



FIRST EFTA RESEARCH ONLINE CAFE

26TH OCTOBER 18H-19H30

Matthias Ochs

“Some interesting (and maybe (a little bit) frustrating) news from psychotherapy research – and what they could mean for systemic work”

Prof. Dr. Matthias Ochs, Dipl.-Psych., Psychologischer Psychotherapeut (ST), Systemischer Familientherapeut (DGSF/SG), Lehrender für Systemische Therapie (DGSF)

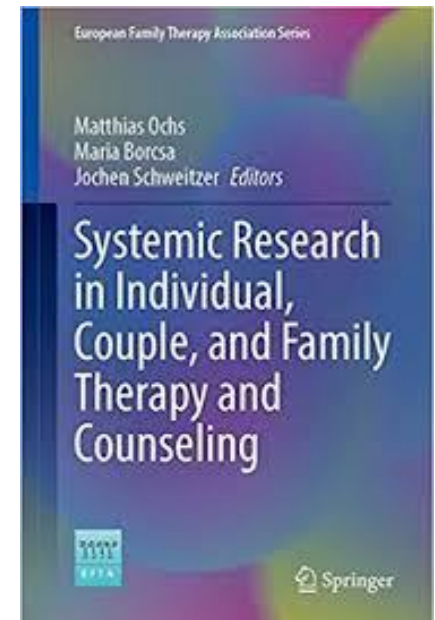
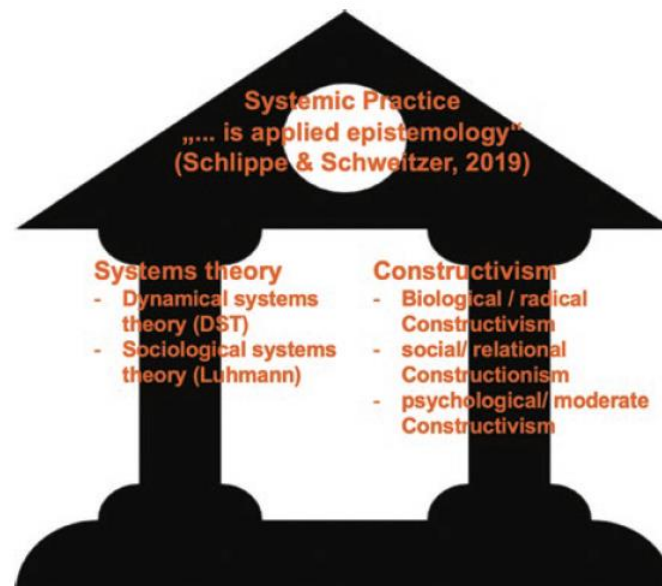
Hochschule Fulda, University of Applied Sciences, Fachbereich Sozialwesen, Fachgebiet „Psychologie und Beratung“
Postanschrift: Leipziger Straße 123, 36037 Fulda - Germany

What I want to talk about today...



- Locate the topic the field of systemic research and practice
- Psychotherapy research: yesterday, all my troubles seem so far away...
- The decline (not of western civilization but) of the effect-size in psychotherapy or: how good are we really?
- Where do we go from here...? Personalize it!
- What can we learn from machines?
-

- the investigation of (any kind of) practice reflected by systems theory (e.g., synergetics) / constructivism (e.g., social constructionism)?
- The investigation of practice with systemic/ constructivist methodology and methods? (e.g., synergetic navigation system/ constructivist grounded theory)??
- The investigation of systemic practice with qualitative or quantitative research methods or mixed methods???



