

# Patients avec troubles de conscience

## Comment on pense à leur prise en charge

**Journée EVC-EPR 2017 L'ETHIQUE**

**Centre Ressources Francilien du  
Traumatisme Crânien**

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Paris, France

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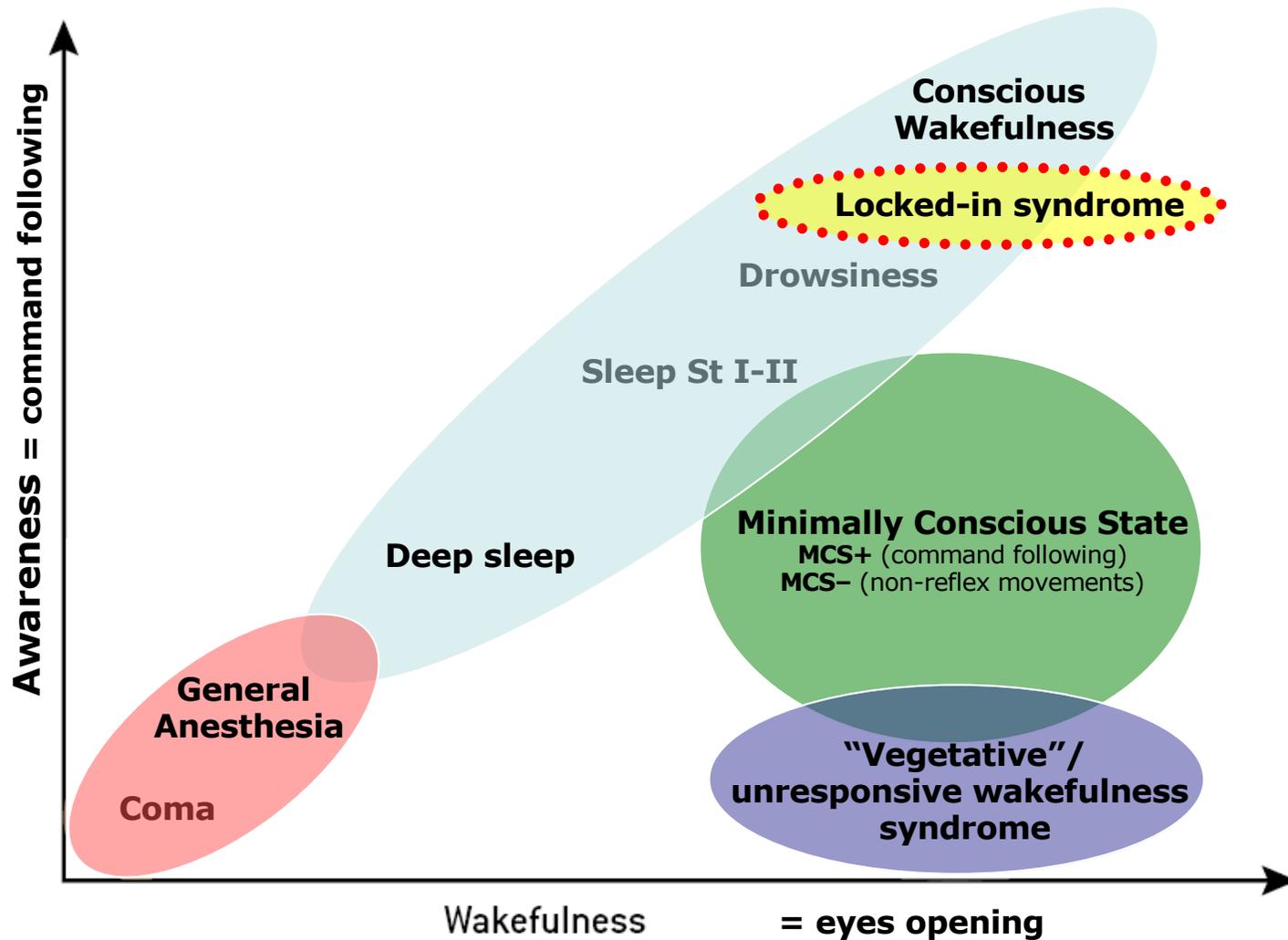
**Institut du Cerveau et de la Moelle épinière – ICM  
Hôpital Universitaire Pitié-Salpêtrière  
Paris, France**



