



# Effect of Bilingualism on Novel Word Learning

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# Impact of Bilingualism

Recent research has consistently demonstrated that bilingualism can positively influence nonlinguistic cognition as well as linguistic processing.

(Bialystok, Craik, Klein & Viswanathan, 2004; Kaushankaya & Marian, 2009).

## Nonlinguistic cognition

- Selective attention
- Inhibitory control abilities

In both children and adults

(Bialystok & Martin, 2004,  
Bialystok, Craik, & Ryan, 2006).

## Linguistic processing

- Metalinguistic
- Metaphonological

In children

(Bialystok, Majumder, & Martin, 2003).

# Word learning/Learning new words

Does continuous experience with 2 languages affect the ability to acquire novel phonological forms or new words?

- Striking evidence for a bilingual advantage .  
(Kaushankaya & Marian, 2009).
- Studies on word learning (small number).
- Monolingual and bilingual comparisons.
- Mostly on early bilinguals with native like proficiency.
- Consistently demonstrated a bilingual advantage.

# Word learning and bilingualism

In monolinguals

Age, existing vocabulary knowledge and phonological working memory (Gupta, 2003, Kan & Kohnert, 2008).

Early bilingualism

Significant contributor to cognitive advantages.

Early bilingualism

ability to acquire new phonological forms/words (????)

# Early bilingualism and phonological tuning

Early exposure to two phonological systems.



Delay the onset of language-specific phonological representations

(Bosch & Sebastian-Galles, 2001).



Tolerant phonological system - novel phonological forms.

(Kaushankaya & Marian, 2009).

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# Bilingual word learning studies

Kaushankaya & Marian (2007)

- ➔ Examined novel word learning performance.
- ➔ English monolinguals.
- ➔ Spanish-English Early and Late bilinguals (native like).
- ➔ Early bilinguals outperformed monolinguals.
- ➔ Late bilinguals (highly proficient) did not outperform monolinguals.
- ➔ Age of acquisition effects.

# Bilingual word learning studies

Kaushankaya & Marian (2009)

- Examined novel word learning performance.
- English monolinguals and 2 groups of bilinguals.
- Spanish-English & Mandarin-English bilinguals.
- Languages varied phonologically and orthographically.
- Superior word learning performance in both bilinguals.
- No effect of related and distinct languages.

# Problem

It remains largely unknown that whether the word learning advantage is limited only to bilinguals who are highly proficient and acquired a second language very early in life.

How about less proficient and late bilinguals who had acquired a second language well beyond 8 years?

**Aim:** The study examined novel word learning performance in Tamil monolinguals and Tamil-English bilinguals and also compared the performance of early and late bilinguals.



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# Research Questions

- 1) Will there be a general bilingual advantage for early and late bilinguals on word learning compared to monolinguals?
- 2) Will there be any differences in performance on word learning between early and late bilinguals?

## **Participants:**

- 60 participants (**Aged:** 18-25 years).
- 20 Monolingual Tamil Speakers
- 20 Early and 20 Late Tamil-English bilinguals.

# Design

A detailed language proficiency and background questionnaire (Chengappa, 2010).

<b>Early bilinguals</b>	<b>Late bilinguals</b>
Mean exposure: 20.1	Mean exposure: 13 yrs
Onset age: 3.3 yrs	Onset age: 10.05 yrs
Picture description- Good	Picture description- Good
Listening comprehension- Good	Listening comprehension- Good
Reading- Excellent (8)	Reading- Average (5)
Writing- Good (4)	Writing- Poor (2)

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# Pre-test & Stimuli

A Non-word repetition test to assess the phonological memory.

## **Stimuli**

10 novel words.

Novel words were real words in Hindi, a language which participants were unfamiliar with.

All the referents were concrete and imageable objects.

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# Linguistic Map of India

(retrieved from <http://www.mapsofindia.com/maps/india/indianlanguages.htm>)



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# Procedure

## Procedure

Learning phase

Novel words and the visual referents were displayed on the computer screen.

