Cultural Markers: The Role of Gesture in Identifying In- and Out-Group Members

Cristina-Ioana Galusca[1], Kayden Stockwell[2] Sweta Kaman[3]

[1]CNRS Université Grenoble Alpes, Laboratoire de Psychologie et NeuroCognition

[2]University of Virginia

[3]Centre for Brain Science and Applications School of AIDE, IIT Jodhpur

c.galusca@gmail.com, ks6hv@virginia.edu, kaman.1@iitj.ac.in

Across cultures and time, people have spontaneously categorised those around them into in-group - those who belong to their own culture -, and out-group members - those from cultures other than their own. These groupings shape our social life, and often lead to implicit and explicit exclusionary behaviours towards out-group members, discriminatory policies, or overt intergroup conflict (Castano et al., 2002; Mullen et al., 1992; Howard & Rothbart, 1980). An essential step in reducing these negative biases and behaviours is understanding the basis of our group membership judgements. For instance, speech can instantly disclose others' cultural and geographical origins; language and accent are major social group markers. However, when someone speaks, they also gesture. Despite its ubiquity in human communication and its variation across cultures (Cavicchio & Kita, 2013; Kita & Özyürek, 2003), the role of gesture in social categorisation remains largely unknown. Here we evaluated if adults can accurately judge group membership (in-group vs. out-group) based on gestures.

To address this critical question, Experiment 1 used a forced-choice task in which American adults ($N = 66$) watched muted videos of individuals speaking and gesturing, then judged if the individuals were American (i.e. in-groups) or Not American (i.e. out-groups). Videos were 10 second long slices of TED talks of American and French Caucasian females (10 speakers per culture; see examples in Figure 1). To ensure responses were based on speakers' gestures, we removed other potential cues for social categorisation. Videos were muted and speakers' faces were blurred to prevent lip-reading or speaker recognition. To examine the generalisability of our findings, Experiment 2 ($N = 62$) replicated Experiment 1 for a different cultural combination: videos of American English and Spanish speakers.

Responses were analysed using signal detection theory: Participants' sensitivity (A') to group membership was significantly above the 0.5 chance level ($MA' = 0.6519$, $SD = 0.1525$; $t(65) = 8.0876$, $p < .0001$; see Figure 2). This suggests that gestures can reliably reveal group membership in the absence of other communicative cues such as language or facial emotional expression. Experiment 2 replicated these findings using Spanish instead of French videos. Again, participants' sensitivity was significantly above chance ($MA' = 0.6421$, $SD = 0.1706$; $t(61) = 6.5612$, $p < .0001$; Figure 2). Preliminary analyses indicate that, generally, group membership judgements were more accurate for videos with more diverse movement, suggesting that richer gestural behaviors are more likely to disclose one's cultural background. Overall, our experiments provide evidence that gestures function as a social group marker. Even when deprived of the rich, multimodal cues found in real-life, gesture-based social categorization is surprisingly accurate. Gesture's potential to convey social information has vast implications for other psychological processes, spanning from trust to learning and affiliative behaviors, and far-reaching consequences for education and integration programs.

Index Terms: cultural marker, group membership, ingroup-outgroup categorization

References

Castano, E., Yzerbyt, V., Paladino, M. P., & Sacchi, S. (2002). I belong, therefore, I exist: Ingroup identification, ingroup entitativity, and ingroup bias. *Personality and Social Psychology Bulletin*, *28*(2), 135-143.

Cavicchio, F., & Kita, S. (2013). English/Italian bilinguals switch gesture parameters when they switch languages. In *Proceedings of the Annual Meeting of the Cognitive Science Society* (Vol. 35, No. 35).

Howard, J. W., & Rothbart, M. (1980). Social categorization and memory for in-group and out-group behavior. *Journal of personality and social psychology*, *38*(2), 301.

Kita, S., & Özyürek, A. (2003). What does cross-linguistic variation in semantic coordination of speech and gesture reveal?: Evidence for an interface representation of spatial thinking and speaking. *Journal of Memory and language*, *48*(1), 16-32.

Mullen, B., Brown, R., & Smith, C. (1992). Ingroup bias as a function of salience, relevance, and status: An integration. *European journal of social psychology*, *22*(2), 103-122.