KU LEUVEN

Maastricht University

Factors Affecting the Forced Confabulation Effect: A Meta-Analysis of Laboratory Studies

Paul Riesthuis
Henry Otgaar
Glynis Bogaard
Ivan Mangiulli

Paul Ingram

Forced Confabulation Effect

<u>Answerable questions:</u>
What was the color of the shirts of the perpetrators?

<u>Unanswerable questions:</u>
What was the color of the gun?

Final memory test

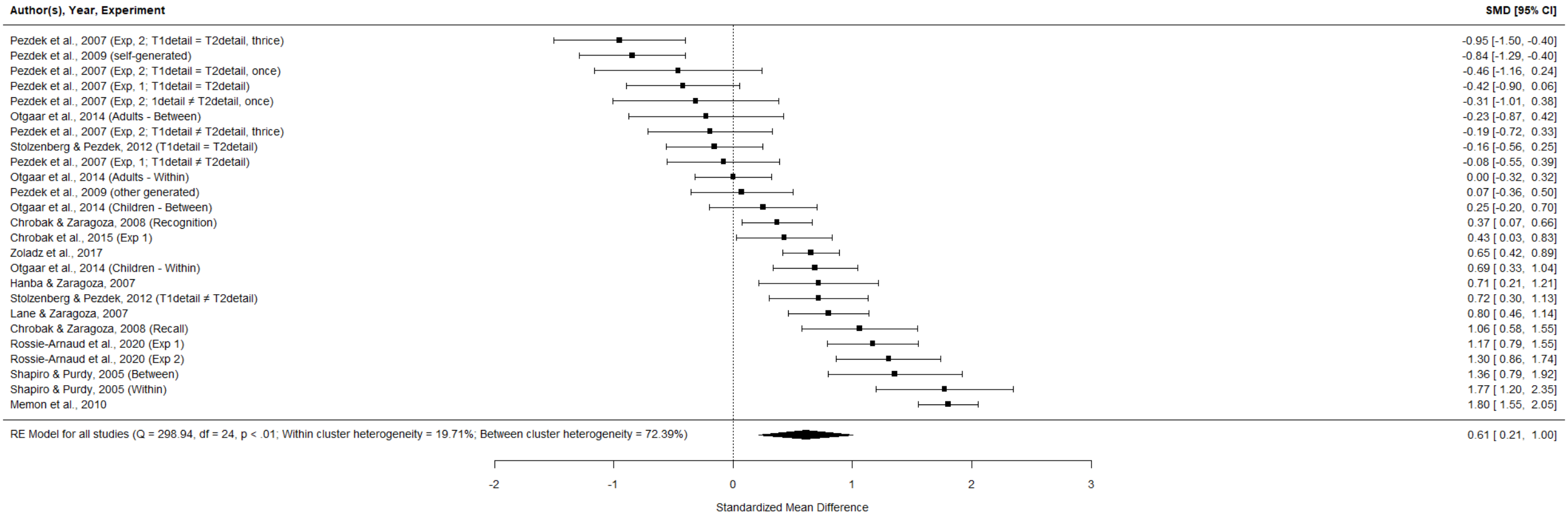
Systematic Review

- Registered Report

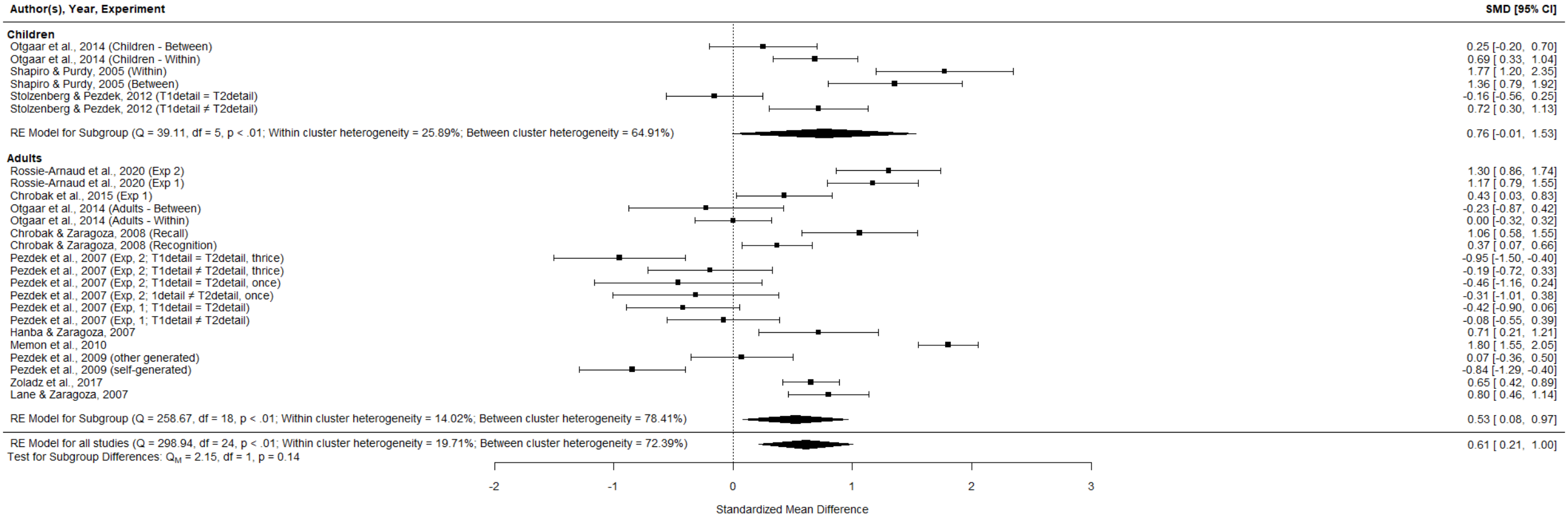
- Search terms: confabulation OR fabrication AND memory OR interview

- Articles:
  - Records screened - 8240 articles
  - Eligible articles - 19 articles
  - Included - 12 articles/ 25 effect sizes