Participants had seen and heard each referent three times and they were asked to repeat the words 3 times.

e.g. *jhula*  
*jhula*  
*jhula*



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# Testing

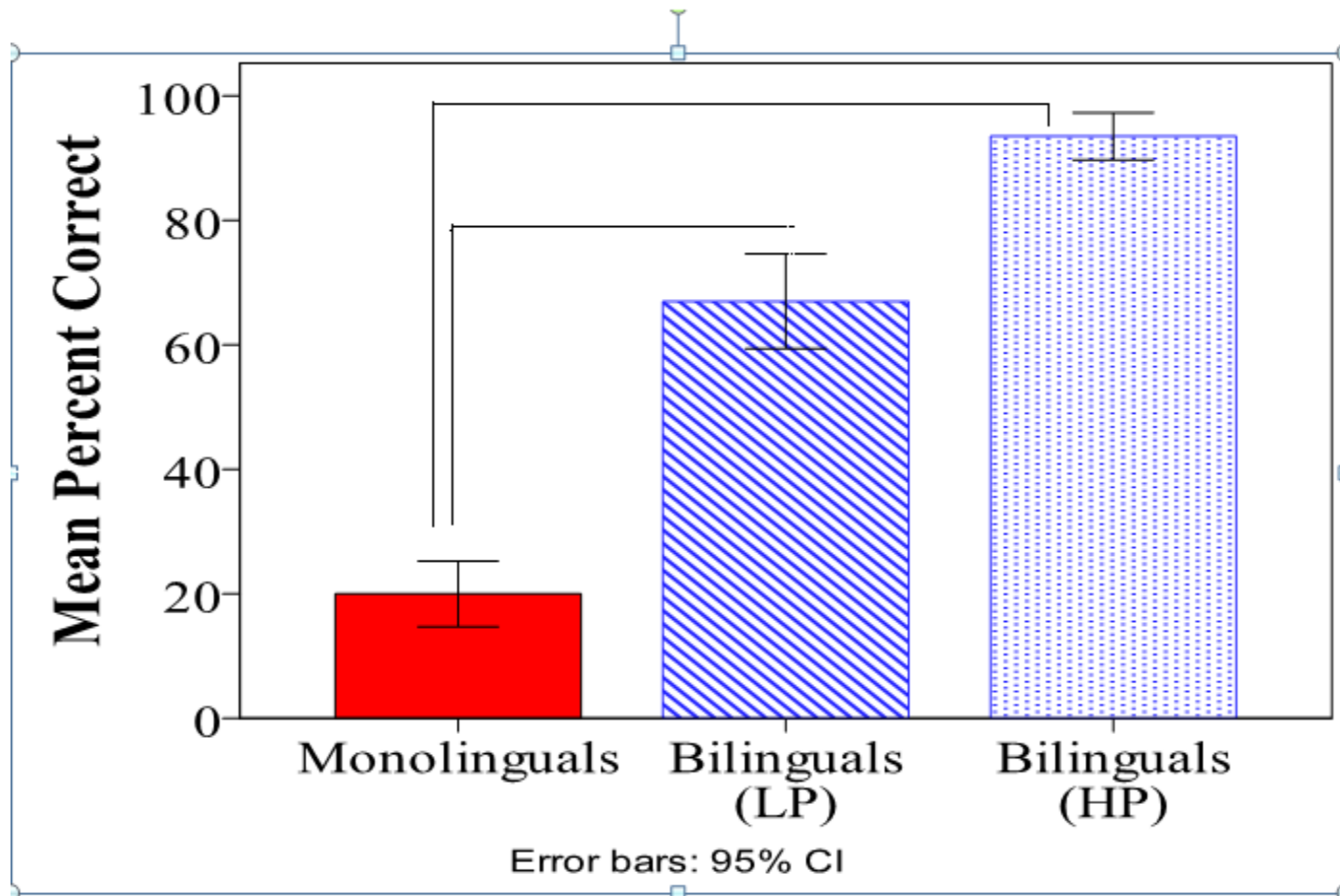
## **Immediate Naming**

Participants had to name the target word. Responses were recorded and number of correct responses were counted.

