

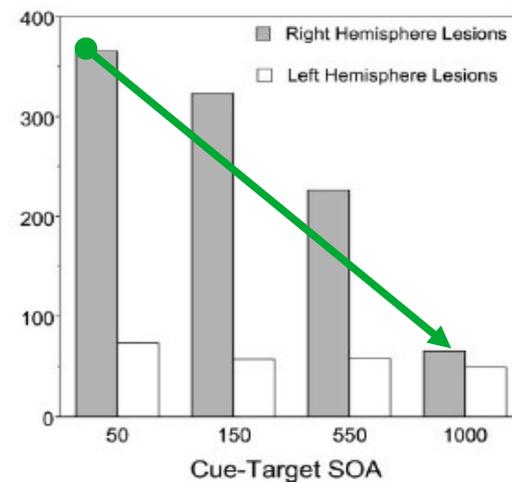
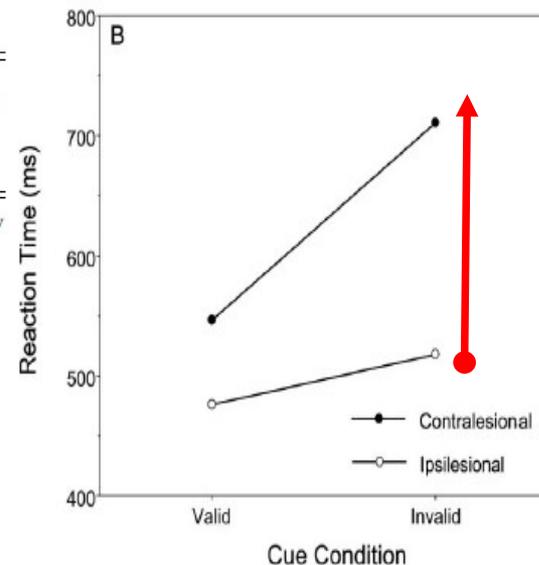
# Lezione n 15 del 24 Novembre 2020

Nps svi e riabil

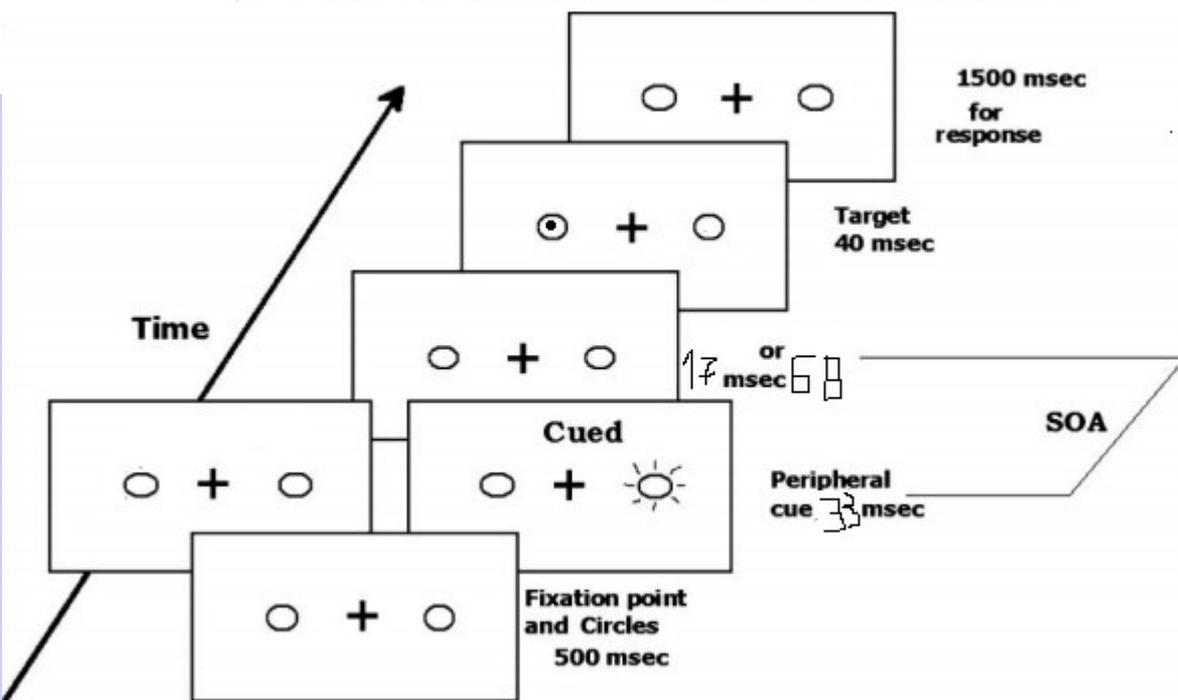
Ultimo studio longitudinale  
(=campione crowding) + effetto degli  
action video games

