

# Pathways of Effects of Early Childhood Intervention on Educational Attainment and Delinquency

Arthur J. Reynolds

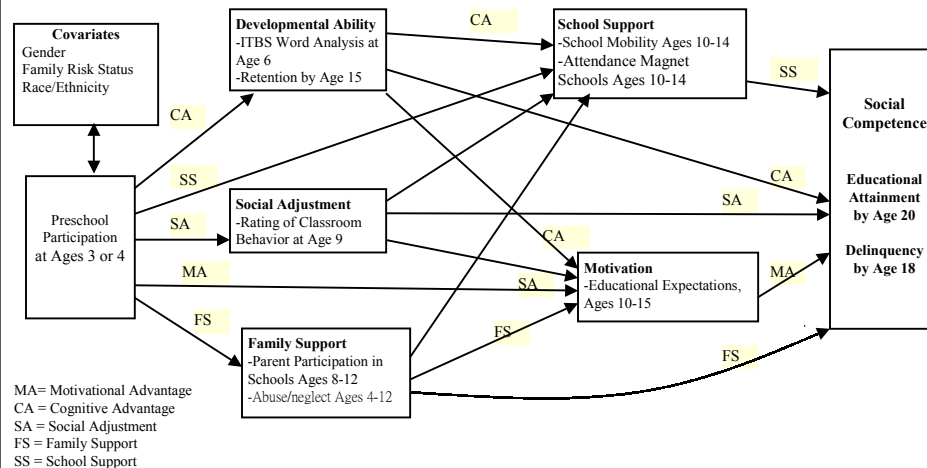
Suh-Ruu Ou

James D. Topitzes

## Research Questions

- Examined together, which hypotheses contribute most to the mediation of the effect of preschool on educational attainment?
- Do the hypotheses that explain the mediation of educational attainment best explain the relationship between preschool participation and lower rates of delinquency?

## Conceptual Framework of mediation Model



## Measures

- **Educational Attainment**
  - High school completion by September 2000 (N=1,286)
- **Delinquency**
  - Any official court delinquency petition filed by age 18 (N=1,404)
- **Preschool Participation**
- **Covariates**
  - Gender
  - Black
  - Family Risk Index
    - Single-parent family status
    - Parent were unemployed
    - Attendance area in which 60% or more of children reside in low-income families
    - Eligibility for a subsidized lunch
    - Parent not high school graduated
    - Four or more children in the household

## Mediators of Intervening effects

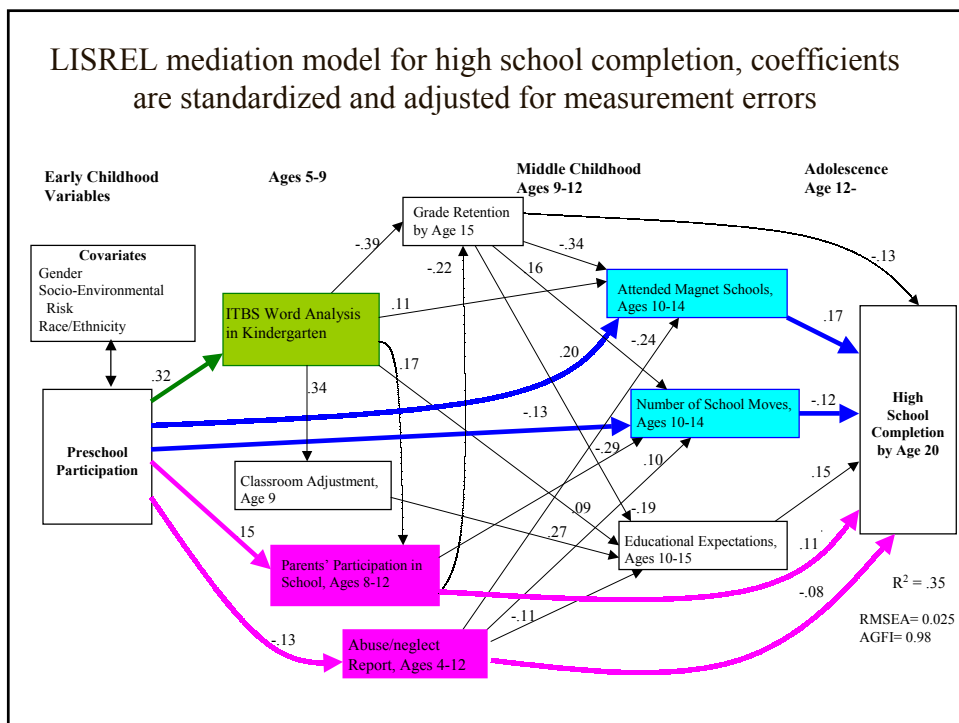
- **Cognitive Advantage**
  - ITBS word analysis score at age 6
- **Family Support**
  - Teacher and parents' rating of parent involvement in school through age 12
  - Any abuse or neglect petition from ages 4 to 12
- **Social Adjustment**
  - Teachers' rating of classroom adjustment at age 9
- **Motivation**
  - Students' report of whether expect to go to college at age 10 to 15
- **School Support**
  - Number of years attendance in magnet schools from ages 10 to 14
  - Number of school moves from ages 10 to 14
- **Retention**
  - Ever retained between kindergarten and eighth grade

