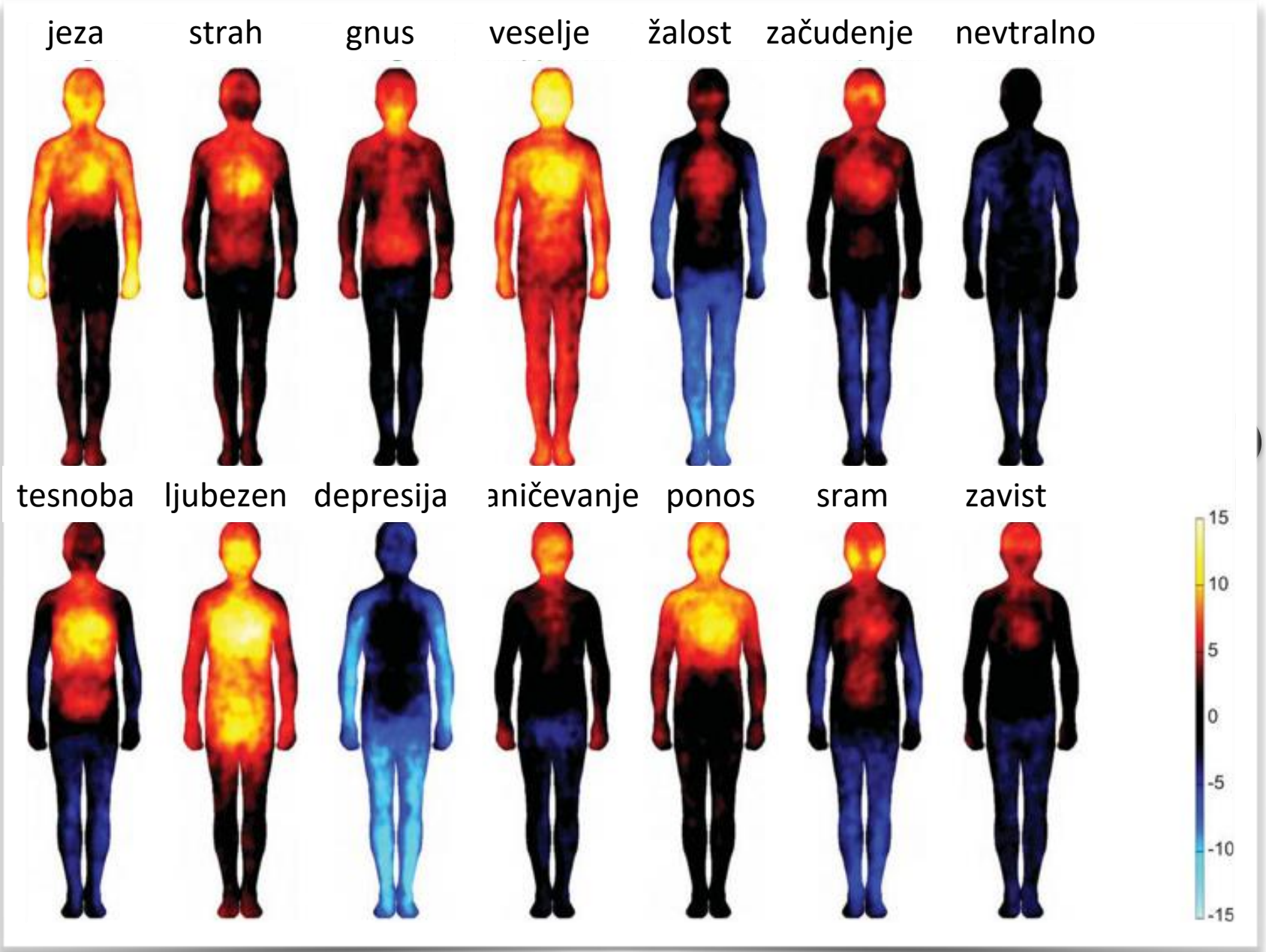
(Pato)fiziologija psihosomatike

Maja Bresjanac

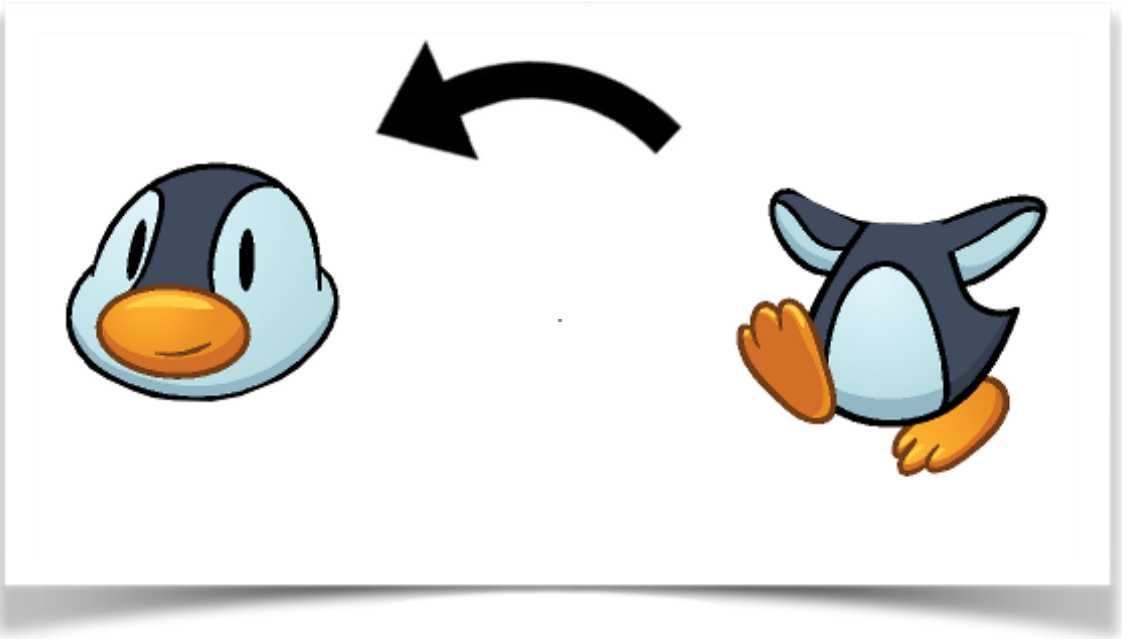
Kje izkušamo čustva?



n = 701

http://www.pnas.org/content/111/2/646

http://vladdolezal.com/blog/2012/mind-body-connection/



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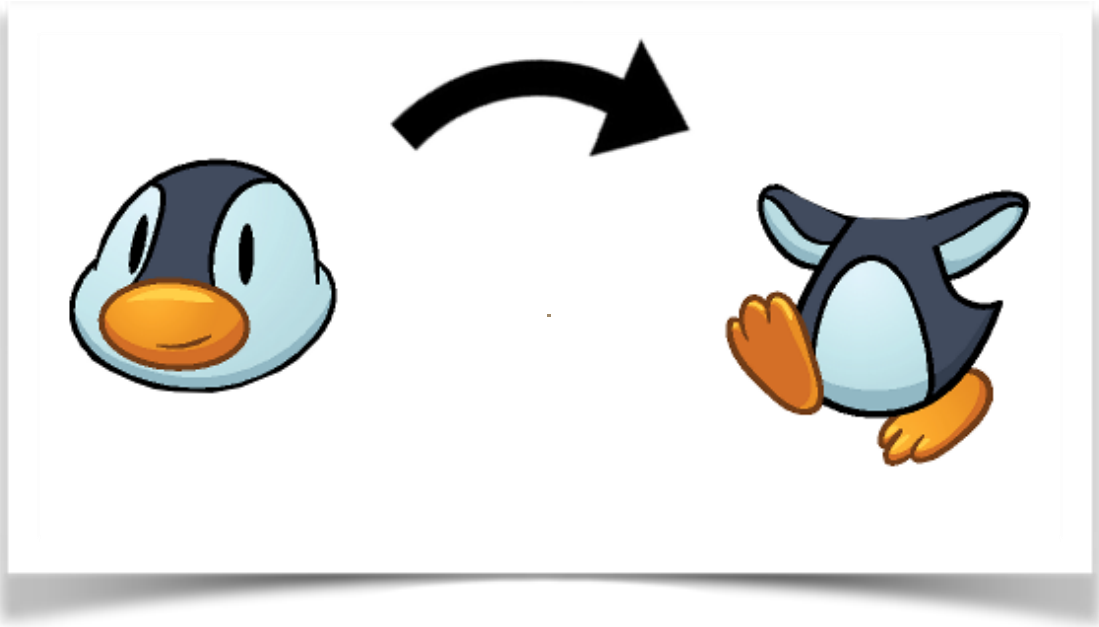

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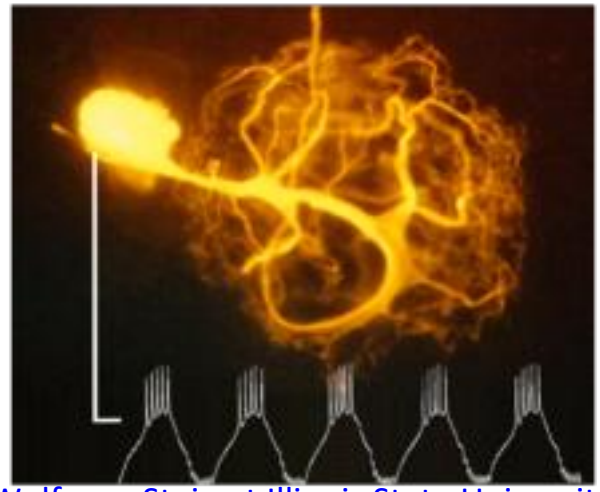
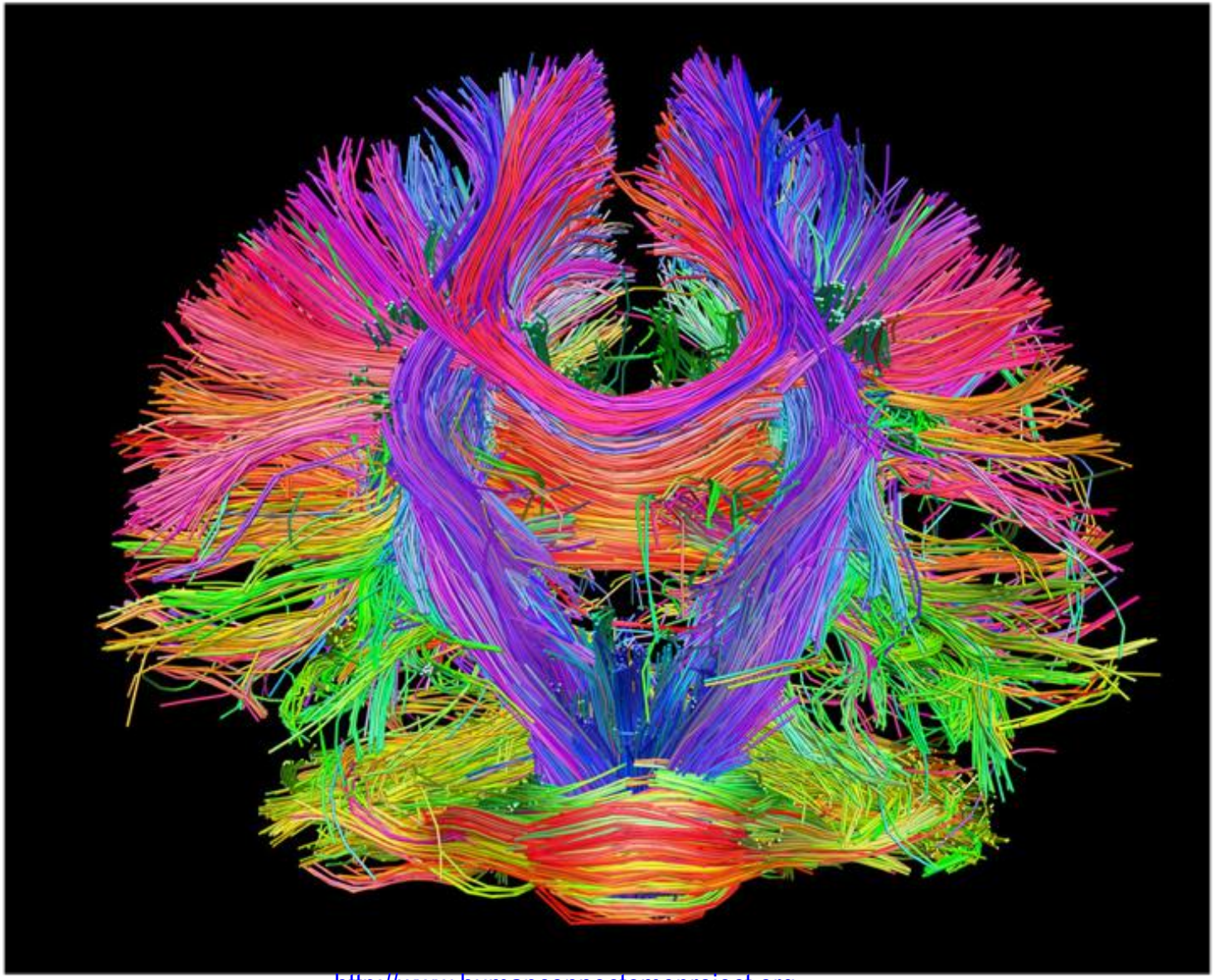


