



Educational Attainment in the Minnesota Longitudinal Study of Risk & Adaptation

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Participants

- Original sample:
 - 267 first-born children and their mothers
 - At time of recruitment mothers were:
 - Obtained from public health clinics in Minneapolis
 - In their third trimester of pregnancy
 - Low-income
 - 58% single
 - 33% had not received a high school degree
 - Age range: 12 – 34 (\underline{M} = 20.6; SD = 3.57)
 - 83% Caucasian, 12% African American



Participants

○ Current Participants

● At 32 years

- 164 participants (80 men, 84 women)
- 66% Caucasian; 10% African American; 3% American Indian, Hispanic, or Asian; 18% mixed race; 3% missing



Theoretical Perspective

- Developmental tasks framework
- Earlier experiences as foundation for later development
- Importance of relationships and earlier school experiences for later educational competence



Measurement Strategies

Multiple Data Sources

- Observer data (parent-child, classroom, siblings, preschool, summer camp, romantic partner)
- Ratings (teachers, parents, counselors)
- Test data (achievement, IQ)
- Interviews/Questionnaires (caregivers, participants, teachers, romantic partners)

Multiple settings

- Laboratories
- Homes
- Schools/Summer Camp



Educational Measures

Age

Measure

Preschool School Info

WPPSI

Kindergarten

Devereaux
General Info
Classroom Climate
Teacher Interview

First Grade

Devereaux
General Info
PIAT
Teacher Interview
Porteus Maze Test
Caldwell HOME

Age

Second Grade

Measure

Devereaux
General Info
PIAT
Teacher Interview
Caldwell HOME

Third Grade

Devereaux
General Info
PIAT
Teacher Interview
Caldwell HOME
WISC

4 & 5th grades

observations

Sixth Grade

Devereaux
General Info
PIAT
Teacher Interview



Educational Measures

Age

16 year

Measure

Teacher Interview
General Info
Woodcock-Johnson
Adolescent Interview

17 ½ year

Adolescent Interview

19 year

Educational attainment
School program

20 year

Educational attainment
School Program

Age

23 year

Measure

Educational attainment
Educational
experiences from high
school to current
College program

26 year

Educational attainment

28 year

Educational attainment

32 year

Educational attainment
(self & spouse)

34 year

Educational attainment
(self & spouse)

