Effects of ISTDP on Treatment-Resistant Depression

A Reanalysis Examining Mechanisms of Change

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Introduction

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 systems

ISTDP as a Promising Alternative:

- Brief psychodynamic therapy (10–40 sessions, typically once per week)
- Targets emotional avoidance and defensive functioning
- Growing evidence base for depression, including TRD

Proposed Sequential Mechanism:

Reduce Repression $\longrightarrow$ Facilitate Emotional Experiencing $\longrightarrow$ Reduce Depression

The Original Study & Our Research Questions

Heshmati, Wienicke, & Driessen (2023):

- RCT: *N* = 86 with treatment-resistant depression (Iran)
- ISTDP (20 sessions / 10 weeks) vs. Waitlist
- Very large effects on depression, but mechanisms untested

Our Four Research Questions:

1. How large and durable are ISTDP's effects on depression?
2. Does ISTDP change proposed process measures?
3. Do process changes **mediate** depression improvement?
4. Do process changes **precede** depression changes?

Methods

Design and Analysis

Sample: N = 86 (43 ISTDP, 43 Waitlist); 62% female; ages 18–60

Attrition: 12.8% (7 ISTDP, 4 Waitlist); handled via REML

Measures:

- Primary: Depression (WAI Depression subscale, 7–35)
- Process: Emotional Repression (WAI-RRC), Negative Affect (PANAS-NA), Distress (WAI Distress)

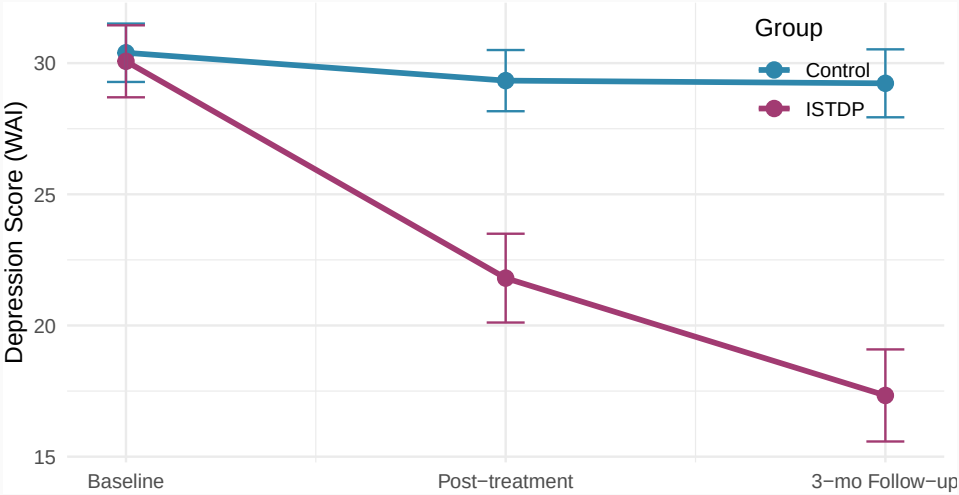
Analyses:

- Linear mixed-effects models (random intercepts)
- Bootstrap mediation (5,000 resamples, BCa CIs)
- Cross-lagged panel analyses (standardized coefficients)
- Sensitivity: Distress without Depression subscale, therapist effects

Open Science: All data (OSF) and code (GitHub) publicly available; 75 automated validation tests

Results

RQ1: Depression Trajectories



RQ1: Effect Sizes

Between-group effect sizes (Cohen's *d*):

Time Point	*d*	95% CI
Baseline	0.08	[-0.35, 0.51]
Post-treatment	1.68	[1.15, 2.22]
Follow-up	**2.50**	[1.88, 3.11]

- Effects **increase over time** rather than diminishing
- Continued improvement after treatment ended ($p < .001$)
- Very large effects relative to waitlist control

RQ2: Process Measure Effects at Follow-Up

All proposed mechanisms showed very large effects:

Process Measure	Cohen's *d*
Emotional Repression (WAI-RRC)	2.76
Negative Affect (PANAS-NA)	1.96
Distress (WAI)	2.95
Suppression of Aggression	2.75

Within-ISTDP correlations with depression change:

- Distress: $r = 0.70$ (but includes Depression subscale)
- Emotional Repression: $r = 0.03$ (weak)
- Negative Affect: $r = -0.19$ (weak)

RQ3: Mediation Results

Mediator	Indirect Effect	p	Mediated?
Distress	-6.34	0.000	Significant (54%)
Emotional Repression	-1.84	0.246	No
Negative Affect	1.51	0.149	No

But: Distress includes the Depression subscale $\longrightarrow$ circular!

Sensitivity analysis (removing Depression from Distress):

- ACME = 0.55, p = 0.702 $\longrightarrow$ **Not significant**

No genuine mediation for any process measure

RQ4: Temporal Precedence

Cross-lagged panel analyses (standardized β):

No evidence that process changes precede depression changes:

Process Measure	Process $\rightarrow$ Depression	Depression $\rightarrow$ Process
Emotional Repression	n.s.	n.s.
Negative Affect	n.s.	n.s.
Distress	n.s.	n.s.

Interpretation:

- Process measures and depression change **concurrently**, not sequentially
- No evidence for the theorized causal chain
- Consistent with broad, simultaneous therapeutic change

Discussion

The Mediation Puzzle

The paradox: ISTDP produces large effects on both depression and all process measures, yet process changes don't mediate depression improvement.

Four possible explanations:

1. **Measurement timing** – 3 time points too coarse to capture session-level dynamics; session-by-session process coding has shown effects (Town et al., 2022)
2. **Self-report limitations** – Unconscious processes may not be capturable via questionnaires; observer-rated "unlocking" *did* mediate outcomes (Johansson et al., 2024)
3. **Defensive restructuring** – Patients may shift defensive organization (e.g., repression → isolation of affect) without full "unlocking" (Abbass, 2015)
4. **Multiple pathways** – Different psychodiagnostic groups (resistant, repressive, fragile) may change through different mechanisms (Abbass, 2015; Johansson et al., 2014)

ISTDP is effective:

- Very large, durable effects on TRD (d = 2.50 at follow-up)
- Effects increase after treatment ends
- All proposed process measures change substantially

But mechanisms remain unclear:

- No mediation by emotional repression or negative affect
- Distress mediation due to construct overlap, not genuine mechanism
- Concurrent rather than sequential change

Understanding *how* psychotherapy works requires finer temporal measurement and observational methods

Thank You

Questions?

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Resources:

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