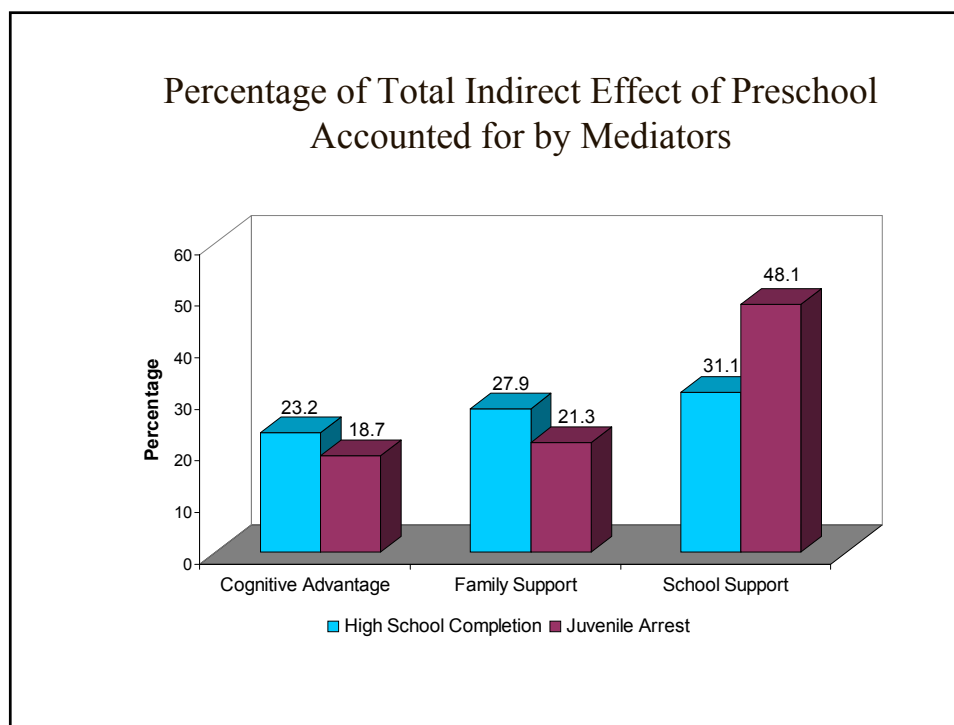
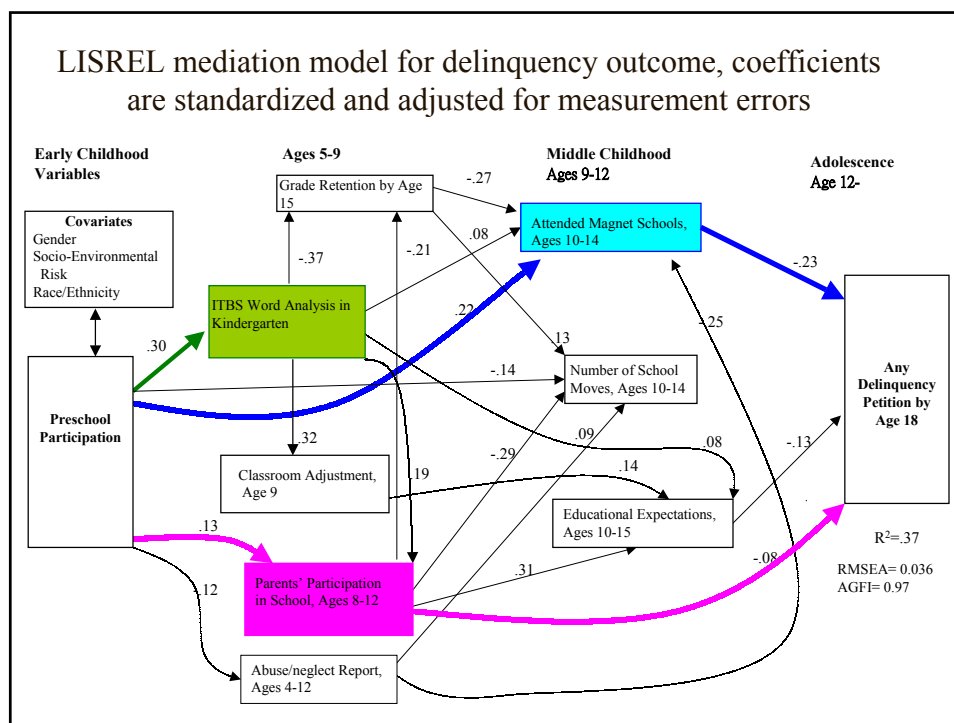
## Data Analysis