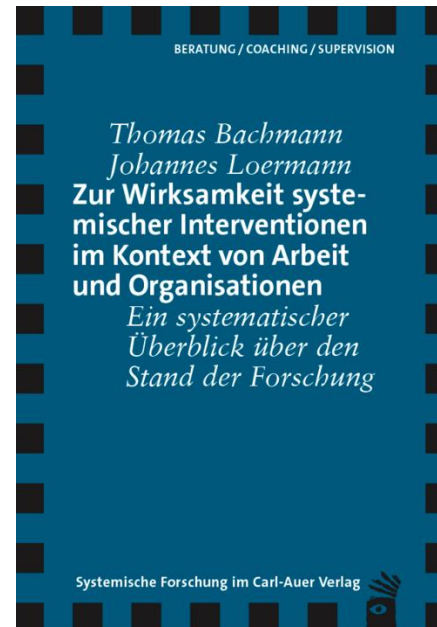
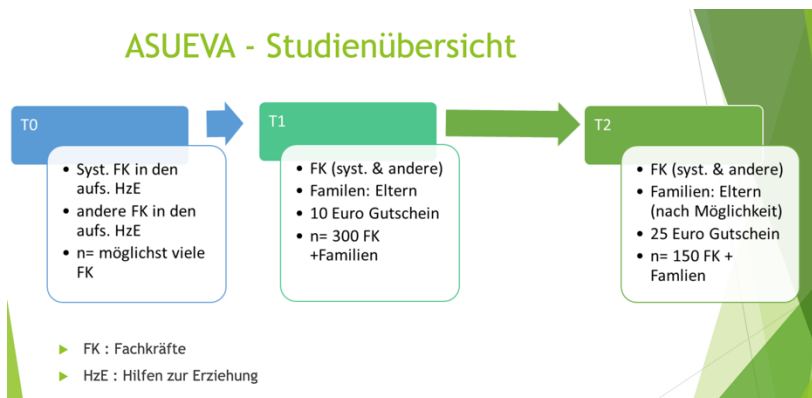


In our German NFTO, we have 3 „departments“ (Fachbereiche FB), that should encompass the entire field of systemic practice:

- FB 1: social work, youth welfare (politics)
- FB 2: psychotherapy, health, medicine
- FB 3: coaching, organisational development, supervision

The empirical evidence for these 3 “departments” of systemic practice is VERY diverse

ASUEVA - Studienübersicht



- Effect size: appr. **0,80** (Wampold, 2001), sometimes even up to **1.2** (e.g. Margraf (2009), Leichsenring & Rabung (2009))
- PT is more effective than a lot of medical treatments:
 - Bypass-operation Angina pectoris: 0,70
 - Pharmaceutical therapy Arthritis: 0,61
 - Anticoagulants for blood thinning: 0,30
 - Aspirin prevention of myocardial infarction: 0,07
- Mental disorder patients **interrupt less PT** than pharmaceutical treatment
- PT yields in comparison with pharmaceutical treatment to **more sustainable effects**



RESEARCH REPORT

The efficacy of psychotherapies and pharmacotherapies for mental disorders in adults: an umbrella review and meta-analytic evaluation of recent meta-analyses

(World Psychiatry 2022;21:133–145)

Falk Leichsenring^{1,2}, Christiane Steinert^{1,3}, Sven Rabung⁴, John P.A. Ioannidis⁵⁻⁷

- Meta-analyses published between 2014 and 2021 comparing:
 - psychotherapies or pharmacotherapies with placebo or TAU/ CAU
 - or psychotherapies vs. pharmacotherapies head-to-head
 - or the combination of psychotherapy with pharmacotherapy to either monotherapy
- 102 meta-analyses (encompassing 3782 RCTs, 650514 patients)
- Effect sizes: a standardized mean difference (SMD) of **0.34** for psychotherapies and **0.36** for pharmacotherapies compared with placebo or TAU

From 0.8/1.2 to 0.34: What happened?? 😞 😟



Recapitulated: What are **effect sizes**?

- Effect sizes are the **most important outcome of empirical studies**, it is a quantitative measure of the **magnitude** of the experimental effect.
- A commonly used interpretation is to refer to effect sizes as **small** ($d = 0.2$), **medium** ($d = 0.5$), and **large** ($d = 0.8$).

Did the quality of PT decrease that drastic in ten years?? NO!

The answer is...!!!:

Cuijpers P, van Straten A, Bohlmeijer E, Hollon SD, Andersson G. The effects of psychotherapy for adult depression are **overestimated: a meta-analysis of study quality and effect size**. Psychol Med. 2010 Feb;40(2):211-23. doi: 10.1017/S0033291709006114. Epub 2009 Jun 3. PMID: 19490745.

Format:

What influences the methodological quality of studies?

