

Assessment of Mandarin Receptive Vocabulary in Hong Kong Children

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Angel Chan

Angel's Angel

Tse Sam Ming Audrey



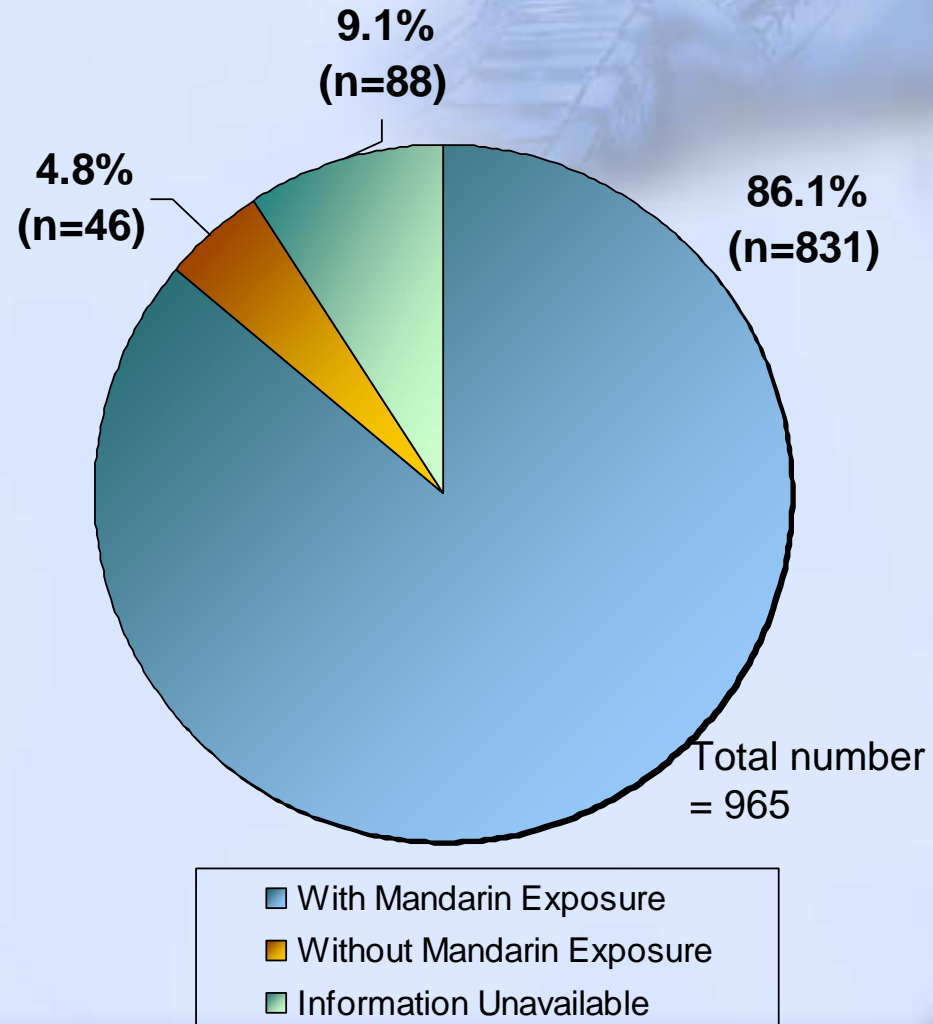
Outline

- HK children's exposure to Mandarin in kindergartens
- Mandarin Receptive Vocabulary Test
- Pilot study and results
- Summary and significance