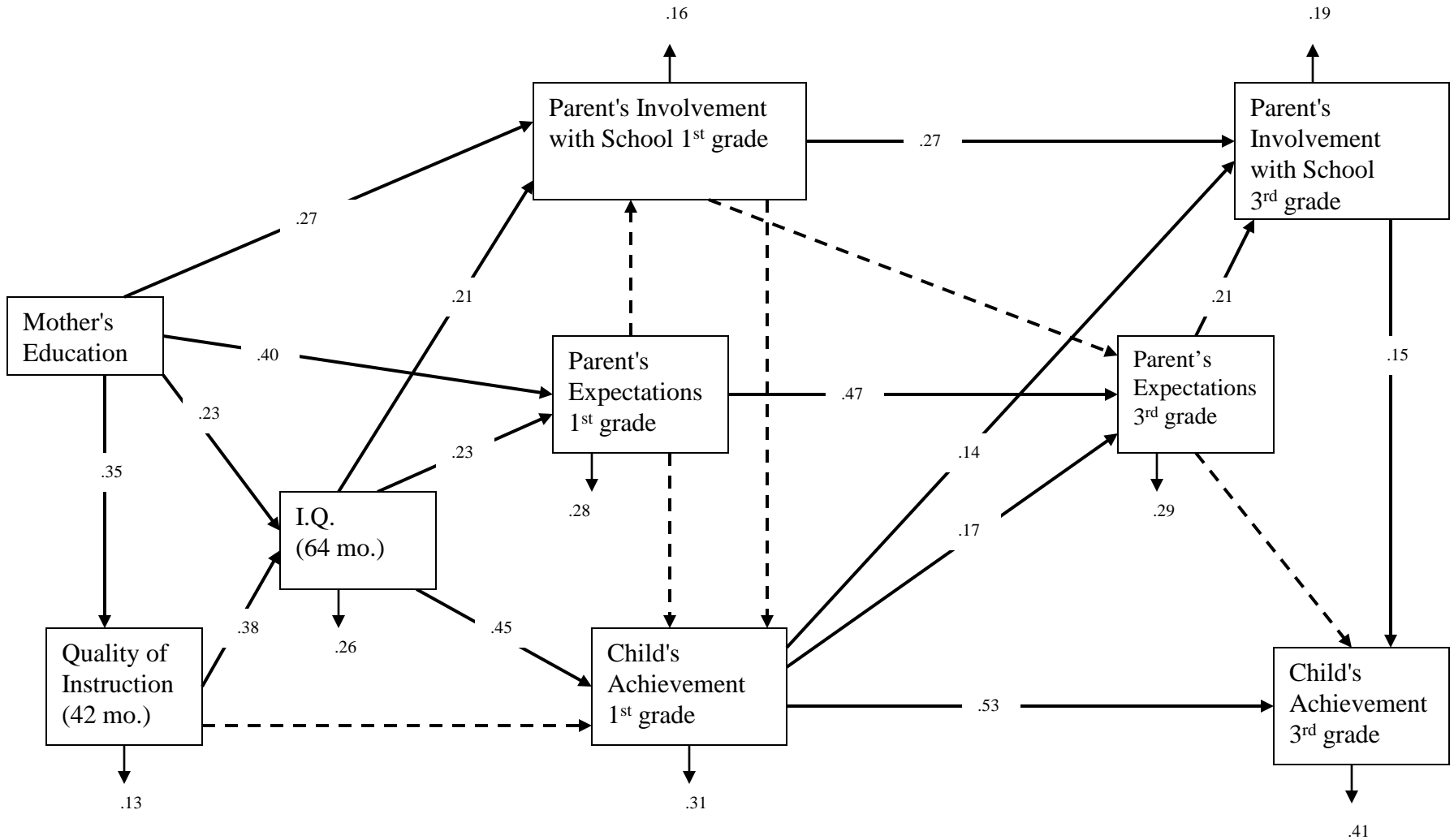


Achievement in Early Elementary School

Englund, Luckner, Whaley, & Egeland, 2004

- Path analysis examining the relations between:
 - parents' behaviors,
 - parents' expectations,
 - children's achievement in early elementary school
- N = 187 (males = 102)
- Measures:
 - Mothers' education (Birth)
 - Mothers' quality of instruction (42 months)
 - Wechsler Preschool & Primary Scale of Intelligence (64 months)
 - Parental involvement in school (1st & 3rd grades)
 - Parents' expectations (1st & 3rd grades)
 - Peabody Individualized Achievement Tests (1st & 3rd grades)

Results





Early Predictors of High School Dropout

Jimerson, Egeland, Sroufe, & Carlson, 2000

- Identify early predictors of high school dropout
- *Measures:*
 - *Family Factors:*
 - Early quality of caregiving composite (12-42 months)
 - Home Environment (30 months)
 - SES (3rd grade)
 - Parent Involvement in School (1st & 6th grades)
 - *Child Factors:*
 - WISC-R IQ (3rd grade)
 - Academic Achievement (1st & 6th grades, 16 years)
 - Problem Behaviors (1st & 6th grades, 16 years)
 - Peer Competence (1st & 6th grades, 16 years)



Results

Table 5
Discriminant Function Analysis Model 2: Includes Early Home Environment, Early Quality of Caregiving, Gender, IQ, SES, Elementary School Predictors at First and Sixth Grade and Age 16 Years Classifying High School Status at Age 19 Years

