



# Family SES and Pre-schoolers' Achievement Gaps: the Role of Parental Attitudes, Parenting and Children's Self-regulation

**Family SES and Pre-schoolers' Achievement Gaps: the Role of Parental Attitudes, Parenting and Children's Self-regulation**  
Wei-Jun Jean Yeung and Chen Xuejiao  
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**Objectives and Background**


**Objectives**

- Whether there is a gap in children's cognitive development before formal schooling?
- What are the roles of family SES and other parental characteristics?

**Singapore context of intergenerational roots of the achievement gap**


- culturally and socioeconomically diverse
- a wealthy country with increasing income inequality
- high value in education and family.

**Conceptual Framework**



**Methodology**


**Dataset**—Singapore Longitudinal Early Development Study (SG LEADS) (for more information about the project: <https://www.nus.edu.sg/leads/index>)



**Dataset Characteristics**


- First nationally representative sample of 5,000 Singaporean children under 7 in 2,494 households.
- data were collected through in-home face-to-face interviews with children's primary caregivers (PCG), and a child assessment (3 and above).
- Analytic Sample: versus 1 children aged 4 to 6 ( $n=2,387$ ).

**Measurements**




**Results**

**Mediating pathways for WJ3 numeracy scores**



**Mediating pathways for WJ3 verbal scores**



**Summary and Discussion**

**Direct, indirect and total effects of selected variables (standardized coefficients)**

| Variable               | Direct | Indirect | Total |
|------------------------|--------|----------|-------|
| Family SES             | 0.12*  | 0.08*    | 0.20* |
| Parental beliefs       | 0.05*  | 0.03*    | 0.08* |
| Parental actions       | 0.04*  | 0.02*    | 0.06* |
| Child self-regulation  | 0.03*  | 0.01*    | 0.04* |
| Child cognitive skills | 0.02*  | 0.01*    | 0.03* |
| Child language         | 0.01*  | 0.01*    | 0.02* |
| Child numeracy         | 0.01*  | 0.01*    | 0.02* |
| Child verbal           | 0.01*  | 0.01*    | 0.02* |

**Discussion**

- Achievement gap emerges among preschool children of different SES groups.
- Parents with different SES statuses hold varying beliefs and values of children.
- parental beliefs affect their plans and actions for their children's future achievement.
- Young children's self-regulation skills show a substantial and independent impact on their learning.
- The study underscores the intergenerational roots of ...

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# OBJECTIVES AND BACKGROUND

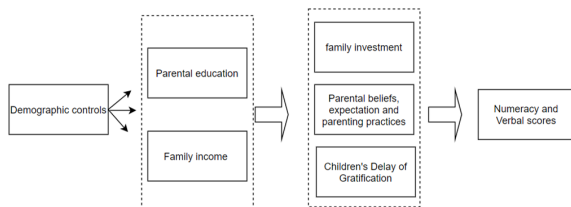
## Objectives

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- What are the roles of family SES and other parental characteristics?

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# METHODOLOGY

**Dataset**—Singapore Longitudinal EARly Development Study (SG LEADS) (for more information about this project <https://fass.nus.edu.sg/cfpr/sgleads/> (<https://fass.nus.edu.sg/cfpr/sgleads/>))



- First nationally representative sample of 5,020 Singaporean children under 7 in 3,484 households.
- data was collected through in-home face-to-face interviews with children's primary caregiver (PCG), and a child assessment (3 and above).
- Analytic Sample: wave 1 children aged 4 to 6 (n=2,167).

## Measurements:



**DV:** Woodcock-Johnson Test of Achievement IV (WJ ACH IV) verbal and numeracy score (age-standardized)

**IV:** family income and parental education

**Mediators:** 1) economic pressure, physical home environment, saving for children's education, children's access to computer, shared-activities;

2) Instrumental value of children, educational expectation on children, rule-settings;

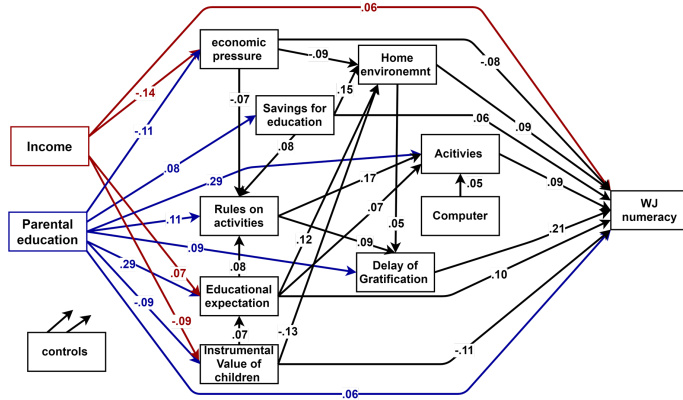
3) children's delay of gratification.