James S. McDonnell Foundation



# Definition clinique de la conscience



# From “how we ought to” to “how we think”: Opinions

## Procedure

Questionnaire surveys  
 Scientific conferences and meetings in Europe  
 Binary outcome: Agree-Disagree

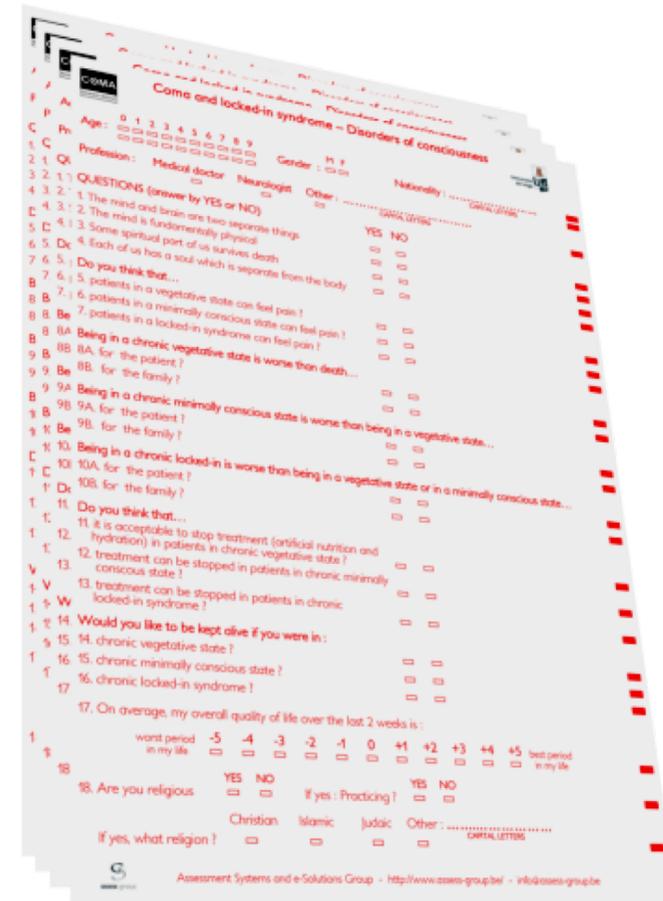
**Study 1:** Pain perception in DOC (n= 2059)

**Study 2:** End-of-life in DOC (n=2475)

**Study 3:** Pain and end-of life in DOC (n=2259)

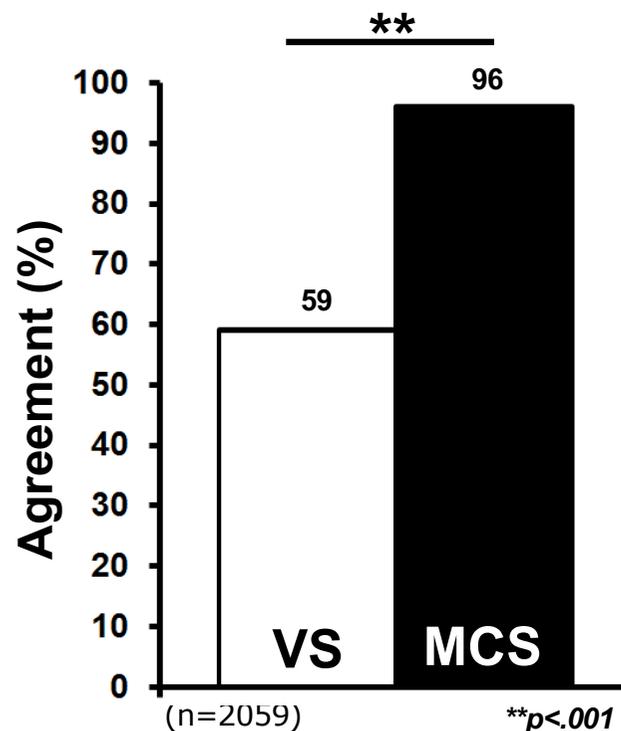
## Statistical Analysis (SPSS v.16)

