

Mandarin demonstratives as strong definites: An experimental investigation

This study argues based on new experimental data that Mandarin demonstratives exhibit strong definiteness in a manner not observed with standard demonstratives (e.g. in English) (Jenks 2018).

Definiteness in Mandarin. Building on Schwarz (2009, 2013), Jenks (2018) proposes that Mandarin, a determinerless language, lexically distinguishes uniqueness-based, i.e., *weak* (Frege 1892, Russell 1905), and anaphoric, i.e., *strong* (Heim 1982, Roberts 2003) definites—bare nouns are used for a unique referent in a situation and demonstratives establish anaphoric links to an existing discourse referent, as in (1a), with the exception of subject positions, where bare nouns are felicitous as anaphors since they are continuing topics (not due to being strong definites). Dayal & Jiang (2022), with a different follow-up to (1) as in (1b), claim that Mandarin bare nouns are felicitous in both uniqueness and anaphoric contexts and demonstratives are standard demonstratives.

(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 b. Nüsheng zuo zai nansheng pangbian.
 I yesterday meet that cl boy girl sit dur boy side
 ‘I met the boy yesterday.’ ‘The girl was sitting next to the boy.’

Dayal & Jiang (D&J) link the contrast between (1a) and (1b) to the situations invoked by the follow-up sentences. When the initial situation in (1) remains unchanged, speakers opt for the simpler of two felicitous options, the bare noun (1b). If the situation expands (1a) (e.g., including a new participant), the demonstrative is preferred, as bare nouns might become infelicitous if the extended situation fails the uniqueness requirement of the definite. Demonstratives, though, would remain felicitous, as they have an anti-uniqueness requirement (*the sun* vs. *#that sun*, e.g., Robinson 2005), which can be satisfied in a wider situation.

Anaphoric demonstratives. Experimental work has shown that the acceptability of anaphoric demonstratives (vs. definites) depends on both the situation extension in the follow-up sentence and the number of discourse referents (NPs) introduced initially. Saha (2023) and Saha *et al.* (2023) obtained acceptability judgments from one language with determiners (English) and two determinerless languages (Turkish, Bangla) encoding definiteness distinctly: Turkish via bare nouns, Bangla by preposing the NP before the classifier. Context manipulated situation (**same** (2a) vs. **new** (2b)) and number of NPs (**one** vs. **two**):

- (2) {[*One*_{NP} A boy]/ [*Two*_{NP} A boy and a girl]} entered the classroom.
 a. The/That boy sat down in the front row.
 b. I had noticed the/ that boy at a coffee shop yesterday.

Across all these languages (English and Turkish in Saha *et al.* 2023, and Bangla in Saha 2023), definites were near ceiling in these contexts and rated significantly higher than demonstratives, while the acceptability of demonstratives varied significantly and were highest in One NP contexts and in New Situations (Fig 1). Saha *et al.* (2023) accounts for this pattern by adopting a focus-driven information structural approach to demonstratives. Following insights from Schwarz (2009) and D&J (2022), they assume that that anaphoric definites and demonstrative descriptions are similar in including an anaphoric index argument, and they argue that demonstratives essentially differ from definites in evoking focus alternatives on the index argument, ((3b) vs (3c)).

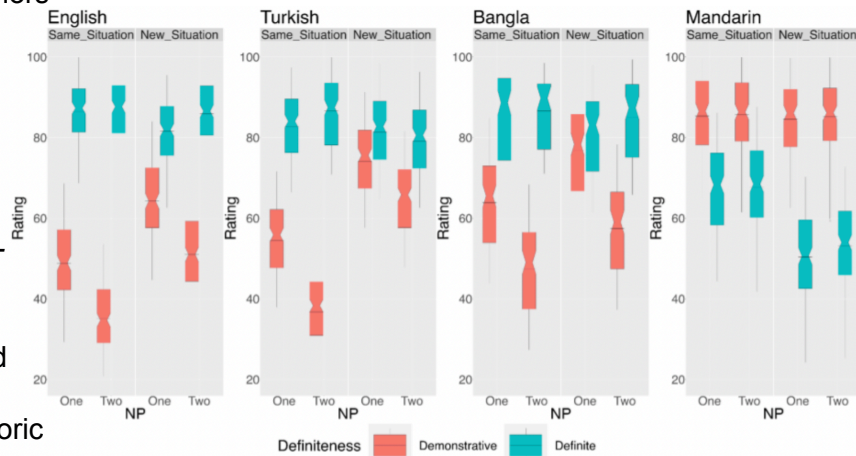
- (3) a. the boy (no focus with DP): $\llbracket \llbracket \llbracket \text{DEF } 1 \rrbracket \text{ boy} \rrbracket \rrbracket^o = \iota x[\text{boy}(x) \wedge x = g(1)]$ e.g. 1 NP cases
 b. the BOY (as opposed to the girl) e.g. 2 NP cases
 $\llbracket \llbracket \llbracket \text{DEF } 1 \rrbracket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

Our Study: Design & Methods. We adapted the experimental paradigm in Saha (2023) and Saha *et al.* (2023) to Mandarin to test contrasting claims in Jenks (2018) and D&J (2022). The acceptability of definites vs. demonstratives were tested across 12 scenarios varying both subject/object position and animacy. Participants (N=64) read short scenarios and were presented with two possible continuations after each, one with a demonstrative and one with a bare noun (order counterbalanced), and rated the acceptability of each continuation using a slider bar. Scenarios varied between participants in a 2x2x2 Latin Square design by number of discourse referents (one vs. two) and situation (same vs. new) [See (4)]. New situations introduced a new participant (e.g. speaker or someone else) and a temporal change from the initial situation.

- (4) {[_{1NP} yi ge nanhai]/ [_{2NP} yi ge nanhai he yi ge nvhai]} zoujin le jiaoshi.
 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. b. wo zuotian zai shudian jian guo {∅/na ge}
 ∅/that cl boy sit.at front.seat I yesterday at bookstore see perf ∅/that cl
 ‘The/That boy sat at the front.’
 boy
 ‘I saw the/that boy at the bookstore yesterday.’

Results & Discussion. The data was fit with a mixed effects linear model in R, which found a main effect of demonstratives rated significantly higher than definites across the board (micro-variations in ratings for subject vs. object positions were not checked for) with no significant effect of either Situation or number of NPs. Within definite responses, we found a main effect of situation: Definites were significantly more acceptable in Same Situation follow-ups (Fig. 1). The strong preference for demonstratives as anaphors

supports Jenks’ claim of strong definiteness (contra D&J 2022). However, in line with D&J, definite bare nouns are also felicitous (though less preferred) in anaphoric contexts. *Demonstratives:* The contrast of the Mandarin data against the consistent patterns found in English, Bangla, and Turkish establish that anaphoric definites in Mandarin



do not behave like demonstratives but pattern more closely with anaphoric definites in these languages. We suggest that Mandarin demonstratives allow for the absence of focus on the index, akin to (3a) and (3b), unlike standard anaphoric demonstratives, e.g., (3c). *Definites:* We see an effect of situation in the relative acceptability of anaphoric definites; they are less preferred in New Situations, as claimed by D&J, although definites do not surpass demonstratives in acceptability within Same Situations. We argue that this stems from the ability of Mandarin sentences with bare nouns to 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). Demonstratives would be unambiguously anaphoric, driving their preference across the board. In Same Situations, there is a bias towards referring to the entities introduced previously, so definites fare better as anaphors in Same (vs. New) Situation.