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Music therapy for patients suffering  
from chronic pain –  
Evaluation of an interdisciplinary  
treatment approach

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# Music therapy concept

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- **Individual music therapy sessions** in addition to medical treatment
- **20 units** of treatment 50 minutes weekly
- **Manualized** therapy concept
- **Multidisciplinary case supervision**



# Research methods

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- **Effectiveness study**

Prospective, controlled,  
randomized design

- **Pain measures**

SES, VAS

- **Psychotherapeutic  
outcome measures**

OQ 45.2

pre-post measurement, process  
measurement

(pre, 4, 10, 16, post)

- **Statistics**

t-Test, covariance analysis,  
Mantel-Haenszel-Chi<sup>2</sup>-Test,  
Mann-Whitney-U-Test

- **Methods of reliable  
change**

VAS: minimum 20% Change

OQ45.2 und SES: critical  
difference

- **Methods of clinical  
significance**

VAS: light pain (30% or less)

OQ45.2: clinical „Cut-off”  
(58,8 points according to the  
German manual)

SES: less pain than 75% of the  
manual patients



# Design

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## Total group

- Music therapy **and** medical pain treatment
- pre-post-comparison (n=31, 68% female)

## Experimental vs. waiting group

- Music therapy **and** medical pain treatment (n=21, 67% female)
- Patient group awaiting therapy medical pain treatment **only** (n=19; 74% f)

**Patients** in the waiting group  
– then in music therapy  
(n=10, 70% f)

## Criteria for inclusion

- Chronic pain
- Pain-related emotional and psychological problems
- Positive motivation for therapy

## Criteria for exclusion

- Tumor-related pain
- Psychiatric illnesses
- Age < 18
- Ongoing psychotherapeutic treatment at the time of trial



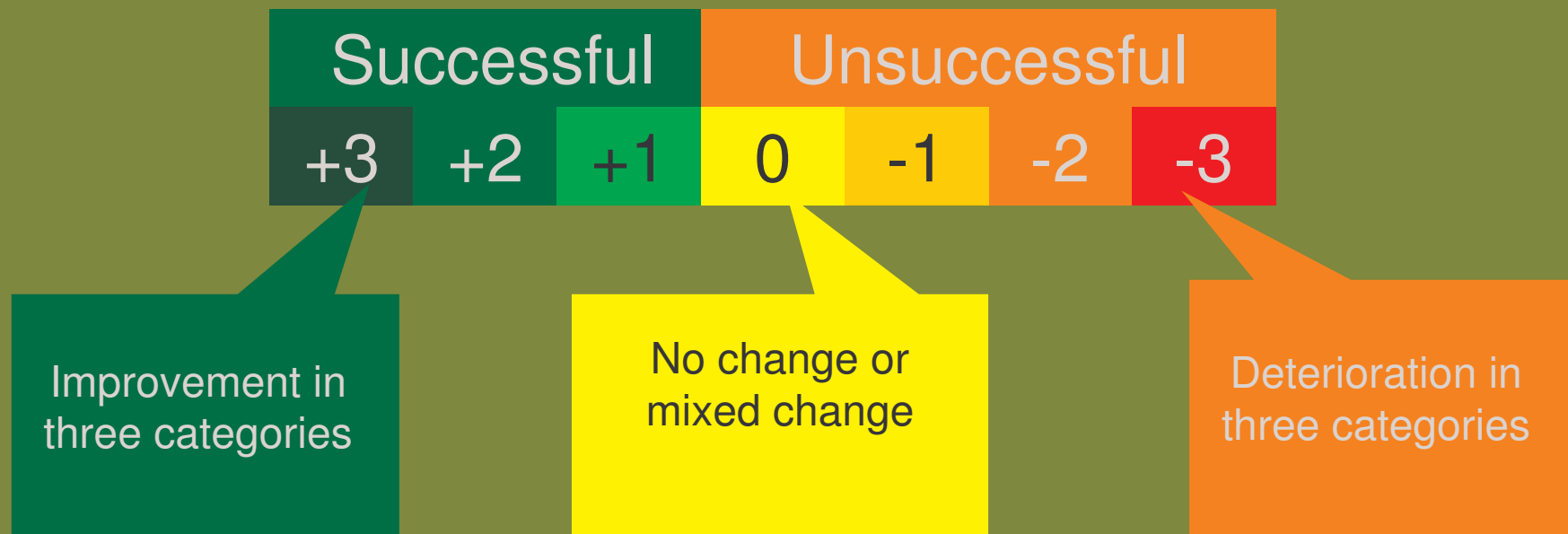
# Outcome Definition

## Combination of:

- Intensity of pain over the last few days (VAS)
- Affective pain (SES)
- Total score (OQ45.2)

Assessment 1: Reliable change (Jacobson et al. 1991)

