When, Why and How do Patients Change in Psychological Treatments

Wolfgang Lutz

(University of Trier)

http://www.kpplutz.uni-trier.de

The Need for Research

„Psychotherapy is an undefined technique applied to unspecified problems with unpredictable outcome. For this technique we recommend rigorous training“.

Participant of the Boulder Conference on Training in Psychotherapy (Raimy, 1950)

The Need for Research

„No form of therapy has ever been initiated without a claim that it had unique therapeutic advantages. And no form of therapy has ever been abondoned because of its failure to live up to these claims.“

Morris B. Parloff (1968)

THE PRECISION MEDICINE INITIATIVE

Until now, most medical treatments have been designed for the “average patient.” As a result of this “one-size-fits-all” approach, treatments can be very successful for some patients but not for others. Precision Medicine, on the other hand, is an innovative approach that takes into account individual differences ...

The White House – Precision Medicine Initiative. Barack Obama, January 30, 2015.

How good are you as a therapist?

- Imagine you finished your clinical training program and you work already a few years. How good are you as a therapist in relation to other therapists?

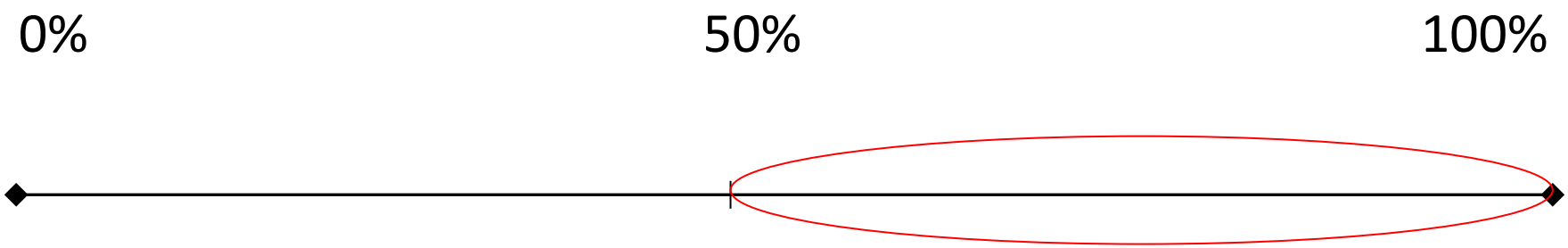
- Estimate your position in relation to other therapists on a scale from 0 to 100.

- 0 would be the weakest therapist, 100 would be the best therapist.

0% 50% 100%

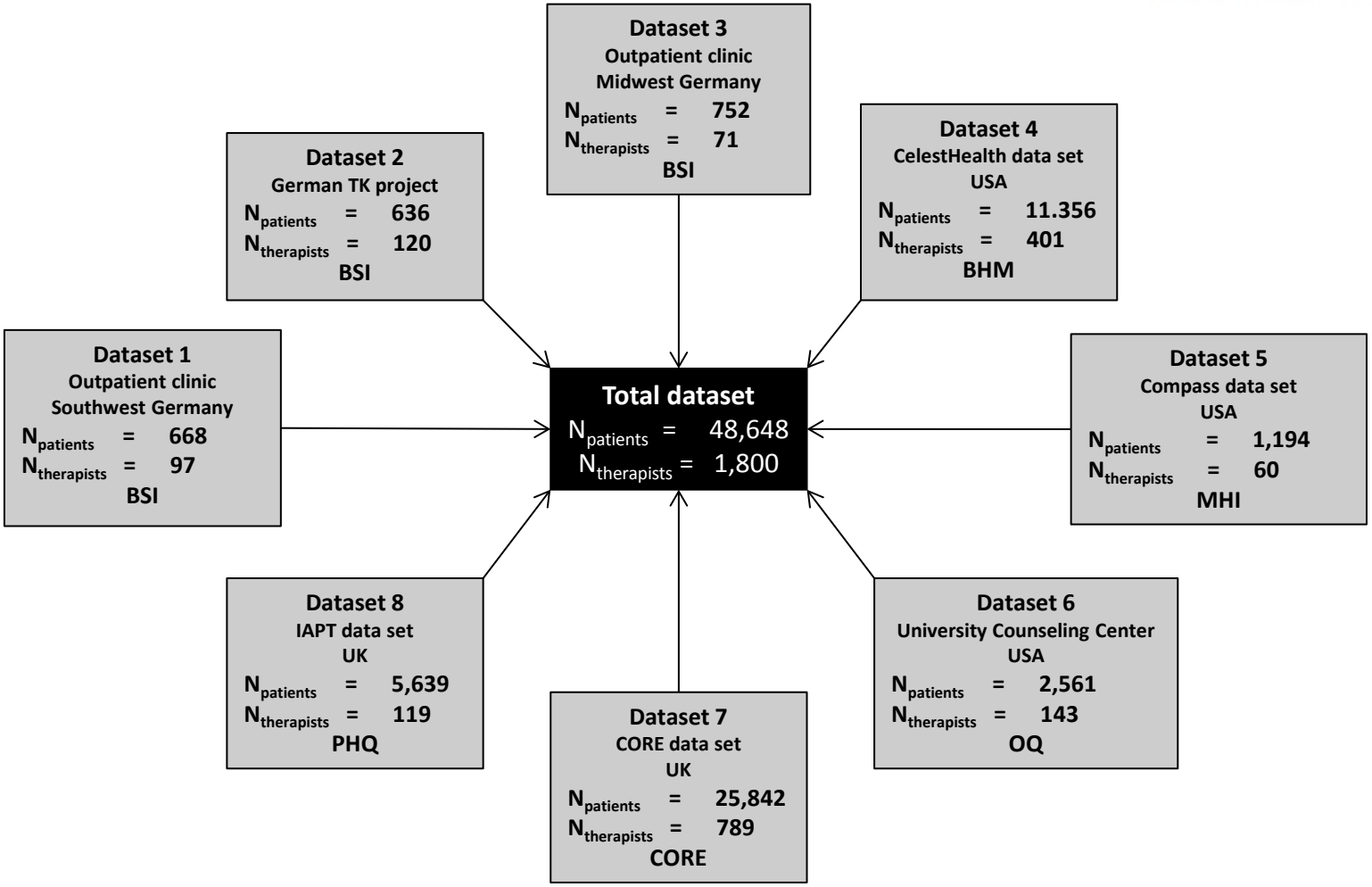
Better-than-average Effect (BTA)

- Therapists estimate themself on the 80th percentil.
- Nobody saw himself/herself below the 50th percentile.



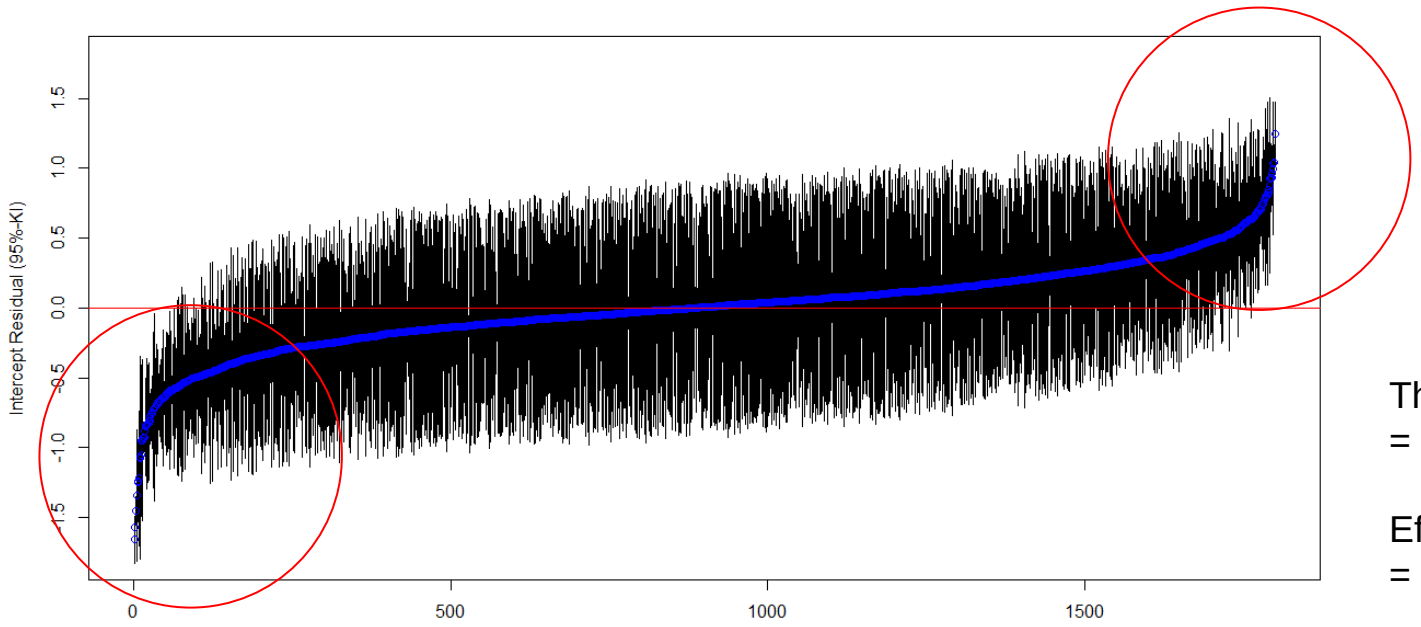
Walfish, McAlister, O'Donnell and Lambert (2012)
Hannan, Lambert, Harmon, Nielsen, Smart, Shimokawa, *et al.* (2005)

Aggregated Dataset
N= 48,648 (patients); N=1800 (therapists)



Many thanks to Michael Barkham, Jaime Delgadillo , Michael Lambert, Dietmar Schulte, Ken Howard, & Mark Kopta

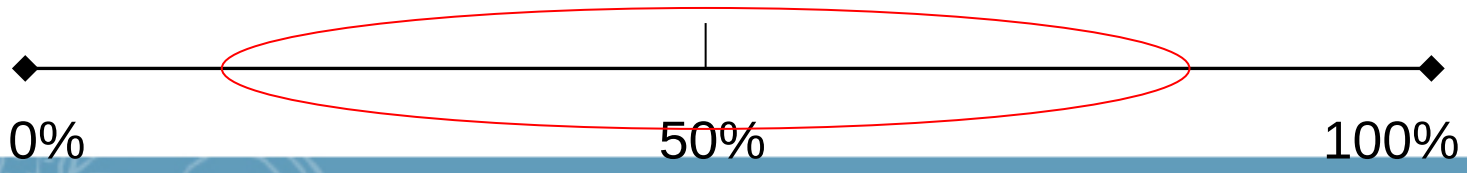
Distribution of therapist effects in an aggregated dataset of 3 countries and 8 datasets N= 48648 (patients); N=1800 (therapists)



Therapist effect = 6.7%

Effect Size = .54

Most effective	Ø	Least effective
16.78% (302)	67.06% (1207)	16.17% (291)



Statement

- The psychometric assessment and feedback of psychological change could/should become part of clinical practice in order to support the delivery of psychological interventions. (treatment planing, tracking adaptation and training)

- Modern tools developed in the context of eMental Health/Feedback research can help to realize this.

- But the decision about the clinical validity of the so delivered additional information should stay in the hands of a scientifically well-trained therapist.

- Replication: Several datasets could be used for validation – we have to deal with large patient and setting variation.

