"Like me" gender biases emerge in boys before girls: Evidence from production of binomials

Human language contains and communicates a variety of social biases, such as the androcentrism found in common phrases like *kings and queens* [1 2]. These biases are typically explained in terms of speaker attitudes [2 3], but recent work has suggested that they may instead reflect design features of the production system, and specifically the impact of accessibility on word order choices. Adult speakers are faster to retrieve the names of individuals who match their own demographic characteristics (e.g., gender, race), and this results in a "like-me" bias to mention in-group members before our-group members (e.g. males mention male figures first and females mention female figures first) [4]. These accessibility-driven biases have been explored in adults, but we do not know when or how they develop. In this study, we therefore examine how gender impacts word order choices in school-age children's descriptions.

Method. Seventy-three 7–9-year-old primary school-age children in China (33 boys, Mage=92 months; 40 girls: Mage=91 months) participated in a language production experiment. They first learned the names of 3 boys and 3 girls to ceiling accuracy (note that names were gender-neutral and counterbalanced, see figure 1). They then saw images in which boy-girl pairs engaged in various joint activities (e.g., "collecting seashells", see Figure 2) and answered questions about them (e.g. "which children are collecting seashells?"). Our analysis focused on the order of names in their answers (e.g., "Pào Pào and Bèi Bèi are collecting seashells"). Each child described 27 actions based on all 9 possible combinations of the gender pairs. At the end of the task, children were asked to indicate their favourite character if they had one.

Results. Overall, children tended to mention characters that matched their own gender first (61% of trials; bootstrapped 95% C.I. [56.4-65.6], Beta=0.57 (SE=0.10), z=5.46, p< .001); this effect did not vary across the age range tested. However, the "like-me" effect strongly differed between boys and girls. Boys showed a robust "like-me" effect, putting their own gender first on 72% of trials ([65.4-77.1], Beta=1.06(SE=0.18), z=5.91, p< .001), whereas girls did not (52.5%, [47.2-57.9], Beta=0.11(SE=0.14), z=0.84, p=.402). This pattern is consistent with prior work on androcentrism in children's writing [1]. Interestingly, this differential "like-me" effect was not predicted by children's attitudes to the depicted characters: when asked to select their favourite character, an overwhelming 97% of girls chose a same-gender character, while only 70% of boys did so.

Discussion. Our findings show that the "like-me" effect for gender has emerged by age 7 for boys, but is not apparent in girls at this age. Importantly, the size of the effect was not driven by children's attitudes to the characters, which is consistent with adult evidence that the "like-me" effect is driven by socially-stratified differences in accessibility [4]. The cause of these gender differences is yet to be determined, but they are consistent with prior work on children's androcentrism [1] and may reflect children's different exposure to male versus female-biased language [5]. Future work should examine the development of other aspects of the "like-me" effect, such as the race bias found in adults.

Figure 1. An example of the characters and their names children were asked to remember. To control for lexical accessibility, the names were all gender-neutral, matched on character length, number of syllables and counterbalanced by gender across experimental lists.

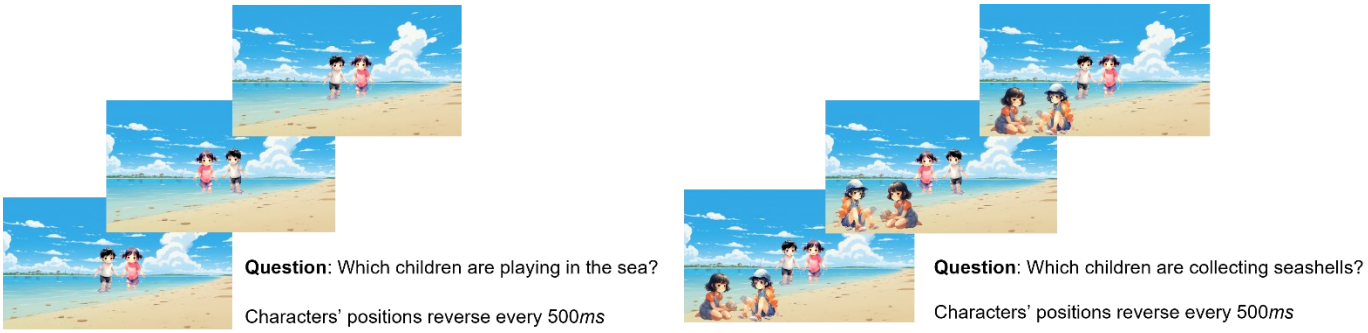

Figure 2. Examples of two description trials from a *beach play* scenario. In each trial, children saw a gender pair appears on the scene, with their positions reverse every 500*ms* to reduce the tendency to mention the left character first. Children answered questions about each gender pair's activities, using descriptions like *yōu yōu and máo máo (or máo máo and yōu yōu) are playing in the sea*. We coded which gender (boy or girl) was mentioned first in children's descriptions.

References:

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