Cyber-ostracism and language production: Is lexical imitation a pro-social behaviour?

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During dialogue, speakers tend to converge on the same referring expressions (Brennan & Clark, 1996; Pickering & Garrod, 2004). Such *lexical entrainment* has been attributed to audience design considerations (Brennan & Clark, 1996), and to priming or cue-based memory mechanisms (Horton & Gerrig, 2005; Pickering & Garrod, 2004). However, research on non-linguistic imitation during interaction suggests that entrainment might also arise from the pursuit of social-affective goals, with imitation serving to promote affiliation (Lakin & Chartrand, 2003). In particular, it has been shown that experiencing ostracism (i.e., social exclusion) increases individuals' tendency to imitate their partner's mannerisms as a way to regain social belonging (Lakin & Chartrand, 2003), and ostracised children are more likely to entrain than non-ostracised children during face-to-face interaction (Hopkins & Branigan). Moreover, it has been shown that lexical entrainment occurs during online interaction (Tobar-Henríquez et al, 2019). However, it is unclear whether the effects of ostracism are strong and stable enough to affect language processing during online interaction, and whether such effects are focused on repairing a specific relationship (with the perpetrator of ostracism) or on increasing affiliation in general (with any social partner).

In three web-based experiments, we test the effects of cyber-ostracism on lexical entrainment, using a 2x2 between-participatns design. Native speakers of British English played a ball-tossing game with two partners (i.e., Cyberball; Williams, 2007), who either ostracised them in the game or did not. Participants then completed a matching-and-naming task, where they took turns with a partner to name objects that had a disfavoured and a favoured name (e.g., bunny vs rabbit; Tobar-Henriquez et al., 2019). We measured lexical entrainment as participants' use of disfavoured words that their partner has used before during the task. Participants played this task with either a partner from the previous ball-tossing game or a new partner.

In Experiment 1 (N=101), participants used disfavoured words signficantly more often than in the spontaneous naming task used to norm the materials (see Figure 1). Ostracised participants used entrained terms more often than non-ostracised participants (β =.54, p=.028), but they entrained to similar extents to the perpetrator of ostracism or a new partner (β =.36, p>.05; see Figure 1). Experiment 2 (N=101) replicated the direction of the ostracism effect on entrainment but the difference was not significant (β =.53, p=.076; see Figure 1), and the experiment replicated the null effect of parner's identity (β =-5., p=.09). A combined analysis (N=202) suggested that ostracism increased the likelihood of entrainment (β=.53, SE=.20, z=2.69, p=.007), and that this effect was not moderated by their previous interaction with their partner (β=-.072, SE=.20, z=-.37, p>.05; see Figure 2). However, experiment 3 (N=223) showed no evidence for an effect of ostracism on entrainment (β=-.013, p>.05; see Figure 3).

In sum, we found moderate evidence that entrainment has a social-affiliation component, which enhances social affiliation in general (rather than repairing individual social relationships). Thus, social effects of ostracism permeate functional linguistic behaviours, suggesting that language production is affected by social-affective information. However, this effect does not seem highly stable during online interaction, and therefore future research should look at the relationship between interactivity and ostracism on language production.