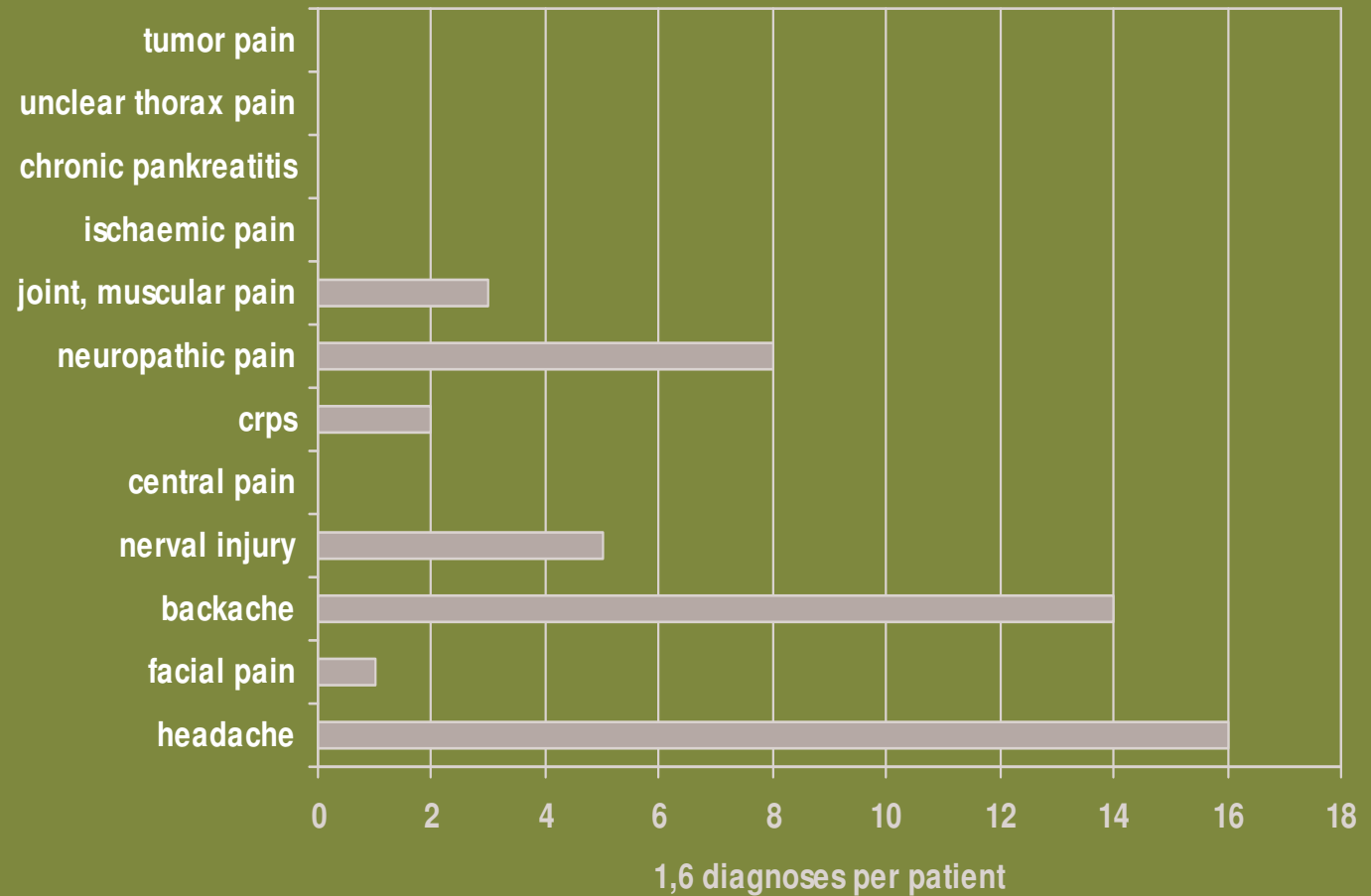
Assessment 2: Clinical significant change (Kordy & Hannover 2000)



