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Title	Singapore Early Years Longitudinal Study (Pilot study findings - 2010)
Authors	Susan Wright, Audrey Lim, Sirene Lim, Liang See Tan, Chien-Hui Yang and Kenneth Poon
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OER-funded Research Project (OER15/08SW):

[A Development Project for the Scoping of the Singapore Early Years Longitudinal Study \(completed 2011\)](#)

Principal Investigator: Susan Wright

Co-PIs (alphabetical): Audrey Lim, Sirene Lim, Liang See Tan, Chien-Hui Yang, Kenneth Poon

Brief findings (sent to participating centres)

*Note:* This pilot study explored the feasibility and utility of conducting a longitudinal study tracking the progress of a potentially large group of preschoolers in Singapore. We acknowledge the work done by a local research team (led by Dr Ko Peng Sim) through the Institute of Education-Bernard van Leer Foundation (IE-BvLF) Project, which spanned 1983 – 1992.

# SINGAPORE EARLY YEARS LONGITUDINAL STUDY (PILOT STUDY FINDINGS – 2010)



Dear Kindergartens and Childcare centres,

Thank you for your participation and support in our research on the development of young children in Singapore! The pilot study has been completed and we would like to take this opportunity to share with you our findings.

## **What is the purpose of this study?**

Internationally, established longitudinal studies have identified a variety of individual, family, and community factors that are associated with differential outcomes for young children over time. However, there is little comprehensive data on Singaporean children aged 0 to 8 years in recent years. Hence, the primary purpose of this research is to understand the key factors in relation to child development in contemporary Singapore.

## **Who participated in this study?**

140 K1 children in Singapore took part in this study. The sample was evenly distributed in terms of gender and predominantly Chinese (52% Chinese, 18% Malay, and 25% Indian). 112 parents of these children were individually interviewed in this study. The sample was representative of the Singapore population in terms of family income and majority spoke English to their children at home.

## **What instruments were used in this study?**

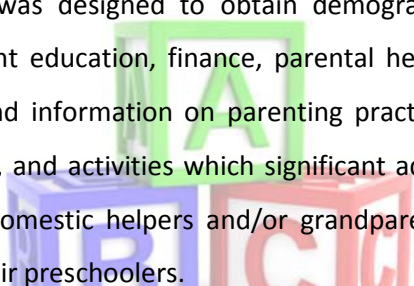
Coloured Progressive Matrices (CPM) is a standardized non-verbal cognitive test which assesses children's ability to reason by analogy (Ravens, 2003).

Torrance Tests of Creativity (TTCT) is a standardized non-verbal drawing test used to assess children's creativity (Torrance, 1996).

Bilingual Language Assessment Battery (BLAB) is a standardized picture-naming vocabulary task which is administered in both English and mother tongue (Mandarin or Malay). It provides an index of young children's competency in each language and indicates the degree of balance between the two languages (Rickard Liow, Sze & et al, 2007).

Bracken School Readiness Assessment (BSRA) is a standardized instrument which examines children's concept knowledge and receptive language skills for school readiness (Bracken, 2007).

Parent survey was designed to obtain demographic data (i.e., parent education, finance, parental health, child health) and information on parenting practices, child education, and activities which significant adults (i.e., parents, domestic helpers and/or grandparents) engage with their preschoolers.



### **What is associated with the development of academic concepts?**

Child's age, family income, and parental education were associated with the development of academic concepts. Children who were older by a few months had higher BSRA scores. Children from high income families or whose parents received university education had better BSRA scores. After controlling the effects of child age, gender, family income and parental education, children's receptive English vocabulary and cognitive reasoning were found to be significantly related to the development of academic concepts. Children who did well in BLAB English or CPM had higher BSRA scores than those who performed poorly in the two tests.

### **What is associated with English vocabulary?**

Child's age and parental education were strongly associated with English language outcomes. Older children or children whose parents received university education had higher BLAB English scores. After controlling the effects of demographic variables, child's cognitive reasoning, English as primary home language, and parent-child educational activities were found to be strongly associated with English language outcomes. Children who performed well in CPM had higher scores in BLAB English. Children from families where English is the primary language spoken at home had better BLAB English scores. Furthermore, frequency of parent-child educational activities (e.g., go to public libraries, read a book, play educational toys or games, draw picture or make crafts) was positively associated with English language outcomes. This finding highlights the importance of home usage of English and parent-child educational activities in the development of English vocabulary.