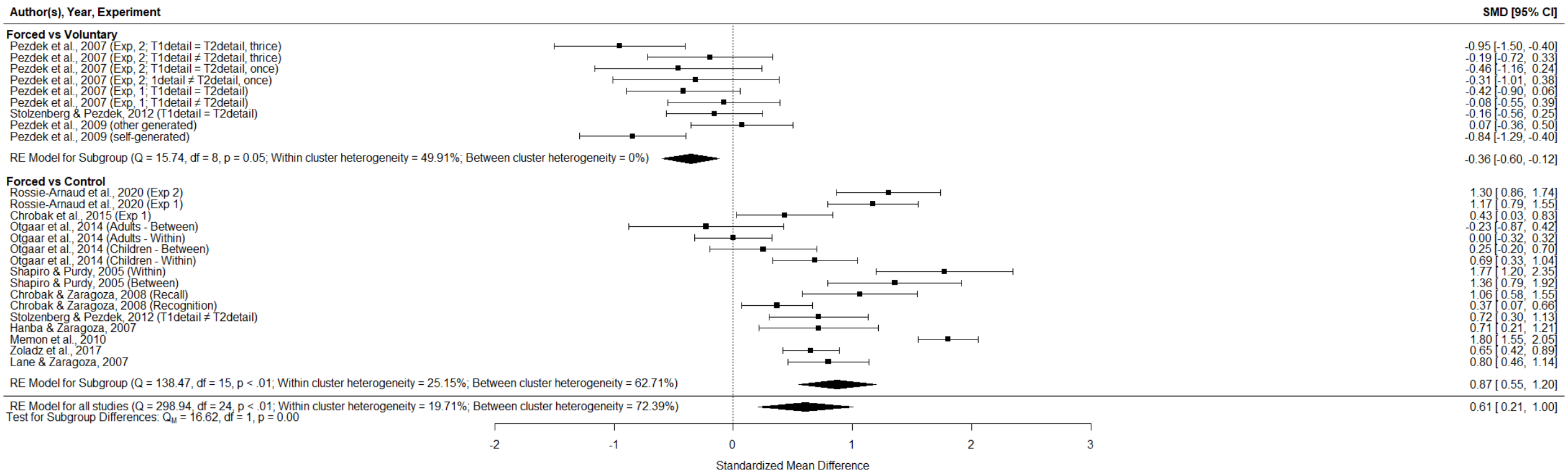
Three-Level Meta-Analysis



Age


Author(s), Year, Experiment
SMD [95% CI]
Children
Otgaar et al., 2014 (Children - Between) 0.25 [-0.20, 0.70]
Otgaar et al., 2014 (Children - Within) 0.69 [0.33, 1.04]
Shapiro & Purdy, 2005 (Within) 1.77 [1.20, 2.35]
Shapiro & Purdy, 2005 (Between) 1.36 [0.79, 1.92]
Stolzenberg & Pezdek, 2012 (T1detail = T2detail) -0.16 [-0.56, 0.25]
Stolzenberg & Pezdek, 2012 (T1detail ≠ T2detail) 0.72 [0.30, 1.13]
RE Model for Subgroup (Q = 39.11, df = 5, p < .01; Within cluster heterogeneity = 25.89%; Between cluster heterogeneity = 64.91%) 0.76 [-0.01, 1.53]
Adults
Rossie-Arnaud et al., 2020 (Exp 2) 1.30 [0.86, 1.74]
Rossie-Arnaud et al., 2020 (Exp 1) 1.17 [0.79, 1.55]
Chrobak et al., 2015 (Exp 1) 0.43 [0.03, 0.83]
Otgaar et al., 2014 (Adults - Between) -0.23 [-0.87, 0.42]
Otgaar et al., 2014 (Adults - Within) 0.00 [-0.32, 0.32]
Chrobak & Zaragoza, 2008 (Recall) 1.06 [0.58, 1.55]
Chrobak & Zaragoza, 2008 (Recognition) 0.37 [0.07, 0.66]
Pezdek et al., 2007 (Exp, 2; T1detail = T2detail, thrice) -0.95 [-1.50, -0.40]
Pezdek et al., 2007 (Exp, 2; T1detail ≠ T2detail, thrice) -0.19 [-0.72, 0.33]
Pezdek et al., 2007 (Exp, 2; T1detail = T2detail, once) -0.46 [-1.16, 0.24]
Pezdek et al., 2007 (Exp, 2; 1detail ≠ T2detail, once) -0.31 [-1.01, 0.38]
Pezdek et al., 2007 (Exp, 1; T1detail = T2detail) -0.42 [-0.90, 0.06]
Pezdek et al., 2007 (Exp, 1; T1detail ≠ T2detail) -0.08 [-0.55, 0.39]
