Behavioral Regulation and Children's Early Academic Skills

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INTRODUCTION

- Behavioral regulation has long been identified as an essential area of interest in education due to the facilitative role regulation can have on achieving academic potential (Duckworth & Seligman, 2005).
- Recent research provides further evidence that developing behavioral regulation skills can even contribute to children's early academic outcomes (Seltman, McClelland, Acocla, & Morrison, 2010).
- With this focus on behavioral regulation, a number of studies have shown basic individual characteristics, such as gender, can be associated with deficits in regulatory skills, with boys exhibiting less behavioral control than girls (Posnitz, Rimme-Kaufman, Brock, & Nathanson, 2009).
- The goal of the current project is to assess the degree to which task orientation, behavioral control and gender relate to the development of children's early academic skills in preschool.

METHODS

Participants

<table>
<thead>
<tr>
<th>Child Characteristics</th>
<th>n</th>
<th>%</th>
<th>M</th>
<th>SD</th>
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<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Boy</td>
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<tr>
<td>Girl</td>
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<tr>
<td>Other</td>
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<tr>
<td>Age (Years)</td>
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<td>12</td>
<td>3</td>
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</table>

Family Characteristics

| Family Income          | $36883 | $30465 |
|                       | 12.92  | 3.13   |

Procedure

- Participants were observed in the Fall and Spring of preschool using inCLASS. Direct assessments of math and verbal competency were also gathered to measure children's academic growth. These included:

  - Peabody Picture Vocabulary Test (PPVT; Dunn & Dunn, 1997)
  - Naming Letters: children were asked to name as many letters as they could nominate
  - Naming Numbers: children were asked to name as many numbers as they could nominate
  - Counting: children were asked to count numbered bears, up to the thirtieth bear
  - Teachers reported classroom characteristics, their assessments of their students' task-oriented competence in addition to feedback on children's language and literacy skills.

RESULTS

Individualized Classroom Assessment Scoring System

- inCLASS is a system for observing and assessing children's interactions with teachers, peers, and tasks in the classroom. It describes multiple dimensions of a child's behavior and within-classroom interactions.
- Observations using inCLASS cover 3 major domains (Teacher Interactions, Peer Interactions and Task Orientation) and each domain contains 3 to 4 indicators.
- In our study, observed Task Orientation was used as our direct measure of behavioral regulation.

Gender Comparisons of Task Orientation from Fall Observations

- Girls consistently received higher ratings than boys in all indicators of Task Orientation. In addition, boys were observed as exhibiting significantly less Behavior Control compared to girls (t(297) = 2.24, p < .05). Despite this, boys' domain scores were only marginally lower than girls' scores (t(297) = 1.82, p < .10).

- Hierarchical linear modeling showed that the gender of students was significantly related to children's Language and Literacy gains as well as vocabulary (PPVT) gains. In addition, inCLASS Task Orientation was significantly related to children's gains in counting skills.

- Boys with higher task orientation exhibited the greatest gains in counting. Boys with higher task orientation experienced higher gains in counting when higher levels of task orientation were observed.

CONCLUSION

- Consistent with previous findings, boys tended to exhibit less behavioral control than girls. Boys had lower Task Orientation scores than girls, though this difference was only marginally significant. Gender was also significantly related to children's vocabulary gains in both HLM models.
- Observer-rated inCLASS Task Orientation was significantly related to children's gains in counting skills. In addition, there was a significant interaction between Observer-rated Task Orientation and Gender in relation to children's counting gains. Boys with higher task orientation exhibited the greatest gains in counting.
- Teacher-rated Task Orientation was significantly related to children's gains in language and literacy.
- These findings affirm the need for multiple, varied measures of task orientation in future research.
- Furthermore, since it has been documented that aspects of classroom environments, like organization, can influence behavioral regulation and academic outcomes (Rimm-Kaufman, Curby, Grimm, Nathanson, & Brock, 2009), gathering measures of classroom quality in future research may help identify and increase our understanding of these relations and interactions.

REFERENCES


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