- Participants met diagnostic criteria (in IQWiG report 235 studies out of 3133 potentially relevant studies were excluded)
- a treatment manual was used (often unclear...)
- the therapists were trained,
- Treatment integrity was checked (no adherence scales for ST exists already)
- randomization was conducted by an independent party
- assessors of outcome were blinded

- Insufficient blinding (double blinding is not possible in PT studies – but sufficient single blinding)
- Publication bias (importance of studies with negative effects)
- Low replication rates (when large/ better studies were done, initial highly-cited study was found to have overestimated the treatment benefit by 132% (Tajika et al., 2015))
- description of interventions in publications is often remarkably poor
- Long-term treatment effects (which may be even smaller than short-term effects) are under-studied
- About 20% of patients drop out of psychotherapy (Swift et al., 2017),
- large-scale (real-world) effectiveness study reported recovery rates of 50% for depressive/ anxiety disorders.
- Poor comparators (e.g. waiting controls, no treatment)
- Data on side effects of psychotherapy are scarce
- Allegiance-effects

The effects of psychotherapy for adult depression are underestimated: a meta-analysis of study quality and effect size

van Veltrop ^{1,2*}, A. van Straten ^{1,2}, E. Bohlmeijer ³, S. D. Hollon ⁴ and G. Andersson ^{5,6}



high methodological
quality studies



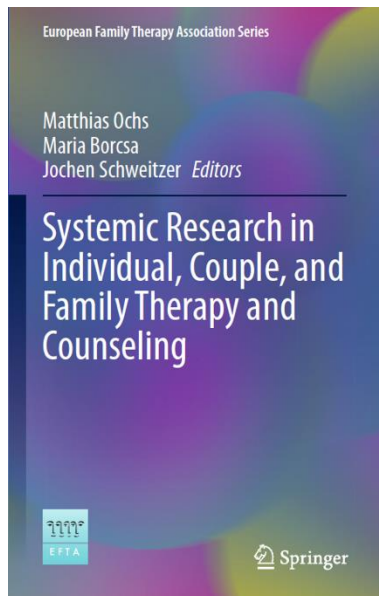
low methodological
quality studies

David Tolin, director of the Anxiety Disorders Center at the
Institute of Living in Hartford, Conn:

„It is not what I would call a home run”



- The meta-analysis by Riedinger et al. (2017) included 56 RCTs with children/adolescents that were published between 1973 and 2014. (Additional 6 papers have become available after submission of this meta-analysis (Agras et al., 2014; Dakof et al., 2015; Fonagy et al., 2018; Humayun, et al., 2017; Löfholm, et al., 2009; Santisteban et al., 2015):
 - compared against untreated control group, at post-test ($d = 0.59$), follow-up ($d = 0.27$).
 - compared against active alternative treatment, post-test (**$d = 0.30$**) and follow-up (**$d = 0.25$**).

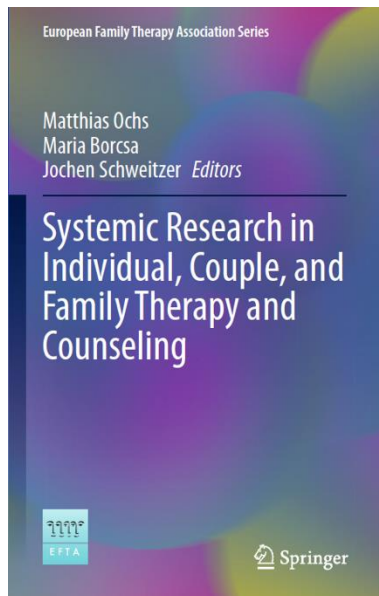




Alan Carr, Martin Pinquart, and Markus W. Haun



- The meta-analysis by Pinquart et al. (2016) included 37 RCTs on systemic therapy with adults published up to 2014. (Additional 5 papers became available in an updated electronic search (Castelnuovo et al. 2011; Dashtizadeh et al. 2015; Han et al., 2015; Kim et al. 2018; Zhang et al. 2017):
 - compared with patients who did not receive an active treatment, at post-test ($d = 0.68$) and follow-up ($d = 0.52$)
 - compared against an alternative psychological **treatment ($d = 0.22$), ($d = 0.14$).**



So what is the meaning of all of this
???





David Tolin: “Maybe we have reached the limit of what you can do by Talking to somebody. Maybe it’s only going to get so good.”