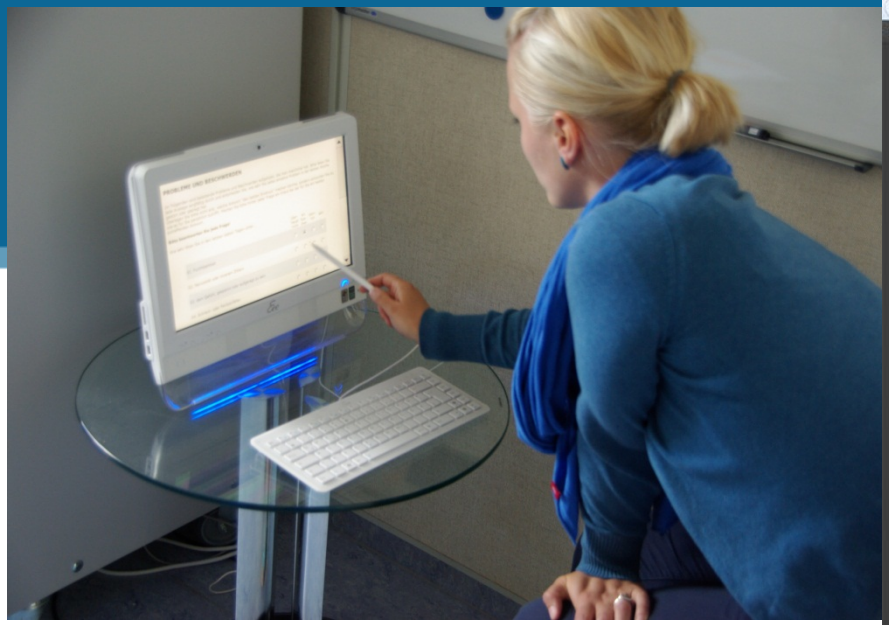
When, how and why do people change through psychological interventions -- Human Change Through Psychotherapy Program (HCTPP)

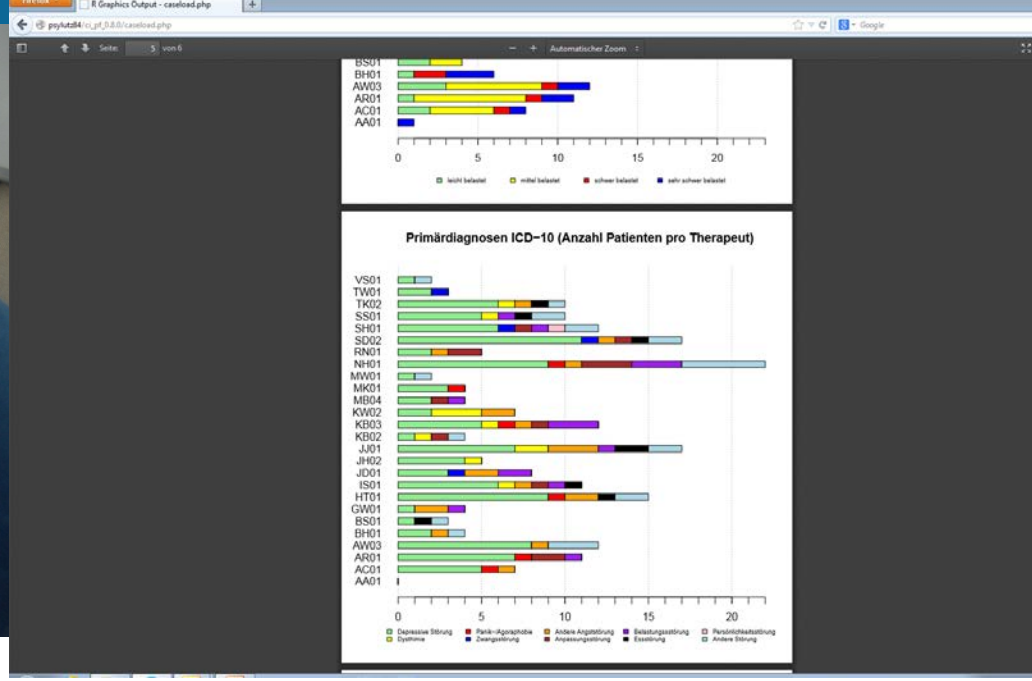
Universität Trier

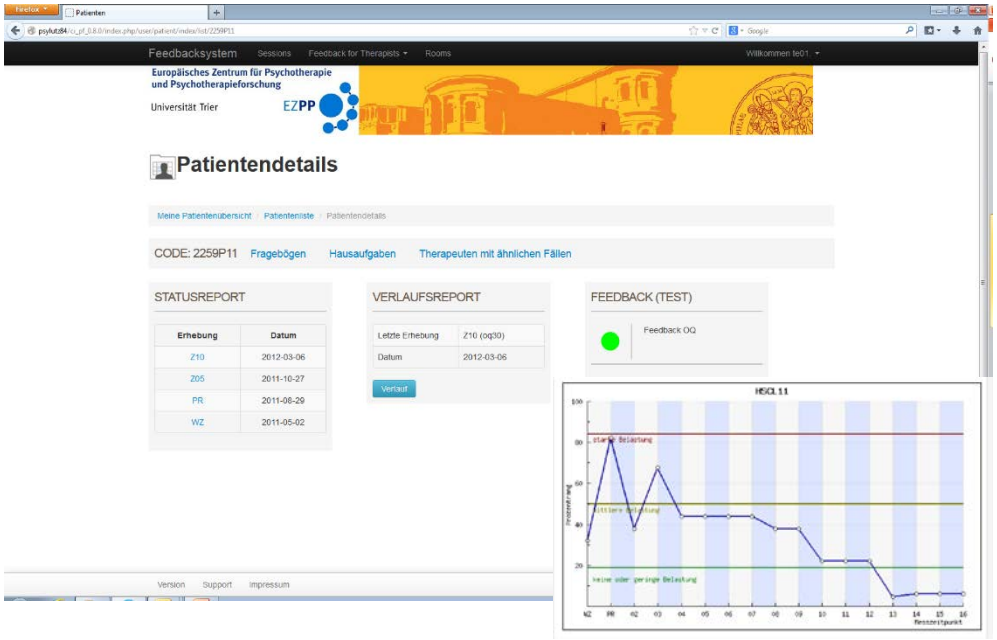
- Research topics within the Clinical Psychology and Psychotherapy Section at the University of Trier /Center for Psychotherapy and Psychotherapy Research

- **From the macro- to the micro-level of change in psychological treatments**
  - 1. macro-level:
    - Patient or client-focused psychotherapy research/prediction of change/feedback
  - 2. meso-level:
    - Discontinous treatment courses and underlying processes/factors
  - 3. micro-level:
    - Therapeutic micro-strategies

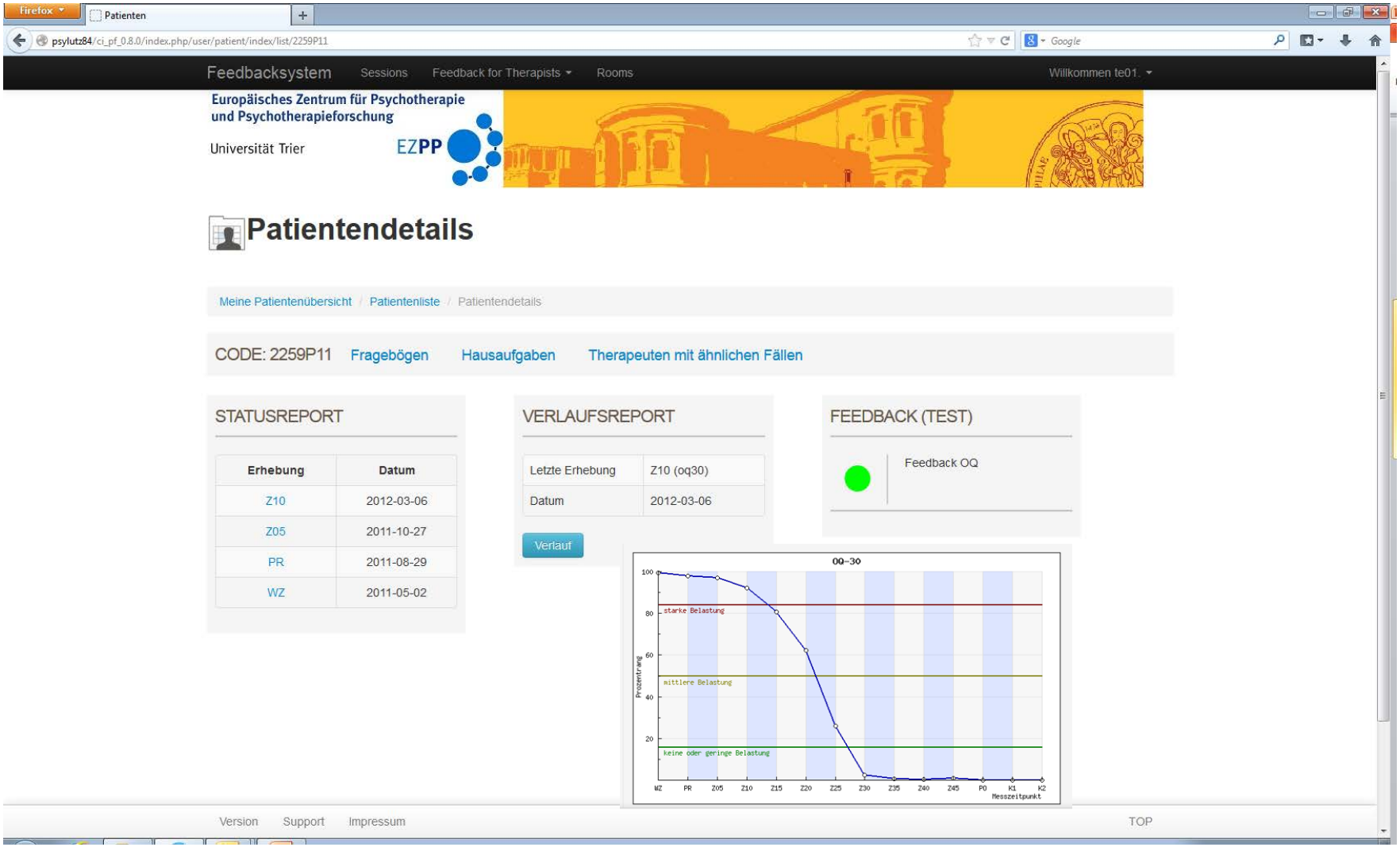
- Outpatient center and clinical training program, PhD program „Psychotherapy Research“ and research oriented focus in the master program „Clinical Psychology“




Primärdiagnosen ICD−10 (Anzahl Patienten pro Therapeut)
VS01
TW01
TK02
SS01
SH01
SD02
RN01
NH01
MW01
MK01
MB04
KW02
KB03
KB02
JJ01
JH02
JD01
IS01
HT01
GW01
BS01
BH01
AW03
AR01
AC01
AA01
0
5
10
15
20


Feedbacksystem
Sessions
Feedback for Therapists
Rooms
Europäisches Zentrum für Psychotherapie und Psychotherapieforschung
Universität Trier
EZPP
Patientendetails
CODE: 2259P11
Fragebögen
Hausaufgaben
Therapeuten mit ähnlichen Fällen
STATUSREPORT
VERLAUFSREPORT
FEEDBACK (TEST)
HSCL 11

Therapieverlauf



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1. Treatment Selection Tool (Prediction: PAI,NN)

- Is the treatment which is effective for the average patient also effective for this specific patient?
- Which treatment strategy is best for this specific patient?

2. Treatment Adaptation Tool (ROM, Early Response, Sudden Gains/Losses)

- Is the ongoing treatment successful for this patient?
- Is this patient at risk for treatment failure?

