



# Systemic Therapy works beyond symptoms!

## Multi-Level Meta-Analyses on the Efficacy of Systemic Therapy for Youth and Adults



Niels Braus  
[niels.braus@uni-wh.de](mailto:niels.braus@uni-wh.de)

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## Original Publications:

- Meta-Analysis on Adults
  - <https://www.tandfonline.com/doi/full/10.1080/10503307.2024.2394192>
  - If you can not access it, please ask me via Email.



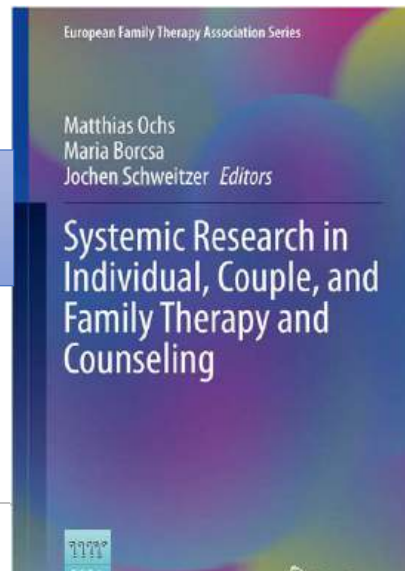
- Meta-Analysis on Children and Adults
  - [https://osf.io/preprints/osf/hsy3w\\_v1](https://osf.io/preprints/osf/hsy3w_v1)
  - Open Access Preprint



## What is Systemic Research or Research on Systems?

- One can differentiate between **research on systems** versus **systemic research**:
- **Systemic Research** applies **systemic epistemology** to scientific inquiry, emphasizing observer involvement, interdependencies, and recursive processes. In contrast, **research on systems** examines **system dynamics** and **interactions** without adhering to systemic epistemology (Ochs, Honova & Goll-Kopka, 2020).
- Meta-Analyses aggregating the effect sizes of RCT-studies contradict several principles of systemic epistemology. Therefore, the following meta-analyses emphasize an approach that can be considered as **research on systems**.

For more interesting  
ideas see:



## What is Systemic Research or Research on Systems?

- However, **Meta-Analyses on RCT-studies** are the **gold standard** and highest form in our (current) scientific model of research.
- We believe that system thinking approach is about thinking in consequences. We believe that **“not playing the game” of meta-analyses on RCT-studies** has **several severe negative consequences** (lack of recognition in routine care and academia, etc.). Besides, the current research paradigm is based on **research on individuals NOT systems**.
- Besides, we believe that **more secondary analysis** are needed in the field of Systemic Therapy. Future secondary analysis should **integrate both qualitative and quantitative** studies as well as **various study types**.



## Previous Meta-Anaylsis on Systemic Therapy



Pinquart, Oslejsek & Teubert (2015): Efficacy of systemic therapy on adults with mental disorders: A meta-analysis

Table I. Weighted mean effect sizes at post-treatment and follow-up for the comparison of systemic therapy and alternative treatments.

Time of assessment	Kind of comparison	<i>K</i>	<i>g</i>	<i>Q</i>
Posttest	Systemic therapy vs. no treatment		4.36***	12.38
	Systemic therapy vs. alternative treatment		3.06**	24.99

Vossler, Pinquart, Forbat & Strattmann (2019): Efficacy of systemic therapy on adults with **depressive** disorders: A meta-analysis

When comparing systemic therapy to other active treatments at post-test, there was no significant difference in the effect sizes of other active treatment modalities ( $K = 15$ ,  $g = .25$ ;  $CI = -.06-.56$ ).

Systemic Therapy for adults works regarding symptoms!

→ small effect of ST in comp. to alt. Treatment!