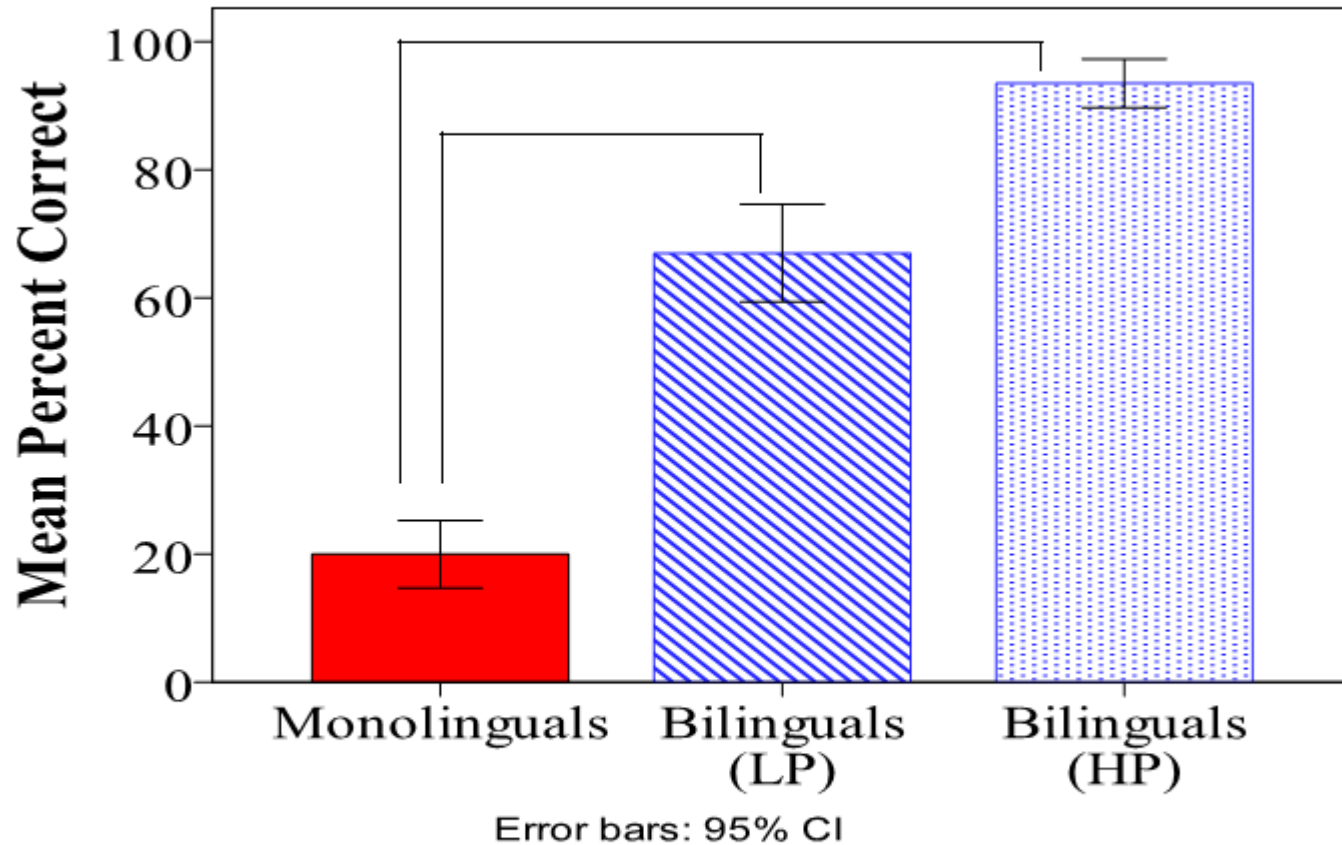
## **Immediate Identification**

The target referent was displayed on the computer monitor along with 3 distractors - Participants were asked to point out the correct referent.