Another perspective:

Personalized Psychotherapy – „What works for whom?”

“What is the appropriate question to be asked of outcome research? In all its complexity, the question towards which all outcome research should ultimately be directed is the following: What treatment, by whom, is most effective for this individual with that specific problem, and under which set of circumstances? (Paul, 1967, S. 111):

Journal of Consulting Psychology
1967, Vol. 31, No. 2, 109–118

STRATEGY OF OUTCOME RESEARCH IN PSYCHOTHERAPY ¹

GORDON L. PAUL

University of Illinois

- How do we as **practitioners** „detect“, what works for whom?
 - **Clinical expertise, intuition** (Caspar, 1997)
 - **Mixing concepts** and approaches in an **unsystematically** way (e.g. integrating third wave modalities (mindfulness, compassion, ACT) (Grikscheit et al., 2015))
- This trust in its own intuition and clinical expertise is **in contrast with empirical studies**, that reveal, that psychotherapists tend to overestimate their success rates and to estimate themselves as better than the mean of their colleagues...



Walfish, S.,, & Lambert, M. J. (2009). Are all psychotherapists from Lake Wobegon? An investigation of self-assessment bias in mental health providers:

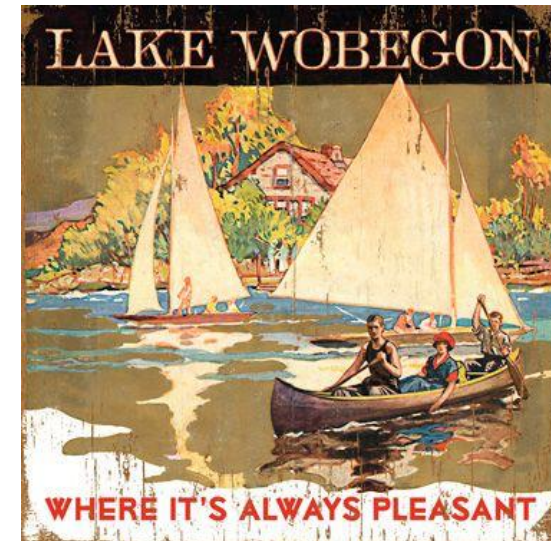
- **More than 90 % of the 129 therapists rank their therapeutic competencies higher than the 75% percentile**

Busch, I. & Lemme, R. (1992):

- **70% of the surveyed therapists cannot imagine, that risks/ side-effects of psychotherapy exist**

Hannan, C., Lambert, M. J., et al. (2005). A lab test and algorithms for identifying clients at risk for treatment failure. *Journal of Clinical Psychology*, 61, 155–163:

- **Only 0,5% of investigated therapists predicted a deterioration, 40% misreat a deterioration as an improvement.**



Personalized Psychotherapy – „What works for whom?” Machines can tell!



...eminence-based vs evidence based...

Personalized indication and prediction of the course of psychotherapy by **algorithms**:

Machine learning (ML) approaches:

e.g. initial examination **diagnostics**, making predictions by “**next-neighbourhood approaches**” with every new patient the algorithms are learning to make more and more accurate predictions... and this is machine learning...

different **ML algorithms** used in PT studies, e.g.:

„Bayesian Additive Regression Trees (BART)“

„Random Forests (RF)“

„Elastic Net Regression (ENR)“

(Chekroud et al., 2016; Webb et al., 2018).





- in the Hannan et al. (2005) study an algorithm based on an initial examination questionnaire and decision rules **identified 100% of the patients that deteriorates...**
- which patient provides more from **CBT or CBT combined with IP?** (Lutz et al. 2006)
- PTBS patients: **trauma focused CBT or EMDR?**
- Yao et al. (2020, 2022) showed, that with ML **side-effects** are **predicted by therapeutic factors** such as “**the mental state of the psychotherapist**” (rated by the patients (Yao et al. (2020) and “**therapists’ psychological activity**” (Yao et al. 2022). These “therapist factors mediate the outcomes of psychotherapy primarily through **therapeutic alliances**” (Yao et al., 2022, S. 7).

