Combating Confirmation Bias

Can Forensic Science Benefit from Importing Eyewitness Identification Procedures?

Jeff Kukucka, Ph.D.
Two Types of Processing

- BOTTOM-UP
- TOP-DOWN
Confirmation Bias

Welche Tiere gleichen einander am meisten?

Raninen und Ente.

... a rabbit or a duck?

(Jastrow, 1892)

Everything you look for and all that you perceive has a way of proving whatever you believe.
Forensic Confirmation Bias


Target article

The forensic confirmation bias: Problems, perspectives, and proposed solutions

Saul M. Kassin\textsuperscript{a,*}, Itiel E. Dror\textsuperscript{b}, Jeff Kukucka\textsuperscript{a}

\textsuperscript{a} John Jay College of Criminal Justice, University of Pennsylvania

Example: Barry Laughman

- Laughman confesses to rape and murder of elderly neighbor
- Rapist has Type A blood; Laughman has Type B blood
- Chemist concocts theories that reconcile blood with confession
- Served 16 years in prison
Overall Aims

- Studies 1 + 2 (Kukucka & Kassin, 2014)
  
  *Does knowledge of a recanted confession affect subsequent judgments of handwriting evidence?*

- Studies 3 + 4 (Kukucka & Kassin, under review)
  
  *How does the adoption of eyewitness identification procedures affect context-laden judgments?*
Study 1 Method

Summary of bank robbery (U.S. v. Hines, 1999)

Suspect confesses (and recants)

Suspect denies guilt

Handwriting samples from perpetrator and suspect

N = 169

IV
Confession = Present / Absent

DV
Similarity (1-10)
Match? (Yes/No)
Verdict (G/NG)
I understand my rights to remain silent and to call a lawyer and I agree to talk at this time.

I have a gun.
Keep quiet or I will shoot you.
Give me all your cash!
Study 1 Results

- **Similarity Rating (1-10)**
  - Denial
  - Confession

- **% Match Judgments**
  - $p = .061$
  - $d = 0.27$
  - $OR = 3.00$

- **% Guilty Verdicts**
  - $p = .001$
  - $OR = 5.04$
Study 2 Method

**Time 1**

* N = 245

- Rate pairs of HW samples (no context)

**Time 2**

* N = 128

- Read summary of bank robbery
  - Confess
  - Deny
  - Control

**IV**

**DV s:** Change over time

- ONE WEEK

- Similarity (1-10)
- Match? (Y/N)
**Study 2 Results**

- **Similarity Rating (1-10)**
  - Control: ~5.0 (Time 1), ~5.5 (Time 2)
  - Denial: ~4.0 (Time 1), ~4.5 (Time 2)

- **% Match Judgments**
  - Control: ~30 (Time 1), ~35 (Time 2)
  - Denial: ~15 (Time 1), ~20 (Time 2)

- **Significance**
  - $p = .011$
  - $d = 0.58$
  - $p = .035$
  - $\varphi = .36$
Evidence Lineups

Whitman & Koppl (2010)

Miller (1987); Wells, Wilford, & Smalarz (2013)

e.g., Dysart & Lindsay (2007)

e.g., Wells et al. (1998; 2000)
Study 3 Method

\[ N = 473 \]
Materials

Exhibit A:

I understand my rights to remain silent and to call a lawyer and I agree to talk at this time.

Exhibit B

I have a gun.
Keep quiet or I will shoot you.
Give me all your cash!

Exhibit C

I have a gun.
Keep quiet or I will shoot you.
Give me all your cash!

Exhibit D

I have a gun.
Keep quiet or I will shoot you.
Give me all your cash!
Study 3 Results

% Accurate

- Alibi
- Denial
- Confession

Overall

$p = .628$
$V = .05$
Study 4 Method

\[ N = 230 \]

CONFESS

DENY

Sim

Seq
Study 4 Results

Overall Target-Absent

% Accurate

Simultaneous
Sequential

$p = .119$

$\varphi = .11$

$p = .001$

$\varphi = .32$

$p = .115$
Discussion

Sequential unmasking
Krane et al. (2008); Found & Ganas (2013)

Evidence lineups
Miller (1987); Wells et al. (2013)