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Quantification of Dose in Psychosocial Interventions

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Dose in Psychosocial Interventions

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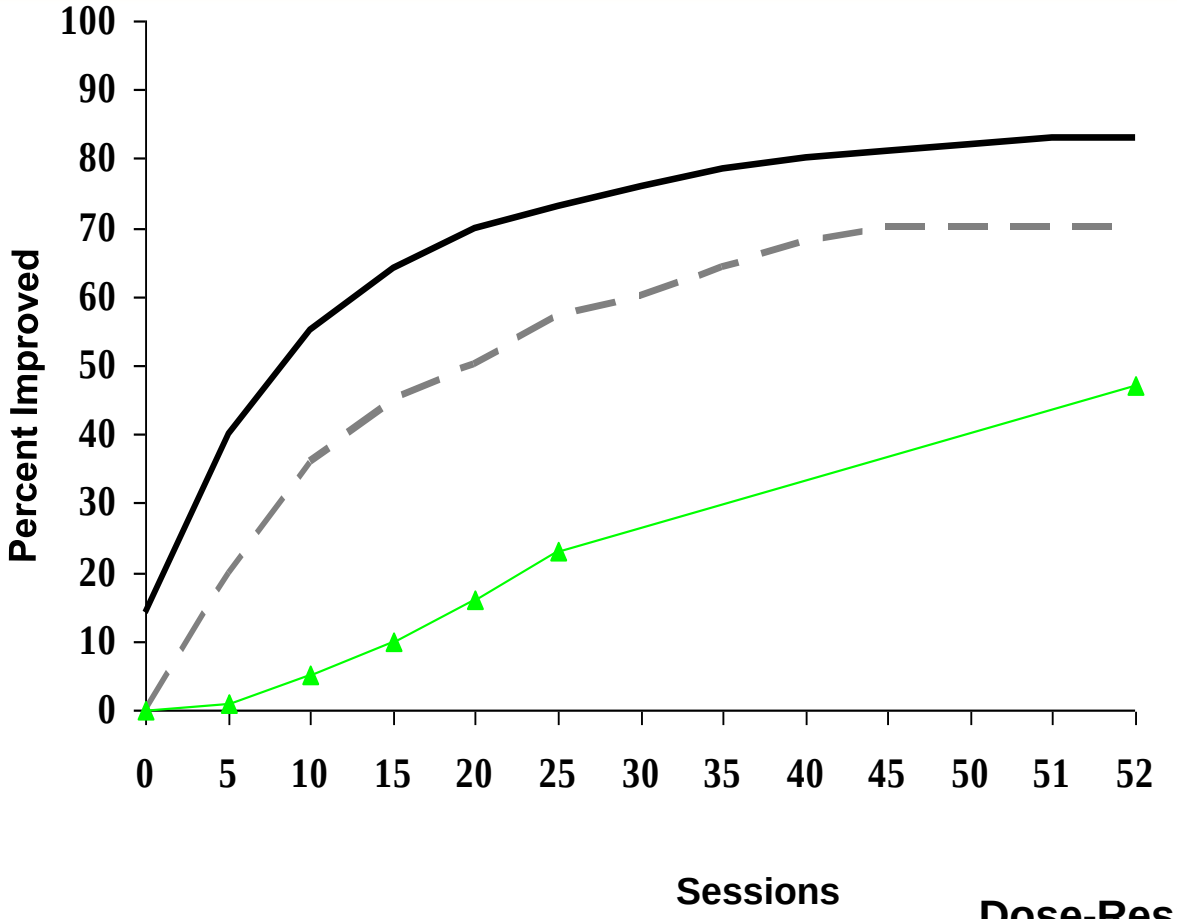
- Number of sessions
- Time in treatment
- Time to change what? What is the outcome variable?
- Realization of process variables (e.g. therapeutic alliance, treatment techniques e.g. exposure, cognitive restructuring)

The dosage model (Howard)



Howard, et al.