Actual Group	n	Predicted Group Membership	
		Dropouts	Traditional
Dropouts	48	35 (82%)	08 (18%)
Traditional	100	23 (23%)	77 (77%)
Overall % of cases grouped correctly: 75%			
Highest Discriminating Variables	Wilks's Lambda	<i>F</i>	
Parent involvement (Grade 6)	.88	26.66*	
Problem behaviors (Grade 1)	.75	21.64*	
Peer competence (16 years)	.69	18.95*	
Problem behaviors (16 years)	.67	15.79*	
Gender	.65	13.28*	
Quality of caregiving (12 & 40 months)	.64	11.56*	
Academic achievement (Grade 1)	.63	10.18*	
Academic achievement (16 years)	.61	9.50*	
Home environment (30 months)	n.s.	n.s.	
Peer competence (Grade 1)	n.s.	n.s.	
Peer competence (Grade 6)	n.s.	n.s.	
WISC-R IQ (Grade 3)	n.s.	n.s.	
SES (Grade 3)	n.s.	n.s.	
Problem behaviors (Grade 6)	n.s.	n.s.	
Academic achievement (Grade 6)	n.s.	n.s.	

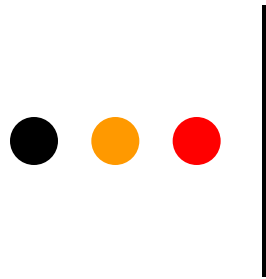
Note. n.s. (not significant) variables are listed in descending order of relative discrimination; SES = socioeconomic status; WISC-R = Wechsler Intelligence Scale for Children-Revised; * $p < .001$.



Exceptions to High School Dropout Predictions

Englund, Egeland, & Collins, 2008

- Do parent-child and teacher-child relationship factors significantly differentiate individuals who follow expected versus unexpected educational pathways?
- Logistic Regression identifying expected vs. unexpected educational pathways:
 - Academic achievement (12 & 16 years)
 - Behavior Problems (TRF—12 & 16 years)
- Graduate group = graduated or obtained GED within 1 year of expected graduation (N = 128)
- Dropout group = did not graduate or obtain GED within 1 year of expected graduation (N = 51)



Results

Predicted	Actual		Total
	<i>Graduated</i>	<i>Dropped Out</i>	
<i>Predicted to Graduate</i>	118	26	144
	Expected Graduates	↔ Unexpected Dropouts	
<i>Predicted to Drop Out</i>	10	25	35
	Unexpected Graduates	↔ Expected Dropouts	
Total	128	51	



Results

- Predicted to Graduate Groups
 - Expected graduates compared to unexpected dropouts had:
 - higher levels of parental involvement in middle childhood (7, 8, & 9 yrs)
 - more supportive parent-child relationships in early adolescence (13 yrs)
 - higher levels of social competence with adults in middle childhood and adolescence (9, 12, 16 yrs)
- Predicted to Dropout Groups
 - Parental involvement
 - increased from age 8 to age 9 for expected dropouts
 - decreased for unexpected graduates



Linking Maternal Education and Early Adult Educational Attainment

Englund, Luckner, Egeland, & Collins, in preparation

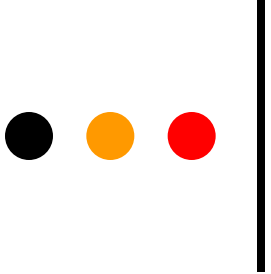
○ Purpose of Study:

- Investigate parent-child relationships factors and child indicators of school success as mediators of the relation between maternal education and their children's educational attainment at age 26.

