Socioemotional and Academic Connections: Successful PreK–3rd Transitions

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Overview

- Why is preK-3rd important? Setting the stage from national economic perspective
- How is preK quality defined?
  - The intersections between socioemotional and academic dimensions of learning
  - Brief “tour” of the Chicago School Readiness Project (CSRP)
- What are the implications for transition to 3rd?
Child and Family Poverty in the U.S.

Poverty associated with children’s lower academic achievement, higher grade retention, and higher risk for dropping out.

- Example: In Chicago, 86.50% of children eligible for free/reduced-priced lunch.
- More than 25% of Chicago’s 24,000 third graders were not able to pass their school district’s gated proficiency standards, and subsequently faced high levels of long-term educational risk (Roderick & Nagaoka, 2005).

Low-income children face higher risk of behavioral problems, lower levels of competence in getting along with teachers and peers (Bolger et al, 1995)

Gap at school entry: Reading scores for kindergartners from lowest SES group are 60% lower than those of students at the highest end (Burkham & Lee, 2002).
Is the solution to ask teachers to “teach more?”

- Cumulative poverty-related stressors (e.g. instability, family/community violence) -> children’s higher risk of withdrawal, disruptive behavior.

- Under-resourced classrooms in low-income communities are ill-equipped to cope with the emotional and behavioral needs of children facing high levels of risk (Dodge et al, 1999)
  - 16% of children in Head Start classrooms exhibited disruptive/unsafe behaviors, e.g. kicking, hitting and threatening at least once a day (Kuperschmidt, et al 2000).
  - Children’s disruptive behavior may limit not only their own but others’ opportunities for learning.

What is self-regulation?

- Regulation of emotion
  - Research tradition of “reactivity and regulation”

- Regulation of impulses– inhibitory control

- Working memory

- Research tradition of “executive function”
  - Memory, attention, and inhibitory control

- Preschool– Children expected to modulate distress in context of highly arousing and potentially stressful situations (e.g. conflict over toys, teacher expectation of compliance).
Policy professionals might be skeptical about the value of putting $ and time into socioemotional curricula (SEL). Is that skepticism justified?

- Yes!
- Children’s emotional and behavioral problems may not be the cause of academic difficulty. Perhaps children act out because they’re frustrated they can’t read.
- Do we have evidence that we can change children’s self-regulation skills? We need evidence that this is an area of children’s development that we can change.
- Solution: Experiments or “lottery” intervention studies: Random assignment of some preschool sites to receipt of “treatmen” targeting children’s emotional and behavioral regulation and other sites to “control group”
CSRPR - a remarkably collaborative effort between practitioners, researchers, administrative leaders

Current Staff & Support on CSRP:
PI: C. Cybele Raver
Co-:
  - Christine Li-Greene, Loyola U. / Chicago
  - Fuhua Zhai, Stony Brook U.
  - Stephanie M. Jones, Harvard U.
Research Staff:
  - Juliane Neuspiel, Research Assistant
  - Marian Tes, Project Coordinator
Graduate Student Interns:
  - Allison Friedman
  - Dana Charles
  - Gabriel Selman
  - Jessica Burdick

Previous Staff, Support & Agencies on CSRP:
Research Staff:
  - Amy Lowenstein
  - Bonnie Solomon
  - Brice Luette-Stahlman
  - Chevon Townsend
  - Emily Pressler
  - Kathleen Zadzora
  - Kina Smallwood Latriesse
  - Sandin Adji
  - Molly Metzger
  - Nicole Strayer
  - Paul Goyette
  - Rachel Pass
  - Rashah Smith-Donald
  - Ta-Tanisha Young Tiffany Hayes
  + 20 grad student assessors
Service Provision Staff
Support:
  - NICHD, NIH
  - McCormick Tribune Foundation
  - Spencer Foundation
  - W.T. Grant Foundation

Partnering Delegate Agencies:
  - Boys & Girls Club
  - Carole Robertson Early Learning Centers
  - Chicago Public Schools
  - CYC Rebecca Crown and Ida Mae Fletcher Centers
  - Department of Children, Youth Services
  - Hull House
  - Humbolt Park
  - Ounce of Prevention/Casa Central
  - South Shore United Methodist Center
  - YMCA

Integrative theoretical model of the role of children’s emotional and behavioral adjustment in predicting school readiness (Raver & Jones, 2003)
Research questions

How can policies and communities best support low-income children’s school success?

- Do children’s experiences in high quality early childhood settings such as Head Start provide academic and socioemotional benefits to low-income children in Chicago?
  - Short-run: Test whether children in treatment-assigned classrooms show
  - significantly improved lower behavior problems and higher self-regulation
  - significantly greater gains in pre-academic skills
  - than do children in control-assigned classrooms, in spring of Head Start year.

