Let’s Talk:

System Design: Applying 21st Century Science to Improve Outcomes for Children

June 10, 2019

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System Design: Applying 21st Century Science to Improve Outcomes for Children

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Let’s Talk Webinar Series
June 10, 2019
Advances in Science Are Revealing the Underlying Causes of Disparities in Learning, Health, and Development

Supportive Experiences
- Effective learning, adaptive behavior, lifelong health and well-being

Parents

Genes

Negative Experiences
- School failure, risky behaviors, chronic illness, and shorter lifespan

Parents

Genes

Negative Experiences
Resilience Can Be Strengthened by Supportive Relationships and Skill-Building

- Supportive community services
- Responsive relationships
- Increasing sense of mastery
- Faith and cultural traditions

Strengthening active skills

Center on the Developing Child, Harvard University
3 Principles: A Lens on How to Improve Outcomes for Children and Families

- Reduce Sources of Stress
- Strengthen Core Life Skills
- Build Responsive Relationships

Children
Healthy Development & Educational Achievement

Adults
Responsive Caregiving & Economic Stability

Center on the Developing Child
HARVARD UNIVERSITY
The Neuroscience of Relationships: Experiences Shape Brain Architecture
Instability Disrupts the Stress Response System — But Relationships Reverse the Effect

Why These Three Principles?

For children:
• promotes healthy development of brain architecture, biological stress response, attachment & social-emotional skills
• provides buffering needed to prevent even very challenging experiences from producing a toxic stress response

For adults:
• provides practical and emotional support
• helps build hope and confidence
• models relationship skills
• reduces stress
Executive function and self-regulation are a foundational set of capabilities that help us:

- focus and sustain attention
- set goals, make plans, and monitor actions
- make decisions and solve problems
- follow rules, control impulses, and delay gratification

Affected by stress, but can be strengthened through modeling and practice!
Executive Function Skills Develop Most Rapidly During Early Childhood and Continue into Adulthood

Weintraub, et al. (2011)
Why These Three Principles?

For children:
- Support educational & social success
- Resist decisions that risk health

For adults:
- Needed to thrive in the workplace
- Better able to provide responsive care
- Better able to maintain predictable, safe, supportive home environment

For both:
- Promote agency, belief in self
- Better able to manage stress

Strengthen Core Life Skills
How Excessive Stress Affects the Development and Use of Core Capabilities
Toxic Stress Can Weaken Developing Brain Architecture

**POSITIVE**
Brief increases in heart rate, mild elevations in stress hormone levels.

**TOLERABLE**
Serious, temporary stress responses, buffered by supportive relationships.

**TOXIC**
Prolonged activation of stress response systems in the absence of protective relationships.
Why These Three Principles?

For children:
• Encounter fewer and briefer situations that trigger an extreme stress response
• Directly promotes brain development, health, and well-being

For adults:
• Open up “bandwidth” to promote the healthy development of children
• Enable more effective problem-solving, planning, and goal achievement
• More opportunities for responsive caregiving
Questions?
Applying Science-Based Design Principles to Help You Not Just Change Systems—But Change Lives

- Systems, programs, and practice create conditions and life experiences that get under the skin.
- Use these principles as your “north star” to guide program improvement.
- Focus on these principles as targets on the pathway to the child and family outcomes you ultimately want to achieve.
Moving from Thinking to Doing: 4 Ways to Apply the Principles

1. **Problem identification**: How are current programs/systems working toward or against these principles?

2. **Solution generation**: How might we... do X in a way that better supports these principles?

3. **Systems alignment**: How might we use these principles as common language and goals to support cross-agency collaboration?

4. **Impact design**: Can you assess the effects that aligning policy and practice with these principles has on child and family outcomes?
Does your unit of focus...

**Build Responsive Relationships**
Consider:
- Adult caregiver to child
- Adult to adult
- Professional to family caregiver
- Professional to child

**Strengthen Core Life Skills**
(both children and adults):
- Planning skills
- Goal setting skills
- Self-control strategies
- Stress management strategies

**Reduce Sources of Stress**
Consider:
- Awareness of family stressors
- Reducing staff stress
- Partnerships with other entities that provide services and/or basic needs

...**align with** each principle? How?

...**work against** each principle? How?

**Unit of Focus:** _______________________________________________________________________________
Selecting Your Unit of Focus

Needs to be:
- Neither too wide nor too narrow
- Something you could change with policy or practice adaptations
- Something you are excited about!
Case Study #1 Problem Identification
The Liberty Bell Early Learning Center

Subsidized early care and education program in Philadelphia that offers family engagement activities using a case management model.

- parenting program that helps adult caregivers learn about using play as a mechanism for serve and return.
- support adult caregivers set goals and track progress during monthly check in meetings.

But...constructive dissatisfaction

- Parent interviews guided by the 3 science design principles
- Staff interviews to gather their observations about the program's ability to support parents, again using the 3 science design principles
- Program leadership and direct service staff used the 3Ps matrix to identify areas ripe for adaption.
Applying the Principles:

How Does the Unit of Focus Support (or Not) the 3 Science Principles?

Family Engagement Program at Liberty Bell Early Education Center

- Partnership with local Families First program to offer workshops on using play to do serve and return.

- Case managers support families as they set goals and monitor progress toward them.

- Parents report high levels of stress, with management of daily routines being a pain point.
Case study #2: Impact Design
Assessing RFP Respondents for Alignment with the 3Ps

Children’s Home Society of America: providers of family services to large number of vulnerable children/families in US

- Used Matrix to identify a problem to be solved, discovered that they wanted to strengthen core life skills
- Open RFP, received 19 responses
- Identifying the ‘biggest bang for the buck’ but using Matrix to look for alignment across other two principles
## Applying the Principles:

### Fathers4Fun

<table>
<thead>
<tr>
<th>Build Resilient Relationships</th>
<th>Strengthen Core Life Skills</th>
<th>Reduce Tension of Stress</th>
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<tbody>
<tr>
<td>- Adult caregiver to child</td>
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<table>
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<tr>
<th>Problem with each principle?</th>
<th>Solution with each principle?</th>
<th>Potential</th>
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<tbody>
<tr>
<td>- align with each principle? Input?</td>
<td>Match fathers with a life coach to provide information on SMART goal setting and support them in setting a fatherhood goal.</td>
<td>Facilitated peer groups to build social networks among fathers</td>
</tr>
<tr>
<td>- work against each principle? Input?</td>
<td>Provide fathers with information on serve and return and child brain development.</td>
<td>Potential to increase father's stress levels</td>
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</tbody>
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Center on the Developing Child, Harvard University
Moving from Thinking to Doing: 4 Ways to Apply the Principles

1. **Problem identification**: How are current programs/systems working *toward* or *against* these principles?

2. **Solution generation**: *How might we...* do X in a way that better supports these principles?

3. **Systems alignment**: Using these principles as common language and goals for specific cross-agency collaboration.

4. **Impact design**: Can you assess the effects that aligning policy and practice with these principles has on *child and family outcomes*?
What You Can Do Next

• Use the Matrix: Unpack and challenge assumptions
• Explain your Matrix to a diverse set of key stakeholders & get further insights about its value
• Share your 3 Principles or Matrix impact story with us by contacting: developingchild@harvard.edu
• Visit www.developingchild.harvard.edu to learn more about the 3 principles and the IDEAS framework for science-based innovation
• Request a facilitated workshop or individual/team consultation around impact design or impact evaluation
www.developingchild.harvard.edu

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