Supplemental Material

Staircasing

Here we provide plots from the staircasing procedures. These plots are important for addressing a potential issue with the task difficulty control and unequal variance between task conditions. Data from the calibration period are plotted as negative trial counts and values from the online staircasing procedure are plotted as positive trial counts. If there were more than one calibration block, we plot the last one.

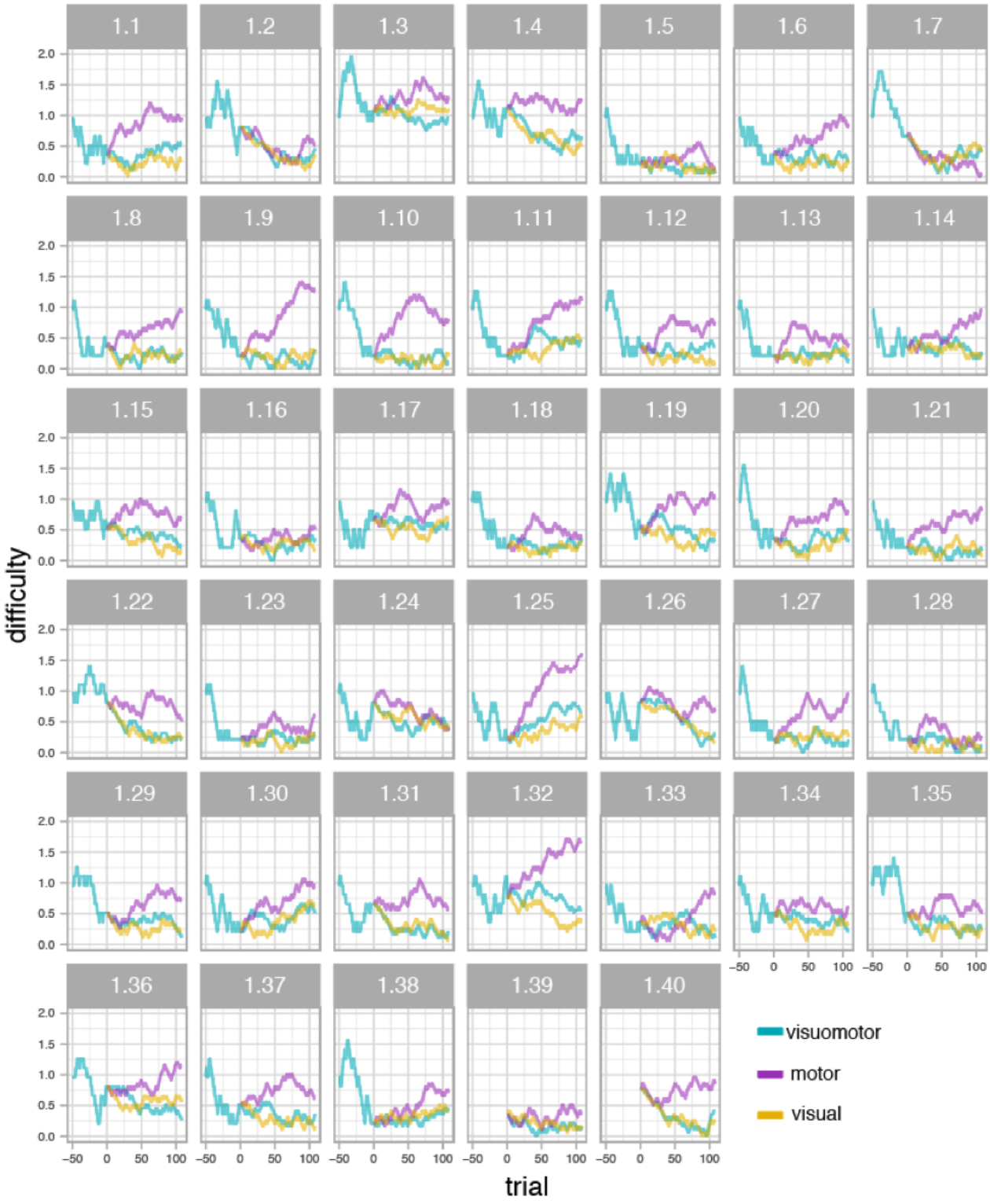

Figure S1. ***Staircasing procedure in Experiment 1, Skittles task.*** Difficulty is expressed as velocity (m/s). Only the visuomotor condition was used in the calibration period. Staircase data for two participants (020SM and 110SR) was not saved.