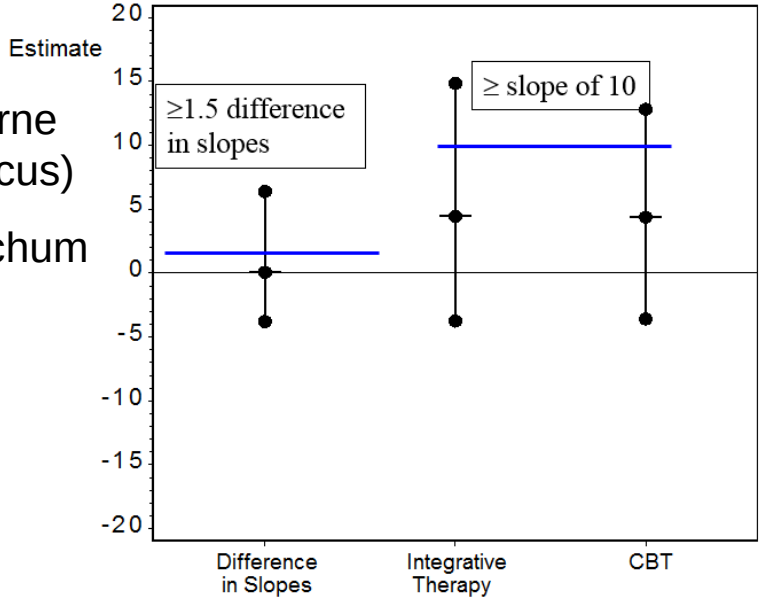
1.Personalized Predictions of Treatment Effects: Differential Predictions and Nearest Neighbors

- Individual predictions based on their nearest neighbors
- Two homogeneous subsamples of the 30 nearest patients were selected for a CBT oriented treatment group and an integrative CBT and interpersonal oriented treatment group and Growth Curve Modeling was conducted on those two groups for each patient

N=619 (Inventory of Emotional Distress (EMI)

Site 1: N= 359 Outpatient Clinic at the University of Berne (Integrative Cognitive-Behavioral and Interpersonal Focus)

Site 2: N=260 Outpatient Clinic at the University of Bochum (Cognitive-Behavioral Focus)

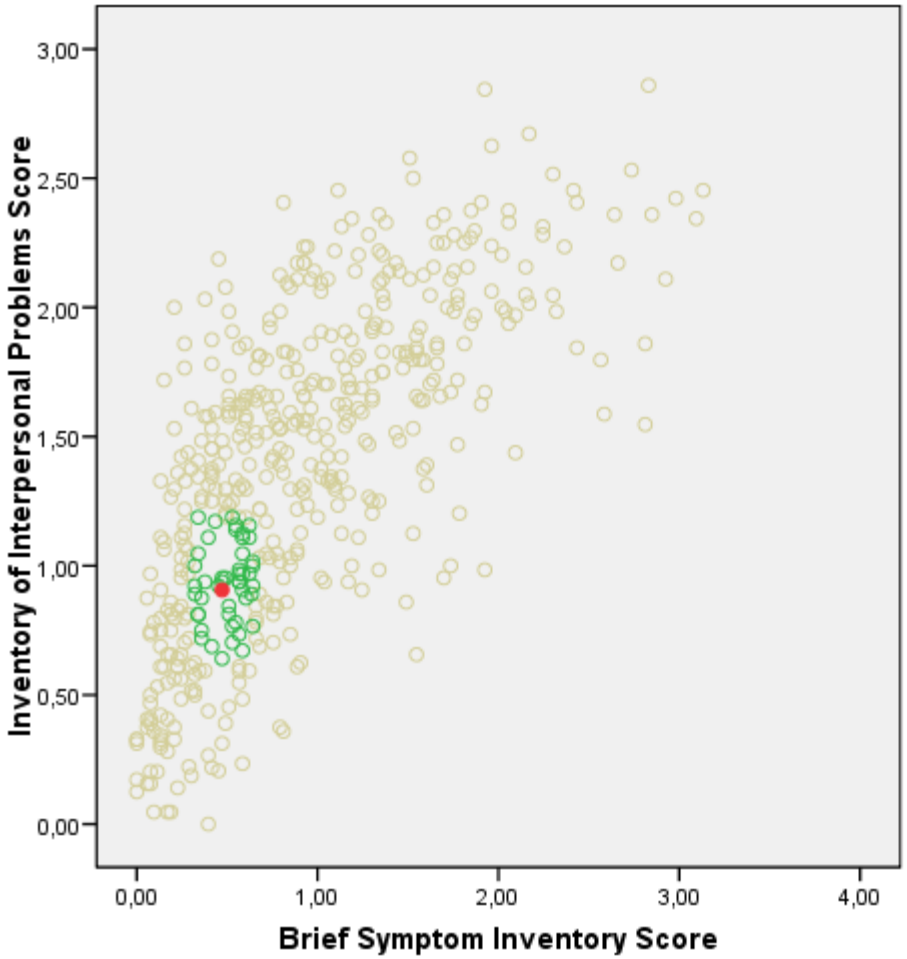


Lutz, W., et al. (2006). *Psychological Assessment,* 18, 133-144.

Lutz, W. et al. (2005, 2009, 2013). *JCCP, PR*.

Rubel, Lutz (2014). Psychological Assessment.

Nearest Neighbors (NN)

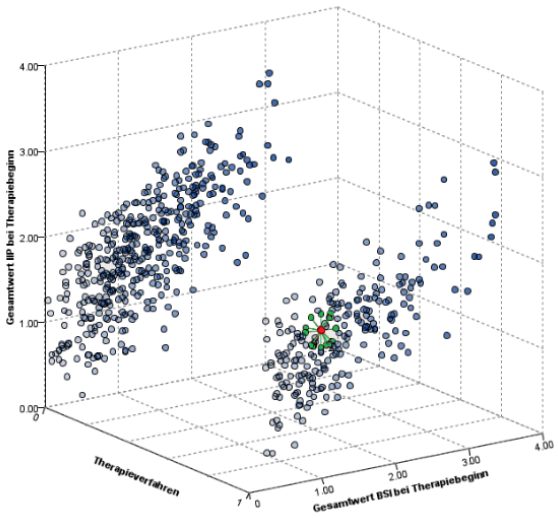


Predictors:

BSI

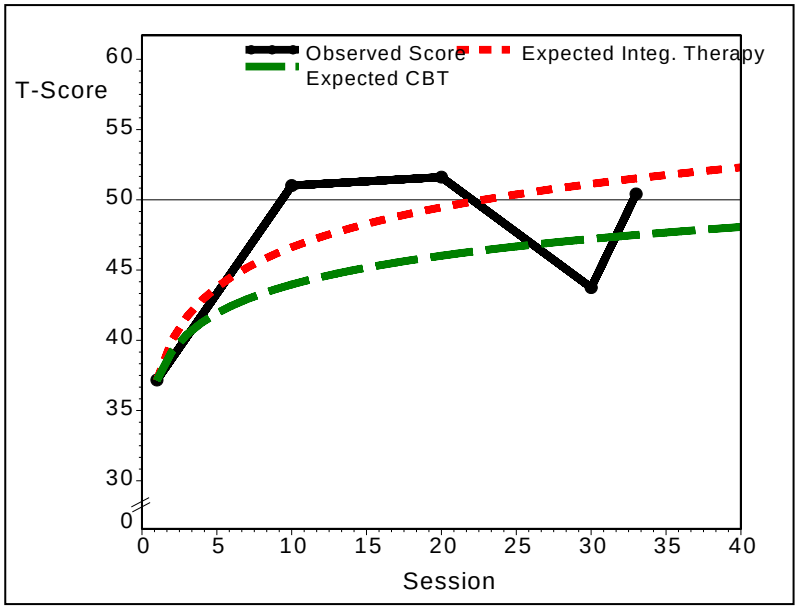
IIP

25% nearest cases to the target or Euclidean Distances



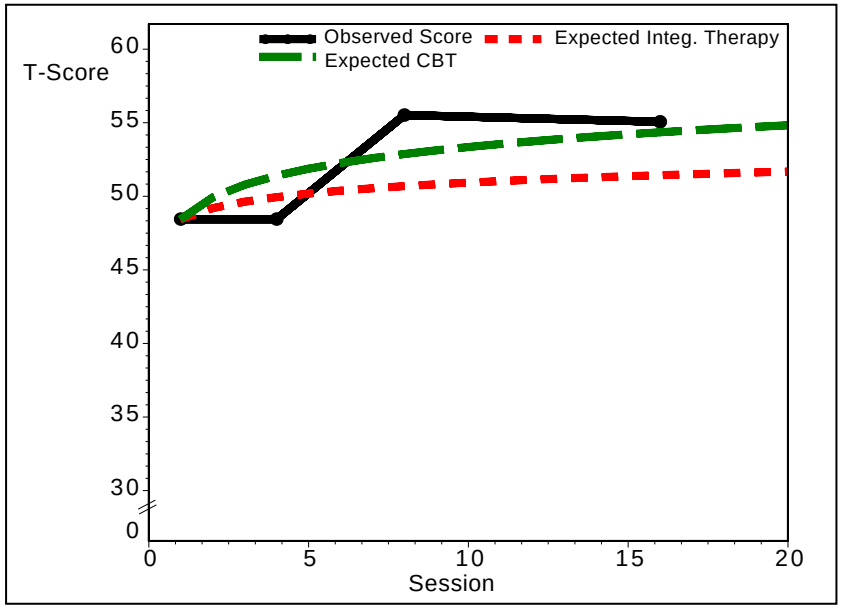
Examples

A Patient with a Diagnoses of Anxiety & Depression – Treated with CBT +IPT Therapy



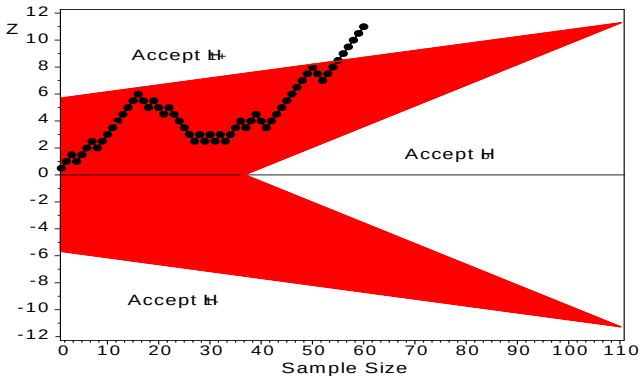
	Age mean (std.)	Gender n	Diagnoses n	Distance mean (std.)	Goals	SE	Reliable Change n
Integrative Therapy (n=30)	35 (1.2)	24 Female	5 Anx. 10 Depr. 1 Com.	6.6 (.9)	11 P 14 I 3 W 2 O 9 S	6.2	+ 26 +\- 3 - 1
CBT (n=30)	33 (3.0)	16 Female	5 Anx. 10 Depr. 15 Com.	7.7 (1.4)	20 P 19 I 3 W 4 O 10 S	4.7	+ 17 +\- 11 - 2

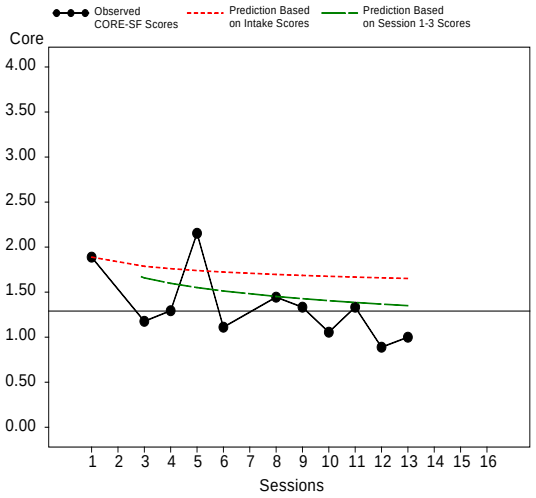
A Patient with a Diagnoses of Anxiety – Treated with CBT