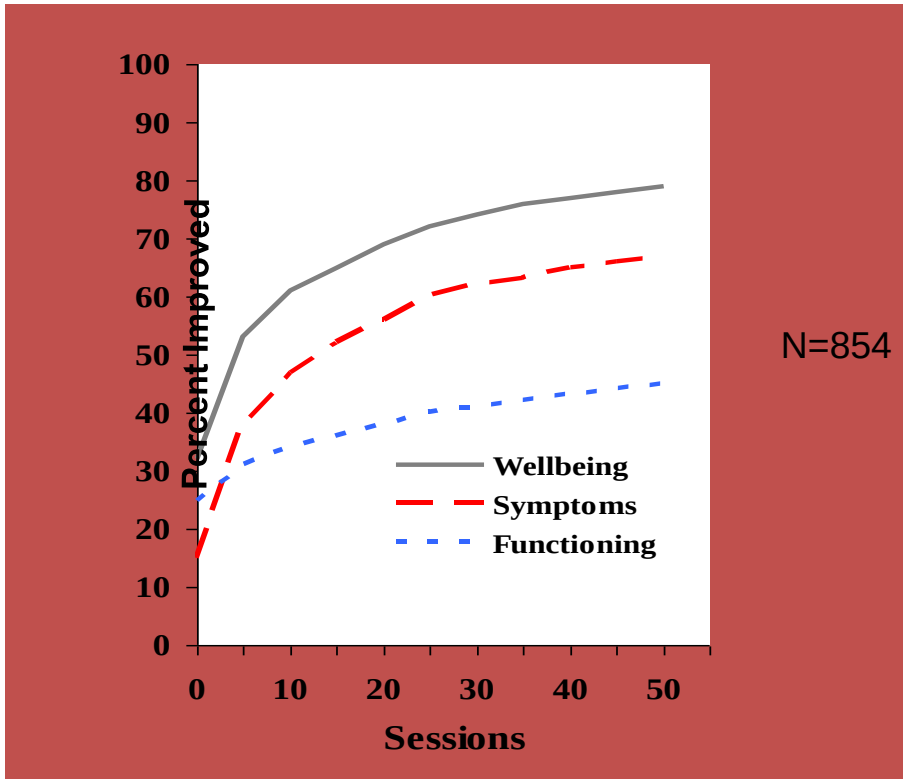
Lambert & Hanson

Eysenck following
McNeilly & Howard

Dose-Response Model

- Patterns/rates of improvement
- How much therapy is enough?

The Phase Model of Change in Psychotherapy (Howard)



N=854

Stulz & Lutz (2007)
Lutz, et al. (2001)

Phase Model

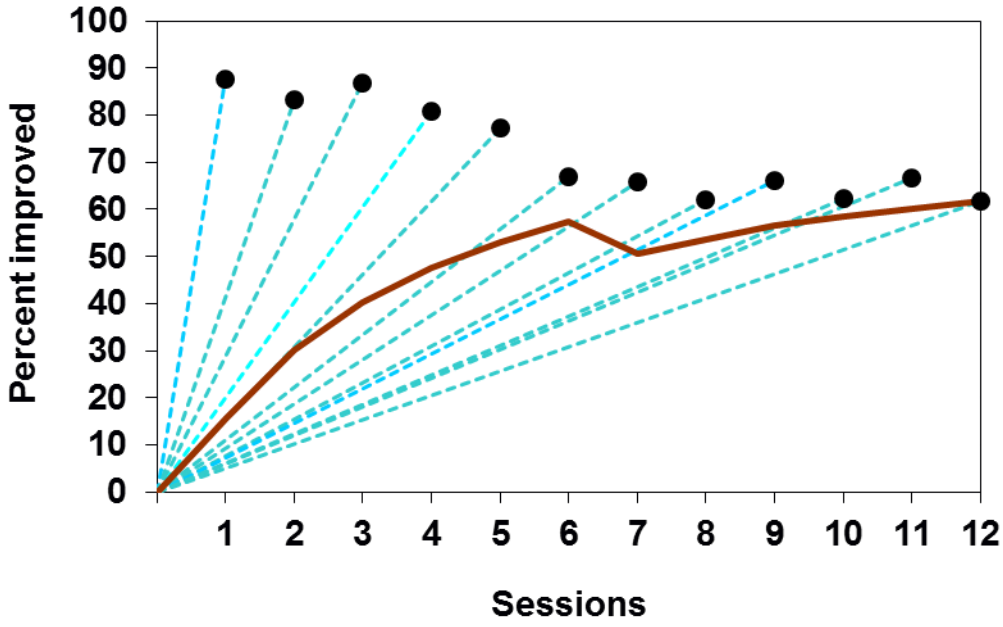
- Domains of outcomes
- What changes when?

Therapeutic Recovery

Remoralization	⇛	Remediation	⇛	Rehabilitation
(recovery of well-being)		(melioration of symptoms)		(improved life functioning)

Dose response relationship (Barkham)

- Data collected at 33 sites in NHS primary care services
- Comprised 1868 clients who attended 1-12 sessions.
- RCSI rate ranged from 88% for clients who attended 1 session down to 62% for clients who attended 12 sessions (r = -.91).
- Clients exit therapy when they consider they have made sufficient gains. We term this the '*good enough level*' (GEL).



