

Don't bite! Earlier Detection of deceptive intent facilitates skilled responses to rugby sidesteps

LAURENCE S. WARREN-WEST, ROBIN C. JACKSON, MICHAEL J. HILEY

School of Sport, Exercise and Health Sciences, Loughborough University

*Corresponding author: L.S.Warren-West@Lboro.ac.uk

@Laurencewwest; @robalolex

Researchers have suggested that expert performers wait longer before initiating movement responses so that they are able to obtain more information to inform their decisions (Brault, Bideau, Kulpa and Craig, 2012, *PLoS ONE*, 7(6): e37494). The aim of the present study is to establish how movement kinematics and kinetics relate to observed effects, response biases and discriminability. We placed high-skilled and low-skilled rugby players (19 per group) in a semi-immersive CAREN Lab environment and asked them to respond to life-size test footage of an opposing player 'cutting' left or right, with or without a deceptive sidestep. Participants were instructed to respond by moving in a way that would allow them to intercept the running line of the player and put them in a position to make a 'tackle'. Response kinematic and kinetic data were recorded using three-dimensional motion capture cameras and force plates, respectively, to measure mediolateral displacement and velocity, as well as the ground reaction forces responsible for movement initiation. Our research has shown that both high-skilled and low-skilled performers are equally susceptible to deception but that high-skilled players identify deceptive intent earlier in the action sequence. In this presentation we examine how this affects the kinematic and kinetic measures and argue that it is earlier perceptual recognition that is crucial in facilitating suppression of an incorrect motor response.