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Strengthening social and
emotional health

*Evidenced-based
programs and
practices:
Setting the stage*

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What does “evidence-based” mean?

Evidence-based program:

A program that has been found to be **effective**, based on rigorous evaluations, usually experimental or quasi-experimental designs

“Certified as evidence-based or promising by a US federal agency, state, or similarly credentialed university or private institution (e.g. Blueprints)”

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What does “evidence-based” mean?

Evidence-based practice:

Practices that have been found to be **effective**, based on published research literature

Effectiveness involves causality

“Causing a result, especially the desired or intended result”

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How do we determine effectiveness and causality?

Publicly verifiable by a credible source

Independent peer review, “Peer review is a minimal criterion” –Stanovich & Stanovich (2003)

How peer review works:

- Submission to review,
- 3 to 4 reviewers who are not associated with the project or research **independently** assess strength of studies' designs and results,
- Review of claims of effectiveness
 - Substantiated → accepted
 - Flaws in design, or logic → rejected

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How do we determine effectiveness and causality?

Replication: Makes conclusions concrete and public

- Replication allows others to *independently* attempt the same program or practice to see if the same results are realized
- This process reduces the chances of errors or bias of the investigator
- Replicable findings provide converging evidence of effectiveness

Peer review and replication are checks and balances on objectivity and effectiveness

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How do we know when a program is evidence-based?

Independent review body certification:

“...certified as evidence-based or promising by a US federal agency, state, or similarly credentialed university or private institution...”

http://www.samhsa.gov/ebpwebguide/appendixA.asp#Children_Adolescents
www.colorado.edu/cspv/blueprints
<http://www.casel.org/>
<http://ies.ed.gov/ncee/wwc/>

Other examples:

Top 100 places to work; Malcolm Baldrige Awards; BBB Wise Giving Alliance; Top public university undergraduate programs; Moody's; Standard & Poors...

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How do we develop practice or program evidence?

Systematically and sequentially increasing evaluation rigor (and costs)

- Start small and go slow
- Go slow to go fast
- Start simple and KISS
- If possible, go for Randomized Controlled Trials (RCT) only after other bases have been touched

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How do we develop practice or program evidence?

Common sense and sequence towards determining program or practice effectiveness

- Decide if you do need any evaluation, *or not*
- Value based programs – provide basic needs
 - Humanitarian relief
 - Food, clothing, shelter
 - Safety, basic education, access to health care
 - Examples: Haiti earthquake, Alternatives for Battered Women, Medical Motor Service

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How do we develop practice or program evidence?

Qualitative evaluations (early stage)

- Help understand issue, needs, phenomenon, develop questions
- Provide description and context
- Examples: case studies, focus groups, clinical observations...

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How do we develop practice or program evidence?

Correlational studies (mid stage)

Are the relationships real?

- Helps us understand links between variables

Correlation can not determine causation

Example: RECAP -- Extremely high correlation between motor functioning and special education placement

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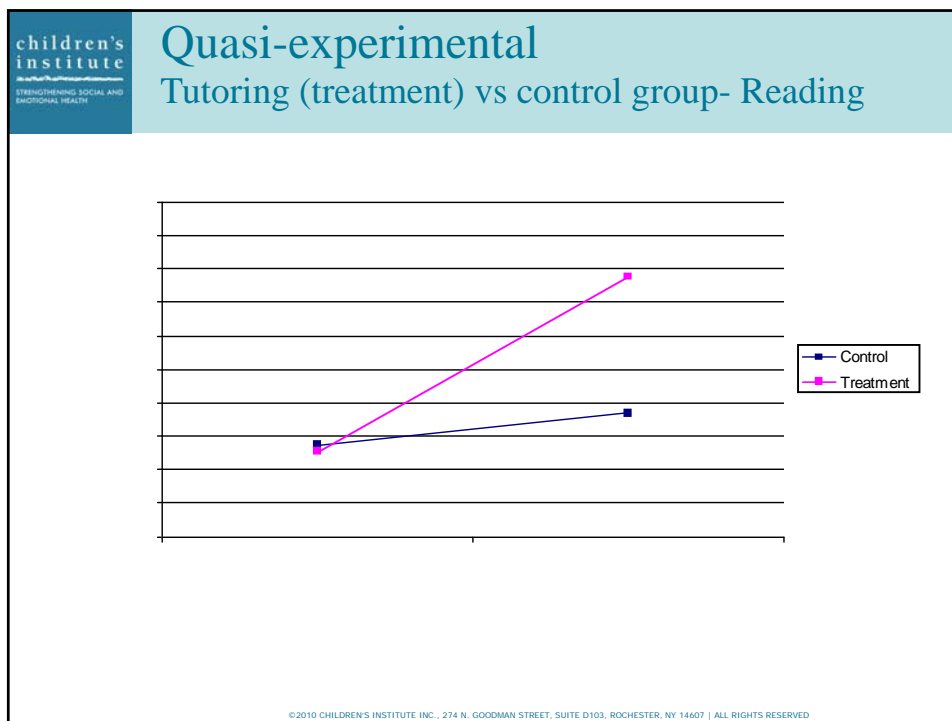
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How do we develop practice or program evidence?

Evaluations with robust designs and replications (determining causation)

- Strong quasi-experimental evaluations:
 - Program group & matched comparison
 - Example: Tutoring program with propensity matching

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How do we develop practice or program evidence?

