

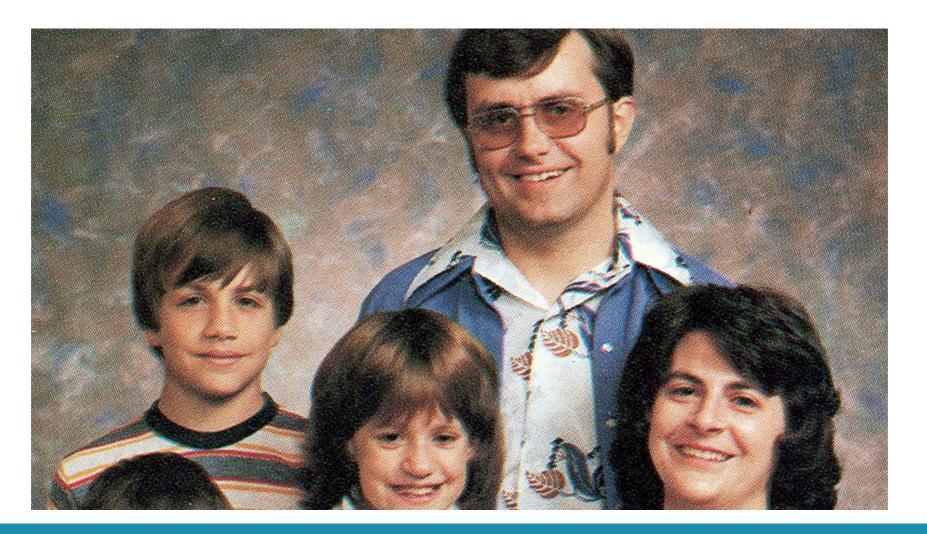


Factors Affecting the ForcedConfabulation Effect:A Meta-Analysis of Laboratory Studies

Paul Riesthuis Henry Otgaar Glynis Bogaard Ivan Mangiulli

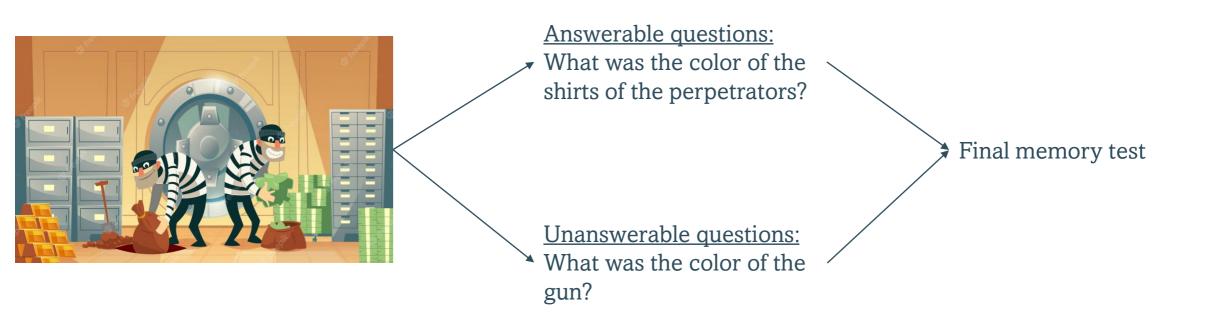


Paul Ingram





Forced Confabulation Effect





Systematic Review

- Registered Report
- Search terms: confabulation OR fabrication AND memory OR interview
- Articles:
 - Records screened
 - Eligible articles
 - Included

- 8240 articles
- 19 articles
- 12 articles/ 25 effect sizes



Three-Level Meta-Analysis

Author(s), Year, Experiment

SMD [95% CI]