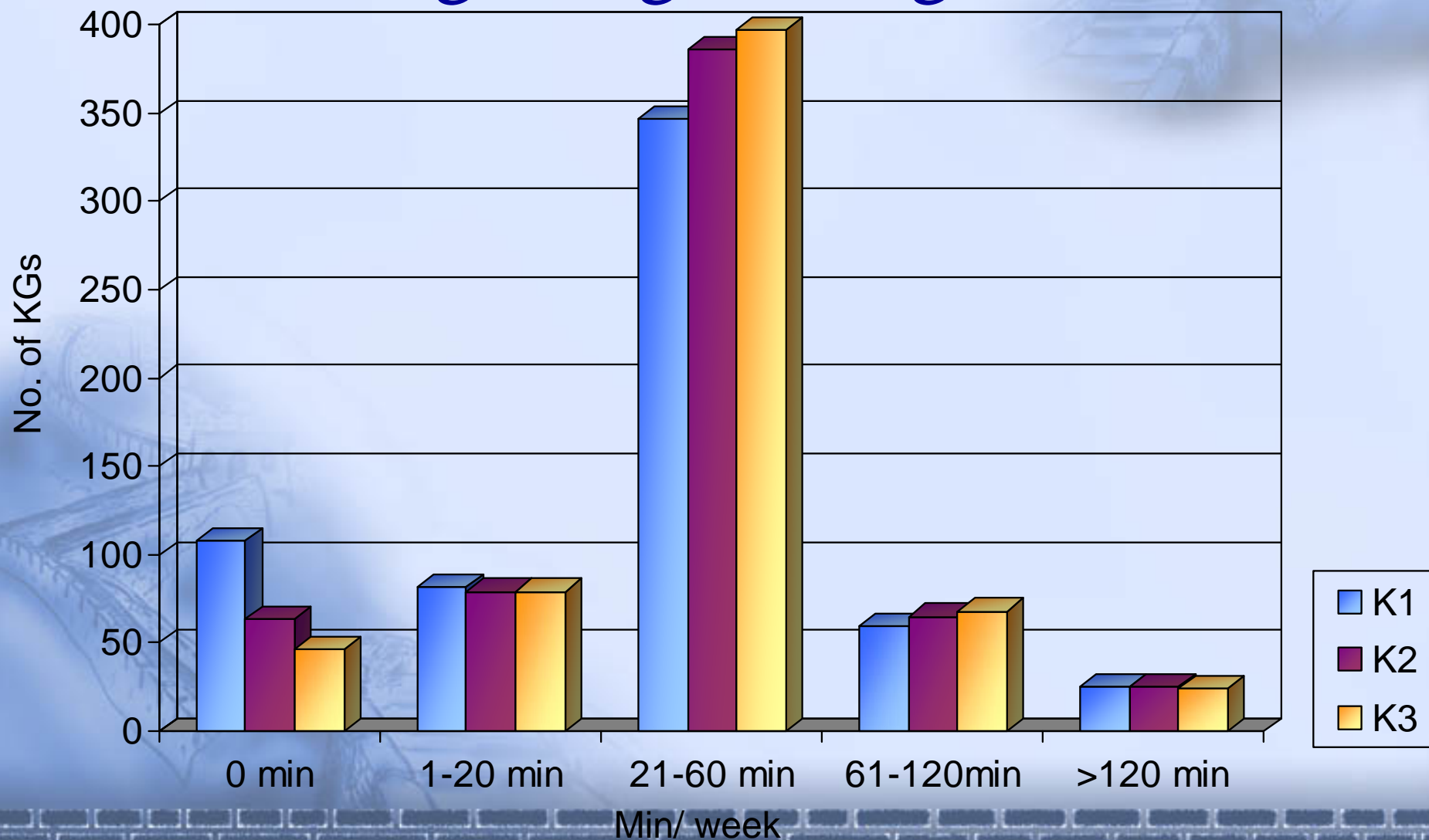


HK Kindergartens with Mandarin exposure

- Total no. of kindergartens: 965
- No. of kindergartens
 - with Mandarin exposure = 831
 - without Mandarin exposure = 46
 - information unavailable = 88



Children's Mandarin exposure in Hong Kong kindergartens



Growing importance of Mandarin in Hong Kong kindergartens

- Over 80% of HK kindergartens provide regular exposure to Mandarin, though with varying amounts of input.
- There is a lack of research-based understanding of HK children's developmental profiles in Mandarin.



Available tools to assess early Mandarin vocabulary

Based on *native* Mandarin-speaking children in **Taiwan**:

- Lu L, Liu H. (1988). Revised Peabody Picture Vocabulary Test: Mandarin Chinese Version 修訂畢保德圖畫詞彙測驗 Psychological Publishing Co Ltd. Taipei, Taiwan.

Based on *native* Mandarin-speaking children in **Beijing**:

- Tardif, T., Fletcher, P., Zhang, Z.X., Liang, W.L., & Zuo, Q.H. (2008). *The Chinese Communicative Development Inventory (Putonghua and Cantonese versions): Manual, Forms, and Norms*. Peking University Medical Press.
- Hao, M.L., H., Shu, A.L. Xing and P. Li. (2008). Early vocabulary inventory for Mandarin Chinese. *Behavior Research Methods* 40.3: 728-733.

Lack of assessment tools

- No standardized tools to assess the Mandarin proficiency of Hong Kong preschool children.
- Lack of assessment tools even for monolingual Mandarin children in China and Taiwan.



Mandarin Receptive Vocabulary Test for Hong Kong Children 香港兒童普通話詞彙理解測驗

- Early vocabulary inventory for Mandarin Chinese (Hao et al. 2008)

Behavior Research Methods
2008, 40 (3), 728-733
doi: 10.3758/BRM.40.3.728

Early vocabulary inventory for Mandarin Chinese

MEILING HAO

Beijing Language and Culture University, Beijing, China

HUA SHU AND AILING XING

Beijing Normal University, Beijing, China

AND

PING LI

*Pennsylvania State University, University Park, Pennsylvania
and National Science Foundation, Arlington, Virginia*

<http://brm.psychonomic-journals.org/content/40/3/728/suppl/DC1>

- Data from 884 Chinese families in Beijing
- Infants and toddlers from 12 to 30 months
- Checklist and norms a/v via the internet
- Words with 90th percentiles of comprehension vocabulary found at 30 month olds were chosen for item construction

Mandarin Receptive Vocabulary Test for Hong Kong Children 香港兒童普通話詞彙理解測驗

98 target words belonging to 14 semantic categories

Target children:

- Phase One: preschool age
- Phase Two: P1-P3

Quick to administer: 10-20 minutes

Easy to administer: Each child is shown four pictures at a time, and asked to point to the named picture



1.



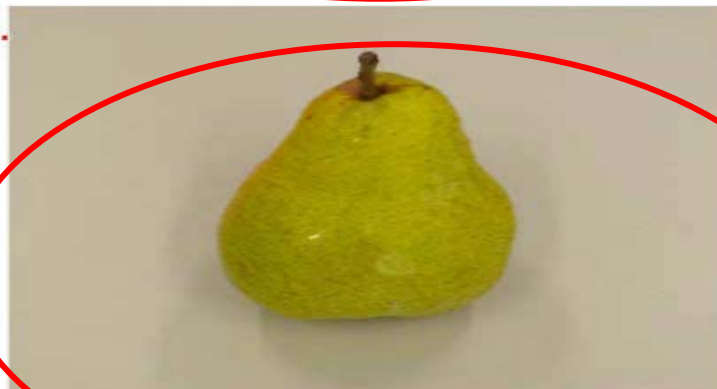
2.



3.



4.



item:13

- Target: 香蕉 /xiang₁ jiao₁/ 'banana'
- Phonological distracter: 睡覺 /shui₄ jiao₄/ 'sleep'
- Semantic distracter: 梨 /li₂/ 'pear'
- Unrelated distractor: 起床 /qi₃ chuang₂/ 'get up'

1.



2.



3.

