PLAY IT HIGH, PLAY IT LOW: EXAMINING THE RELIABILITY AND VALIDITY OF A NEW OBSERVATION TOOL TO MEASURE CHILDREN’S PLAY
SELF-REGULATION IS A PROBLEM IN TODAY’S CLASSROOMS

- Growing levels of aggression and oppositional behavior have been found in day care and Head Start (up to 1/3 of the class)

- Preschool teachers report that behavioral problems are their greatest challenge in the classroom

- Kindergarten teachers report that less than 50% of their children start school with self-regulation
Experiences related to development of self-regulation:

1. Being regulated by another person
2. Regulating other people (other-regulation)
3. Self-regulation
PROVIDING EXPERIENCES TO DEVELOP SELF-REGULATION

- Mature play combines all 3 kinds of experience!
VYGOTSKY’S DEFINITION OF PLAY

Children:
- Create an imaginary situation
- Take on and act out roles
- Follow a set of rules determined by specific roles
WHY THE NEED FOR A PLAY ASSESSMENT

- Not All Play is Created Equal
  - Only mature make-believe play fosters the development of self-regulation
  - Play that exists in many of today’s classrooms does not fit the definition of mature play
Play does not start as mature play, but develops into mature play with guidance and support from the teacher.
# MATURE VS. IMMATURE PLAY

<table>
<thead>
<tr>
<th>Mature Play</th>
<th>Immature Play</th>
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<tbody>
<tr>
<td>Children invent props to fit their roles</td>
<td>Children use realistic props only</td>
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<td>Children solve disputes by inventing props</td>
<td>Children fight and argue over props</td>
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<td>Children talk about play before playing</td>
<td>No attempts to use imagination</td>
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<td>Children play roles that have specific characteristics or rules for action</td>
<td>Pretend actions are repetitive and stereotypical</td>
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<td>Children may play several roles at once, changing their language and actions to indicate a new role</td>
<td>Play actions imitate isolated everyday actions</td>
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<td>Play scenarios may extend over days</td>
<td>Children play in a solitary or a parallel manner</td>
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<td>Play episodes are short</td>
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CURRENT MEASURES OF PLAY

- No existing single measure captures all of the key elements of mature play as defined by Vygotskian theory.

- Many play measures are not conducted in an authentic context (e.g., teacher completes measure, child plays alone or with assessor outside of the classroom).

- No other measures of preschoolers’ play exist that take into consideration both child and teacher dimensions.
<table>
<thead>
<tr>
<th>Measure</th>
<th>Age (mo.)</th>
<th>Setting/Play Partner</th>
<th>Social Constructs</th>
<th>Cognitive Constructs</th>
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<tbody>
<tr>
<td>Smilansky Scale (1968/1990)</td>
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<td>Interaction - With others (4 levels)</td>
<td>Persistent - Communication (4 levels)</td>
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<td>Make believe (4 levels)</td>
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<td></td>
<td>Imitative (4 levels)</td>
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<td></td>
<td>In roles (4 levels)</td>
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<td>Symbolic Play Test (1976)</td>
<td>12-36</td>
<td>Play room/Assessor</td>
<td>Symbolic reasoning using realistic objects</td>
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<tr>
<td>Howes Peer Play Scale (1980)</td>
<td>18-43</td>
<td>Class/Peers</td>
<td>Parallel - Parallel aware</td>
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<td></td>
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<td>Simple social - Complementary and reciprocal</td>
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<td>Play Observation Scale (1989)</td>
<td>24-72</td>
<td>Class/Peers</td>
<td>Solitary - Functional</td>
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<td>Parallel - Dramatic</td>
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<td>Group - Games w/rules</td>
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<tr>
<td>Transdisciplinary Play-Based Assessment (1992)</td>
<td>0-72</td>
<td>Class/peers or assessor</td>
<td>Interaction - Exploratory through games with rules (no distinct levels)</td>
<td>Attention span - Language use</td>
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<tr>
<td>Penn Interactive Peer Play Scale (1995)</td>
<td>60-85</td>
<td>Teacher recall survey</td>
<td>Interaction - Self with everyday objects</td>
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<td>Disruption - Toy &amp; non-representational materials</td>
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<td>Disconnection - Representational toy alone</td>
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<td>-Self alone</td>
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<td>Test of Pretend Play (1997)</td>
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<td>Apart from class/Assesor</td>
<td>Self with everyday objects</td>
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<td>Self alone</td>
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<td>PLAY (1999)</td>
<td>36-60</td>
<td>Class/Peers</td>
<td>Solitary - Functional</td>
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<td>Parallel - Constructive</td>
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<td>Associative - Dramatic</td>
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<td>Cooperative - Games w/rules</td>
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<tr>
<td>Child-Initiated Pretend Play Assessment (2000)</td>
<td>36-84</td>
<td>Apart from class/Assessor</td>
<td>Object substitutions</td>
<td>Imitated actions - Elaborate pretend play actions</td>
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<tr>
<td>Play In Early Childhood Evaluation System (2005)</td>
<td>19-52</td>
<td>Play room/Assessor</td>
<td>Exploratory through sequenced pretend play (13 levels)</td>
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RESEARCH QUESTIONS