Wolfgang Stein at Illinois State University



http://www.humanconnectomeproject.org

psihosomatske motnje

psihosomatske motnje

učinek placeba

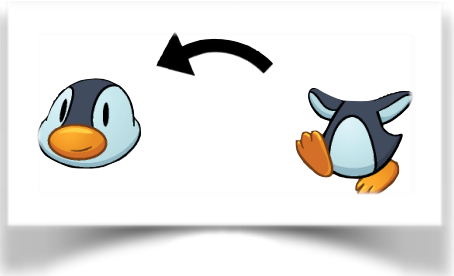
psihosomatske motnje

... kjer je vloga psihičnih dejavnikov osrednja v patogenezi bolezenskega dogajanja

stresorji

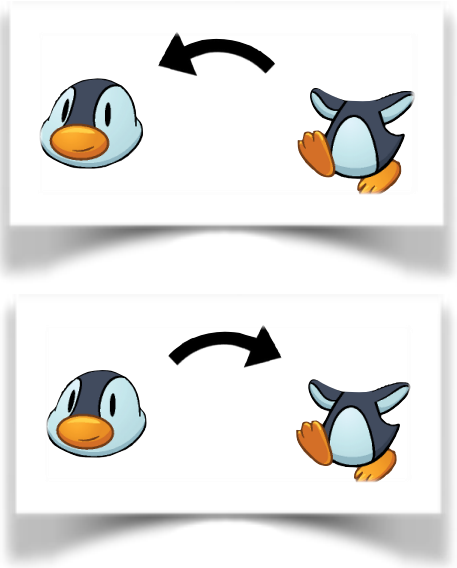
stresorji

- sistemski



stresorji

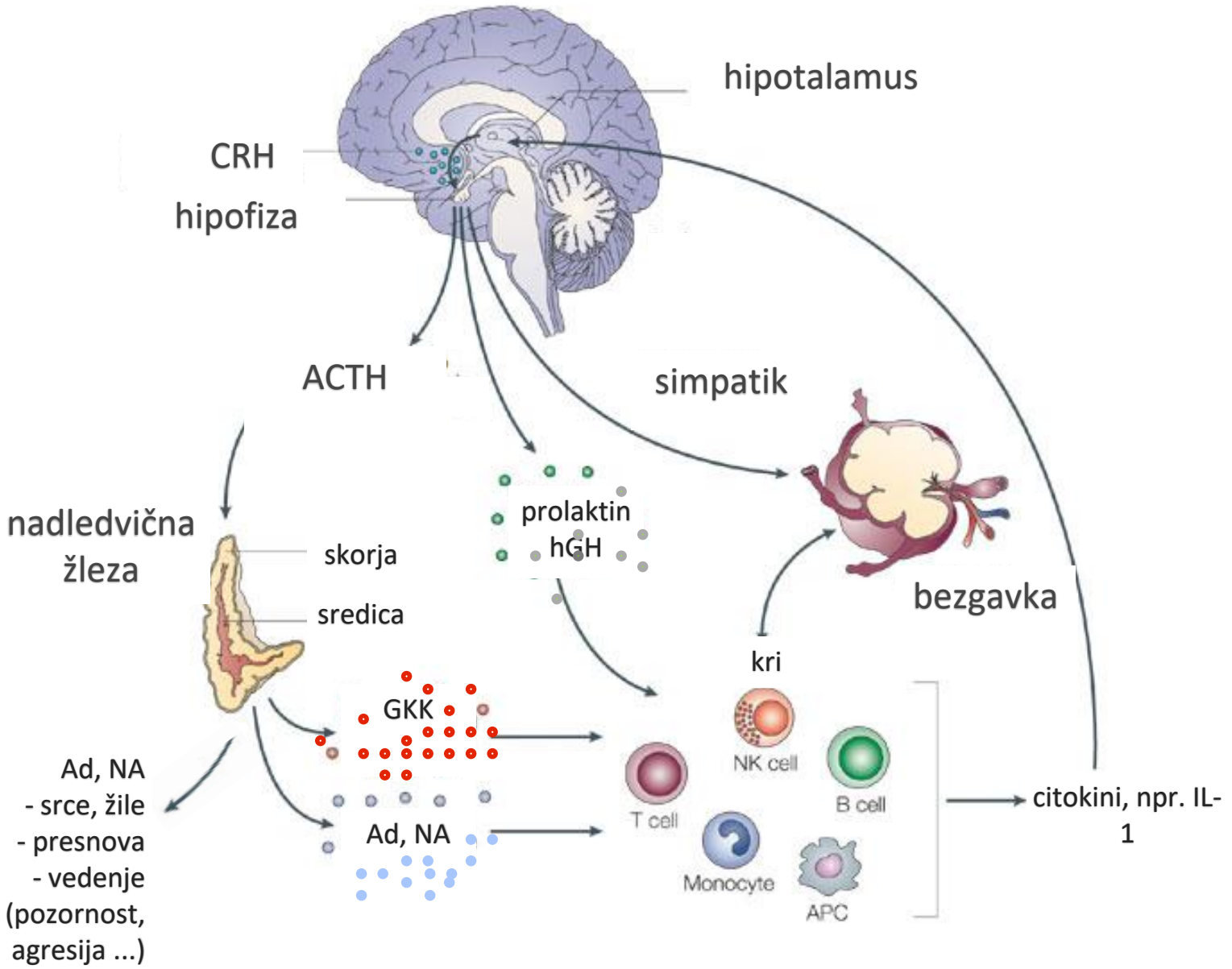
- sistemski
- psihogeni



odziv na stres

• nespecifičen • sistemski • obramben

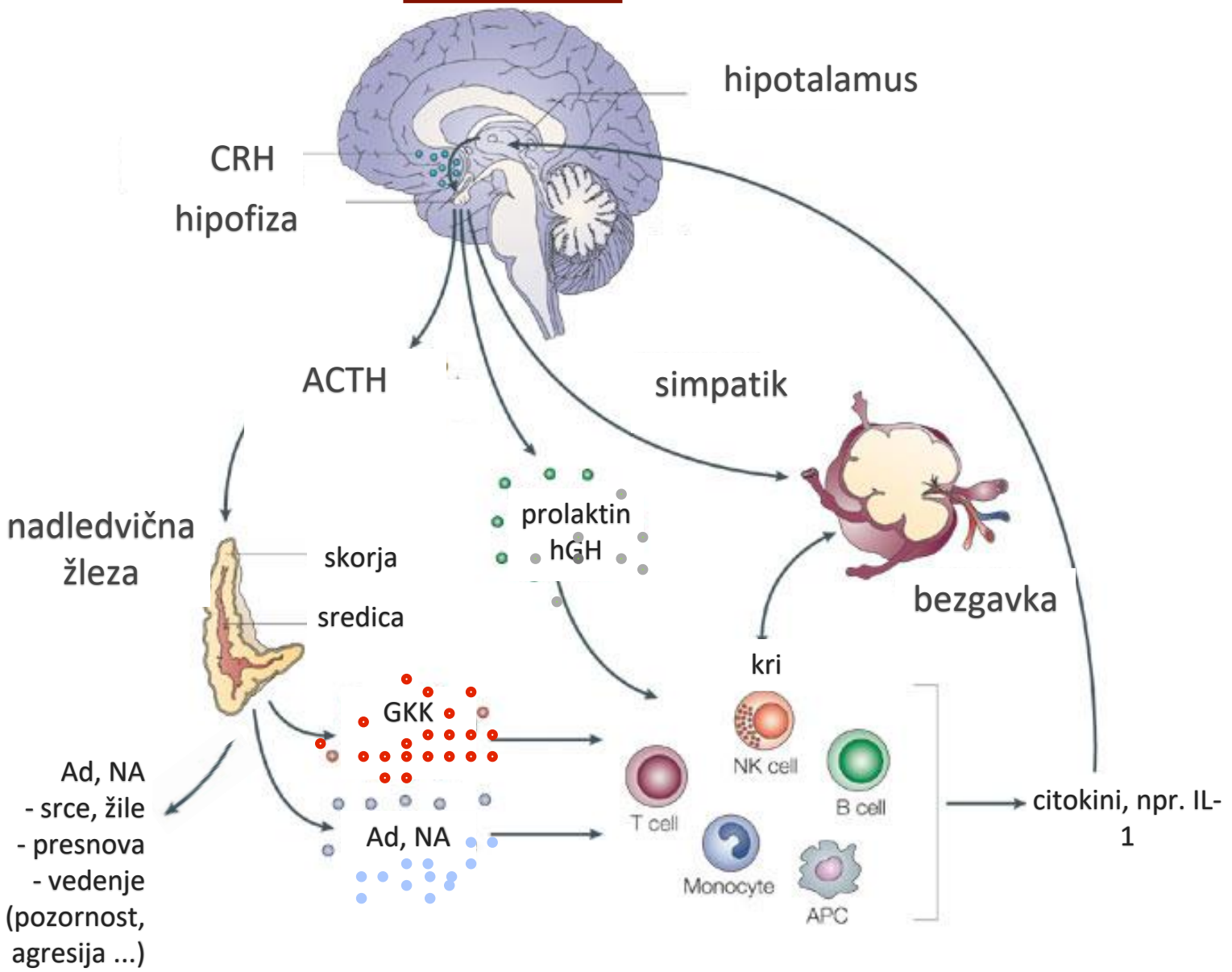
... obojesmerne povezave živčevja, žlez z notranjim izločanjem in imunskega sistema.



Stress-induced immune dysfunction: implications for health

Nature Reviews | Immunology doi:10.1038/nri1571

stres



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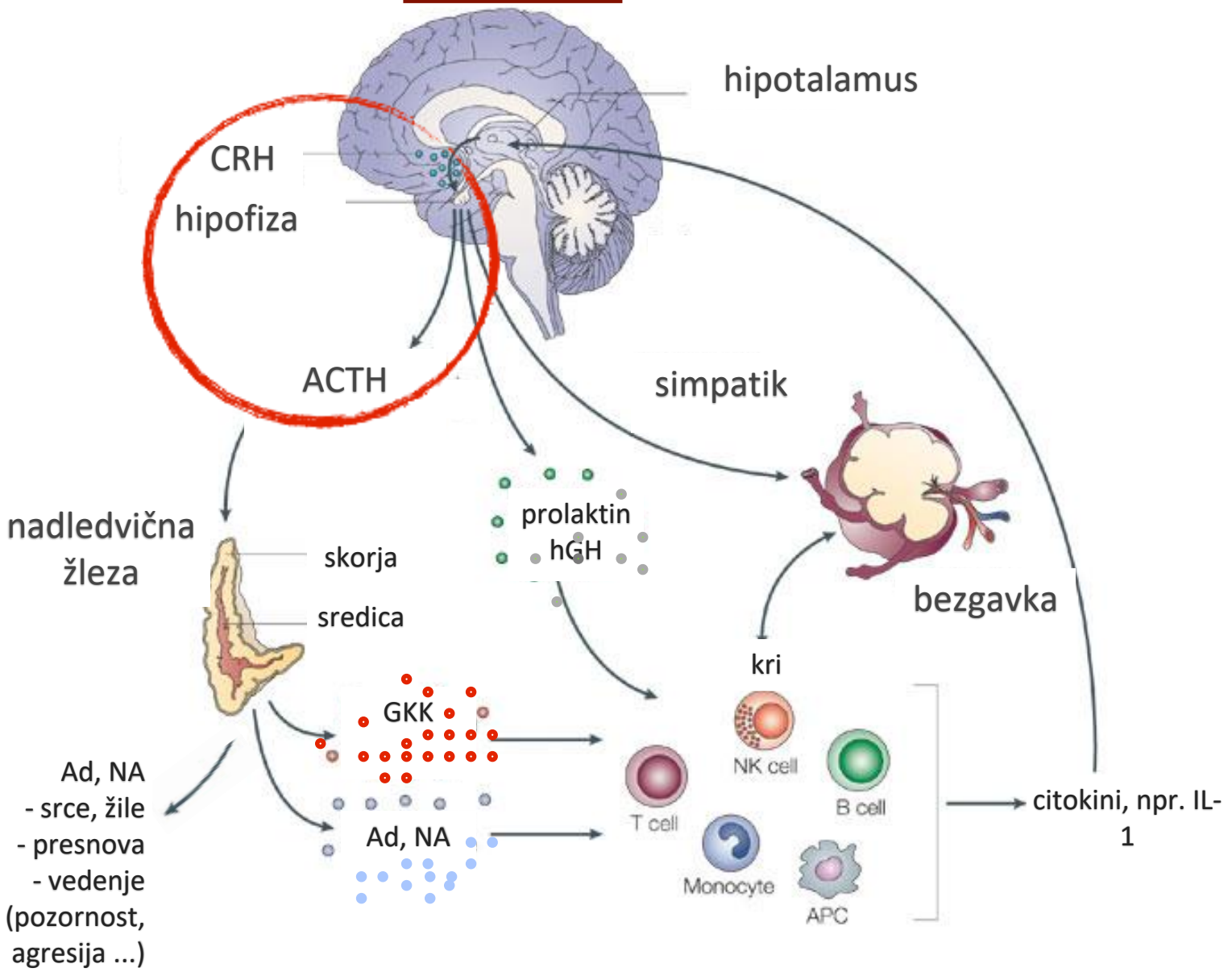
stres