Barkham et al., *Journal of Consulting & Clinical Psychology*, 2006

- Dose response is a neglected area of research in psychosocial interventions
- Usually defined by treament manuls in RCTs
- In practice often by service systems
- Country and region specific definitions dosage defined via sessions
- Psychometric feedback over the course of treatment allows a more patient specific adaptation depending on progress (longer for patients at risk, shorter for improving patients).

Personalized Treatment Selection, Precision Mental Health, Tailoring Treatments, Personalized Modular Therapy Patient-focused Research

The debate moves away from how many sessions for a group of patients with a given disorder/diagnosis to the optimal dosage/treatment for the specific patient.

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)

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

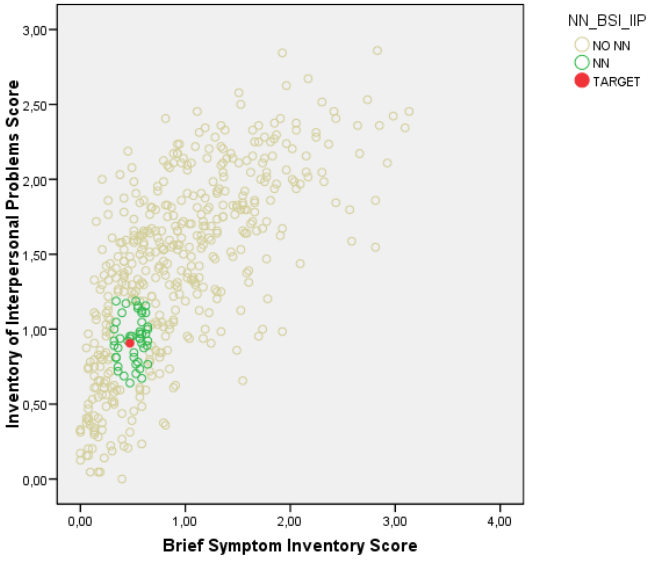
1.Personalized Predictions of Treatment Effects: Differential Predictions and Nearest Neighbors

- 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)



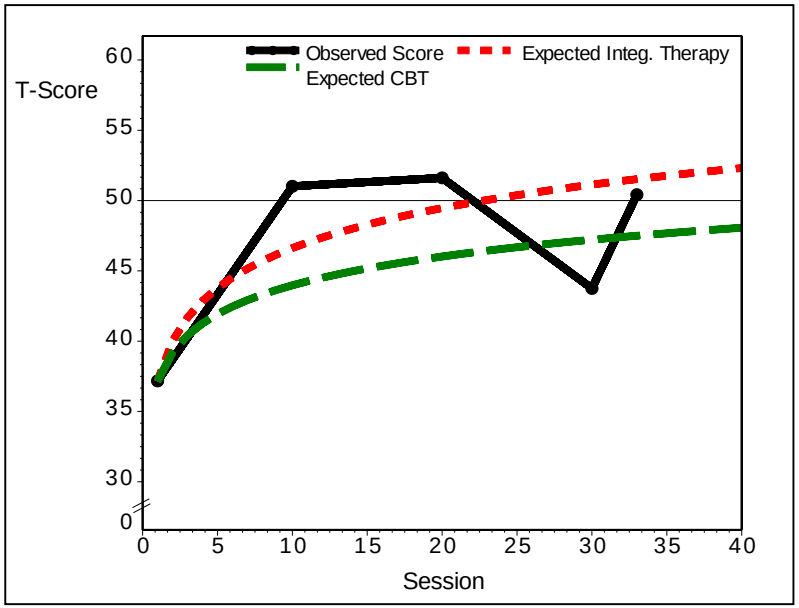
Lutz, W., et al. (2006). *Psychological Assessment,* 18, 133-144.

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

Rubel, Lutz (2014). Psychological Assessment.