## A review of the evidence for a disengage deficit following parietal lobe damage

Bruno J.W. Losier<sup>a</sup>, Raymond M. Klein<sup>b,\*</sup>

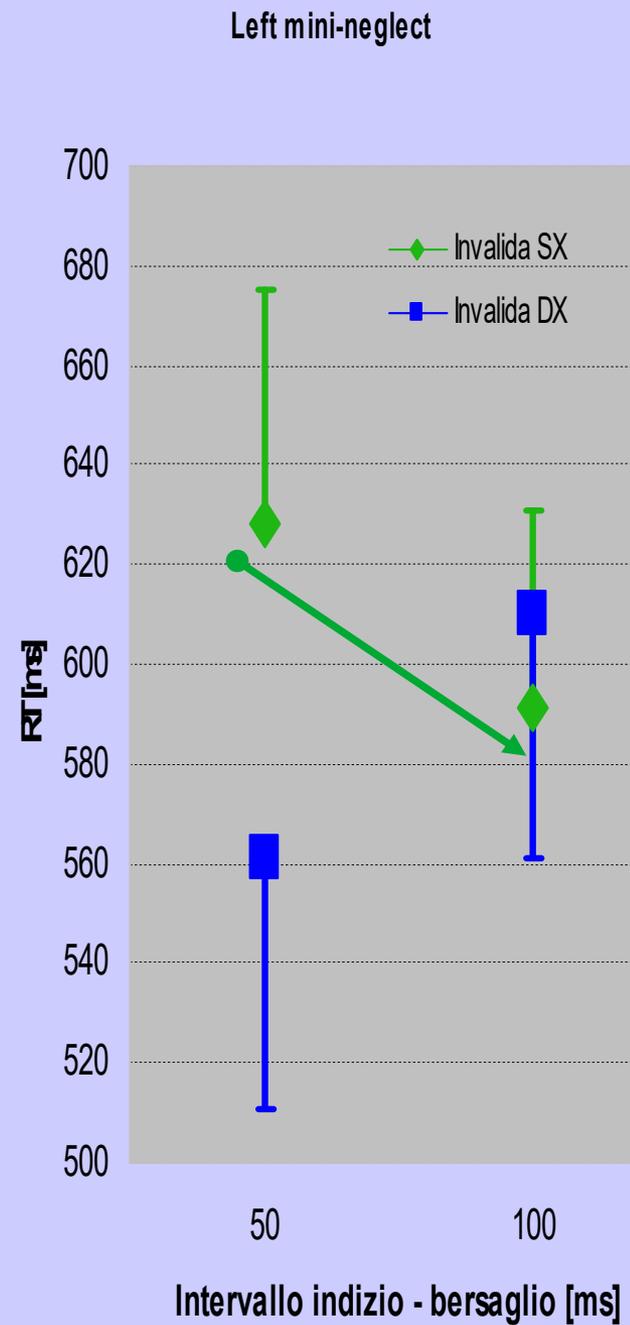
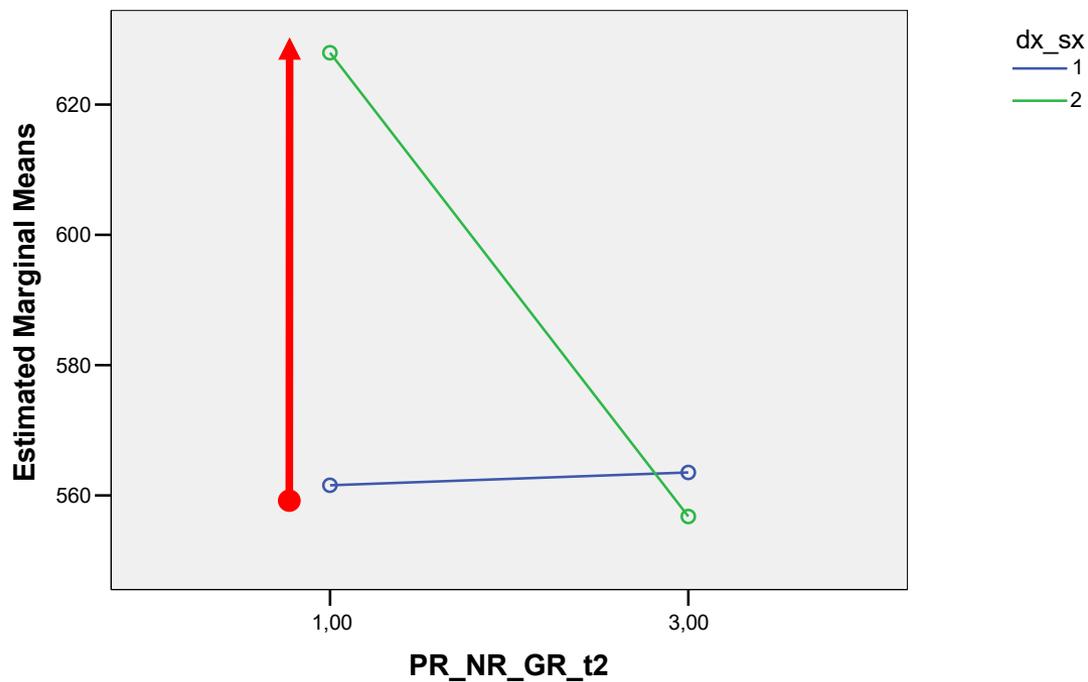
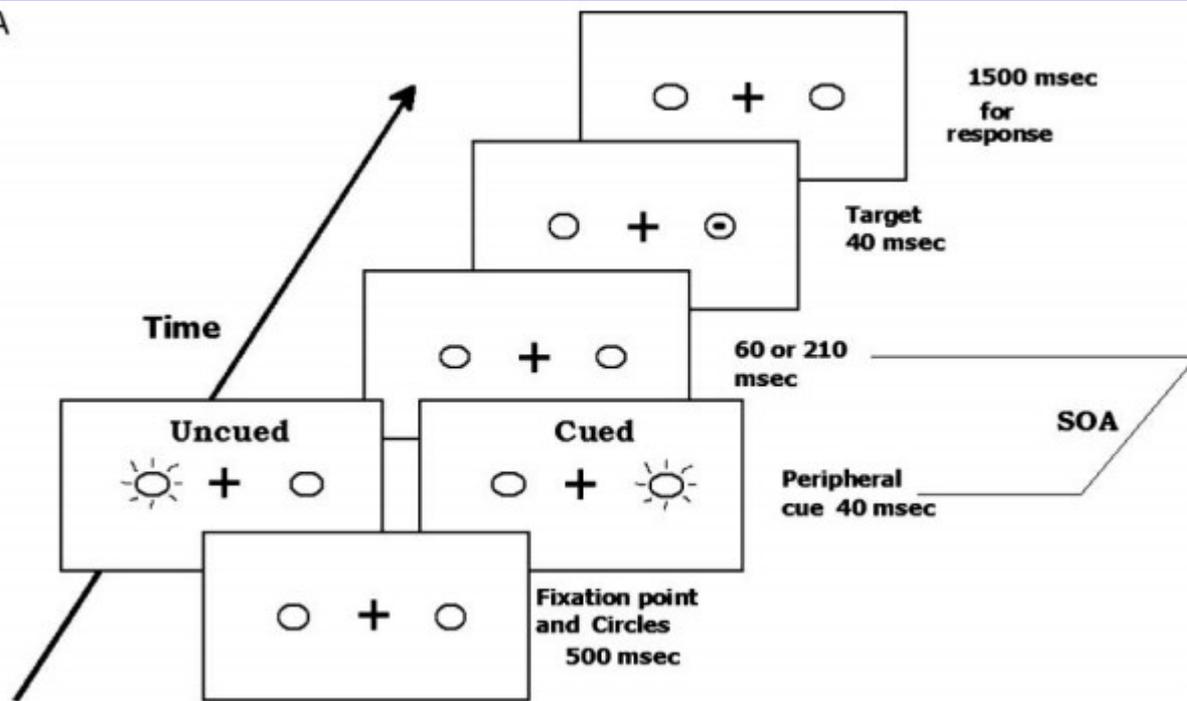


recourse of the disengage deficit (invalid minus valid RT for l targets subtracted from invalid minus valid RT for contralesions) in patients with left- and right-parietal lesions.



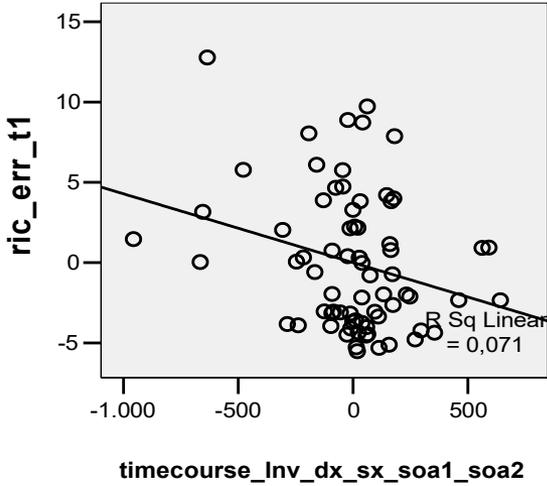
analysis: correcting error and bias in research. Newberg Park: Sage Publications, 1990). Findings from both types of analysis conducted on data from patients with right-hemisphere lesions indicate that: (1) the disengage deficit phenomenon is robust following peripheral cues, but not following central cues; (2) the disengage deficit is large at shorter cue-target stimulus onset asynchronies (SOAs), and decreases as SOA increases; (3) the disengage deficit is larger in patients with a diagnosis of hemispatial neglect; and (4)

