Evaluating Effective Interventions for Diverse Students & Contexts

Illinois School Psychology Internship Consortium
Social Emotional Intervention Showcase
Normal, IL, February 27, 2015

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Presenter Background

Clinical/Community Psychologist
- Interest in School-Based Preventive Interventions

Trainer of School Psychologists
- Mental Health Consultation in the Schools
- Supervision of Psychosocial Assessment & Intervention Practicum

Researcher on School-Based Interventions
- Social and Emotional Learning (SEL) – CASEL
- Livingston County Children’s Network (LCCN) Evaluation Team

Coauthor of Forthcoming Child Development Textbook
Learning Objectives

Three different functions of SEL evaluation:

1. How do researchers evaluate universal SEL interventions to find out if they work, for whom they work, and in which contexts they work?

2. How can school-based practitioners evaluate universal SEL interventions to decide which program to select for a specific population or setting?

3. After selecting and implementing universal SEL interventions, how can practitioners evaluate how well they are working in the local context?
Presentation Outline

Overview of SEL

- Definition
- Core Competencies & “SAFE” Procedures
- Theoretical Considerations: Person-Centered vs. System-Level Focus

LO #1: How Researchers Evaluate SEL Programs

- Overview of Evaluation Research Methods
- Results and Characteristics of Previous SEL Evaluation Research

LO #2: How to Select an SEL Program for your School

- Representativeness and Moderator Effects
- CASEL Guide & Other Sources
- Procedures for Selecting Programs

LO #3: How to Determine if an SEL Program is Working Locally

- Implementation (Acceptability, Integrity)
- Formative Evaluation
- Summative Evaluation
Part I
Overview of SEL
What is Social and Emotional Learning?

SEL refers to explicit educational programming designed to foster development of children’s interpersonal skills, emotion management, and self-regulation (Greenberg et al., 2003)
CASEL’s Core Competencies

The Collaborative for Academic, Social, and Emotional Learning (CASEL, 2013) has identified five core SEL competencies in the areas of cognitive, affective, and behavioral functioning:
What is SEL?

Social & Emotional Learning

- Self-management
- Self-awareness
- Social awareness
- Relationship skills
- Responsible decision-making
S.A.F.E. Procedures

- Sequenced
- Active
- Focused
- Explicit
SEL Programs…

- Are typically delivered in schools as universal interventions

- Are effective in improving students’ emotional, behavioral, and academic outcomes (Durlak et al., 2011–Meta-Analysis)

- Usually employ a mixture of “**skills-focused**” and “**environment-focused**” intervention methods (Christensen, 2011)
Theoretical Considerations

Person-Centered vs. System-Level Approaches to Primary Prevention
Albee’s (1988) Primary Prevention Formula

Risk Factors:
- Organic Factors
- Stress
- Systemic Exploitation

Protective Factors:
- Self-Esteem
- Competence
- Social & Environmental Support
A Multiscale View of Primary Prevention

• Systems-Level

vs.

• Person-Centered
Systems-Level Prevention

Reduce:
- Organic Factors;
- Stress;
- Systemic Exploitation

Increase:
- Self-Esteem;
- Competence;
- Social & Environmental Support
Person-Centered Prevention

Reduce:
- Organic Factors
- Stress
- Systemic Exploitation

Increase:
- Self-Esteem
- Competence
- Social & Environmental Support
Ecological View (Bronfenbrenner, 1977)

Developmental Contexts

Children’s Competencies
Part II
How do Researchers Evaluate SEL Programs?
SEL Interventions Work!

Durlak et al.’s (2011) *meta-analysis* synthesized results of hundreds of universal, school-based SEL evaluation studies.

On average, SEL resulted in significant improvements in:

- SEL Skills
- Attitudes Towards Self and Others
- Positive Social Behavior
- Conduct Problems
- Emotional Distress
- Academic Outcomes

Results were strongest for programs that followed S.A.F.E. guidelines, and for programs that were *well implemented*.
CASEL (2013) Guide SELect Programs

Describes 23 SELect programs for preschool and elementary school students

Can be downloaded for free (along with a plethora of other resources) at:

http://www.casel.org/guide
CASEL SELEcct programs

• Are well-designed, multi-year, classroom-based programs
• Target all five areas of SEL competence
• Provide opportunities for skill practice
• Offer training and other implementation support
• Are evidence-based
Rating System to Determine if a Program is Evidence-Based

CASEL SELect programs have at least one qualifying study meeting three review criteria:

