ANXIETATE ŞI COGNIȚIE

Efectele unor polimorfisme genetice funcționale şi diferențe neurofiziologice

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Catedra de Psihologie

Universitatea Babeş-Bolyai din Cluj-Napoca, România

Structura prezentării

- Ce e anxietatea şi de ce e important să îi studiem bazele biologice?
- HRV şi comorbiditatea tulburărilor de anxietate şi cardiovasculare
- Emoțiile negative, reflexul de tresărire şi anxietatea
- Lateralizarea activității cerebrale frontale şi anxietatea
- Predispoziții genetice pentru anxietate: 5-HTTLPR şi HRV

Ce e anxietatea şi de ce e important să îi studiem bazele biologice?

- Emoție şi diferență interindividuală
- Factor de risc pentru unele tulburări de anxietate
- Componenta comportamentală a unui endofenotip neurovisceral complex?
- Complianță scăzută la tratament

Anxietatea îți frânge inima…

- Tulburările de anxietate şi afective sunt factor de risc pentru bolile coronariene.

  Gorman & Sloan, *Am Heart J*, 2000

- Anxietatea prezice mortalitatea pe 8 ani după infarct miocardic […]

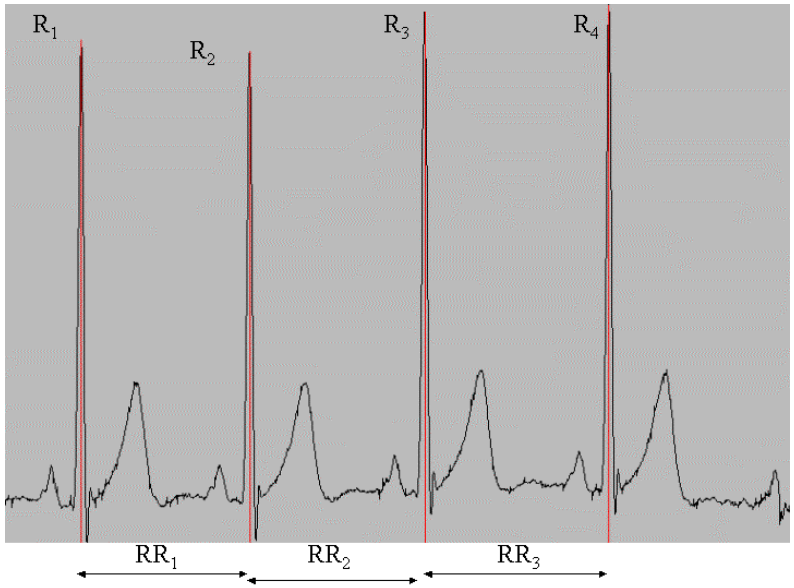
  Carpeggiani et al., *Eur Heart J,* 2005

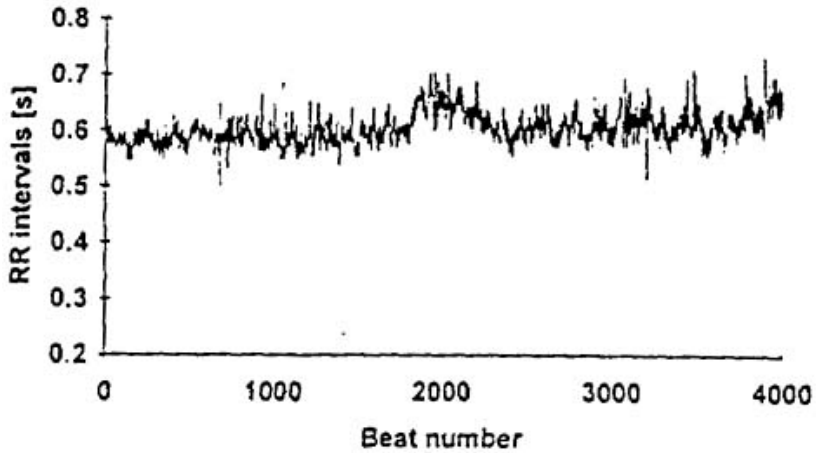
- Mecanisme candidate: disfuncții neurovegetative şi/sau hipotalamo-hipofizo-corticosuprarenaliene.

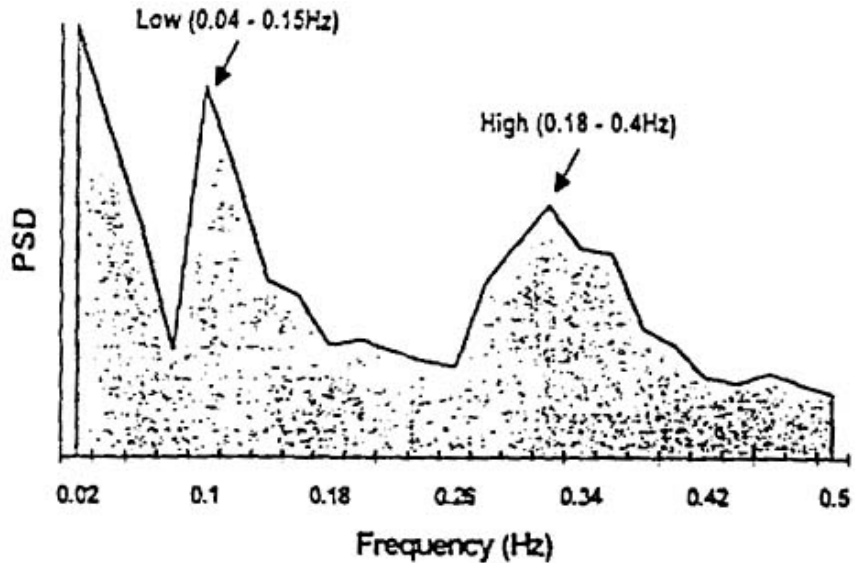
  Grippo & Johnson, *Neurosci Biobehav Rev*, 2002

- Variația frecvenței cardiace

Variația frecvenței cardiace (HRV)







Anxietatea îți frânge inima… (Cont.)

- Anxietatea şi HRV redusă prezic mortalitatea pe 8 ani după infarct miocardic

Carpeggiani et al., *Eur Heart J,* 2005

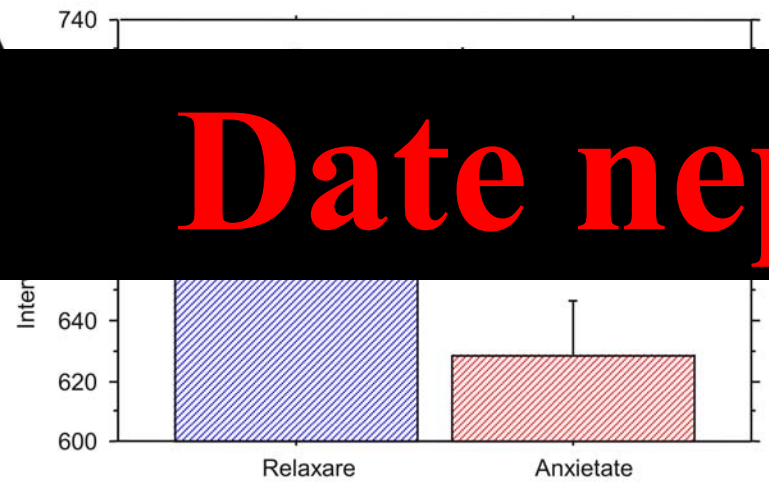
- Diagnostic de tulburare de anxietate, anterior infarctului miocardic prezice HRV redusă după…