## Previous Meta-Analyses on Systemic Therapy

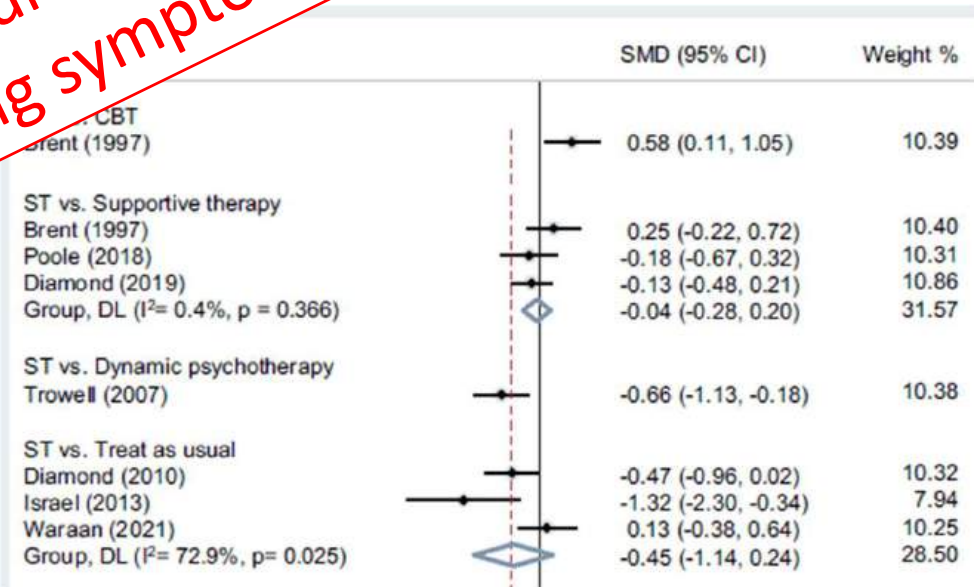
Riedinger, Pinguart & Teuber (2015): Effects of Systemic Therapy on Mental Health of Children and Adolescents: A Meta-Analysis

	<i>k</i>	<i>g</i>	95% CI	<i>z</i>	<i>Q</i>
Comparison With Untreated Control Group					
Total	7	.59	.33, .86	4.39***	5.47
Comparison With Alternative Treatment					
Total	43	.32	.22, .42	5.97***	

**Systemic Therapy for children and adolescents works regarding symptoms!**

Huang, Li, Haun, Xie, Yang, & Qian (2024): Systemic therapy for children and adolescents with depression: a meta-analysis

→ small effect of ST in comp. to alt. Treatment!



## Research Gab: Focus on Symptoms!

- All these previous meta-analysis on ST **focus on symptoms** on.
- The focus on symptoms in previous meta-analysis **contradicts the principles of Systemic Therapy** conceiving mental health symptoms in the context of social systems (often family systems).

### Individual Symptoms



### Relations in Social Systems



## Perspectives on Outcomes in Systemic Therapy / Psychotherapy Research

- Apart from content-wise outcome domains such as family functioning versus symptom functioning. There are more aspects of outcomes in psychotherapy research especially focusing on children and adolescents:
  - **Outcome Domain**
  - ***Informant***
  - ***Assessment Methods***
- Informant describes the person rating the outcome (e.g. parent- versus patient-rated symptoms).
- Assessment method describes the method such as questionnaires, interviews, behavioral observations.



## Methods- Open Science Note

- For more details on the analysis please consider our study protocol:
- <https://www.researchsquare.com/article/rs-1074984/v1>



- All study materials (R-codes, etc.) are available at OSF:
- <https://osf.io/r9y54/>