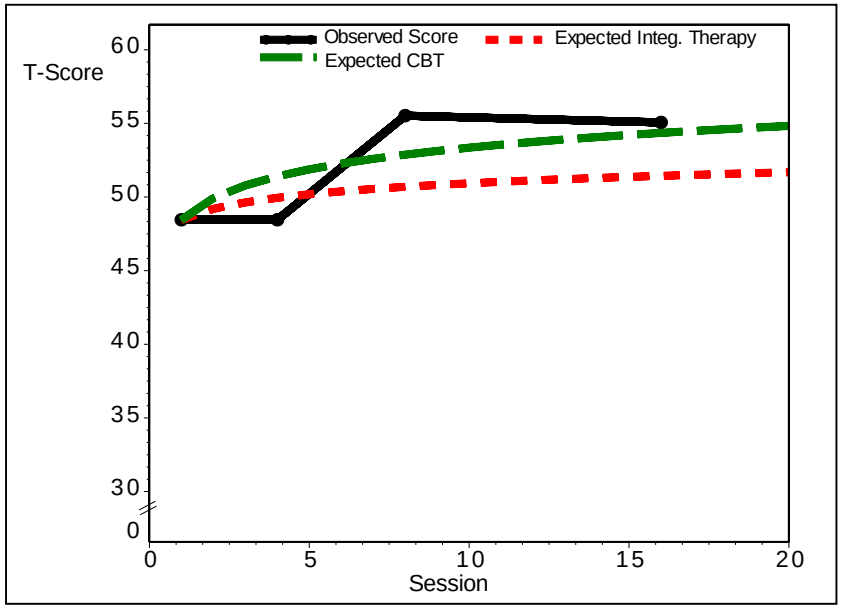
Examples

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

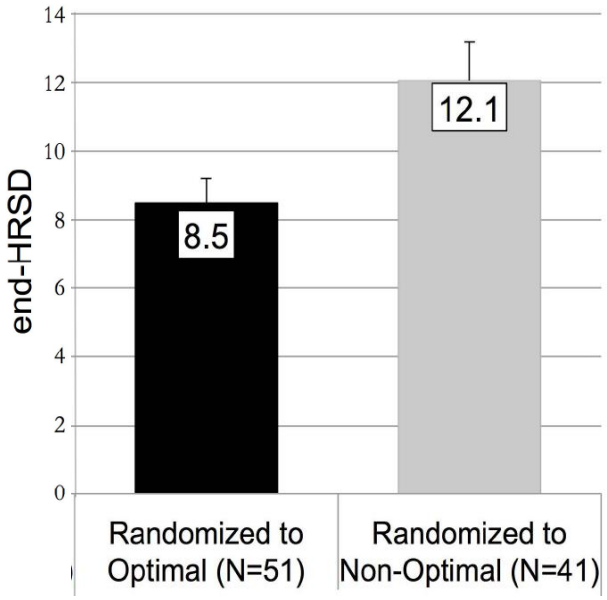


	Age mean (std.)	Gender n	Diagnoses n	Distance mean (std.)	Goals	SE	Reliable Change n
Integrative Therapy (n=30)	40.4 (2.7)	15 weibl.	8 Angst 2 Depr. 2 Kom.	8.7 (1.4)	9 P 13 I 3 W 1 O 6 S	5.7	+ 15 +\- 13 - 2
CBT (n=30)	41.1 (3.3)	19 weibl.	19 Angst 2 Depr. 9 Kom.	8.4 (1.8)	21 P 6 I 10 W	4.6	+ 19 +\- 7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

Using Prediction Models for Individual Treatment Recommendations with the Personalized Advantage Score (PAI)

- DeRubeis et al. (2014) identified four prognostic and five prescriptive variables which predicted differential treatment outcome in CBT vs. Antidepressant Medication (e.g. Marital status, Comorbid personality disorder, Number of life stressors)

- A Personalized Advantage Index (PAI) is calculated for each patient (predicted result in optimal treatment) and defined a clinically meaningful difference for one treatment compared to the other.



d = 0.58; *p* < .00

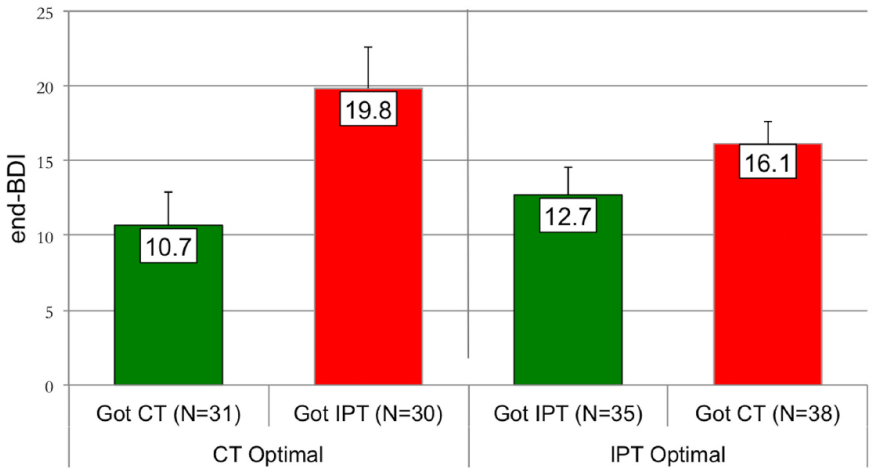


Fig 3. Comparison of observed mean end-BDI scores for patients randomly assigned to their Optimal treatment versus those assigned to their Non-Optimal treatment, by psychotherapy type.

