Mandarin demonstratives as strong definites

Ankana Saha, Yağmur Sağ, Jian Cui, Kathryn Davidson

Harvard University

Our Study

- **Goal:** Experimentally test differing claims in Jenks (2018), Dayal & Jiang (2022), and Bremmers *et al.* (2022) about Mandarin (definite) bare nouns and demonstratives in anaphoric contexts.
- **Core claim:** Mandarin demonstratives exhibit a degree of *strong* definiteness ⇒ they lack sensitivity to discourse contexts in anaphora, unlike standard demonstratives, e.g. English, Turkish, *etc.*

Definiteness in Mandarin: Background

Jenks (2018) (building on Schwarz 2009, 2013)

- Mandarin distinguishes uniqueness-based, i.e., *weak* (Frege 1892, Russell 1905), and anaphoric, i.e., *strong* (Heim 1982, Roberts 2003) definites.
- Bare nouns are used in *uniqueness* contexts and demonstratives in *anaphoric* contexts (1-a) (except for subject positions, where bare nouns are felicitous as anaphors since they are continuing topics, *not due to being strong definites*).

Dayal & Jiang (2022)

- Mandarin bare nouns are felicitous in both uniqueness and anaphoric contexts regardless of the syntactic position (1-b), whereas demonstratives behave as standard demonstratives.
- In case of change/ expansion in situation from the context situation (1) (such as including a new participant (1-a)), demonstratives are preferred, but otherwise, bare nouns are preferred (1-b).

(1) Jiaoshi li zuo zhe yi ge nansheng yi ge nüsheng.
classroom inside sit PROG one CL boy one CL girl
'There is a boy and a girl sitting in the classroom.'
  a. Wu zuotian yudao {#∅/na ge} *nansheng.*
     I yesterday meet ∅/that CL boy
     'I met the boy yesterday.'
  b. ∅ *Nüsheng* zuo zai ∅ *nansheng* pangbian.
     ∅ girl sit DUR ∅ boy side
     'The girl was sitting next to the boy.'

Bremmers, Liu, van der Klis, & Le Bruyn (2022)

- Mandarin demonstratives are strong definites, but bare nouns are felicitous in both uniqueness and anaphoric contexts.
- Bare nouns in anaphoric contexts require *situation-level familiarity*, i.e., establishing the anaphoric link in the context situation, as in (1-b). (infelicitous if the second sentence introduces a different situation, via a temporal change from the context situation, as in (1-a))

Anaphoric demonstratives crosslinguistically: Background

Saha (2023) & Saha, Sağ, & Davidson (2023): The acceptability of anaphoric demonstratives (Roberts 2002, Wolter 2006, Nowak 2014, Ahn & Davidson 2018, Ahn 2019) is sensitive to discourse contexts unlike definites:

- Demonstratives are sensitive to (i) presence of a contrasting common noun in the context sentence, i.e., the number of NPs (**one vs. two**), (ii) situation (**same vs. new**).
⇒ significantly more acceptable in (i) new situations (consistent with Dayal & Jiang 2022), and (ii) in One NP contexts (where there is no other contrasting common noun property). [Fig. 1 (English, Turkish, Bangla)]
- Experimental data from three languages: one with determiners (**English**) and two determinerless languages encoding definiteness distinctly: **Turkish** via bare nouns, **Bangla** via noun-classifier constructions

Critical Manipulation

Saha (2023) and Saha *et al.*'s (2023) design:

(2) {[_OneNP_ A boy]/ [_TwoNP_ A boy and a girl]} entered the classroom.   **Context Situation**
  a. The/That *boy* sat down in the front row.   **(Same Situation)**
  b. I had noticed the/that *boy* at a coffee shop yesterday.   **(New Situation)**

Our Mandarin design:

(3) {[_1NP_ yi ge nanhai]/ [_2NP_ yi ge nanhai he yi ge nvhai]} zoujin le jiaoshi.   **Context Situation**
one CL boy one CL boy and one CL girl walk.into PERF classroom
'A boy/A boy and a girl walked into the classroom.'
  a. {∅/na ge} *nanhai* zuozai qianpai.   **(Same Situation)**
     ∅/that CL boy sit.at front.seat
     'The/That boy sat at the front.'
  b. wo zuotian zai shudian jian guo {∅/na ge} *nanhai.*   **(New Situation)**
     I yesterday at bookstore see PERF ∅/that CL boy
     'I saw the/that boy at the bookstore yesterday.'