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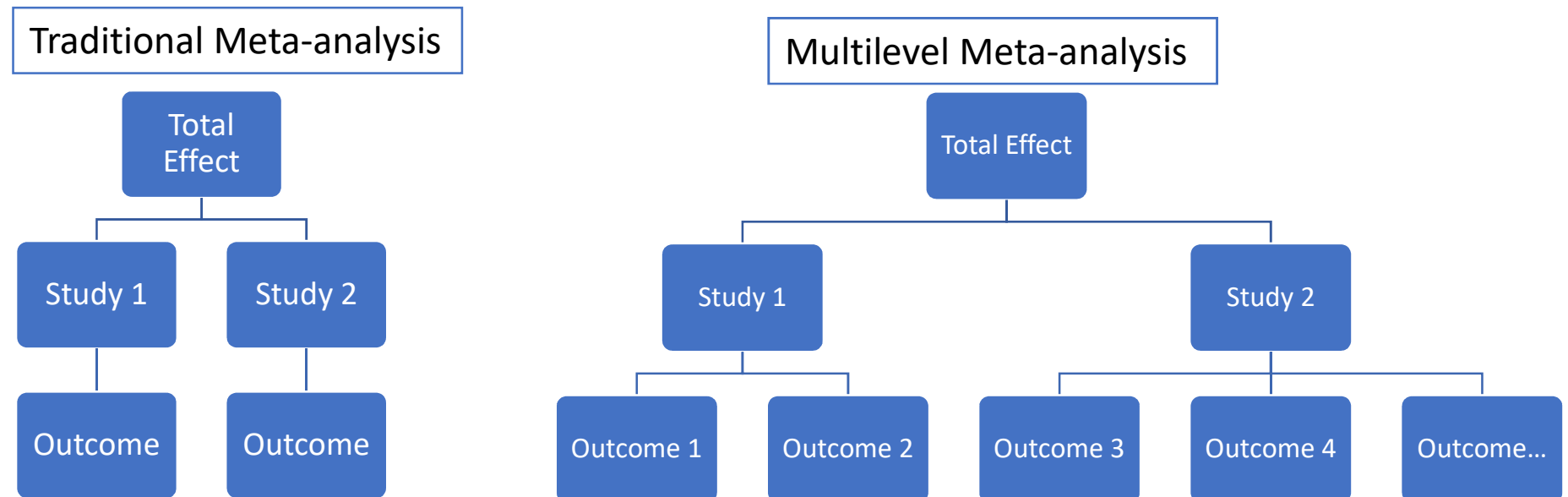
## Search- Strategy – Inclusion and Exclusion Criteria

PICOS:

- **P: Participants** = Patients with ICD-/DSM Diagnose (age < 21 y./ age > 18 y.)
- **I: Intervention**= Systemic Therapy
- **C: Comperator**= active psychosocial Treatment (no medication)
- **O: Outcome**= quantitativem Outcome
- **S: Study Type**= RCT

## Statistical Analysis: Multilevel Meta-Analysis (Assink, 2016)

- The majority of meta-analysis focus on traditional statistics integrating one effect size per study. If there are multiple outcomes per study, these are pooled or one is chosen.



## Central Hypotheses and Research Questions

- **Hypothesis regarding family system functioning:** Systemic Therapy is *equally* effective with regard to *family system functioning* compared to symptoms.
- **Hypothesis regarding symptoms of family system/members:** Systemic Therapy is *equally* effective with regard to *symptoms/psychopathology of system members compared to symptoms of diagnosed patients*.
- Research Questions:
  - **What matters in outcomes of Systemic Therapy?**
    - Are there difference with regard to additional aspects of *outcome domain* (e.g. resilience-/strength-based outcome)



- Are there differences in the efficacy of Systemic Therapy with regard to *informants* (e.g. Patients- versus family/system members- perspective)?
- Are there difference with regard to *assessment methods* (e.g. questionnaire versus behavioral observation)?



## Results: Meta-Analysis on Adults



### Overall:

- The results show a **small** significant overall effect size of  $g = .30$  ( $CI: .15-.45$ ), for all outcomes. **171 effect sizes** and **32 studies** were included.
- There was a substantial amount of heterogeneity between studies ( $I^2 = 69\%$ ) in contrast to the level between effect sizes ( $I^2 = 24\%$ ).
- There was no indication of publication bias.