d = 0.51; p < .00

Huibers et al. (2015). *PLOS One.*

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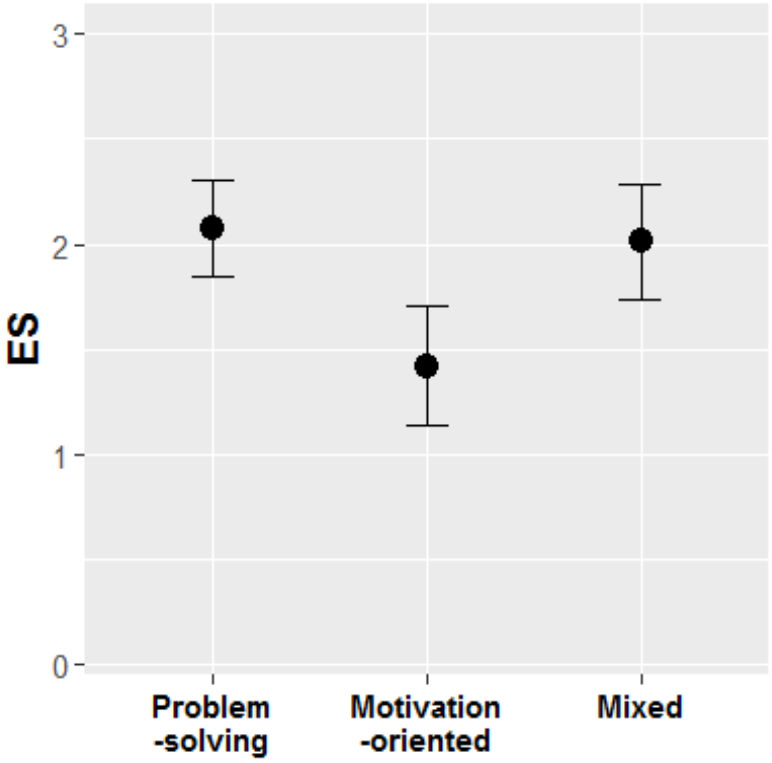
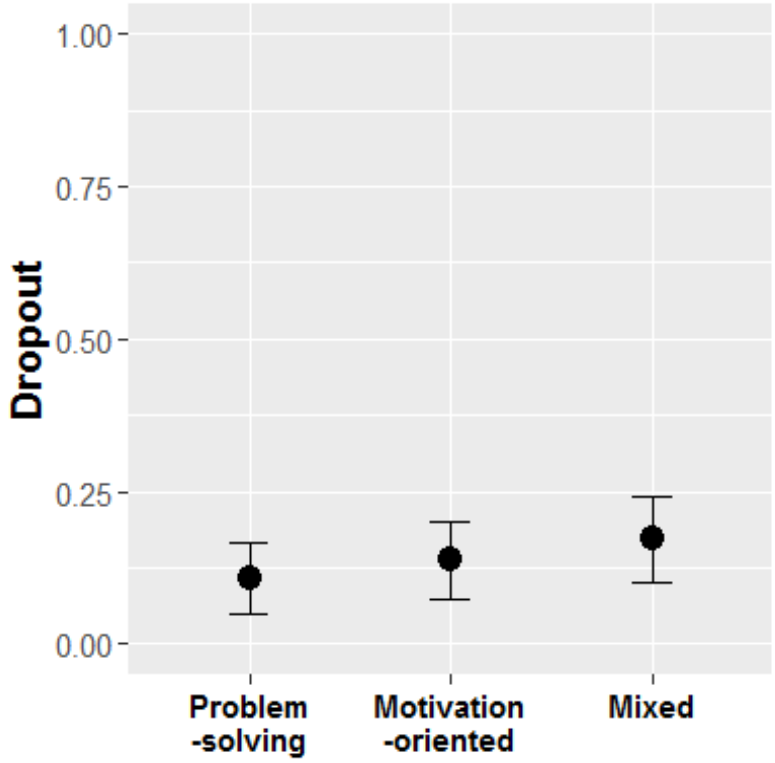
Nearest Neighbors von 4554P14