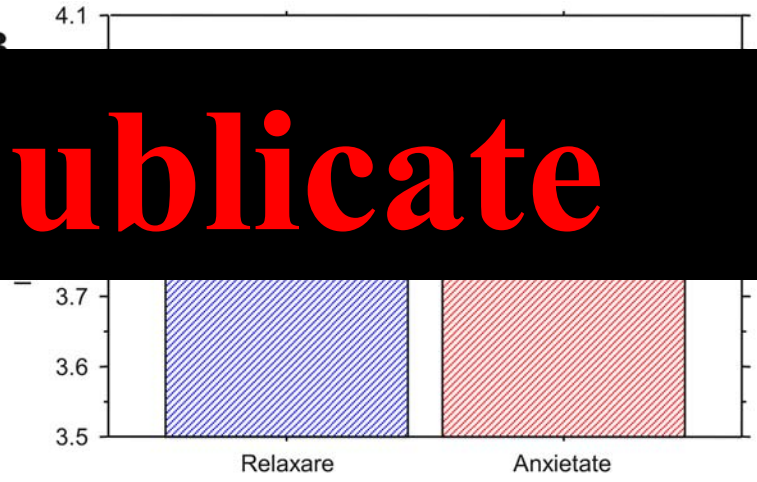
Martens et al., *Psychol Med*, 2008

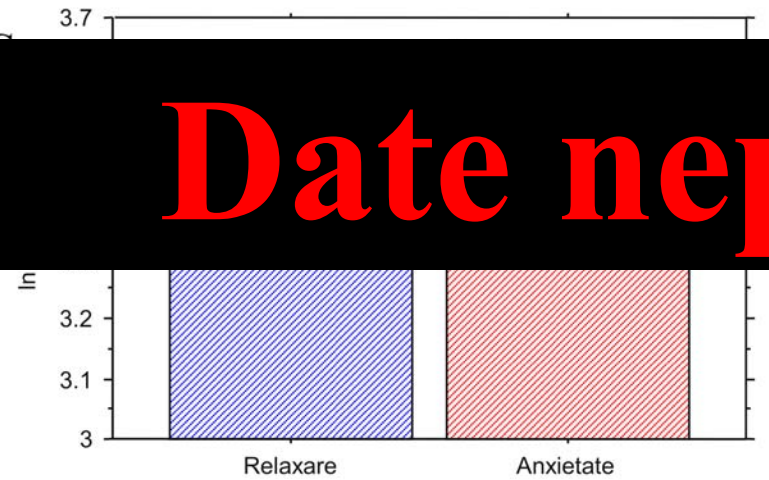
- HRV şi anxietatea stomatologică

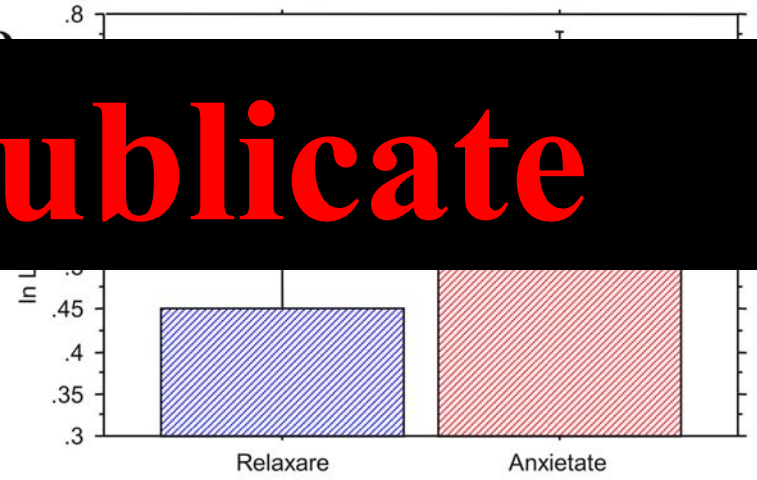
Johnsen et al., *Anxiety Disord*, 2003

Anxietatea dispoziţională şi HRV





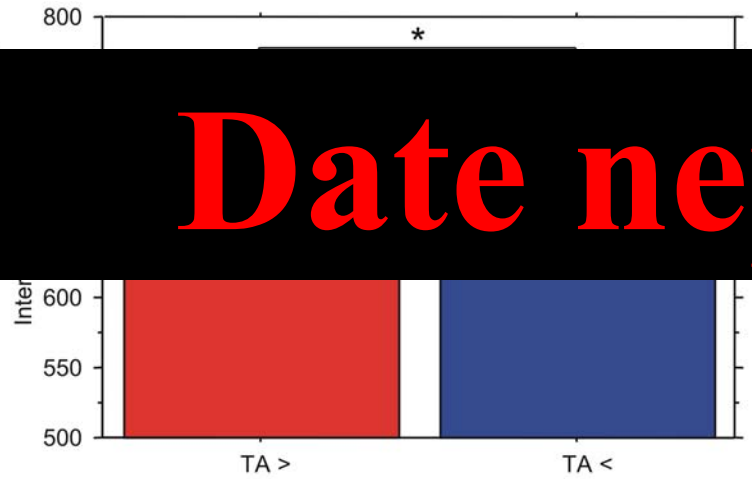


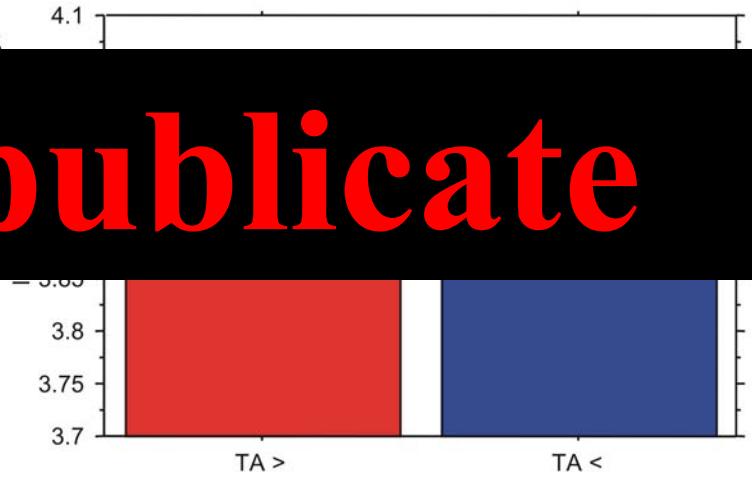


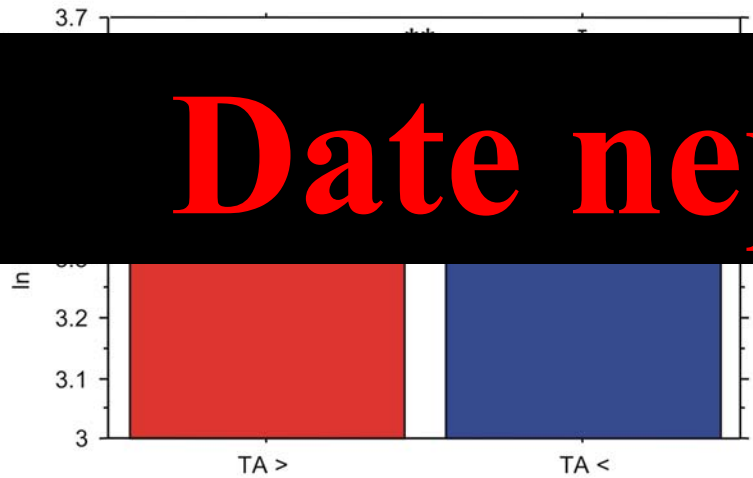
Date nepublicate

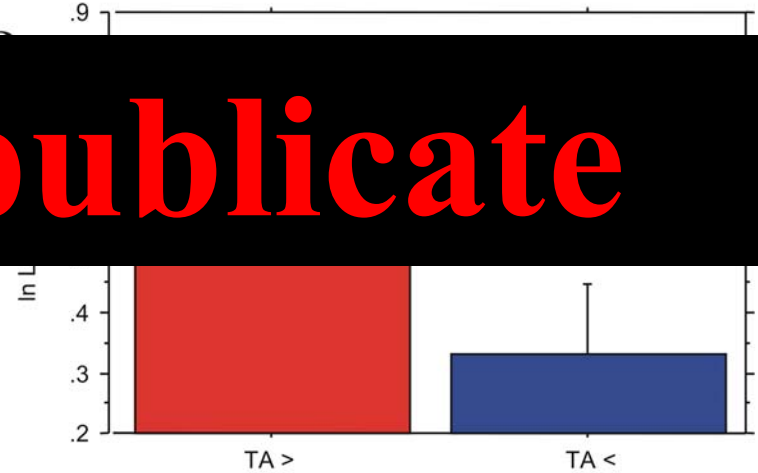
Miu, Heilman, & Miclea, *Aut Neurosci: Basic & Clinical*

Anxietatea dispoziţională şi HRV









Date nepublicate

Date nepublicate

Miu, Heilman, & Miclea, *Aut Neurosci: Basic & Clinical*

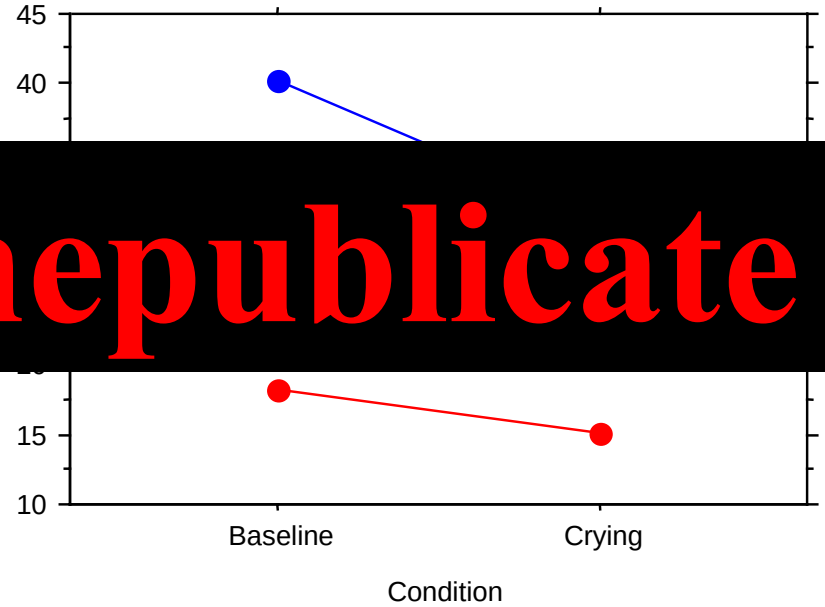
Anxietatea dispoziţională şi HRV

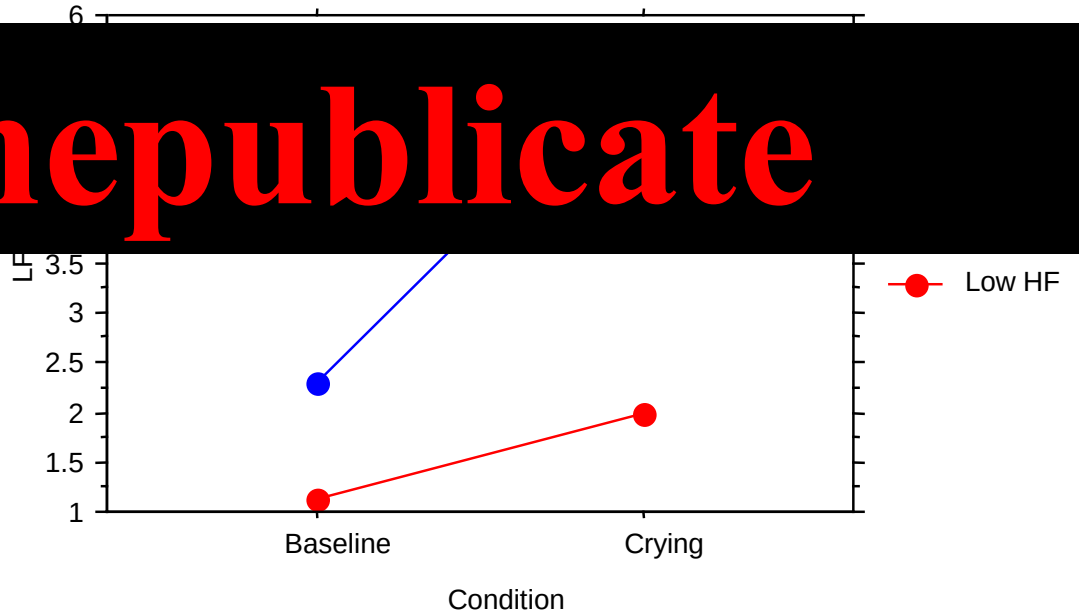
Baseline

(2 min.)

Exposure to crying sound

(2 min.)





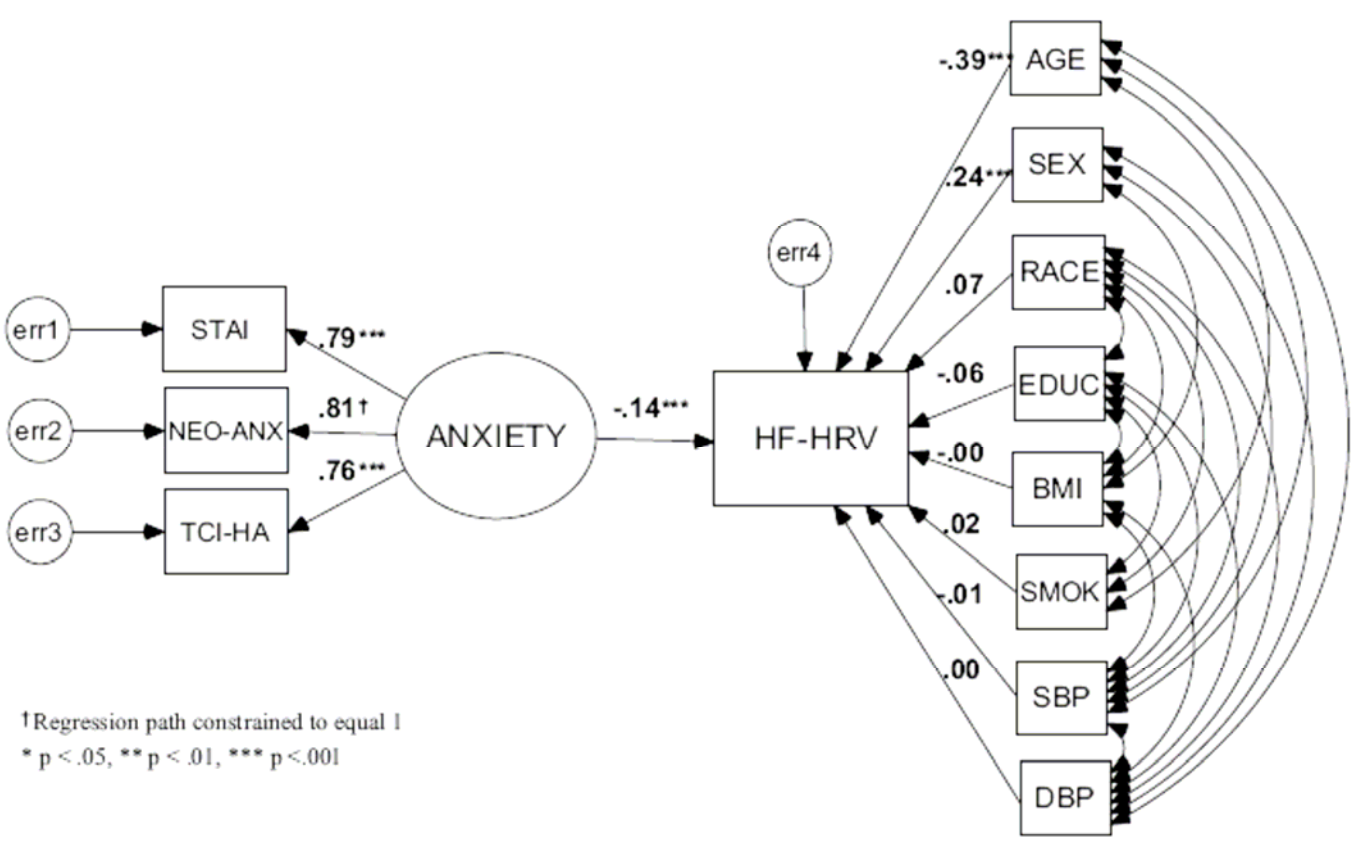
Geangu, Balteş, & Miu, *în pregătire.*

Published Ahead of Print on March 31, 2008 as 10.1097/PSY.0b013e31816baefa

Trait Negative Affect: Toward an Integrated Model of Understanding Psychological Risk for Impairment in Cardiac Autonomic Function

Maria E. Bleil, PhD, Peter J. Gianaros, PhD, J. Richard Jennings, PhD, Janine D. Flory, PhD, and Stephen B. Manuck, PhD

Psychosomatic Medicine 70:328–337 (2008)



†Regression path constrained to equal 1

* p < .05, ** p < .01, *** p <.001

HRV şi reflexul de tresărire

- Reflex de tresărire: Definiție şi arc reflex

  Lee et al., *JoN*, 1996

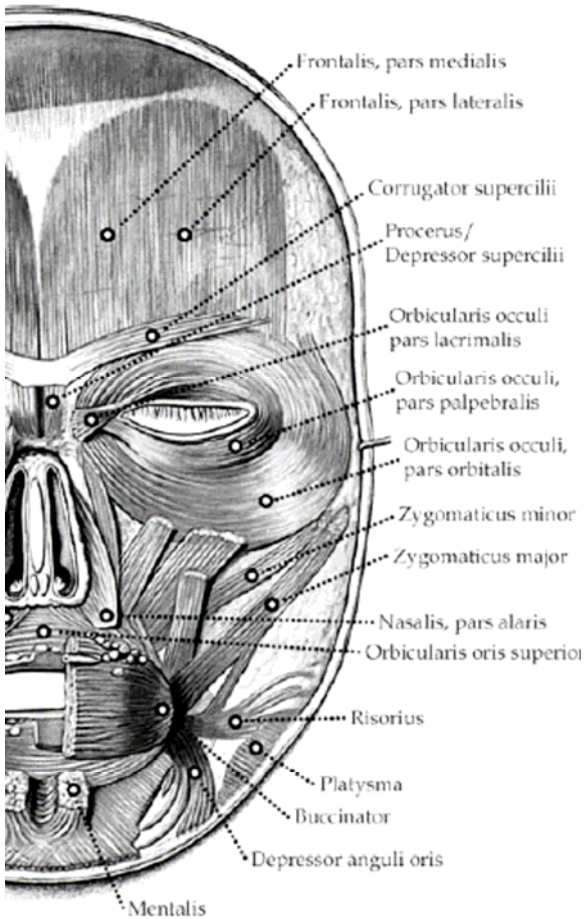
- Potențarea prin frică a reflexului de tresărire

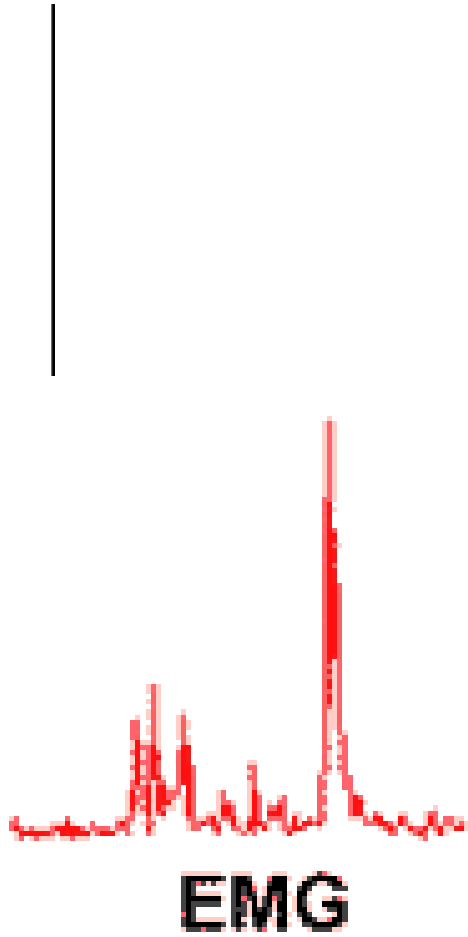
  Hitchcock & Davis, *Behav Neurosci*, 1991

- Singurul mecanism neurofiziologic luat în considerare pentru diagnostic

  DSM-IV

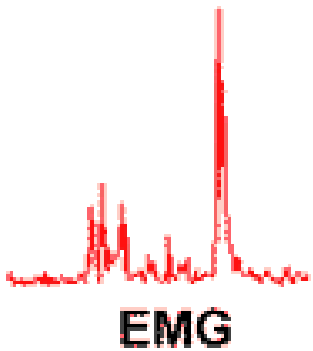
Cum măsurăm reflexul de tresărire?

