

G. Duncan, A. Claessens, A. Huston, L. Pagani, M. Engel, H. Sexton, C. Dowsett, K. Magnuson, P. Klebanov, L. Feinstein, J. Brooks-Gunn, K. Duckworth. (2007). School readiness and later achievement. *Developmental Psychology*, 43, 1428-46.

Current debate on best preparation for school – academic skills vs. socio-emotional competence. Current study tests question of which best predicts later school achievement. Goal to identify attention (e.g. persistence, self-regulation), academic (e.g. literacy, math), socio-emotional skills (e.g. outgoing, aggression) that influence academic success.

Investigators will examine data from six large-scale longitudinal studies – unprecedented in scope. Looked at several predictor variables and achievement outcomes, controlling for extensive set of child, family and environmental influences. Outcome measures include teacher ratings, test scores, and grade retention in early elementary school and middle childhood. Consider effects of gender and SES on relationships. Includes US, British and Canadian samples.

- National Longitudinal Survey of Youth: began at birth in 1986, data through age 13-14
- Early Childhood Longitudinal Study – Kindergarten Cohort: 21,260 children in K 1998-9, data through third grade
- NICHD Study of Early Child Care and Youth Development: births in 1991, data through third grade.
- Infant Health and Development Program: designed to evaluate early intervention program for premature babies, enter at birth, data through age 8.
- Montreal Longitudinal-Experimental Preschool Study: enroll at 4-5 years, follow through 3 grade
- 1970 British Birth Cohort Study: enroll at birth in 1970, data through 10 years.

Used several attention, socio-emotional and academic predictors of later math and reading achievement.

- Early math included skills like knowledge of numbers and ordinality
- Language/reading included skills like vocabulary, knowing letters, words and word sounds

Meta-analysis shows that:

- Only 3 school-entry measures predict later reading and math skills: reading/language, math and attention.
- Rudimentary mathematics skills matter the most, with association of reading skill with later achievement less than half as large and the association of attention measures less than one quarter the size.
- Behavior problems and social skills are not related to later achievement.
- Teacher reports and test outcome measurements perform the same in predictive relationships.
- “Early math skills are as predictive of later reading achievement as are early reading skills.”
- Early math predicts later math more strongly than early does reading.
- Attentional skills predict math and reading outcomes equally well.