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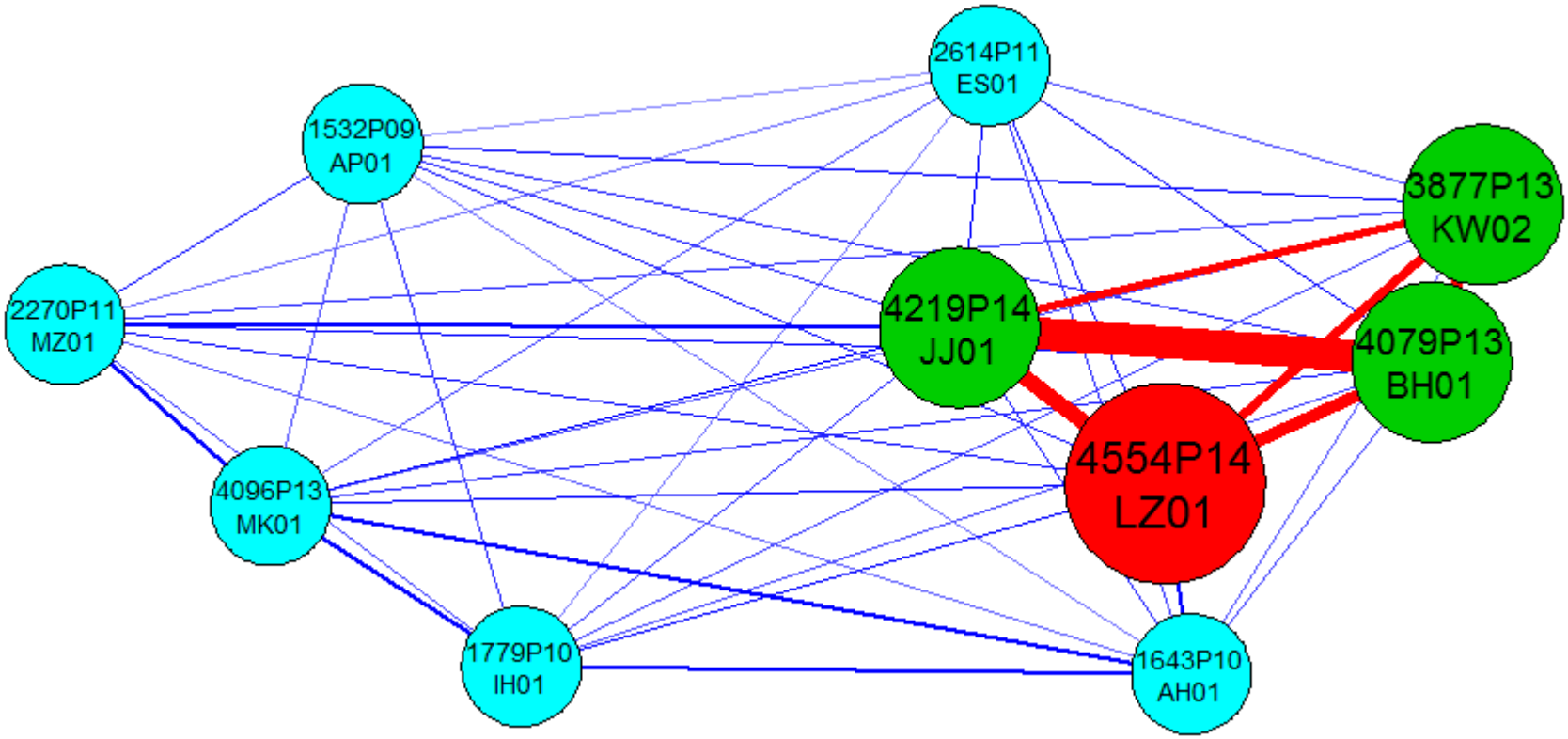
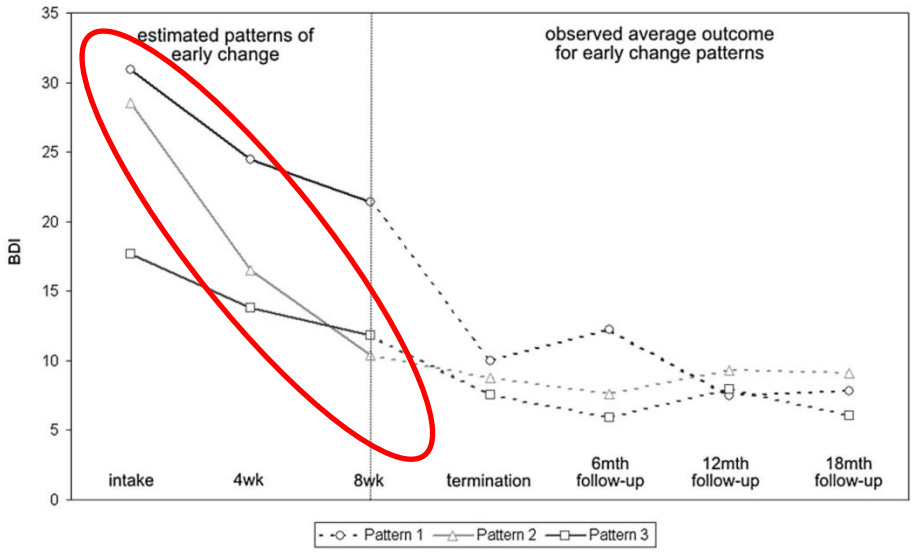
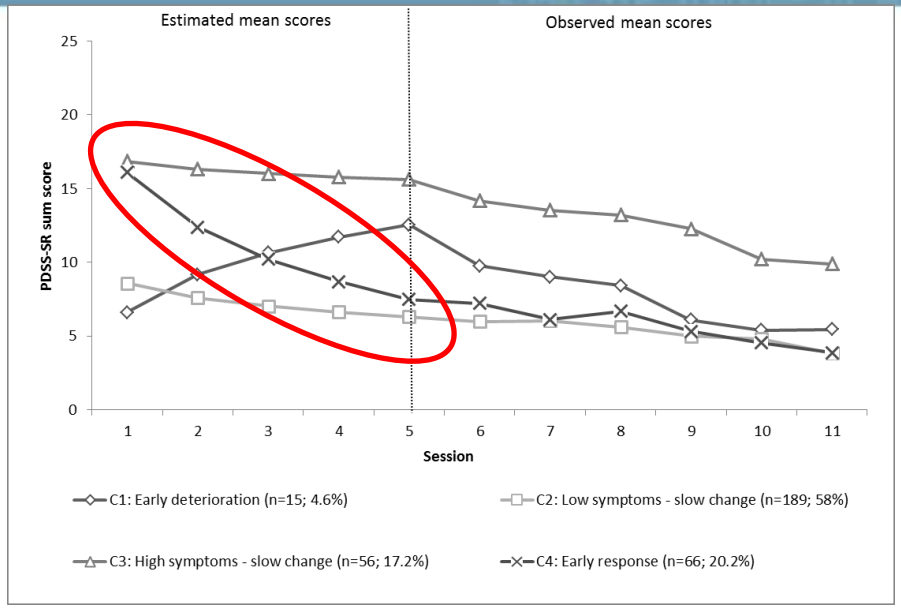
Nearest Neighbors von 4554P14