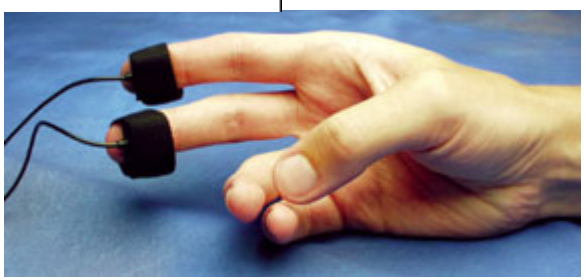




Anxietatea şi potenţarea emoţională a reflexului de tresărire

- Expresii faciale emoţionale: frică, furie, dezgust, tristeţe, bucurie, neutru

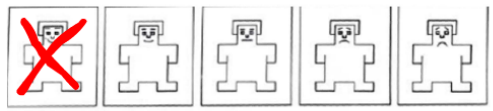




Exemplu:

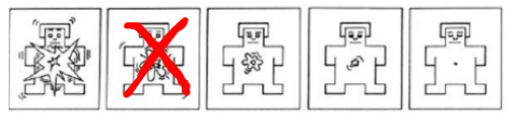
1) Dacă vi s-a prezentat imaginea următoare:

2) Utilizaţi **scala de valenţă** pentru a cota cât de plăcută a fost imaginea:



Foarte plăcut — Foarte neplăcut

3) Utilizaţi **scala de arousal** pentru a cota cât de activatoare a fost imaginea:



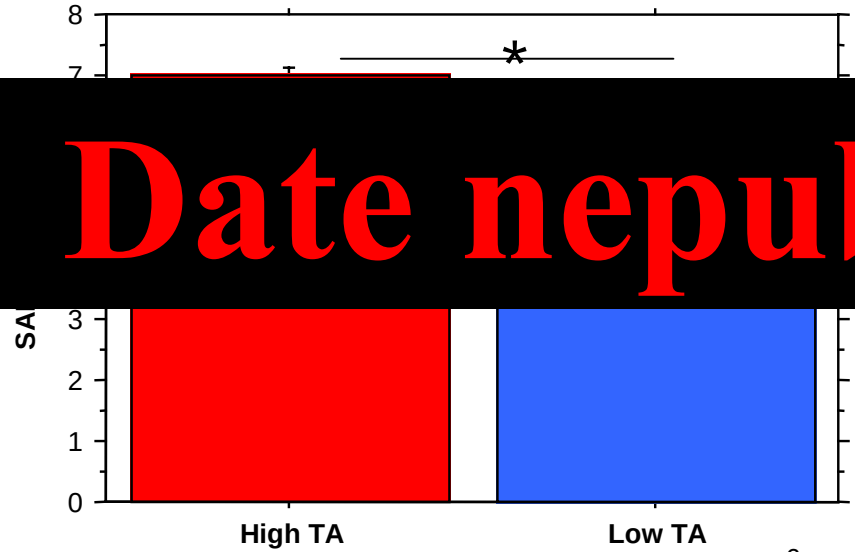
Foarte activator — Foarte neactivator

Poziţionaţi-vă mâna dreaptă deasupra tastaturii, fără să apasaţi vreo tastă.

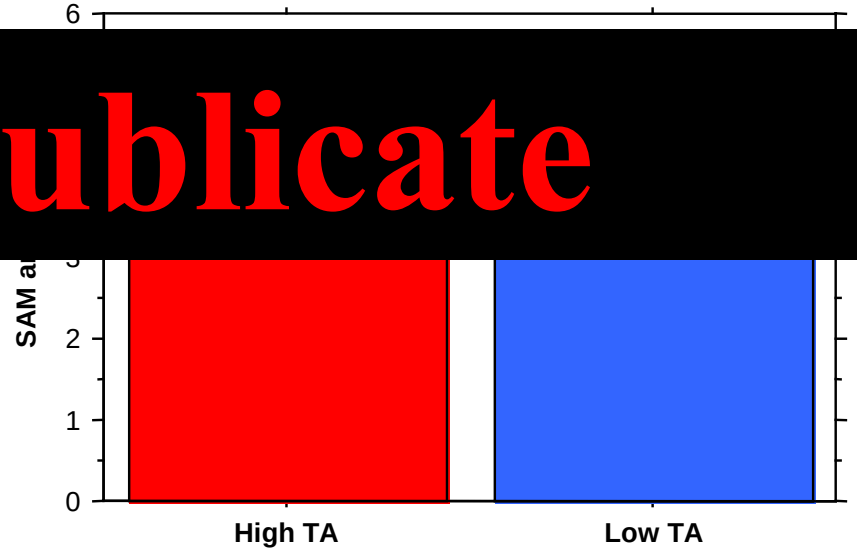
Aşteptaţi instrucţiunea evaluatorului pentru a începe proba.

Anxietatea şi potențarea emoțională a reflexului de tresărire

Anxietate şi potenţarea reflexului de tresărire: Rezultate comportamentale



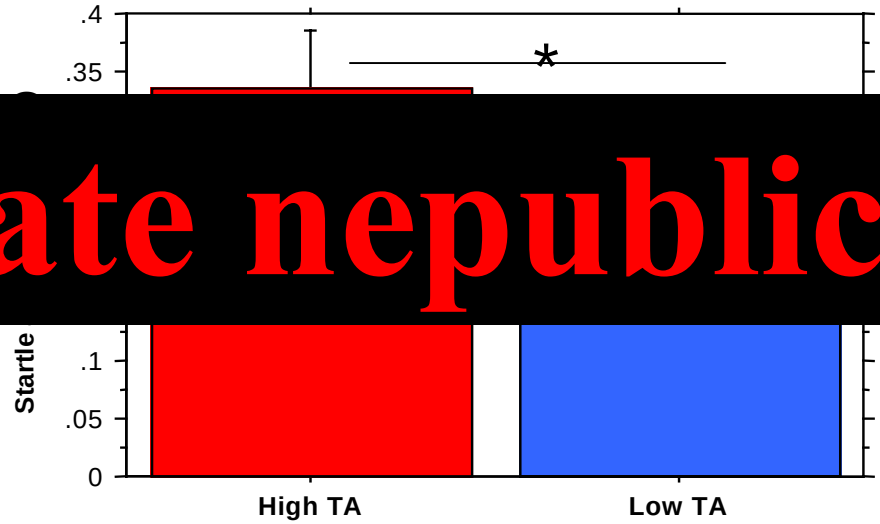
Date nepublicate



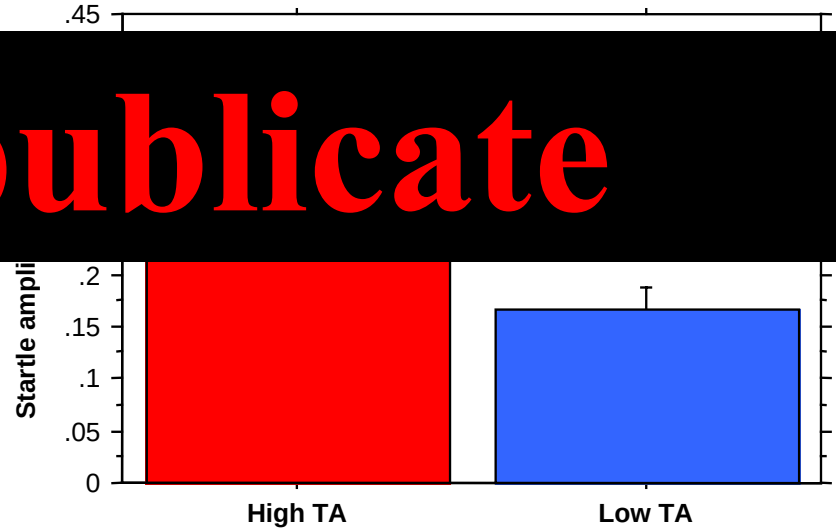
Date nepublicate

Crişan, Paşca, & Miu, *în pregătire*.