Predictions of the course of Psychotherapy by machines (ML) – some nice examples



- Supportive counselling skills like **empathy** and **active listening** are critical ingredients of all psychotherapies, ML (Zhang et al., 2023)
- Predicting **dropouts**
- Probability of **treatment benefit**
- Probability of **non-reponsiveness**
- **Deterioration** of symptoms

How can we make predictions (beside ML) even more better???



- Making probabilistic treatment plans by **Ideographic Network Models** (e.g. Trierer Therapie Navigator (TTN), Synergetic Navigation System SNS, Process Based Therapy)
- **Monitor progress and feedback it**
 - especially for clients with high probability of **negative courses** and **dropout** (Kendrick et al., 2016; Lambert & Shimokawa, 2011),
 - especially for **trainees**
 - especially by combining it with **suggestions for treatment** (e.g. problem solving, therapeutic alliance, therapy motivation, acceptance of emotions)
 - especially for **NOT clients** (Not On Track)



- **Ecological Momentary Assessment (EMA)**
 - involves repeated sampling of subjects' current behaviors and experiences in real time, in subjects' natural environments, e.g. by smart phones, record of symptoms e.g. twice a week or five times a day (Epskamp et al., 2018; Fisher, Reeves, Lawyer, Medaglia & Rubel, 2017).
- **SMS technologies,**
- **online and App based interventions,**
- **integration of sensor and data mining technologies.**
 - Data mining is the process of extracting and discovering patterns in large data sets involving methods at the intersection of machine learning, statistics, and database systems
- **eHealth/mHealth**





Hunger-Schoppe, C.¹, Evers, O.², Baumeister, H.³, Braus, N.¹, Eiler, S.³, Fendel, J. C.²,
Hermans, B. E.⁴, Meßner, E.-M.³, Ochs, M.⁵, Portenhauser, A.³, Terhorst, Y.^{3,6}, & Schmidt,
S.²



Abstract

Background. Systemic therapy is part of routine psychotherapeutic care for adults, children and adolescents in Germany. However, there is no standardized instrument for its quality assurance. **Research question.** How can a constant, low-threshold and economic assessment (Routine Outcome Monitoring, ROM) be designed and implemented in Systemic Therapy? **Method.** The web-based platform SysDok uses classic and computer-adaptive tests. Clients, significant others and therapists in systemic therapy will be included. **Results.** A cross-age inventory is used to collect information in adults, children and adolescents from the age of 12, and records psychological (PROMIS), systemic (EXIS, EVOS) and general functioning (ERI, EQ-5D-5L), negative experiences due to psychotherapies (INEP) and the therapeutic alliance (WAI). The SysDok pilot has started in cooperation with a network of system-therapeutic outpatient clinics. **Conclusion.** SysDok shows great promise in ensuring high-quality routine care and with a view to personalized systemic therapy care in the future ("precision medicine").

Key words: Systemic Therapy; Routine Outcome Monitoring; Routine Care; Training



Tabelle 1
Messinstrumente pro Erhebungszeitpunkt

Instrument	Altersbereich	T0	T1	T2	T3	T4	T5	T6
PROMIS	ab 12	X	X	X	X	X	X	X
ERI – 12	ab 12	X			X	X	X	X
EQ – 5D	ab 12	X			X	X	X	X
EVOS	ab 12	X	X		X	X	X	X
EXIS	ab 12	X	X	X	X	X	X	X
INEP	ab 18			X	X			
WAI	ab 18		X	X	X			
Sozio- demographie		X						

- 20 institutes with systemic psychotherapy courses
- Training psychotherapies
- Electronic central data collection

- Patient-Reported Outcomes Measurement System (PROMIS; Cella et al., 2010) (depression and anxiety)
- Essener Ressourceninventar Kurzfassung (ERI - 12; Tagay, 2021) (resources)
- EQ-5D-5L (Herdman et al., 2011) (quality of life)
- Evaluation of Social Systems (EVOS; Aguilar-Raab et al., 2015)
- Experience in Personal Social Systems Questionnaire (EXIS; Hunger et al., 2017)
- Inventar zur balancierten Erfassung negativer Effekte von Psychotherapie (INEP; Ladwig et al., 2014) risks/ seide-effects
- Working Alliance Inventory (WAI; Wilmers et al., 2008)