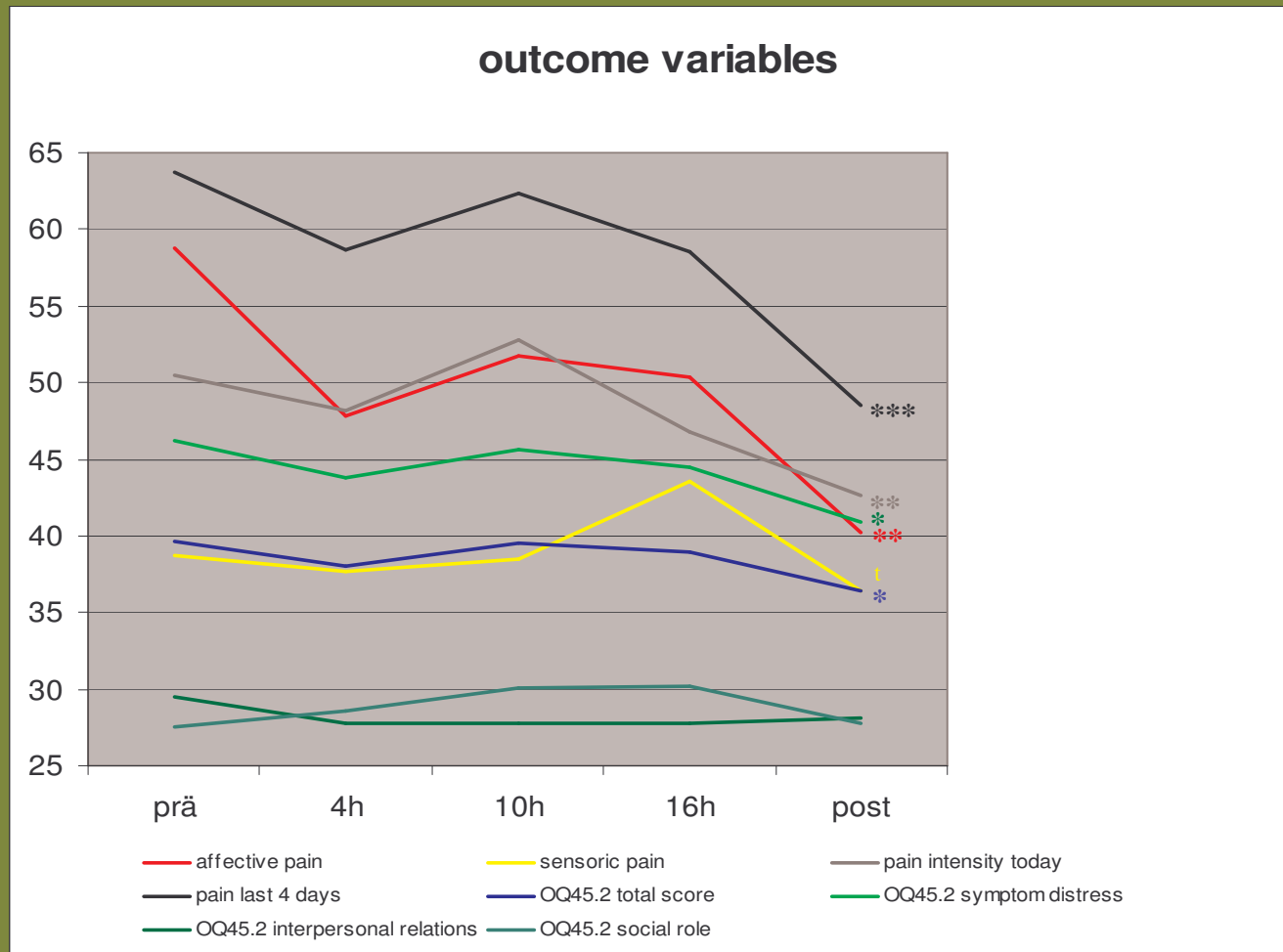
# Total group: Sample description

## Diagnoses

- Age:  $52 \pm 11$
- f : m = 68 : 32 %
- 43 % not executive staff
- 77 % with partners
- F45.4 „somatoform pain disorder“ in 93 % of cases
- no significant changes between the examination groups



# Total group (n = 31)



# Experimental group vs. Waiting group

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## Post-group-comparisons within the outcome dimension of **covariance analysis**

(Initial value = Covariance; F value = Group influence)

### Significant, tendential results

- Current pain (VAS):  $F = 2,98; p = ,092$
- ⇒ Pain within last couple of days (VAS):  $F = 6,62; p = ,014$
- ⇒ Sum total psychotherapeutic outcome (OQ45.2):  $F = 4,46; p = ,042$
- Symptom Distress (OQ45.2):  $F = 3,67; p = ,063$  \*
- ⇒ Social Role (OQ45.2):  $F = 5,34; p = ,027$

### Insignificant, not tendential results

- Affective pain (SES):  $F = 0,88; p = ,355$
- Sensoric pain (SES):  $F = 0,05; p = ,832$
- Interpersonal Relations (OQ45.2):  $F = 0,36; p = ,552$





# Baseline vs. therapy

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Results found comparing measurements 1 and 2, as well as 2 and 3 (t-Test)