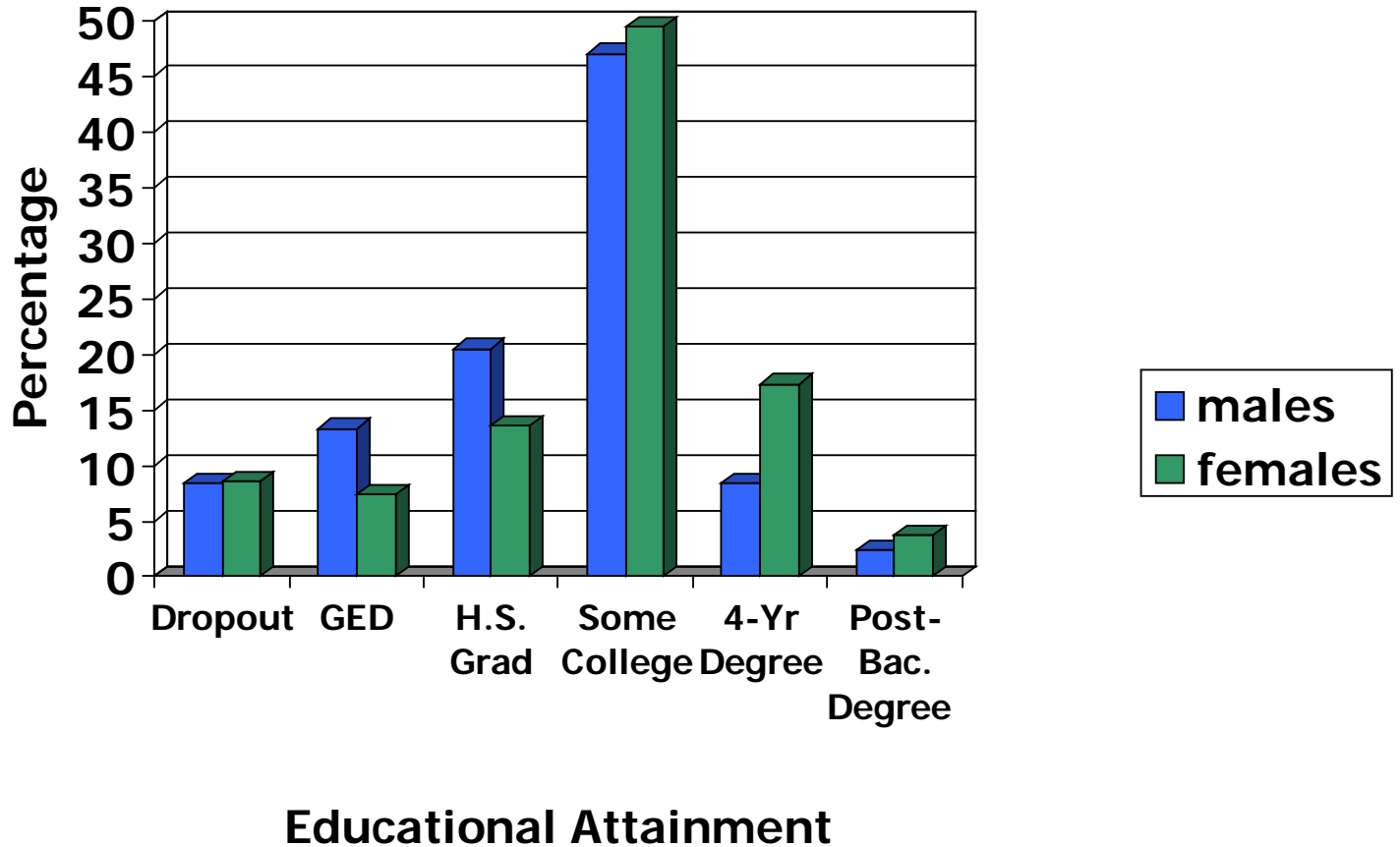


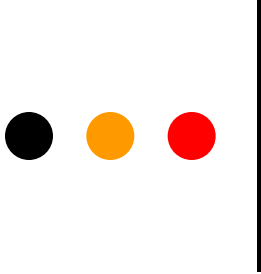
Mothers' Level of Education

- Highest grade completed at birth of child
 - Range = 8 – 20
 - Mean = 11.96, SD = 1.75
 - Less than high school = 33.5%
 - High school = 40.9%
 - Post-high school = 25.6%



Educational Attainment at Age 26





Correlations: Main Effects

Participants' Educational Attainment at 26 years	Mothers' Education
Overall	.39***
Men	.48***
Women	.34**