- Between-groups design with pretest and posttest
- Demonstrated impact on qualifying outcome(s)
  - Conduct Problems
  - Positive Social Behavior
  - Emotional Distress
  - Academic Outcomes
  - SEL Skill Performance
- Adequate internal validity (intervention caused the impact)
Rating a Study’s Internal Validity

- A study was rated as *qualifying* if
  - Its design was of reasonable quality such that findings were unlikely to be due to confounds or biases
  - There was some confidence that the findings would be replicated if another party implemented the program

- A study was rated as *not qualifying* if
  - A convergence of multiple study design factors were questionable in quality
  - Potential confounds, biases, or alternative explanations indicated the study’s findings might be not reproduced if another party implemented the program and examined the same outcomes
Results of Initial Stage Review

47 Programs

- Met initial criteria
- Did not meet initial criteria (program reasons)
- Did not meet initial criteria (evaluation reasons)
Detailed Evaluation Review: General Results

38 Programs
- 25 programs met criteria
- 13 programs did not meet criteria

106 Evaluation Studies
- 62 studies met criteria
- 44 studies did not meet criteria
Detailed Evaluation Review: Reasons for Not Meeting Criteria

- No Qualifying Outcome (Not Studied)
- No Qualifying Outcome (Statistics)
- Unsuitable Control Group
- Insufficient Clarity
- Problem with the Independent Variable
- Sample Size/Balance
- No Pretest
- Experimenter or Rater Bias
- Attrition
Characteristics of SEL Evaluation Studies
Meeting Criteria: Study Design

- Randomized Controlled Trial
- Quasi Experimental Design

Bar chart showing the comparison between studies with and without matching.
Characteristics of SEL Evaluation Studies Meeting
Criteria: Sample Size

- 300+ studies
- 200-300 studies
- 100-200 studies
- 50-100 studies
- < 50 studies

Number of Studies
Characteristics of SEL Evaluation Studies Meeting
Criteria: Statistical Analyses

- 44% Accounted for Nested Data
- 56% Did not Account for Nested Data
Findings of SEL Evaluation Studies
Meeting Criteria

Percentage of Programs with Evidence of Impact for Each Qualifying Outcome

- Conduct Problems
- Positive Social Behavior
- Emotional Distress
- Academic Outcomes
- SEL Skill Performance
Findings of SEL Evaluation Studies
Meeting Criteria

Breakdown of Academic Outcomes

- Academic Performance
- Academic Behavior
- Academic Attitudes

0% 5% 10% 15% 20% 25% 30%
Findings of SEL Evaluation Studies
Meeting Criteria

Number of Qualifying Outcomes per Qualifying Program

- One Outcome
- Two Outcomes
- Three Outcomes
- Four or More Outcomes
Findings of SEL Evaluation Studies
Meeting Criteria

Other Outcomes of Note

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Substance Use</td>
<td>20%</td>
</tr>
<tr>
<td>Classroom/Teacher Variables</td>
<td>20%</td>
</tr>
<tr>
<td>Risky Sexual Behavior</td>
<td>0%</td>
</tr>
</tbody>
</table>

0%  5%  10%  15%  20%  25%
Conclusions: Characteristics of Excellent SEL Evaluation Research

- RCT with matching on pretest and demographic variables
- Inferential statistics with hierarchical modeling and appropriate covariates
- Measures with established/adequate psychometric properties
- Multiple and/or blind informants
- Assessment of treatment fidelity
- Published in high-impact peer-reviewed journals
SEL Outcome Research Emphasizes *Person-Centered* Competencies

**Increased:**
- Academic Performance
- Attitudes Towards Self and Others
- SEL Skills
- Positive Social Behaviors

**Decreased:**
- Conduct Problems
- Emotional Distress
How do SEL Programs Influence Systemic/Contextual Variables?

- Changes in teachers & teaching
- Changes in school or classroom climate
- Changes in teacher-student, teacher-parent, or student-student relationships
- Changes in environmental contingencies
- Interactive and mediating influences
Three Models of Multiscale Dynamics in the SEL Literature

1. SEL Lessons + Teacher Training

2. Reciprocal Influence Among Attitudes, Behavior, and School Climate

3. Well-Implemented, Comprehensive, Multilevel Interventions
1. Skills-Focused Lessons + Teacher Training

The Incredible Years Dinosaur School Curriculum (Webster-Stratton et al., 2008)

**Inputs**

- Child Training: Skill Instruction, Modeling, Role-Play
- Teacher Training: Curriculum Delivery + Classroom Management + SEL