Anxietate şi potenţarea reflexului de tresărire: Rezultate electrofiziologice



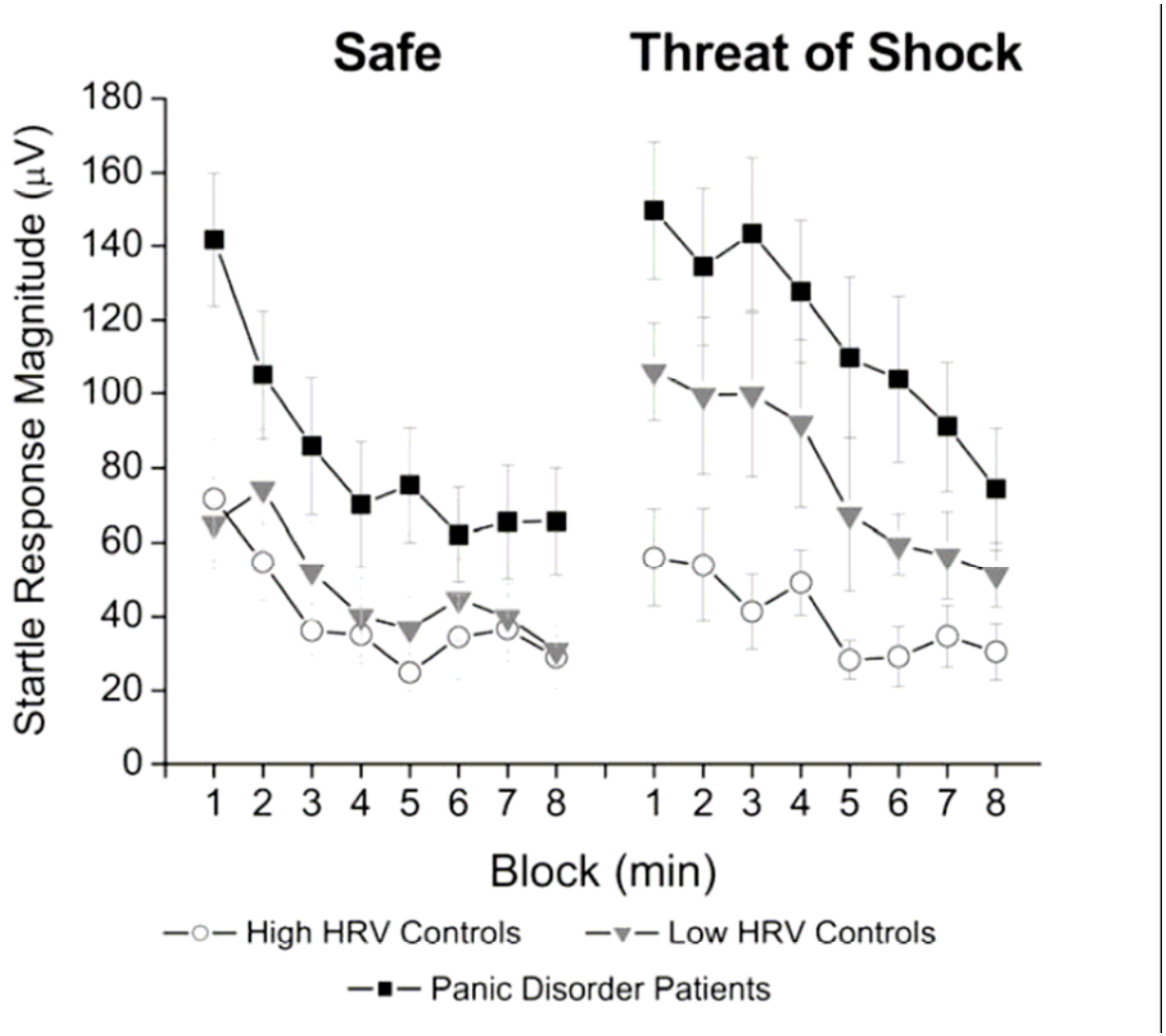
Date nepublicate



Date nepublicate

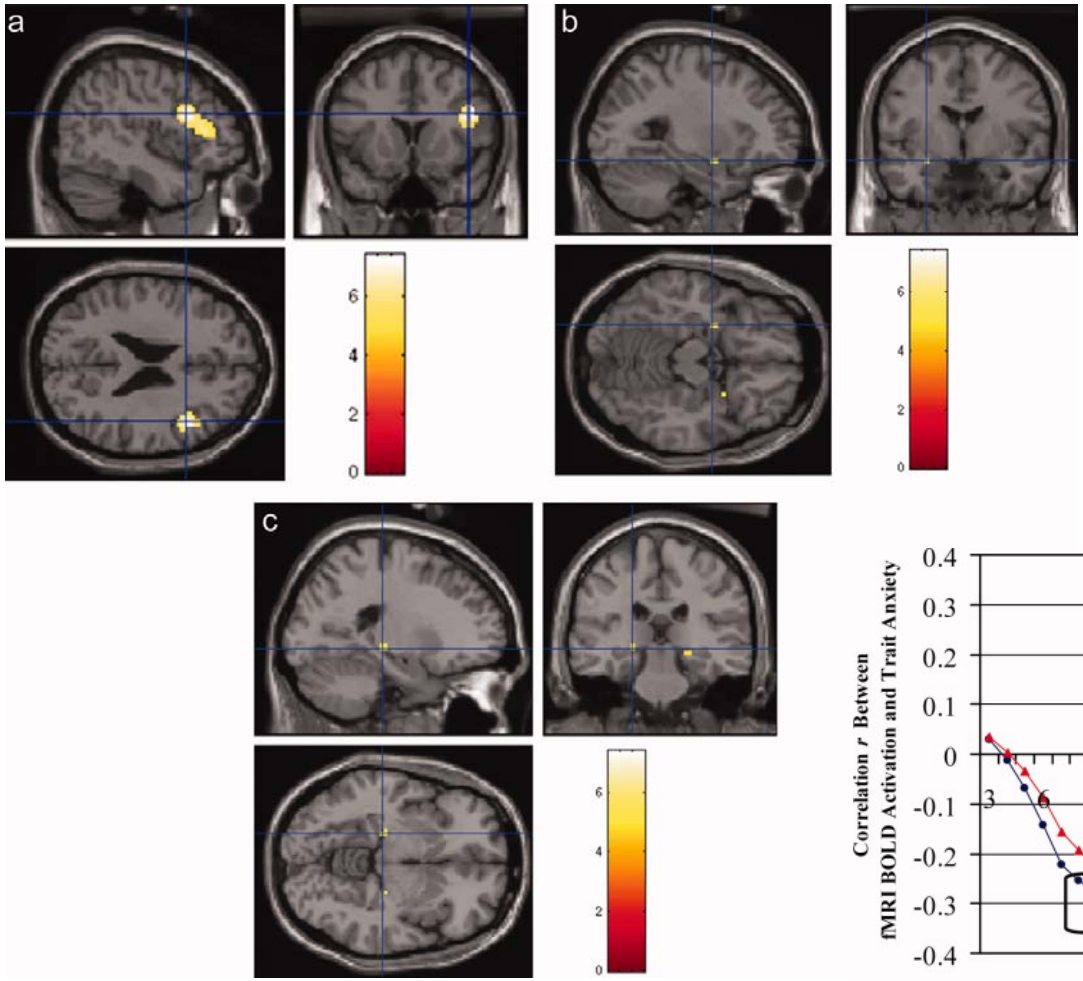
Crişan, Paşca, & Miu, *în pregătire*.

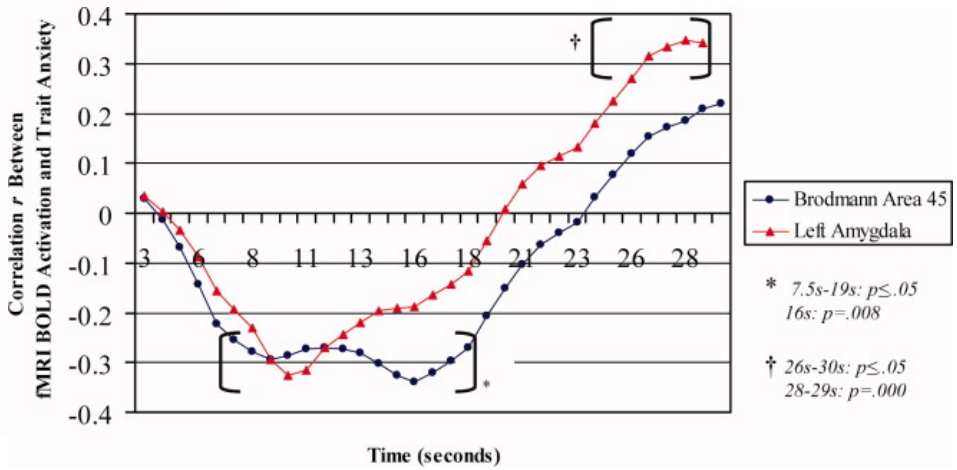
HRV şi reflexul de tresărire



Melzig et al., *Intl J Psychophysiol*, sub tipar

Disfuncţii neurovegetative şi cerebrale funcţionale în anxietate



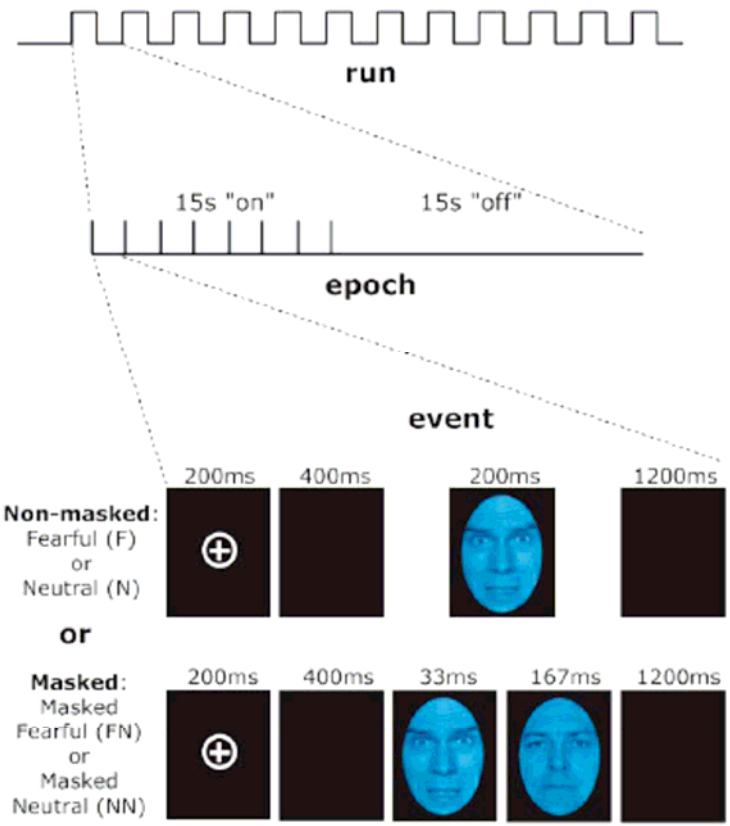


Mujica-Parodi et al., *Hum Brain Map*, sub tipar.

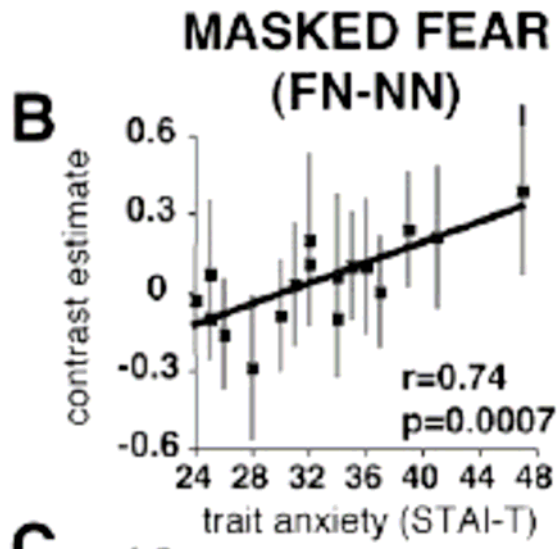
Neuron, Vol. 44, 1043–1055, December 16, 2004, Copyright ©2004 by Cell Press

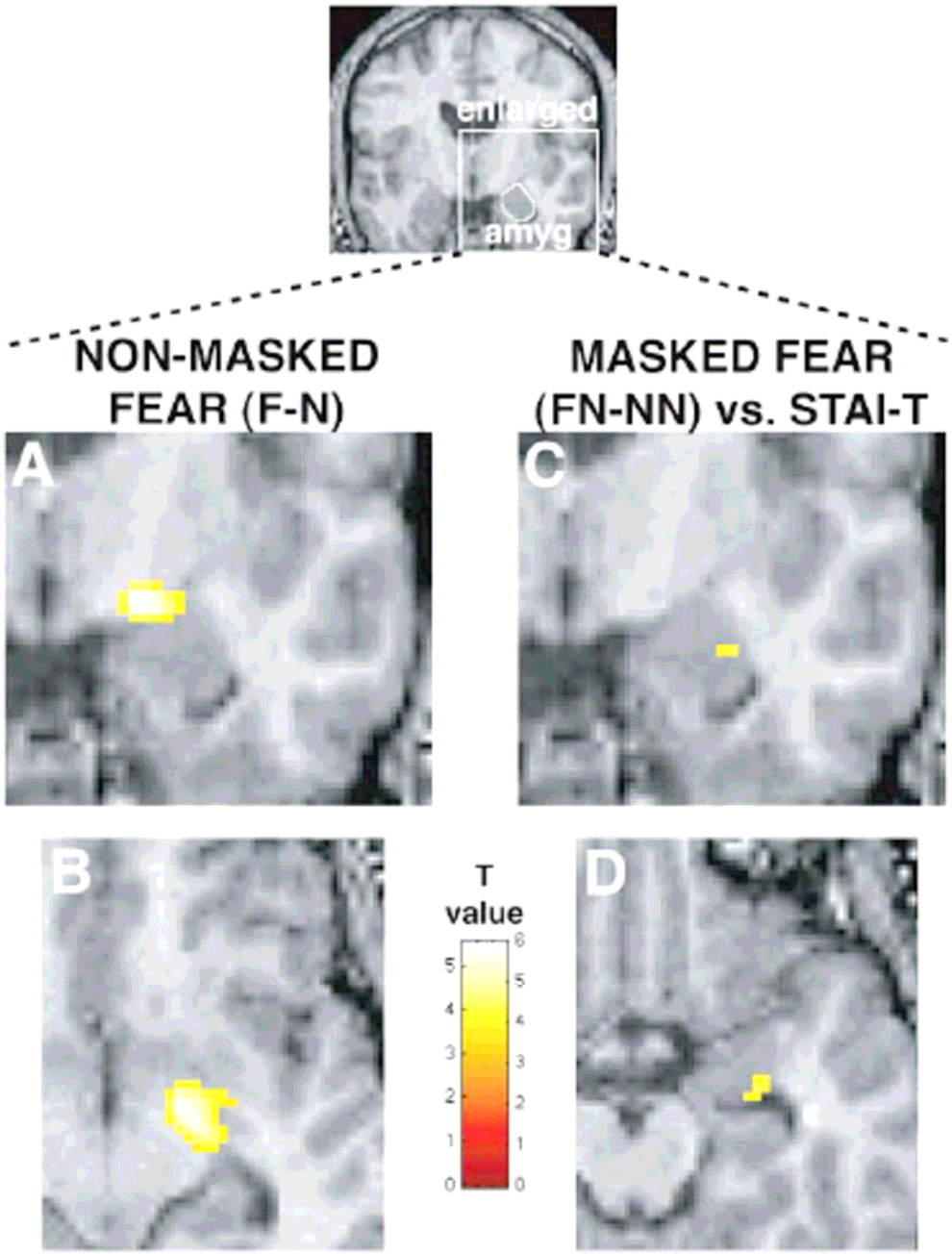
Individual Differences in Trait Anxiety Predict the Response of the Basolateral Amygdala to Unconsciously Processed Fearful Faces

