

Improvement for Youth with Disruptive Behaviors Provided Evidence-Based Practices

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Acknowledgements

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Study Purpose

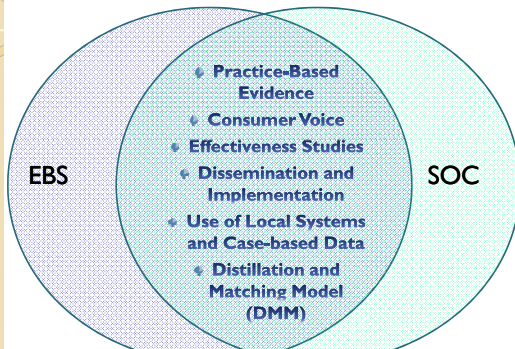
- Examine rate of functional improvement for youth receiving intensive-in home services (IIH) through the State of Hawai'i's Child and Adolescent Mental Health System (CAMHD)
- Examine extent to which the use of therapeutic practices derived from the evidence-based literature affects this rate of improvement.

The Two Worlds of EBS and SOC

- Evidence-Based Practice (EBS)**
 - High scientific standards, randomized control trials
 - Manualized approach tied to specific disorders
 - Often restricted samples of youth
 - Often university-based, by developers with students
- System of Care (SOC)**
 - Services to youth and families with complex challenges
 - Providers with various levels of experience, backgrounds and orientations
 - More focus on youth level of functioning than specific symptom reduction



Bringing these Two Worlds Together



EBS **SOC**

- Practice-Based Evidence
- Consumer Voice
- Effectiveness Studies
- Dissemination and Implementation
- Use of Local Systems and Case-based Data
- Distillation and Matching Model (DMM)

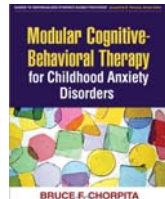
Distillation and Matching Model (DMM)

(Chorpita, Daleiden and Weisz, 2005)

- Distillation**
 - identifying therapeutic elements within empirically supported treatment packages
- Matching**
 - identifying client, setting and other factors in studies of efficacious treatments that might be relevant for selection of intervention

DMM and Related Research

- Common Elements across Efficacious Treatments (Chorpita and Daleiden, in press)
- Modular CBT
- Child STEPS Treatment Project (Youth Network on Children's Mental Health; Borner et al, in press)
- The Present Study



Present Study

- Using required monthly reports from therapist on practices provided (MPTS)
- Using care coordinators' quarterly ratings of youth functional status (CAFAS)
- Identify whether greater application of evidence-based practices (EBS-PEs) affects average rate of improvement for youth with a disruptive behavior disorder (DBD)

Youth Characteristics (N = 197)

Variable	M	SD
Age	13.04	3.49
N of Diagnoses	2.48	0.75
Sex	N	%
Males	129	65.5
Females	68	34.5
Comorbid	N	%
No	19	9.6
Yes	178	90.4

Measures-MTPS

- ➔ Monthly report from contracted providers
 - ➔ Practice settings & amount
 - ➔ Treatment targets and progress on these targets
 - ➔ *Specific therapeutic practices (PEs)*
- ➔ Prior and ongoing reliability and validity studies look positive (Daleiden, Lee and Tolman, 2004; Nakamura et al, 2007)

Measures-MTPS

Intervention Strategies Used This Month (check all that apply)				
Activity Scheduling	Emotional Processing	Line of Sight Supervision	Personal Safety Skills	Stimulus or Antecedent Control
Assertiveness Training	Exposure	Aggravance or Release Prevention	Physical Exercise	Supportive Liaison
Attending	Eye Movement, Tapping	Marital Therapy	Play Therapy	Tangible Rewards
Behavioral Contracting	Family Engagement	Medication/ Pharmacotherapy	Problem Solving	Therapist Praise/Rewards
Biofeedback, Neurofeedback	Family Therapy	Mentoring	Psychoeducation, Child	Thought Field Therapy
Care Coordination	Free Association	Mileu Therapy	Psychoeducation, Parent	Time Out
Catharsis	Functional Analysis	Mindfulness	Relationship or Rapport Building	Twelve-Step Program
Cognitive	Goal Setting	Modeling	Relaxation	Other
Commands	Guided Imagery	Motivational Interviewing	Response Cost	Other
Communication Skills	Hypnosis	Natural and Logical Consequences	Response Prevention	Other
Crisis Management	Ignoring/Different or Reinforcement of Other Behavior	Parent Coping	Self-Monitoring	
Cultural Training	Individual Therapy for Caregiver	Parent/Teacher Monitoring	Self-Reward/ Self-Praise	
Discrete Trial Training	Insight Building	Parent/Teacher Praise	Skill Building	
Educational Support	Interpretation	Peer Paring	Social Skills Training	

Measuring "EBSness" of Practice Elements

- Identified every practice element (distilled from a treatment protocol for DBD that was judged efficacious based on CAMHD Evidence-Based Committee 2007 Biennial Report (available via CAMHD Web-page)
- Calculated the number of EBS-PEs per MTPS

Measures-CAFAS (Hodges, 1998)

- Care coordinators identify specific behavioral indicators that reflect level of impairment in each of eight domains
- Completed on a quarterly basis
- Higher scores indicate more impairment
- *Therefore improvement is reflected in lowering CAFAS scores over time.*

Analysis - Hierarchical Linear Modeling (e.g. Mueller et al, in press)

