

CHIMPANZEES SHOW IN-GROUP–OUT-GROUP BIAS IN CONTAGIOUS YAWNING

M.W. Campbell^{1,2,3}, F.B.M. de Waal^{1,2,3}

¹*Emory University, Atlanta, Georgia, United States*, ²*Yerkes National Primate Research Center, Atlanta, Georgia, United States*, ³*Living Links Center, Atlanta, Georgia, United States*

Presenter's Email: matthew.campbell@emory.edu

Contagious yawning is hypothetically linked to empathy. Empirical support for this link exists but is still largely indirect, thus there is a need for more testing. If the underlying mechanism of yawn contagion is empathy, then we predict that yawn contagion should be susceptible to the same social biases as have been observed in other measures of empathy. A well-known example in people is the in-group–out-group bias, in which subjects more readily empathize with people seen as belonging to the same group as themselves than people seen as different. We tested whether chimpanzees show an in-group–out-group bias in contagious yawning. One previous study did not find this effect, but their sample size was probably too small. We studied two groups of chimpanzees (12 in each) at the Yerkes NPRC that had no visual contact with each other. We videotaped spontaneous yawns from members of both groups. From this footage we edited together a sequence of yawns from seven individuals in each group (yawn video) and a sequence of neutral expressions from the same individuals (control video). This yielded four videos: familiar yawns, familiar control, unfamiliar yawns, and unfamiliar control. Each subject (N = 22) saw all 4 videos, with one video per day. Chimpanzees yawned significantly more when viewing familiar yawns than the unfamiliar yawns or the controls. We found that chimpanzees show in-group-out-group bias, that contagious yawning can detect this bias, and that this bias is further evidence that contagious yawning is a measure of empathy.

Keywords: empathy, contagious yawning, prejudice, chimpanzees