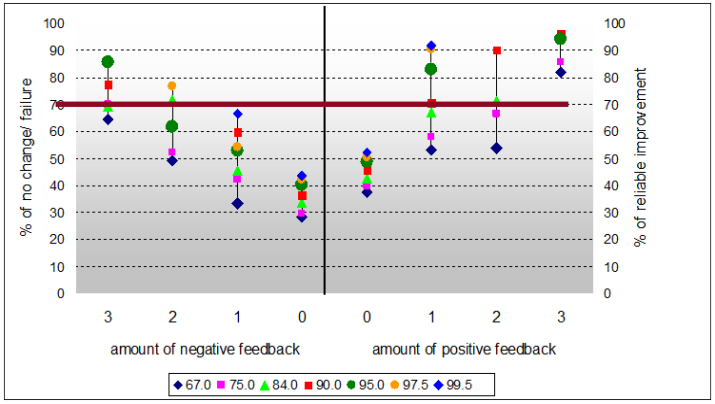


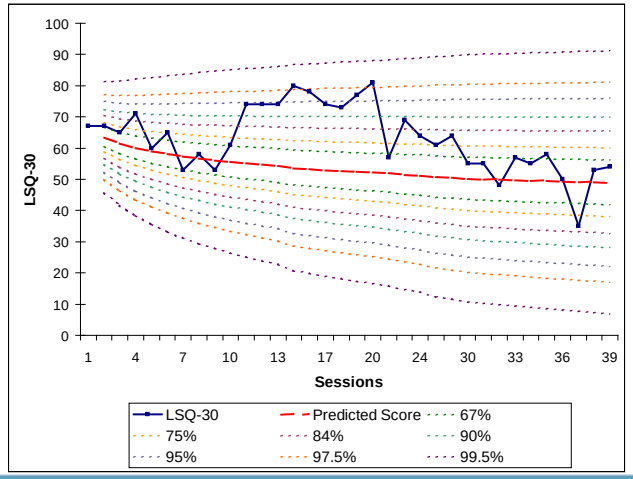
	Age mean (std.)	Gender n	Diagnoses n	Distance mean (std.)	Goals	SE	Reliable Change n
Integrative Therapy (n=30)	40.4 (2.7)	15 weibl.	8 Angst 2 Depr. 2 Kom.	8.7 (1.4)	9 P 13 I 3 W 1 O 6 S	5.7	+ 15 +\- 13 - 2
CBT (n=30)	41.1 (3.3)	19 weibl.	19 Angst 2 Depr. 9 Kom.	8.4 (1.8)	21 P 6 I 10 W	4.6	+ 19 +\- 7 - 4

Validation, Adaptive Models, Decision Rules and Feedback Tools





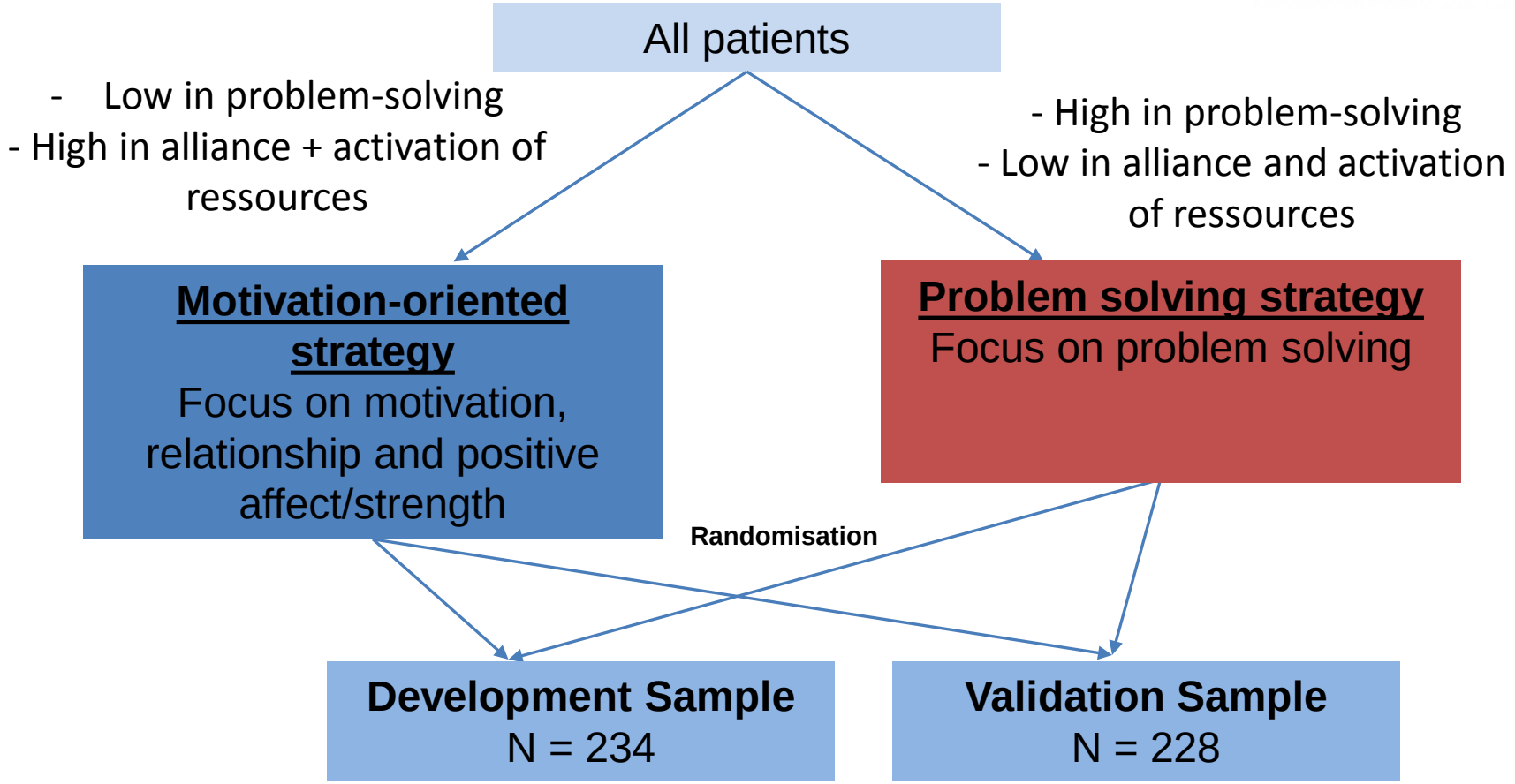




Wakefield Metropolitan District (UK)
204 clients,session-by-session with the CORE-SF (18 items)

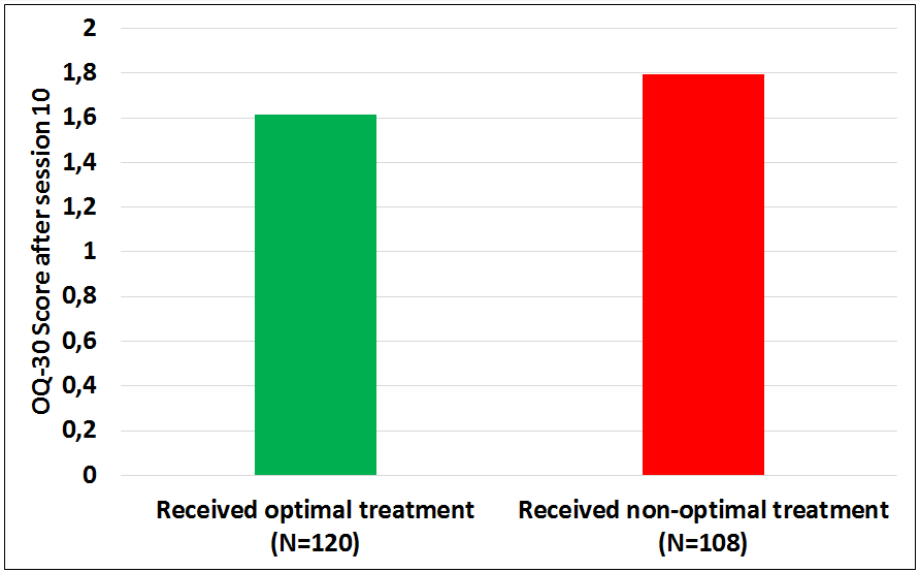
Lutz, et al.,*(2005). JCCP. 73*,904-913.
Lutz, W., (2006). Clin. Psych & Psych.
Lutz, et al., (2015). Psych. Res.
Rubel, Lutz et al. (2014). Psy. Assess.

Motivation-oriented or problem-solving strategies within the first 10 sessions



N = 462 patients, 60.1% female; M = 37.03 years (SD = 12.31)
41.1% affective disorders; 8.9% anxiety disorders; 34.8% mixed affective and anxiety disorders mixed;15.8% others

Observed advantage of treatment selection in validation sample

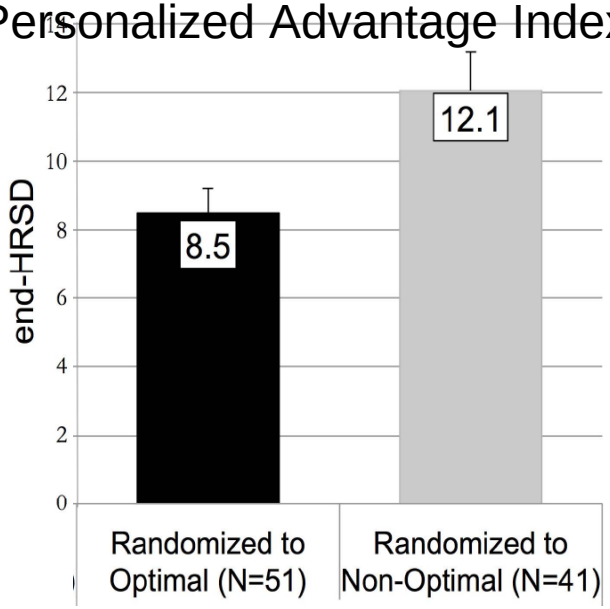


$d = 0.31$; $p < .05$

Only those with 0.5 SD difference in predictions

$d = 0.93$; $p < .05$, Huibers

PAI: DeRubeis et al. (2014) Personalized Advantage Index



Huibers (2015).