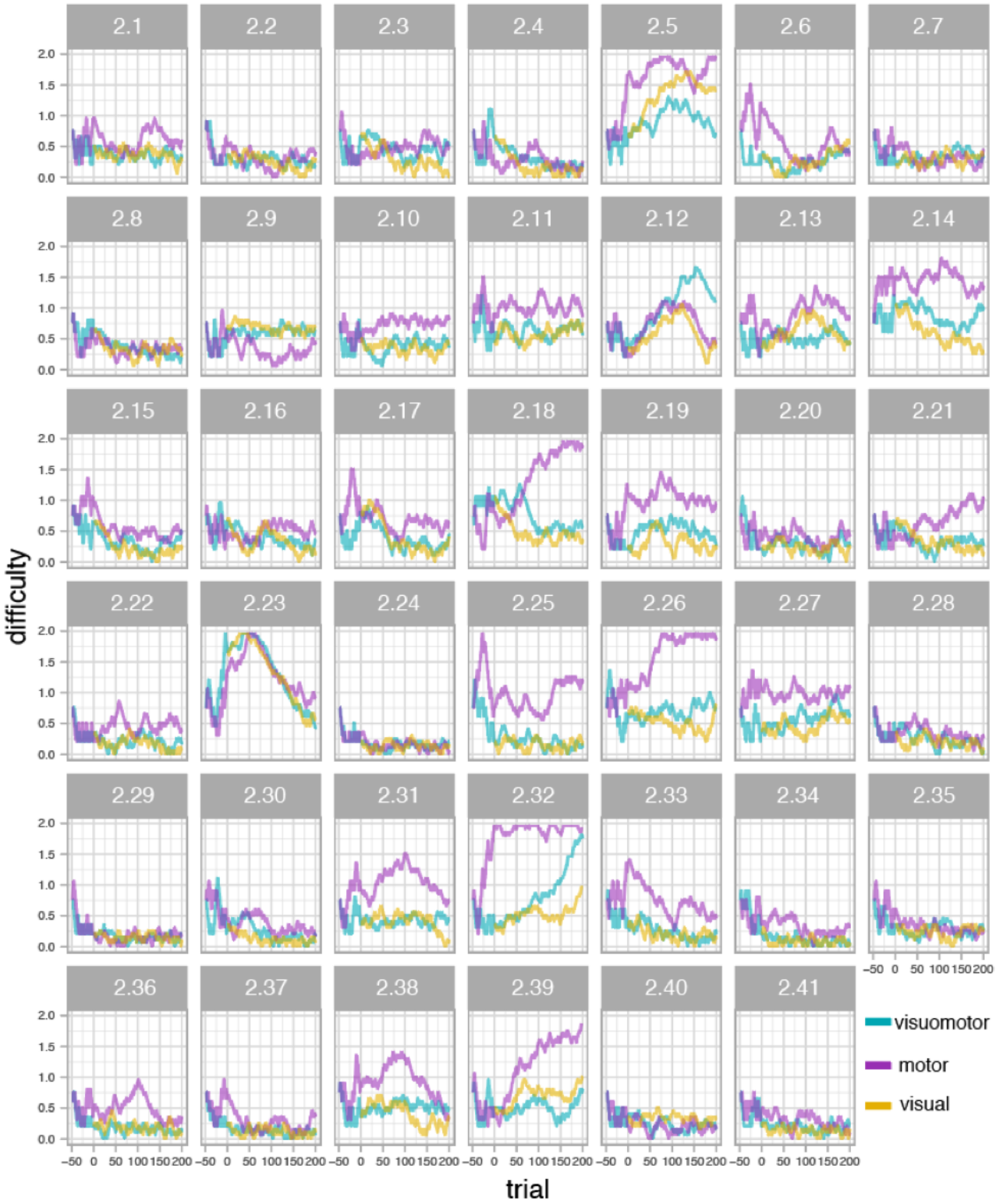

Figure S2. ***Staircasing procedure in Experiment 2, Skittles Trajectories task.*** Difficulty is expressed as difference in velocity (m/s). Only visuomotor and motor conditions were used in the calibration period.