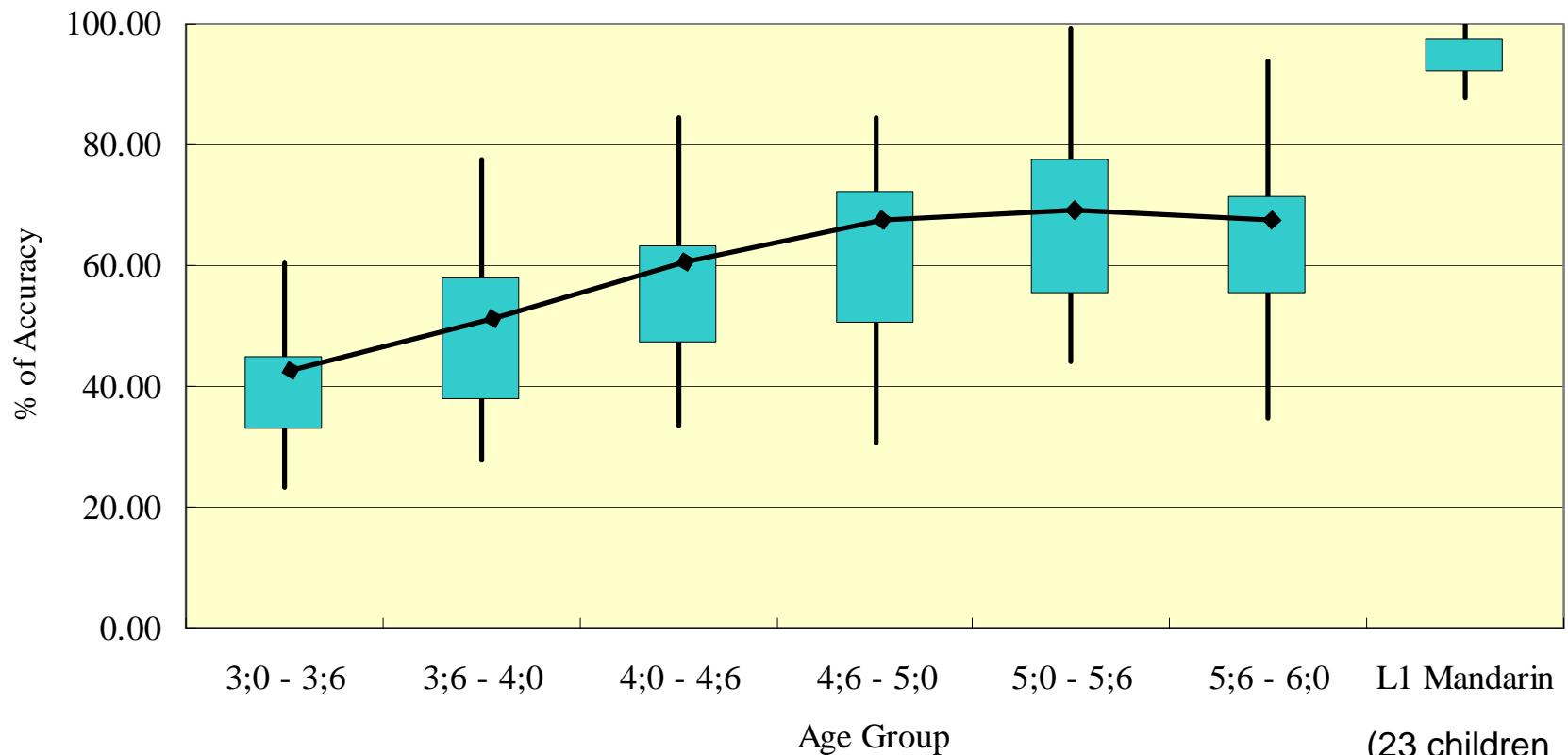


4.



Scores of children with average exposure

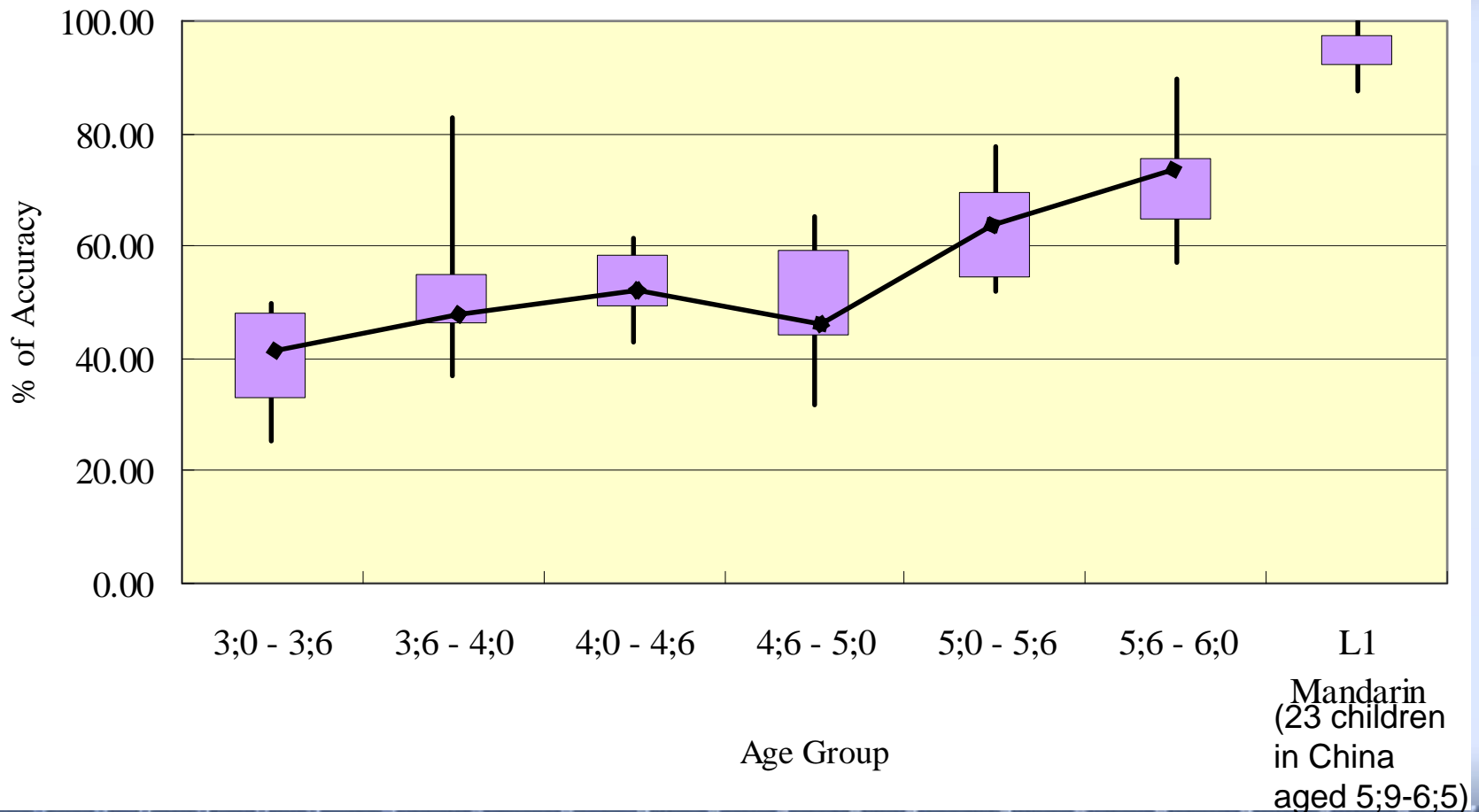
(21-60 min per week at school, 174 children from 10 schools)