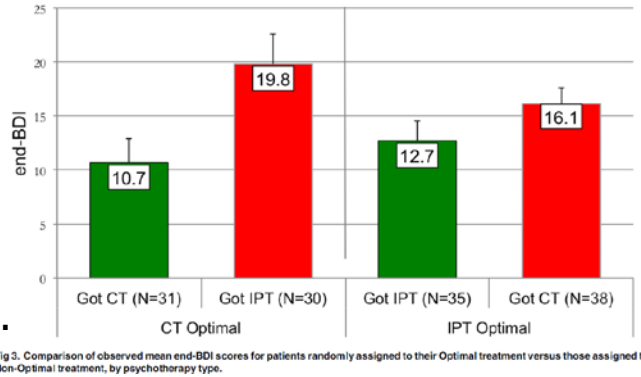
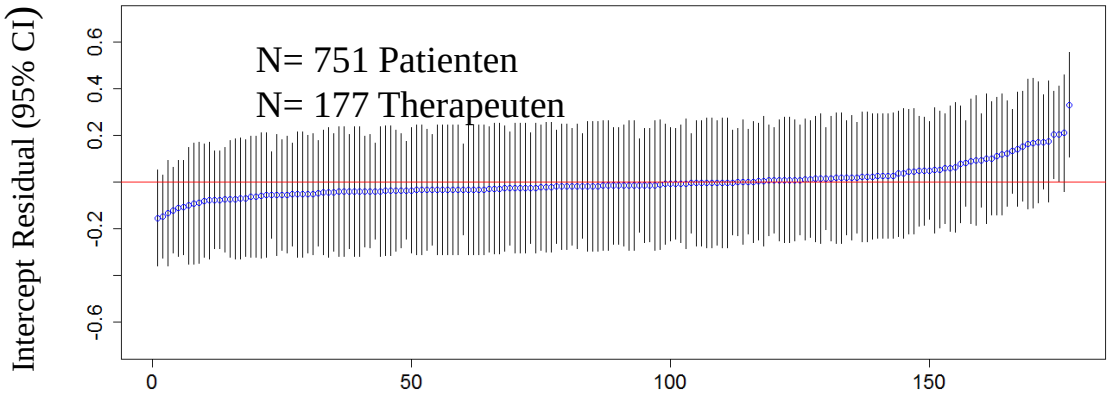
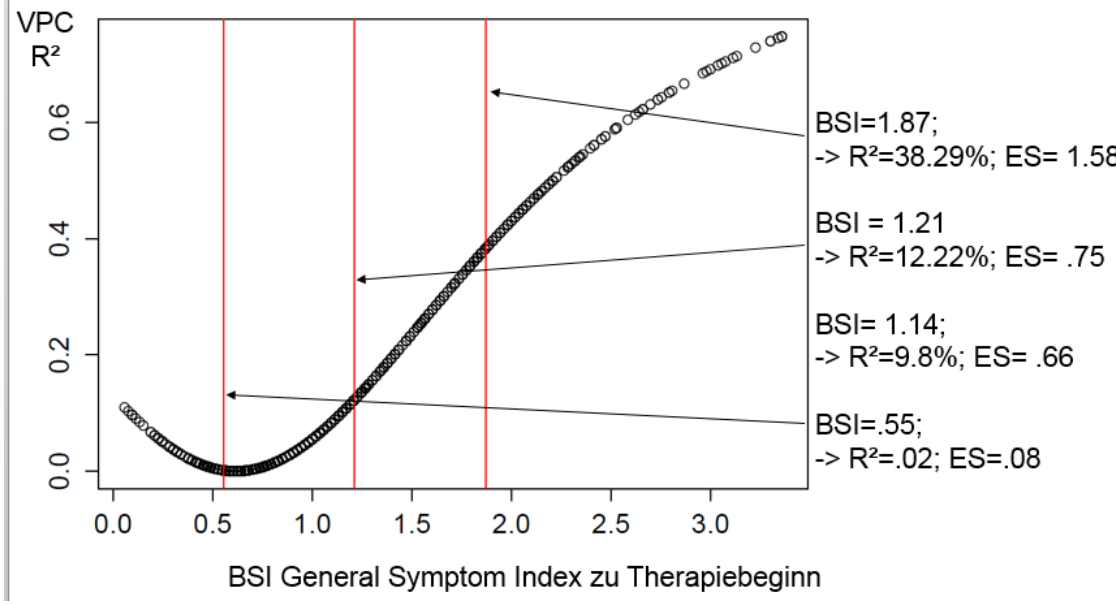


Fig 3. Comparison of observed mean end-BDI scores for patients randomly assigned to their Optimal treatment versus those assigned to their Non-Optimal treatment, by psychotherapy type.

Therapist effect on outcome (corrected after initrial impairment); 9.8%, d=.66



Therapist ranked from most to least effective



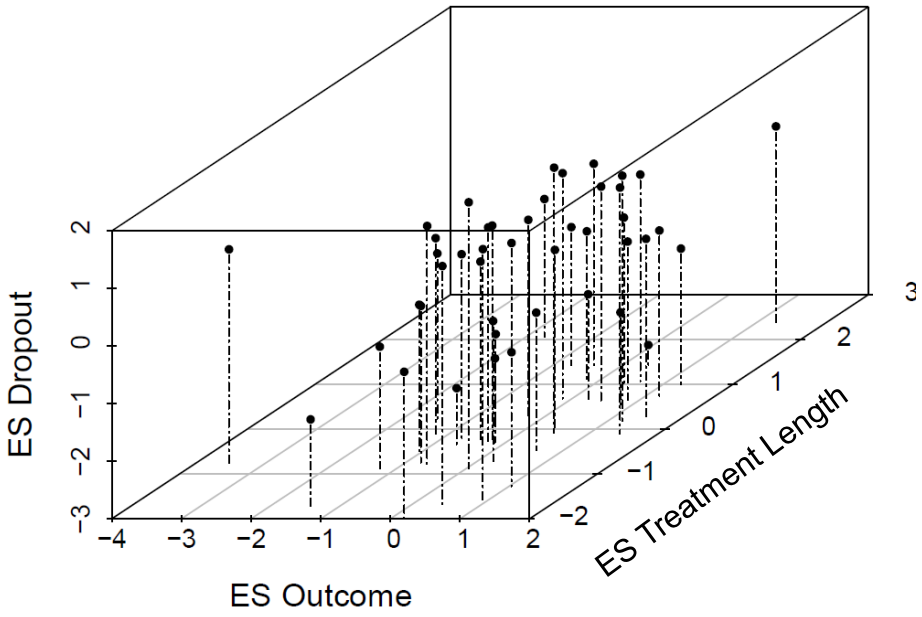
Multilevel-Model
Saxon & Barkham , 2012, JCCP.;
Baldwin & Imel, 2013

Level 1:$Symptoms_{ij} = \beta_{0i} + \beta_{1i}*Symptoms\_pre_{ij} + e_{ij}$

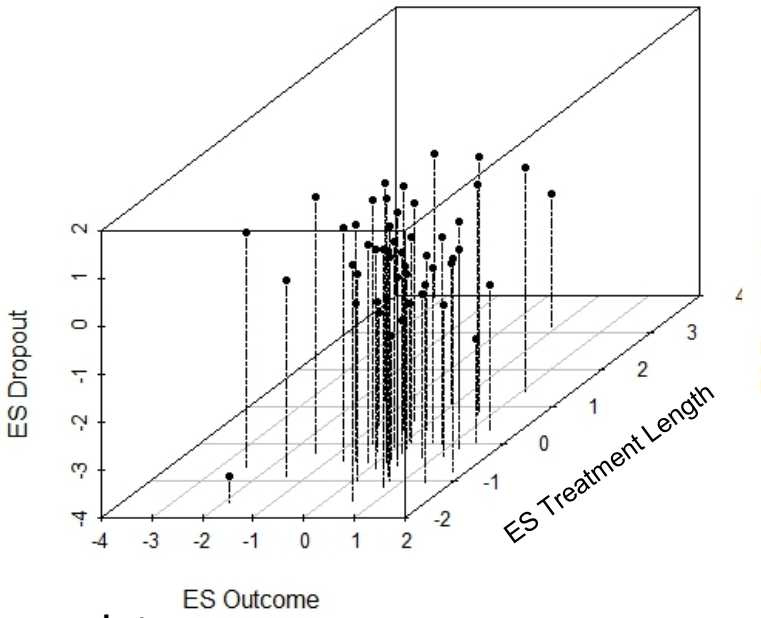
Level 2:$\beta_{0i} = \gamma_{00} + r_{0i'}$; $\beta_{1i} = \gamma_{10} + r_{1i}$

Therapist effects on Outcome, Treatment Length, Drop-out (TK-Study, Outpatient Center Trier) in ES

N=349 patients and 44 therapists
at least 5 cases



N=277 patients and 54 therapists
at least 5 cases



larger ES =
better outcome, less drop-out, shorter treatments

No correlation between therapist Effects in outcome and length

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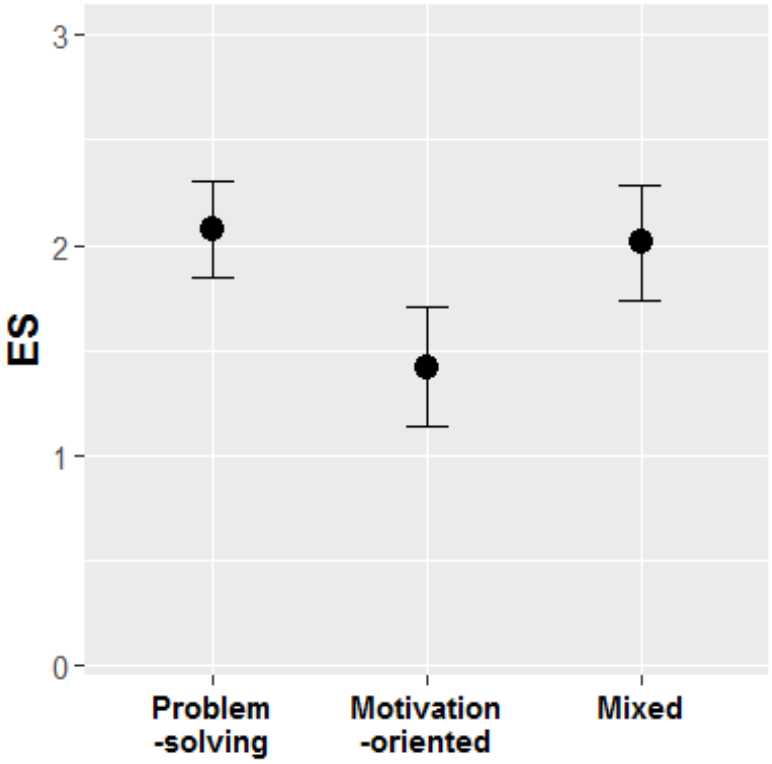
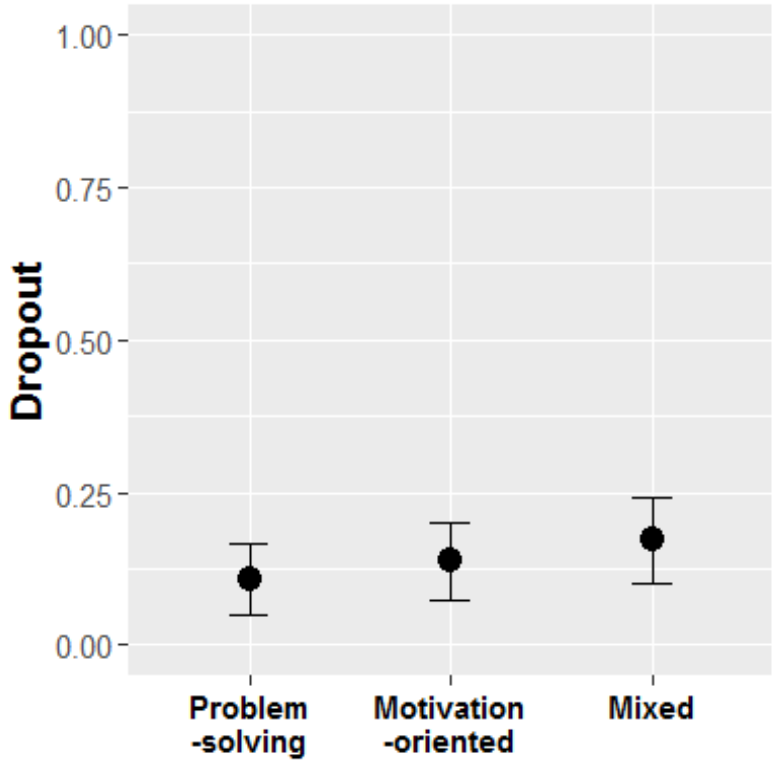
EZPP