Amit Etkin,[1,2,6,*] Kristen C. Klemenhagen,[1,6] Joshua T. Dudman,[1,2] Michael T. Rogan,[1,2] René Hen,[1] Eric R. Kandel,[1,2,3] and Joy Hirsch[1,2,4,5,*]



basolateral amygdala





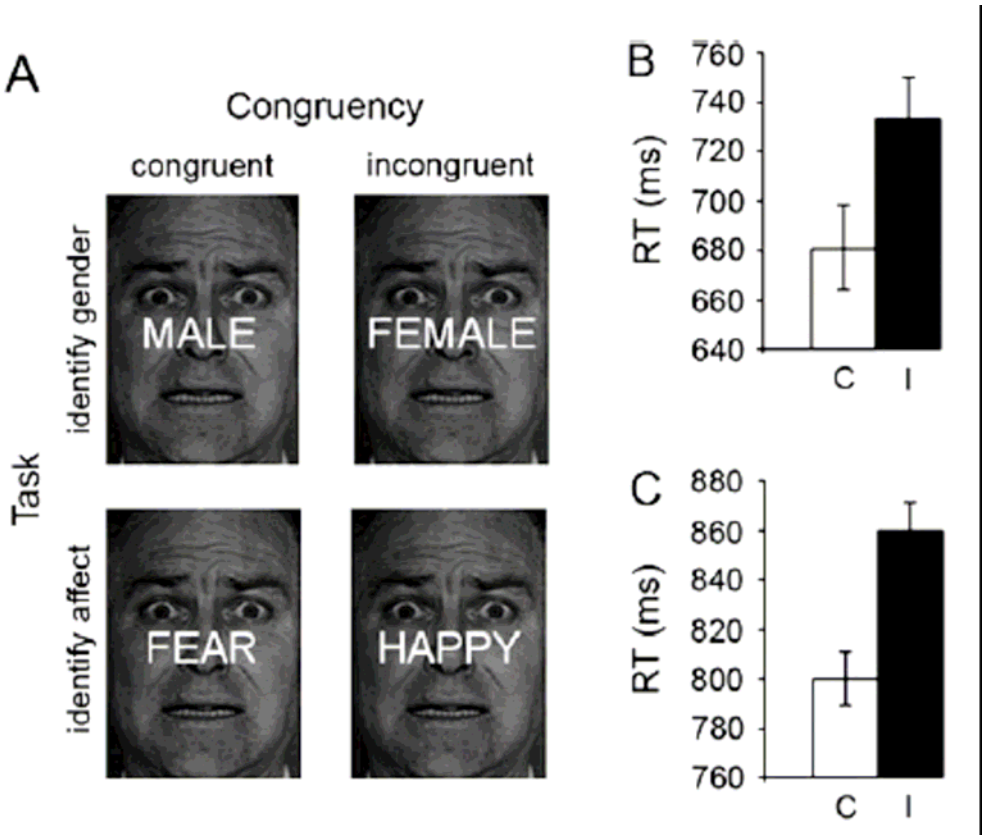
Etkin et al., *Neuron*, 2004

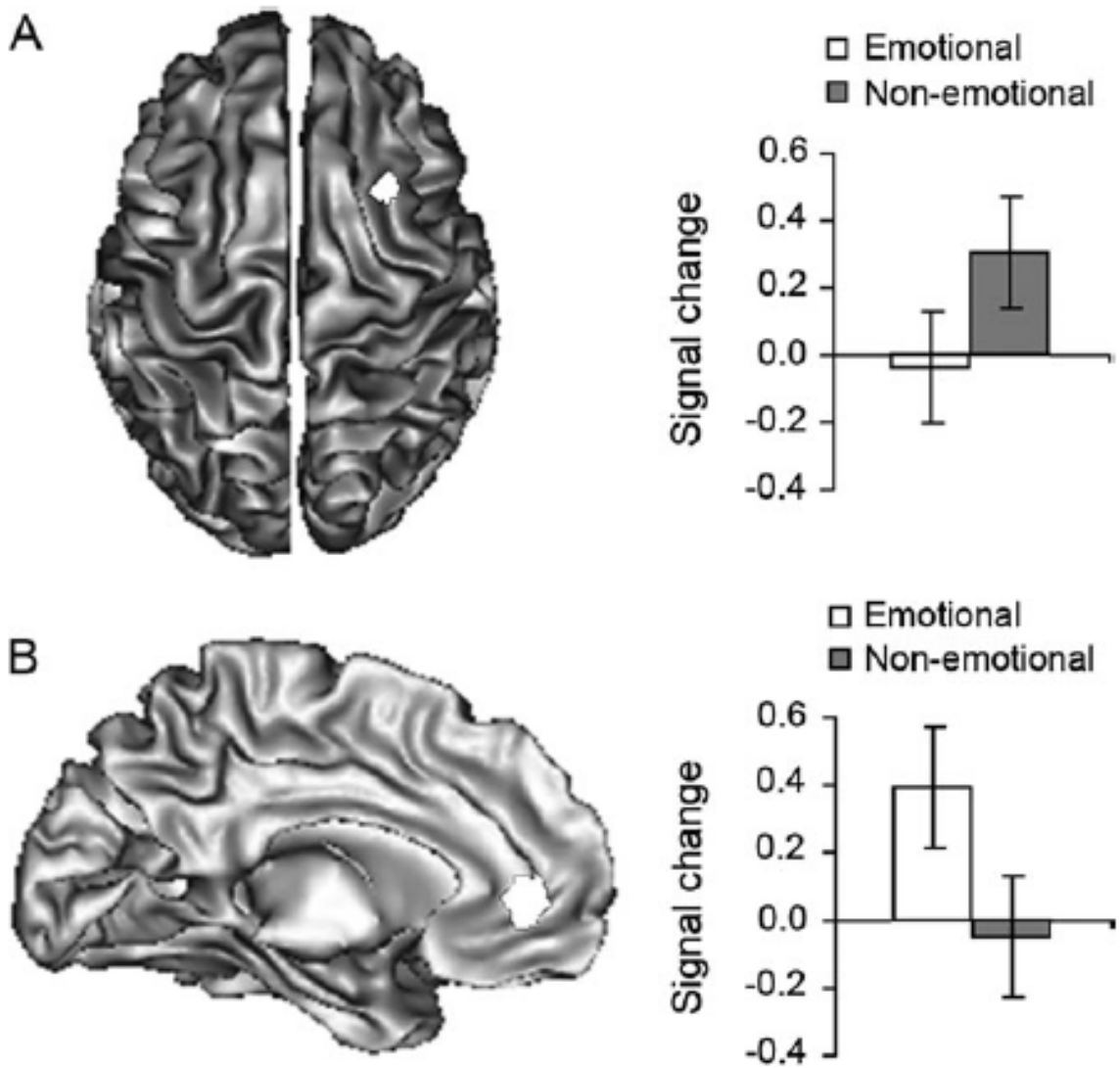
Cerebral Cortex June 2008;18:1475-1484
doi:10.1093/cercor/bhm179
Advance Access publication October 16, 2007

Dissociable Neural Systems Resolve Conflict from Emotional versus Nonemotional Distracters

Tobias Egner[1,2], Amit Etkin[1,3], Seth Gale[1] and Joy Hirsch[1]

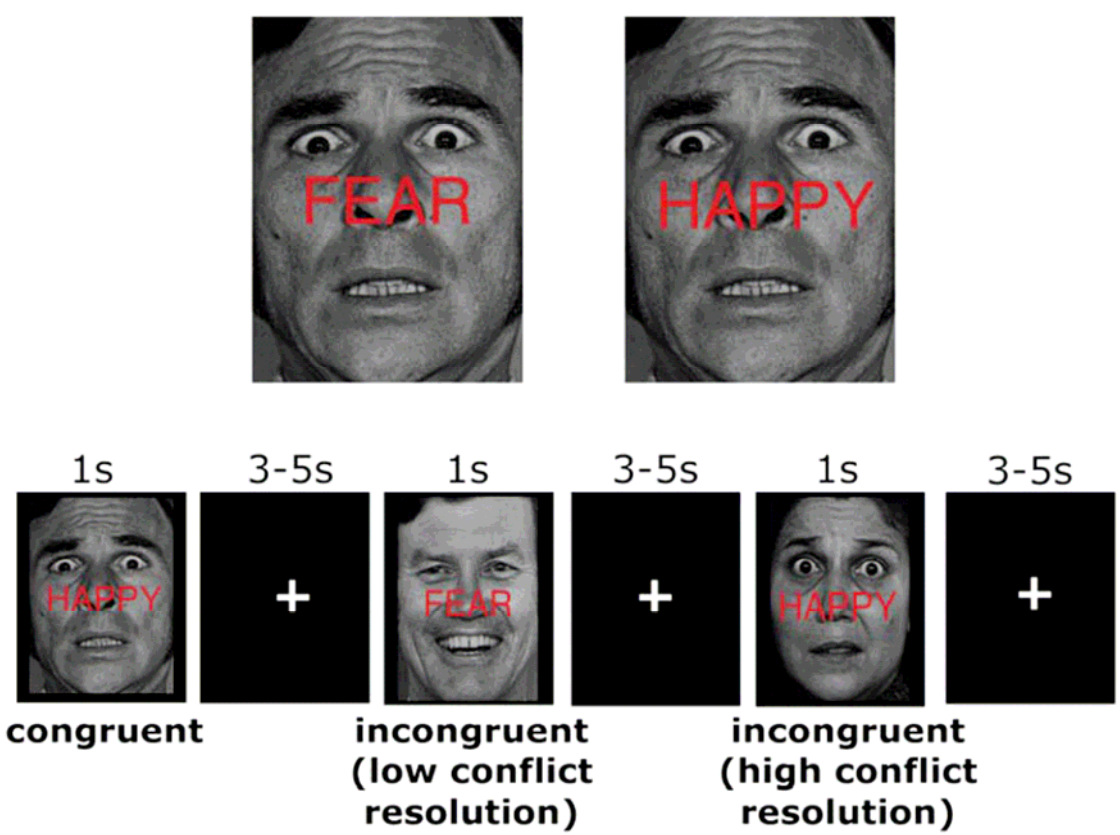
[1]Functional MRI Research Center, Columbia University, Neurological Institute, Box 108, 710 West 168th Street, New York, NY 10032, USA, [2]Cognitive Neurology and Alzheimer's Disease Center, Feinberg School of Medicine, Northwestern University, 320 East Superior, Searle 11, Chicago, IL 60611, USA and [3]Department of Psychiatry and Behavioral Sciences, Stanford University School of Medicine, 401 Quarry Road, Stanford, CA 94305, USA

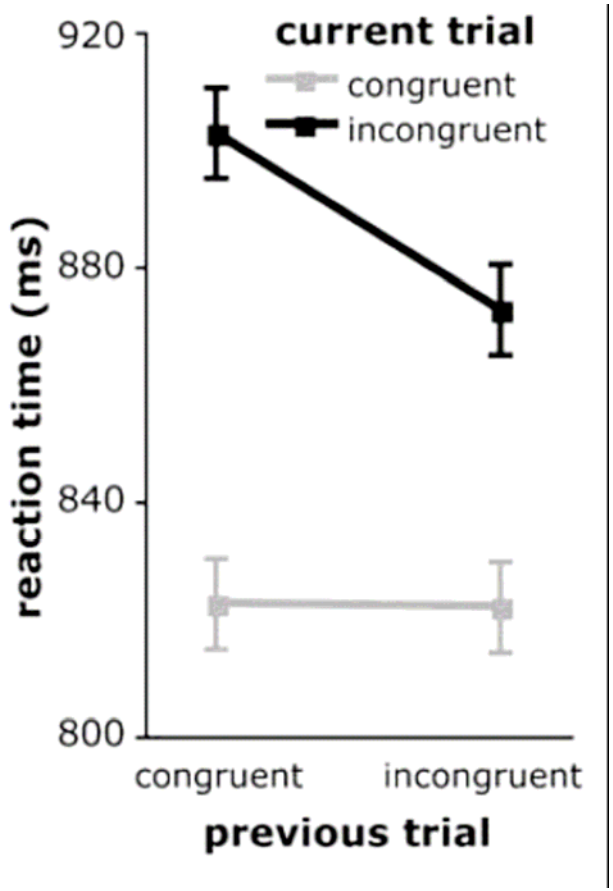




Egner et al., *Cereb Cortex*, 2008

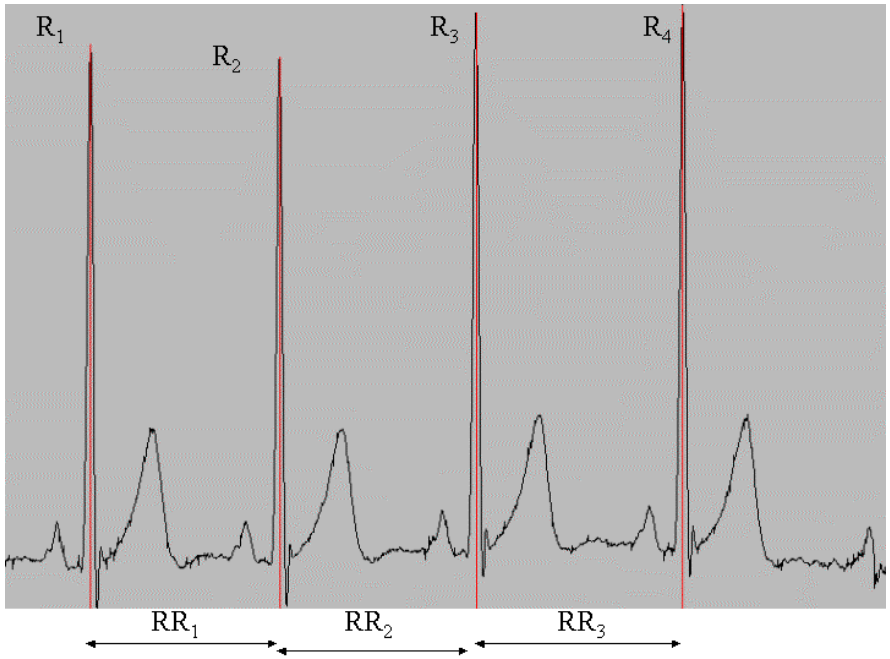
Anxietatea şi lateralizarea frontală a emoției