Pezdek et al., 2007 (Exp, 2; T1detail = T2detail, thrice)		-0.95 [-1.50, -0.40]
Pezdek et al., 2009 (self-generated) Pezdek et al., 2007 (Exp. 2; T1detail = T2detail, once)		-0.84 [-1.29, -0.40] -0.46 [-1.16, 0.24]
Pezdek et al., 2007 (Exp, 2, 11detail = 12detail, once) Pezdek et al., 2007 (Exp, 1; T1detail = T2detail)		-0.46 [-1.16, 0.24] -0.42 [-0.90, 0.06]
Pezdek et al., 2007 (Exp, 1, 11detail – 12detail) Pezdek et al., 2007 (Exp, 2; 1detail ≠ T2detail, once)		-0.42 [-0.90, 0.06] -0.31 [-1.01, 0.38]
Otgaar et al., 2007 (CAp, 2, Tuetail # 120etail, once)		-0.37 [-1.01, 0.38] -0.23 [-0.87, 0.42]
Pezdek et al., 2007 (Exp, 2; T1detail ≠ T2detail, thrice)		-0.19 [-0.72, 0.33]
Stolzenberg & Pezdek, 2012 (T1detail = T2detail)		-0.16 [-0.56, 0.25]
Pezdek et al., 2007 (Exp, 1; T1detail ≠ T2detail)		-0.08 [-0.55, 0.39]
Dtgaar et al., 2014 (Adults - Within)		0.00 [-0.32, 0.32]
Pezdek et al., 2009 (other generated)		0.07 [-0.36, 0.50]
Otgaar et al., 2014 (Children - Between)		0.25 [-0.20, 0.70]
Chrobak & Zaragoza, 2008 (Recognition)		0.37 [0.07, 0.66]
Chrobak et al., 2015 (Exp 1)		0.43 [0.03, 0.83]
Zoladz et al., 2017 Otacas et al., 2014 (Children, Within)		0.65 [0.42, 0.89]
Otgaar et al., 2014 (Children - Within)		0.69 [0.33, 1.04]
Hanba & Zaragoza, 2007		0.71 [0.21, 1.21]
Stolzenberg & Pezdek, 2012 (T1detail ≠ T2detail)		0.72 [0.30, 1.13]
Lane & Zaragoza, 2007		0.80 [0.46, 1.14]
Chrobak & Zaragoza, 2008 (Recall)		1.06 [0.58, 1.55]
Rossie-Arnaud et al., 2020 (Exp 1)		1.17 [0.79, 1.55]
Rossie-Arnaud et al., 2020 (Exp 2)		1.30 [0.86, 1.74]
Shapiro & Purdy, 2005 (Between)		1.36 [0.79, 1.92]
Shapiro & Purdy, 2005 (Within)		1.77 [1.20, 2.35]
Memon et al., 2010	F → ■→1	1.80 [1.55, 2.05]
RE Model for all studies (Q = 298.94, df = 24, p < .01; Within cluster heter	0.61 [0.21, 1.00]	
	-2 -1 0 1 2 3	
	Standardized Mean Difference	



Author(s), Year, Experiment							SMD [95% C
Children Otgaar et al., 2014 (Children - Between) Otgaar et al., 2014 (Children - Within) Shapiro & Purdy, 2005 (Within) Shapiro & Purdy, 2005 (Between) Stolzenberg & Pezdek, 2012 (T1detail = T2detail) Stolzenberg & Pezdek, 2012 (T1detail ≠ T2detail)		F	• • • •		ł		0.25 [-0.20, 0.7 0.69 [0.33, 1 0 1.77 [1.20, 2.3 1.36 [0.79, 1.9 -0.16 [-0.56, 0.2 0.72 [0.30, 1.1
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, 1.5
Aduits Rossie-Arnaud et al., 2020 (Exp 2) Rossie-Arnaud et al., 2020 (Exp 1) Chrobak et al., 2015 (Exp 1) Otgaar et al., 2014 (Aduits - Between) Otgaar et al., 2014 (Aduits - Within) Chrobak & Zaragoza, 2008 (Recall) Chrobak & Zaragoza, 2008 (Recognition) Pezdek et al., 2007 (Exp, 2; T1detail = T2detail, thrice) Pezdek et al., 2007 (Exp, 2; T1detail \neq T2detail, thrice) Pezdek et al., 2007 (Exp, 2; T1detail \neq T2detail, once) Pezdek et al., 2007 (Exp, 2; 11detail \neq T2detail, once) Pezdek et al., 2007 (Exp, 1; T1detail \neq T2detail) Pezdek et al., 2007 (Exp, 1; T1detail \neq T2detail) Hanba & Zaragoza, 2007 Memon et al., 2010 Pezdek et al., 2009 (other generated) Pezdek et al., 2017 Lane & Zaragoza, 2007							$\begin{array}{c} 1.30 \ [0.86, \ 1.7 \\ 1.17 \ [0.79, \ 1.5 \\ 0.43 \ [0.03, \ 0.8 \\ -0.23 \ [-0.87, \ 0.4 \\ 0.00 \ [-0.32, \ 0.3 \\ 1.06 \ [0.58, \ 1.5 \\ 0.37 \ [0.07, \ 0.6 \\ -0.95 \ [-1.50, \ -0.4 \\ -0.19 \ [-0.72, \ 0.3 \\ -0.46 \ [-1.16, \ 0.2 \\ -0.31 \ [-1.01, \ 0.3 \\ -0.42 \ [-0.90, \ 0.0 \\ -0.08 \ [-0.55, \ 0.3 \\ 0.71 \ [0.21, \ 1.2 \\ 1.80 \ [1.55, \ 2.0 \\ 0.07 \ [-0.36, \ 0.5 \\ -0.84 \ [-1.29, \ -0.4 \\ 0.65 \ [0.42, \ 0.8 \\ 0.80 \ [0.46, \ 1.1 \\ \end{array}$
RE Model for Subgroup (Q = 258.67, df = 18, p < .01; Within cluster heterogeneit	y = 14.02%; Between cluste	er heterogeneity = 78.41%) –——				0.53 [0.08, 0.9
RE Model for all studies (Q = 298.94, df = 24, p < .01; Within cluster heterogeneit	ty = 19.71%; Between clust	er heterogeneity = 72.39%)				0.61 [0.21, 1.0
Test for Subgroup Differences: $Q_M = 2.15$, df = 1, p = 0.14	[1	1		
	-2	-1	0	1	2	3	