### **What is associated with mother tongue (MT) vocabulary?**

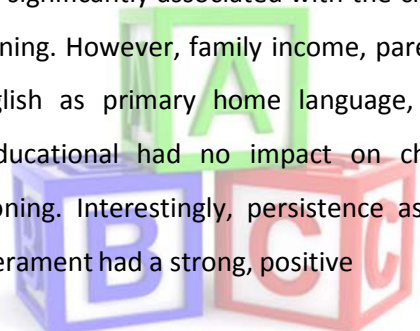
Child's age was associated with MT outcomes. Children who were older by a few months had higher BLAB MT scores. However, parental education and family income had no impact on MT outcomes. After taking into account of the effects of demographic variables, English as primary home language had a strong but negative association to MT outcomes. Children from families where English is the primary language spoken at home had lower BLAB MT scores.

### **What is associated with creativity?**

Child's age was most strongly associated with creativity. Parental education, family income, child's cognitive reasoning, and parent-child entertainment activities (e.g., watch TV, play computer games, sing, dance or play musical instruments) were not associated with creativity. Parents completed the Short Temperament Scale for Children (STSC) which measured three aspects of child's temperament – sociability, reactivity, and persistence. Children who were rated high in sociability and persistence had higher TTCT scores. In other words, children who were more comfortable in new situations and/or with unfamiliar children or adults and had the capacity to see tasks through to completion demonstrated greater creativity in TTCT.

### **What is associated with non-verbal reasoning?**

Child's age was significantly associated with the child's cognitive reasoning. However, family income, parental education, English as primary home language, and parent-child educational had no impact on child's cognitive reasoning. Interestingly, persistence aspect of child's temperament had a strong, positive



relationship with child's non-verbal reasoning. Children rated high in persistence on STSC had higher scores in CPM. This relationship may be interpreted as good test-taking behaviours leading to better performance.

### **When and why do parents enrol their children in preschool?**

Majority of the children enrolled in preschool before they turned four years old. 37.5% of the children first enrolled in preschool between 36 and 47 months. 26.8% first enrolled in preschool between 24 and 35 months. 7.1% first enrolled in preschool before 24 months. This early enrolment in preschool seems in line with parents' emphasis on providing their children with early education. When asked "Why did you enrol your child at that age" most parents felt their child needed to be exposed to academic learning to be prepared for formal schooling.

### **What discipline methods do parents use?**

Common discipline methods used by parents in our sample were talking or reasoning (93.8%), shouting (69.6%), using hands to beat (59.8%), and removing privileges (56.3%). Physical punishments such as use ruler to beat (8.0%), make child stand (30.3%), cane (42.0%), and use hands to beat (59.8%) appeared to use physical punishment sparingly. Common reasons given by parents for resorting to physical punishment include (a) child's safety is at stake, (b) child is physically aggressive, (c) child is stubborn and fails to heed repeated warnings about his or her misbehaviour, and (d) as a last resort when parents run out of strategies. These findings suggest that Singaporean parents are not dominantly authoritarian and inclined to use authoritative parenting practices.

### **What is the nature of home and enrichment activities?**

Parents reported spending more time on educational activities than outdoor activities. 83.0% of the parents engaged their child in educational activities (e.g., read to child, play education games, draw pictures or make crafts) at least twice every week. In comparison, 63.4% of them engaged their child in outdoor activities (e.g., go to beach or playground, go play dates, play sports) at least twice every week. Of the total sample, 64.3% enrolled their child in at least one paid enrichment programme in language, visual and performing arts, or sports.

### **Recommendations for working with families**

- Encourage families to read with children frequently to inculcate a love for books.
- Encourage outdoor activities to balance indoor activities.
- Communicate to families the importance of developing children's readiness to learn rather than focusing on their academic readiness for primary school.