- Bachmann, T., & Loermann, J. (2023). Zur Wirksamkeit systemischer Interventionen im Kontext von Arbeit und Organisationen. Ein systematischer Überblick über den Stand der Forschung. Heidelberg: Carl Auer.
- BPTK – Bundespsychotherapeutenkammer (Hrsg.) (2013). 10 Tatsachen zur Psychotherapie. Berlin: BptK. www.bptk.de/wp-content/uploads/2019/01/20130412_BPTK_Standpunkt_10_Tatsachen_Psychotherapie.pdf (17.4.2020).
- Busch, I., & Lemme, R. (1992). Schulspezifische Unterschiede hinsichtlich der Einstellung der Therapeuten zur Wirkung von Psychotherapie? Diplomarbeit. Berlin: Technische Universität
- Carr, A., Pinquart, M., Haun, M.W. (2020). Research-Informed Practice of Systemic Therapy. In: Ochs, M., Borcsa, M., Schweitzer, J. (eds) *Systemic Research in Individual, Couple, and Family Therapy and Counseling*. European Family Therapy Association Series. Springer, Cham. https://doi.org/10.1007/978-3-030-36560-8_18
- Caspar, F. (1997). What Goes on in a Psychotherapist's Mind? *Psychotherapy Research*, 7 (2), 105–125.
- Chekroud, A.M., Zotti, R.J., Shehzad, Z., Gueorguieva, R., Johnson, M.K., Trivedi, M.H., Cannon, T.D., Krystal, J.H., & Corlett, P.R. (2016) Cross-trial prediction of treatment outcome in depression: a machine learning approach. *Lancet Psychiatry*. 2016 Mar;3(3):243-50. doi: 10.1016/S2215-0366(15)00471-X. Epub 2016 Jan 21. PMID: 26803397.
- Cuijpers, P., van Straten, A., Bohlmeijer, E., Hollon, S.D., Andersson, G. (2010). The effects of psychotherapy for adult depression are overestimated: a meta-analysis of study quality and effect size. *Psychol Med.*, 40(2), 211-23. doi: 10.1017/S0033291709006114. Epub 2009 Jun 3. PMID: 19490745.
- Epskamp, S., van Borkulo, C. D., Isvoranu, A. M., Servaas, M. N., van der Veen, D. C., Riese, H.,... Cramer, A. O. J. (2018). Personalized network modeling in psychopathology: The importance of contemporaneous and temporal connections. *Clinical Psychological Science*. doi: 10.1177/2167702617744325.
- Fisher, A.J., Reeves, J.W., Lawyer, G., Medaglia, J.D., Rubel, J.A. (2017) Exploring the idiographic dynamics of mood and anxiety via network analysis. *J Abnorm Psychol.*, 126(8), 1044-1056. doi: 10.1037/abn0000311. PMID: 29154565.
- Grikscheit, F., Weck, F., Hautzinger, M., Heidenreich, T., Weigel, M., Rudari, V. et al. (2015). Evaluation of Treatment Integrity. The Treatment Specificity Index. *Journal of Clinical Psychology*, 71, 653–665.
- Hannan, C., Lambert, M. J., Harmon, C., Nielsen, S. L., Smart, D. W., Shimokawa, K., Sutton, S. W. (2005). A lab test and algorithms for identifying clients at risk for treatment failure. *Journal of Clinical Psychology: In Session*, 61, 155–163
- Hunger, C., Evers, O., Baumeister, H., Braus, N., Eiler, S., Fendel, J. C., Hermans, B.E., Meßner, E.-M., Ochs, M., Portenhauser, A., Terhorst, Y., & Schmidt, S. (2024, June 7). Entwicklung einer web-basierten Plattform zur formativen und feedback-gestützten Evaluation der ambulanten Routineversorgung Systemischer Psychotherapie (SysDok). *Zeitschrift für Klinische Psychologie und Psychotherapie*. <https://doi.org/10.31234/osf.io/tgcu>
- Kendrick, T., El-Gohary, M., Stuart, B., Gilbody, S., Churchill, R., Aiken, L. et al. (2016). Routine use of patient reported outcome measures (PROMs) for improving treatment of common mental health disorders in adults. *The Cochrane Database of Systematic Reviews*, 7, CD011136. doi: 10.1002/1469-7580.cd011136
- Lambert, M. J. & Shimokawa, K. (2011). Collecting client feedback. *Psychotherapy (Chicago, Ill.)*, 48, 72–79.