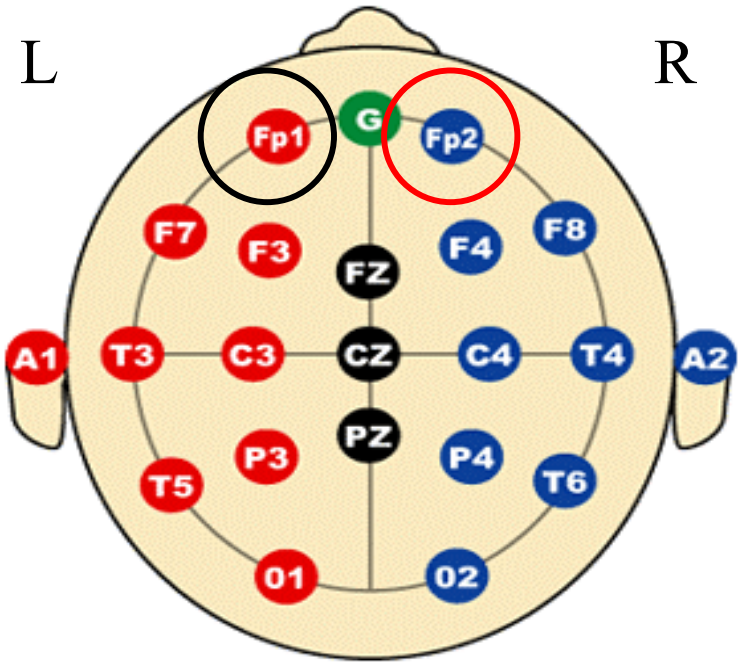




Etkin et al., *Neuron*, 2006

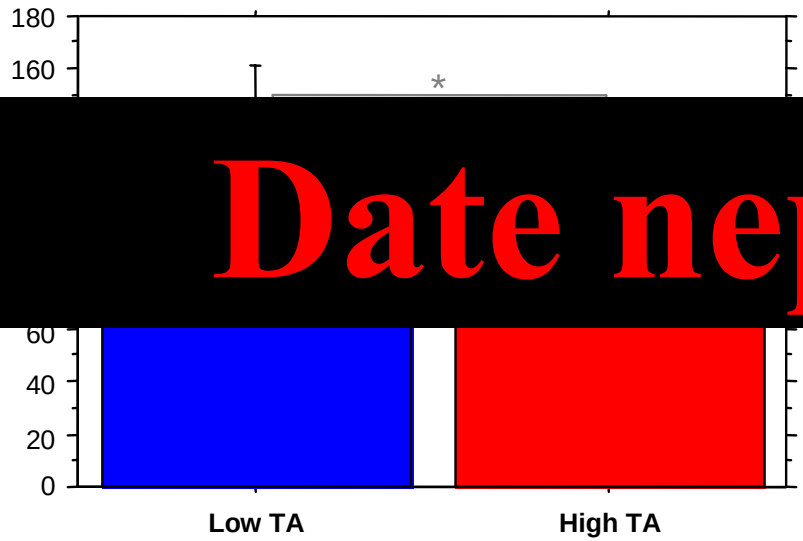
Anxietatea şi lateralizarea frontală a emoției (Cont.)



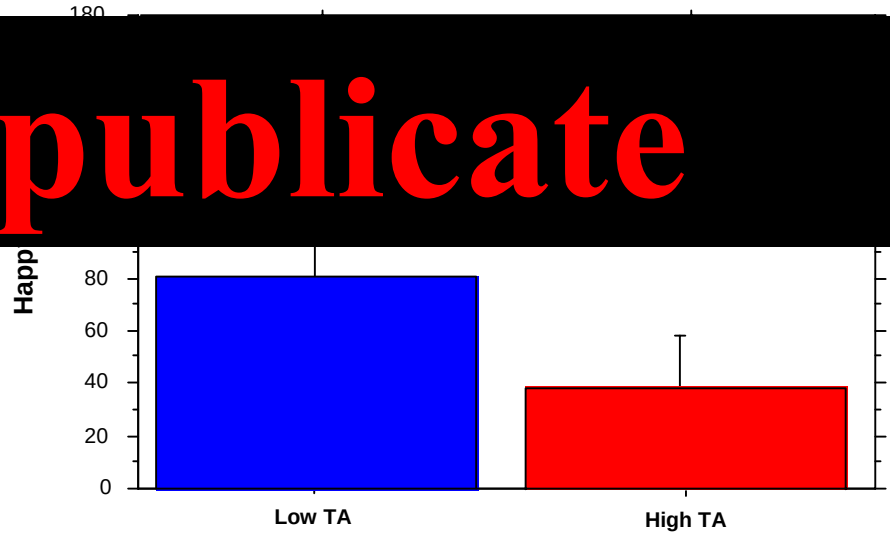


M. Bradley & Lang, 2007; Davidson, 2004; Harmon-Jones, 2004

Anxietatea şi lateralizarea frontală a emoției (Cont.)

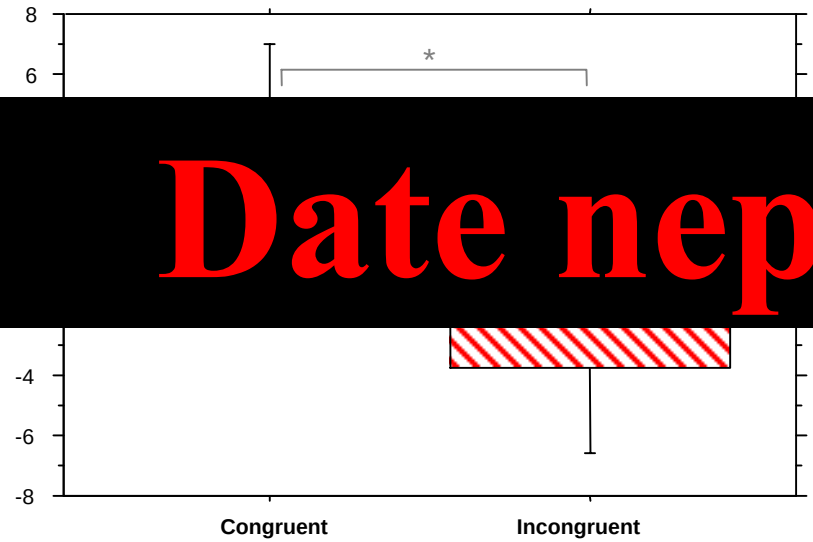


Date nepublicate

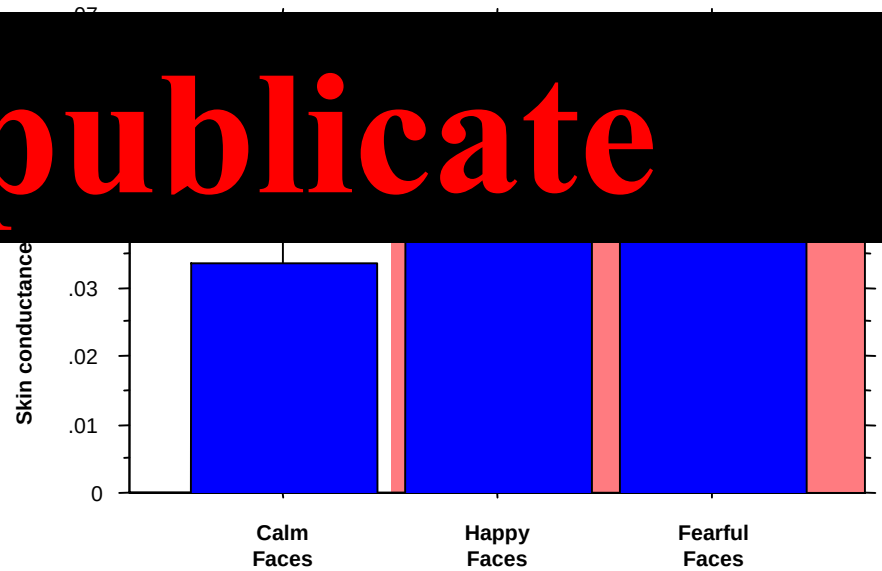


Date nepublicate

Anxietatea şi lateralizarea frontală a emoției (Cont.)

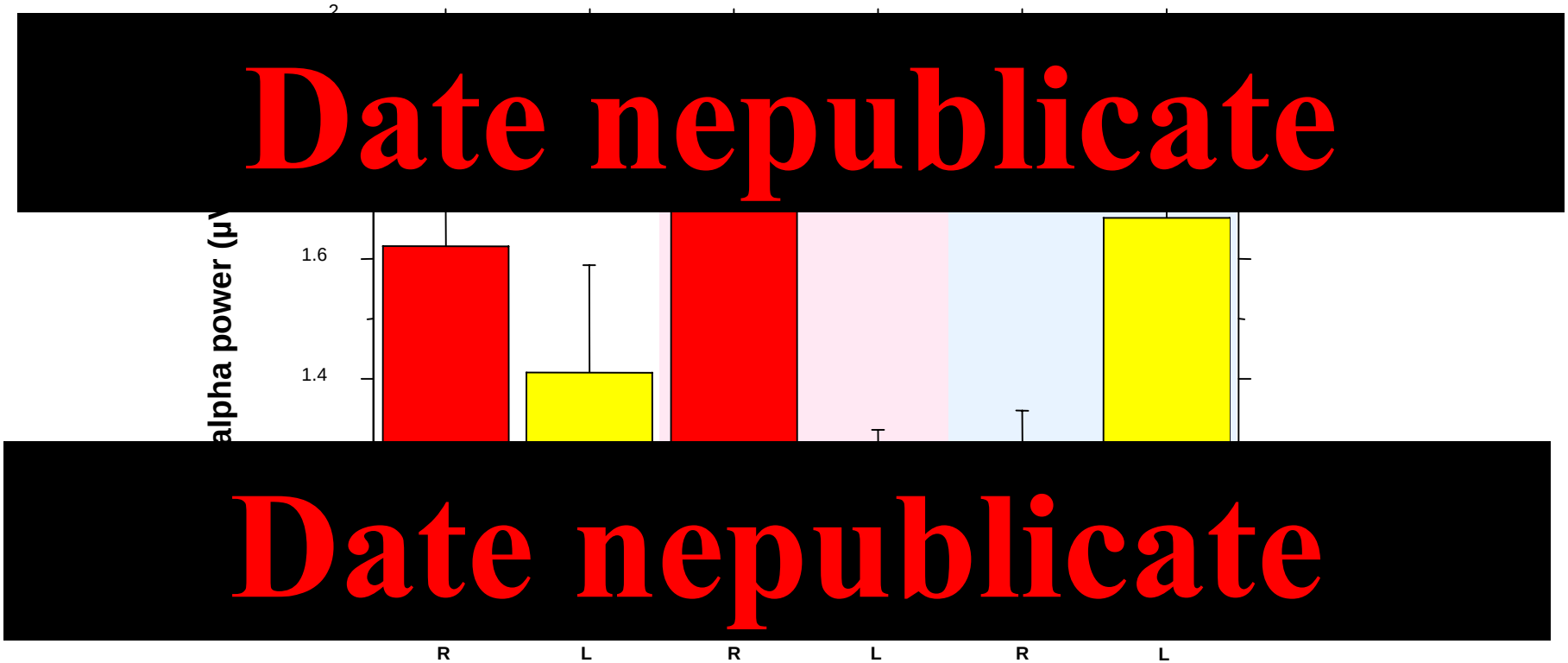


Date nepublicate

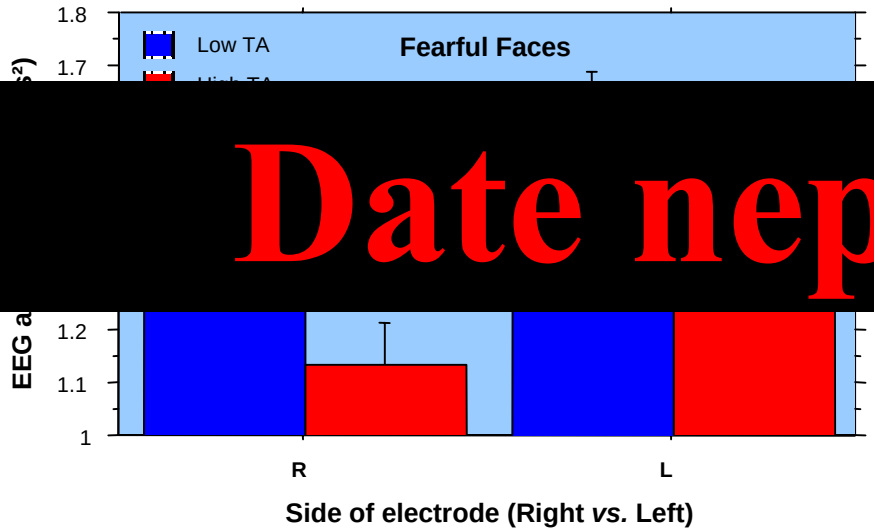


Date nepublicate

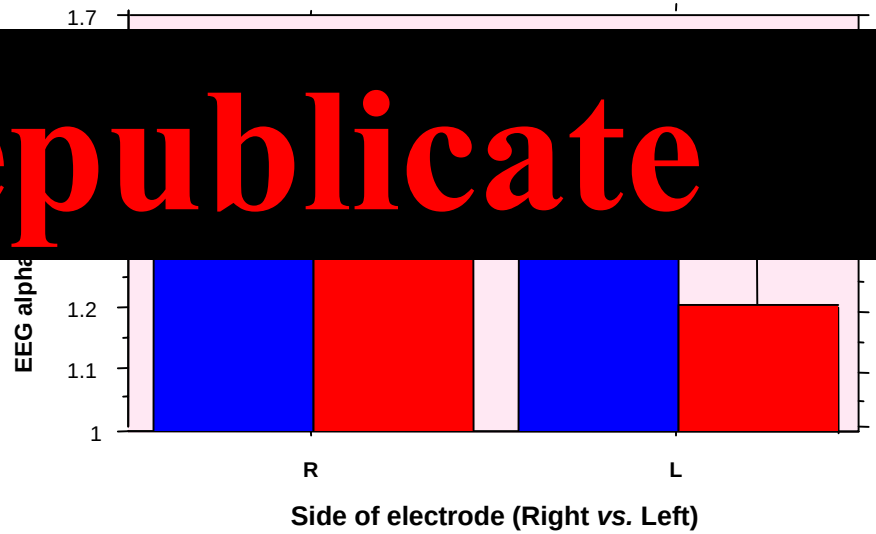
Anxietatea şi lateralizarea frontală a emoției (Cont.)