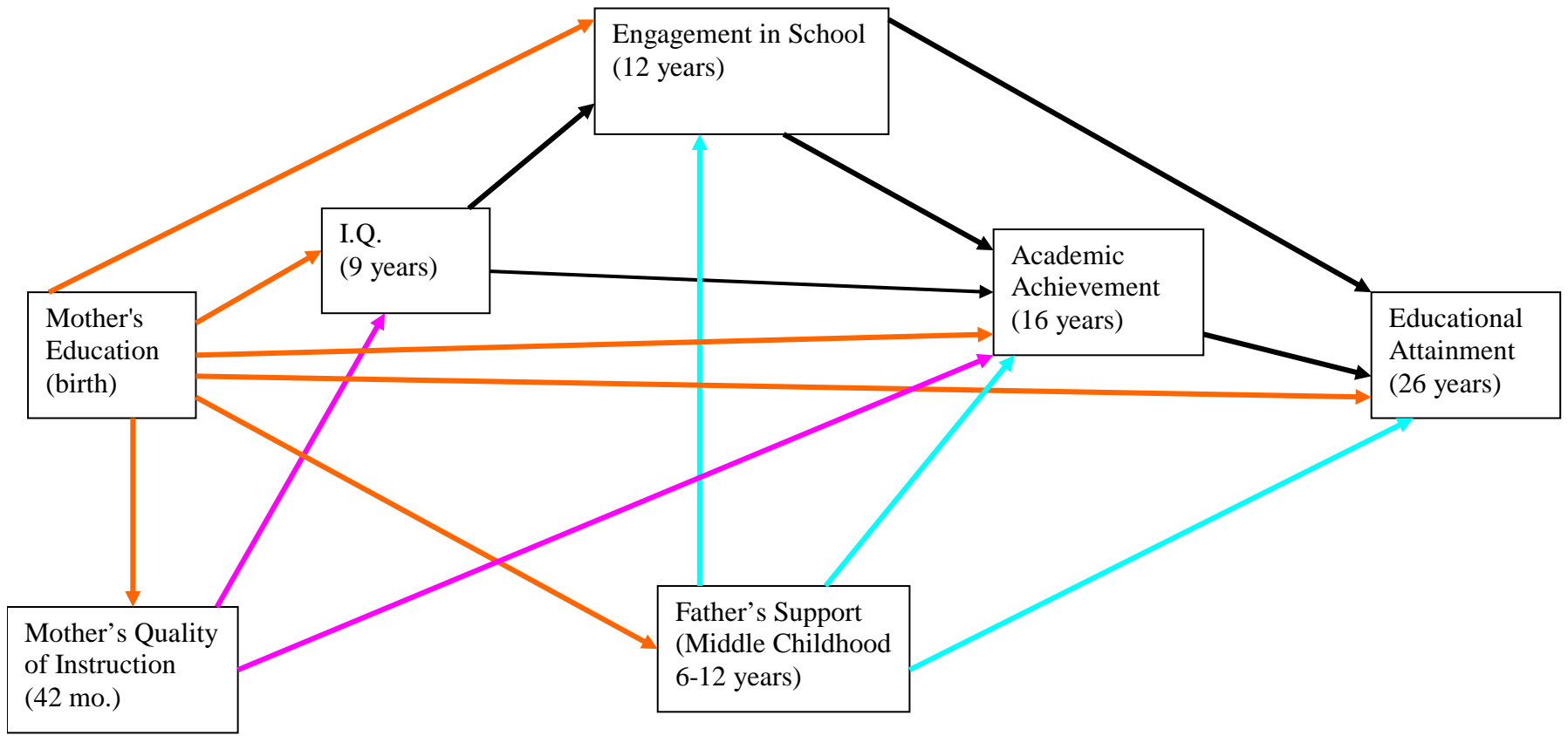
** $p < .01$, *** $p < .001$



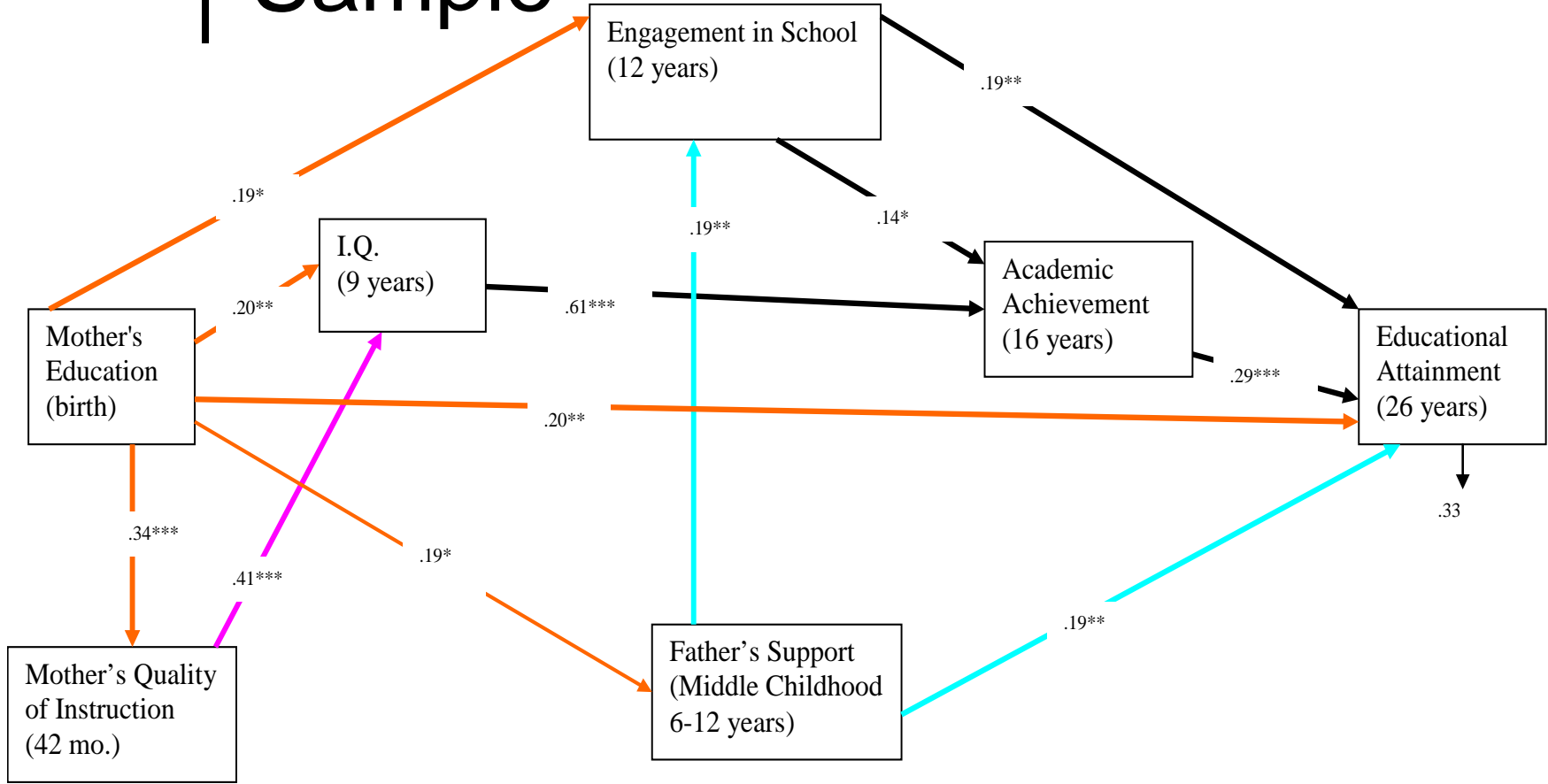
Hypothesized mediators

- Earlier Indicators of School Success
 - Child's I.Q. (9 years)
 - Engagement in School (12 years)
 - Academic Achievement (16 years)
- Parent-Child Relationship Factors
 - Mother's quality of instruction (42 mo.)
 - Level of Support from Father (middle childhood)