Chi-square tests  
 Multiple Logistic Regressions  
     Profession (medical, paramedical, other)  
     European region (Northern, Central, Southern)  
     Religiosity  
     Gender  
     Age



# (1) Attitudes towards pain

Do you think patients in a ...  
can feel pain?



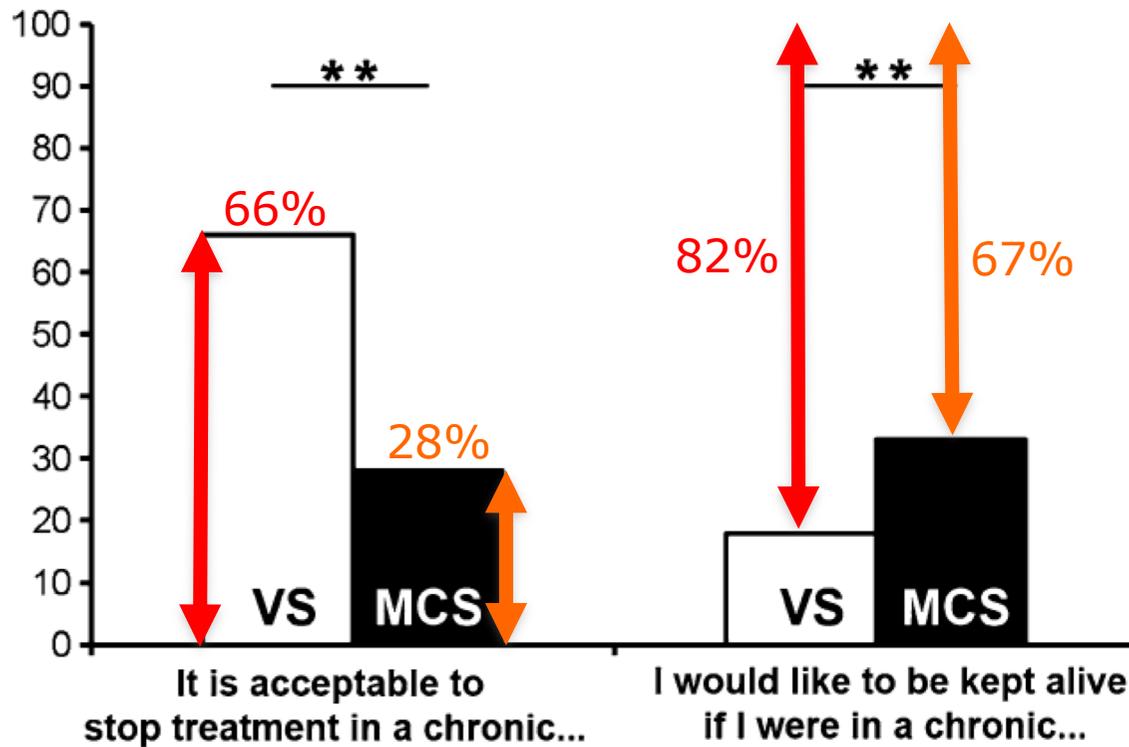
Question Predictors	Odds Ratio	95% Confidence Interval	p value
<b>Do you think VS patients feel pain?</b>			
Age	1.01	1.00 1.02	.050
Women	1.25	.99 1.58	.060
Northern Europe	1.00		
Central Europe	.81	.58 1.14	.240
Southern Europe	1.10	.76 1.60	.600
Paramedical professionals	1.56	1.20 2.00	<.001
Religious respondents	1.37	1.10 1.70	.004
<b>Do you think MCS patients feel pain?</b>			
Women	2.38	1.33 4.26	.003
Religious respondents	1.83	1.05 3.18	.031

