

## DO CHIMPANZEES HAVE “SHIFTY EYES”? AN ANALYSIS OF GAZE FOLLOWING IN THE INFORMED FORAGER PARADIGM

K.M. Hall<sup>1</sup>, M.W. Campbell<sup>2</sup>, V. Horner<sup>2</sup>, T.M. Eppley<sup>2</sup>, J.D. Carter<sup>2</sup>, R. W. Byrne<sup>1</sup>, F. B. M. de Waal<sup>2</sup>

<sup>1</sup>University of St Andrews, St Andrews, Fife, United Kingdom; <sup>2</sup>Emory University, Atlanta, Georgia, United States

Presenter's Email: MsKatieHall@gmail.com

We investigated whether captive chimpanzees (*Pan troglodytes*) at Yerkes NPRC ( $n=8$ ) use visual information to modify competitive tactics by analysing gaze following between two competitors in the informed forager paradigm. In previous studies, a dominant developed strategies to exploit a subordinate's knowledge of hidden food, and the subordinate used tactics to mislead the dominant. An important question is whether the subordinate looks towards the food while leading the dominant elsewhere, giving the appearance of “shifty eyes.” We predict that gaze following is one of the means of acquiring information from a social partner, but previous studies lack detailed descriptions of the gaze interactions of the competitors. Gaze following is an important facet of theory of mind: one who understands another's direction of attention can infer the other's goal and intentions, and predict their behaviour. We analysed instances of gaze following, behavioural interactions, and successes in finding food using Noldus Observer XT software. We used logistic regression to determine how a dominant's gaze and movement towards the hidden food's location affected the subordinate's approach towards the food, and vice versa. We found that dominants use the subordinate's gaze and direction of movement to inform their search for food; subordinates avoid looking towards the food while *withholding*, and engage in eye contact with their partner to initiate following behaviour while *misleading*. This study elaborates on how social knowledge is acquired by establishing what attentional clues are available to reveal a chimpanzee's real intentions, and whether a competitor can recognise and exploit them.

Keywords: gaze following, deception, informed forager, theory of mind