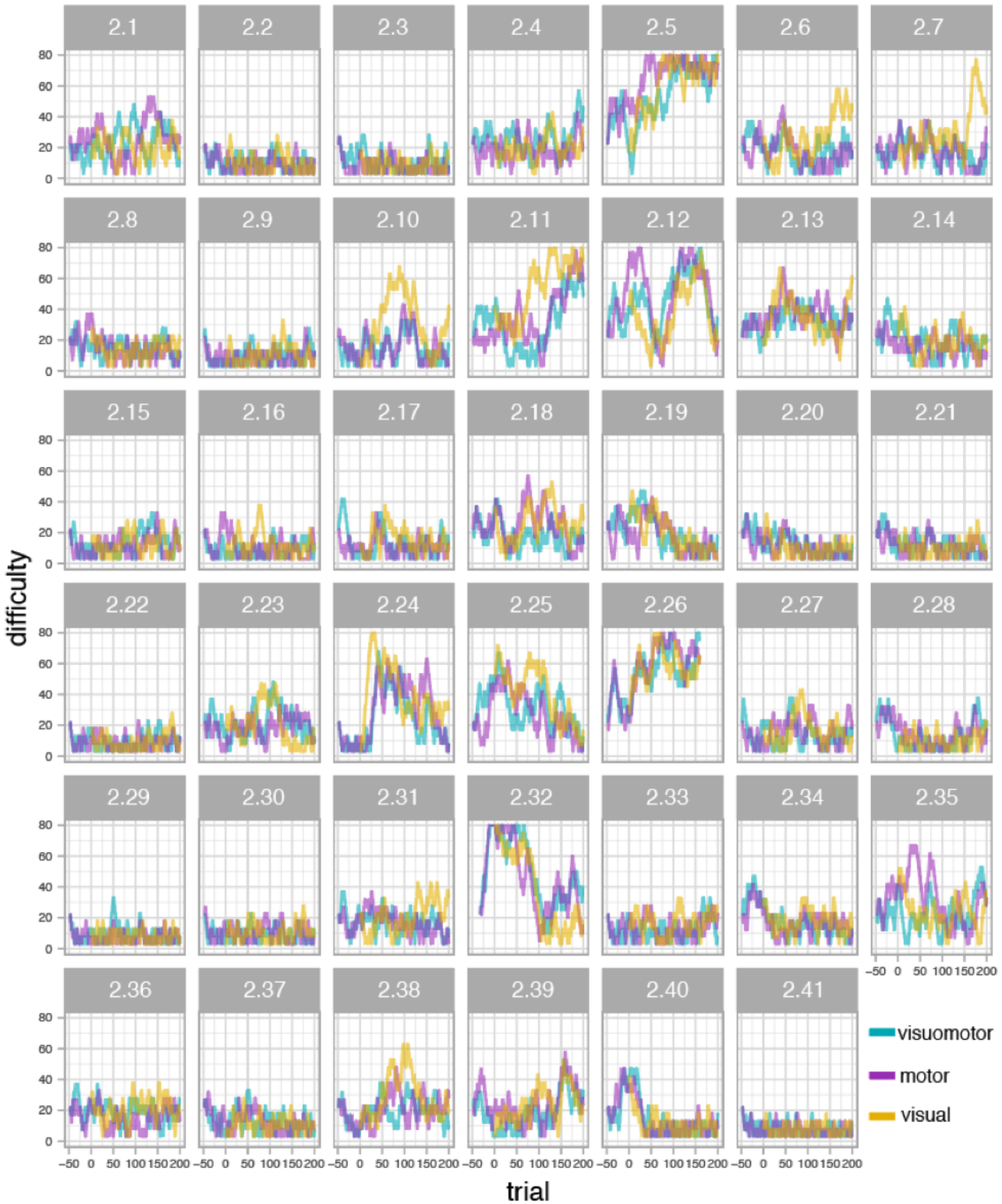

Figure S3. *Staircasing procedure in Experiment 2, Skittles Angles task.* Difficulty is expressed as a difference in degrees of angles. Only visuomotor and motor conditions were used in the training period.

Descriptive statistics of the movement parameters

Here we provide descriptive statistics of the main movement parameters in both experiments, for active conditions (motor and visuomotor). In Figure S4, we show the distribution of absolute velocity differences between the real and the alternative trajectory, and the corresponding trajectories in the *Trajectories* task of Experiment 2, to illustrate how difference in velocity affected their curvature. For better comparability, we set the angle at the ball release at the mean angle and the velocity of the target trajectory to the mean velocity.

Table S1. Descriptive statistics (mean values and SDs) of the movement parameters for the Experiment 1 (*Trajectories1*) and Experiment 2 (*Trajectories2* and *Angles*).