## **Baseline:** measurement 1 vs. measurement 2

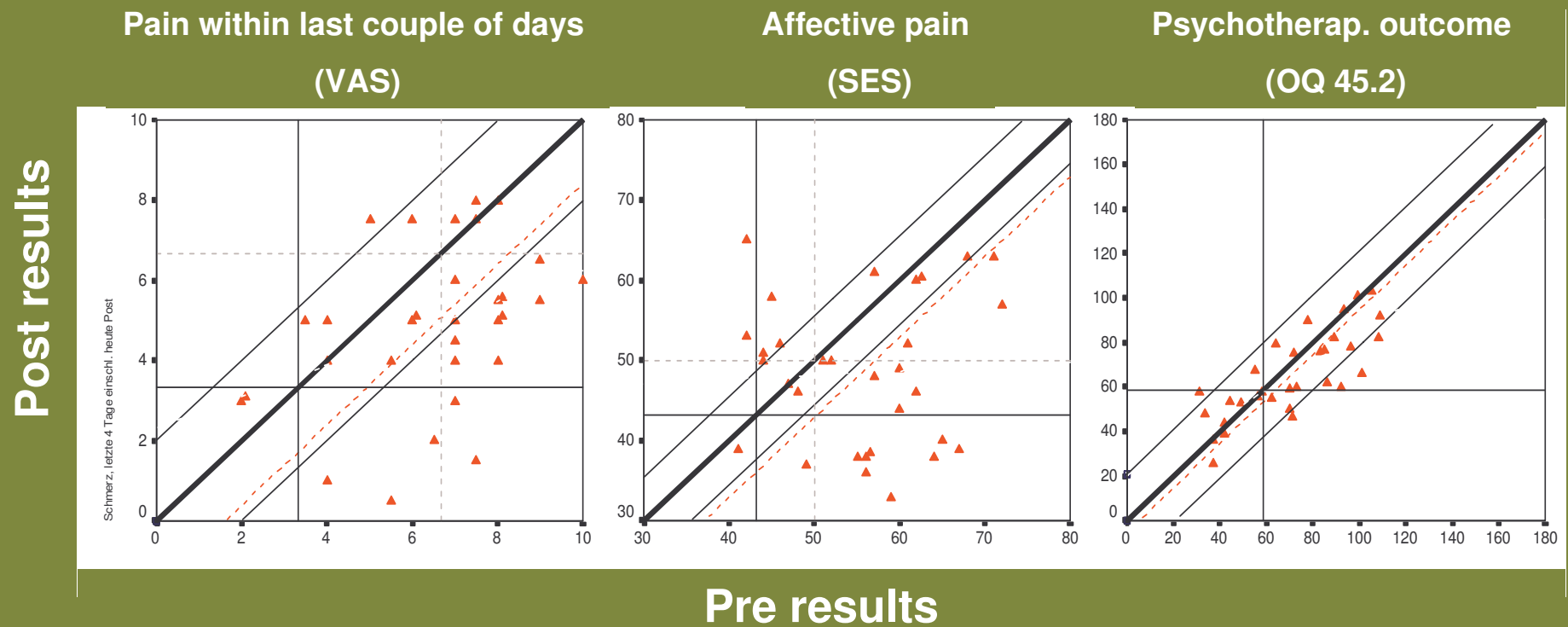
- **Social Role (OQ45.2):** **Deterioration** **t = -3.12; p = ,012**

## **Therapy:** measurement 2 vs. measurement 3

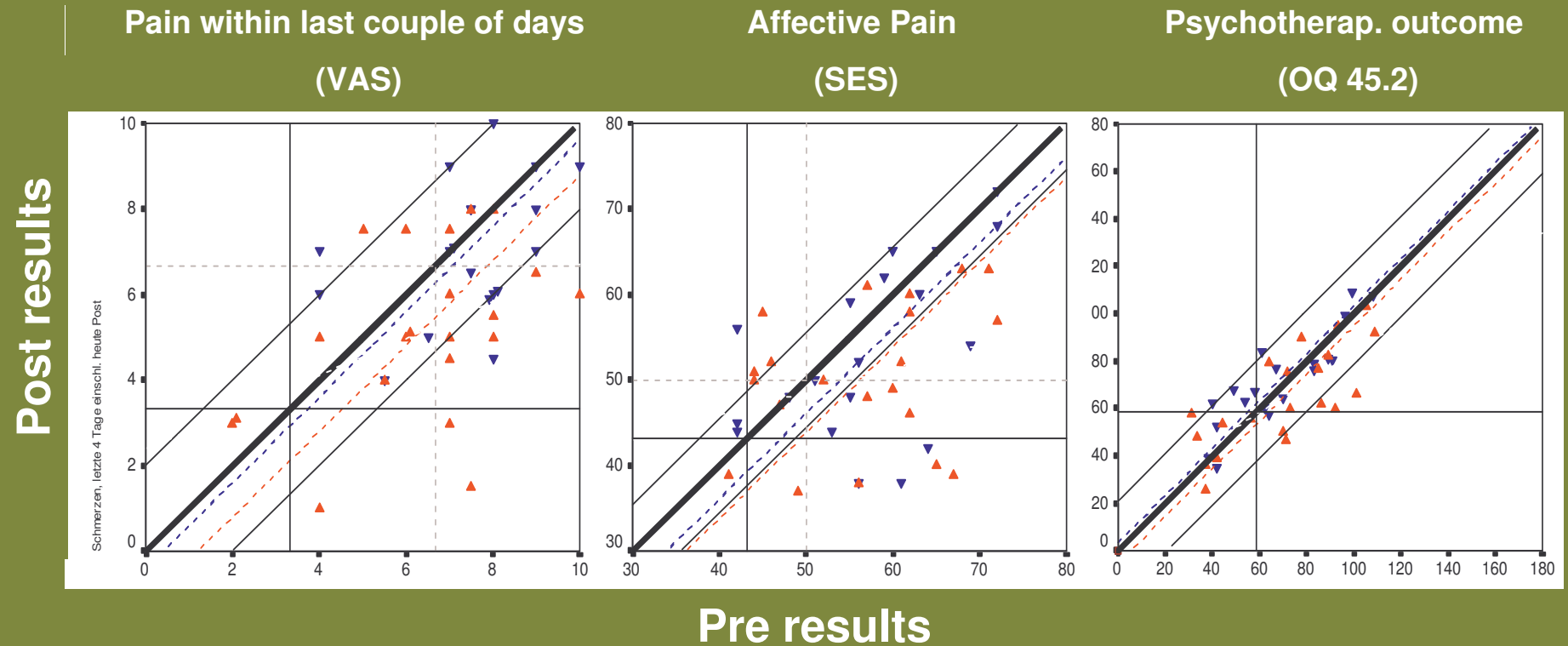
- **Current pain (VAS):** **Improvement** **t = 3,77; p = ,004**
- **Pain within last couple of days (VAS):** **Improvement** **t = 6,03; p = ,000**
- **Sum total (OQ45.2):** **Improvement** **t = 2,29; p = ,048**
- **Social Role (OQ45.2):** **Improvement** **t = 2.47; p = ,035**