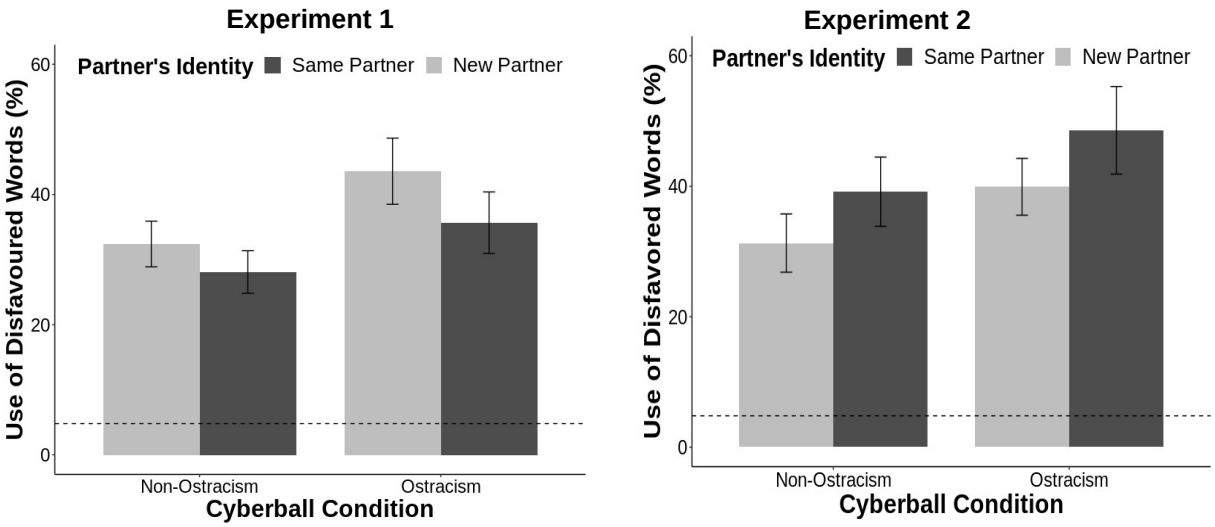

Figure 1. Mean and standard error of percentage of use of disfavoured words (y-axis) across Cyberball Condition (x-axis) and Partner's Identity Condition (color-coded) in Experiment 1 (left) and Experiment 2 (right). Dashed line represents mean of percentage of use of disfavoured words in norming task.

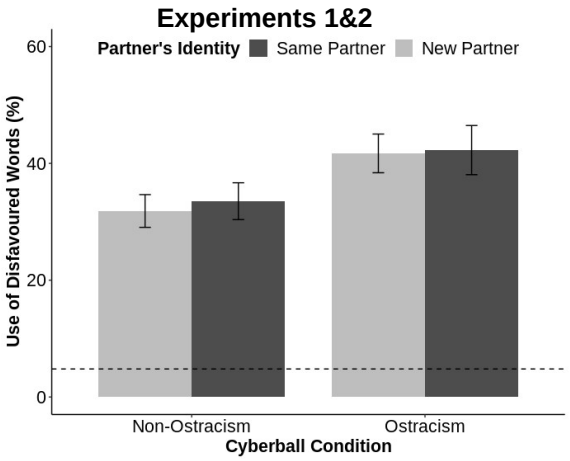

Figure 2. Mean and standard error of percentage of use of disfavoured words (y-axis) across Cyberball Condition (x-axis) and Partner's Identity Condition (color-coded) in Exp 1&2. Dashed line represents mean of percentage of use of disfavoured names in the spontaneous naming task used to norm the materials.

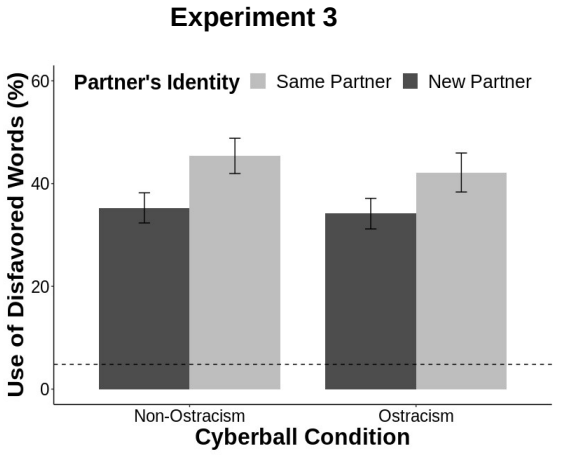

Figure 3. Mean and standard error of percentage of use of disfavoured words (y-axis) across Cyberball Condition (x-axis) and Partner's Identity Condition (color-coded) in Exp 3. Dashed line represents mean of percentage of use of disfavoured names in the spontaneous naming task used to norm the materials.

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