Predicted response: "agreement"

# (2) Attitudes towards end-of-life



2,475 medical professionals

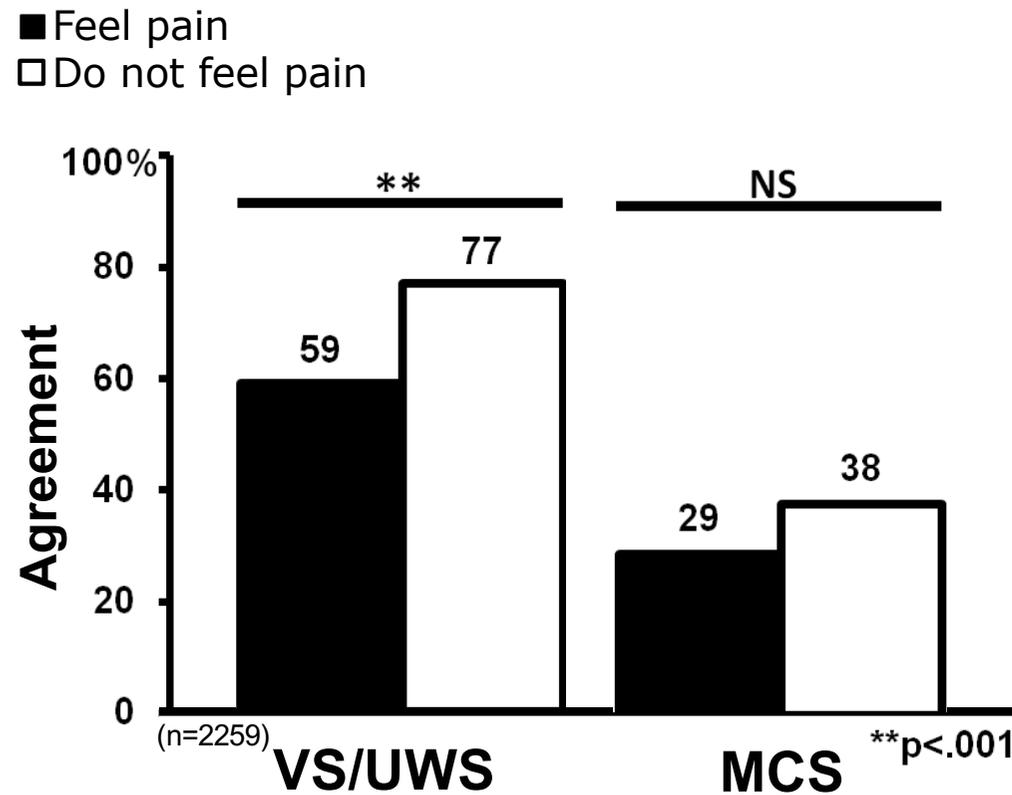


VS is worse than death for  
 •patients: 55%  
 •families: 80%

MCS is worse than VS for  
 •patients: 54%  
 •families: 42%

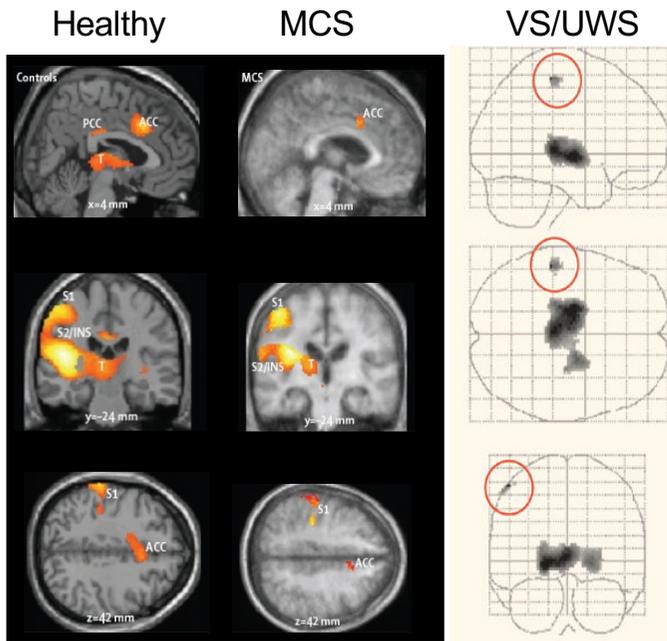
# (3) Attitudes towards pain & end-of-life