Stress-induced immune dysfunction: implications for health

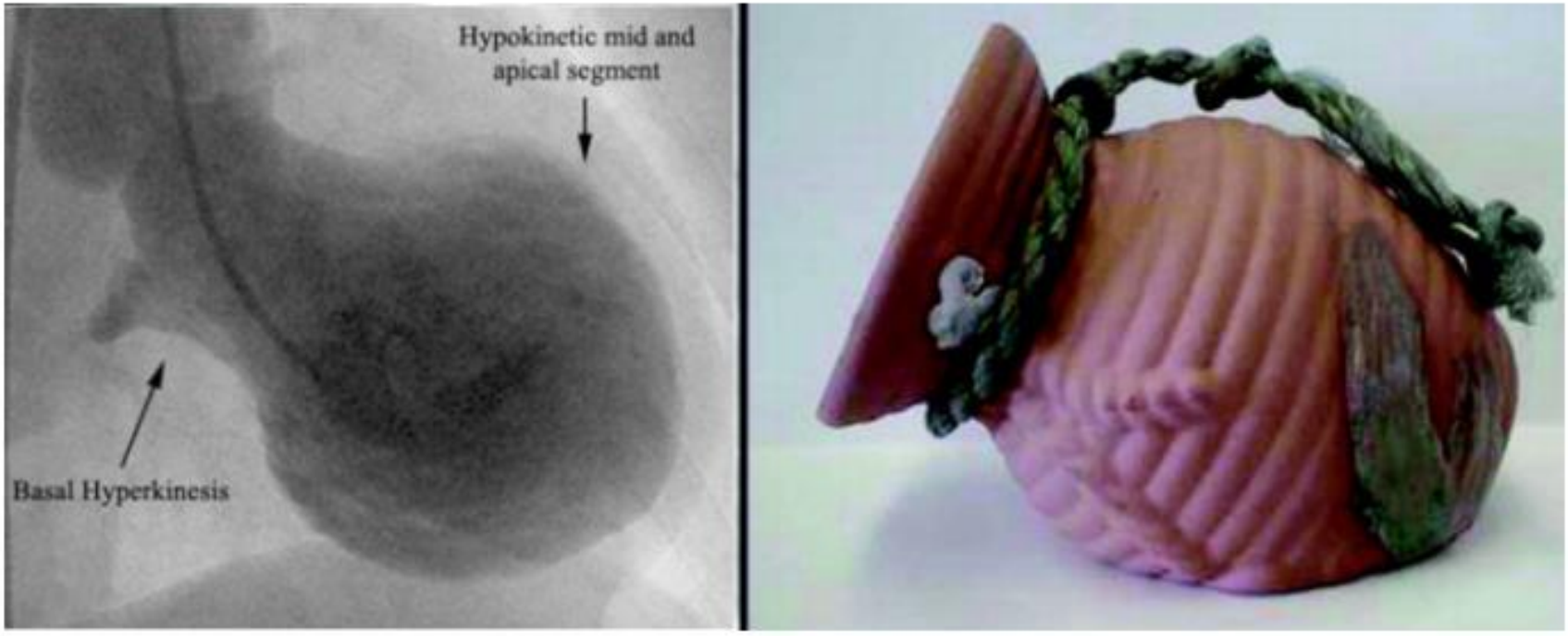
Nature Reviews | Immunology doi:10.1038/nri1571

hud, akuten stres

prekomeren sym-Ad in HHS-odziv

https://uvachemistry.com/2015/12/06/takotsubo-broken-heart-syndrome/

hud, akuten stres



The X-ray revealing takotsubo cardiomyopathy, and on the right, a Japanese pot which it resembles. A composite image from two sites(http://circ.ahajournals.org & http://www.bjmp.org/)

https://uvachemistry.com/2015/12/06/takotsubo-broken-heart-syndrome/

kronični stres

... okvarja organizem in pelje v bolezen

- dolgotrajni neizogibni stresorji

+

- nagnjenost k neustreznemu stresnemu odzivu (stresna diateza): geni / okolje

razvoj stresne diateze

(npr. zanemarjene **podgane**)

trajna epigenetska sprememba
"stresnih" genov v nevronih CŽ

↓

manjša gostota kortizolnih receptorjev na nevronih

↓

slabše delovanje kortizolne povratne zanke

↓

povečana dejavnost stresne osi => ↑ **kortizola**

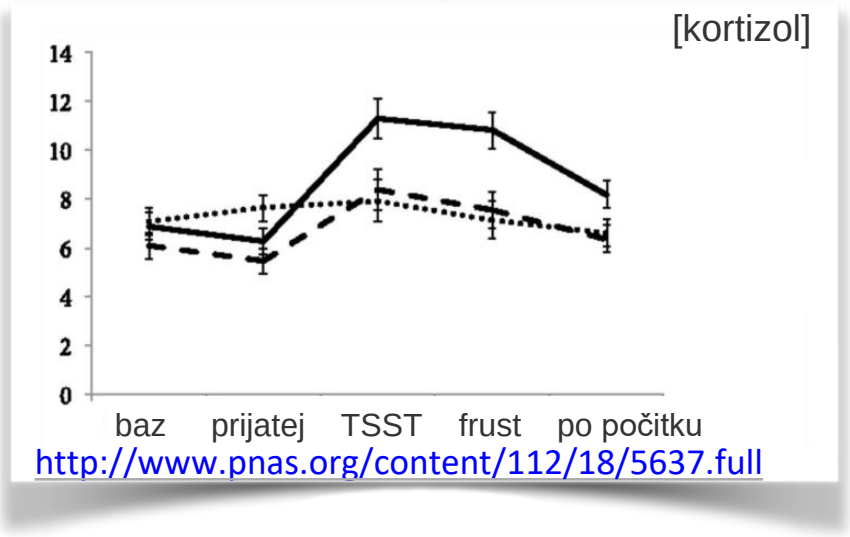
zanemarjanje otrok

(npr. sirote iz Bukarešte, n = 136; 12 let)

dolgotrajno zanemarjanje otrok v sirotišnicah

↓

oslabljen sym in HHS-**odziv na psihosocialni stres**



http://www.pnas.org/content/112/18/5637.full

... sirote
- - posvojeni
__ kontrole

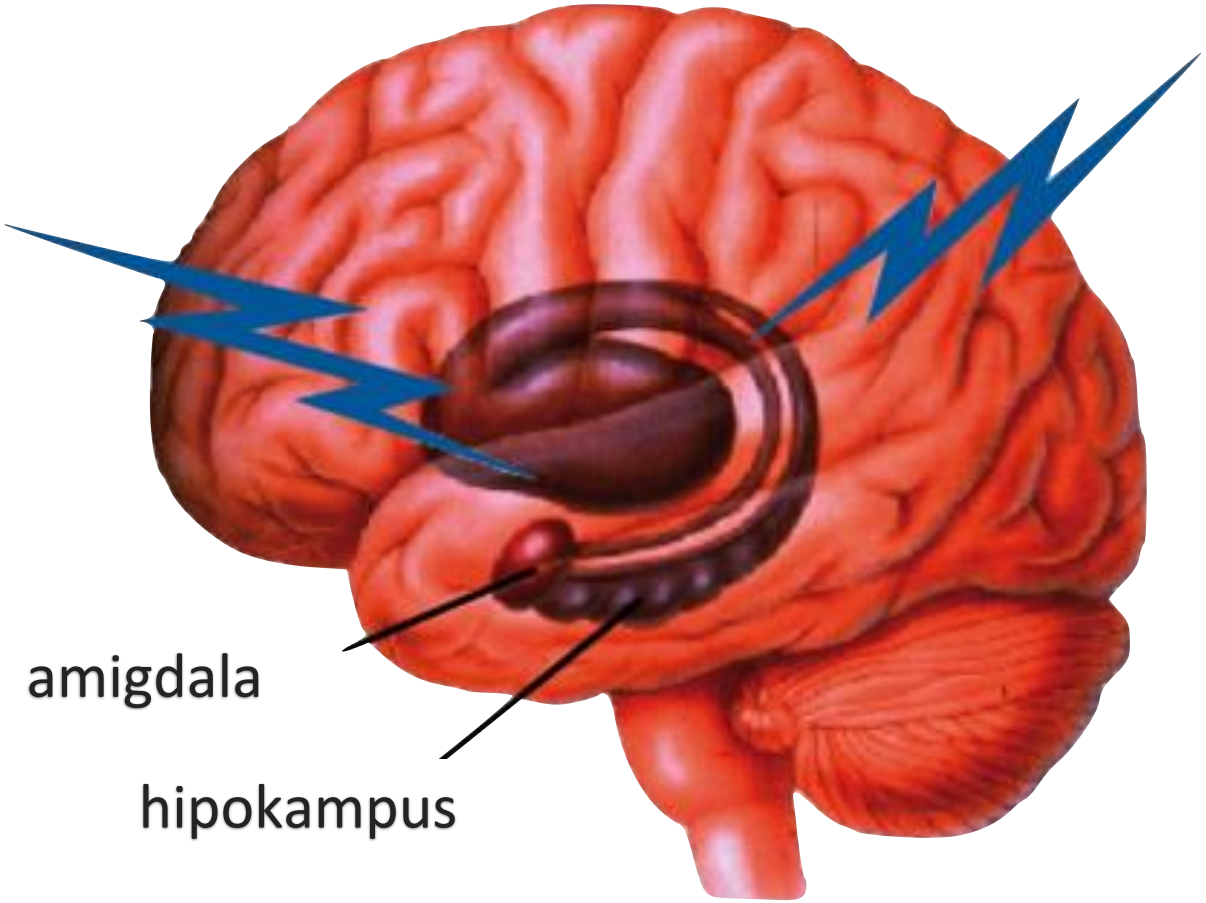
TSST: Trierski preizkus socialnega stresa

* kortizol in AŽs reaktivnost se popravita pri otrocih, posvojenih pred iztekom 2. leta

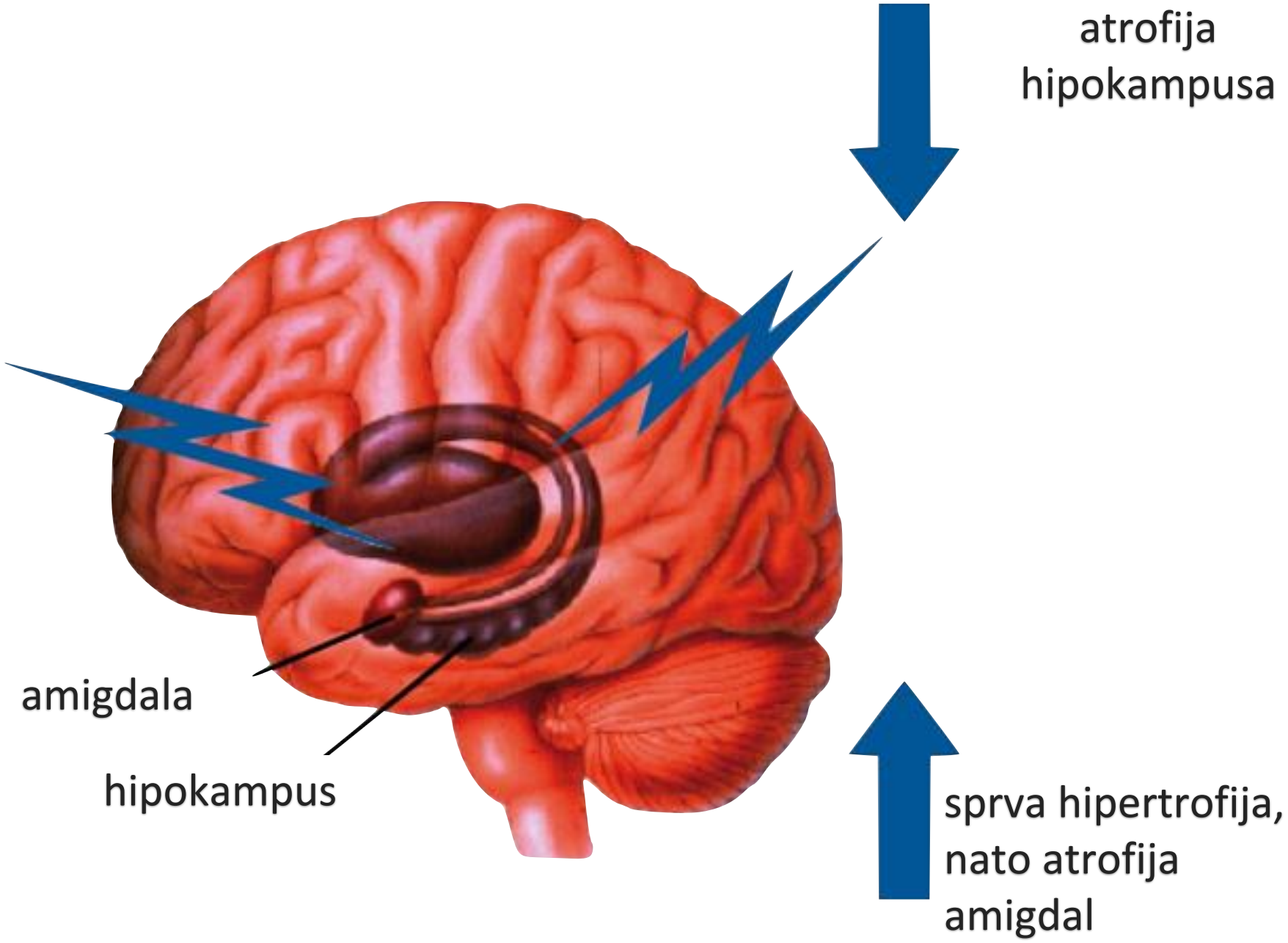
hiperkortizolizem & psihosomatske motnje

hiperkortizolizem & psihosomatske motnje

- ⇣ inhibicija CRH/ACTH z GKK -> ⇡ odziv na stresor
- GKK senzitizirajo amigdalo in lokus ceruleus
- epigenetsko utišanje GKKrec v hipokampusu



http://www.dialogues-cns.com/publication/protective-and-damaging-effects-of-stress-mediators-central-role-of-the-brain/



