**Supplement figure 2** illustrates the eye movements during one trial. Panel A and B show the x- and y-gaze position, respectively, against time. In panel C, gaze between the central and peripheral target is plotted against time and panel D represents gaze velocity against time. The time at which gaze velocity exceeds 25 deg/s is denoted as SRT. Based on these panels, it can be concluded in Panel E that this subject correctly fixated the central target (red circle), and then made the primary saccade to the correct peripheral target (green circle).