(23 children
in China
aged 5;9-6;5)

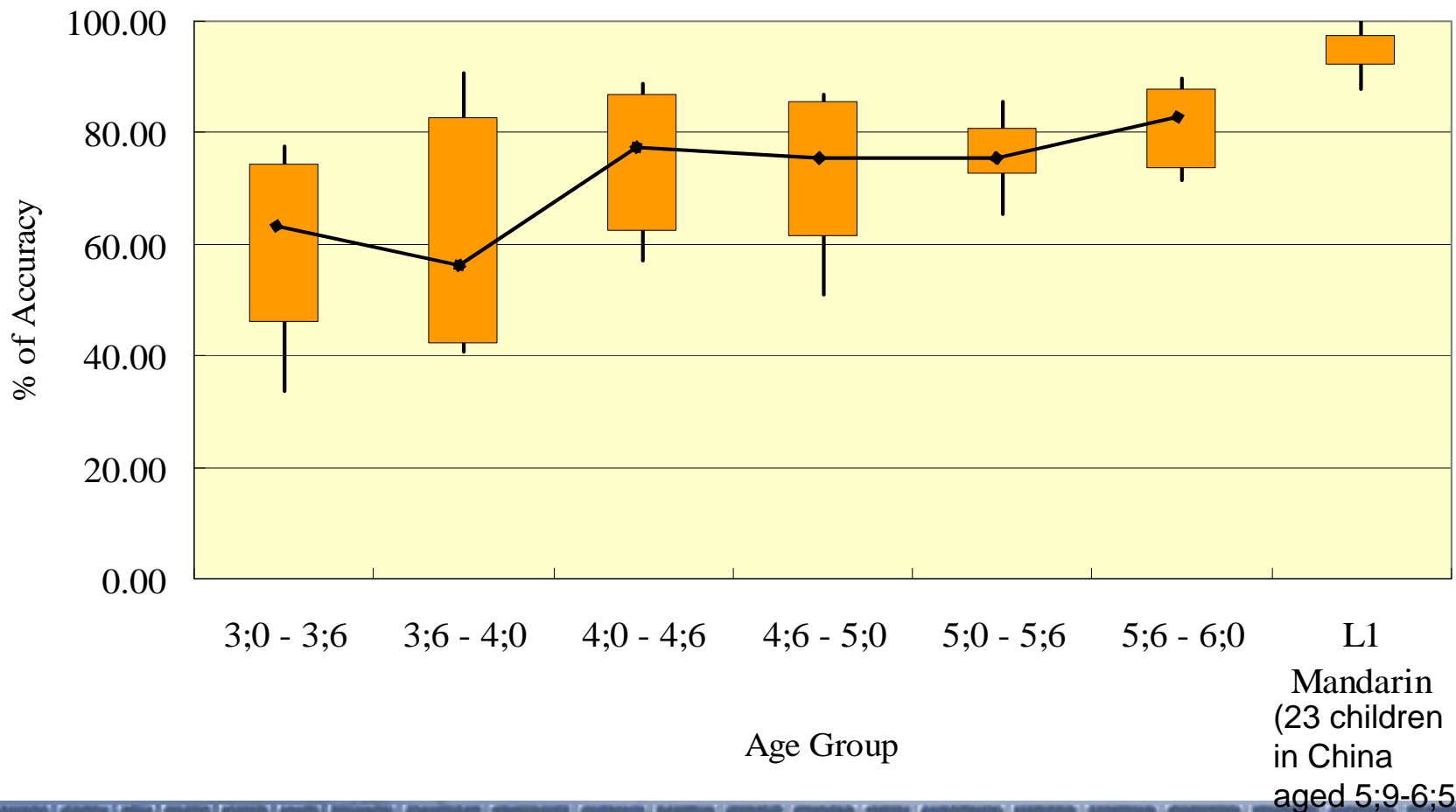
Scores of children with high exposure

(120–150min per week at school, 36 children from 1 school)