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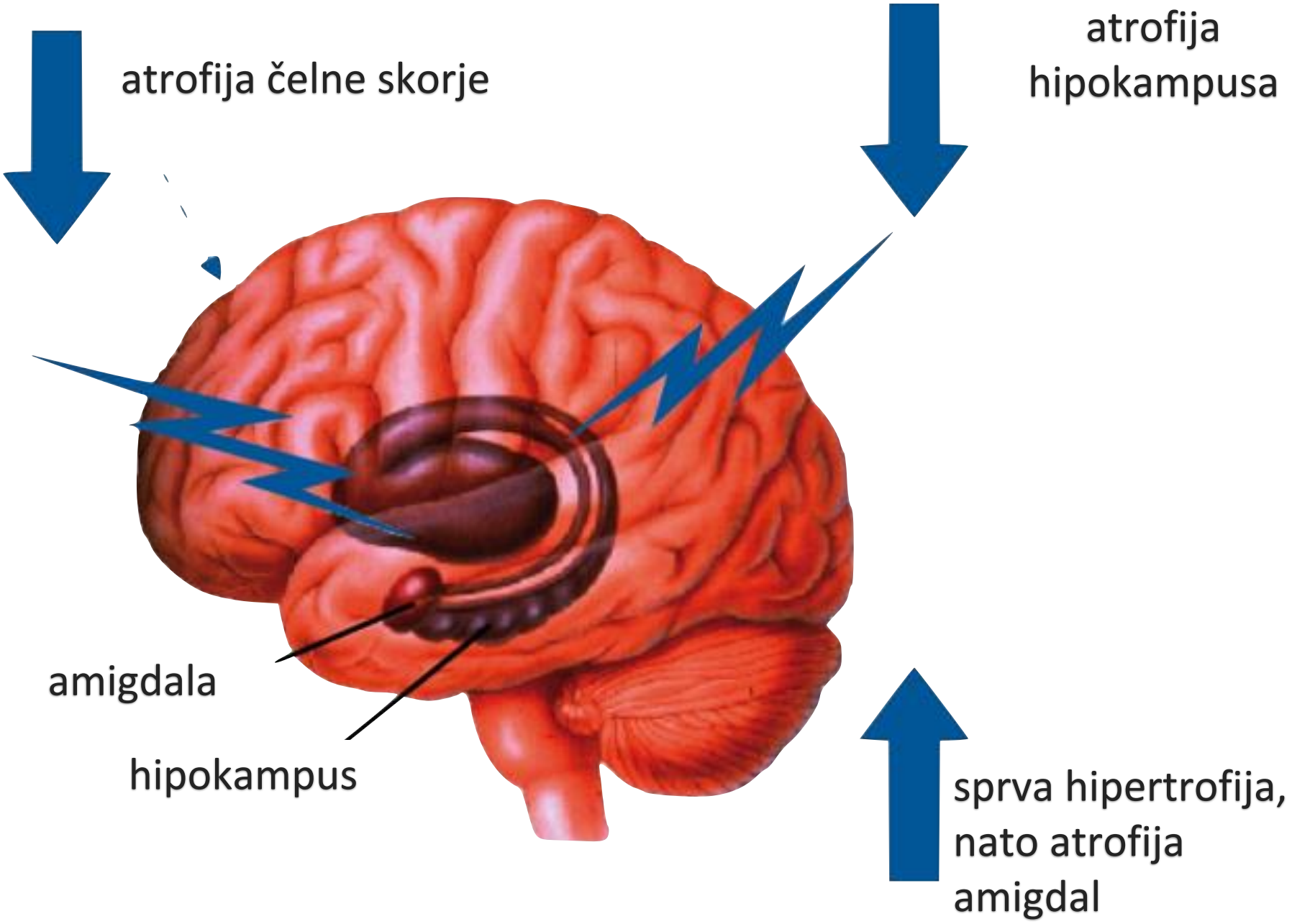


http://www.dialogues-cns.com/publication/protective-and-damaging-effects-of-stress-mediators-central-role-of-the-brain/

hipokortizolizem & psihosomatske motnje

hipokortizolizem & psihosomatske motnje

- ⇣ kortizol, moten cirkadiani ritem -> manjša odzivnost CRH-ACTH-GKK
- dezinhibicija imunskih / vnetnih odzivov

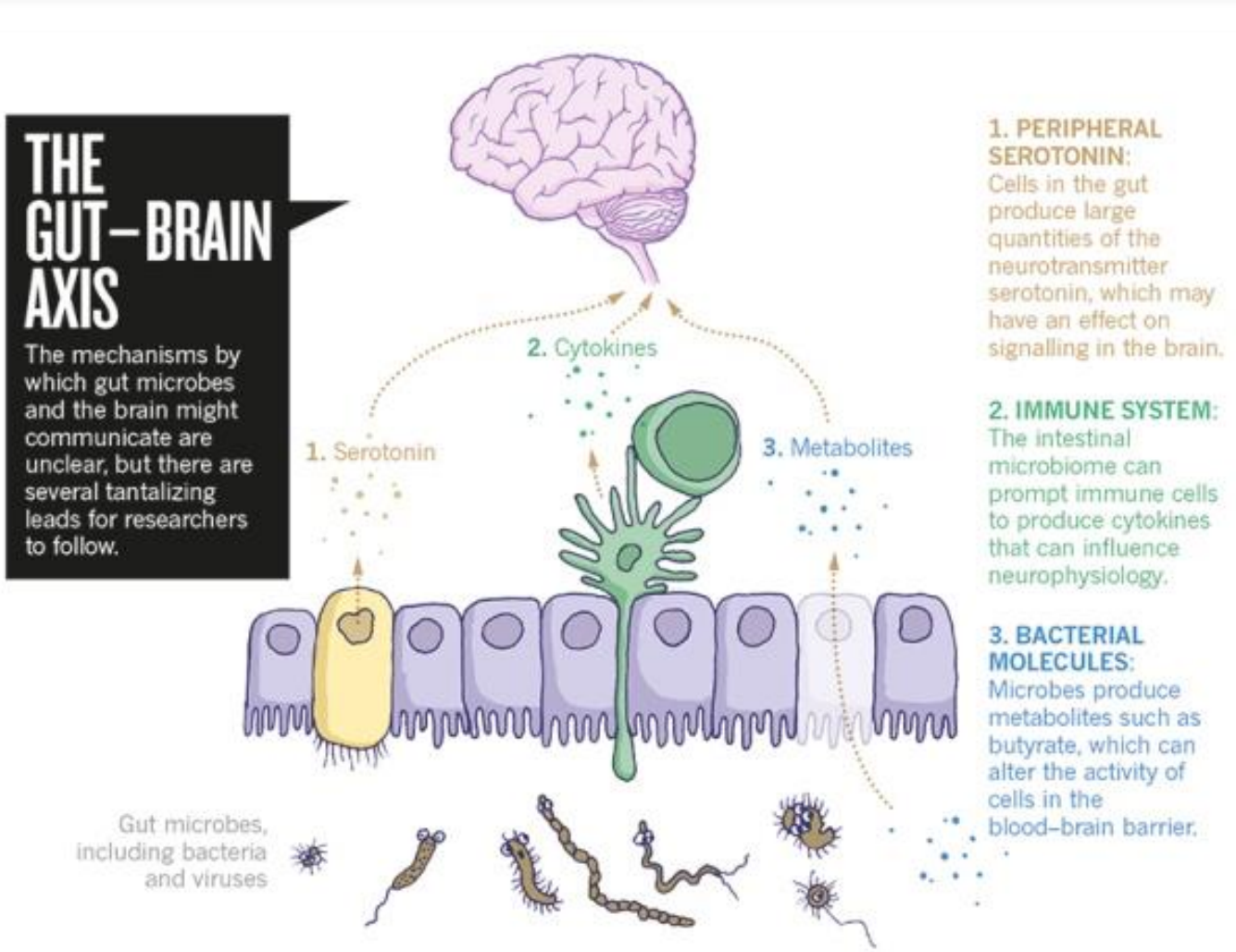
psihosomatske motnje

psihološki vplivi prek avtonomnega živčevja

psihosomatske motnje

psihološki vplivi prek avtonomnega živčevja

- srce in ožilje,
- dihala,
- spolna funkcija,
- prebavila ...



Nature **526,** 312–314 (15 October 2015) doi:10.1038/526312a

GF-miške -> hiperkortizolizem in hiperaktivnost HHA
reverzibilni v zgodnjem razvoju

Nature **526,** 312–314 (15 October 2015) doi:10.1038/526312a

placebo

placebo

snov ali poseg brez specifičnega zdravilnega učinka, uporabljen(a) z namenom, da izzove izboljšanje posameznikovega stanja / počutja