- Do children’s emotional and behavioral skills in early childhood provide additional benefit to their long-term academic success?

Overview of CSRP services

<table>
<thead>
<tr>
<th></th>
<th>Fall</th>
<th>Winter</th>
<th>Spring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher training + coaching</td>
<td></td>
<td>Stress reduction</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>1-on-1 for children with highest EBPs</td>
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</table>


Paired teacher-training with “coaching” by MHC in light of
a) concern for dosage
b) need for stress reduction

Direct “1-on-1” services by MHC. Children’s behavior problems - beyond the scope of teachers’ responsibility.
Selecting 18 sites (35 classrooms):
Balancing generalizability with feasibility

- Exclusion criteria
  - Neighborhoods < 400 HS-eligible children
  - Demolition of CHA housing & gentrification –
  - Communities experiencing < median levels of crime.
- 18 Sites, 90 teachers, 602 children enrolled in two cohorts
- Rates of parental consent for child participation ranged from 66.6% to 100% across all sites, Mean = 91%, SD = 6%

Sample

- 66% of families identified as African American/Black and the remaining families identified as Hispanic/Latina/o
- Families enrolled in CSRP reported monthly incomes of $1,168 on average (average income-to-needs = .67), with 67% supporting their families as single heads of household.
- Most parents were working, and many faced a range of serious poverty-related stressors.
- Teachers were also supporting families on low incomes and 1/3rd of teachers reported feelings of high levels of stress and low confidence in managing children’s behaviors in the classroom.
- Classroom quality at baseline was “adequate,” on average (Mean ECERS = 4.97), with substantial variability (SD = 0.77).
**Design**

Each Head Start site matched with another “sister” site on range of demographic characteristics of families, site characteristics indicating program capacity, etc. and then randomized to tx vs. control status.

<table>
<thead>
<tr>
<th>Services provided</th>
<th>Treatment – “Package A”</th>
<th>Control – “Package B”</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>30 hours of training offered. MHCs with a MSW spent 1 day a week in classroom, from Sept to May of school year.</td>
<td>Teacher’s assistant (1 day/week)</td>
</tr>
<tr>
<td>Sites</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>Classrm</td>
<td>18</td>
<td>18-1</td>
</tr>
</tbody>
</table>

NB: Originally funded for 10 sites—“hopelessly underpowered” (Cook, 2005). Boosted to 18 (expecting attrition of 1 pair) and included covariates. Best guess that ICCs were <.05

**Data Collection**

- Site level
  - 14 characteristics (e.g. % of teachers with BA) from PIR
- Classroom level
  - CLASS (La Paro & Pianta, 2004) (Sept, Jan, Mar, May) Classroom climate, teacher sensitivity, etc.
  - Teacher psychosocial characteristics (K-6, job stressors)
  - Classroom-level Covariates
    - Classroom quality, ECERS, structure
- Child level
  - Family interview (Fall baseline, Fall 1-year-followup)
  - Teacher report of internalizing and externalizing behavior problems (Sept, Jan, March, May)
  - Direct assessment (Sept, May)
  - Kindergarten follow up (teacher report, school record).
The Preschool Self-Regulation Assessment (PSRA)
Smith Donáis, Raver, Haynes & Richardson, 2007; Li-Grining & Raver (revise & resubmit); Raver et al (in press)

We embedded direct assessment of children’s self-regulation within a standardized battery that included vocabulary, letter-naming, & math

a) Executive functioning (pencil task, balance beam)

b) Compliance (“cool toys” clean up)

c) Effortful control (giftwrap/no peek + snack delay)

Plus—Yields ASSESSOR REPORT of attention/impulse control

Raver, Jones, Li-Grining, Zhai, Metzger & Solomon (2010). Journal of Consulting and Clinical Psychology
Aversive episode -> Heightened neg emotional arousal -> HPA axis (ACC)
Faulty recall + negative attribution (PFC)
Attention deployment (ACC)
Teacher response

Likely key to success: CSRP focus on teachers’ experiences of stress

Classroom stressor
Aversive episode
Personal + workplace stressors

Children escalate
Burnout

"teacher stressor cycle" of attributions of reduced efficacy, more emotional withdrawal

Raver, Blair & Li-Grining, 2012
Zhai, Raver, & Li-Grining, 2011.
Are these findings trustworthy?