## Treatment can be stopped in chronic...



# Neural correlates of awareness?

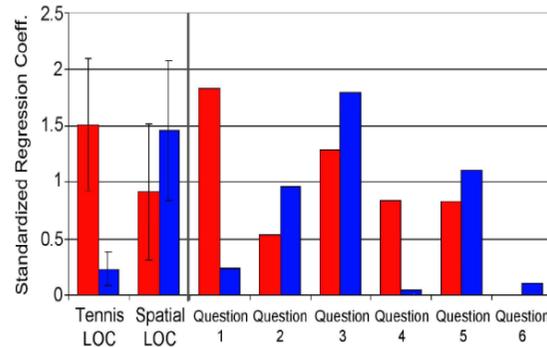
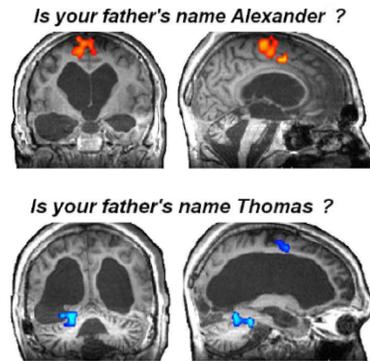
## Activation paradigms



Boly et al, Lancet Neurol 2008  
Laureys et al, Neuroimage 2002

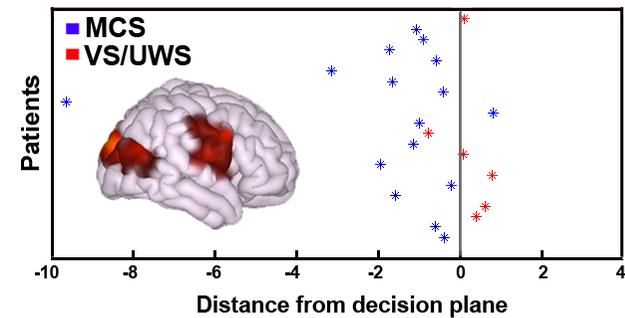
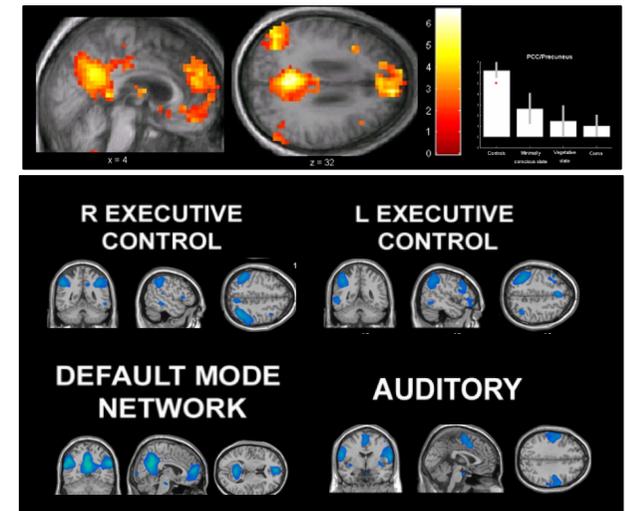
## Active paradigms

Imagine **Tennis** to answer 'YES'  
Imagine **Navigating** to answer 'NO'