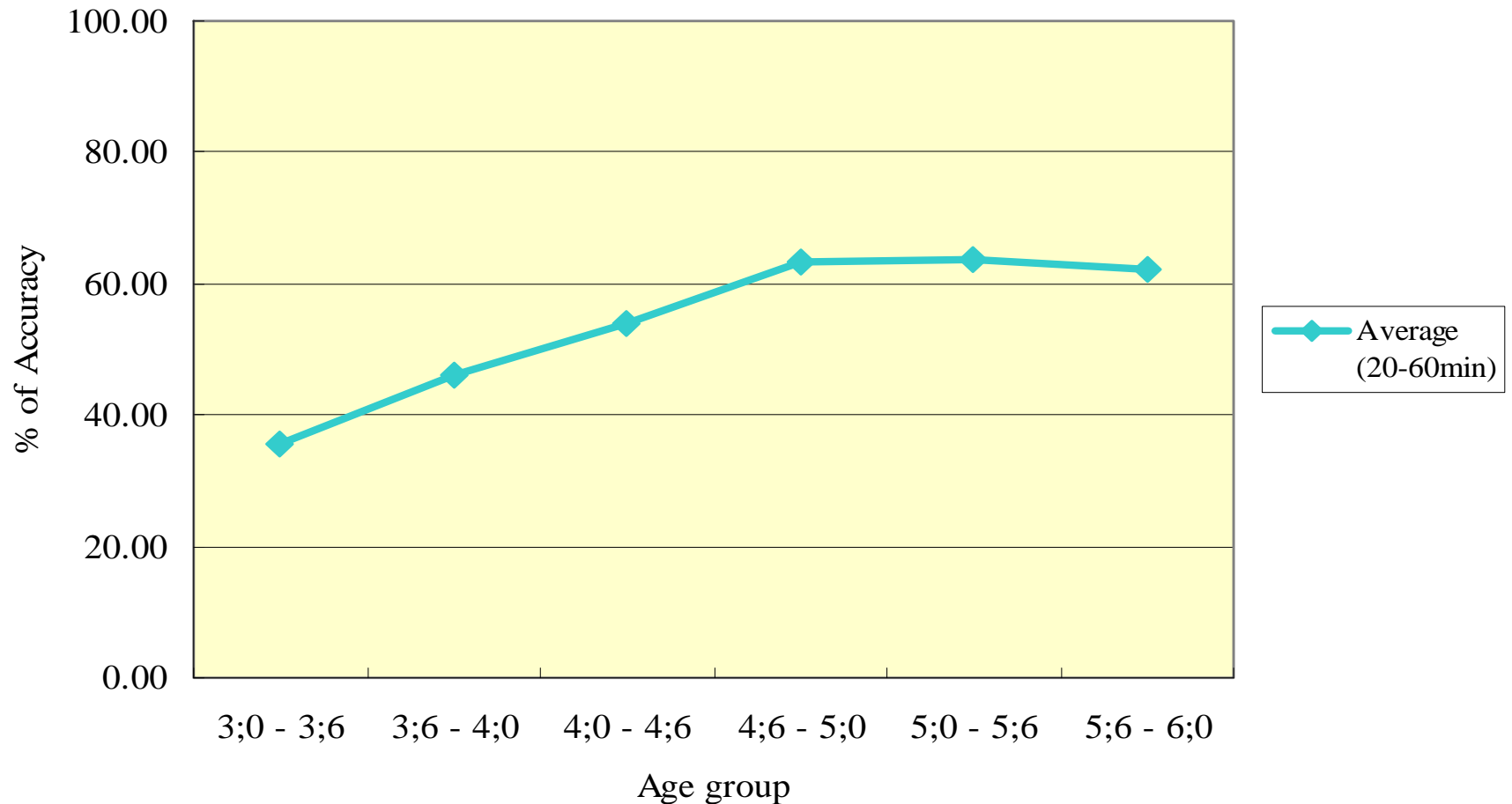


Scores of children with very high exposure

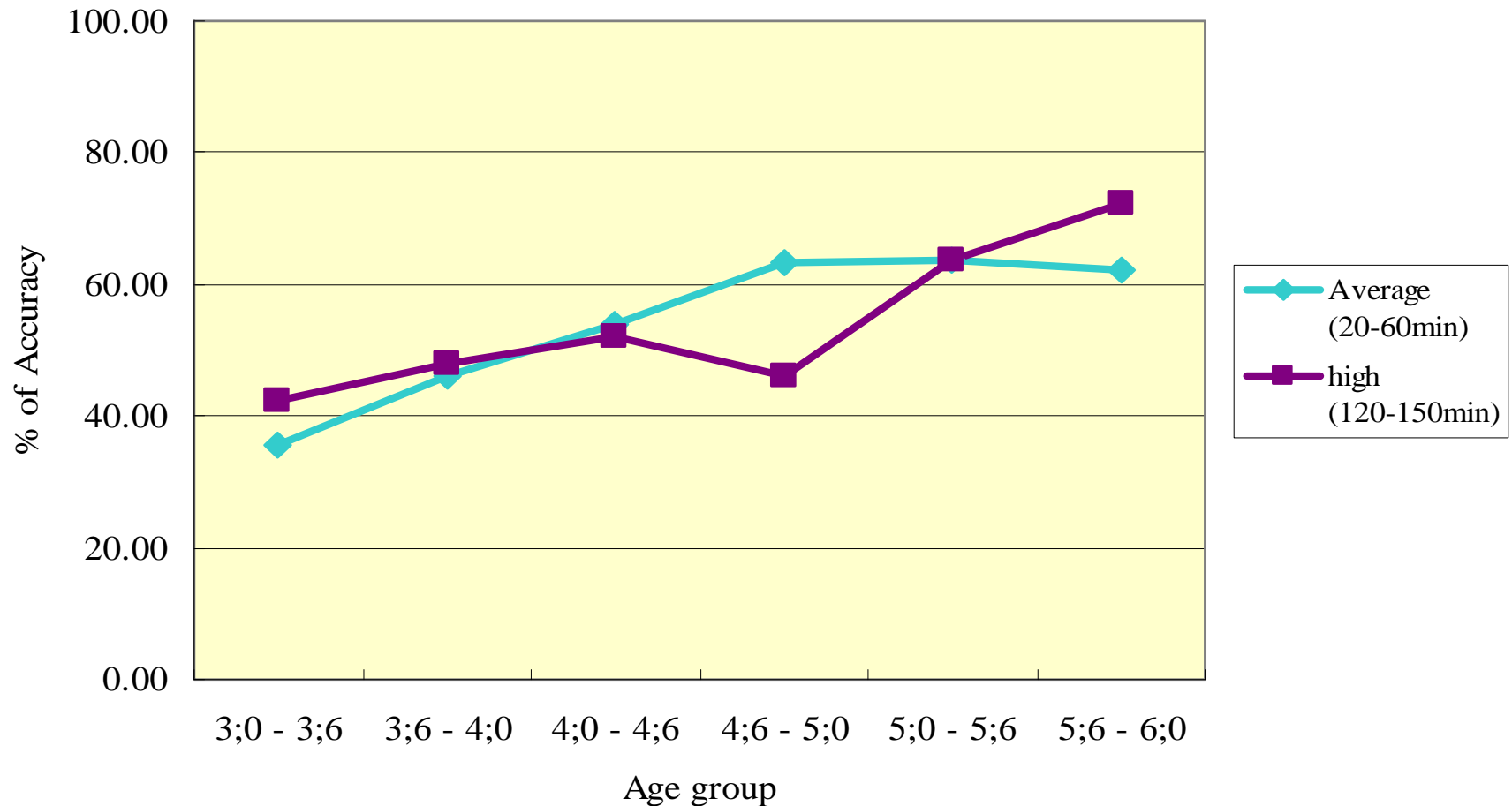
(> 150min per week at school, 35 children from 1 school)