**Outputs**

- Children’s Emotion Regulation, School Readiness, Social Skills
- Teaching Practices (Warmth, Consistency), Classroom Atmosphere, Parent-Teacher Relationships
1. Skills-Focused Lessons + Teacher Training

4Rs Curriculum (Brown et al., 2010; Jones et al., 2010; 2011)

**Inputs**
- Child Training: Literacy-Based SEL Lessons + Skill Practice
- Teacher Training & Coaching: SEL Skills; Teacher-Student Interactions & Climate

**Outputs**
- Children’s Hostile Attributions, Depression, & Aggression (↓); Prosocial Behavior (↑)
- Improved Classroom Environment (Instructional Support & – marginally – Emotional Support)
2. Reciprocal Influence Among Attitudes, Behavior, & Context

Steps to Respect Bully Prevention Program (Frey et al., 2005; 2009; Brown et al., 2011)

**Inputs**
- Classroom Lessons: Beliefs about & Responses to Bullying, SEL Skills
- School Context: Teacher & Systemic Support ↑; Social Reinforcement of Bullying ↓

**Outputs**
- Children’s Problem Behaviors & Victimization ↓
- Confidence Responding to Bullying; Attitudes and Bystander Behavior, School Climate Perceptions ↑
Ecological View (Bronfenbrenner, 1977)

Developmental Contexts  Children’s Competencies
2. Reciprocal Influence Among Attitudes, Behavior, & Climate

Steps to Respect Bully Prevention Program (Frey et al., 2005; 2009; Brown et al., 2011)

**Inputs**

- Classroom Lessons: Beliefs about & Responses to Bullying, SEL Skills
- School Context: Teacher & Systemic Support \( \uparrow \); Social Reinforcement of Bullying \( \downarrow \)

**Outputs**

- Children’s Problem Behaviors & Victimization \( \downarrow \)
- Confidence Responding to Bullying; Attitudes and Bystander Behavior, School Climate Perceptions \( \uparrow \)
2. Reciprocal Influence Among Attitudes, Behavior, & Climate

Steps to Respect Bully Prevention Program (Hirschstein et al., 2007)

**Inputs**
- Classroom Lessons: Beliefs about & Responses to Bullying, SEL Skills
- School Context: Teacher & Systemic Support ➪; Social Reinforcement of Bullying ➩

**Outputs**
- Children’s Problem Behaviors & Victimization ➩
- Confidence Responding to Bullying; Attitudes and Bystander Behavior, School Climate Perceptions ➪
3. Improved Climate Mediates Effects of Systems Change on Child Outcomes


Child Level: Formal SEL Skill Instruction

Classroom Level: Teaching & Discipline Practices to Support SEL Development

School Level: Family Involvement, Community Service Activities
3. Improved Climate **Mediates** Effects of Systems Change on Child Outcomes

**Inputs**

- Classroom Lessons: SEL Instruction and Skill Practice (CSC)
- School Context: Teaching & Discipline Practices Conducive to SEL Development

**Outputs**

- Improved Social Skills; Decreased Internalizing Symptoms
- Increased Teacher Collaboration; Improved Interpersonal Dynamics & Student Perceptions of Climate
3. Improved Climate Mediates Effects of Systems Change on Child Outcomes

**Input:**
Well-Implemented Comprehensive Multilevel Intervention

**Mediator:**
Perceptions of School or Classroom Climate

**Outcome:**
Social Skills, Interpersonal Behavior
Conclusions about SEL and School Contexts

Supportive contexts facilitate social and emotional development, and (with considerable investment of effort and resources) optimal contexts can be “engineered”

Teachers appear to play a key role in SEL at both the child and classroom/contextual level

Research is nascent (above conclusions are tentative)

More research on environment-focused intervention elements and systems-level outcomes would help us understand the interplay between person-centered and systems-level variables

Measurement of systems-level / contextual variables is tricky
Part III
How to Select an SEL Program for your School or District
What works for whom?

We know from Durlak’s meta-analysis and the CASEL guide that “SEL programs work” but how do you know which program might work best in your school with your students?
Two Key Research Concepts

- *Representativeness* of the sample
  - What were the characteristics of the schools, teachers, and students in the “qualifying studies” for a given program?
  - How do these characteristics compare to your setting and students?

- *Moderator* effects
  - By definition, universal interventions target all students, but some interventions may be especially effective with some subgroups of students or in schools with particular characteristics.
Two Key Research Concepts

- **Representativeness** of the sample
  - What were the characteristics of the schools, teachers, and students in the “qualifying studies” for a given program?
  - How do these characteristics compare to your setting and students?