1) Is the Mature Play Observation Tool (MPOT) a valid and reliable measure of play and

2) Do the benefits of play depend on the level of “maturity” of play itself?
The MPOT was developed for use in a Goal 3 efficacy study, cluster randomized trial to assess implementation of a play-based instructional approach in public preschool and child development center classrooms.

The measure was administered in both treatment and control conditions.
SETTING AND SAMPLE

- 84 early childhood (4-year-old) classrooms
- 826 children.
- Randomly assigned to one of three conditions across three large school districts
  - Mixed urbanicity
  - High diversity of language, ethnicity, race, and SES.
Measures specific behaviors and components that define mature play, including both teacher and child dimensions,

- Detailed and leveled items to provide a systematic means for observing the complexities of mature play.
- Low-inference, anchored with specific instructional behaviors and characteristics and comprising three principal domains:
  - Presence of play routine components
  - Children’s behaviors,
  - Teacher’s behaviors.
DIMENSIONS

Child:
- 1.1 Child-created props
- 1.2 Child meta-play
- 1.3 Child interactions
- 1.4 Children’s role playing
- 1.5 Child role speech and communication during play

Teacher:
- 2.1 Center Management
- 2.2 Make-Believe Play Time
- 2.3 Teacher Intervention
Training - video and still photographs, live practice in classrooms, and live reliability practice.

Observations were conducted by independent observers in all study classrooms at three time points:

- baseline (fall of the first year of implementation)
- spring of the first year of implementation
- spring of the second year of implementation.
**MEASURES**

- **Child**
  - Self-regulation
    - Head-Toes-Knees-Shoulders (HTKS)
    - Pencil Tap
    - Forward and Backward Digit Spans
  - Expressive Language
    - Renfrew Bus Story

- Desired Results Developmental Profile (DRDP)
  - Cognitive, Language and Literacy, Social Skills Development

- **Classroom**
  - Classroom Assessment Scoring System (CLASS)
Children receiving a combination math and self-regulation intervention (BBSR) showed higher scores on the MPOT than children in a control group.

The MPOT demonstrated high internal reliability, $\alpha = .91$
Significant Positive Correlations
  - Child and Teacher Dimensions with
    - CLASS: Emotional Support, Classroom Organization, and Instructional Support

Classrooms with higher scores on child play and teacher support of play had higher scores on all three CLASS Domains.
EXPLORATORY ANALYSES: PLAY AND CHILD OUTCOMES

- **Self-regulation Measures**
  - Significant positive correlations Child AND Teacher Dimensions
    - Head, Toes, Knees, Shoulders
    - Pencil Tap
    - Backward Digit score

- No significant correlations with Renfrew Bus Story, measure of expressive language.

- **Desired Results Developmental Profile (DRDP)**
  - Child Dimension and Teacher Dimensions significantly positively correlated Cognitive, Language and Literacy, Social Skills Development
Lillard and colleagues (2013) call for valid and reliable methods to assess play in order to better ascertain the causal relation between play and child outcomes and specifically what components of play may be most important.

The MPOT was found to be a valid and reliable measure to assess play.

Exploratory analyses suggest higher levels of play as measured by the MPOT are related to child outcomes.

The MPOT is currently being used in multiple efficacy trials, and preliminary results are promising for demonstrating the relationship of play components to child outcomes and classroom quality.