## Results: Meta-Analysis on Adults



### Moderation of between-study effects:

- On the between-study level, there was no significant moderation of the type of control group and Risk of Bias.
- For adults, **treatment modality** of Systemic Therapy was a **significant moderator** ( $p=0.4$ ): Systemic Therapy in group ( $g = .52, s = 3$ ) and primarily individual therapy ( $g = .62, s = 6$ ) lead to greater effects compared to couple therapy ( $g = .29, s = 6$ ) or family therapy ( $g = .13, s = 17$ ). This effect was not found for family system functioning.
- However, this effect was biased by the uneven distribution (majority of studies refer to family therapy) and could be confounded by the severity of the symptoms (majority of family therapy study refer to severe psychiatric disorders such as schizophrenia).

## Results: Meta-Analysis on Adults



### Moderation of outcome-specific effects:

Outcome	g	CI	k	s	z	p		F(df)	p
Symptoms of patients	0.30	[0.14,0.45]	73	29	3.74	0.0002	***	19.13 (4)	.0007***
Family System functioning of patients and F.M.	0.34	[0.15,0.54]	26	12	3.51	0.0004	***		
Further Secondary Outcomes of Patient	0.32	[0.16,0.48]	63	19	3.83	0.0001	***		

Note. CI = confidence interval. \* =  $p < .05$ . \*\* =  $p < .05$ . s = number of studies referring to the outcome. k = number of effect sizes referring to this outcome. F.M. = family members.

→ ST is ***equally effective*** with regard to **symptoms and family system functioning!**

- The effect sizes for psychopathology of family system members were reported rarely ( $k = 9$ ,  $s = 6$ ).

## Results: Meta-Analysis on Adults



- There is ***no difference between patient report versus other reports*** on all outcomes.
- For family system functioning, there was a marginal significant effect of patient report versus family members report,  $F(1, 24) = 3.62, p = .0069$ . ***Family members*** ( $g = .31$ ) tended to rate ***more positive effects on family system functioning*** compared to patients ( $g = .10$ ).
- There was no sufficient variance in the assessment methods used (mainly questionnaires).

## Results: Meta-Analysis on Children and Adolescents



- The results show a **small** significant overall effect size of  $g = .16$  ( $CI: .09-.23$ ) for all outcomes. **4.617 diagnosed patients** (/systems) and **370 effect sizes** and **44 studies** were included.
- There was a substantial amount of heterogeneity between studies ( $I^2 = 46\%$ ) in contrast to the level between effect sizes ( $I^2 = 14\%$ ).
- For children and adolescents, treatment modality had no effect (as 39 of 44 studies were based on family therapy), risk of bias as well as control groups revealed moderating effects.



## Results: Meta-Analysis on Children and Adolescents



Outcome	$g$	$I^2$	CI	$k$	$s$	$F(df)$	$p$
Domain				370	44	2.37 (5)	0.80
Disorder-specific symptoms	0.19	40.76 %	[0.10,0.28]	129	39		

→ ST is **equally effective** regarding symptoms and **family system functioning!**

→ ST is **equally effective** regarding disorder-specific symptoms and general psychopathology!

→ ST is **equally effective** regarding symptoms and general psychopathology!

→ ST is **equally effective** regarding symptoms of patients and caregivers!

## Results: Meta-Analysis on Children and Adolescents



Outcome	<i>g</i>	<i>I</i> <sup>2</sup>	CI	<i>k</i>	<i>s</i>	<i>F</i> ( <i>df</i> )	<i>p</i>
Domain				370	44	2.37 (5)	0.80
Disorder-specific symptoms	0.19	40.76 %	[0.10,0.28]	129	39		
General psychopathology	0.12	39.15 %	[0.01,0.22]	85	28		
Further secondary outcomes of patients	0.17	47.03 %	[-0.02,0.35]	11	7		
Family system functioning	0.12	41.63 %	[0.02,0.23]	107	23		
Strength-based outcomes	0.16	35.22 %	[0.01,0.31]	24	10		
Psychopathology of caregivers	.12	45.71 %	[-0.05,0.28]	14	10		

There is a focus on symptoms!  
The lack of outcomes on psychopathology of caregivers and parents is especially striking given its importance regarding cost effectiveness.