- New situations introduced both a **new event participant** (Dayal & Jiang 2022) and **a temporal change** (Bremmers *et al.* 2022).

Methods

- Latin Square 2x2x2 design crossing NP (**1 vs. 2**) and situation (**new vs. same**) across 12 scenarios (balanced for animacy of target NPs)
- Total 64 Mandarin participants (recruited via Prolific Academic platform)

一个男孩和一个女孩走进了教室。

我昨天在书店见过那个男孩。

最不自然   最自然

我昨天在书店见过男孩。

最不自然   最自然

Results
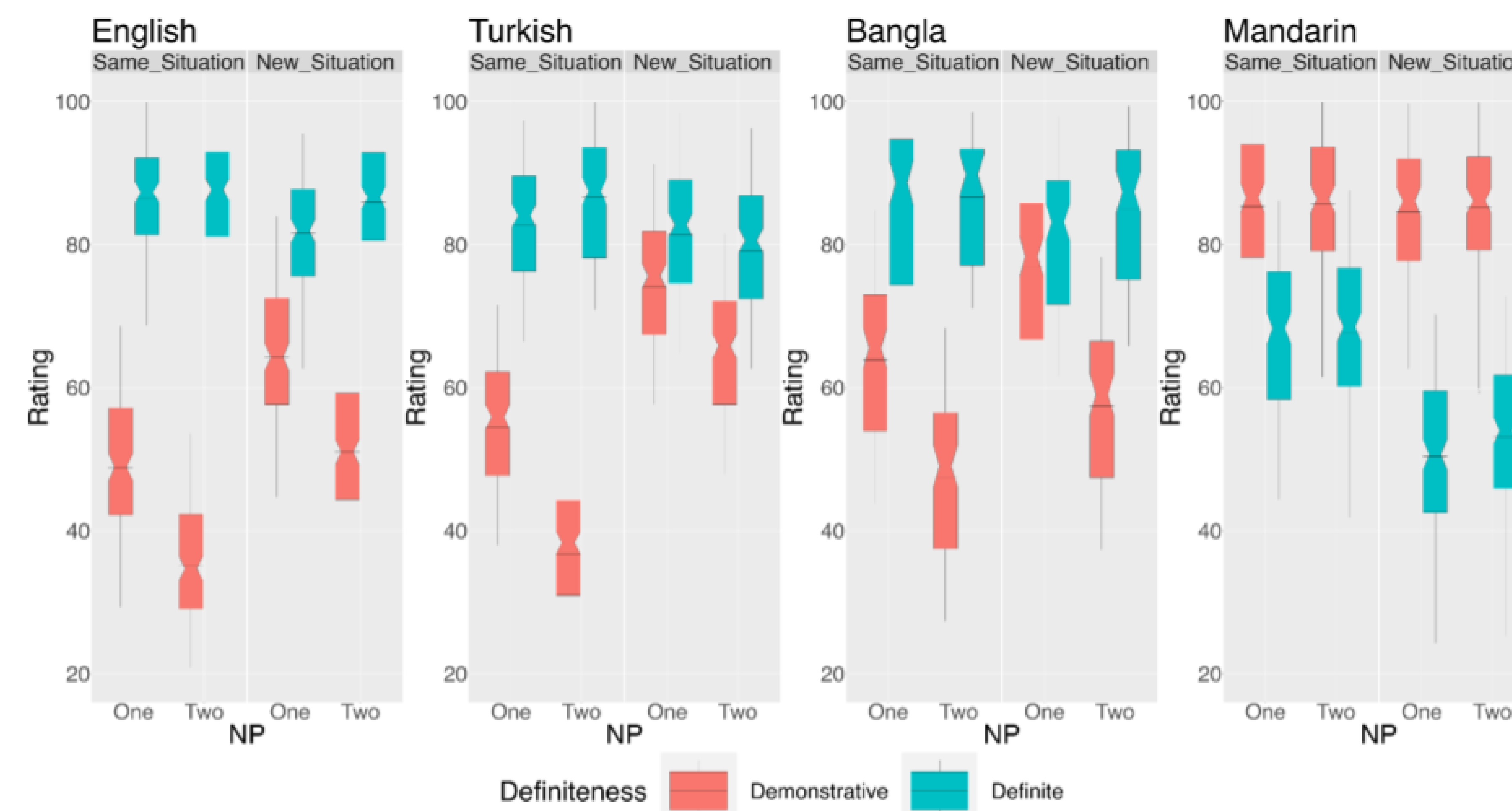

Figure 1. Anaphoric Definites vs Demonstratives: English, Turkish (Saha et al. 2023), and Bangla (Saha 2023) vs Mandarin (our present study)

Core Findings

- Mandarin data **contrast** with the consistent pattern of the paradigm in English, Turkish, and Bangla
- Anaphoric demonstratives in Mandarin **do not** exhibit the sensitivity to discourse context seen in demonstratives in other languages ⇒ they pattern, instead, with anaphoric definites in this paradigm.