- Structural equation modeling program LISREL was used to investigate the pathways and contributions of the five hypotheses to the explanation of program effects.

# Results

LISREL mediation model for high school completion, coefficients are standardized and adjusted for measurement errors



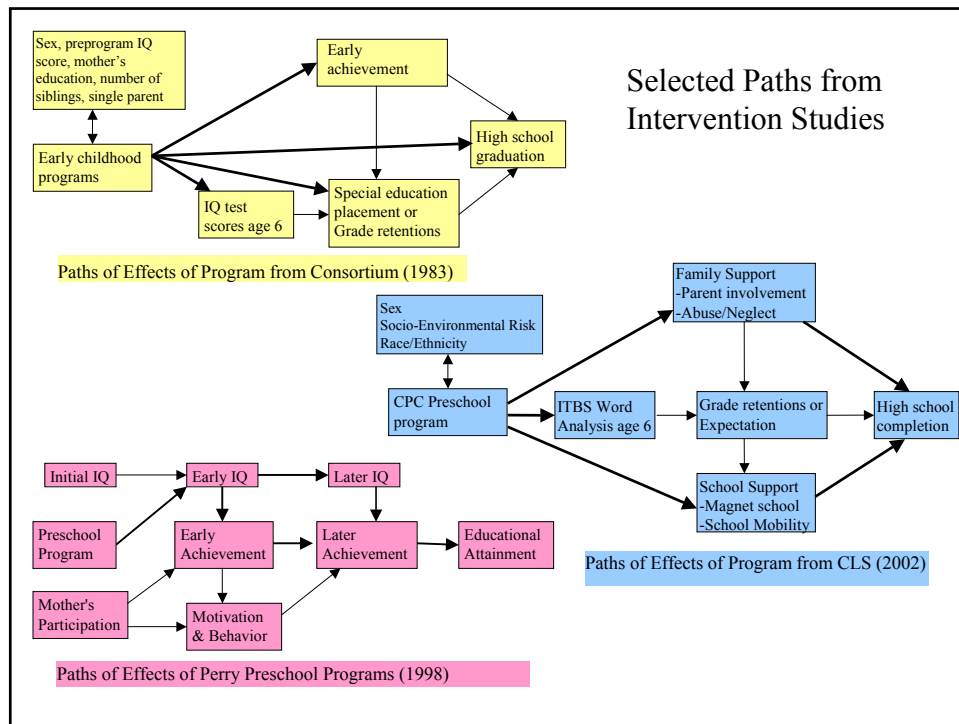


## Summary of Findings

- Cognitive advantage, family support, and school support hypotheses significantly mediated the effect of preschool participation on educational attainment.
- The three hypotheses also explained the relationship between preschool participation and lower rates of delinquency.

## Limitations

- The results are correlational.
- Indicators of some of the intervention hypotheses were defined narrowly.
- Other alterable predictors of educational attainment and delinquency were not included.



## Implications

- Long-term effects of intervention are more likely to occur if family and school experiences after the end of intervention are of sufficient quality.
- Improvements in the quality of elementary schools are likely to encourage the transmission of long-term effects of early intervention.
- Family support hypothesis
- Cognitive advantage is indirectly mediated the effect of preschool participation on educational attainment and delinquency.