- Leichsenring, F. & Rabung, S. (2008). Effectiveness of Longterm Psychodynamic Psychotherapy. A Meta-Analysis. *JAMA* 300: 1551-1565.
- Leichsenring, F., Steinert, C., Rabung, S., & Ioannidis, J.P.A. (2022). The efficacy of psychotherapies and pharmacotherapies for mental disorders in adults: an umbrella review and meta-analytic evaluation of recent meta-analyses. *World Psychiatry*, 21(1), 133-145.
- Lutz, W., Saunders, S.M., Leon, S.C., Martinovich, Z., Kosfelder, J., Schulte, D., Grawe, K., & Tholen, S. (2006). Empirically and Clinically Useful Decision Making in Psychotherapy: Differential Predictions With Treatment Response Models. *Psychology Faculty Research and Publications*. 301
- Margraf, J. (2009). *Kosten und Nutzen der Psychotherapie*. Berlin: Springer.
- Ochs, M., & Schweitzer, J. (eds) (2012). *Handbuch Forschung für Systemiker (1. Aufl.)*. Göttingen: Vandenhoeck & Ruprecht.
- Ochs, M., Borcsa, M., & Schweitzer, J. (eds) (2020). *Systemic Research in Individual, Couple, and Family Therapy and Counseling*. Cham: Springer International.
- Paul, G. L. (1967). Strategy of outcome research in psychotherapy. *Journal of Consulting Psychology*, 31(2), 109–118.
<https://doi.org/10.1037/h0024436>
- Swift JK, Greenberg RP, Tompkins KA, Parkin SR. Treatment refusal and premature termination in psychotherapy, pharmacotherapy, and their combination: A meta-analysis of head-to-head comparisons. *Psychotherapy (Chic)*. 2017 Mar;54(1):47-57. doi: 10.1037/pst0000104. PMID: 28263651.
- Tajika, A., Ogawa, Y., Takeshima, N., Hayasaka, Y., Furukawa, T.A. (2015). Replication and contradiction of highly cited research papers in psychiatry: 10-year follow-up. *British Journal of Psychiatry*, 207(4), 357-362. doi:10.1192/bjp.bp.113.143701
- Walfish, S., McAlister, B., O'Donnell, P., & Lambert, M.J. (2009). Are all psychotherapists from Lake Wobegon? An investigation of self-assessment bias in mental health providers. Unveröffentlichtes Manuskript.
- Wampold, B. E. (2001). *The great psychotherapy debate: Models, methods and findings*. Mahwah, NJ: Erlbaum.
- Webb, T., Joseph, J., Yardley, L., & Michie, S. (2010). Using the Internet to Promote Health Behavior Change: A Systematic Review and Meta-Analysis of the Impact of Theoretical Basis, Use of Behavior Change Techniques, and Mode of Delivery on Efficacy. *Journal of Medical Internet Research*. 12. e4. 10.2196/jmir.1376.
- Yao, L., et al. (2020). Influencing Factors and Machine Learning-Based Prediction of Side Effects in Psychotherapy. *Front. Psychiatry* 11, <https://doi.org/10.3389/fpsy.2020.537442>
- Yao, L., et al. (2022). Therapists and psychotherapy side effects in China: A machine learning-based study. *Heliyon*, 8(11), <https://doi.org/10.1016/j.heliyon.2022.e11821>.
- Zhang, X., Tanana, M., Weitzman, L., Narayanan, S., Atkins, D., & Imel Z. (2023). You never know what you are going to get: Large-scale assessment of therapists' supportive counseling skill use. *Psychotherapy*, 60(2), 149-158. doi: 10.1037/pst0000460. Epub 2022 Oct 27. PMID: 36301302; PMCID: PMC10133410.
- Ziegler, H., Hille, J., & Ochs, M. (2024). Wirkungen aufsuchender Familienhilfen. Wie sollen, dürfen, können sie (systemisch) beforscht werden? *Familiendynamik*, 49 (2), 92 – 100. DOI 10.21706/fd-49-2-92