Project Title:
Fighting Bias with Statistics: Detecting Gender Differences in Responses to Items on a Preschool Science Assessment

Mentor:
Daryl Greenfield, Ph.D.

Project Funding Years:
2008-2010

University Affiliation:
University of Miami

Project Abstract:
The University of Miami, as part of a larger study, will develop a direct assessment of preschool science which can be used to measure science content and process skills among preschoolers. The assessment will evaluate interventions in classrooms serving Head Start children. Specifically, the goal of this study is to study the gender differences in answer choices on assessment items. The study has two objectives: (a) to address whether items are measuring science skills differently for either male or female children; and (b) to qualitatively evaluate items to address possible reasons for gender differences in answer selection. Expected results of the study will provide a measure of preschool science that is fair to both boys and girls for use in future studies. The project will help disseminate information on a relatively accessible method for detecting item bias that other researchers can use in their validation of measures created for Head Start, or other preschool settings.

Sample:

500 Head Start Children

Measures:

Author developed measure to evaluate science knowledge gained in Head Start interventions

Virginia Vitiello, M.S.

Project Title:
Executive Functions and Approaches to Learning: Relationships to School Readiness in Head Start Preschoolers

Mentor:
Daryl Greenfield, Ph.D.

Project Funding Years:
2008-2009

University Affiliation:
University of Miami

Project Abstract:
The University of Miami will determine whether the effects of executive functions on school readiness are mediated by approaches to learning in Head Start preschoolers. Specifically, the study will seek to address two main questions: (a) Are executive functions related to approaches to learning? and (b) Do approaches to learning mediate the relation between executive functions and school readiness? As part of a larger study, data were collected during the 2007-2008 school year on 150 ethnically diverse four-year-old Head Start children. School readiness measures were collected at the end of the school year to assess how executive functions and approaches to learning affect gains across the school year. Children were given six tests of executive functions, producing scores for cognitive inhibition, cognitive flexibility, and working memory. It is expected that the results of the study will contribute to the understanding of executive functions and approaches to learning and how these constructs jointly affect school readiness in Head Start children.

Sample:

150 Four-Year-Old Head Start Children

Measures:

Children:

Blair and Willoughby (2006) – Battery of tasks to assess executive functions

Spatial Conflict

Operation Span (working memory)

Something's the Same (cognitive flexibility)

Silly Sounds Game (cognitive inhibition)

Pick the Picture Game (working memory)

The Pig Game (cognitive inhibition)

Classroom Assessment Scoring System-Child Version (CLASS-C)

Learning Express

Peabody Picture Vocabulary Test-III (PPVT-III)

Teacher:

Preschool Learning Behaviors Scale (PLBS)