Median scores of children with average vs high exposure



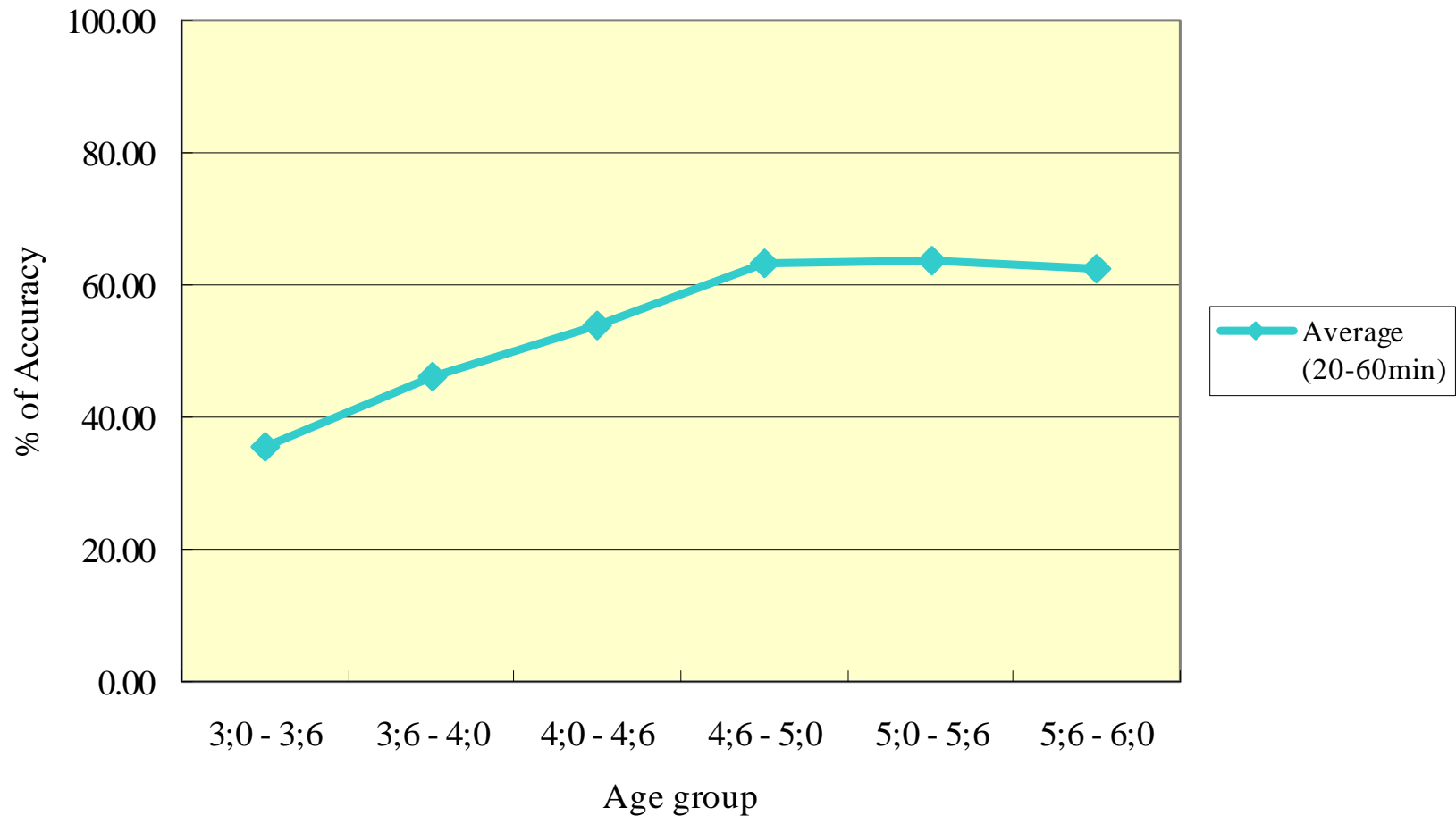
Median scores of children with average vs high exposure