- Replicate,... Foundations of Learning, Newark & Chicago
- Pamela Morris, PI with MDRC as lead

<table>
<thead>
<tr>
<th></th>
<th>CSRPM</th>
<th>FoLPilot</th>
<th>FOL Full-Scale</th>
<th>FOL Full-Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total # of Sites</td>
<td>18</td>
<td>17</td>
<td>51</td>
<td>20</td>
</tr>
<tr>
<td>Program/Control</td>
<td>9/9</td>
<td>9/8</td>
<td>26/25</td>
<td>10/10</td>
</tr>
<tr>
<td>Total # of Classrooms</td>
<td>36</td>
<td>17</td>
<td>51</td>
<td>40</td>
</tr>
</tbody>
</table>

FOL improved children’s levels of engagement, behavioral control

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Program Group Mean</th>
<th>Control Group Mean</th>
<th>Difference (Impact)</th>
<th>Standard Error</th>
<th>Effect Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Task orientation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Task engagement</td>
<td>4.87</td>
<td>4.62</td>
<td>0.25 *</td>
<td>0.14</td>
<td>0.31</td>
</tr>
<tr>
<td>Task self-reliance</td>
<td>3.08</td>
<td>3.14</td>
<td>-0.06</td>
<td>0.20</td>
<td>-0.07</td>
</tr>
<tr>
<td>Task behavior control</td>
<td>5.40</td>
<td>5.08</td>
<td>0.32 *</td>
<td>0.19</td>
<td>0.34</td>
</tr>
<tr>
<td>Overall classroom student engagement</td>
<td>5.75</td>
<td>5.19</td>
<td>0.55 *</td>
<td>0.28</td>
<td>0.60</td>
</tr>
<tr>
<td>Sample size - observed students</td>
<td>130</td>
<td>121</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sample size - teacher reported students</td>
<td>203</td>
<td>248</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sample size - classrooms</td>
<td>36</td>
<td>35</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Take-home messages of those intervention findings

- Support for model of the way that self-regulation is malleable and can be *shaped* by the environment (Blair, 2010; Blair & Raver, in press).

- When children’s self-regulation is targeted, at the level of targeted classroom context, children demonstrate substantial *emotional and academic* gains –
  - Vindication of Zigler’s emphasis on “whole child”

- Caution: No “silver bullet” to solve the problems of poverty
  - *Optimistic hypothesis*: children will be better able to capitalize on future opportunities for learning in early elementary years.
  - *A less optimistic hypothesis*: gains will be sustained only as long as children continue to have access to high quality classroom practices.

What happens when children go to elementary school?

- What represent “fair expectations” for long-term impact?
  - What are children facing, besides Δ in preschool quality?

Children are exposed to “2nd treatment” of higher vs. lower school quality

Legend:

- High % Poverty
- Medium % Poverty
- Low % Poverty
SR in the context of K school quality

<table>
<thead>
<tr>
<th></th>
<th>High-quality schools</th>
<th>Low-quality schools</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>C-180*</td>
<td>C-180*</td>
</tr>
<tr>
<td></td>
<td>Interacting</td>
<td>Estimating</td>
</tr>
<tr>
<td>Treatment</td>
<td>-2.29</td>
<td>-0.34**</td>
</tr>
<tr>
<td></td>
<td>(1.77)</td>
<td>(1.06)</td>
</tr>
<tr>
<td></td>
<td>(2.26)</td>
<td>(3.39)</td>
</tr>
<tr>
<td>Child Covariates at Baseline</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boy</td>
<td>1.71</td>
<td>1.34</td>
</tr>
<tr>
<td></td>
<td>(2.28)</td>
<td>(2.36)</td>
</tr>
<tr>
<td></td>
<td>(2.13)</td>
<td>(2.24)</td>
</tr>
<tr>
<td></td>
<td>-1.62</td>
<td>3.45</td>
</tr>
<tr>
<td></td>
<td>(2.39)</td>
<td>(3.10)</td>
</tr>
<tr>
<td></td>
<td>(0.12)</td>
<td>(0.24)</td>
</tr>
<tr>
<td>Age</td>
<td>-0.03</td>
<td>0.10</td>
</tr>
<tr>
<td></td>
<td>(2.1)</td>
<td>(0.12)</td>
</tr>
<tr>
<td></td>
<td>(0.09)</td>
<td>(0.24)</td>
</tr>
<tr>
<td>Non-Hispanic black</td>
<td>-1.43</td>
<td>0.50</td>
</tr>
<tr>
<td></td>
<td>(3.36)</td>
<td>(2.08)</td>
</tr>
<tr>
<td></td>
<td>(0.91)</td>
<td>(4.80)</td>
</tr>
<tr>
<td>Pretreatment score</td>
<td>0.63**</td>
<td>0.65**</td>
</tr>
<tr>
<td></td>
<td>(0.29)</td>
<td>(0.17)</td>
</tr>
<tr>
<td></td>
<td>(0.26)</td>
<td>(0.27)</td>
</tr>
<tr>
<td>Mother Covariates at Baseline</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mother was married</td>
<td>-2.88</td>
<td>-3.77</td>
</tr>
<tr>
<td></td>
<td>(2.94)</td>
<td>(3.38)</td>
</tr>
<tr>
<td></td>
<td>(2.86)</td>
<td>(3.32)</td>
</tr>
<tr>
<td>Less than high school education</td>
<td>-0.03*</td>
<td>-0.80</td>
</tr>
<tr>
<td></td>
<td>(2.91)</td>
<td>(6.41)</td>
</tr>
<tr>
<td></td>
<td>(2.17)</td>
<td>(2.40)</td>
</tr>
<tr>
<td>Working 10 hours or less per week</td>
<td>1.05*</td>
<td>4.55*</td>
</tr>
<tr>
<td></td>
<td>(1.65)</td>
<td>(2.71)</td>
</tr>
<tr>
<td></td>
<td>(1.61)</td>
<td>(3.49)</td>
</tr>
<tr>
<td>Income below 50% poverty line</td>
<td>-1.35</td>
<td>-0.30</td>
</tr>
<tr>
<td></td>
<td>(1.96)</td>
<td>(3.91)</td>
</tr>
<tr>
<td></td>
<td>(1.39)</td>
<td>(3.27)</td>
</tr>
</tbody>
</table>