ne-učinkovina ...
in zvijača

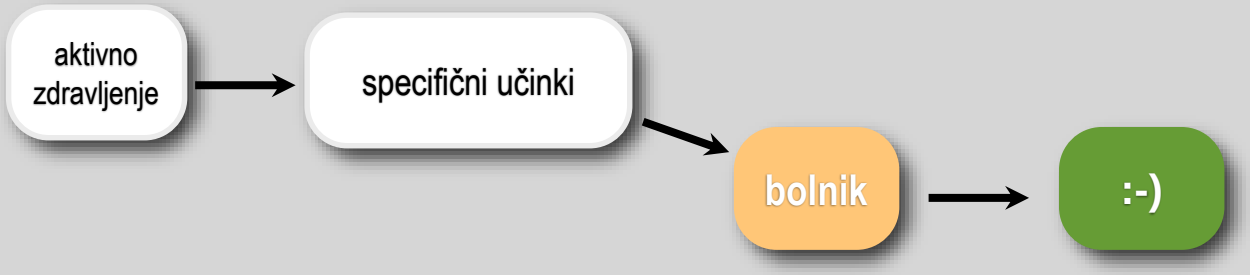
zdravljenje

zdravljenje

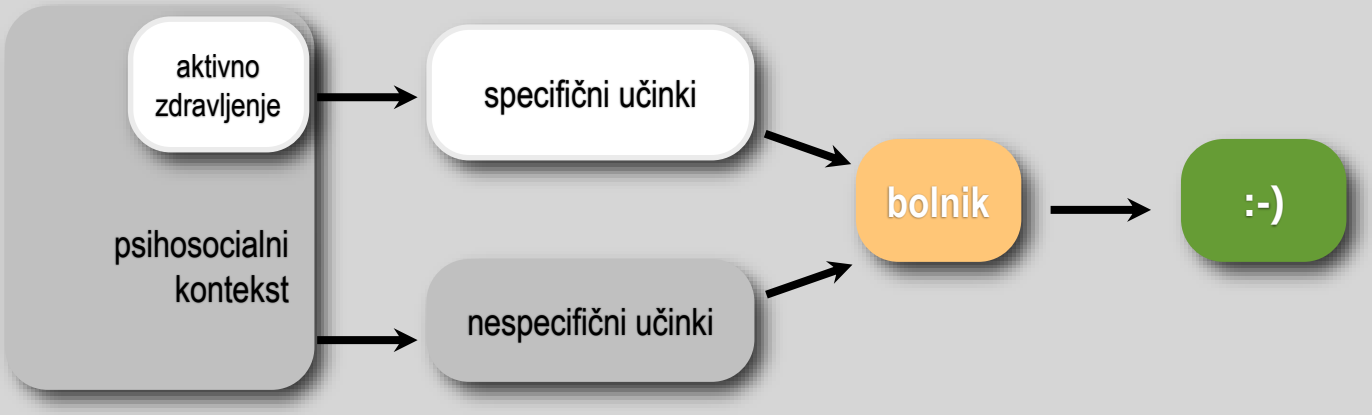
bolnik

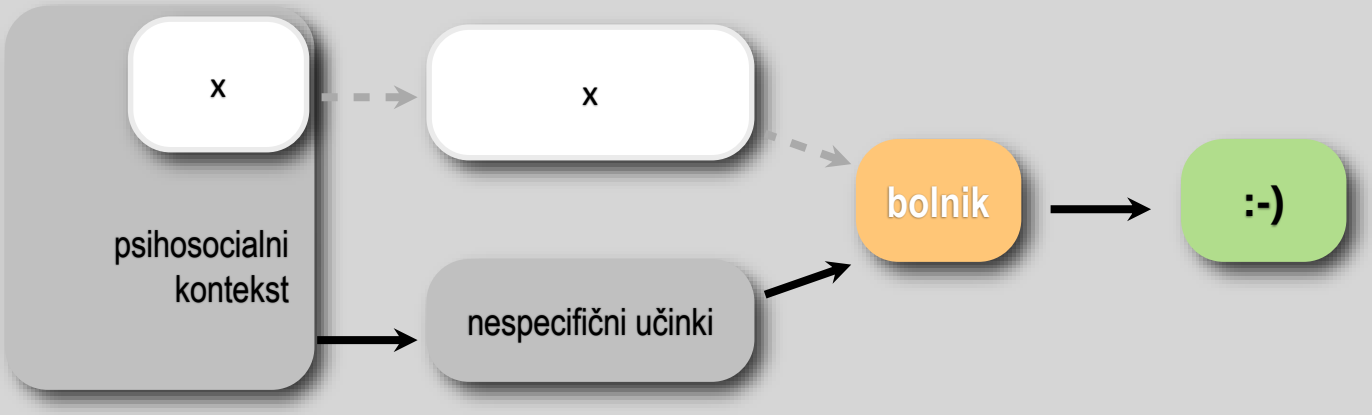
zdravljenje

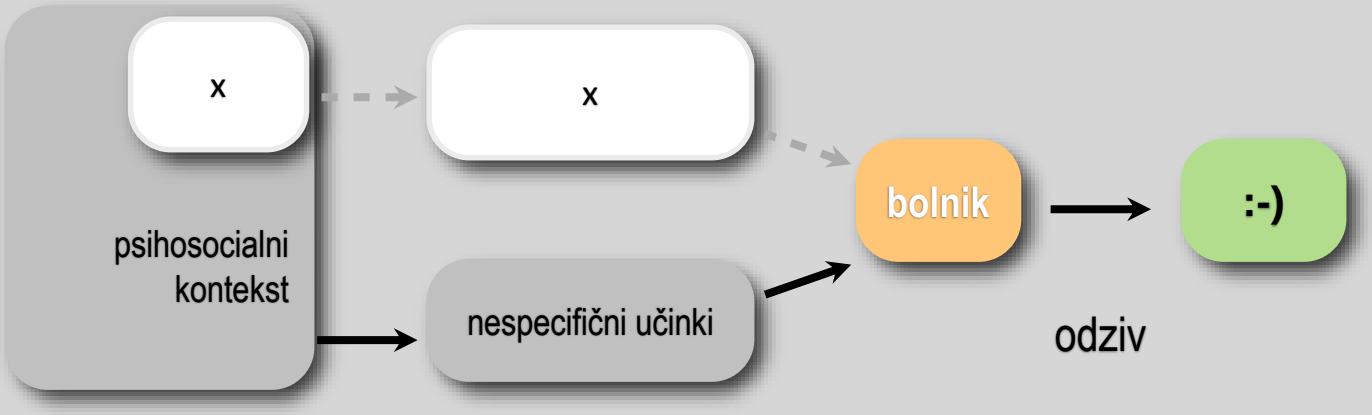
zdravljenje

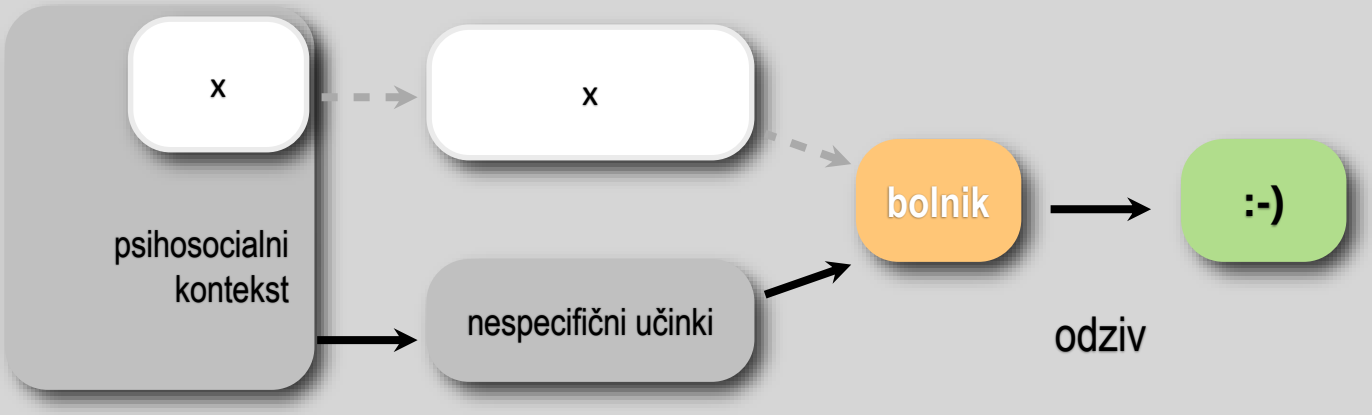


zdravljenje

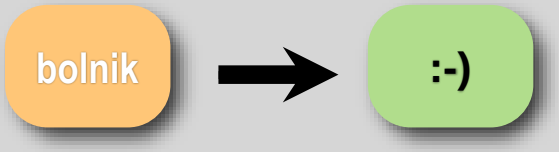


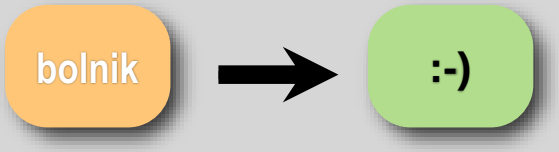

x
x
psihosocialni
kontekst
nespecifični učinki
bolnik
:-)


x
x
psihosocialni
kontekst
nespecifični učinki
bolnik
:-)
odziv



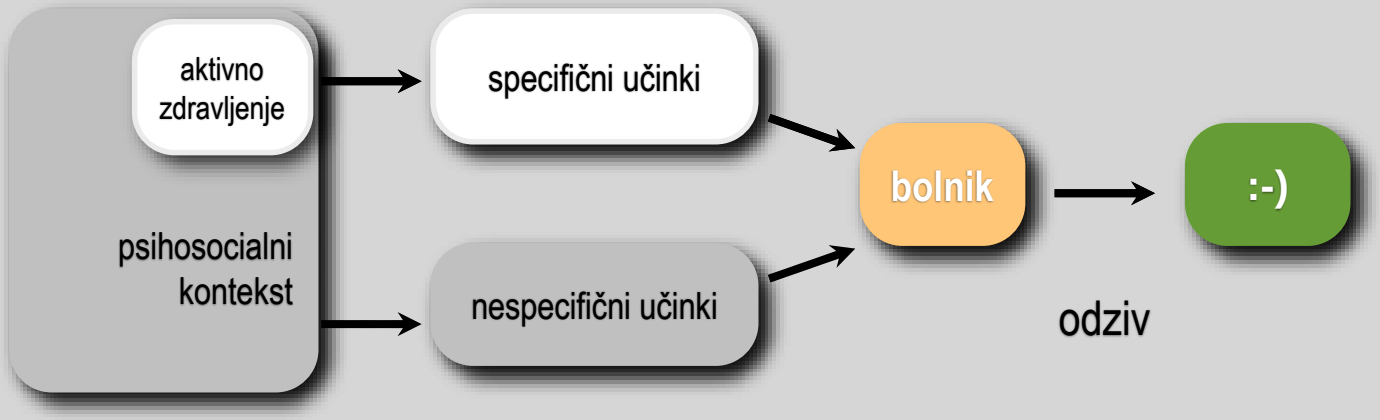
učinek placeba


bolnik
:-)



kaj “zdravi”?

zdravljenje



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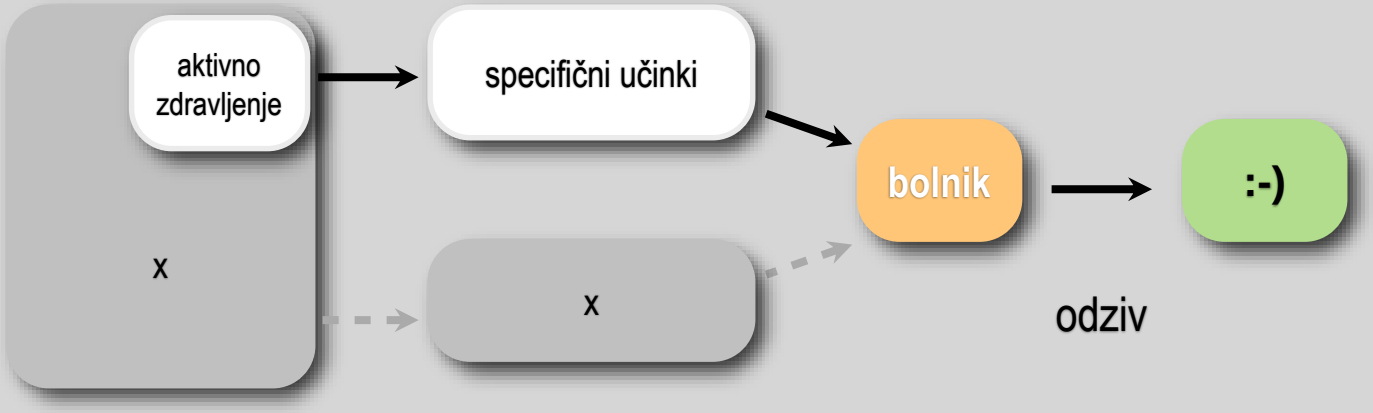
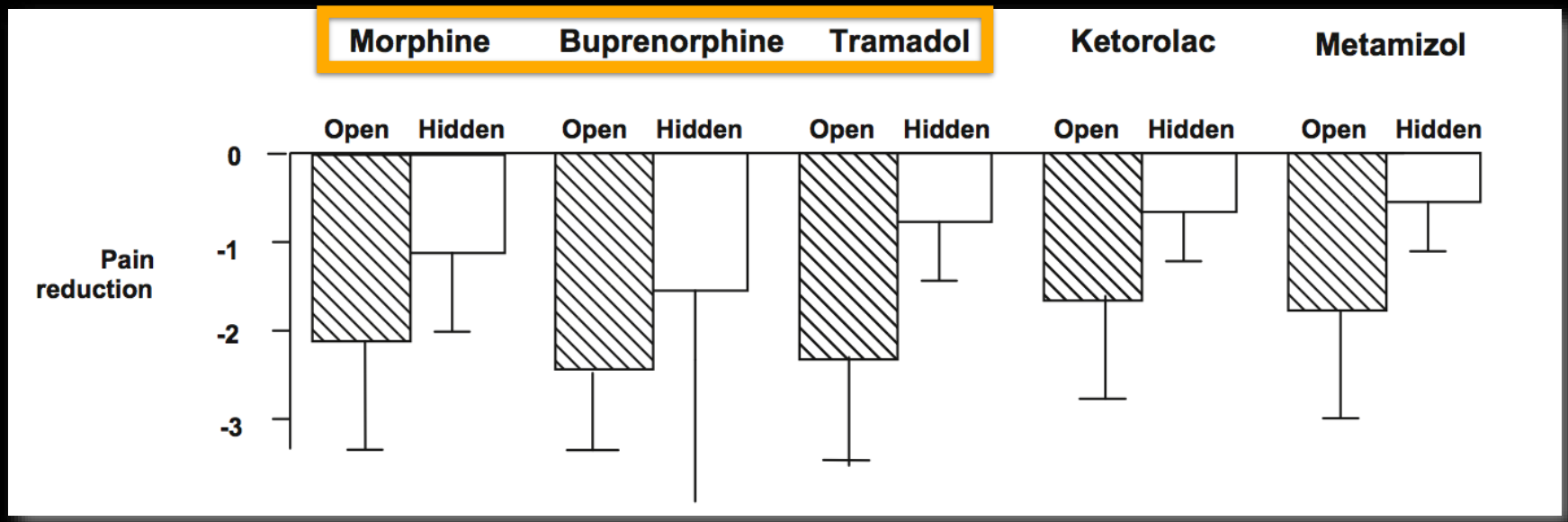