A



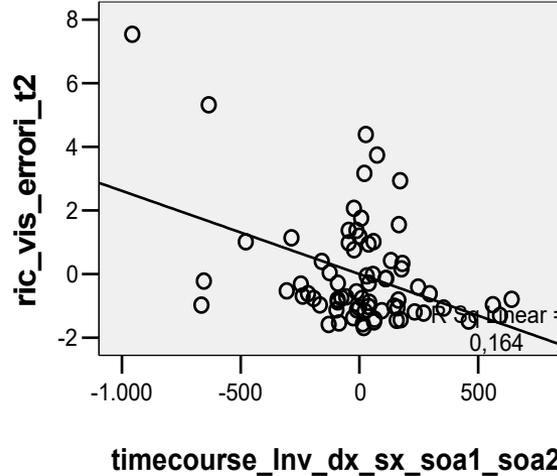
### Partial Regression Plot

Dependent Variable: ric\_err\_t1

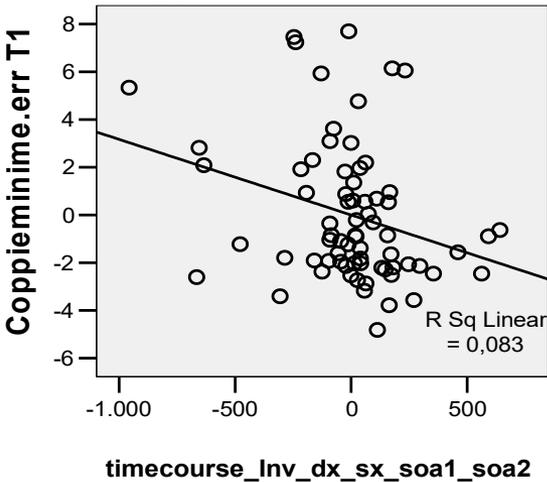


### Partial Regression Plot

Dependent Variable: ric\_vis\_errori\_t2

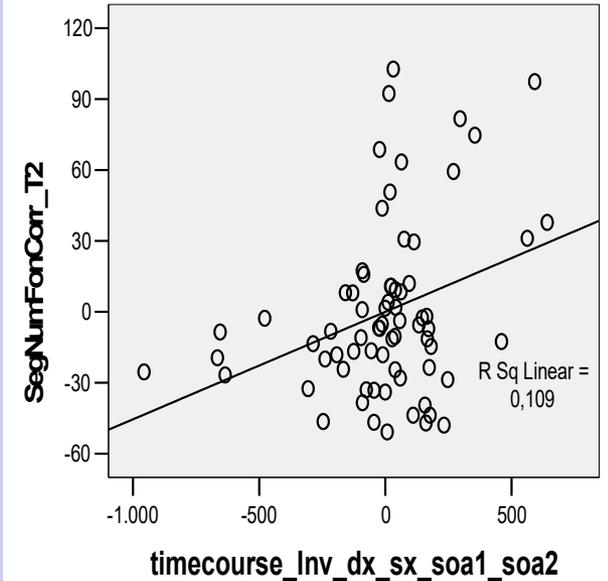


Dependent Variable:  
CoppieMinime.err T1

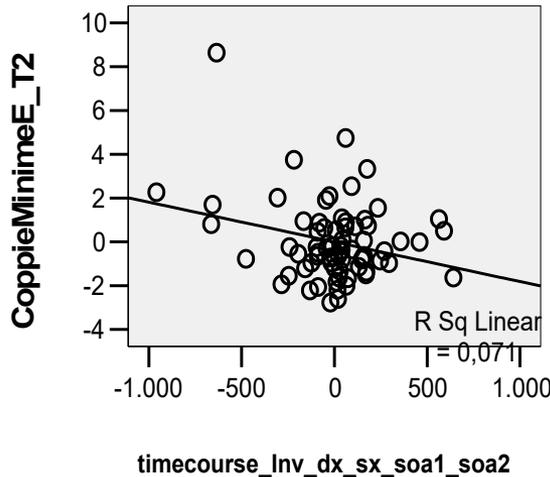


### Partial Regression Plot

Dependent Variable: SegNumFonCorr\_T2

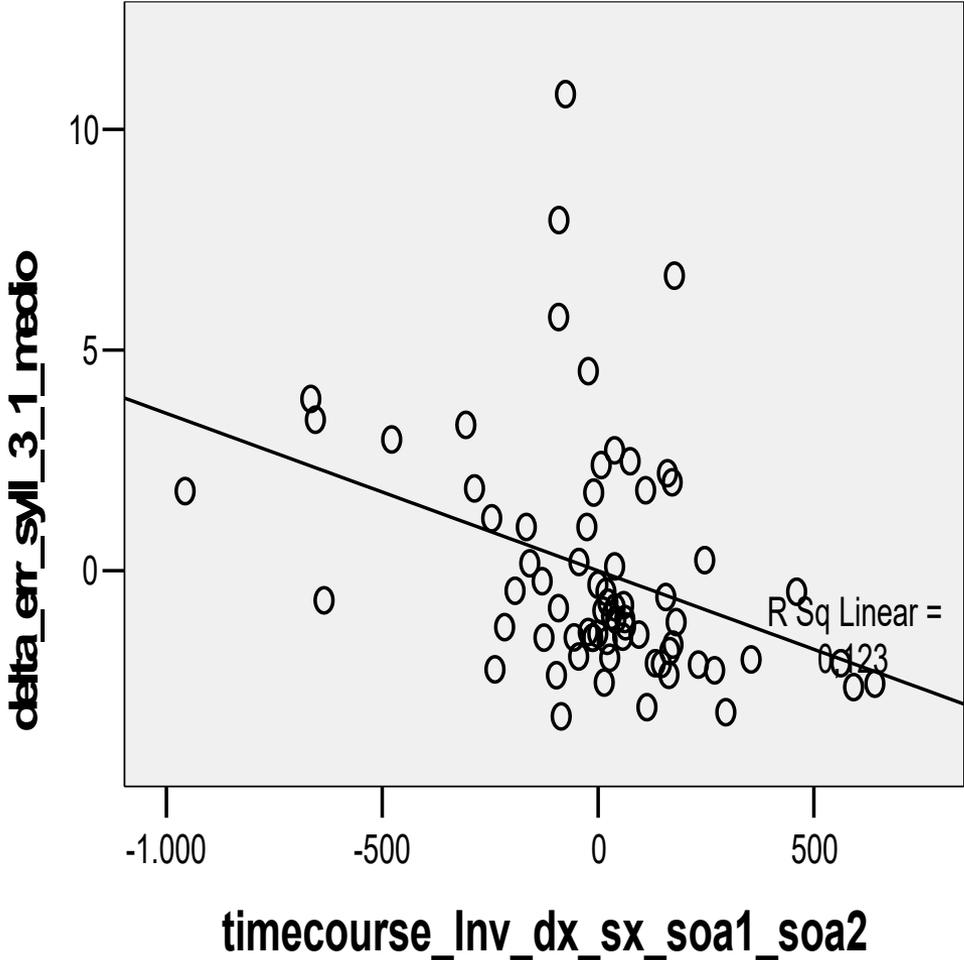


Dependent Variable: CoppieMinimeE\_T2



# Partial Regression Plot

Dependent Variable: delta\_err\_syll\_3\_1\_medio



## Compito di ricerca visiva



Principalmente condizione  
“stretta” = maggior  
crowding visivo

(=Invalide a sx rallentate  
all’intervallo cue-target  
breve)



Nello stesso campione di bambini pre-lettori (Studio 3), sono stati rilevati disturbi nell’attenzione visiva spaziale, principalmente nella condizione “Stretta” (=maggior crowding) e left mini-neglect (=disfunzione parietale dx)

