Effects of ISTDP on Treatment-Resistant Depression

A Reanalysis Examining Mechanisms of Change

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Introduction

The Problem: Treatment-Resistant Depression

Clinical Challenge:

- ~30% of depressed patients don't respond to first-line treatments
- Cumulative failure rates increase with each trial
- Substantial burden on patients and healthcare

Need:

- Effective alternative treatments
- Understanding of mechanisms
- Evidence-based interventions

ISTDP: A Promising Alternative

Intensive Short-Term Dynamic Psychotherapy (ISTDP):

- Brief (10-20 sessions), structured approach
- Developed by Habib Davanloo (2000)

Core Theory:

- Depression stems from emotional avoidance
- Break through defenses $\rightarrow$ experience emotion $\rightarrow$ symptom relief

Proposed Mechanism:

Emotional Repression $\rightarrow$ Depression

The Original Study

Heshmati, Wienicke, & Driessen (2023)

- Randomized controlled trial
- N $=$ 86 Iranian adults with treatment-resistant depression
- ISTDP (20 sessions/10 weeks) vs. Waitlist
- **Found very large effects** ($d > 2.0$)

But Questions Remained:

1. How durable are effects?
2. Do mechanisms actually mediate?
3. What is the temporal order of change?

Four Key Questions:

1. **RQ1:** How large and durable are ISTDP effects?

2. **RQ2:** Does ISTDP change proposed process measures?

3. **RQ3:** Do process changes mediate depression improvement?

4. **RQ4:** Do process changes precede depression changes?

Methods

Methods Overview

Sample:

- N = 86 participants (43 ISTDP, 43 Waitlist)
- Treatment-resistant depression, Ages 18-60, Iran
- 62% female

Treatment:

- ISTDP: 20 sessions over 10 weeks
- Waitlist: No treatment (both groups continue medication)

Measures:

- Primary: Depression (WAI)
- Process: Emotional Repression, Negative Affect, Distress
- Assessments: Baseline, Post-treatment, 3-month Follow-up

Statistical Approach

Trajectory Analyses:

- Linear mixed-effects models with random intercepts
- Time $\times$ Treatment interactions
- Cohen's d with 95% CIs

Mechanism Analyses:

- Bootstrap mediation (5,000 resamples)
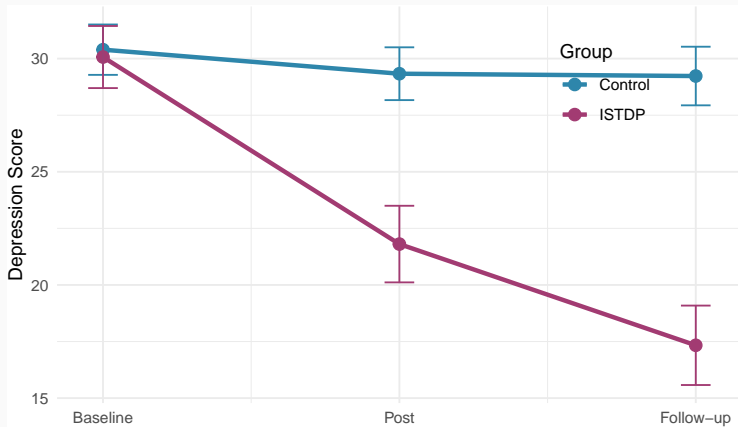- Cross-lagged panel models
- Test temporal precedence

Open Science:

- All data and code public
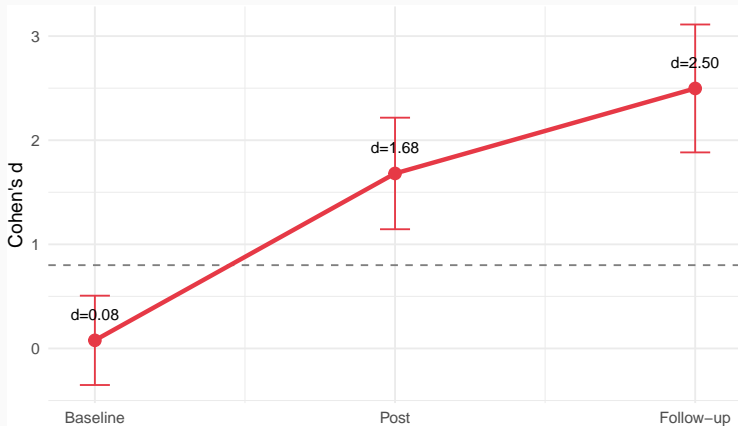- 75 automated validation tests (100% passing)