prikrito

Amanzio et al. 2001

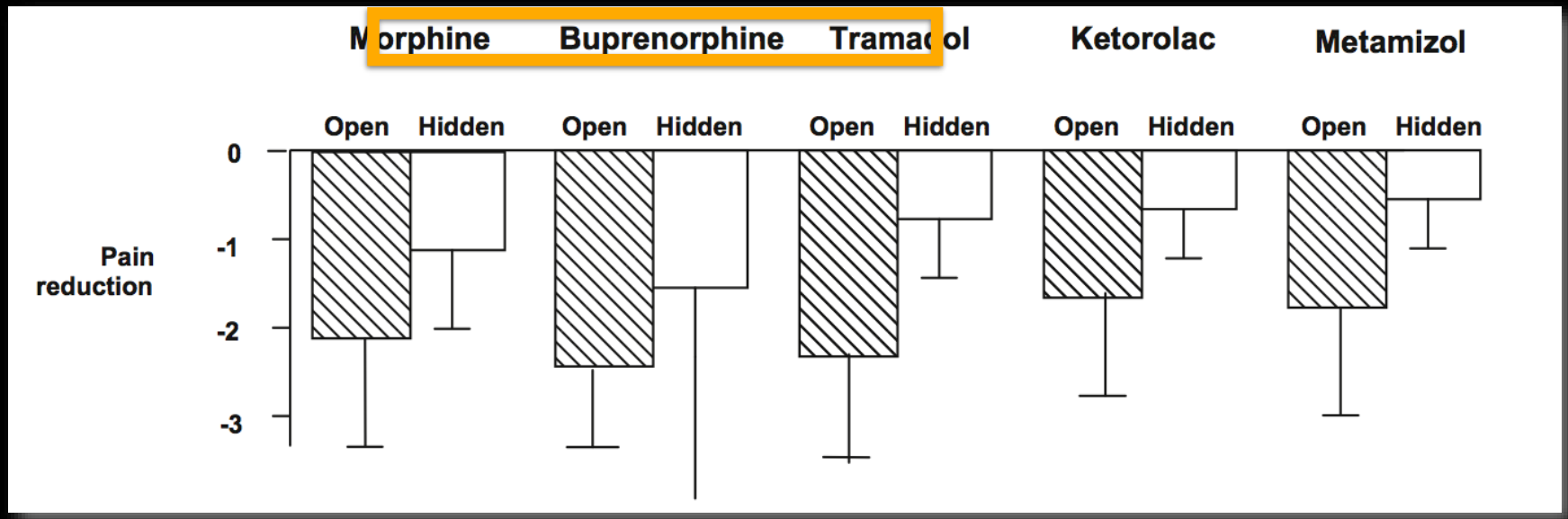
prikrito

Amanzio et al. 2001



Amanzio et al. 2001

$n_{bolniki}$ = 278
n_{zdravi} = 86



Amanzio et al. 2001

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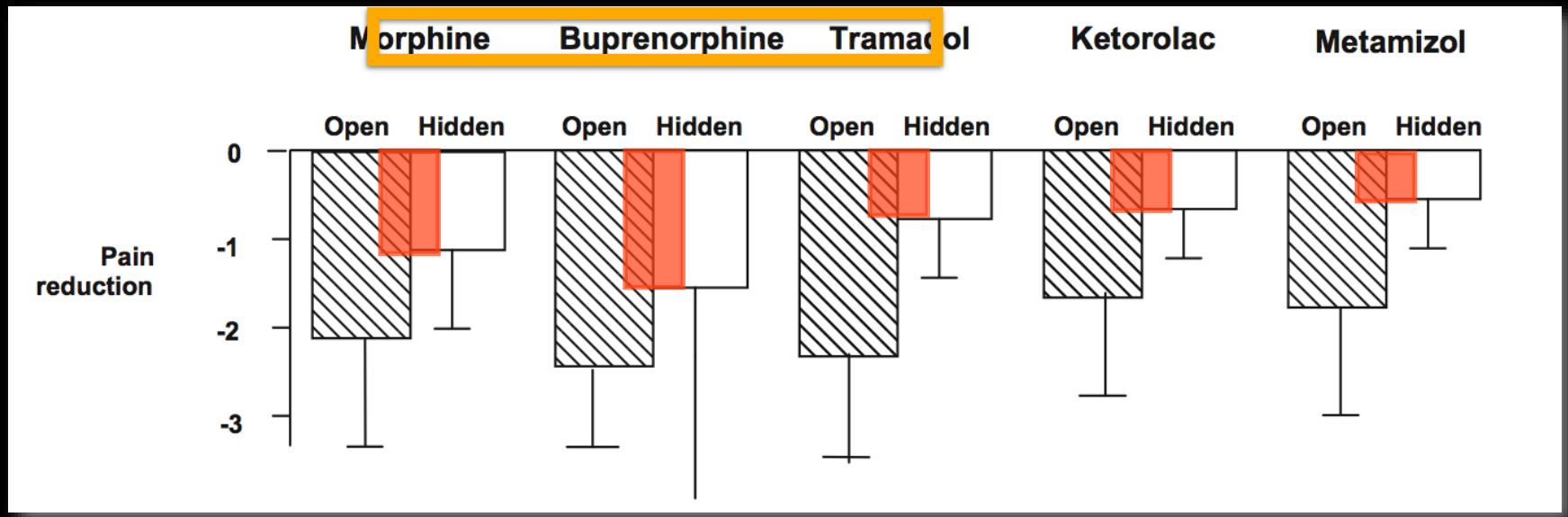
Farmakodinamski učinek analgetika



Amanzio et al. 2001

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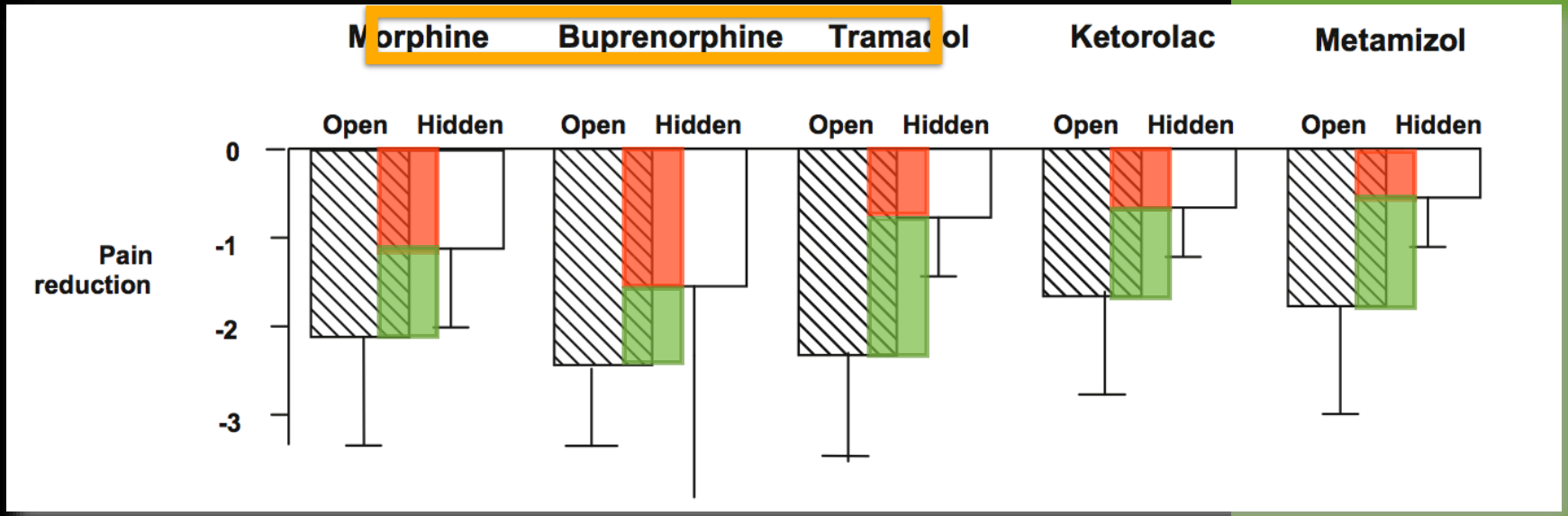
Farmakodinamski učinek analgetika

Učinek spodbujenega pričakovanja a.k.a. odziv na placebo



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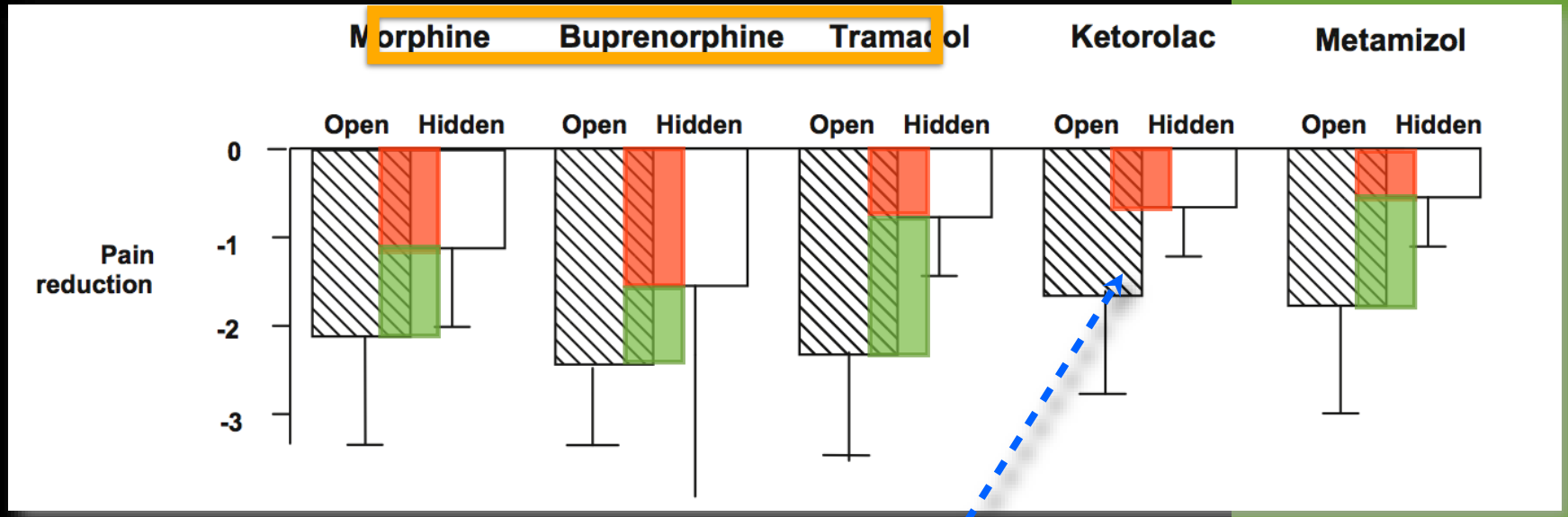

nalokson

Amanzio et al. 2001

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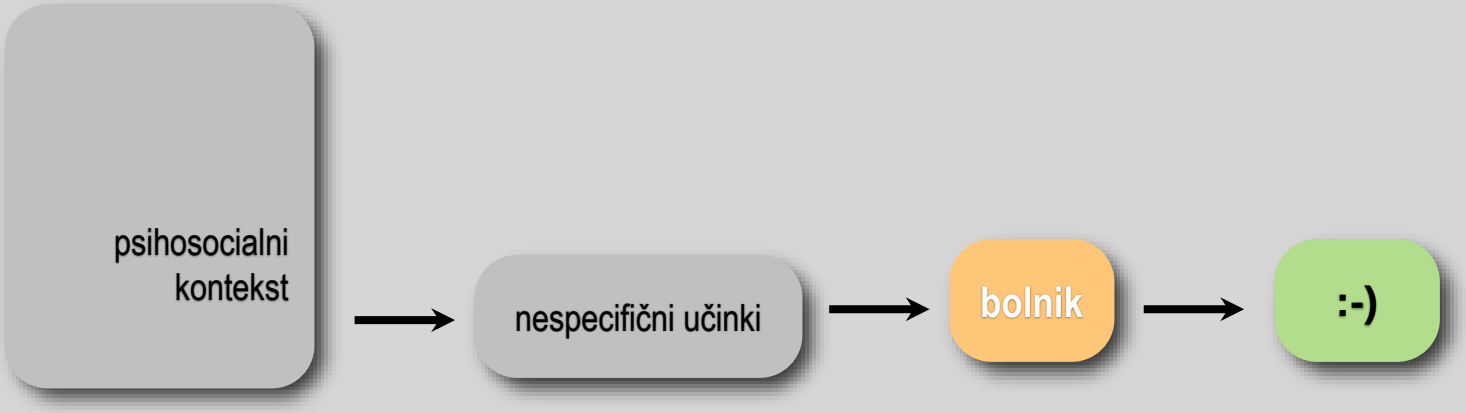
n_{zdravi} = 86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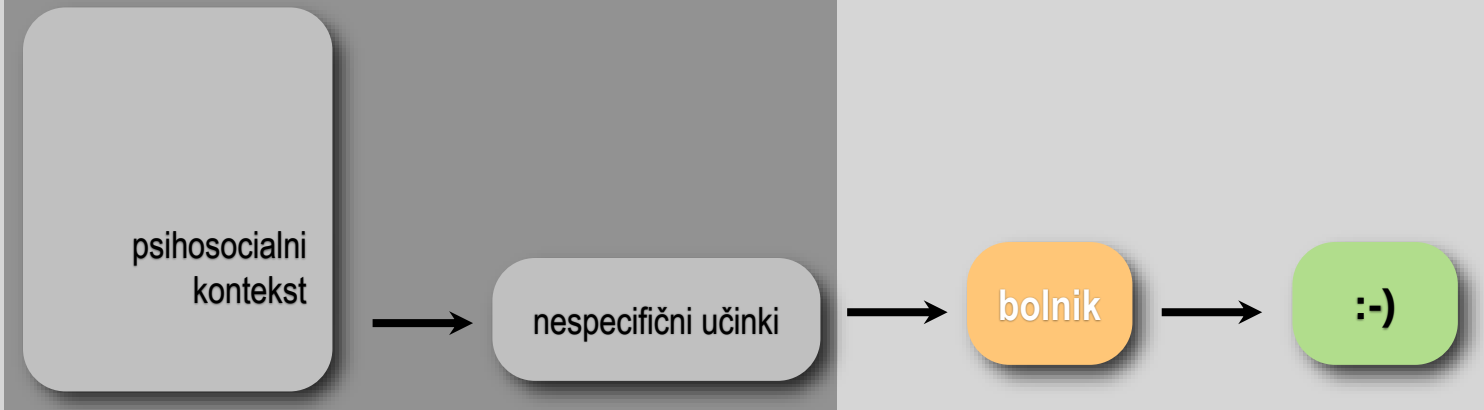
nespecifični učinki
bolnik
:-)