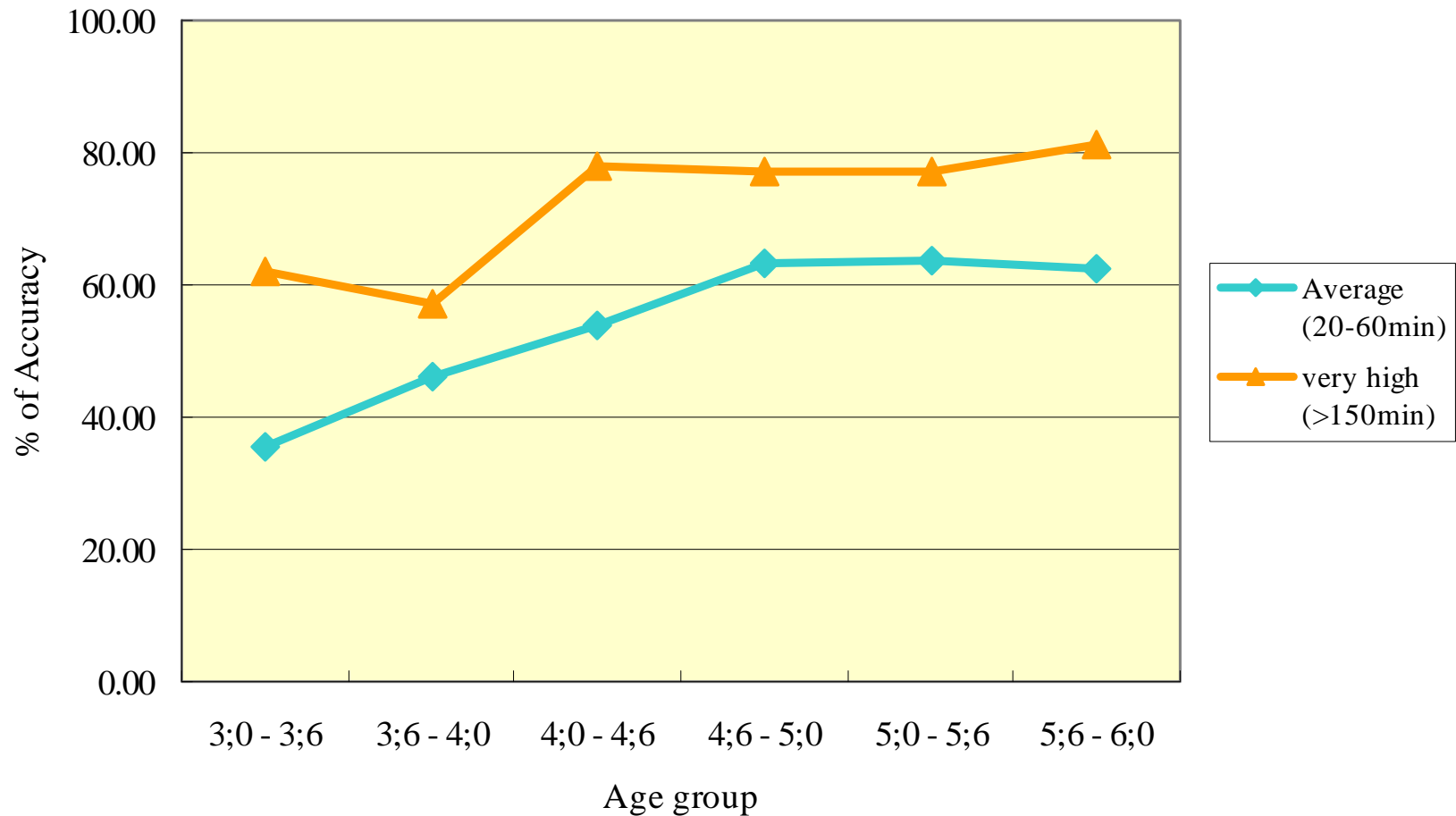
Statistical comparison children with average vs high exposure

Exp. Group	Average (N=174)		High exposure (N=36)		Statistical Comparison (by Mann-Whitney test)
	Median	N	Median	N	p-value
Overall	53.57	174	53.06	36	0.980

Medians scores of children with average vs very high exposure



Medians scores of children with average vs very high exposure



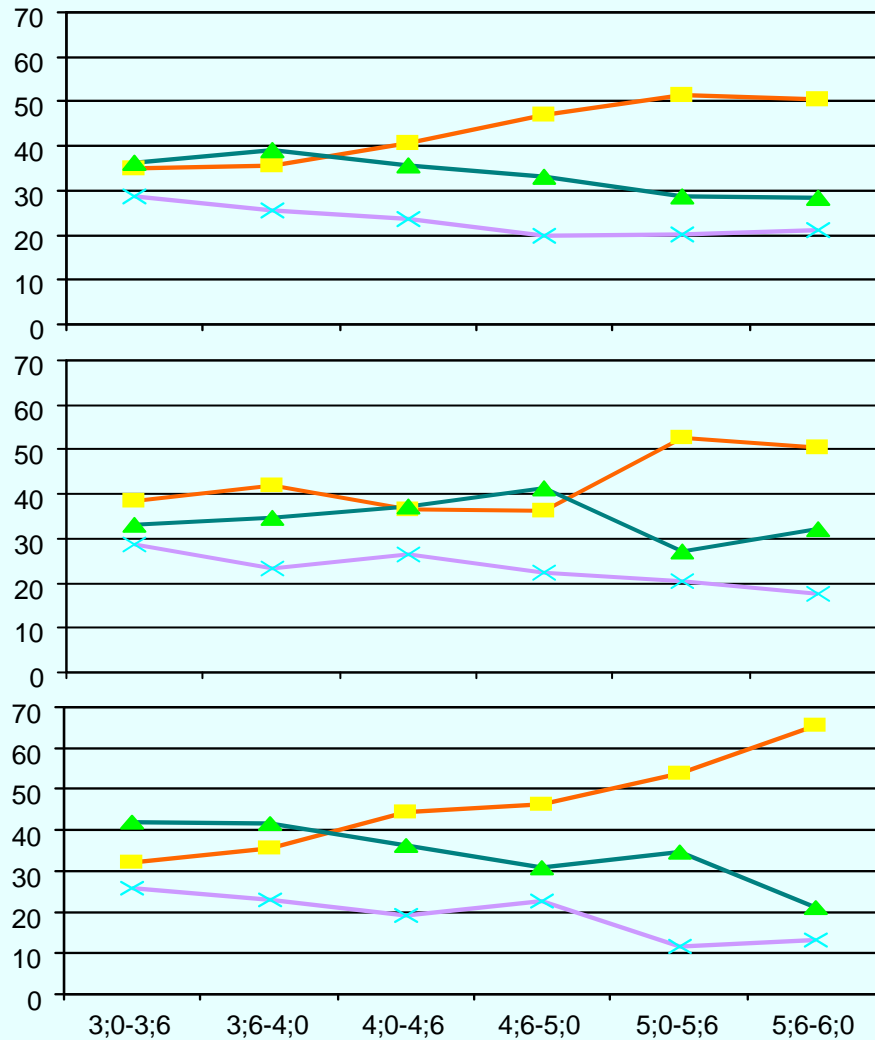
Statistical comparison

Children with average vs very high exposure

Exp. Group	Average (N=174)		Very high exposure (N=35)		Statistical Comparison (by Mann-Whitney test)
	Median	N	Median	N	p-value
Overall	53.57	174	74.49	35	0.000*

* denotes statistical significance at 0.05 level of significance

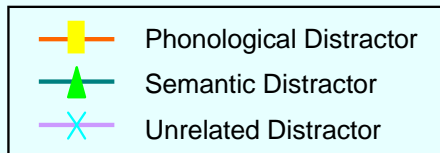
Error types: Average percentage of errors



