Perspective taking in language production in collectivist and individualist cultures

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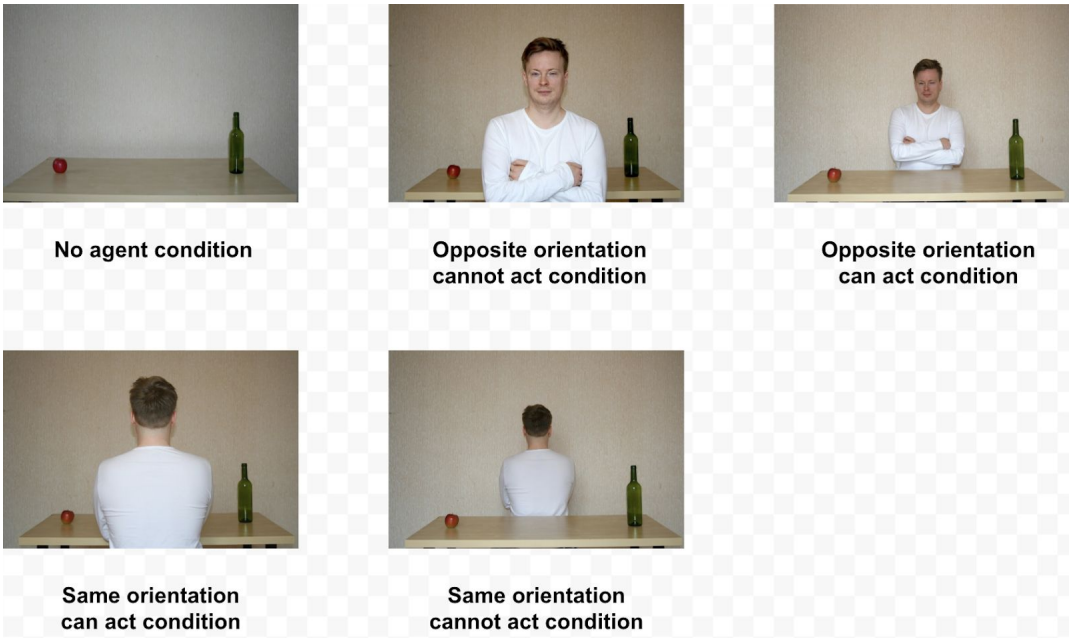
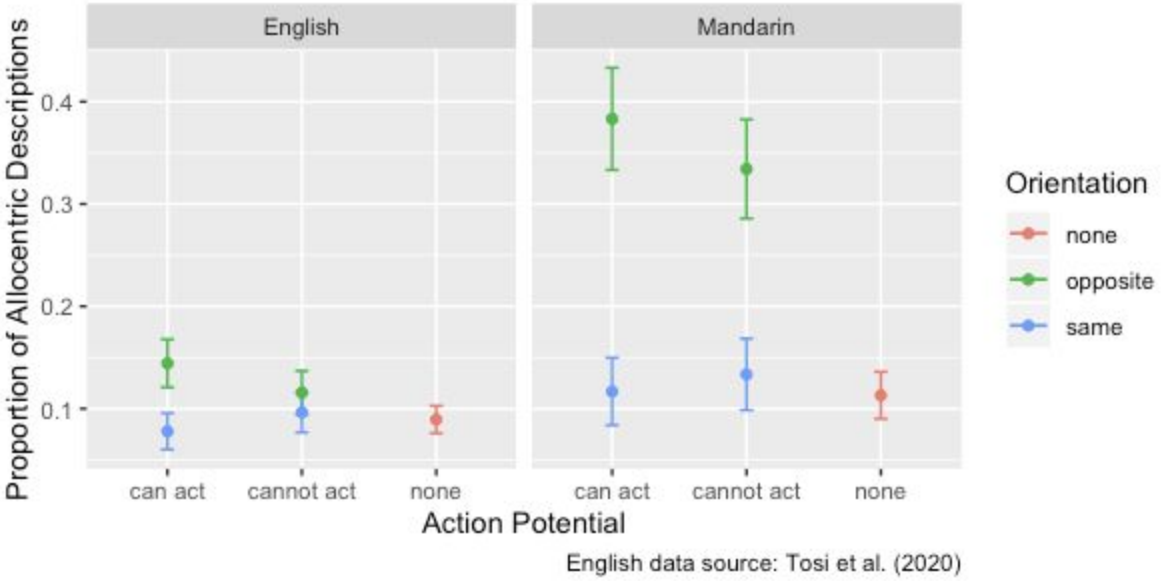
Language grants interlocutors the option to depict spatial positions with a range of perspectives. For example, an interlocutor can use an egocentric self-perspective (e.g., *on my right*), or an allocentric non-self-perspective (e.g., *to the left of her*; Tversky, 1996). Interlocutors by default are expected to employ egocentric descriptions (Levelt, 1984), but speakers have also been found to utilise allocentric perspectives naturally, especially in interactive environments (e.g., Schober, 2009). This choice of perspective may be probabilistically conditioned via *audience design* (Clark & Murphy, 1982). Tosi, Pickering, & Branigan (2020) conducted a study whereby native English speaking participants produced spatial descriptions of objects. The participants were shown pictures with two objects, with each object on the left or right. The pictures were manipulated by whether a person was present in the picture, and if present, whether the person had the same or opposite perspective as the participants (termed *Orientation*), and whether the person could or could not potentially act upon or see the objects (termed *Action Potential*). This study found that Orientation as well as the Orientation-Action Potential interaction affected the use of allocentric perspective taking, suggesting that speakers can use simulations of an agent's perspective to ground their spatial descriptions.

The Tosi et al. study along with other papers mainly focus on how environmental and audience design features affect perspective taking. However, there is a lack of research on how factors internal to an interlocutor affect this phenomenon. This current study compares perspective taking by Chinese speakers, who grew up in a collectivistic culture, with English speakers, who grew up in a more individualistic culture. Collectivism entails a self perception grounded within communal roles and relationships, with Asian cultures being generally more collectivist than Western cultures (e.g., Singelis, Triandis, Bhawuk, & Gelfand, 1995). Higher collectivism may entail greater use of allocentric perspectives, due to more relational emphasis that could evoke an increase in simulating the perspectives of others.

The current study replicated Experiment 3 (described above) in Tosi et al. (2020) but with 93 native Mandarin Chinese speakers. We built a logistic mixed model (binary DV of egocentric or allocentric response) on the newly collected Mandarin data and the original English data, with Language (Mandarin vs. Chinese), Orientation (same perspective vs. opposite perspective) and Action Potential (can act/see items vs. cannot act/see items) along with their interactions included as fixed effects, and with a maximal random effect structure justified by the data. Language ($z = 5.01$), Orientation ($z = 11.74$), the Language-Orientation interaction ($z = 6.06$) and the Orientation-Action Potential interaction ($z = 2.93$) were significant. These results replicate the findings in Tosi et al., suggesting that participants use more non-self perspectives when viewing people with opposite orientations, and especially for the interaction with being able to act upon the objects. More critically, the results also suggest that, consistent with their collectivist culture, Mandarin speakers are more likely to use allocentric perspectives compared to English speakers, and especially for the interaction with viewing people with opposite orientations. Therefore, higher collectivism may cause more allocentric perspective taking, which in turn affects perspective taking in language formulation and production.





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