Nearest Neighbors von 4554P14





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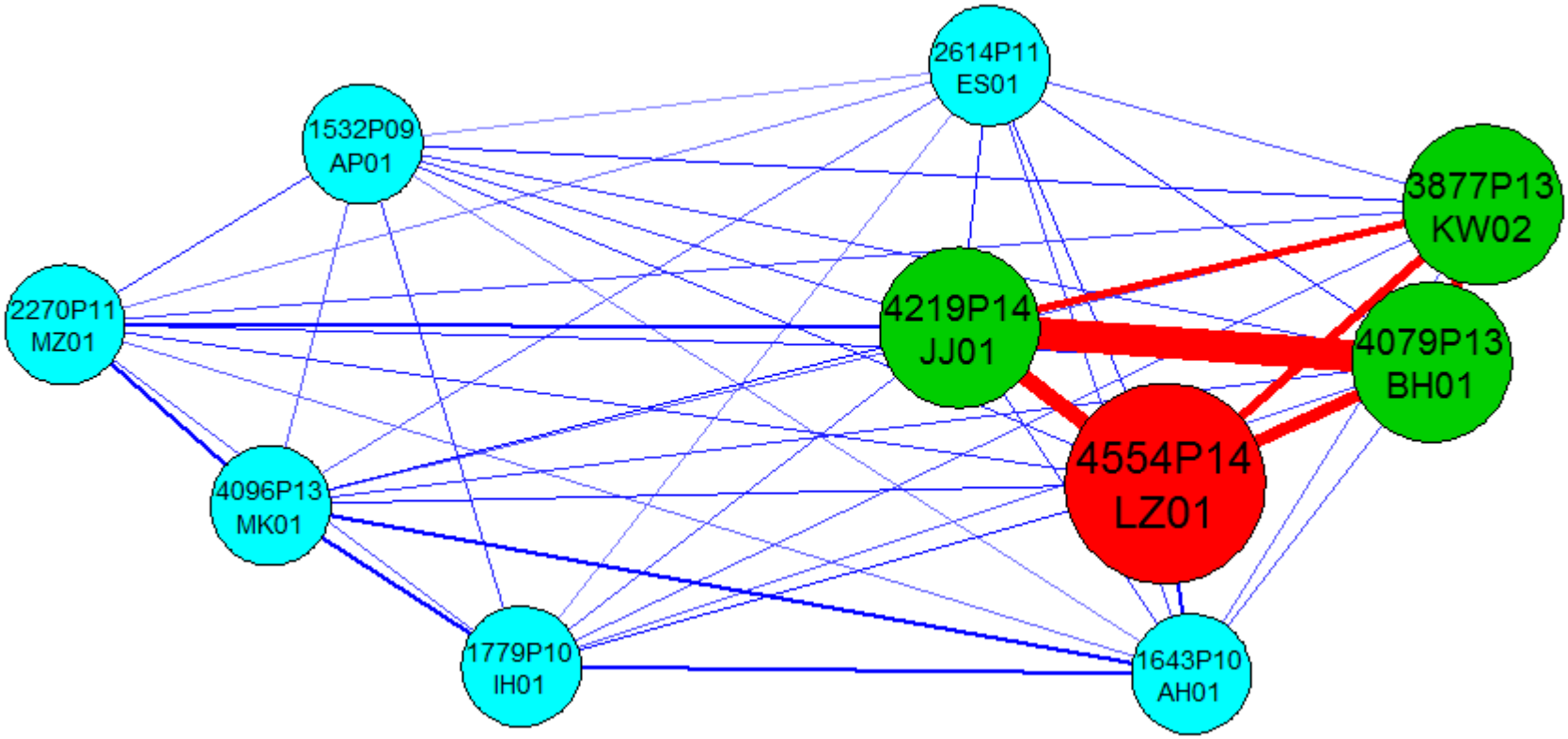
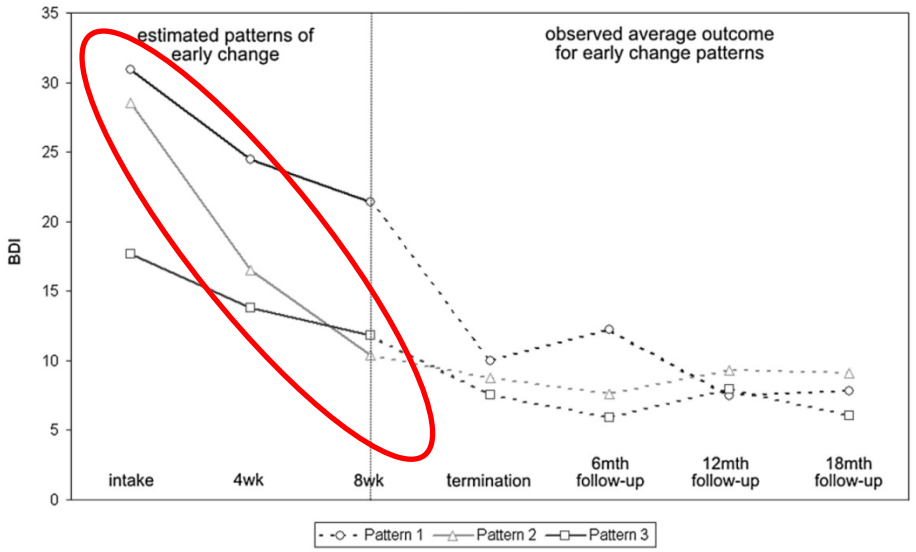
EZPP

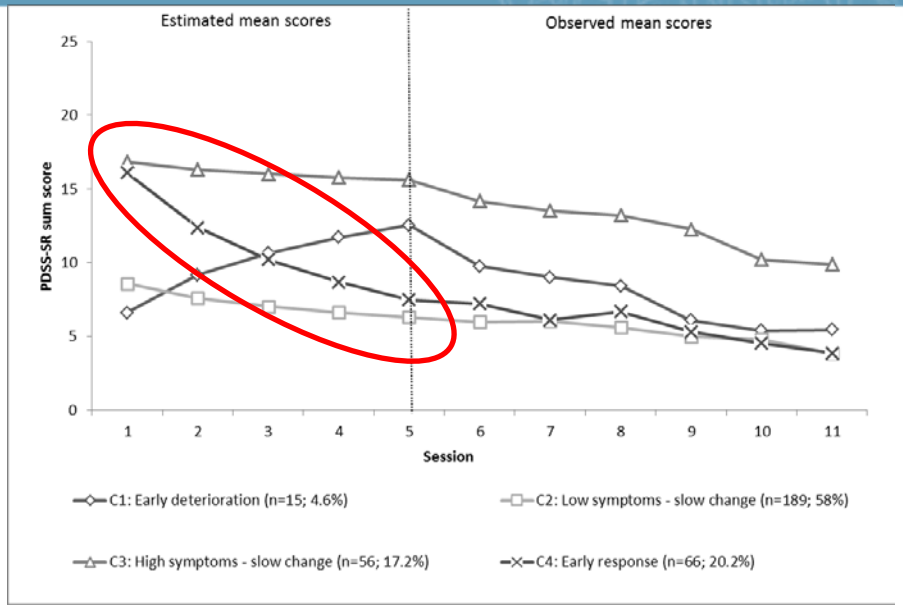
Nearest Neighbors von 4554P14

Network Analysis



2. Treatment Adaptation Tool (Early Response, ROM)





Depression: 61.1% „Early Responder“

Panic disorder: 20.2% „Early Responder“

- ER seems to exist in different settings, diagnosis, treatments and instruments
- ER groups have high treatment effects. ED seem to have a negative prognosis
- in naturalistic studies ER have shorter treatments / in RCT`s ER are those which finish the manual.

Lutz, W., Stulz, N., & Köck, K. (2009). JAD; Lutz, W., Hofmann, S. et al. (2014). JCCP.

Treatment outcome and length of the different early change groups

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Variable	*n*	Final treatment outcome: Reliable improvement (%)	Final treatment outcome: ES change in PDSS-SR during treatment (*d*) [95% CI]	Treatment completion status (number of sessions attended): 3–5 (%)	6–10 (%)	11 (%)	Mean number
All patients	326	48.8	1.02 [0.85, 1.19]	10.1	13.2	76.7	9.87
Class 1	15	0*	−0.49 [−1.22, 0.26]	20	20	60	9.2
Class 2	189	37.6*	0.73 [0.51, 0.94]	6.9	14.3	78.8	10.04
Class 3	56	46.4	1.00 [0.58, 1.41]	19.6*	17.9	62.5	9.02
Class 4	66	93.3*	2.11 [1.61, 2.60]	9.1	4.5	86.4	10.29
p		<.001[a]	<.001[b]		<.001[a]		.007[b]

Class 1: Early deterioration
Class 2: Medium symptoms – slow change
Class 3: High symptoms – no change
Class 4: Early response

Early responder show the **highest pre-post effect sizes** and the **highest probability to complete the treatment**. ***Nonresponder*** (class 3) and ***deteriorater*** (class 1) show **high probabilities for drop-out**.

Lutz, W., Hofmann, S. et al. (2014). JCCP.

Routine Outcome Monitoring (ROM) and Personalized Treatment Adaptation

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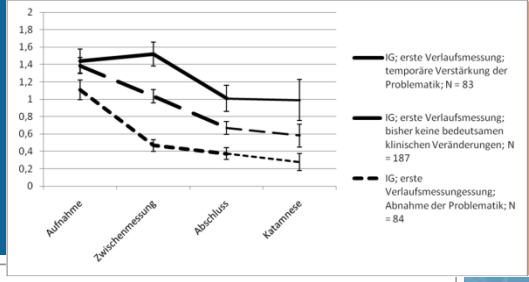
Psychometric feedback

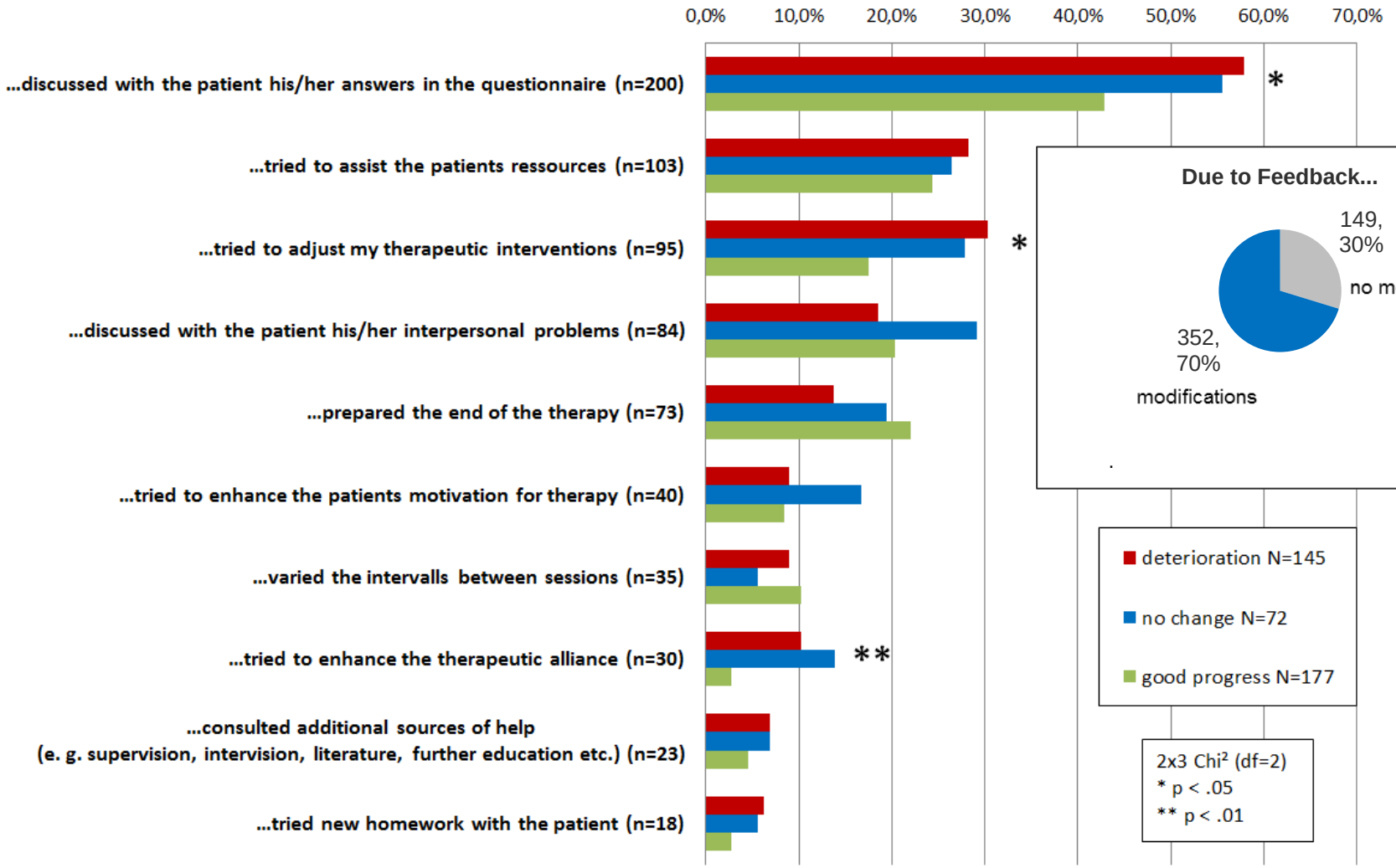
- Reduces the number of non-responding patients
- Patients that go „off-track“ have a higher chance to profit
- Effects can be further enhanced with clinical support or problem solving tools

Lambert (2016)

What do therapists do with feedback? - depending on feedback type



Due to the feedback, I... (multiple choices possible; 701 responses on N = 394 patients)



What do therapists do with feedback?

