Cognitive Sources of Error and Ways to Minimize Them

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Cognitive Sources of Error

- Errors are good! (not in real casework…)
- They are an important tool for learning!
    1. To identify when they happen
    2. To measure them
    3. To understand why they occur
    4. To take steps to minimize them
    5. To learn from them! → Induce error!

Cognitive Sources of Error

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Cognitive Sources of Error

2011; 33: 34–38 MEDICAL TEACHER

A novel approach to minimize error in the medical domain: Cognitive neuroscientific insights into training*

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- Reducing medical errors not by acknowledging them and trying to avoid them…
- But by giving memorable error experiences!

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2011; 33: 34–38 MEDICAL TEACHER

A novel app … in the medical do … ientific insights int…

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University College London, U…

- Reducing … acknowled… avoid them…
- But by giving memorable error experiences!

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- In the forensic domain, for example:
  - In verification give similar 'look alikes'…
  - In technology, e.g., AFIS, give a match lower down the list

→ 'sabotage'

➔ Not intended to 'set people up', but to make effective learning, utilizing the power of errors

➔And, of course, use 'naturally' occurring errors.

(if you want to minimize errors….)

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Cognitive Sources of Error

- 'Bias', 'cognitive', 'neuroscience'

→ Everyone is talking about it
(not only in forensic science)

- But not many really understand it
or, how to relate & translate it
- "A wild goose chase", "like trying to nail jelly to the tree".

Cognitive Sources of Error

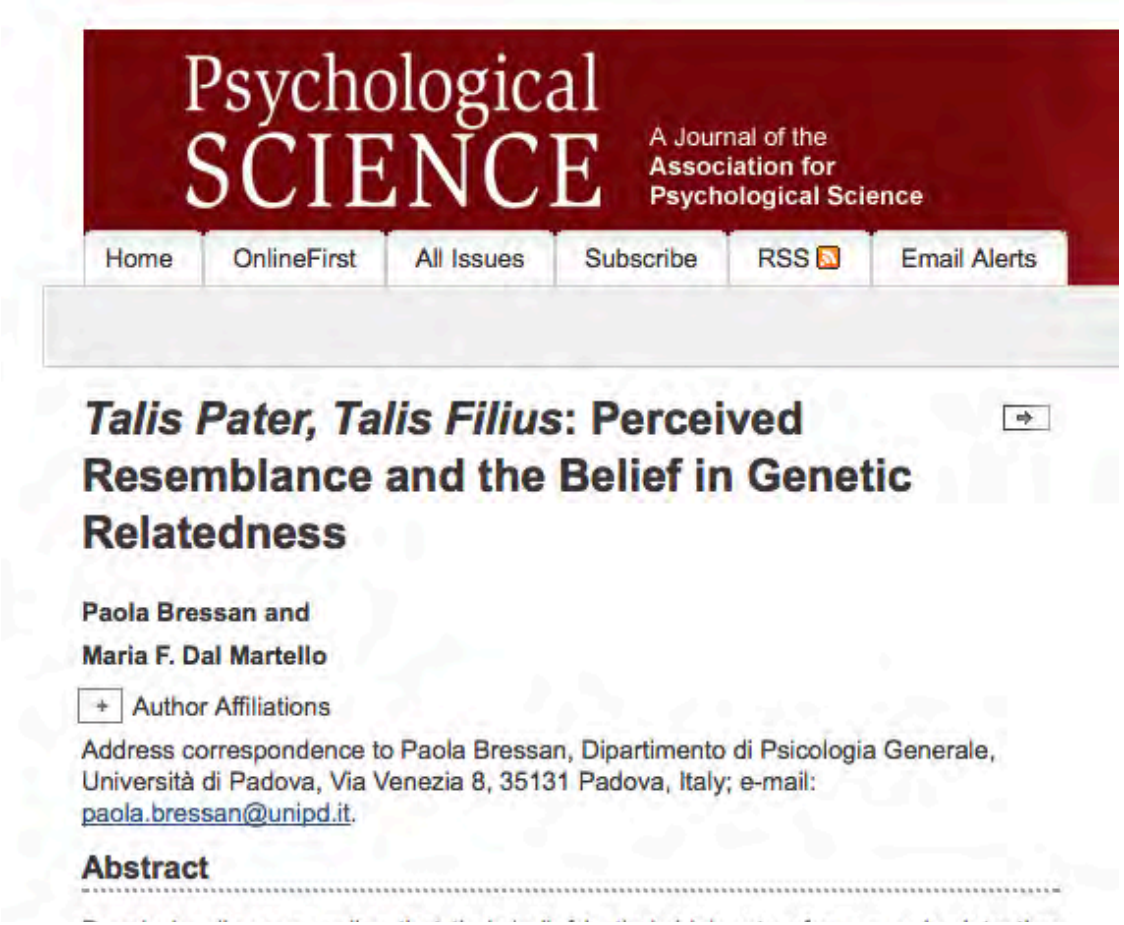
- A few very basic points:

  1. What is bias…?

Cognitive Sources of Error

How similar are they? → Based on the faces!

Cognitive Sources of Error



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***Talis Pater, Talis Filius*: Perceived Resemblance and the Belief in Genetic Relatedness**

Paola Bressan and

Maria F. Dal Martello

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Abstract

How similar are they? → Based on the faces!

Cognitive Sources of Error

How similar are they? → Based on the faces!

Cognitive Sources of Error

- A few very basic points:
  1. What is bias…?
  2. Although bias is everywhere…

     It does not mean it necessarily leads to error!

     → Should we consider it, worry about it?

     ➔ YES!

     Does it justify action across the board, or just in the 'bias danger zone" ('Triage Approach')?

     ➔ For you to consider!

     But… through understanding!

Cognitive Sources of Error

- What are the 'cognitive sources' of error?...

  →Many…..

  (not only bias…. bias is just one of many)

Cognitive Sources of Error

Cognitive Sources of Errors
1. Incompetent
2. Unskilled
3. Unfit for duty
4. Cognitive bias
5. Base rate
6. Verification
7. Overstating in court
and more….

Cognitive Sources of Error and Ways to Minimize Them

Cognitive Sources of Errors	Ways to Minimize Cognitive Errors
1. Incompetent	
2. Unskilled	
3. Unfit for duty	
4. Cognitive bias	
5. Base rate	
6. Verification	
7. Overstating in court	
and more….	

Cognitive Sources of Error and Ways to Minimize Them

Cognitive Sources of Errors	Ways to Minimize Cognitive Errors
1. Incompetent	Selection
2. Unskilled	Training
3. Unfit for duty	Fatigue, medication, +
4. Cognitive bias	Blinding, LSU
5. Base rate	TIP
6. Verification	…
7. Overstating in court	….
and more….	→ OSAC! ☺

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THANK YOU!