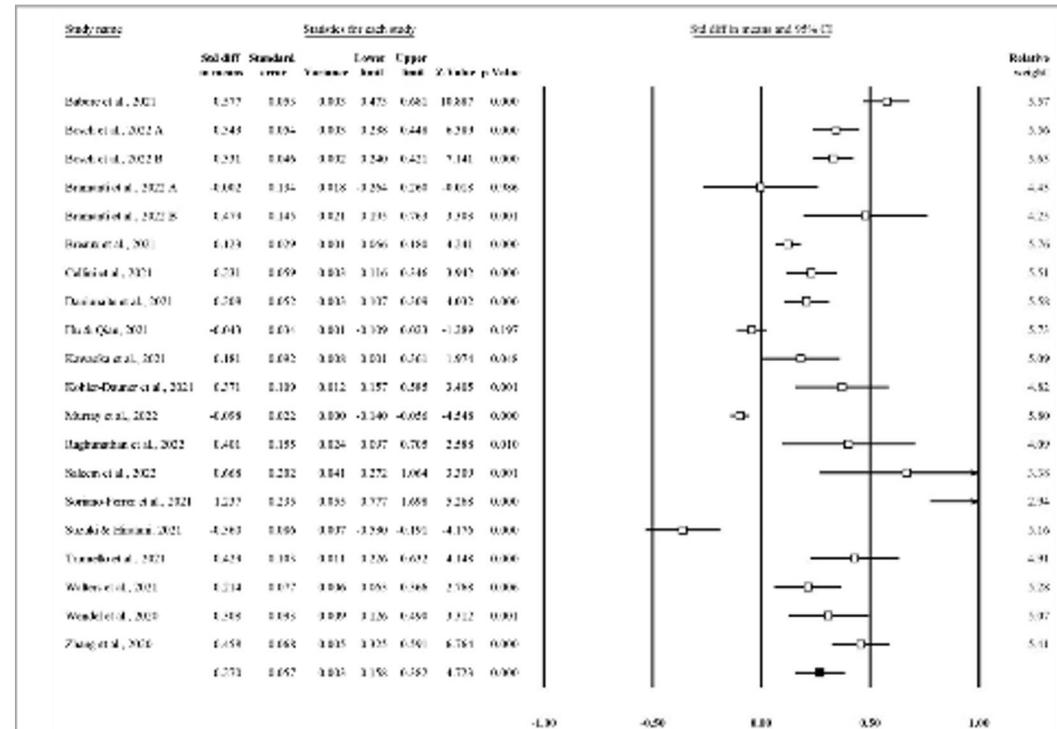
18 studi

6,491 soggetti  
con ADHD

<10 anni –  
18 anni

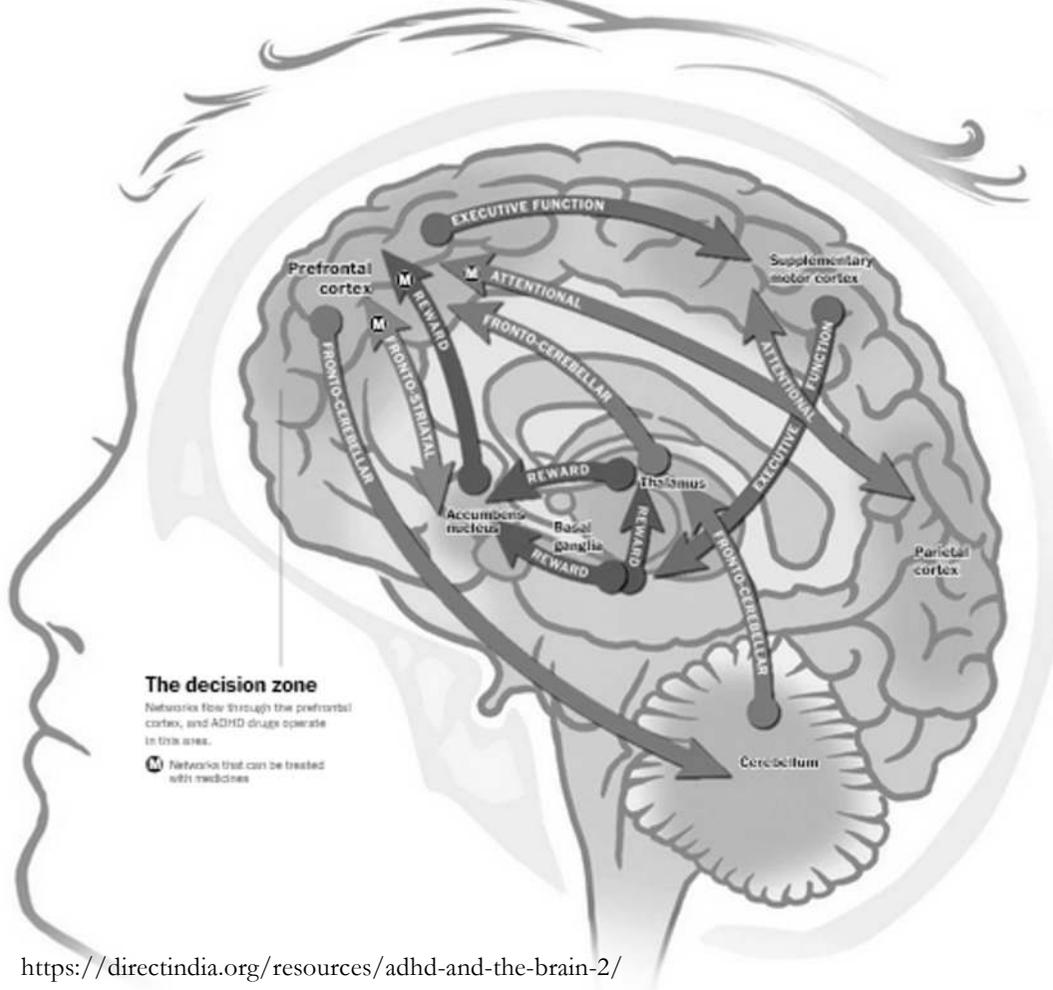
Marzo 2020  
– novembre  
2022

Bambini/adolescenti con ADHD →  
aumento dei sintomi durante la pandemia  
COVID-19 (++ impulsività)