- **Moderator effects**
  - By definition, universal interventions target all students, but some interventions may be especially effective with some subgroups of students or in schools with particular characteristics.
CASEL Guide Provides Information on Representativeness in Tables

**TABLE 2 Preschool Evidence of Effectiveness Ratings**

<table>
<thead>
<tr>
<th>Program Name</th>
<th>Grades Evaluated</th>
<th>Geographic Location</th>
<th>Student Race/Ethnicity</th>
<th>% Reduced Lunch</th>
<th>Study Design</th>
<th>Evaluation Outcomes</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Quasi-Experimental</td>
<td>Randomized Controlled Trial</td>
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<tr>
<td>Ali’s Pals</td>
<td>PreK-3</td>
<td>Rural, Suburban, Urban</td>
<td>African-American, Caucasian</td>
<td>100</td>
<td></td>
<td>✓ (3)</td>
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<tr>
<td>HighScope Educational Approach for Preschool</td>
<td>PreK</td>
<td>PreK</td>
<td>Urban</td>
<td>African-American, Caucasian</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>I Can Problem Solve</td>
<td>PreK-5</td>
<td>PreK</td>
<td>Rural, Urban</td>
<td>African-American, Caucasian</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>The Incredible Years Series</td>
<td>PreK-2</td>
<td>PreK-1</td>
<td>Not reported</td>
<td>Diverse</td>
<td>100</td>
<td>✓ (2)</td>
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<tr>
<td>PATHS</td>
<td>PreK-6</td>
<td>PreK</td>
<td>Rural, Suburban, Urban</td>
<td>African-American, Caucasian</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Peaceworks: Peacemaking Skills for Little Kids</td>
<td>PreK-2</td>
<td>PreK</td>
<td>Urban</td>
<td>Hispanic</td>
<td>Not reported</td>
<td>✓ (1)</td>
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<tr>
<td>Tools of the Mind</td>
<td>PreK-1</td>
<td>PreK</td>
<td>Urban</td>
<td>Hispanic</td>
<td>80</td>
<td>✓ (1)</td>
</tr>
</tbody>
</table>
CASEL Guide Provides Information on Representativeness in Tables

<table>
<thead>
<tr>
<th>Program Name</th>
<th>Grade Range Covered</th>
<th>Grades Evaluated</th>
<th>Geographic Location</th>
<th>Student Race/Ethnicity</th>
<th>% Reduced Lunch</th>
</tr>
</thead>
<tbody>
<tr>
<td>Al's Pals</td>
<td>PreK-3</td>
<td>PreK</td>
<td>Rural, Suburban, Urban</td>
<td>African-American, Caucasian</td>
<td>100</td>
</tr>
<tr>
<td>HighScope Educational Approach for Preschool</td>
<td>PreK</td>
<td>PreK</td>
<td>Urban</td>
<td>African-American, Caucasian</td>
<td>100</td>
</tr>
<tr>
<td>I Can Problem Solve</td>
<td>PreK-5</td>
<td>PreK-K</td>
<td>Rural, Urban</td>
<td>African-American, Caucasian</td>
<td>100</td>
</tr>
</tbody>
</table>
CASEL Guide Provides Information on Representativeness in Tables

### TABLE 4

**Elementary School Effectiveness Ratings**

<table>
<thead>
<tr>
<th>Program Name</th>
<th>Grade Range Covered</th>
<th>Grades Evaluated</th>
<th>Geographic Location</th>
<th>Student Race/Ethnicity</th>
<th>% Reduced Lunch</th>
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<tbody>
<tr>
<td>4Rs</td>
<td>PreK-8</td>
<td>3-4</td>
<td>Urban</td>
<td>African-American, Hispanic</td>
<td>62</td>
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<tr>
<td>Caring School Community</td>
<td>K-6</td>
<td>K-6</td>
<td>Rural, Suburban, Urban</td>
<td>African-American, Hispanic</td>
<td>0-95</td>
</tr>
<tr>
<td>Competent Kids, Caring Communities</td>
<td>K-5</td>
<td>4-5</td>
<td>Urban</td>
<td>Diverse</td>
<td>52-63</td>
</tr>
<tr>
<td>I Can Problem Solve</td>
<td>PreK-5</td>
<td>PreK-1</td>
<td>Rural, Urban</td>
<td>African-American, Caucasian, Hispanic</td>
<td>91</td>
</tr>
<tr>
<td>The Incredible Years Series</td>
<td>PreK-2</td>
<td>PreK-1</td>
<td>Not reported</td>
<td>Diverse</td>
<td>59</td>
</tr>
</tbody>
</table>
A Caveat

- Our knowledge base is limited!