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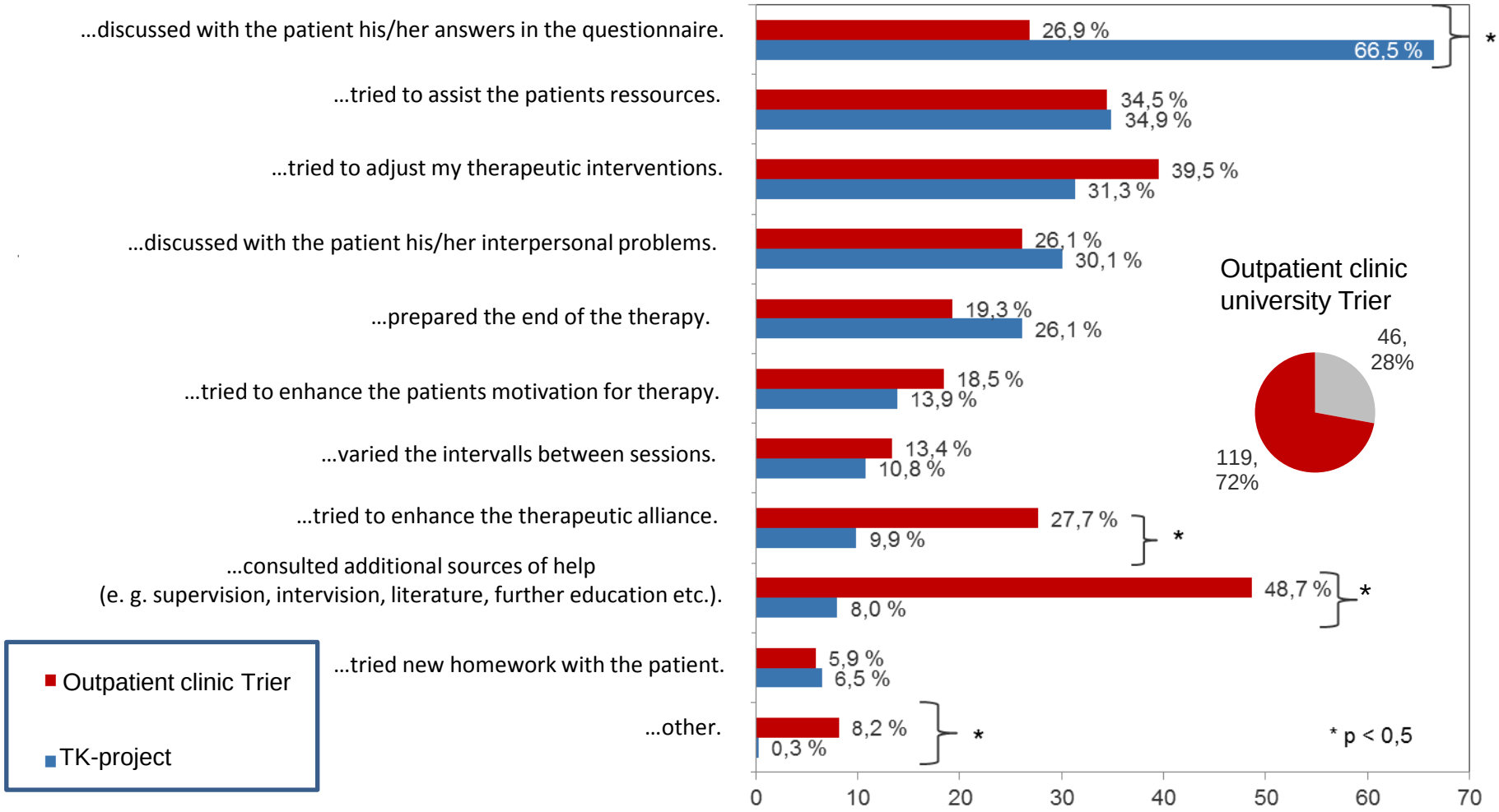
If modifications were made: Duo to the feedback, I…

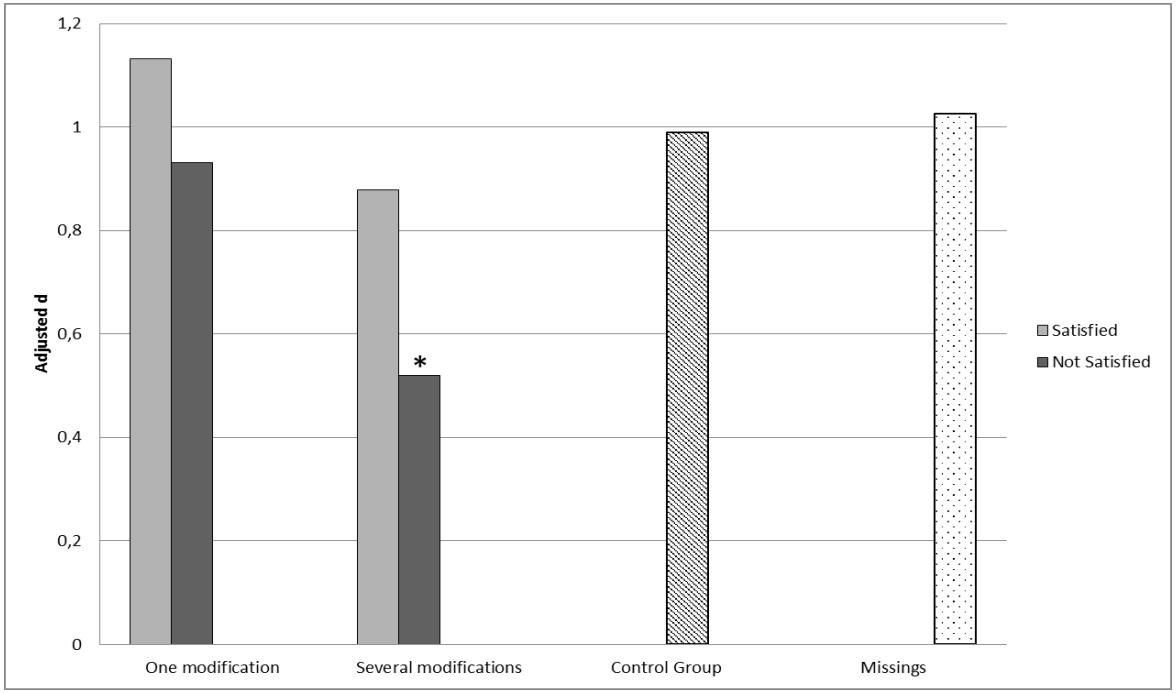


Differential Effects of therapist attitudes towards and usage of feedback

Amount of modifications due to Feedback

Attitude towards feedback

How satisfied are you with the QM project?



Lutz, et al., (2015). Psy.Res.

Patients´ evaluations of outcome monitoring

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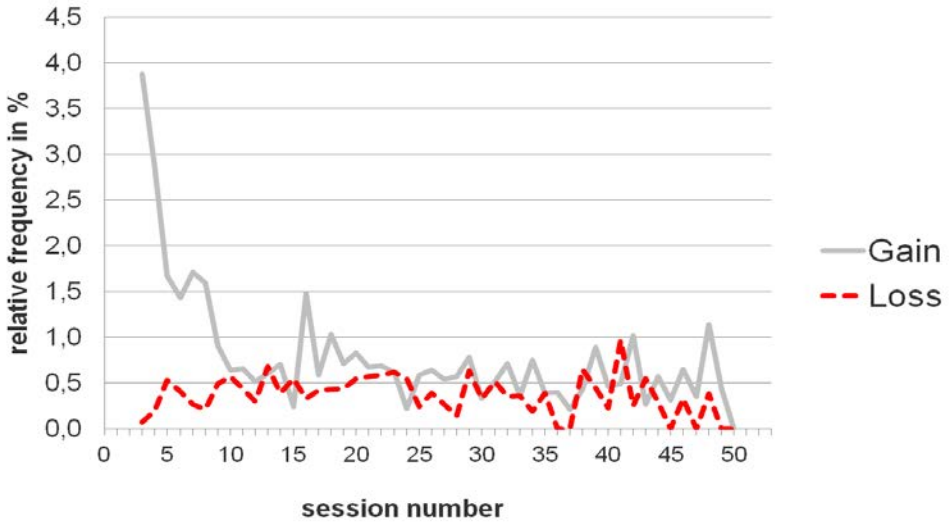
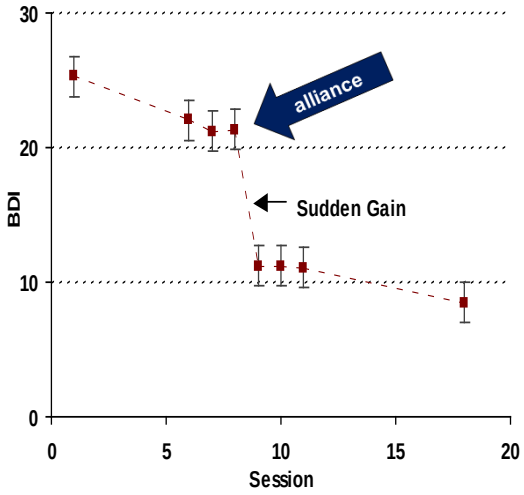
Question	*n*	Completely right	Rather right	neither / nor	Rather wrong	Completely wrong
I like the idea of having a project monitoring the quality of outpatient psychotherapy.	597	374 (62,6%)	177 (29,6%)	41 (6,9%)	3 (0,5%)	2 (0,3%)
		92.2%			**0.8%**	
I find it important to monitor the results of psychotherapeutic treatments.	597	399 (66,8%)	156 (26,1%)	30 (5,0%)	8 (1,3%)	4 (0,7%)
		92.9%			**2.0%**	
The time I needed to answer the questions was appropriate.	597	389 (65,2%)	181 (30,3%)	14 (2,3%)	12 (2,0%)	1 (0,2%)
		95.5%			**2.2%**	

Lutz, Böhnke, Köck, Rubel, 2011,2012,2013, 2014

Frequency of gains and losses by sessions (N=1500 outpatients, Trier, Bern, Bochum)





About 40% of patients experience a gain, which makes about 51% of overall change
Change rate witht sudden gain: 79%, without: 41%
Follow-up scores (at 6 or 18 Mt.) are significantly better *(Tang & DeRubeis, 1999; 2005)*
Sudden gains occur in CBT & supportive therapy and under routine clinic conditions (*Hardy,* 2005*; Stiles et al., 2004).*
Sudden losses have been rarley investigated.

Lutz, W. & Tschitsaz, A. (2007).
Tschitsaz, A. & Lutz, W. (2009).
Lutz, et al., (2013)

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Current study – Types of alliance ruptures

Eubanks-Carter, Muran und Safran (2009)
Rupture Resolution Rating Manual (3RS)

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- **Confrontation Ruptures**

  (unsettled complaints about the therapist, the therapy, the progress in therapy, the basic conditions, etc.)