# PRE-LETTURA

Scuola dell'infanzia

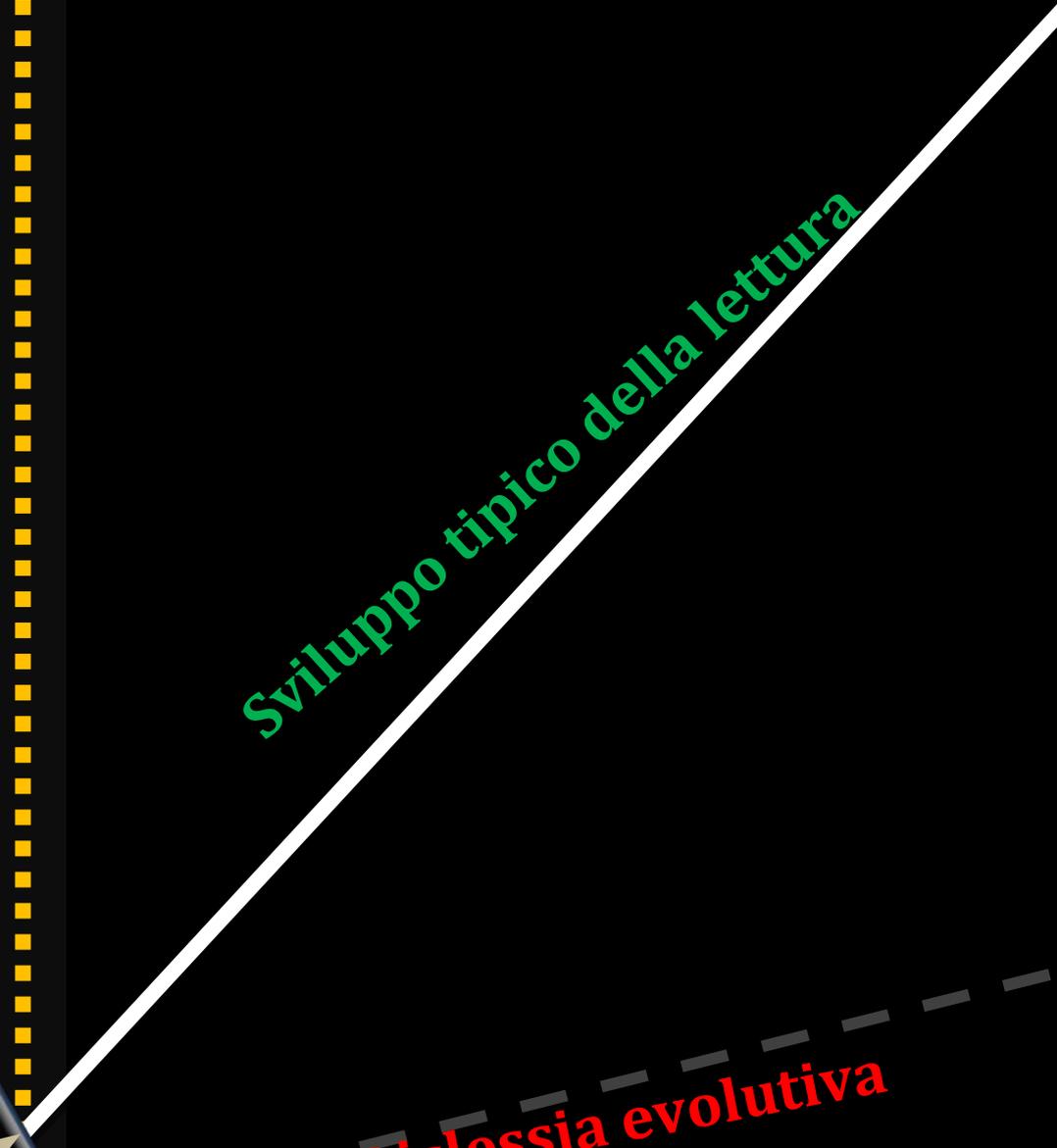
# ACQUISIZIONE DELLA LETTURA

Primaria    Secondaria    Università

*Sviluppo tipico della lettura*

*Dislessia evolutiva*

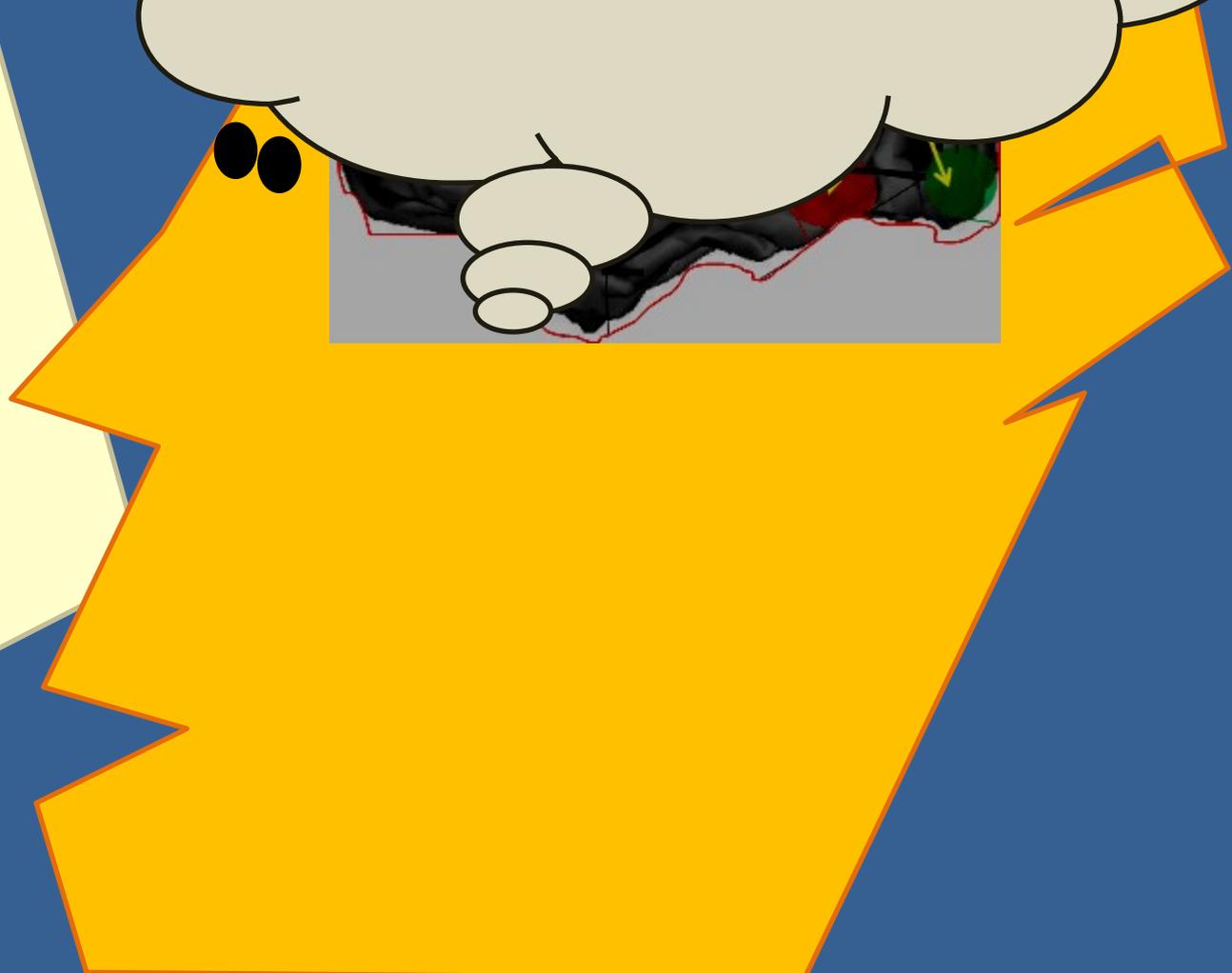
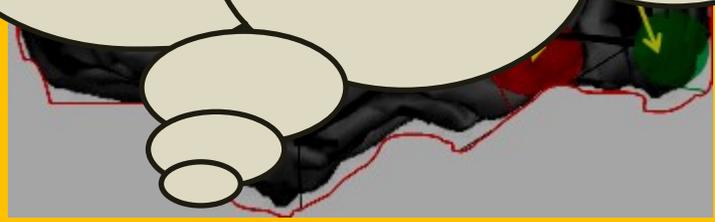
ABILITA' DI LETTURA