Monti & Vanhaudenhuyse et al, NEJM 2010  
Owen et al, Science 2006

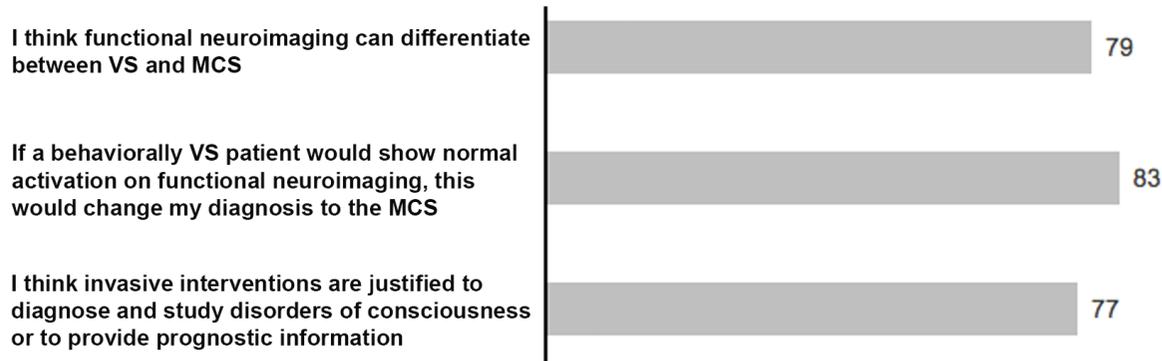
## Resting state paradigms



Demertzi & Antonopoulos, Brain in press  
Demertzi & Gomez, Cortex 2014  
Vanhaudenhuyse et al, Brain 2010

# Physicians approve technology

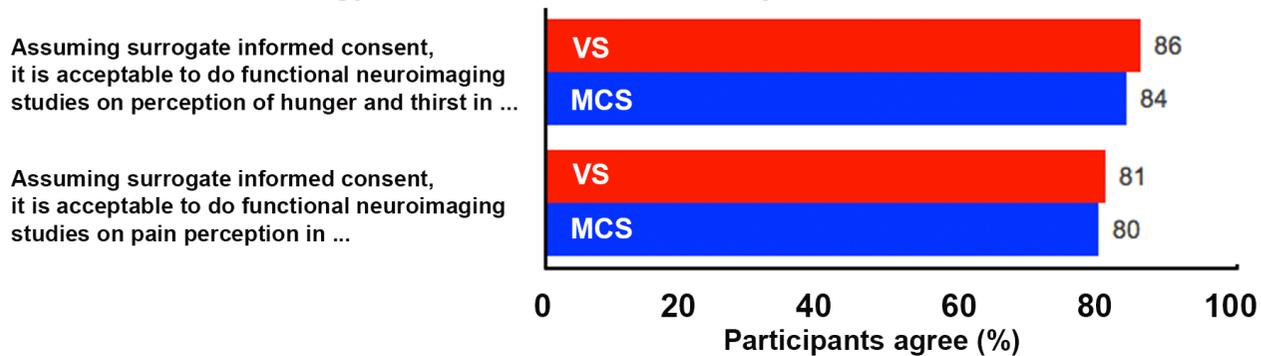
## The use of technology to get ancillary information about patients' clinical status



## The use of technology to develop treatments



## The use of technology to assess conscious experiences



SOCIETY for NEUROSCIENCE

(n=1233)

# Que devons-nous aux patients TDC?

- The moral significance of Consciousness
  - ontological understanding: consciousness = personhood = moral agency
  - relational or contextual understanding: patients have value for others
- Legal challenges: responses to critical questions with technology
- Cognitive neuroscience is about brain/mind reading
  - to what degree do we neuroscientists have the right to interfere with a patient's intimacy, such as cognitive contents, in the absence of their consent?
  - in essence, where do we draw the limits of deciphering another person's cognitive content, like dreams, ongoing mentation etc? What is the additive value of it to a societal level?



**Thank you!**

The departments of  
Neurology and Radiology in  
Paris and Liège

**...but mostly patients  
and their families!**



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