A Randomized Trial of a Modular Treatment for Anxiety, Depression, Trauma, and Conduct Problems

Bruce F. Chorpita, PhD

Child STEPs in California

Disclosures

<table>
<thead>
<tr>
<th>Source</th>
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<th>Books, Intellectual Property</th>
<th>Equity</th>
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Research Network on Youth Mental Health

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- Robert Gibbons
- Charles Glisson
- Evelyn Polk Green
- Kimberly Hoagwood
- Kelly Kelleher
- John Landsverk
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- Lawrence Palinkas
- Sonja Schoenwald
- John Weisz (Network Director)
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Overarching Aim:
Demonstrate that EBTs work “in the real world”

- Phase I
  - Find the best EBTs for major areas
  - Review of literature, visits to major laboratories
- Phase II
  - National Survey of MH Clinics (use, readiness)
  - Multisite Randomized Effectiveness Trial
- Phase III
  - Replication and Extension of Phase II trial

Child STEPs
Child System and Treatment Enhancement Projects

Comparisons with Usual Care
Overarching Aim: Demonstrate that EBTs work “in the real world”

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Child STEPs Multisite Trial

- 173 Youth ages 7 – 13; mean 10.59 (SD = 1.76)
- 70% boys, 30% girls
- Income below $40K: 55% of sample
- Single parent households: 53%
- Medication use: 25% at intake, 27% during treatment

Participants
**Participants**

**Anxiety**

**Depression**

**Conduct Problems**

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Primary, No. (%)</th>
<th>Anywhere, No. (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADHD</td>
<td>8 (4.60)</td>
<td>101 (58.05)</td>
</tr>
<tr>
<td>Adjustment Disorders</td>
<td>2 (1.15)</td>
<td>4 (2.38)</td>
</tr>
<tr>
<td>Anxiety Disorders</td>
<td>51 (29.31)</td>
<td>99 (56.90)</td>
</tr>
<tr>
<td>Conduct-Related Disorders</td>
<td>74 (42.53)</td>
<td>115 (66.05)</td>
</tr>
<tr>
<td>Eating Disorders</td>
<td>0 (0.00)</td>
<td>4 (2.38)</td>
</tr>
<tr>
<td>Elimination Disorders</td>
<td>0 (0.00)</td>
<td>1 (0.57)</td>
</tr>
<tr>
<td>Mood Disorders</td>
<td>29 (16.67)</td>
<td>76 (43.68)</td>
</tr>
<tr>
<td>Selective Mutism</td>
<td>1 (0.57)</td>
<td>2 (1.15)</td>
</tr>
</tbody>
</table>

**Ethnicity**

- White
- Multiethnic
- African American
- Latino
- Asian/Pacific Islander
- Other

**Participants**

**Therapists and Agencies**
Therapists and Agencies

- 10 Service Agencies in Hawaii and Boston
- School and clinic-based outpatient treatment

84 Therapists
- Mean age 40.6; 7.6 years clinical experience
- 40% social workers; 24% psychologists; 36% other
- 80% women
- 56% Caucasian, 23% Asian-American, 6% African American, 6% Pacific Islander

Random Assignment

- Standard
- Modular
- Usual Care

What is Modular Treatment?

MATCH: Modular Approach to Therapy for Children

Depression

Logic for Standard Treatment for Depression (PASCET)

PASCET
John R. Weisz, PhD
University of California Los Angeles
Depression

What if other problems interfere?

Such as conduct problems?
Depression

Gains
Complete?

Interference
Yes
No

Able to proceed
Yes
No

Depression

Threats Present
Other Trauma Symptoms

Avoidance
Anxious Thoughts

Non compliance
Specific Triggers

Attention Seeking
Low Motivation

Serious Behavior Conduct Related

Complete next in sequence, unless client’s needs suggest adjustments are appropriate.

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Clinical Dashboard

Progress

Practice

Evidence of Poor Engagement

6 weeks

3 months

Days Since First Visit
Progress is Good:
Depression Scores Getting Lower

Progress is Poor:
Depression Scores Same or Getting Higher

Toward Architectures for Guided Adaptation

Focus
How are they related?

<table>
<thead>
<tr>
<th>MATCH</th>
<th>MAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ An EBT □ For 4 problems □ Ages 5-15 □ Detailed modules (8p) □ Handouts, multi language □ More structure</td>
<td>□ A “treatment builder” □ For any problems □ For any age □ Simple guides (2p) □ No handouts, English only □ More control</td>
</tr>
</tbody>
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Overarching Aim:
Demonstrate that EBTs work “in the real world”

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How Child STEPs Grew a Third Arm

Yes, he uses 50% more deodorant than the rest of us

Effectiveness: Satisfaction

- Standard
- Modular
- Usual Care
Satisfaction Over Time

![Graph showing Satisfaction Over Time](satisfaction_graph.png)

Significant Case Number x Condition Interaction: Modular EBT > Usual Care (p < .05)

Clinical and Functional Outcome Measures

- Gathered weekly by telephone
  - Brief Problem Checklist (symptoms)
    - Internalizing, Externalizing, Total
  - Top Problems Assessment (functioning)
- Gathered every three months
  - Child Behavior Checklist
    - Internalizing, Externalizing, Total

Rate of Improvement During Treatment

![Graph showing Rate of Improvement During Treatment](treatment_graph.png)

All Four Outcomes: Modular EBT > Usual Care, Standard EBT (p < .05)