Path Model

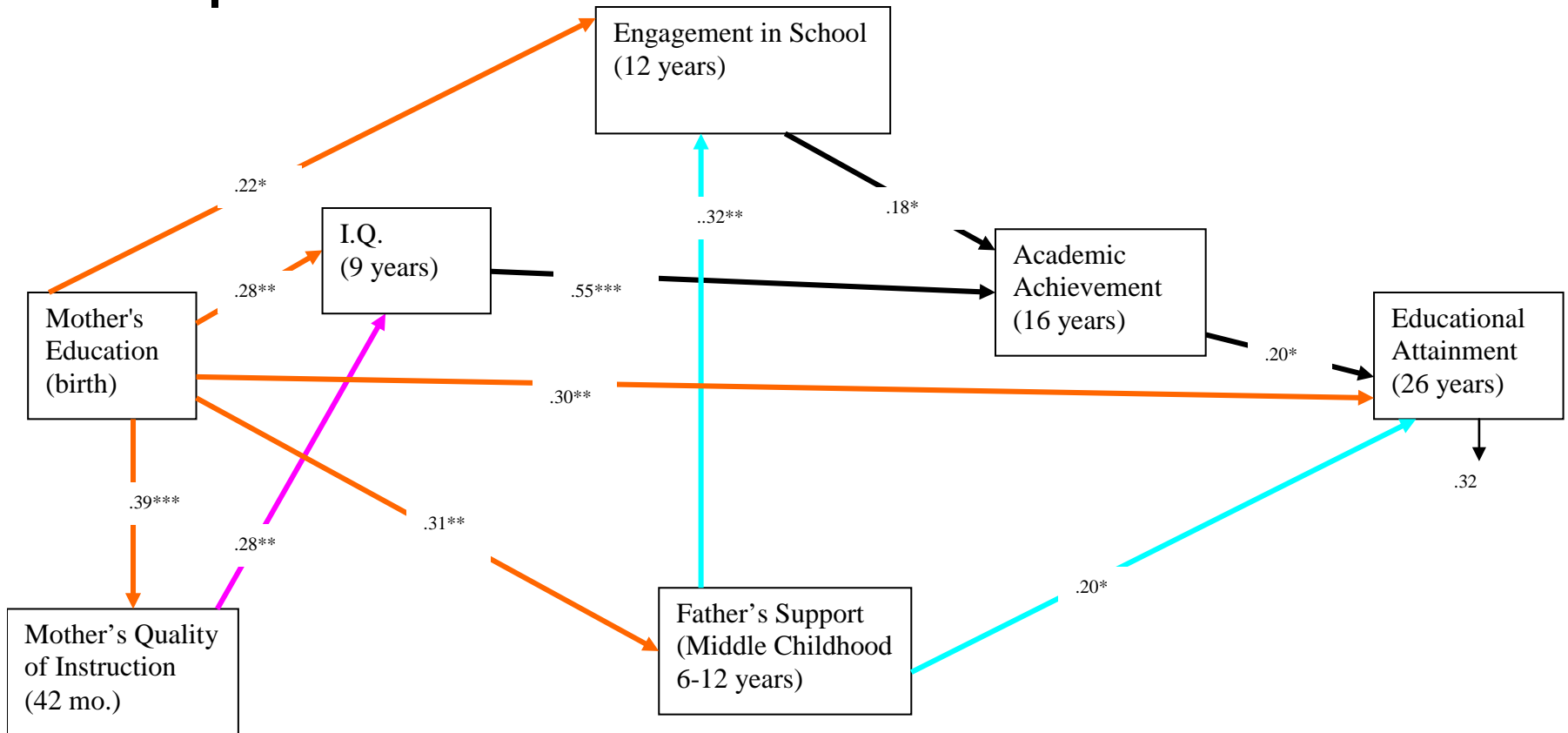


Results: Path Model--Full Sample



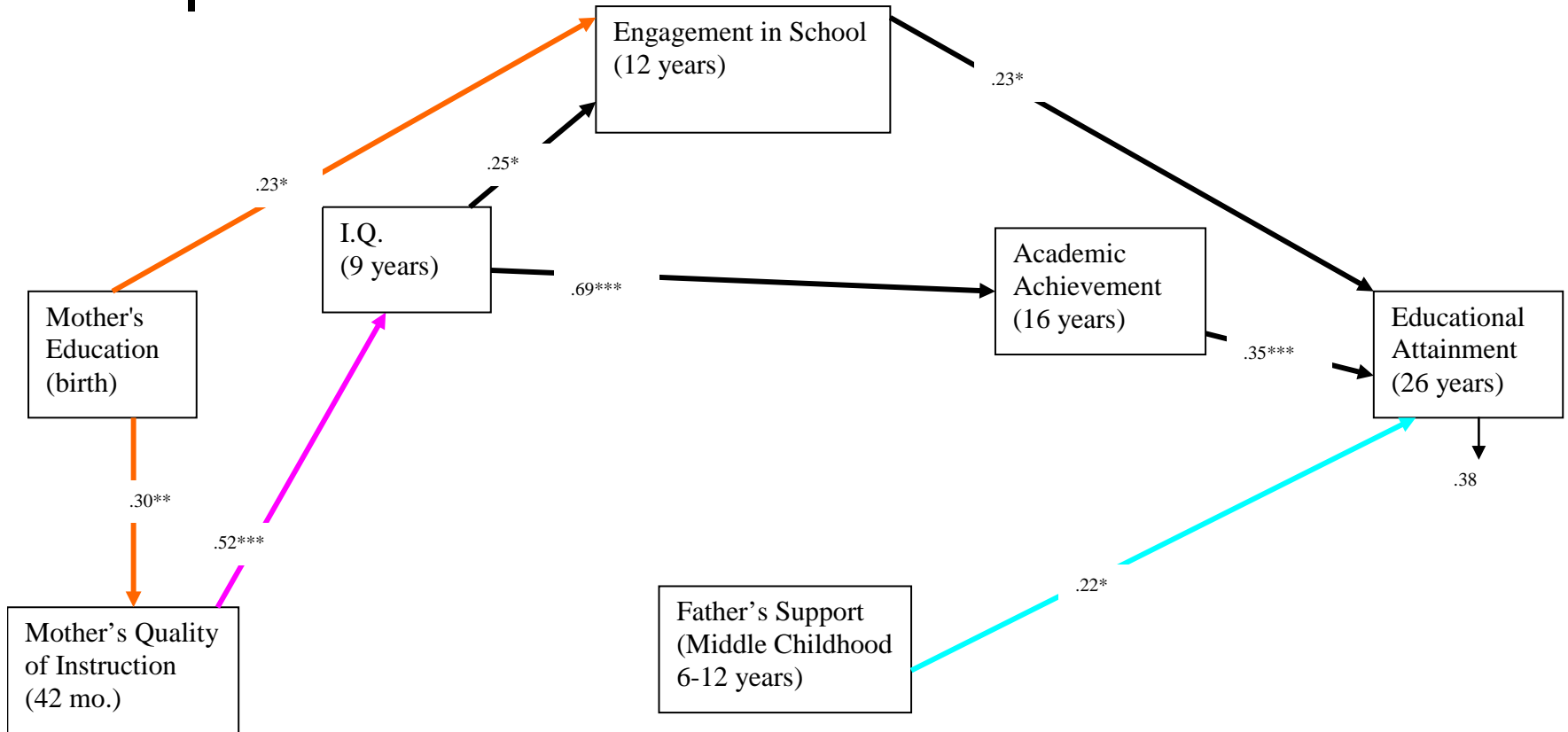
$\chi^2 (5) = 16.722, p < .01, RMSEA = .12, GFI = .973, CFI = .958$

Results: Path Model--Males



$\chi^2(10) = 19.175, p < .05, RMSEA = .075, GFI = .969, CFI = .969$

Results: Path Model--Females



$\chi^2 (10) = 19.175, p < .05, RMSEA = .075, GFI = .969, CFI = .969$



Results

- Direct effects on educational attainment
 - Father's support in middle childhood
 - Academic achievement in adolescence
 - Full sample
 - Mother's level of education at birth
 - Engagement in school in early adolescence
 - For men
 - Mother's level of education at birth
 - For women
 - Engagement in school in early adolescence



Overall Conclusions

- Organizational developmental perspective
- Relationships as important sources of support across development for educational success
- Special significance of early parental support
- Educational attainment as a dynamic process



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