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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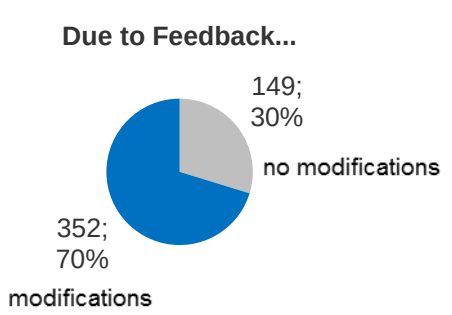
Variable	*n*	Final treatment outcome: Reliable improvement (%)	Final treatment outcome: ES change in PDSS-SR during treatment (*d*) [95% CI]	Treatment completion status (number of sessions attended): 3–5 (%)	6–10 (%)	11 (%)	Mean number
All patients	326	48.8	1.02 [0.85, 1.19]	10.1	13.2	76.7	9.87
Class 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**.

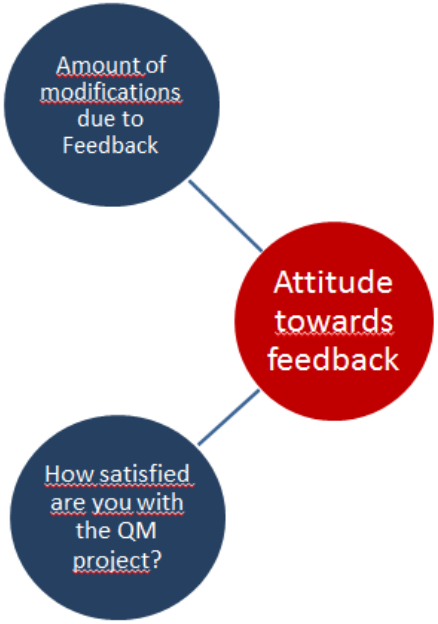
Lutz, W., Hofmann, S. et al. (2014). JCCP.