Hanba & Zaragoza, 2007 0.71 [0.21, 1.21]
Memon et al., 2010 1.80 [1.55, 2.05]
Pezdek et al., 2009 (other generated) 0.07 [-0.36, 0.50]
Pezdek et al., 2009 (self-generated) -0.84 [-1.29, -0.40]
Zoladz et al., 2017 0.65 [0.42, 0.89]
Lane & Zaragoza, 2007 0.80 [0.46, 1.14]
RE Model for Subgroup (Q = 258.67, df = 18, p < .01; Within cluster heterogeneity = 14.02%; Between cluster heterogeneity = 78.41%) 0.53 [0.08, 0.97]
RE Model for all studies (Q = 298.94, df = 24, p < .01; Within cluster heterogeneity = 19.71%; Between cluster heterogeneity = 72.39%) 0.61 [0.21, 1.00]
Test for Subgroup Differences: Q_M = 2.15, df = 1, p = 0.14
-2
-1
0
1
2
3
Standardized Mean Difference

Type of Confabulation



Qualitative Reviewed Moderators

- Details versus entire events
  - 1-week delay
  - 6-week delay or greater

- Confirmatory feedback
  - “That’s right, _____ is the correct answer”

Exploratory Analyses

- Within vs between subject designs
  - Q_m (1) = 5.05, p = .03
    - Hedges g'_{Within} = 1.12, 95%CI [.55; 1.70], 95%PI [-.28; 2.53]
    - Hedges $g'_{between}$ = .32, 95%CI [-.06, .70], 95%PI [-.89; 1.53]

- Misinformation effect?
  - Presentation of unanswerable questions
  - Otgaar et al., 2014 & Shapiry & Purdy, 2005

Conclusions

- Forcing confabulation effect
- Type of control group
- Misinformation effect

KU LEUVEN

Maastricht University

Thank you!

Paul Riesthuis

Paul.riesthuis@kuleuven.be