## Analytical strategy

We used structural equation modeling (SEM) with the full information maximum-likelihood (FIML) method.

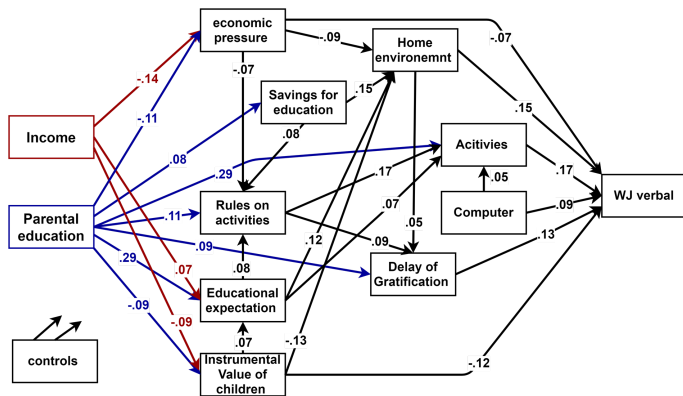
# RESULTS

## Mediating pathways for WJ numeracy scores



note: standardized coefficients are present in solid lines ( $p < 0.05$ ). lines start from Income are highlighted as red, lines start from parental education are highlighted as blue.  $\chi^2/df=19.7$ , CFI= 0.97, TLI=0.91, RMSEA=0.03, SRMR=0.017

## Mediating pathways for WJ verbal scores



note: standardized coefficients are present in solid lines ( $p < 0.05$ ). lines start from Income are highlighted as red, lines start from parental education are highlighted as blue.  $\chi^2/df=19.1$ , CFI= 0.97, TLI=0.91, RMSEA=0.03, SRMR=0.017

## SUMMARY AND DISCUSSION

### Direct, indirect and total effects of selected variables (standardized coefficients)

|  | Numeracy      |                 |              |
|--|---------------|-----------------|--------------|
|  | Direct effect | Indirect effect | Total effect |
| Income (log)                                   | 0.06*         | 0.03*           | 0.09*        |
| <b>Parental education</b>                      | <b>0.06*</b>  | <b>0.12*</b>    | <b>0.17*</b> |
| <b>Family economic pressure and investment</b> |               |                 |              |
| Economic pressure                              | -0.08*        | -0.01*          | -0.09*       |
| Home environment                               | 0.09*         | 0.02*           | 0.11*        |
| Shared activities                              | 0.09*         | no path         | 0.09*        |
| <b>PCG's values</b>                            |               |                 |              |
| Instrumental value of children                 | -0.12*        | -0.001          | -0.12*       |
| Educational expectation                        | 0.10*         | 0.02*           | 0.13*        |
| <b>Delay of gratification</b>                  | <b>0.21*</b>  | <b>no path</b>  | <b>0.21*</b> |
| PCG's cognitive level                          | 0.05          | 0.05*           | 0.09*        |

note: results of the verbal score are not presented here due to the limited space.

### Discussion

- Achievement gap emerges among preschool children of different SES groups
- Parents with different SES statuses held varying beliefs and values of children.
- parental beliefs affect their plans and actions for their children's future achievement.
- Young children's self-regulation skills show a substantial and independent impact on their learning.
- The study underscores the intergenerational roots of disadvantages shown in early childhood.

## AUTHOR INFORMATION

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# ABSTRACT

We examine the extent to which parents' education and income contribute to the achievement gap in Singaporean preschool children through parenting beliefs and behaviors and children's agency. Data were drawn from a sample of 2,167 children aged 4 to 6 years in a new national survey - Singapore Longitudinal Early Development Study (SG LEADS) wave 1 dataset. Using the structural equation modeling, we find that parents with different SESs hold varying values and educational expectations of their children, and have different practices of socialization, plans, and investment behavior in children. Children in different families also vary in their self-regulation behavior. Furthermore, parental attitudes influence parenting behaviors, which in turn, were associated with children's self-regulation. This study establishes an association between parental beliefs, parenting behaviors, and children's agency and underscores the importance of the early home environment and the intergenerational roots of the achievement gaps.