Anxietatea şi lateralizarea frontală a emoției (Cont.)



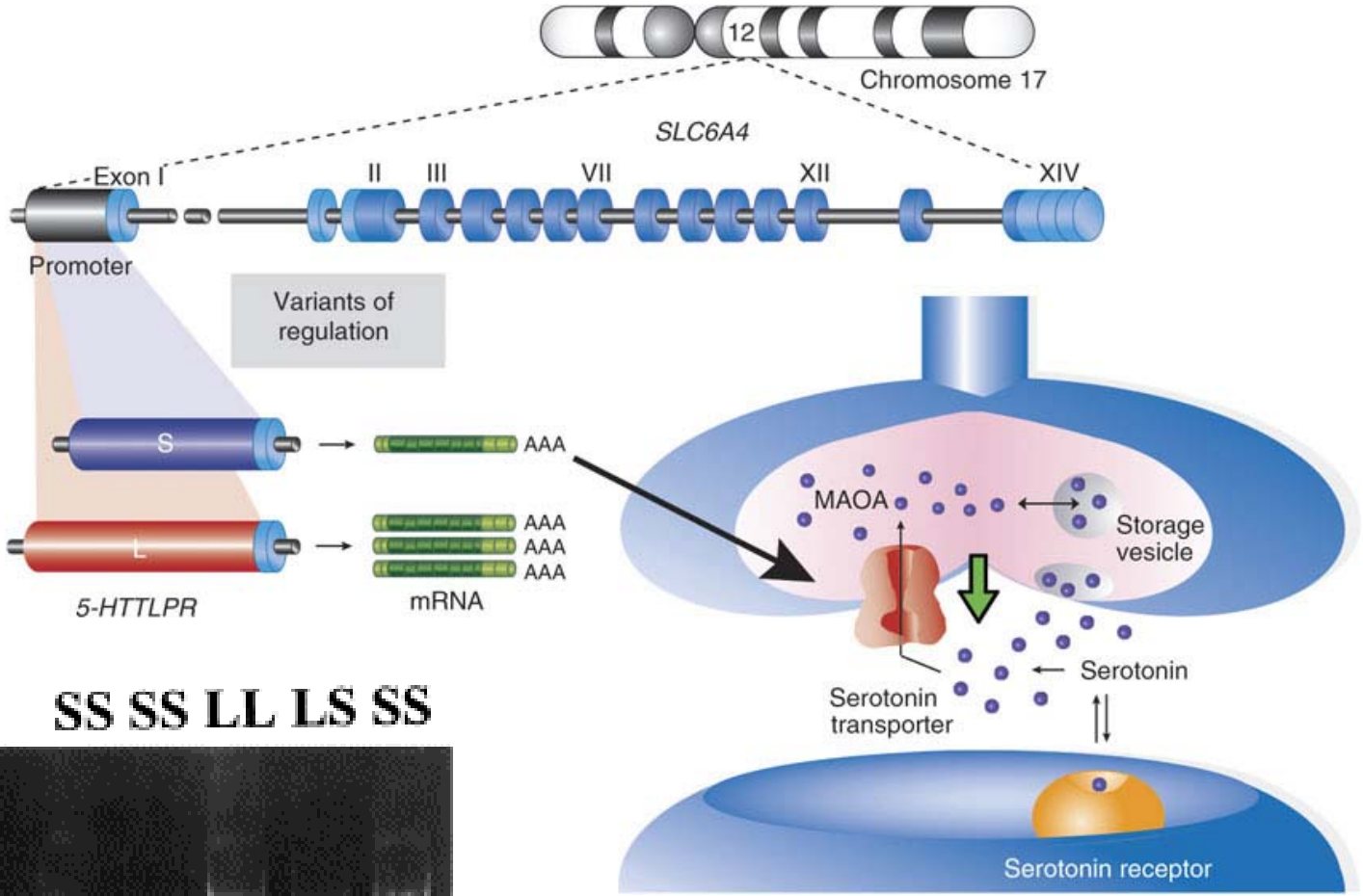
Date nepublicate



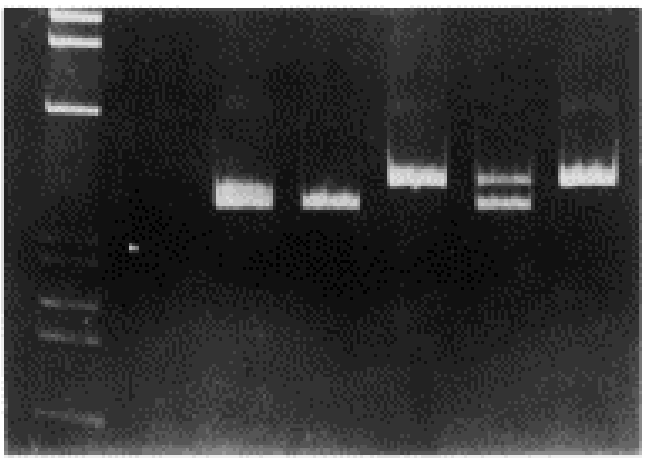
Date nepublicate

Avram, Balteş, Miclea, & Miu, *în pregătire*

Predispoziții genetice pentru anxietate: 5-HTTLPR



SS SS LL LS SS



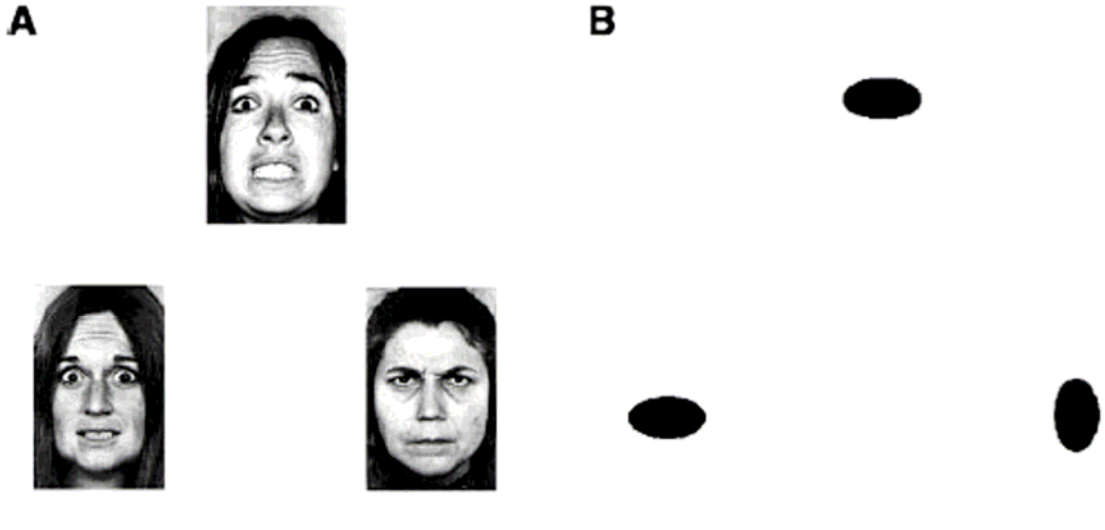
S = 375 bp; L = 419 bp

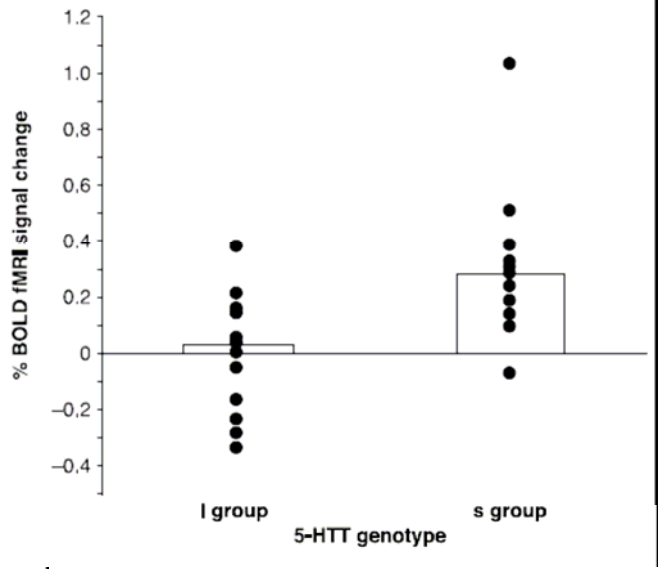
Science
AAAS

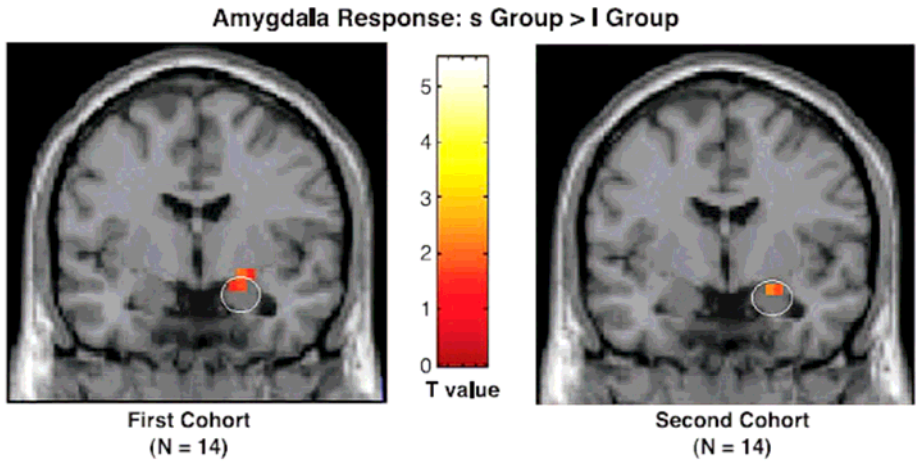
Serotonin Transporter Genetic Variation and the Response of the Human Amygdala

Ahmad R. Hariri, *et al.*

Science **297**, 400 (2002);
DOI: 10.1126/science.1071829







Baze genetice ale HRV?

Am J Physiol Heart Circ Physiol 295: H59–H68, 2008.
First published May 2, 2008; doi:10.1152/ajpheart.00941.2007.

The genetic contribution to heart rate and heart rate variability in quiescent mice

Reuben Howden,[1] Eric Liu,[1] Laura Miller-DeGraff,[1] Heather L. Keener,[1] Christopher Walker,[1] James A. Clark,[1] Page H. Myers,[1] D. Clay Rouse,[1] Tim Wiltshire,[2] and Steven R. Kleeberger[1]

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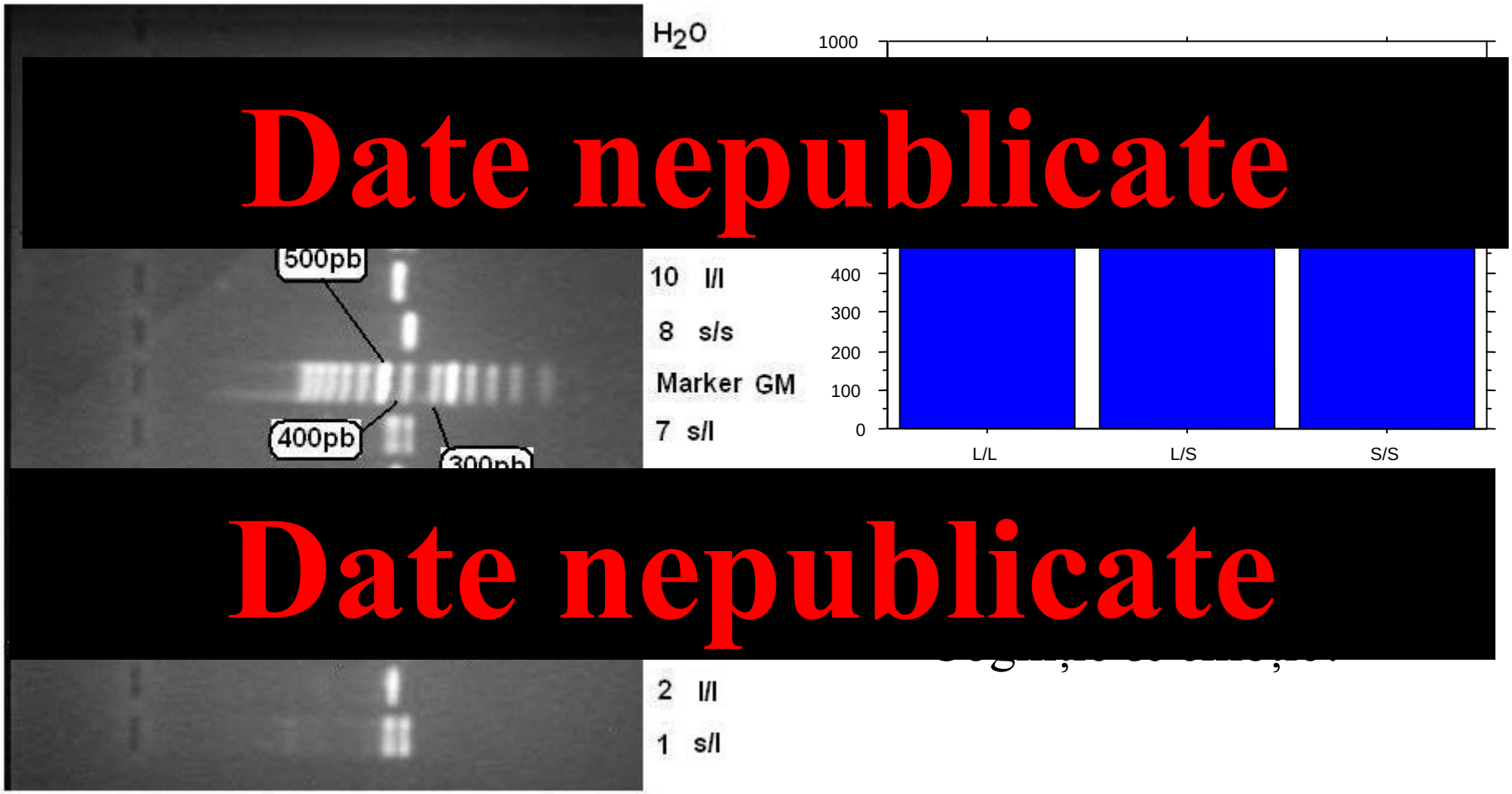
5-HTTLPR şi HRV