- Even if a program has been evaluated in a context similar to yours, it may not be the best choice (other programs may be a better fit in terms of cost, available training, targeted outcomes, or other considerations).

- If the student or school characteristics in the evaluation research do not match your local context, the intervention might still be a good choice (we don’t know that it won’t work).
Two Key Research Concepts

- *Representativeness* of the sample
  - What were the characteristics of the schools, teachers, and students in the “qualifying studies” for a given program?
  - How do these characteristics compare to your setting and students?

- *Moderator* effects
  - By definition, universal interventions target all students, but some interventions may be especially effective with some subgroups of students or in schools with particular characteristics.
Moderator vs. Main Effects

• Most summaries of SEL evaluation research focus on main effects. These are the average effects across all participants in the study.

• Sometimes individual evaluations report moderator effects that demonstrate the program to be more effective for some subgroups of students than others, or in some schools than others.

  - Read the individual study(ies)
  - Examine at the program’s materials or website
  - Ask the developer
Examples of Moderator Effects in the Literature

- 4R’s program had a stronger effect on academic outcomes (academic skills and attendance) among students classified as high risk (based on aggression levels at baseline).

- For the Incredible Years program, several outcomes were more pronounced among students with higher levels of problem behaviors (such as off-task behavior and conduct problems) at baseline.

- Girls (but not boys) became more assertive after exposure to the Caring School Community intervention.
Other Features of the CASEL guide

- Summarizes program features as well as evidence of effectiveness (Tables 1–4)
- Provides descriptions for all 23 SELect programs in appendix A
- Provides guidelines and recommendations for selecting programs
- CASEL website provides webinar on how to use the guide: [https://www.youtube.com/watch?v=JiqkUpSebZk](https://www.youtube.com/watch?v=JiqkUpSebZk)
MANY Other Guides & Resources Also Available

- Blueprints for Healthy Youth Development (www.blueprintsprograms.com)
- SAMHSA’s National Registry of Evidenced-Based programs (NREPP) (www.nrepp.samhsa.gov)
- What Works Clearinghouse (ies.ed.gov/ncee/wwc/)
- Office of Juvenile Justice and Delinquency Prevention’s (OJJDP’s) Model Programs Guide (www.ojjdp.gov/mpg)
- Technical Assistance Center on Social and Emotional Intervention for Young Children (challengingbehavior.fmhi.usf.edu)
- Promising Practices Network (www.promisingpractices.net/programs.asp)
Organizational Consultation Approach to SEL Selection
(Meyers, Tobin, Huber, Conway, & Shelvin, 2015)

- **Entry**: Build relationships and communicate with stakeholders at all levels

- **Problem Definition**: With input from multiple stakeholders, define initial SEL-related targets (School climate? Risky behavior? Conduct problems? Teacher-student Relationships?)

- **Needs Assessment**: Systematically assess needs with input from all stakeholders, and share results with the stakeholders (report back results of interviews and surveys)

- **Intervention**: School-implementation advisory group (comprised of parents, teachers, & administrators) selected the intervention from an array of evidence-based programs (such as those on the SESelect list)

- **Evaluation**: Ongoing – important to monitor how well the program is being implemented and how well it is working in the local context.
Part IV
How to Determine if an SEL Program is Working Locally
Implementation

- Integrity
  - Dosage (number and length of lessons)
  - Procedural Integrity (inclusion of required elements)
  - Quality (mastery practice)
  - Contextual Adaptation (intentional changes)

- Acceptability
  - Subjective views of the intervention among teachers, students, and other stakeholders
  - “Readiness to Change” concept
Formative Evaluation

- May focus on the implementation variables just described
- How many students are receiving the intervention?
- Are there any unintended consequences of the intervention (positive or negative)?
- Are changes needed to improve implementation?
Summative Evaluation

- Was the intervention successful in the local context?
- Did outcomes improve? (Need to clearly define and monitor target outcome variables before, during, and after the intervention)
- Are improvements attributable to the intervention? (May need a comparison group to know for sure)
Concluding Comments

- We know a lot about the effectiveness of universal SEL interventions.
- When selecting interventions for diverse contexts and students, we cannot rely solely on previous research to guarantee success.
- Implementation integrity includes contextual adaptation.
- Local evaluation efforts are always needed.