Dyslexia is a common problem  
Dys                      om                      lem

lex ia is a c                      mo                      pr                      ob

Dyslexia is a common problem



ORIGINAL ARTICLE

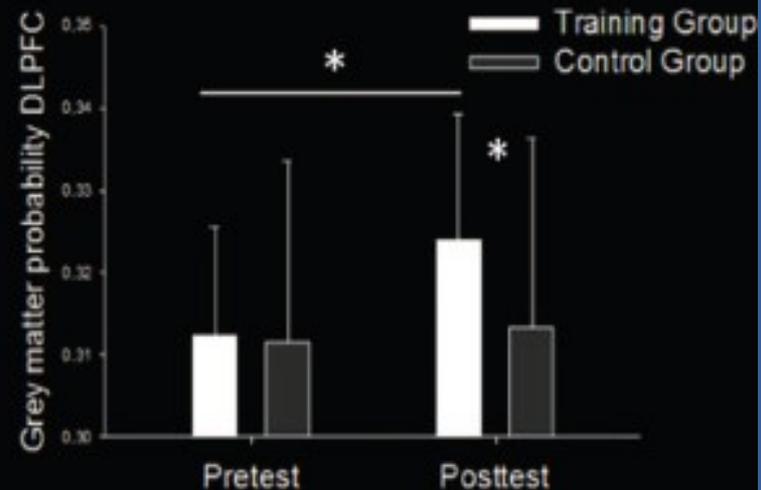
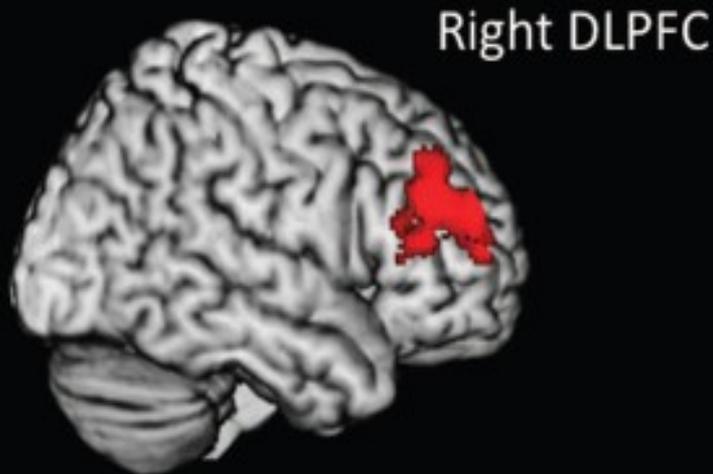
# Playing Super Mario induces structural brain plasticity: gray matter changes resulting from training with a commercial video game

S Kühn<sup>1</sup>, T Gleich<sup>2</sup>, RC Lorenz<sup>2,3</sup>, U Lindenberger<sup>1</sup> and J Gallinat<sup>2</sup>

Video gaming is a highly pervasive activity, providing a multitude of complex cognitive and motor demands. Gaming can be seen as an intense training of several skills. Associated cerebral structural plasticity induced has not been investigated so far. Comparing a control with a video gaming training group that was trained for 2 months for at least 30 min per day with a platformer game, we found significant gray matter (GM) increase in right hippocampal formation (HC), right dorsolateral prefrontal cortex (DLPFC) and bilateral cerebellum in the training group. The HC increase correlated with changes from egocentric to allocentric navigation



Figure 1. Screenshot from the platformer video game trained (Super Mario 64).



# I video giochi d'azione possono migliorare l'attenzione visiva (e uditiva)!

BRIEF COMMUNICATIONS

## letters to nature

nature  
neuroscience

### Action video game modifies visual selective attention

Focus Article

C. Shawn Green & Da

Department of Brain and Cognitive Sciences, University of Rochester, Rochester, NY

Enhancing the contrast sensitivity function through action video game training

Renjie Li<sup>1</sup>, Uri Polat<sup>2</sup>, Walter Makous<sup>1</sup> & Daphne Bavelier<sup>1</sup>

sciencedirect.com

IRECT®

2005) 217-230

www.elsevier.com/locate/actpsy

acta  
psychologica

### Stretching the limits of visual attention: the case of action video games

The effects of action video game experience on the time course of inhibition of return and the efficiency of visual search

Current Biology 20, 1573-1579, September 14, 2010 ©2010 Elsevier Ltd All rights reserved DOI 10.1016/j.cub.2010.07.040

### Improved Probabilistic Inference as a General Learning Mechanism with Action Video Games

Journal of Experimental Psychology: Human Perception and Performance 2006, Vol. 32, No. 6, 1465-1478

Acta Psychologica

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

### Report Video game players show more precise multisensory temporal processing abilities

SARAH E. DONOHUE, MARTY G. WOLDORFF, AND STEPHEN R. MITROFF

Duke University, Durham, North Carolina

Copyright 2006 by the American Psychological Association 0096-3523/06/\$12.00 DOI: 10.1037/0096-3523.32.6.1465

### Effect of Action Video Games on the Spatial Distribution of Visuospatial Attention

CURRENT DIRECTIONS IN PSYCHOLOGICAL SCIENCE

The effects of video game playing on attention, memory, and executive control

Vision Research 61 (2012) 132-143

Walter R

Contents lists available at SciVerse ScienceDirect

Vision Research

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



### Increasing Speed of Processing With Action Video Games

Matthew W.G. Dye, C. Shawn Green, and Daphne Bavelier

Department of Brain and Cognitive Sciences, University of Rochester

Neural bases of selective attention in action video game players



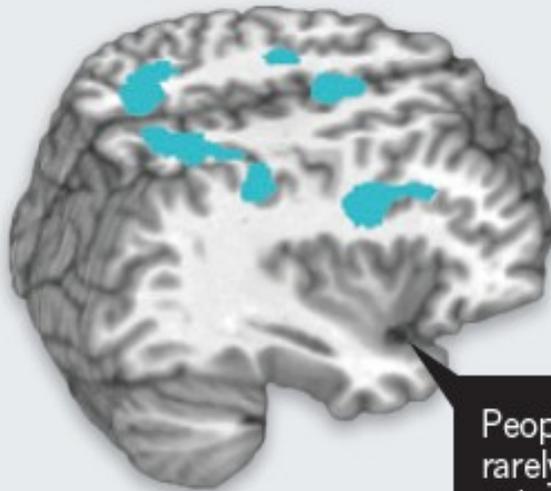
## COMMENT

ADAPTED FROM D. BAVELIER ET AL.  
VIS. RES. 61, 1 32-143 (2012)/ELSEVIER.