Evaluations with robust designs and replications (determining causation)

- Single "subject" designs (Time series, ABAB; Multiple baseline)
 - Repeated measures must be possible
 - Few if any statistics needed – "duck test" or visual analysis
 - Example: RECAP – ECERS-R; Mutual funds & stocks

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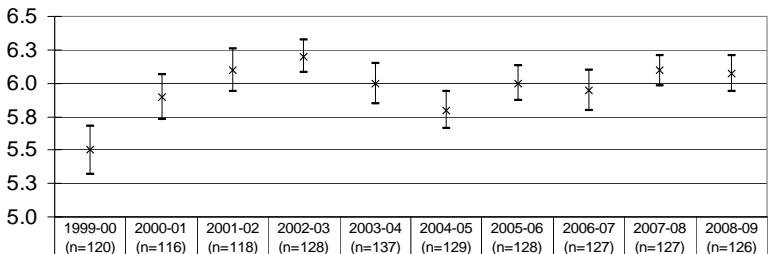


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ECERS-R score trends

2008-09 RECAP Annual Report
10 Years of Overall ECERS-R Results
Means and 95% Upper and Lower Confidence Intervals by Year

Scores
(full range is 1 to 7)



	1999-00 (n=120)	2000-01 (n=116)	2001-02 (n=118)	2002-03 (n=128)	2003-04 (n=137)	2004-05 (n=129)	2005-06 (n=128)	2006-07 (n=127)	2007-08 (n=127)	2008-09 (n=126)
- Upper Bound	5.7	6.1	6.3	6.3	6.2	5.9	6.1	6.1	6.2	6.2
x Mean	5.5	5.9	6.1	6.2	6.0	5.8	6.0	5.9	6.1	6.1
- Lower Bound	5.3	5.7	5.9	6.1	5.8	5.7	5.9	5.8	6.0	5.9

Scores: 1 = Inadequate, 3 = Minimal, 5 = Good, 7 = Excellent

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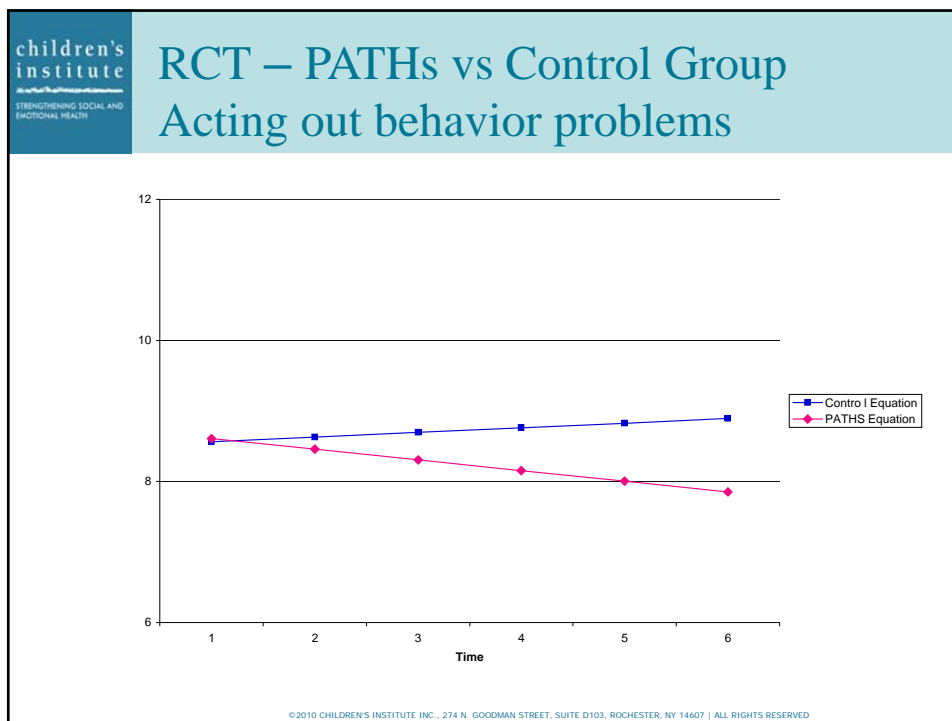
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How do we develop practice or program evidence?

Randomized Controlled Trials (RCT)

- Typically considered gold standard
- More expensive to run (but sometimes not, with proper planning)
- Not always possible, (e.g., Universal Pre-kindergarten)
- Examples: Nurse Family Partnerships, Promoting Alternative Thinking Strategies (PATHS), Coping Power; Children of Divorce Intervention Program

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Science, evidence, and mistakes

"Science is making mistakes in public. Making mistakes for all to see, in the hopes of getting the others to help with the corrections." Daniel Dennet (1995)

Identifying program or practice mistakes/errors/blunders blunders/boo-boos are part of becoming effective. Errors in public helps the program and practice developers and community "get it right."

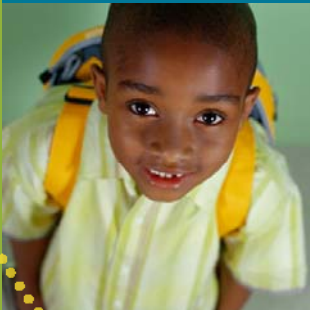
The only "bad" mistakes are those that are hidden from others and thus prone to be repeated.

"Proponents of untested and pseudoscientific practices will never point to cases where they "got it wrong" because they are not committed to public knowledge..."
—Stanovich & Stanovich (2003)

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