Overall, the effects of CSRP on self-reg and school readiness in K are null

Where “school quality” = the % of students meeting or exceeding state standards on the ISAT within that school.

Current work and new directions

- Through innovative partnership with Chicago Public Schools, we have been able to follow up with 80% of CSRP children
  - 1st, 3rd, and 5th grade
- Some children are emerging with strong profiles of academic success, civic engagement,
- while other children are showing profiles of serious emotional and behavioral difficulty
- We are paying close attention to:
  - Role of SEL curriculum in elementary school
  - Role of supportive/positive school climate, as rated by CPS middle school students
  - Role of exposure to community violence
- High quality preschool, alone, is not likely to be strong predictor given these other factors.
Expanding perspectives from classroom quality to school quality

- Children enter much larger “ecologies” in k-3rd.
- Can schools be understood as buffers to children’s experiences of stress at home?
- How is children’s learning supported in schools that are emotionally less positive?

What is School Climate and How is it Measured?

- School climate is defined as the “personality” or “character” of school life (Anderson, 1982; Cohen, McCabe, Michelli, & Pickeral, 2009)
- It includes:
  - norms, beliefs, and expectations held by teachers, students, and other school staff (Brookover et al., 1978)
  - interpersonal relationships within the school (Haynes, Emmons, & Ben-Avie, 1997)
- Traditionally, measures of school climate have relied on aggregates of individual students’ or teachers’ perceptions of the school environment

Capitalizing on Chicago Student Connection Surveys:
In 2009, 17% of CPS middle school students reported that they did not feel physically safe (problems with fights, theft, or vandalism)
and/or did not feel emotionally safe (often teased, bullied, harassed).
Items included wanting to stay home, wanting to change schools due to not feeling safe at school.
A separate body of literature has examined links between teacher-student relationships and students’ academic outcomes.

The quality of the teacher-child relationship is predictive of students’ subsequent academic achievement (Burchinal, Peisner-Feinberg, Pianta, & Howes, 2002; Hamre & Pianta, 2001).

Teacher ratings of elementary-school children’s academic skills were higher when they reported more closeness and less conflict with the child (Planta & Stuhlman, 2004).

Putting it all together: Classroom and school climate matter for learning in Kindergarten.

Interaction significant at p < .10

Lowenstein, Friedman, Raver & Pess, 2012
Concluding comments

- Preschool quality makes a significant, clear difference in getting young children emotionally and academically ready for school.

- Investing in executive function and self-regulation clearly leads to short-term academic gains.

- Is it worth it to put the time and effort into pre-K if those gains are lost, the following year? Investment needs to be sustained across transition to K-3\textsuperscript{rd}.

Concluding comments

- Investments in SEL in K-3\textsuperscript{rd} have recently yielded impressive results for academic gains
  - Brown, Jones & Aber’s findings from 4Rs program

- Investments in quality can be made in academic domains at pre-K through 3\textsuperscript{rd} grade, but \textit{not at expense} of emotional climate, socioemotional development.
Thanks!

For more information, google “CSRP” and “Raver” – all papers are online, through NYU website.