R. Vulturar, S. Pană, L. Crişan, & A. C. Miu, în pregătire

Laboratorul de Neuroştiinţe ale Emoţiei şi Cogniţiei

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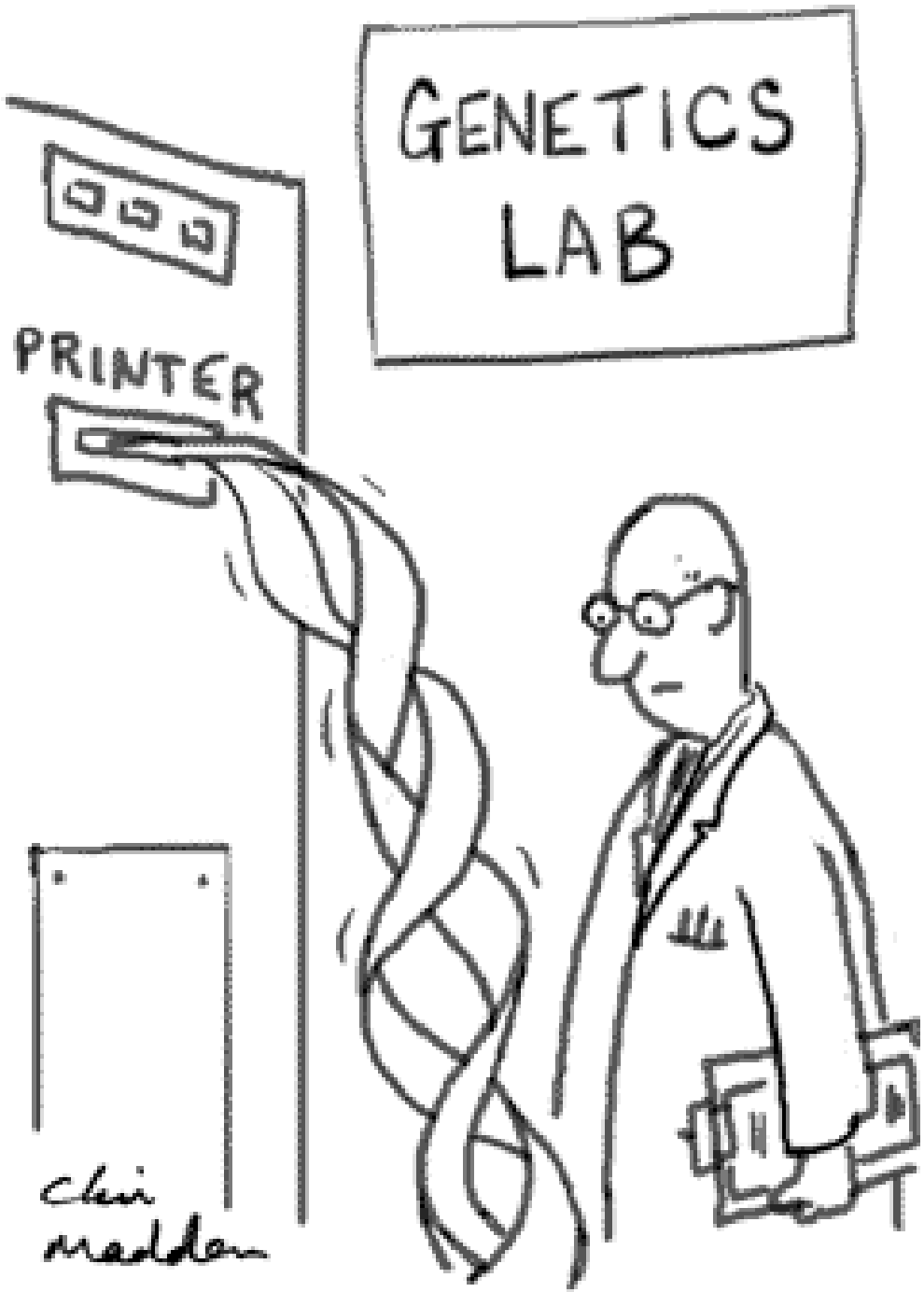
"NOW I WANT YOU
TO RELAX COMPLETELY!"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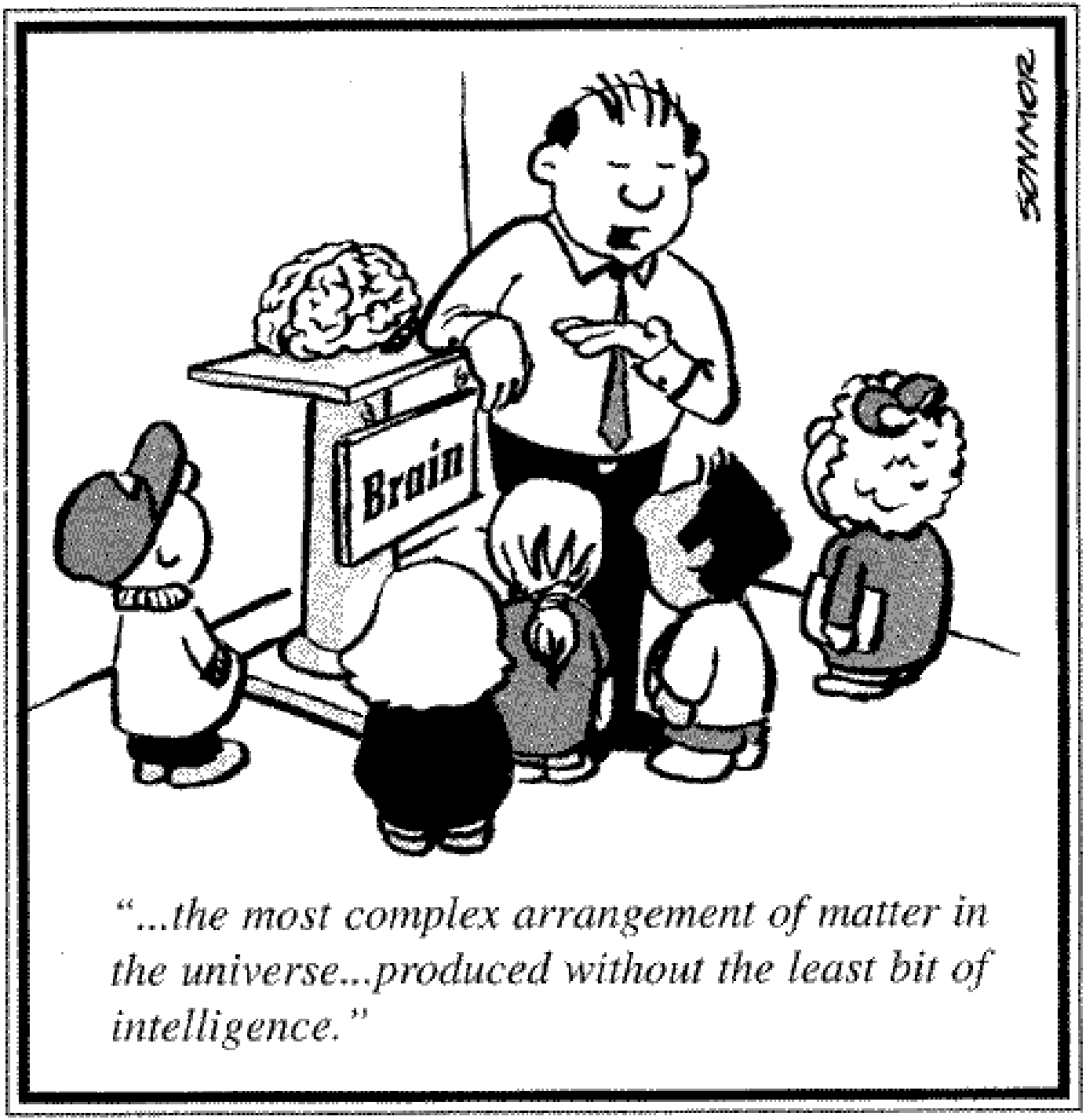

"...the most complex arrangement of matter in the universe...produced without the least bit of intelligence."


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TO RELAX COMPLETELY!"
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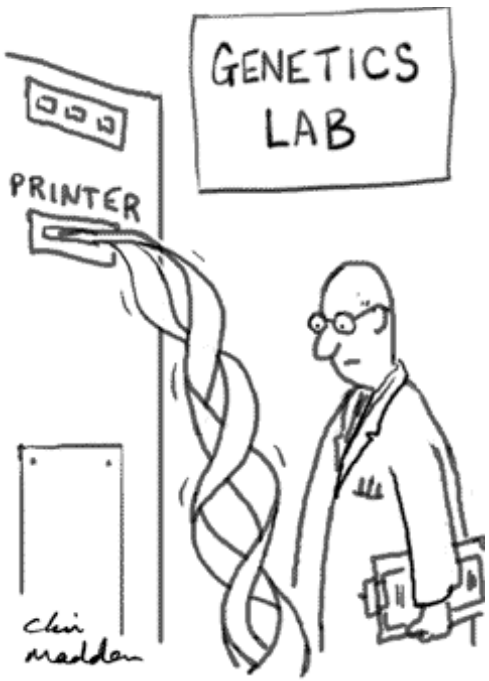
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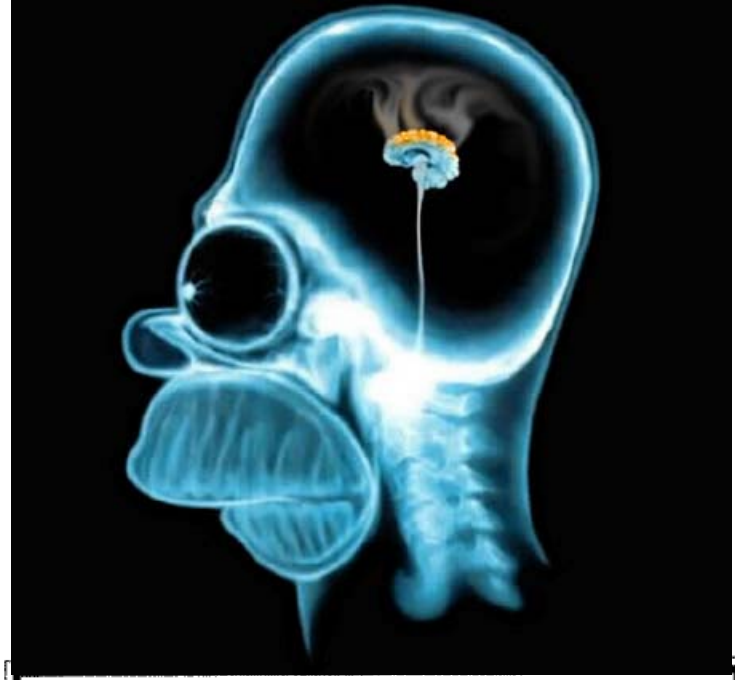

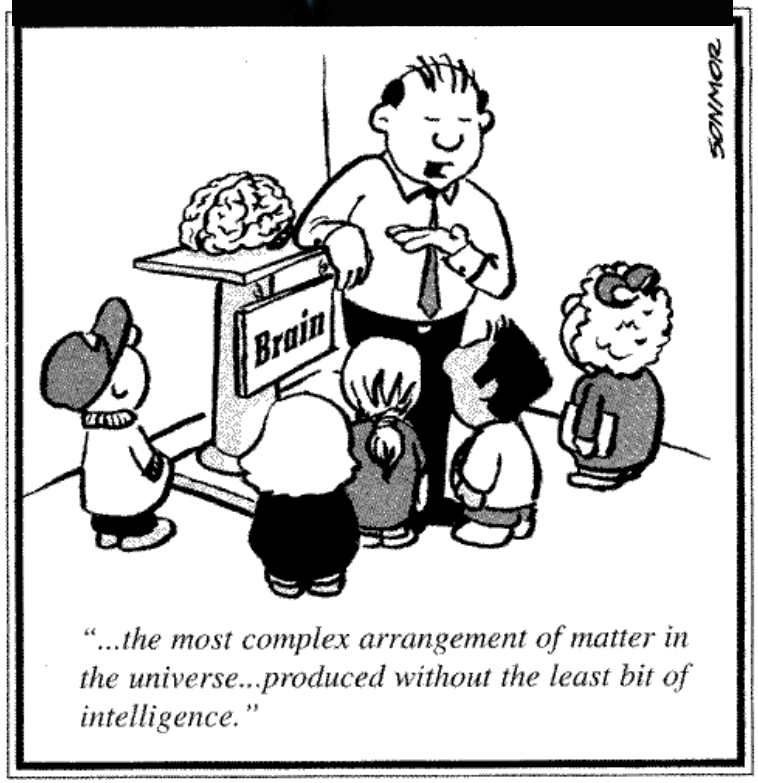
SCHNOOR
Brain
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