- Identify daily average rate of improvement on total CAFAS scores over the course of an IIH treatment episode for youth with a DBD
- Test whether the differential application of EBS-PEs for youth with a DBD affects daily average rate of improvement
- Examine potential confounding factors
- Explore specific practice elements and rate of improvement

Results-Overall Pattern

- Youth with DBDs enter IIH treatment at significant levels of impairment and show improvement in functioning over time

Initial Status and Overall Rate of Improvement Among Youth with Any DBD in IIH Care

Fixed Effects	Mean	SE
Initial Status	102.182 ***	2.170
Rate of Change	-0.115 ***	0.014

Note. ~ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$

Neither youth age, gender nor presence of comorbidity predicted rate of improvement while in IIH

Results-EBS

- Incremental increase in use of practices derived from the EBS literature (EBS-PEs) for DBD increases the rate of improvement

Rate of Improvement Related to Use of EBS PEs

Fixed Effects	Mean	SE
Initial Status	102.252 ***	2.174
Rate of Change	-0.076 **	0.023
EBS PEs	-0.005 *	0.002

Note. ~ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$

Results-Examining Alternative Explanations (I)

- *When entered together, the use of EBS-PEs but not "Other PEs" predicted greater rate of improvement.*

Rate of Improvement for EBS PEs and Other PEs When Examined Together

Fixed Effects	Mean	SE
Initial Status	102.272 ***	2.173
Rate of Change	-0.071 **	0.023
EBS PEs	-0.01 *	0.004
Other PEs	0.018	0.012

Note. ~ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$

Results-Examining Alternative Explanations (II)

- Overall dosage does not account for the relationship between amount of EBS practices and rate of improvement

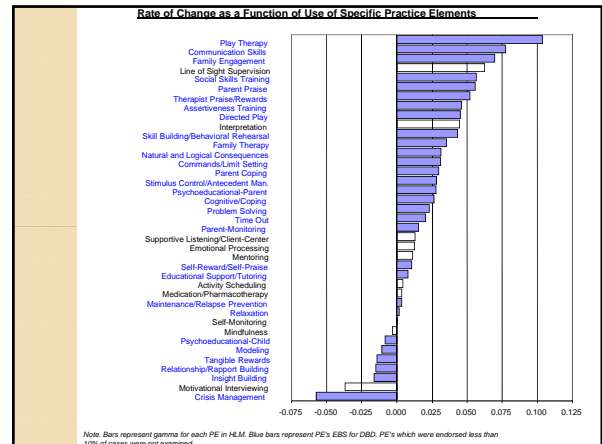
Rate of Improvement for EBS PEs and Dosage When Examined Together

Fixed Effects	Mean	SE
Initial Status	102.096 ***	2.196
Rate of Change	-0.053 ~	0.028
EBS PEs	-0.004 *	0.002
Dosage	0.000	0.000

Note. ~ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$

Results-Exploration of Specific Practices and Rates of Improvement

- Examined individual PEs that were used at least once in $\geq 10\%$ of cases
 - 74% of the 39 PEs that we used enough to be studied were evidence-based for DBD
 - Only 47% of the 17 seldom used PEs were evidence-based for DBD
- No statistical analyses given exploratory approach



Discussion

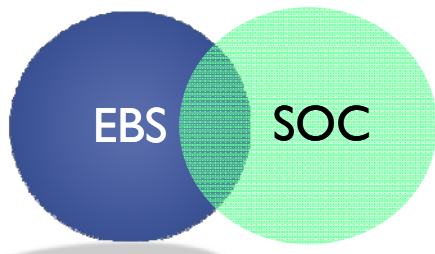
- Application of practices distilled from EBS literature relates to increased rate of youth functional improvement (statistical significance)
- Increase of one additional EBS PE increases rate of improvement about 6-7% (clinical significance)
- EBS effect is not due to overall dosage or overall number of practices applied

Some Limitations and Future Research

- “EBSness” for all of youths’ diagnoses
- More is better?
- Weighting of EBS practices
- Other diagnoses, other settings, other measures of outcome


EBS in SOC

DMM offers potential as another way to link EBS with SOC



References

- Borntrager, C., Chorpita, B.F., MacMillan-Higa, C., & Weisz, J. (in press). Provider attitudes towards evidence based practices: Are the concerns with the evidence or the manuals? *Psychiatric Services*.
- Chorpita, B., Daleiden, E. (in press). Mapping evidence-based treatments for children and adolescents: Application of the Distillation and Matching Model to 615 treatments from 322 randomized trial. *Journal of Consulting and Clinical Psychology*
- Chorpita, B.F., Daleiden, E.L., & Weisz, J.R. (2005). Identifying and selecting the common elements of evidence based interventions: A distillation and matching model. *Mental Health Services Research, 7(1)*, 5-20.
- Daleiden, E., Lee, J., & Tolman, R. (2004). *Annual evaluation report fiscal year 2004*. Honolulu, HI: Hawaii Department of Health Child and Adolescent Mental Health Division.
- Hodges K. *Child and Adolescent Functional Assessment Scale (CAFAS)*. Ann Arbor, MI: Functional Assessment Systems; 1998.
- Mueller, C., Tolman, R., McMillan, C. H., & Daleiden, E. (in press). Longitudinal predictors of youth functional improvement in a public mental health system. *Journal of Behavioral Health Services and Research*
- Nakamura, B., Daleiden, E. & Mueller, C. (2007). Validity of treatment target progress ratings as indicators of youth improvement. *Journal of Child and Family Studies, 16*, 729-741.



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