# Results-Identification Scores

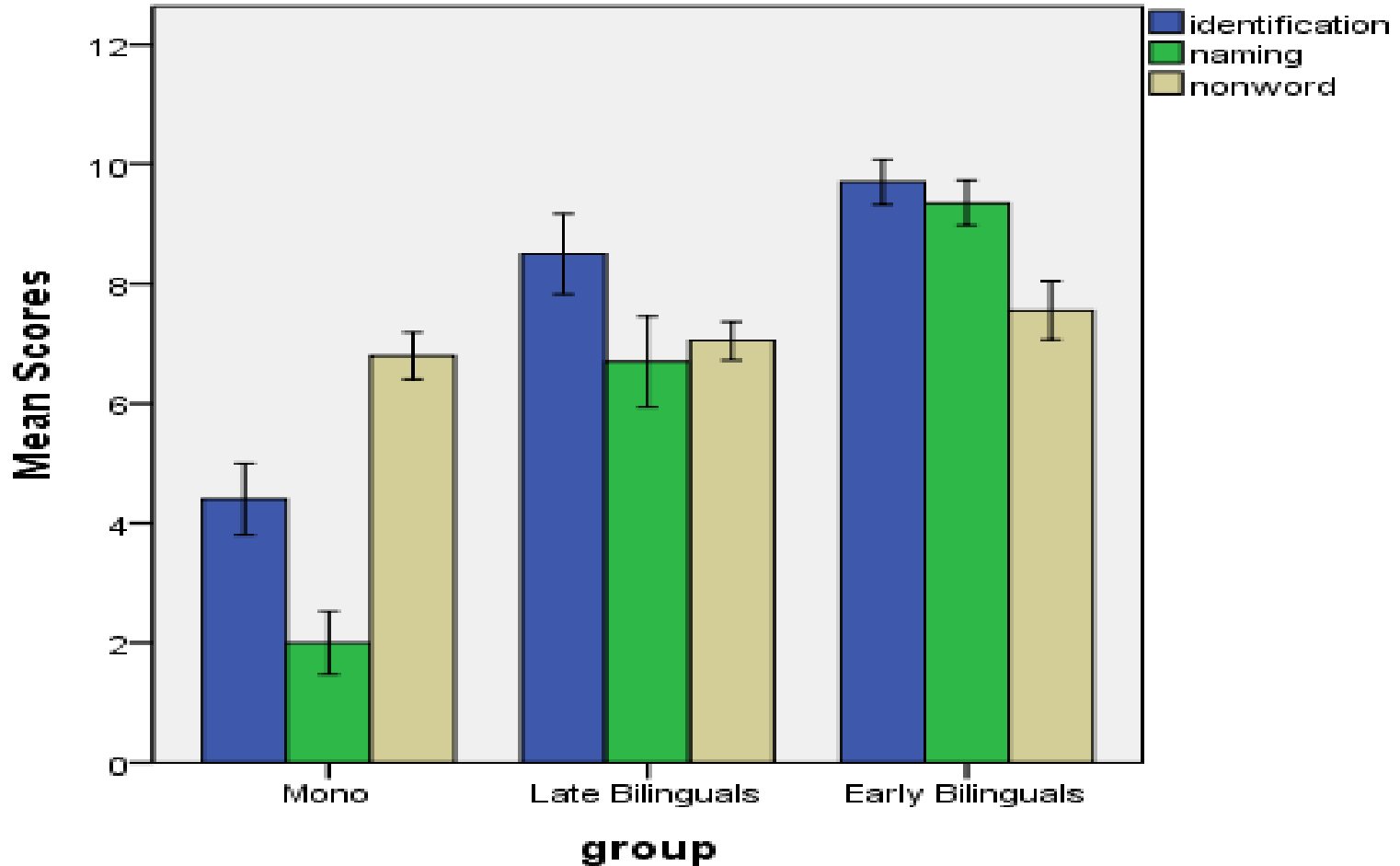


# Results-Naming Scores





# Results-Naming, Identification and Non word repetition scores



# Main findings

- Early bilinguals - robust effect on identification and naming
- Both group of bilinguals outperformed monolinguals.
- Age of acquisition effect in early bilinguals (?)
- Confounding variable - Length of exposure effect.
- Interestingly non word repetition task did not vary across groups.
- Importance of early bilingualism coupled with persistent bilingual exposure.

# Why a word learning advantage

- Early bilingual experience persist to adulthood.
- Possible effect of superior non linguistic cognition on word learning (?).
- Late bilinguals-Persistence and continuous exposure is required.
- Interestingly non word repetition task did not vary.
- Link between phonological memory and word learning in bilinguals could not be established in this study.

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# Strategies

Informal reports.

Monolinguals- Picture-word association.

Late bilinguals- Picture-word association+ rehearsing.

Early bilinguals- Constant rehearsing.

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# Larger Implications

- 1) Word learning in language impaired population.
- 2) Bilingual language intervention- Will it facilitates general cognitive and word learning ability?
- 3) Important for second language learning.
- 4) Word learning as an index bilingual language ability.
- 5) Bilingual strategies and class room implications.

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THANK YOU