- **Withdrawal Ruptures**

  (covered problems in the relationship in terms of the patient's efforts of avoidance, lack of cooperation, etc.)

- **Resolution Strategies** of the therapist

  (non defensive, open handling of problems in the therapeutic relationship)

Manualized, rater training for 4 days, seven raters, satisfactory agreement between 42-90% depending on category (Ehrlich & Lutz, 2015).

Current study –Patients N=88

from: Ehrlich & Lutz (2015). Der Psychotherapeut.

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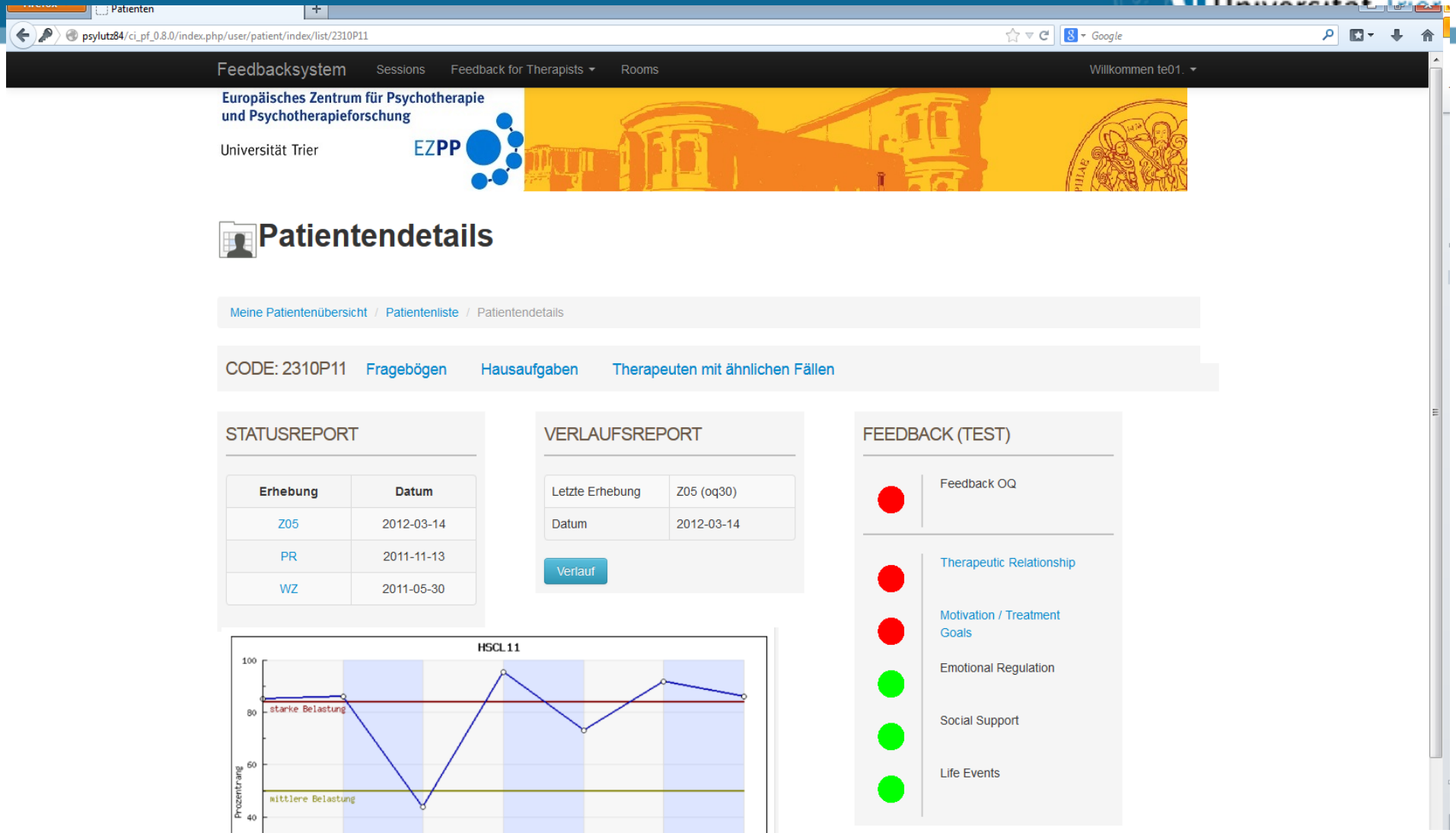
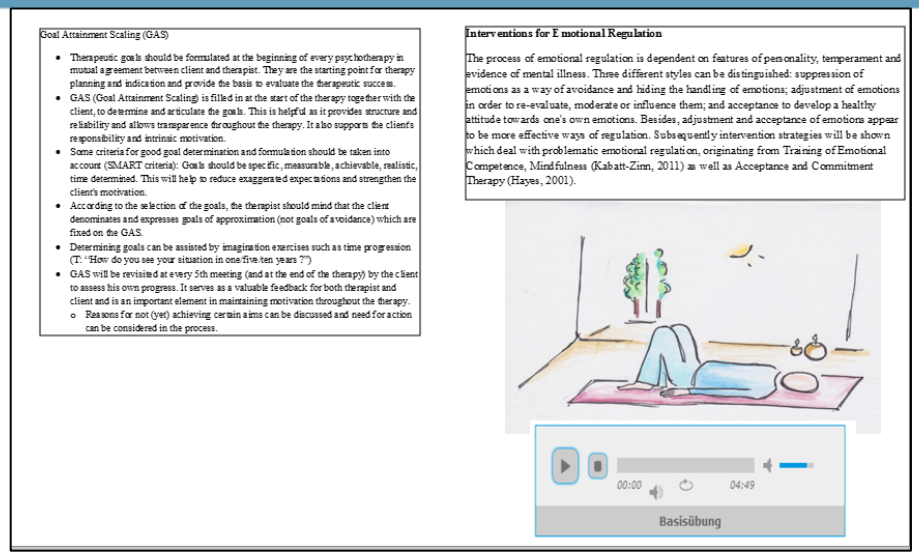
Type of rupture	Presence	Type of session (%)			X^2	df	p
		„Gain“	„Loss“	neutral			
Withdrawal	Yes	84	79	68	2,13	2	0,34
	No	16	21	32			
Confrontation	Yes	12	42	45	7,88	2	0,02
	No	88	58	55			
Withdrawal and Confrontation	Yes	12	42	32	5,29	2	0,07
	No	88	58	68			

- SG less confrontation ruptures; SL, N more frequent
- withdrawal more frequent overall
- Resolution strategies: SG illustrate their rationale for treatment more clearly and respond significantly more to interaction problems with the adaptation of tasks and goals

Feedbackportal –Identification of Signal Clients (ASC)



Feedback – Clinical Interventions/Support Tools
Motivation Enhancement /Goals
Alliance Ruptures



Goal Attainment Scaling (GAS)

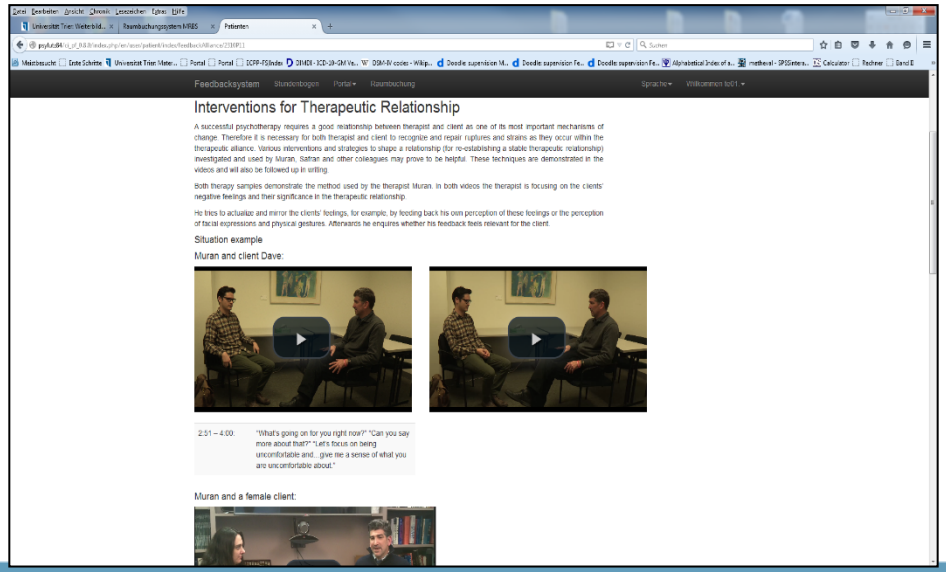
- Therapeutic goals should be formulated at the beginning of every psychotherapy in mutual agreement between client and therapist. They are the starting point for therapy planning and indication and provide the basis to evaluate the therapeutic success.
- GAS (Goal Attainment Scaling) is filled in at the start of the therapy together with the client, to determine and articulate the goals. This is helpful as it provides structure and reliability and allows transparence throughout the therapy. It also supports the client's responsibility and intrinsic motivation.
- Some criteria for good goal determination and formulation should be taken into account (SMART criteria): Goals should be specific, measurable, achievable, realistic, time determined. This will help to reduce exaggerated expectations and strengthen the client's motivation.
- According to the selection of the goals, the therapist should mind that the client denominates and expresses goals of approximation (not goals of avoidance) which are fixed on the GAS.
- Determining goals can be assisted by imagination exercises such as time progression (T: "How do you see your situation in one/five/ten years ?")
- GAS will be revisited at every 5th meeting (and at the end of the therapy) by the client to assess his own progress. It serves as a valuable feedback for both therapist and client and is an important element in maintaining motivation throughout the therapy.
  - Reasons for not (yet) achieving certain aims can be discussed and need for action can be considered in the process.

Interventions for Emotional Regulation

The process of emotional regulation is dependent on features of personality, temperament and evidence of mental illness. Three different styles can be distinguished: suppression of emotions as a way of avoidance and hiding the handling of emotions; adjustment of emotions in order to re-evaluate, moderate or influence them; and acceptance to develop a healthy attitude towards one's own emotions. Besides, adjustment and acceptance of emotions appear to be more effective ways of regulation. Subsequently intervention strategies will be shown which deal with problematic emotional regulation, originating from Training of Emotional Competence, Mindfulness (Kabatt-Zinn, 2011) as well as Acceptance and Commitment Therapy (Hayes, 2001).

Feedback on patient progress

- Risktool (suicidal ideation, substance abuse)
- Motivation/Treatment Goals
- Therapeutic Relationship (ruptures)
- Emotion Regulation/Problem Solving
- Social Support
- Life Events
- Congruence (How well are you /is your patient/ getting along?)



German Research Foundation: DFG LU 660-10/1

Discussion - What does this mean for research and practice?

- Therapist effects exist in clinical practice for treatment outcome, treatment length and drop-out. The influence of the therapists seems to be more important as more impaired patients are.

- Psychometric assessment and feedback could/should become part of clinical practice and support the delivery of psychotherapy (treatment planing, tracking and adaptation). Feedback on treatment progress seems to improve therapy, especially for those with an early negative development. -> part of training

- Patients have a positive attitude to the evaluation of treatment results/feedback. The active and self-organised handling of problems is supported. Therapists attitude towards and handling of feedback seem also to influence the effects.

Discussion - What does this mean for research and practice?

- Early response: It seems there are patients, which are coming at the right time to the right place and those respond very fast to therapy. Responsible here is probably a specific patient X life event interaction.

- Prediction of differential effects and differential patient progress: It seems a subgroup responds to specific treatment manuals another maybe to extended integrative clinical programs-> but this needs further investigation -> methodological and measurement problems with differential effects.

- Examples of how to implement research results directly into clinical support tools, blended approaches, available online and on-time, one way to bridge the scientist-practitioner gap

- More research on inter-individuel differences over the course of treatment and as well as the dynamic adaptation of treatments