# Total group (Jacobson Plot)



# Experimental vs. Waiting group (Jacobson Plots)



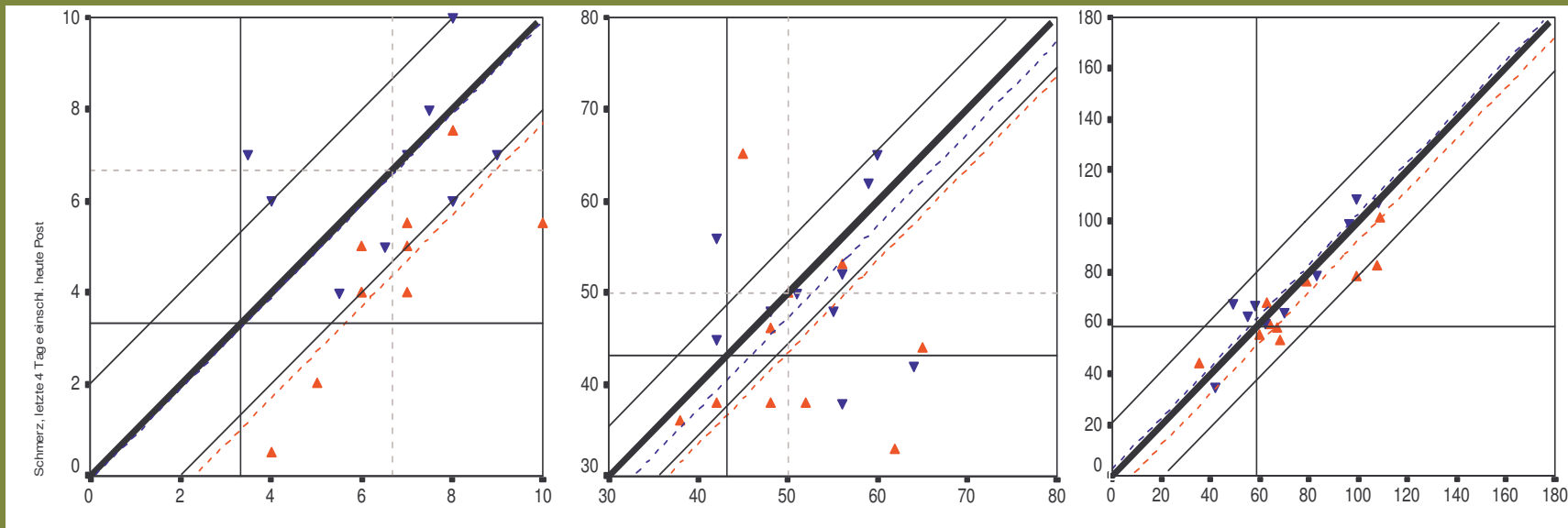
# Waiting group – Baseline vs. Therapy (Jacobson Plot)

Pain within last couple of days  
(VAS)

Affective pain  
(SES)

Psychotherap. outcome  
(OQ 45.2)