Results

RQ1: Depression Trajectories

RQ1: Effect Sizes Over Time

RQ1: Key Findings

Baseline:

- $d = 0.08$, 95% CI [-0.35, 0.51], $p = .73$ (groups balanced)

Post-Treatment:

- $d = 1.68$, 95% CI [1.15, 2.22], $p < .001$ (large effect)

3-Month Follow-Up:

- $d = \mathbf{2.50}$, 95% CI [1.88, 3.11], $p < .001$ (very large effect)

Effects are large, durable, and increase over time

RQ2: Process Measure Changes

All process measures showed large effects at follow-up:

Process Measure	Cohen's d	p
Emotional Repression	2.57	$<.001$
Negative Affect	1.96	$<.001$
Distress	2.95	$<.001$
Suppression Aggression	2.14	$<.001$

Strong concurrent correlations with depression change:

- Distress: $r = .76$
- Negative Affect: $r = .52$
- Emotional Repression: $r = .69$

RQ3: Mediation Results

Mediator	Indirect Effect	p	Result
Distress	-6.34	0.000	+ Significant (54% medi
Emotional Repression	-1.84	0.246	- Not significant
Negative Affect	1.51	0.149	- Not significant

Surprising: Core theoretical mechanisms don't mediate

(*Note:* Distress includes Depression subscale - conceptual overlap)

Cross-Lagged Panel Analyses:

No evidence of temporal precedence for any process measure:

- Distress: Process $\rightarrow$ Depression ($p = .39$)
- Emotional Repression: Process $\rightarrow$ Depression ($p = .67$)
- Negative Affect: Process $\rightarrow$ Depression ($p = .25$)

Interpretation:

Process and depression change **concurrently**, not sequentially

Discussion

Key Findings Summary

1. Large, Durable Effects (+)

- Very large depression reduction ($d = 2.50$ at follow-up)
- Effects increase over time

2. All Processes Change (+)

- Large effects on all proposed mechanisms
- Strong concurrent correlations

3. But Mediation is Limited (-)

- Core mechanisms (repression, negative affect) don't mediate
- Challenges theoretical assumptions

4. Concurrent, Not Sequential (-)

- No temporal precedence

Clinical Implications

For Practitioners:

- ISTDP is highly effective for treatment-resistant depression
- Effects are large and durable
- Process changes are observable

For Patients:

- Effective treatment option when first-line treatments fail
- Substantial symptom reduction
- Lasting benefits

But Mechanism Unclear:

- Treatment works... but HOW remains unclear
- Future research needed

Theoretical Implications

Traditional Theory:

Treatment $\rightarrow$ Reduce Repression $\rightarrow$ Reduce Depression

Our Findings Suggest:

Treatment $\rightarrow$ (Process Changes **AND** Depression Change)

Possible Explanations:

1. Common factors (alliance, hope, engagement)
2. Measurement timing (3 time points may miss dynamics)
3. True concurrent mechanism (synergistic change)

Strengths & Limitations

Strengths:

- Public data, advanced analyses, comprehensive testing
- RCT design, adequate power, 3-month follow-up
- Fully reproducible (75 automated tests)

Limitations:

- Secondary analysis, limited time points (3)
- Self-report measures only
- Conceptual overlap (distress/depression)
- Iranian sample (generalizability?)

Conclusions

Main Conclusions

What We Know:

- ISTDP produces large, durable depression improvements

- ISTDP changes proposed process measures

What Remains Unclear:

- Mechanisms don't mediate as expected

- No clear temporal precedence

ISTDP works... but HOW it works remains unclear

Open Science

All Materials Public:

- Data: Open Science Framework (DOI: 10.17605/OSF.IO/75PU8)
- Code: GitHub repository
- This presentation: Fully reproducible R Markdown

Validation Framework:

- 75 automated tests (100% passing)
- Tests data integrity, statistical models, reproducibility
- Compares to original study

Anyone can verify our findings

Questions?

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Resources:

- GitHub:
  https://github.com/robert-johansson/heshmati-reanalysis
- OSF Data: https://doi.org/10.17605/OSF.IO/75PU8
- Original Paper: Heshmati et al. (2023), *Psychotherapy*