Standardized Mean Difference

Type of Confabulation

SMD [95% CI] Author(s), Year, Experiment Forced vs Voluntary Pezdek et al., 2007 (Exp, 2; T1detail = T2detail, thrice) Pezdek et al., 2007 (Exp, 2; T1detail ≠ T2detail, thrice) Pezdek et al., 2007 (Exp, 2; T1detail = T2detail, once) Pezdek et al., 2007 (Exp, 2; 1detail ≠ T2detail, once) Pezdek et al., 2007 (Exp, 1; T1detail ≠ T2detail) Pezdek et al., 2007 (Exp, 1; T1detail ≠ T2detail) $\begin{array}{c} -0.95 \left[-1.50, \ -0.40 \right] \\ -0.19 \left[-0.72, \ 0.33 \right] \\ -0.46 \left[-1.16, \ 0.24 \right] \\ -0.31 \left[-1.01, \ 0.38 \right] \\ -0.42 \left[-0.90, \ 0.06 \right] \\ -0.48 \left[-0.55, \ 0.39 \right] \\ -0.16 \left[-0.56, \ 0.25 \right] \\ -0.7 \left[-0.36, \ 0.55 \right] \\ -0.84 \left[-1.29, \ -0.40 \right] \end{array}$ Pezdek et al., 2007 (Exp, 1; T1detail ≠ T2detail) Stolzenberg & Pezdek, 2012 (T1detail = T2detail) Pezdek et al., 2009 (other generated) Pezdek et al., 2009 (self-generated) RE Model for Subgroup (Q = 15.74, df = 8, p = 0.05; Within cluster heterogeneity = 49.91%; Between cluster heterogeneity = 0%) -0.36 [-0.60, -0.12] Forced vs Control Rossie-Arnaud et al., 2020 (Exp 2) 1.30 [0.86, 1.74] 1.17 [0.79, 1.55] Rossie-Arnaud et al., 2020 (Exp 1) $\begin{array}{c} 1.17 & [0.79, 1.55] \\ 0.43 & [0.03 & 0.83] \\ -0.23 & [-0.87, 0.42] \\ 0.00 & [-0.32, 0.32] \\ 0.25 & [-0.20, 0.70] \\ 0.69 & [0.33, 1.04] \\ 1.77 & [1.20, 2.35] \\ 1.36 & [0.79, 1.92] \\ 1.06 & [0.58, 1.55] \\ 0.37 & [0.07, 0.66] \\ 0.72 & [0.30, 141] \end{array}$ Chrobak et al., 2015 (Exp 1) Otgaar et al., 2014 (Adults - Between) Otgaar et al., 2014 (Adults - Within) Otgaar et al., 2014 (Adults - Within) Otgaar et al., 2014 (Children - Between) Otgaar et al., 2014 (Children - Within) Shapiro & Purdy, 2005 (Within) Shapiro & Purdy, 2005 (Between) Chrobak & Zaragoza, 2008 (Recall) Chrobak & Zaragoza, 2008 (Recognition) Stolzenberg & Pezdek, 2012 (T1detail ≠ T2detail) Hanba & Zaragoza, 2007 Memon et al., 2010 Zoladz et al., 2017 0.72 0.30, 1.13 0.71 0.21, 1.21 1.80 1.55, 2.05 0.65 0.42, 0.89 0.80 0.46, 1.14 Lane & Zaragoza, 2007 RE Model for Subgroup (Q = 138.47, df = 15, p < .01; Within cluster heterogeneity = 25.15%; Between cluster heterogeneity = 62.71%) 0.87 [0.55, 1.20] RE Model for all studies (Q = 298.94, df = 24, p < .01; Within cluster heterogeneity = 19.71%; Between cluster heterogeneity = 72.39%) Test for Subgroup Differences: $Q_M = 16.62$, df = 1, p = 0.00 0.61 [0.21, 1.00] -2 2 3 -1 0 Standardized Mean Difference

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
 - $Q_{\rm m}(1) = 5.05, p = .03$
 - Hedges $g'_{\text{Within}} = 1.12, 95\%$ 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

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Conclusions

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



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Maastricht University

Thank you!

Paul Riesthuis Paul.riesthuis@kuleuven.be