## Results- Children and Adolescents



Outcome	<i>g</i>	<i>I</i> <sup>2</sup>	CI	<i>k</i>	<i>s</i>	<i>F(df)</i>	<i>p</i>
Informant				364	44	1.05	0.39
Youth	0.15	36.15 %	[0.07,0.22]	149	36		
Parents	0.14	39.15 %	[0.06,0.22]	116	26		
Clinicians	0.19	49.27 %	[0.09,0.28]	66	22		
Teachers	0.34	55.11 %	[0.15,0.54]	10	4		
Mixed	0.16	51.44 %	[0.02,0.30]	10	5		

→ There is a focus on patients and parent-report outcomes.

→ ST is **equally effective** regarding different informants. On a descriptive level, teacher tend to rate ST as more effective.

## Results- Children and Adolescents



Outcome	<i>g</i>	<i>I</i> <sup>2</sup>	CI	<i>k</i>	<i>s</i>	<i>F</i> ( <i>df</i> )	<i>p</i>
Assessment Method				370	44	1.73	0.14
Questionnaire	.16	38.26 %	[0.08,0.23]	258	39		
Interview	.15	41.80 %	[0.05,0.25]	53	23		
Single-item rating	.10	53.33 %	[-0.06,0.25]	18	12		
Behavioral observation	.31	55.82 %	[0.15,0.47]	23	3		
External data	.23	37.70 %	[0.10,0.36]	18	11		

→ There is a focus on questionnaires.

→ ST is **equally effective** regarding different assessment methods. On a descriptive level, ST is more effective with regard to external/third-party assessments.

## Summary of Results

- ***Systemic Therapy works beyond symptom!***
- Systemic Therapy (ST) is effective not only with regard to symptoms but also with regard to **family system functioning**.
- ST reveals stronger effects with regard to adult populations ( $g = .30$ ) compared to children and adolescents populations ( $g = .16$ ).
- The effect size for **children and adolescents** is based on a **greater sample** of studies and effect sizes aggregated (Children and Adolescents:  $k = 370$ ,  $s = .44$ ; Adults:  $k = 171$ ,  $s = .32$ ; ). Therefore, the conclusion of the results are more reliable.
- In RCT-Studies on ST, there is a **focus on symptom outcomes** (assessed via self-report questionnaires).
- There is a great **gap in the literature** referring to psychopathology or **symptoms of system members** as outcome.



## Future Directions

- This study advocates a ***multi-domain, multi-perspective and multi-method approach*** of outcomes in Systemic Therapy.
- We need more RCT-studies on Systemic Therapy (ST) **including family system functioning and psychopathology of system members** as outcome.
- While this meta-analysis quantifies that ST affects (family) systems, we need ***more qualitative knowledge*** on the complex dynamics of family system functioning and symptoms. Some Meta-(Content)-Analysis on qualitative data for couple therapy give more insights into this topic.
- There is **no RCT-studies directly comparing** couple or family therapy (**CFT**) to primarily **individual therapy** within a treatment approach of systemic therapy. The indirect comparison should be interpreted with great caution.

## Strength

- First multilevel meta-analysis on Systemic Therapy (ST) investigating outcome-specific effects.
- Highly relevant results for the indication of ST in routine care.

## Limitation

- Great between-study heterogeneity limits the interpretation of between-study effects.
- Future direction: Using stricter inclusion criteria with regard to control groups. However, there is a lack of RCT-studies with comparable (bona fide) psychotherapy control groups.
- Only RCT-studies with quantitative outcome data included.

## Discussion

How do you interpret the results in light of your practical experiences with systemic therapy?

„What matters in outcomes for Systemic Therapy?“ What are your thoughts on this?

How do you view the tensions between systemic epistemology and meta-analyses of RCT studies?

What are the most promising future directions for Systemic Therapy research?

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Chair of Clinical  
Psychology and  
Psychotherapy III

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Niels Braus  
[niels.braus@uni-wh.de](mailto:niels.braus@uni-wh.de)



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