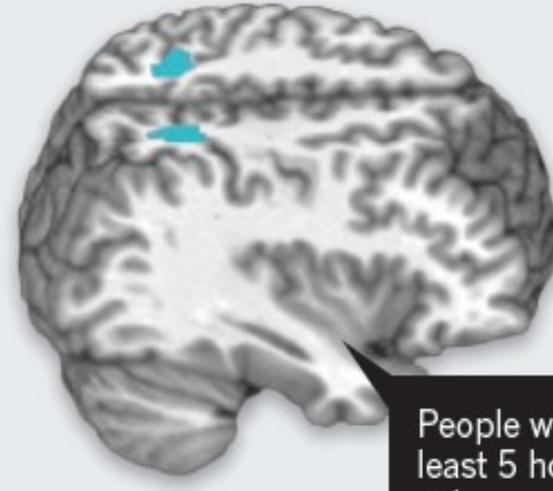
### BRAIN GAME

When searching for a particular object in a sea of shapes, people who played video games regularly showed less activation of the brain regions linked to attention, a sign that their brains were performing the task more efficiently.

● Brain networks associated with attention

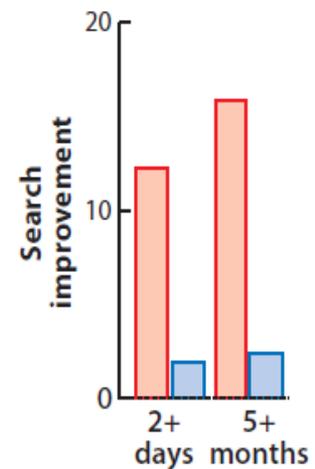
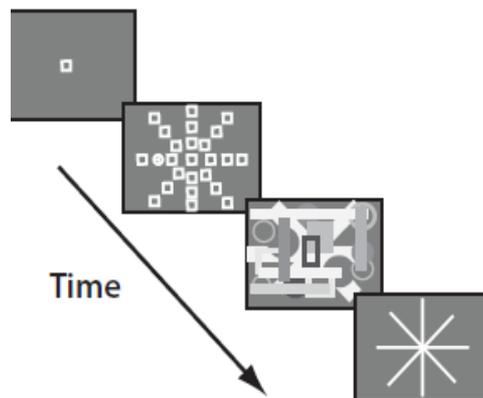
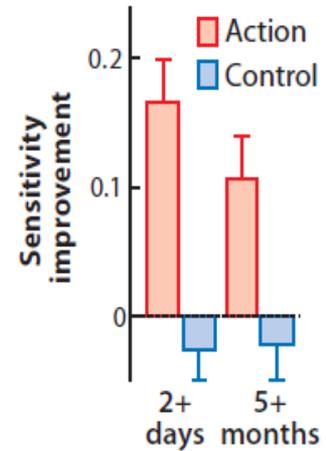
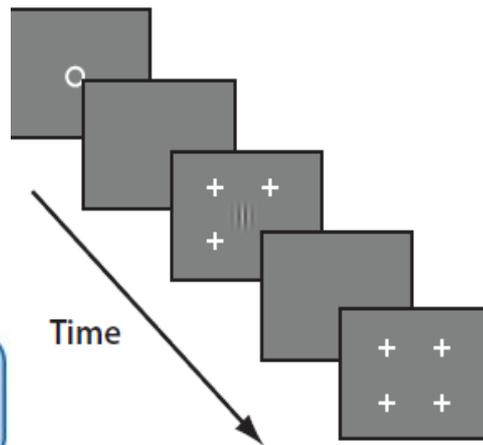
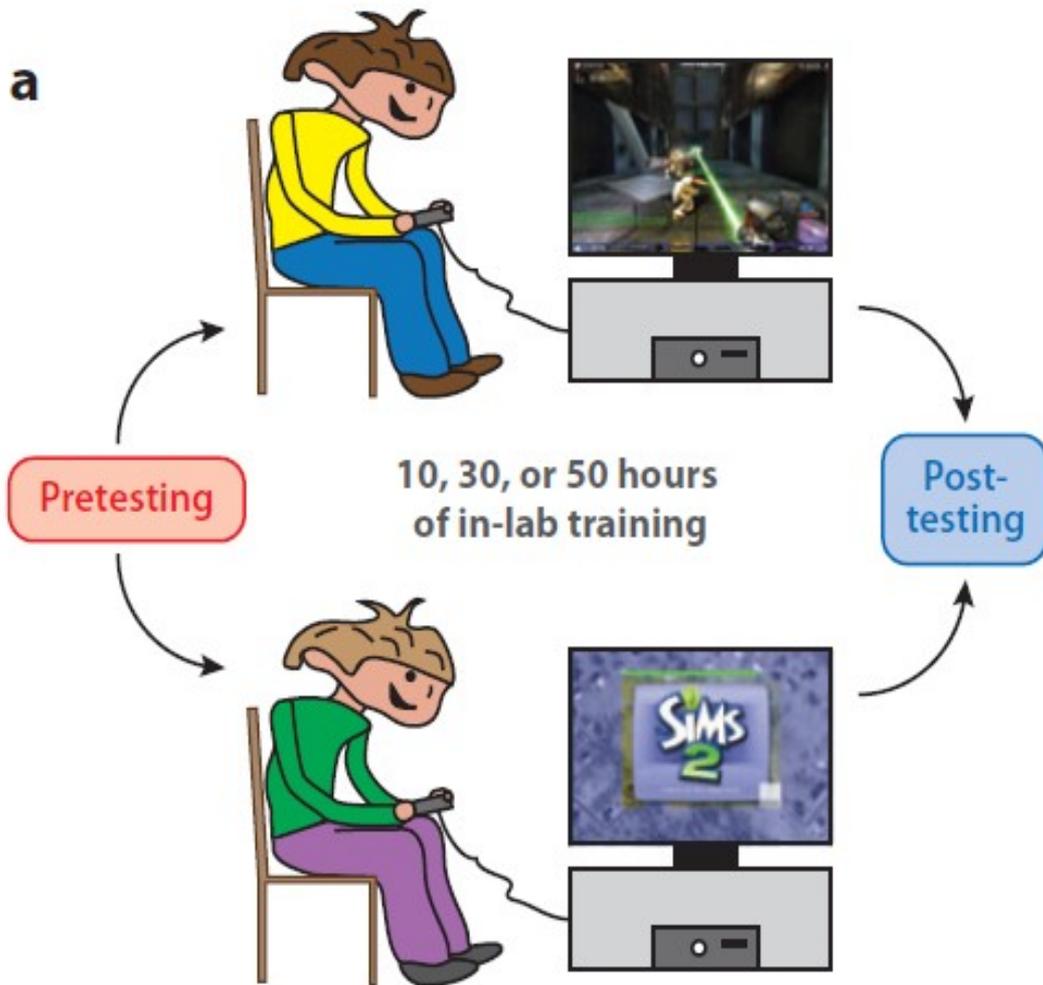


People who rarely played video games



People who played at least 5 hours of action video games per week

a



# B. Training della Dislessia mediante i video giochi d'azione:

- **Attenzione visiva Spaziale** and **memoria di lavoro fonologica** (Studio 1 e 2)
- **Percezione visiva del Movimento** e **ripetizione di non parole** (Studio 3)
  - **Percezione visiva Globale** (Studio 4)
- **Affollamento visivo** e **memoria di lavoro fonologica** (Studio 4 e 5)
- **Meccanismo di esclusione del rumore visivo** e **uditivo** (Studio 6)