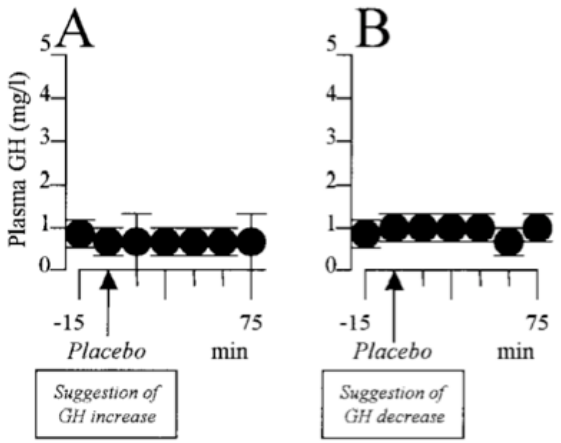
pričakovanje
pogojevanje

pričakovanje
vs.
pogojevanje

Benedetti et al., 2003

n=95

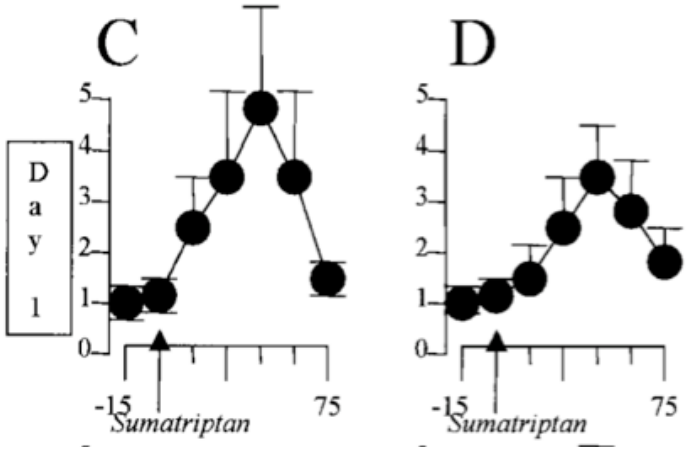
pričakovanje
vs.
pogojevanje



Benedetti et al., 2003

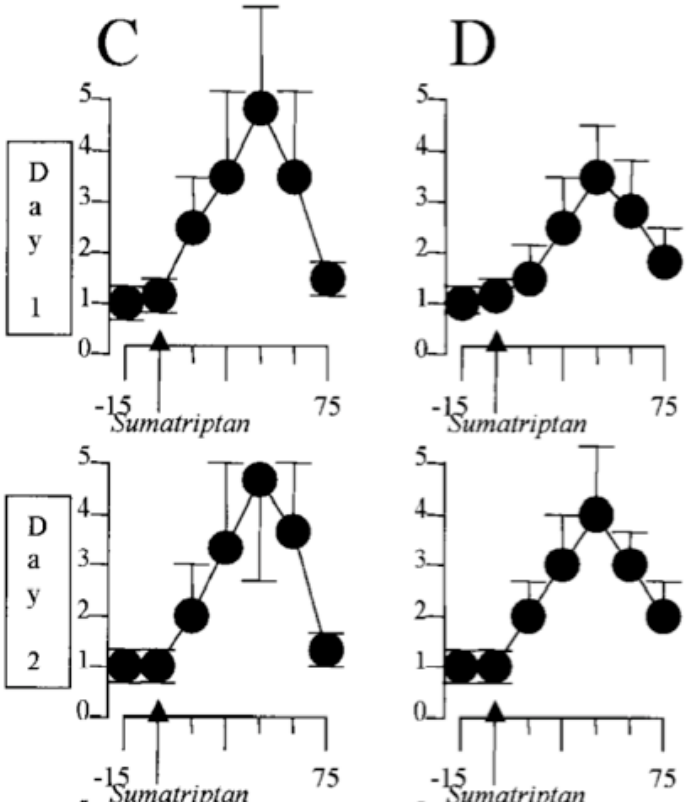
n=95

pričakovanje vs. pogojevanje



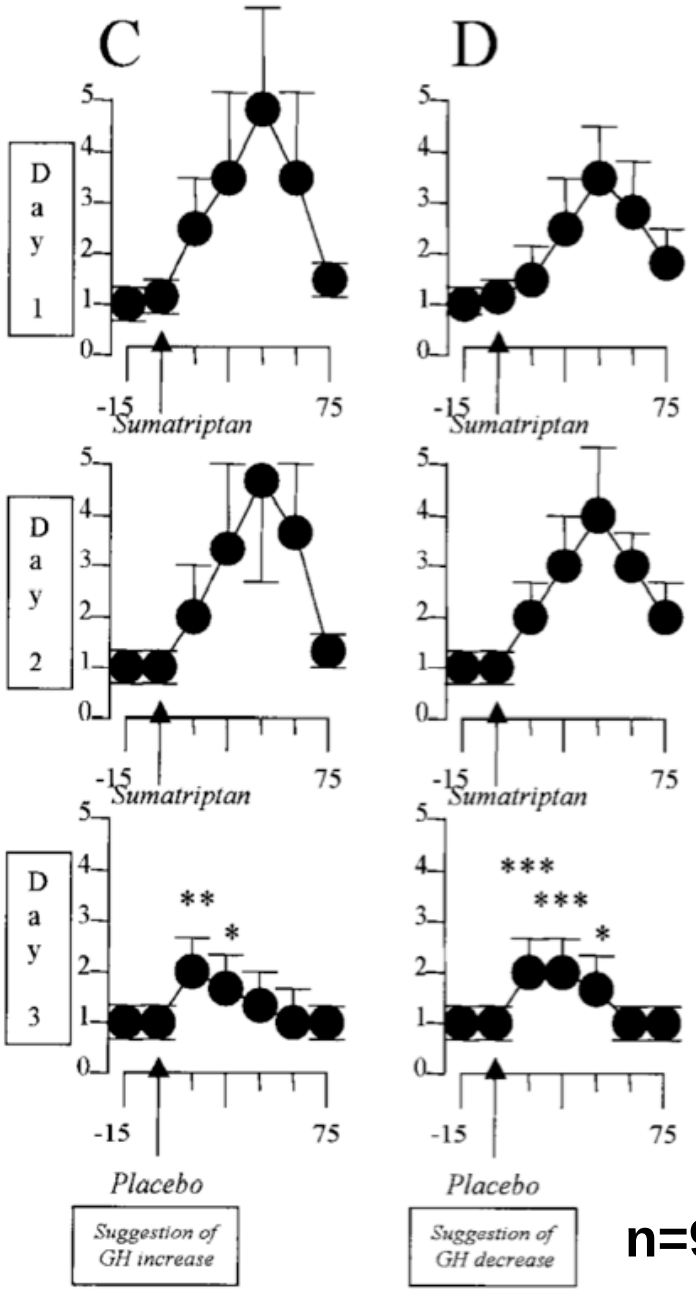
Benedetti et al., 2003

pričakovanje vs. pogojevanje



Benedetti et al., 2003

pričakovanje vs. pogojevanje



Benedetti et al., 2003

n=95

pogojevanje

n=34

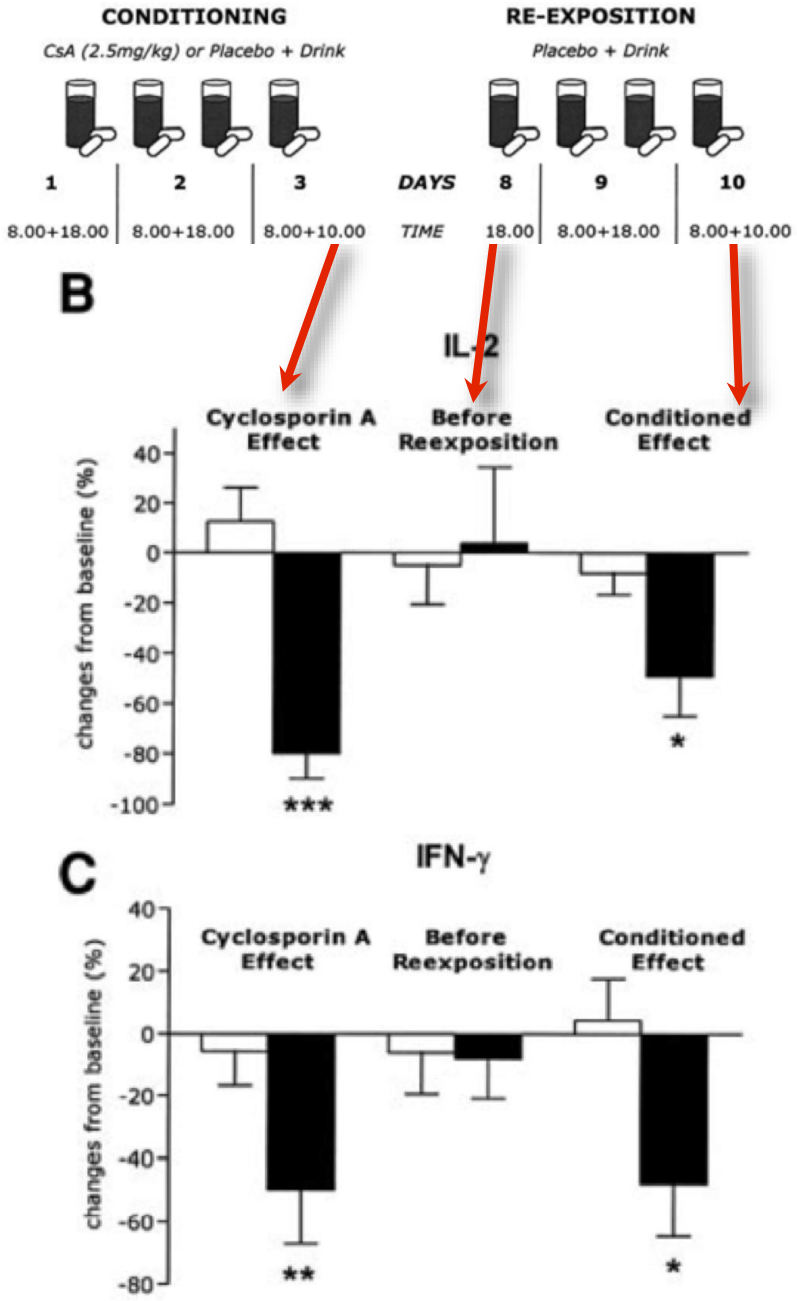
Goebel et al., 2002

pogojevanje

n=34

Goebel et al., 2002

pogojevanje



n=34

Goebel et al., 2002

pričakovanje

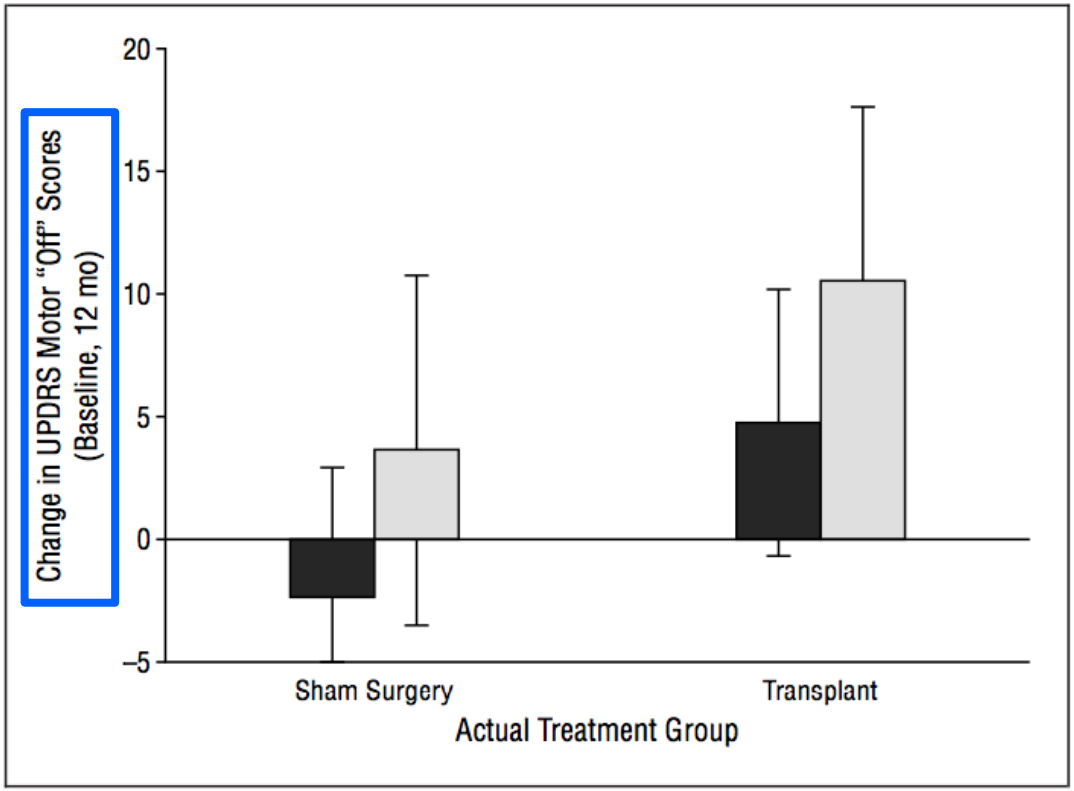
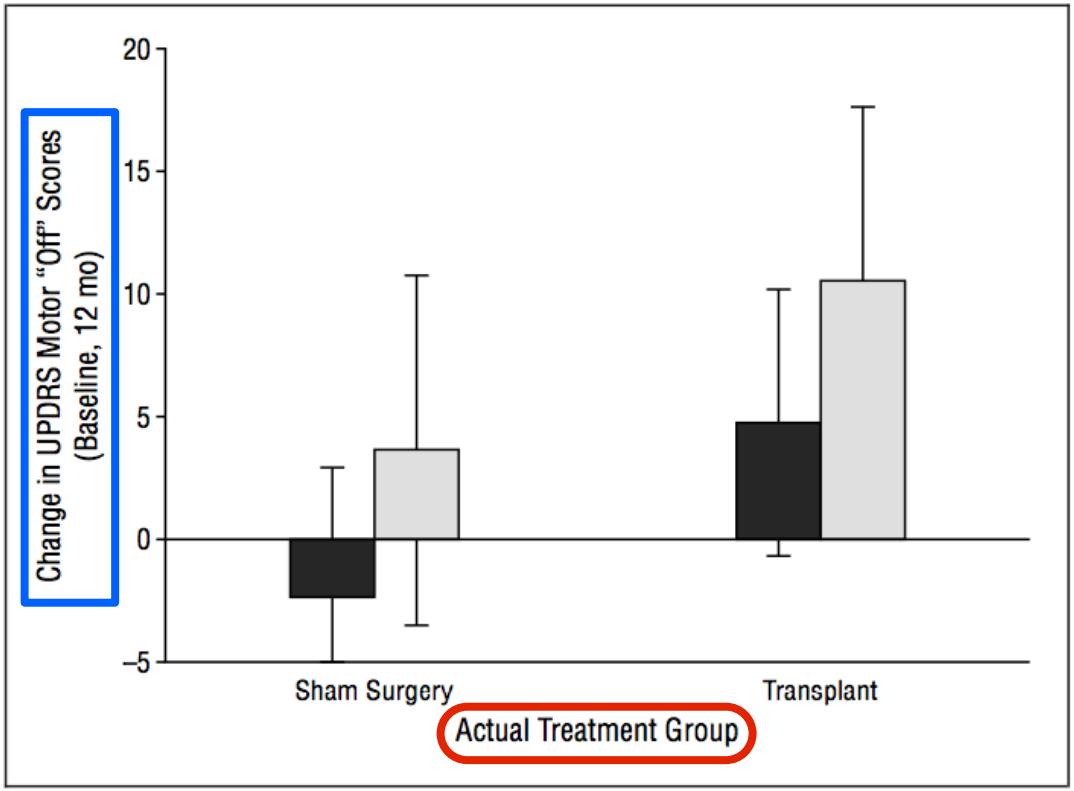


Figure 3. Mean changes in Unified Parkinson's Disease Rating Scale (UPDRS) motor "off" scores (baseline to 12 months) for the total group in the parent study (n=39). Increased scores indicate improvement. Error bars represent SEM.

McRae et al., 2004 **(n=39)**

pričakovanje



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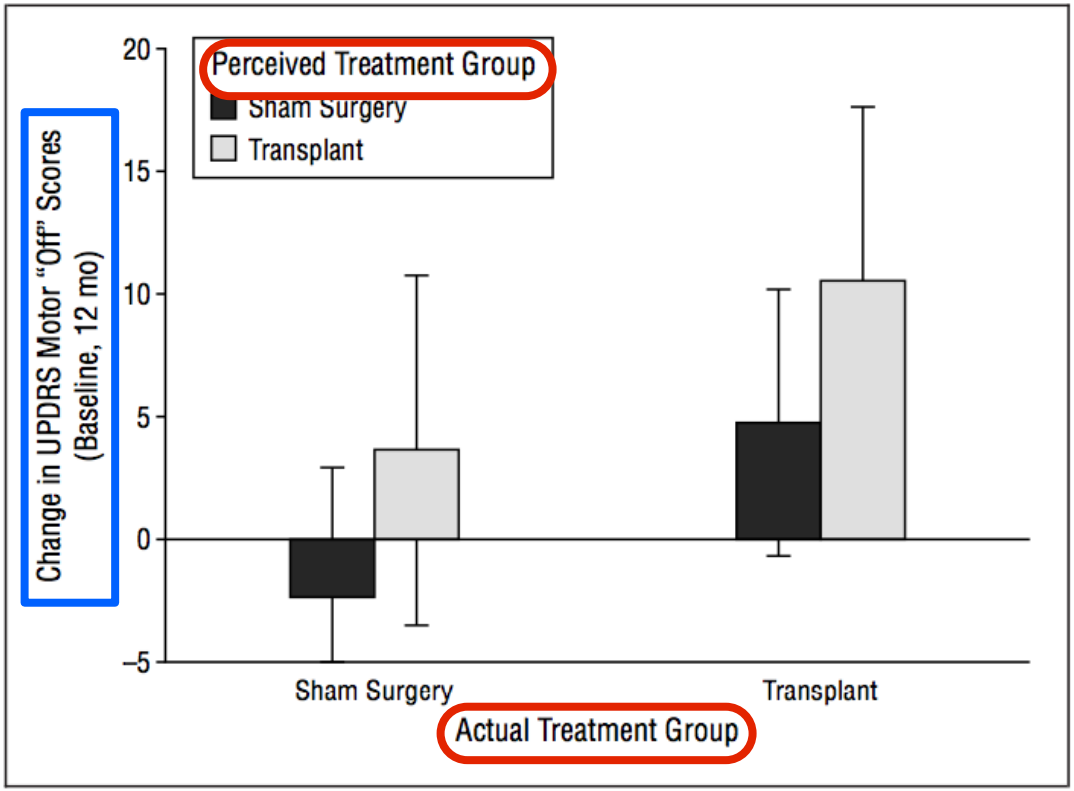
pričakovanje



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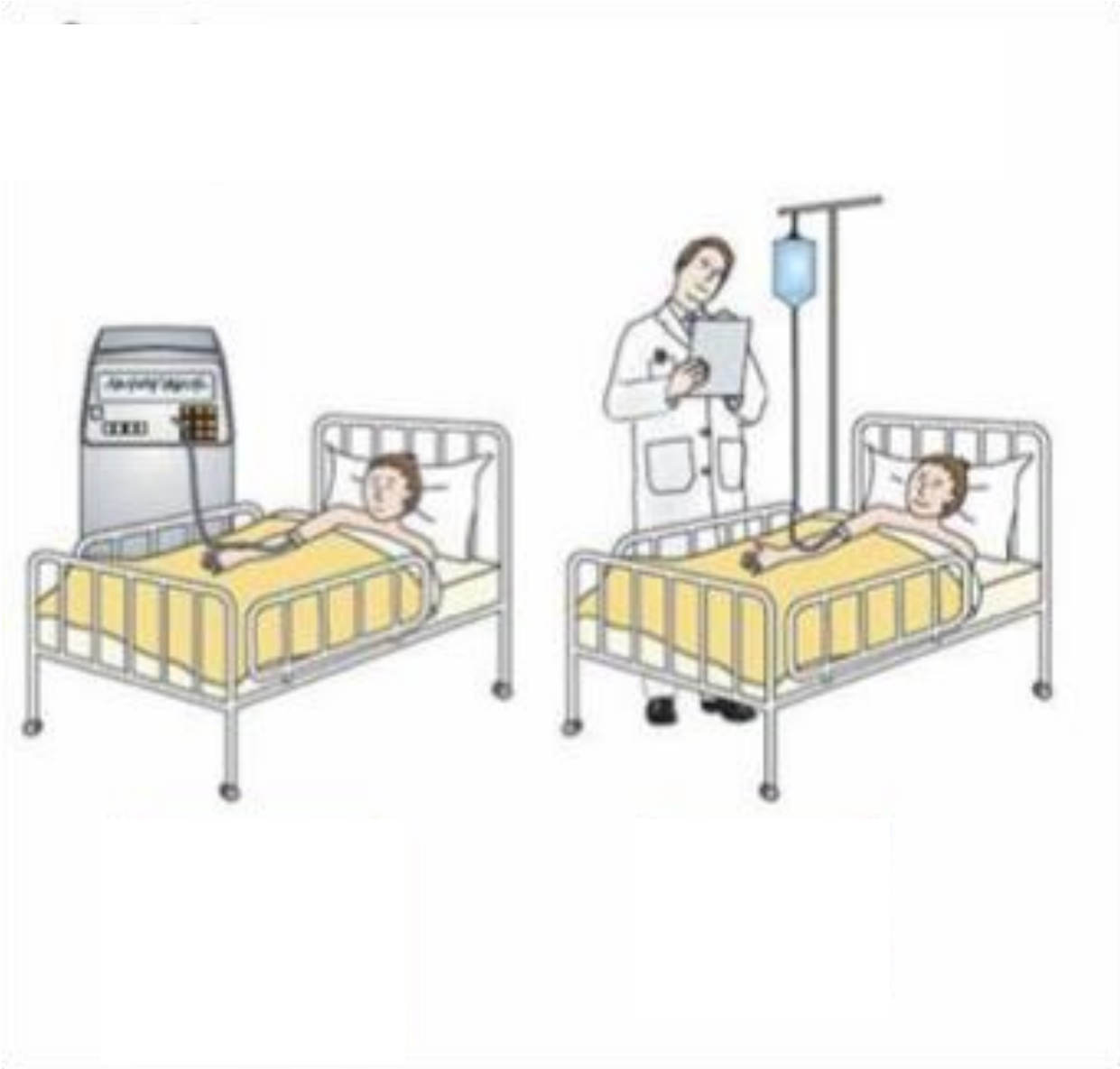

Amanzio et al. 2001

Physicians down-regulate their pain empathy response: An event-related brain potential study

Jean Decety [a], Chia-Yan Yang [b], Yawei Cheng [c,d,*]

[a] Departments of Psychology and Psychiatry, and Center for Cognitive and Social Neuroscience, The University of Chicago, IL, USA
[b] Institute of Computer, Communication & System Engineering, Ching-Yun University, Chungli, Taiwan
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[d] Department of Physical Medicine & Rehabilitation, National Yang-Ming University Hospital, Yilan, Taiwan

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Physician

ABSTRACT

Watching or imagining other people experiencing pain activates the central nervous system's pain matrix in the observer. Without emotion regulation skills, repeated exposure to the suffering of others in healthcare professionals may be associated with the adverse consequences of personal distress, burnout and compassion fatigue, which are detrimental to their wellbeing. Here, we recorded event-related potentials (ERP) from physicians and matched controls as they were presented with visual stimuli depicting body parts pricked by a needle (pain) or touched by a Q-tip (no-pain). The results showed early N110 differentiation between pain and no-pain over the frontal area as well as late P3 over the centro-parietal regions were observed in the control participants. In contrast, no such early and late ERP responses were detected in the physicians. Our results indicate that emotion regulation in physicians has very early effects, inhibiting the bottom-up processing of the perception of pain in others. It is suggested that physicians' down-regulation of the pain response dampens their negative arousal in response to the pain of others and thus may have many beneficial consequences including freeing up cognitive resources necessary for being of assistance.

The Devil is in the Third Year: A Longitudinal Study of Erosion of Empathy in Medical School

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Hvala!

za možgane

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