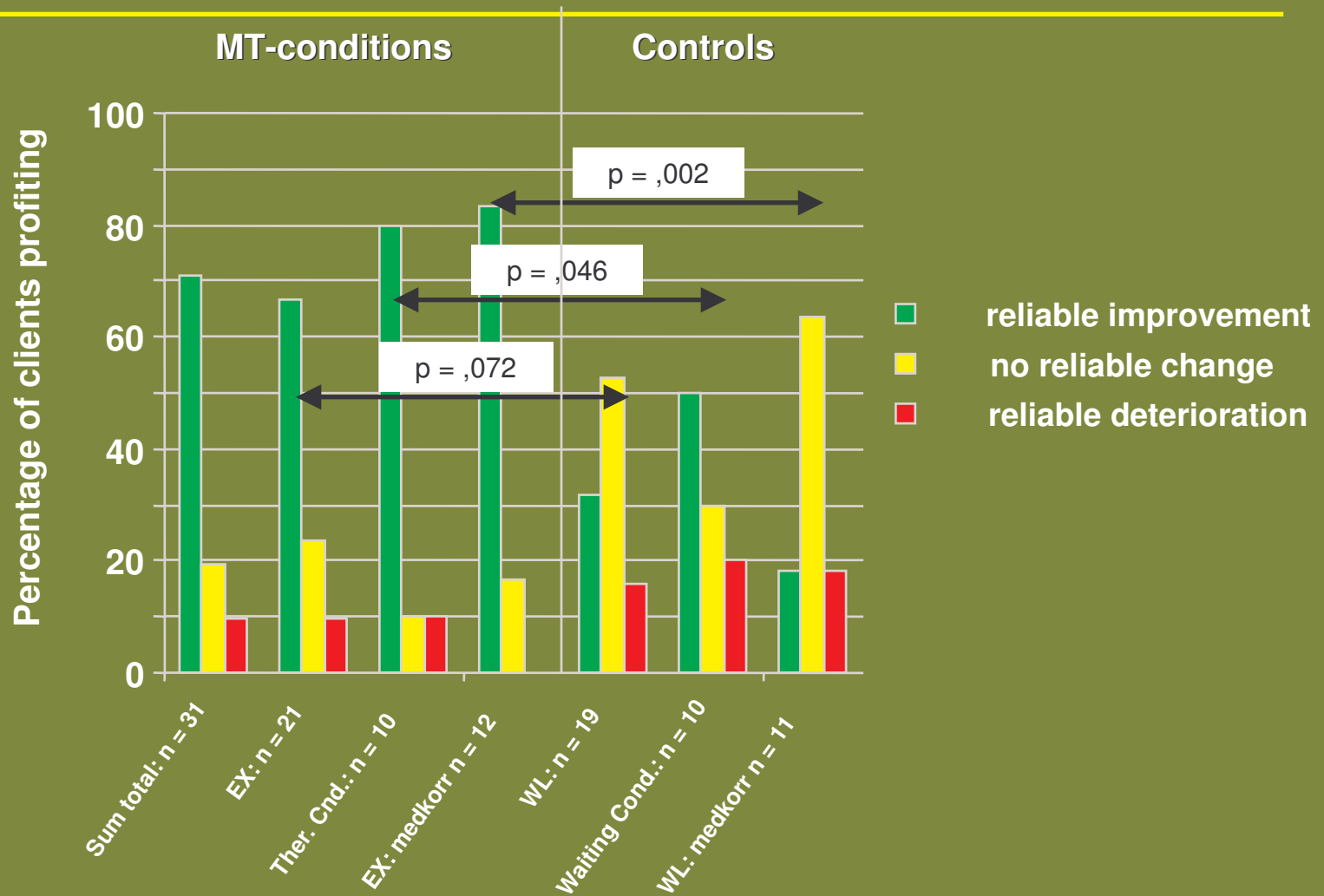
Post results



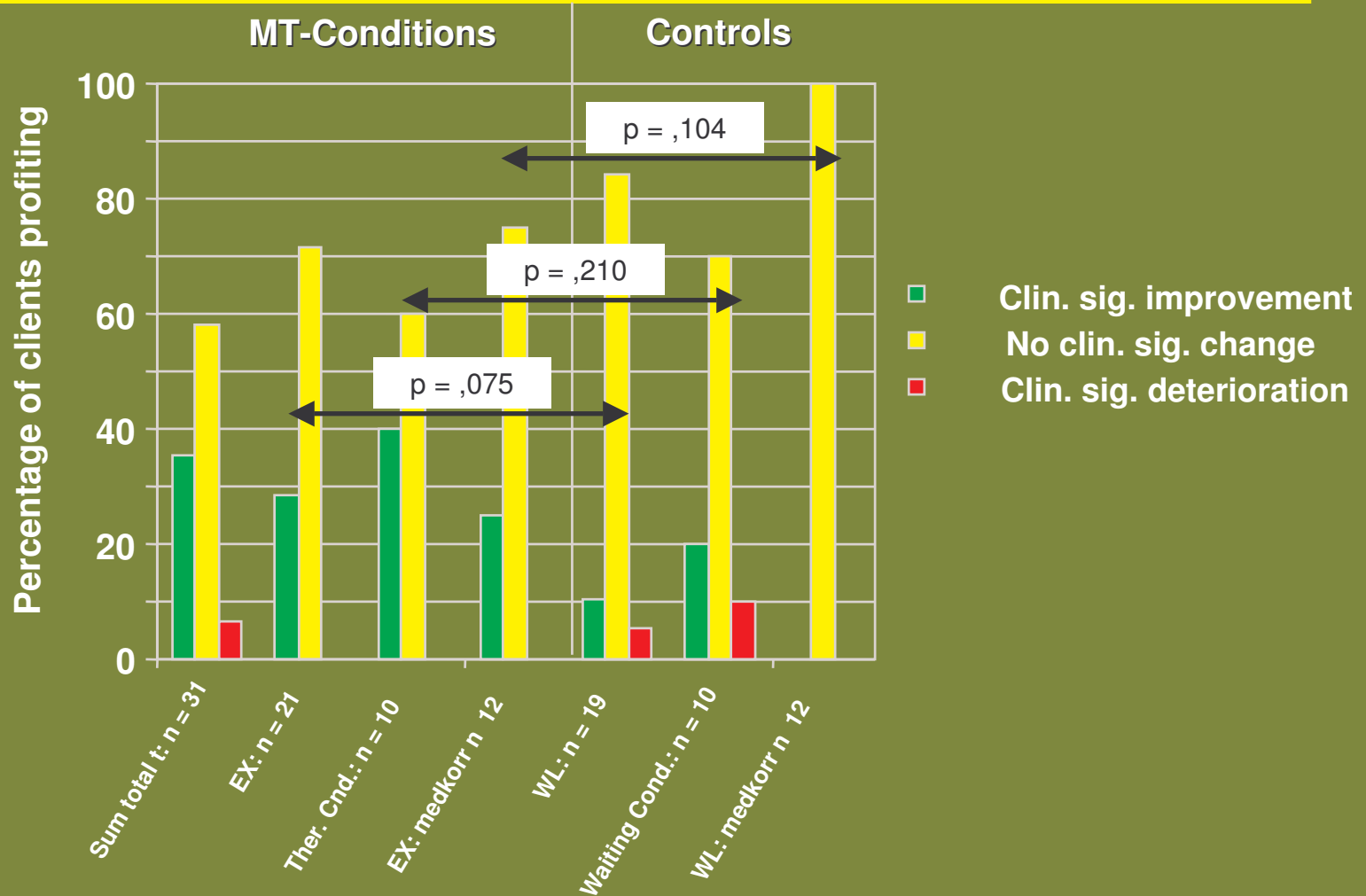
Pre results



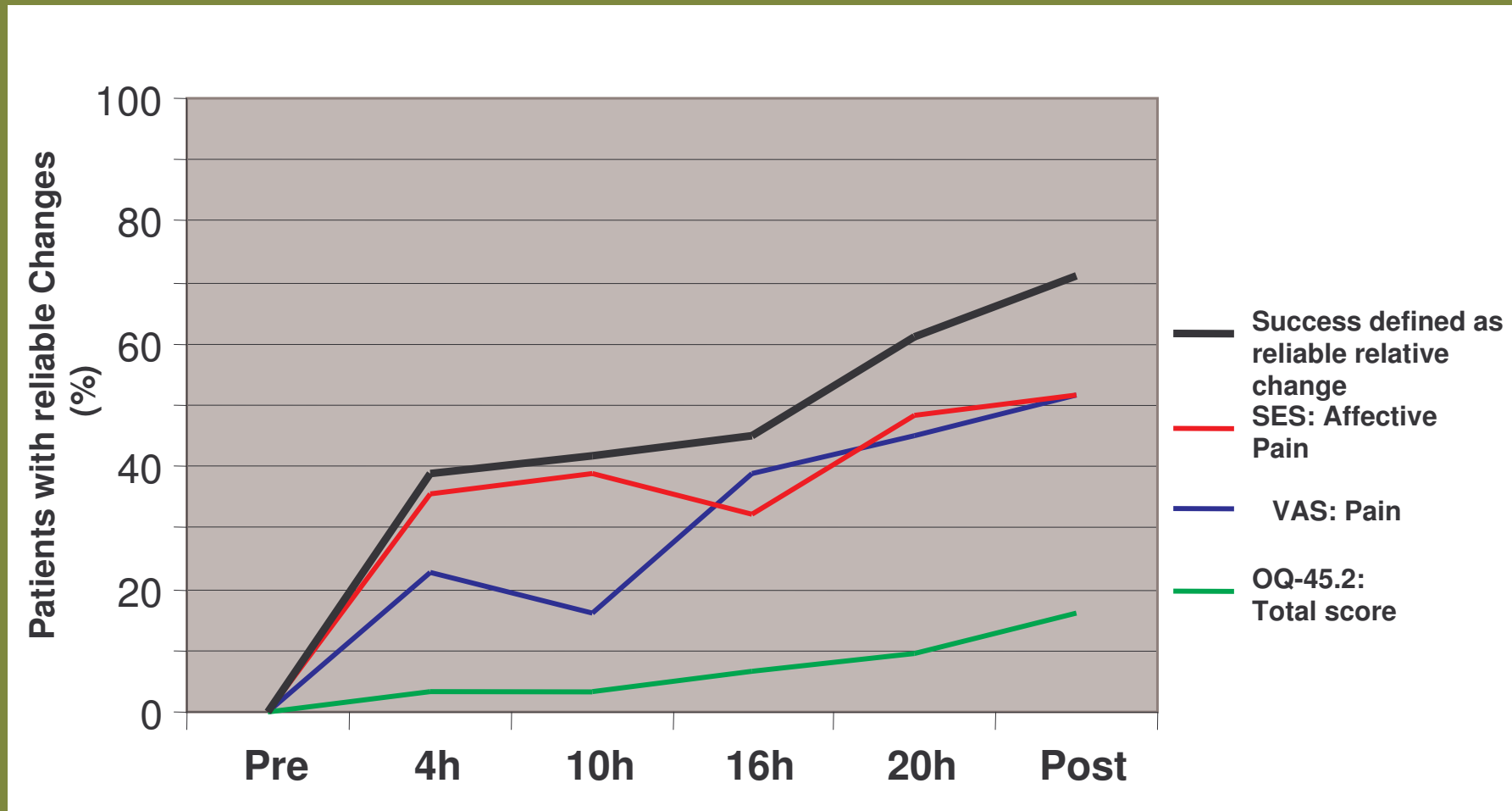
# Reliable relative changes



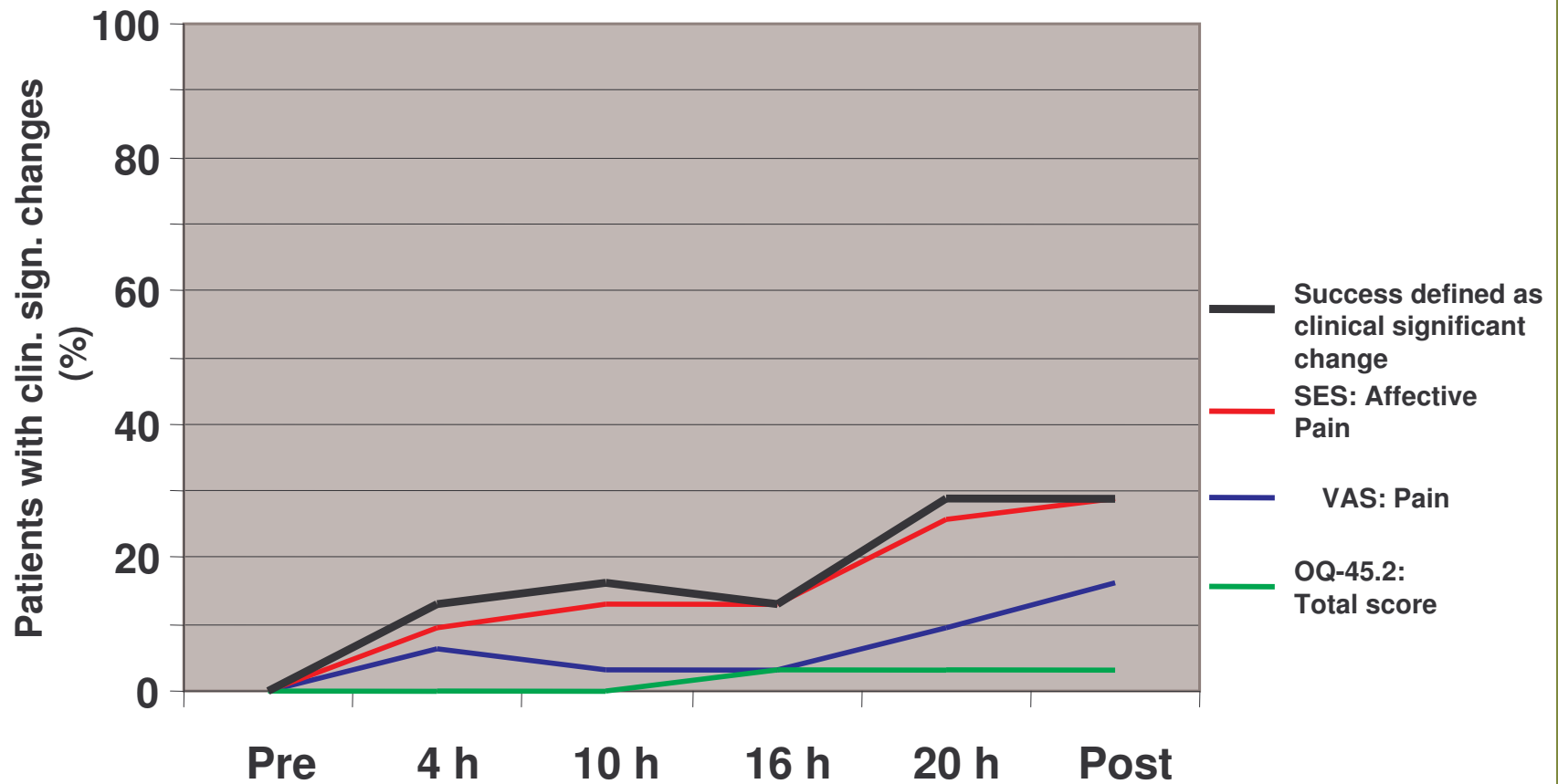
# Clinically significant changes



# Reliable changes within the course of therapy (n = 31)



# Clinically significant changes during therapy (n = 31)





# Summary

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## Better therapeutic results:

- Using a combination of medical pain treatment and music therapy
  - Even with treatment limited to just 20 units of therapy
  - Reduced symptoms for up to 70 % of the patient group (especially reduced pain)
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- Müller-Busch (1997) proved the effectiveness of music therapy for patients with muscle - related pain.
  - No significant results for patients with headache in a group setting (Risch 2001)



# THE END

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**Thank you for your time and attention!**



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