Average Exposure KGs (20-60min)

High Exposure KGs (120-150min)

Very High Exposure KGs (>150min)





Discussion

Target: 手

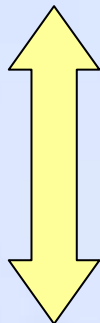
(Correct: 65%)



Mandarin:

/shou₃/

**Phonological
similarity**



Cantonese:

/sau₂/



Target: 蛋糕

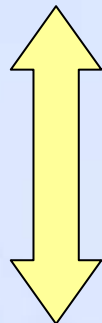
(Correct: 63%)



Mandarin:

/dan₄ gao₁/

Phonological
similarity



Cantonese:

/daan₆ gou₁/



Target: 樹

Correct: 52.2%, 50% of the errors are phonological (書)



← Target

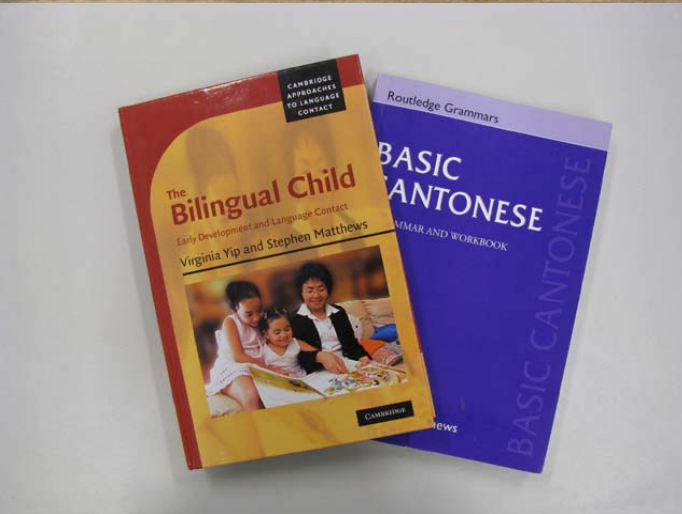
Mandarin

shu₄



Cantonese

syu₆



← Distracter

shu₁

syu₁

Tone Similarity

Error

Target: 菜

Correct: 45.2%, 57.8% of the errors are phonological (踩)



← Target

Mandarin

cai₄



Cantonese

coi₃



← Distracter

cai₃

caai₂

Vowel Similarity



Tone Similarity



Error

Summary of findings

- HK children with **very high** exposure to Mandarin at school (more than 150 mins per week) scored higher than their age peers who have only average exposure of Mandarin at school (21-60 mins per week).
- Distribution of error types changes across stages of acquisition:
 - Younger children: Semantic and phonological errors are both frequent
 - Older children: semantic errors diminish but certain phonological errors (especially tone errors) still persist at age 5 & 6



Summary of findings

- Influence of L1 on L2 can be positive or negative:
 - L1 Cantonese plays both facilitative and interfering roles in the acquisition of Mandarin vocabulary.
 - Positive transfer from Cantonese to Mandarin gives children an advantage: e.g. 手 **sau2** vs **shou3**
 - Negative transfer from Cantonese to Mandarin results in non-target forms:

Mandarin 樹**shu4** is misidentified as **shu1** 書
which is similar to Cantonese **syu1** 書

In Cantonese, high level and high falling are assigned to the same Tone 1. Cantonese learners have trouble distinguishing Tone 1 (high level) and Tone 4 (high falling) in Mandarin





Significance of findings

- For researchers:
 - What are the optimal input conditions for acquisition in terms of quantity and quality of input?
 - What are the common semantic and phonological errors?
 - What do these errors tell us about the child's developing semantic and phonological systems?

Significance of findings

- For clinical & educational practitioners and parents:
 - How to create optimal input conditions in terms of the quantity and quality of input to support balanced bilingual/trilingual development?
 - A baseline profile for typically developing bilingual children needs to be established for comparison with the atypically developing counterparts
 - How to attend to semantic distinctions and phonological distinctions in therapy and pedagogy?



References

- Hao, M.L., H., Shu, A.L. Xing and P. Li. (2008). Early vocabulary inventory for Mandarin Chinese. *Behavior Research Methods* 40.3: 728-733.
- Lee, K.Y.S., Lee, L.W.T., & Cheung, P.S.P. (1996). *Hong Kong Cantonese Receptive Vocabulary Test*. Hong Kong: The Hong Kong Society for Child Health and Development.

Acknowledgments

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- We thank Angela He, Jacqueline Lai, Sunny Park, Kelly Shum, Alice Tse, Eunice Wong, Hinny Wong, Reace Wong, Zhu Xin, Wang Jiao and Joffee Lam for their participation.



Thank you



Target: 關

Correct: 49.2%, 40.6% of the errors are semantic (開)



← Target

Close



← Distracter

Open



Error

Target: 開

Correct: 55.5%, 43.8% of the errors are semantic (關)



← Target

Open



← Distracter

Close



Error

Target: 男孩

Correct: 53.5%, 41.9% of the errors are semantic (女人)



← Target

Boy



← Distracter

Woman



Error

Target: 被子

Correct: 55.2%, 42.2% of the errors are semantic (枕頭)



← Target

Quilt



← Distracter

Pillow



Error

Target: 打電話

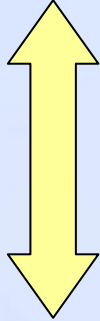
(Correct: 67%)



Mandarin:

/da₃ dian₄ hua₄/

**Phonological
similarity**



Cantonese:

/daa₂ din₆ waa₂/



Mandarin Receptive Vocabulary Test for Hong Kong Children

香港兒童普通話詞彙理解測驗

Contains 98 target words belonging to 14 semantic categories:

- (1) action words (2) animals (3) body part (4) clothing (5) vehicles
- (6) food and drink (7) furniture (8) people (9) descriptive words
- (10) games and routines (11) outside things (12) places to go
- (13) quantifiers and articles (14) small household items

Target children:

- Phase One: preschool age
- Phase Two: P1-P3

Quick to administer: 10-20 minutes

Easy to administer: Each child is shown four pictures at a time on a computer screen, and asked to point to the named picture