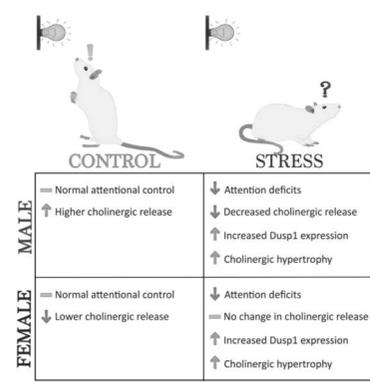
No effetto età o differenze self reports/caregivers

- Reward network: Choosing what's important**  
Signals in this network tell us, "Wow, this deserves our attention!" The reward center may be understimulated and late to develop in children with ADHD, making it hard for them to choose among competing things. Hyperactivity, impulsivity and inattention are also related to this network.
- Fronto-striatal network: Deciding to focus**  
This lets us switch smoothly between tasks, filter out distractions and pick out relevant information from our environment. The network is thought to be underactive in people with ADHD and may contribute to hyperactivity, impulsivity and distractibility.
- Executive function network: Making a game plan**  
After you choose what to do, this network figures out how to do it. Executive function includes planning, organization and working memory. About half of people with ADHD have executive dysfunction; no medication effectively treats it.
- Attentional network: Staying on task**  
Once you've decided to pay attention to something, this network sustains that attention. Not all ADHD kids are hyperactive. Some are inattentive: more easily distracted, forgetful, disorganized and unfocused than their peers.
- Fronto-cerebellar network: Moving and thinking efficiently**  
The cerebellum increases coordination, precision and efficiency in movement and thought processes. It may also function as an internal timekeeper, so signal disruption in this network may contribute to time management problems.

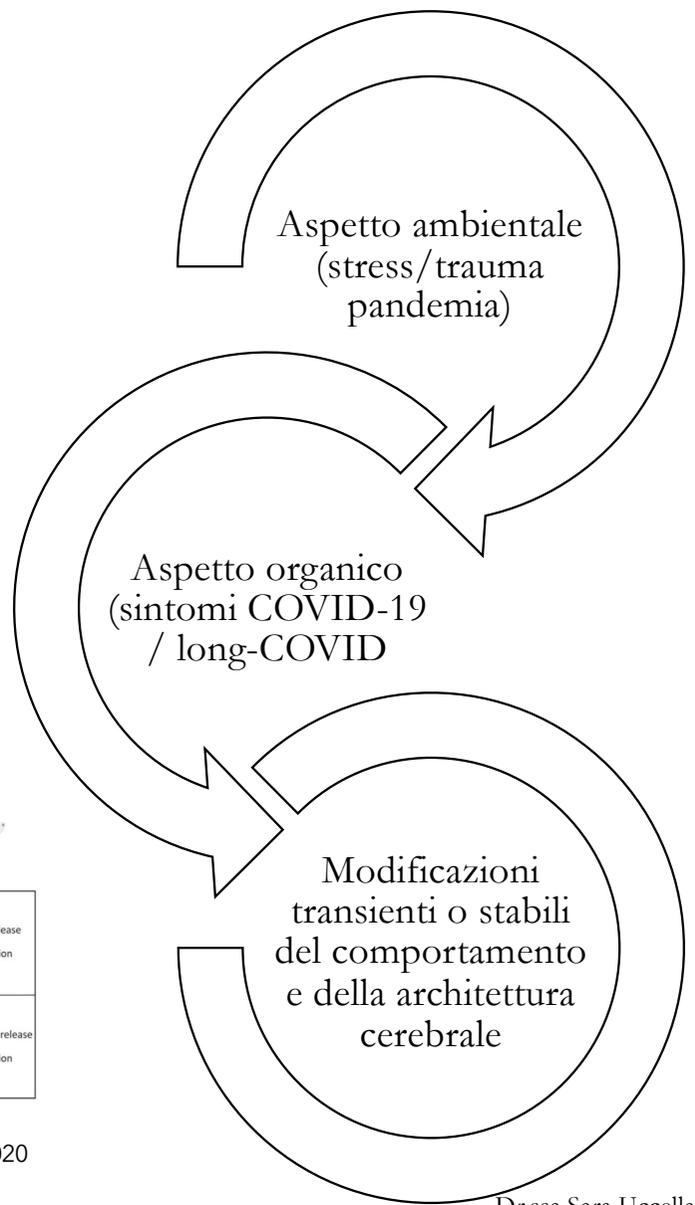


<https://directindia.org/resources/adhd-and-the-brain-2/>

Biological psychiatry



Emily C. Wright\* Biol Psychiatry. 2020 Oct 1; 88(7): e29-e31



Dr.ssa Sara Uccella

# Take-home messages

1

Effetti a lungo  
raggio del  
confinamento

2

Effetti maggiori  
nelle popolazioni  
a rischio

3

La popolazione  
di soggetti con  
diagnosi di  
ADHD sembra  
intrinsecamente  
più vulnerabile

4

Ruolo  
dell'ambiente nel  
modellare  
esperienze e  
comportamenti  
dell'individuo

5



**POSSIBILI  
TA' DI  
INTERVE  
NTO!**



**Grazie per  
l'attenzione**

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