Discussion & Analysis

Mandarin Demonstratives

- Acceptability at ceiling across-the-board
- No significant effect of either Situation or number of contrasting NPs

Mandarin Definites

- Significantly degraded across-the-board compared to demonstratives
- Significantly less preferred in New Situations

Our findings vs. previous studies:

The Mandarin pattern in anaphoric contexts:

- Demonstratives: pattern with definites in other languages ⇒ compatible with Jenks' claim of them marking *strong* definiteness
- Bare nouns: (partly) found felicitous ⇒ in line with Dayal & Jiang and Bremmers *et al.*, contrary to the prediction of Jenks' *Index!* (blocks the use of bare nouns in anaphoric contexts)

Role of situation:

- Demonstratives: in other languages, they *do* show a clear effect of same vs. new situation, in line with Dayal & Jiang, but *not* in Mandarin
- Bare nouns: acceptability improves in the absence of situation change ⇒ in line with Bremmers *et al.*'s *situation-level familiarity*

Analysis:

- Unlike standard anaphoric demonstratives (5-c), which mandatorily evoke focus on the index argument (Saha *et al.* 2023), Mandarin demonstratives allow for the absence of focus on the index, akin to (5-a) and (5-b).

(4)   a. $\llbracket \text{DEF} \rrbracket = \lambda s.\lambda y.\lambda P : \exists! x[P_s(x) \wedge x = y].\ \iota x[P_s(x) \wedge x = y]$ (Schwarz 2009)
  b. $\llbracket \text{DEM} \rrbracket = \lambda s.\lambda y.\lambda P : Maximal(s) \wedge\ \exists! x[P_s(x) \wedge x = y] \wedge |P_s| > 1.\ \iota x[P_s(x) \wedge x = y]$ (Saha *et al.* 2023)

(5)   a. the boy (no focus on DP)   e.g. 1 NP cases
     $[\![\text{DEF } 1] \text{ boy}]^o = \iota x[boy(x) \wedge x = g(1)]$
  b. the BOY (as opposed to the girl)   e.g. 2 NP cases
     $[\![\text{DEF } 1] \text{ boy}_F]^f = \{\iota x[boy(x) \wedge x = g(1)], \iota x[girl(x) \wedge x = g(2)]\}$
  c. THAT boy (as opposed to another boy)   e.g. 1 NP, New S cases
     $[\![\text{DEM } 1_F] \text{ boy}]^f = \{\iota x[boy(x) \wedge x = g(1)], \iota x[boy(x) \wedge x = g(3)]\}$

Why a preference for demonstratives across the board?

- Mandarin sentences with bare nouns also have generic readings due to lack of tense and aspectual marking, as well as indefinite readings for postverbal bare nouns (e.g. Cheng & Sybesma 1999)
- In competition with these bare nouns, demonstratives here are unambiguously anaphoric, driving their preference across the board.
- In Same Situations, there is a bias towards referring to entities introduced previously; hence definites fare better here as anaphors.

Conclusions

- Mandarin demonstratives pattern with other definites (not demonstratives) when it comes to this focus/anaphora manipulation.
- Compatible with studies of semantic change showing well-established grammaticalization clines across languages in contexts where both can occur (Diessel 1999): **demonstrative → (anaphoric) definite**

Selected References: Bremmers, Liu, van der Klis, & Le Bruyn 2022. Translation mining: Definiteness across languages. Linguistic Inquiry, 53(4), 735-752. **Dayal & Jiang 2022.** The Puzzle of Anaphoric Bare Nouns in Mandarin: A Counterpoint to Index! Linguistic Inquiry 54(1): 147–167. **Jenks 2018.** Articulated definiteness without articles. Linguistic Inquiry 49(3). 501–536. **Saha 2023.** The anaphoric potential of demonstrative descriptions: An experimental study. Generals paper, Harvard University. **Saha, Sağ, & Davidson 2023.** Focus on demonstratives: Experiments in English and Turkish. SALT 33: 460–479.