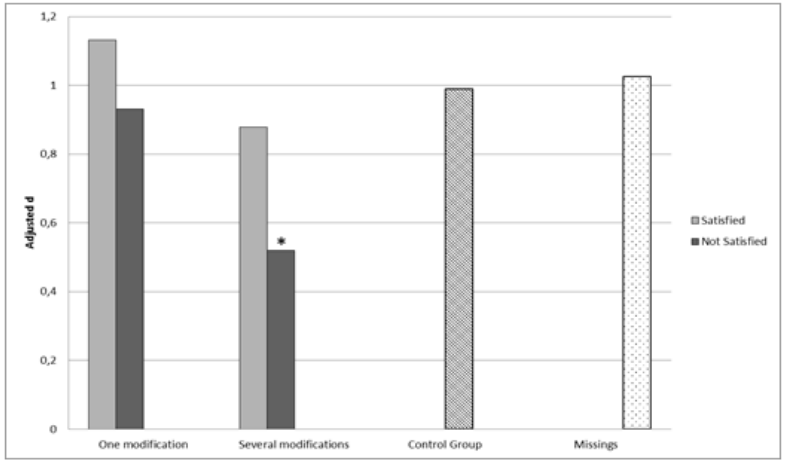
Routine Outcome Monitoring and Personalized Treatment Adaptation



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





Lutz, De Jong, & Rubel (2015). *Psychotherapy Research*.

Feedbackportal –Identification of Signal Clients (ASC)

Patienten

psylutz84/ci_pf_0.8.0/index.php/user/patient/index/list/2310P11

Feedbacksystem | Sessions | Feedback for Therapists | Rooms | Willkommen te01.

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Patientendetails

Meine Patientenübersicht / Patientenliste / Patientendetails

CODE: 2310P11 Fragebögen Hausaufgaben Therapeuten mit ähnlichen Fällen

STATUSREPORT

Erhebung	Datum
Z05	2012-03-14
PR	2011-11-13
WZ	2011-05-30

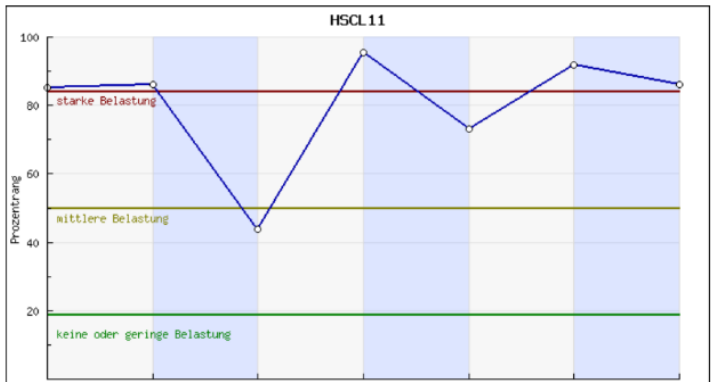
VERLAUFSREPORT

Letzte Erhebung	Z05 (oq30)
Datum	2012-03-14

Verlauf

FEEDBACK (TEST)

- Feedback OQ
- Therapeutic Relationship
- Motivation / Treatment Goals
- Emotional Regulation
- Social Support
- Life Events



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

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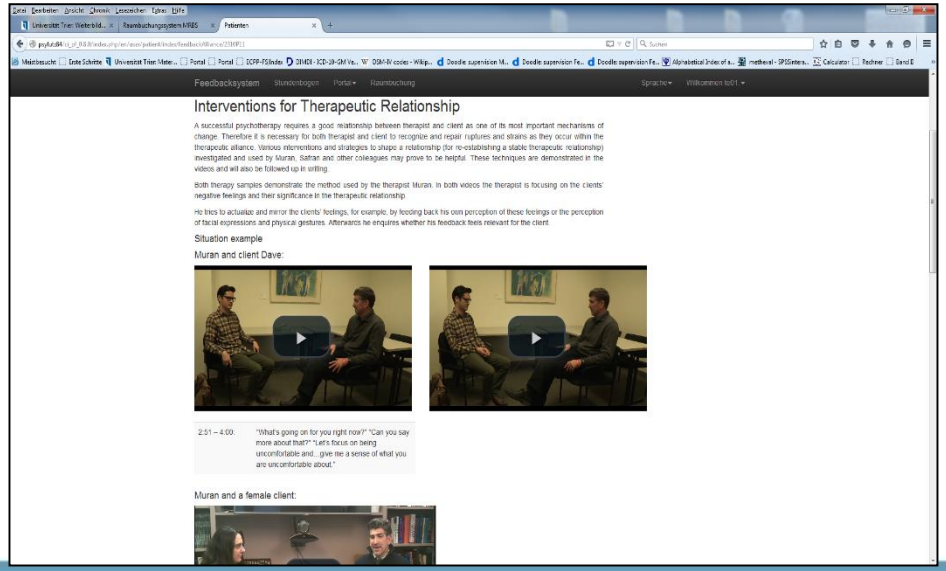
Goal Attainment Scaling (GAS)

- 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).



Discussion

- A framework for empirically supported personalized treatments including a prognostic and an adaptive tool
- Is available online and on-time. Supports a blended treatment approach and the use of tools from eMental Health.

- Goal is the optimal dose of psychosocial interventions with respect to the needs of patients.