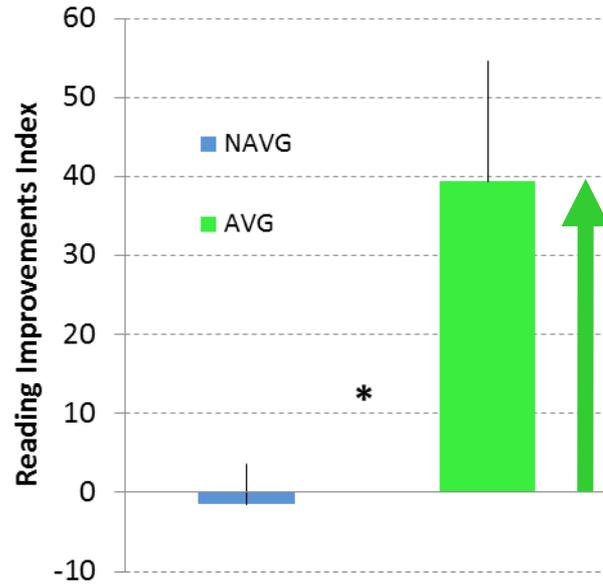
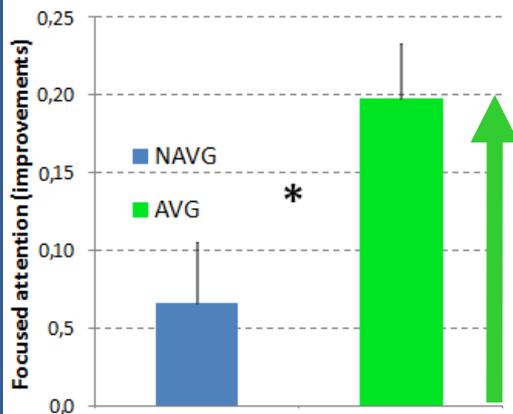
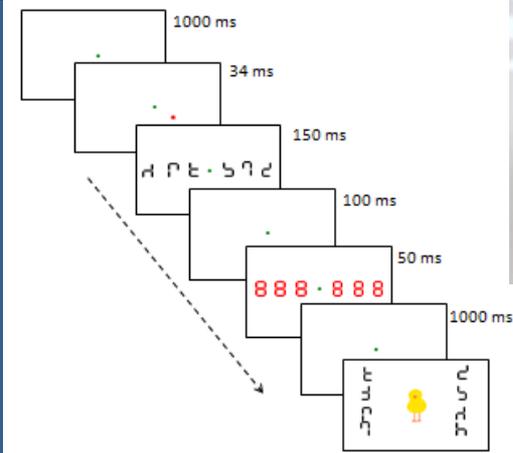
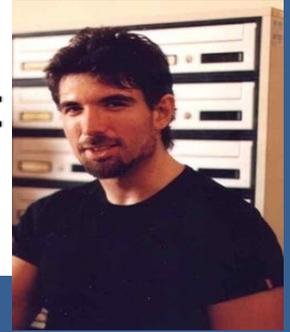
# MIGLIORARE la lettura nei bambini con dislessia Riducendo i loro deficit visuo-attenzionali (Studio 1)

Current Biology 23, 1–5, March 18, 2013 <http://dx.doi.org/10.1016/j.cub.2013.01.044>

## Action Video Games Make Dyslexic Children Read Better



Report



Visual, cross-modal attention and phonological working memory (Study 1 and 2)

# MIGLIORARE la lettura nei bambini con dislessia Riducendo i loro deficit visuo-attenzionali (Studio 1)

	Global Reading Gain	
	R <sup>2</sup> Change	P
1. Age and full IQ	0.026	.80
2. Phonological changes	.01	.75
<u>3. Spatial and temporal attentional improvements</u>	<u>.48</u>	<u>.03</u>

Il miglioramento nei meccanismi attenzionali è legato ai miglioramenti delle abilità di lettura?



Visual, cross-modal attention and phonological working memory (Study 1 and 2)

# MIGLIORARE la lettura nei bambini con dislessia Riducendo i loro deficit attenzionali (Studio 2)

[www.nature.com/scientificreports](http://www.nature.com/scientificreports)

## SCIENTIFIC REPORTS

OPEN

### Action video games improve reading abilities and visual-to-auditory attentional shifting in English-speaking children with dyslexia

Received: 25 January 2017  
Accepted: 2 June 2017  
Published online: 19 July 2017

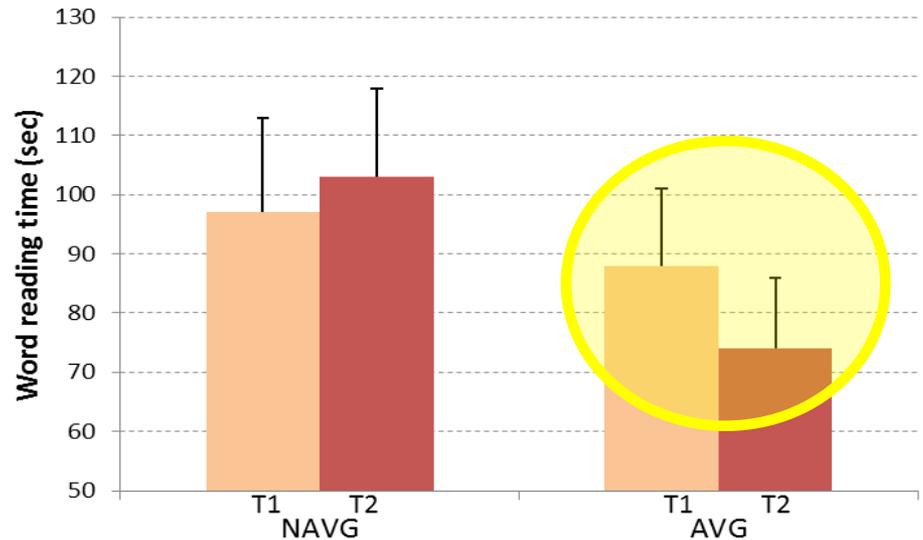
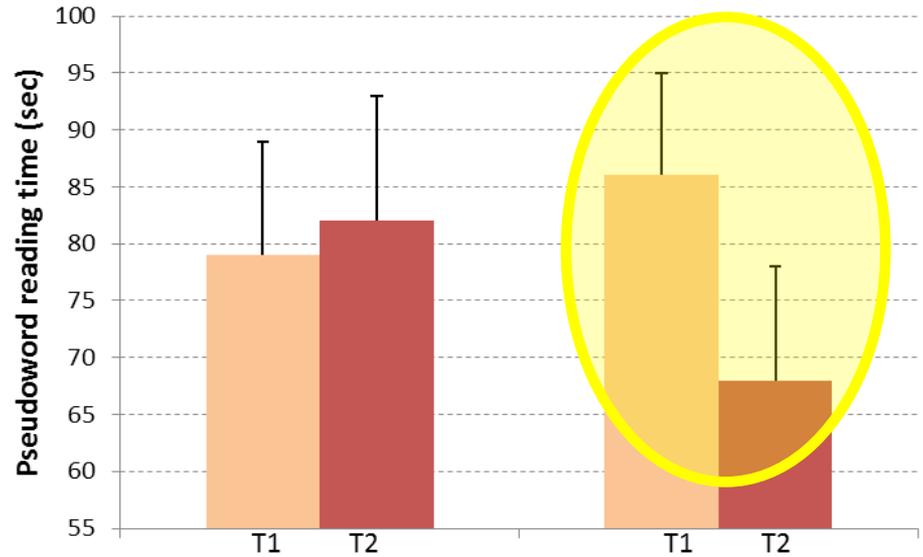
Sandro Franceschini<sup>1,2</sup>, Piergiorgio Trevisan<sup>3</sup>, Luca Ronconi<sup>1,2,4</sup>, Sara Bertoni<sup>1</sup>, Susan Colmar<sup>5</sup>, Kit Double<sup>5</sup>, Andrea Facchetti<sup>1,2</sup> & Simone Gori<sup>2,6</sup>