Condition	visuomotor	visuomotor	visuomotor	motor	motor	motor
Task	Trajectories1	Trajectories2	Angles	Trajectories1	Trajectories2	Angles
Angle at the ball release, ° (SD)	105.50 (9.76)	104.96 (10.88)	96.51 (9.13)	106.96 (9.93)	106.77 (11.36)	96.58 (9.08)
Velocity at the ball release, m/s (SD)	1.77 (0.41)	1.96 (0.57)	1.54 (0.47)	1.74 (0.40)	1.93 (0.58)	1.56 (0.44)
Minimal distance to target (SD)	0.06 (0.02)	0.06 (0.05)	0.06 (0.05)	0.06 (0.02)	0.04 (0.04)	0.06 (0.05)
Amplitude,° (SD)	101.77 (29.45)	89.07 (34.99)	74.60 (27.75)	102.25 (28.5)	88.99 (35.05)	75.04 (27.60)
Peak velocity, m/s (SD)	0.43 (0.51)	0.42 (0.33)	0.51 (1.12)	0.42 (0.46)	0.43 (0.42)	0.51 (1.31)
Durations, s (SD)	0.66 (0.11)	0.56 (0.23)	0.54 (0.19)	0.66 (0.12)	0.57 (0.14)	0.55 (0.17)

Note. Amplitude was defined as the difference between the minimal angle before the throw and the maximal angle after the throw. Duration was also calculated as time between these angles extrema.

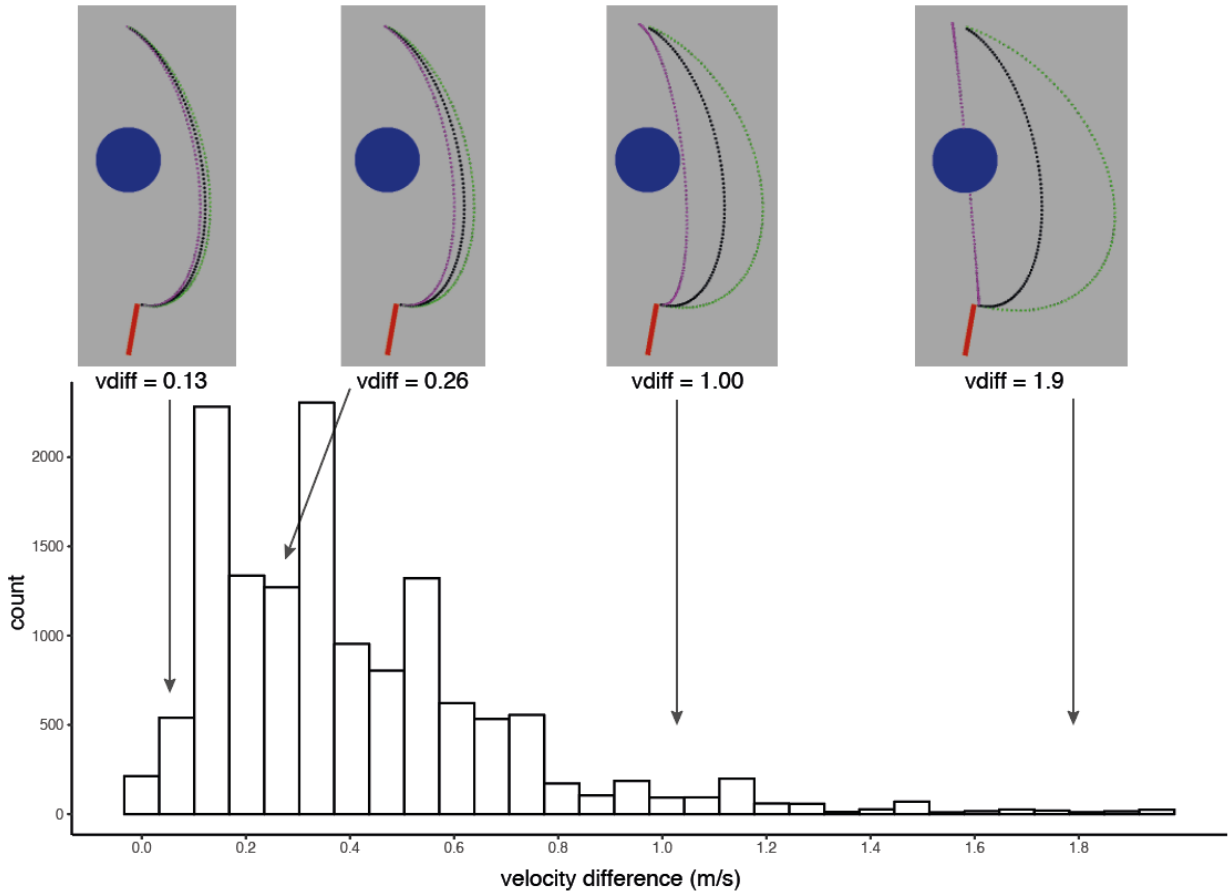

Figure S4. Distribution of the absolute velocity differences (vdiff) in the *Trajectories* task of Experiment 2, pooled over all trials and participants. The corresponding trajectories are displayed for selected vdiff values (magenta for negative and green for positive vdiff). Mean angle at the ball release over all trials and participants is used here in all examples, as well as mean velocity for the target trajectory (black).