Rate of Improvement Over 2 Years

![Graph showing Rate of Improvement Over 2 Years](two_years_graph.png)

All Three Outcomes: Modular EBT > Usual Care (p < .05)


Clinical Outcomes: Diagnosis

Utilization Outcomes: One Year

Overarching Aim:
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Child STEPs in California
Child STEPs in California

- Funded by John D. and Catherine T. MacArthur Foundation
- Anxiety, Depression, Conduct Problems, Traumatic Stress
- Community therapists at three publicly-funded agencies
- Study Design: MATCH vs. Community Implemented Treatment

Participants

- N = 138 children ages 5-15
  - Poverty was more extreme than previous trial
    - 91.3% < $39K; 71.0% < $19K per year; 4.1 dependents avg.
  - Issues: homelessness, foreclosures, chronic unemployment
  - 47.8% parents with no HS education
  - 58.0% single-parent households
  - 57.2% reported trauma history on UCLA PTSD Index
  - 32.5% past or current child welfare involvement
  - 46.38% spoke Spanish at home
  - 68.84% had at least one parent born outside US

Participants

- Ethnicity
  - Latino
  - African American
  - Multiethnic
  - White

Participants

- Anxiety
- Depression
- Trauma
- Conduct Problems
Random Assignment

MATCH

Community Implemented Treatment
81% fully trained in at least one EBT
- TF-CBT
- Seeking Safety
- Triple P
- DBT
- Incredible Years
- PCIT
- CBITS

5 Day Workshop plus ongoing weekly consultation for active cases

Concerns at Baseline

<table>
<thead>
<tr>
<th>Focus</th>
<th>Primary Concern (%)</th>
<th>Any Concern (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conduct/Disruptive Behavior</td>
<td>60 (43.5)</td>
<td>110 (79.7)</td>
</tr>
<tr>
<td>Depression</td>
<td>39 (28.3)</td>
<td>101 (73.2)</td>
</tr>
<tr>
<td>Anxiety</td>
<td>38 (27.5)</td>
<td>118 (85.5)</td>
</tr>
<tr>
<td>Traumatic Stress</td>
<td>1 (0.7)</td>
<td>24 (17.4)</td>
</tr>
<tr>
<td>Inattention/Hyperactivity</td>
<td>0 (0)</td>
<td>46 (33.3)</td>
</tr>
<tr>
<td>Elimination Disorder</td>
<td>0 (0)</td>
<td>6 (4.3)</td>
</tr>
</tbody>
</table>

Child STEPs in California

- N = 50 providers
  - 96% female
  - Average 3.3 years experience
  - 86% Masters level (social work or MFT)
  - 22% had a license in CA
**Rate of Improvement During Treatment**

*All Four Outcomes: MATCH > CIT (p < .05)*

**Effect Sizes for Primary Outcomes**

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Effect Size *</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internalizing</td>
<td>.46</td>
</tr>
<tr>
<td>Externalizing</td>
<td>.38 caregiver / .50 youth</td>
</tr>
<tr>
<td>Total</td>
<td>.51</td>
</tr>
<tr>
<td>Top Problems</td>
<td>.47 caregiver / .54 youth</td>
</tr>
</tbody>
</table>

* calculated as the estimated difference in rate of change (i.e., the condition by time estimate) divided by the square root of the estimated time trend variance (Feingold, 2009), analogous to a Cohen’s d effect (e.g., .20 = “small,” .50 = “medium”).

**Post Treatment Status**

- Not a planned analysis, due to different lengths of treatment
- *Strength and Difficulties Questionnaire* administered for study entry and at post treatment, measures total symptoms
- Significant difference in rate of clinical improvement at post (p < .01)
  - MATCH: 60.0%
  - CIT: 36.7%

**Utilization Outcomes**

- MATCH cases received significantly fewer treatment sessions (21.65 vs. 30.22; p < .01)
- MATCH length of treatment was significantly fewer days (192 vs. 270; p < .01)
- MATCH cases used fewer non-study services during treatment (p < .01)
Utilization Outcomes: Medication

- MATCH cases did not significantly differ on overall use of medication (9% vs. 20%; ns)
- Controlling for baseline medication use, MATCH cases used significantly fewer types of medications (0.13 vs. 0.30; p < .05), meaning youth in CIT were more likely to be on more than one kind of medication than youth in the MATCH condition.

Engagement Outcomes

- Session Consistency (days between sessions)
  - MATCH: 8.51 (3.23) vs. CIT: 9.79 (3.99)
  - t = 2.08, p < .05, Cohen’s d = .36
- Premature Treatment Termination
  - MATCH: 52%; CIT: 57%
  - Not significantly different

STEPs in California Summary

- MATCH youth...
  - Improved more quickly
  - Used fewer additional services
  - Were less likely to use multiple types of medication
  - Received fewer sessions in shorter time

- But
  - All families were difficult to keep engaged
  - We know less about cases with primary traumatic stress concerns

What Do We Make of Child STEPss?

- Implications of “new design” are larger than those of “new treatment”
- Raises workforce issues of how many treatments can providers successfully master
Not Just Flexibility: Evidence-Driven Adaptation

On Collaborative Design...

Summary: Key Points

- MATCH is the only EBT shown to outperform other EBTs in multiple trials for multiple problems
- It demonstrates the value of having systems that are based on effective procedures but allow the provider to be responsive
- There are still challenges to think about...
  - Engagement
  - Emergent Life Events

Thank You