Visual, cross-modal attention and phonological working memory (Study 1 and 2)

# MIGLIORARE la lettura nei bambini con dislessia Riducendo i loro deficit attenzionali (Studio 2)

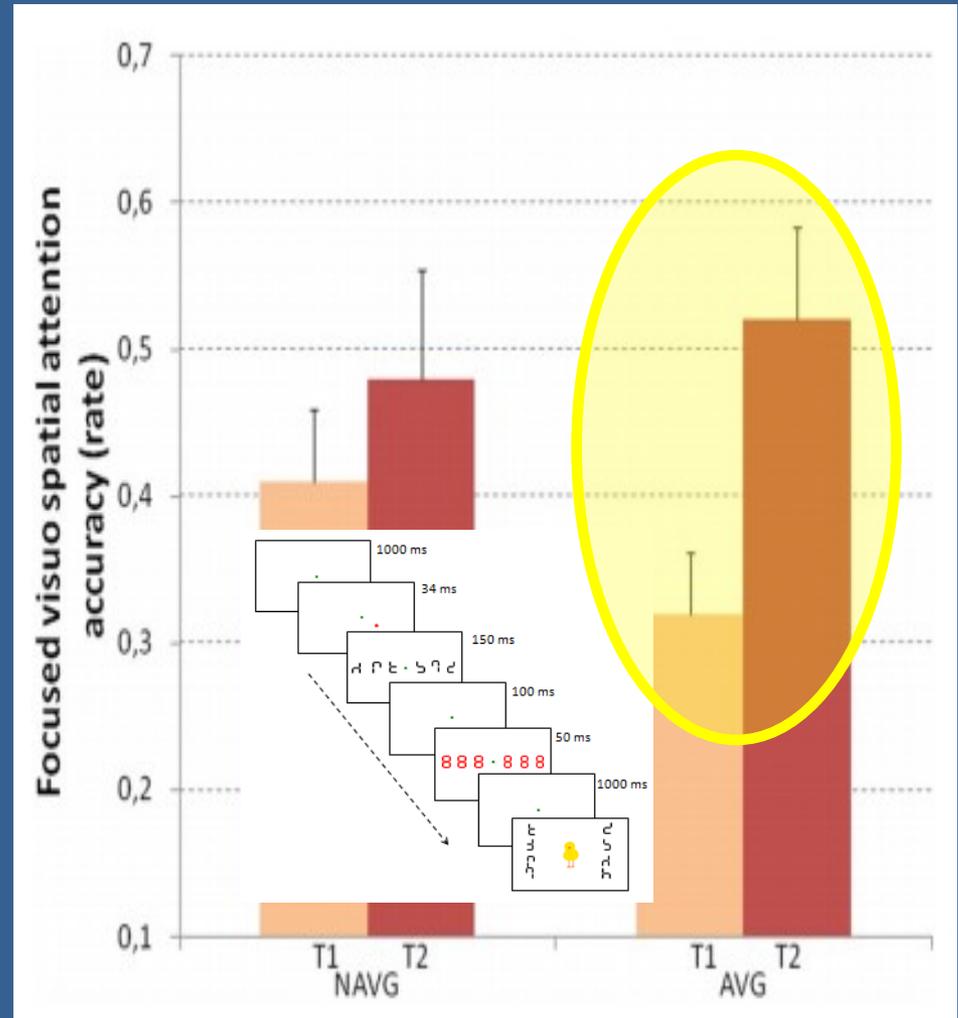
## Velocità di lettura



Visual, cross-modal attention and phonological working memory (Study 1 and 2)

# MIGLIORARE la lettura nei bambini con dislessia Riducendo i loro deficit attenzionali (Studio 2)

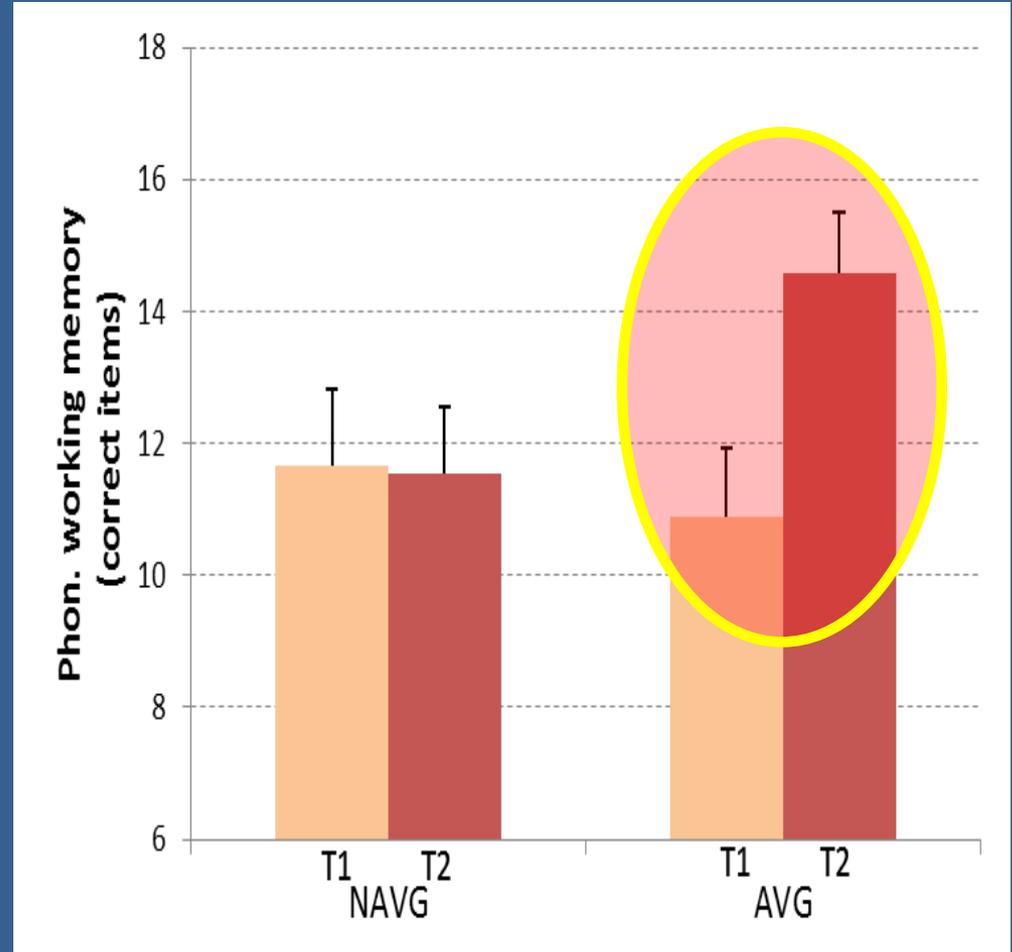
## Attenzione visuo-spaziale



Visual, cross-modal attention and phonological working memory (Study 1 and 2)

# MIGLIORARE la lettura nei bambini con dislessia Riducendo i loro deficit attenzionali (Studio 2)

## Memoria di lavoro fonologica



(b)

