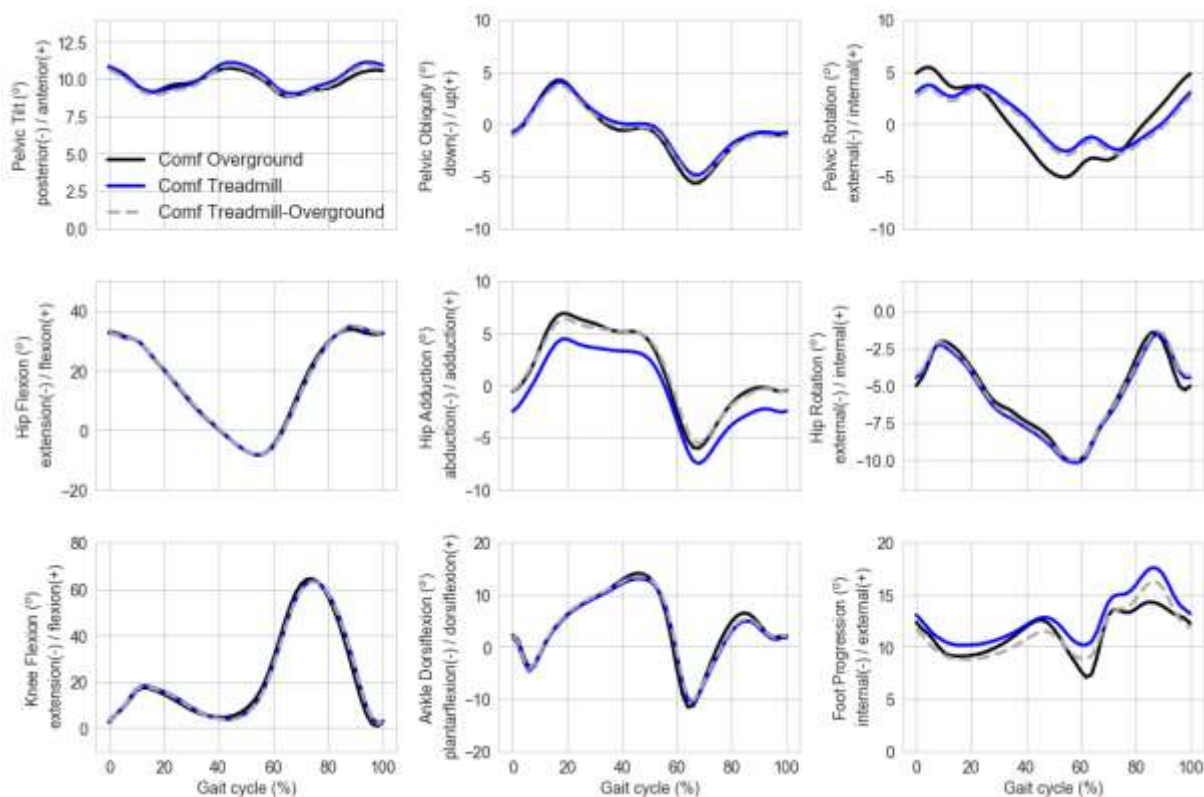
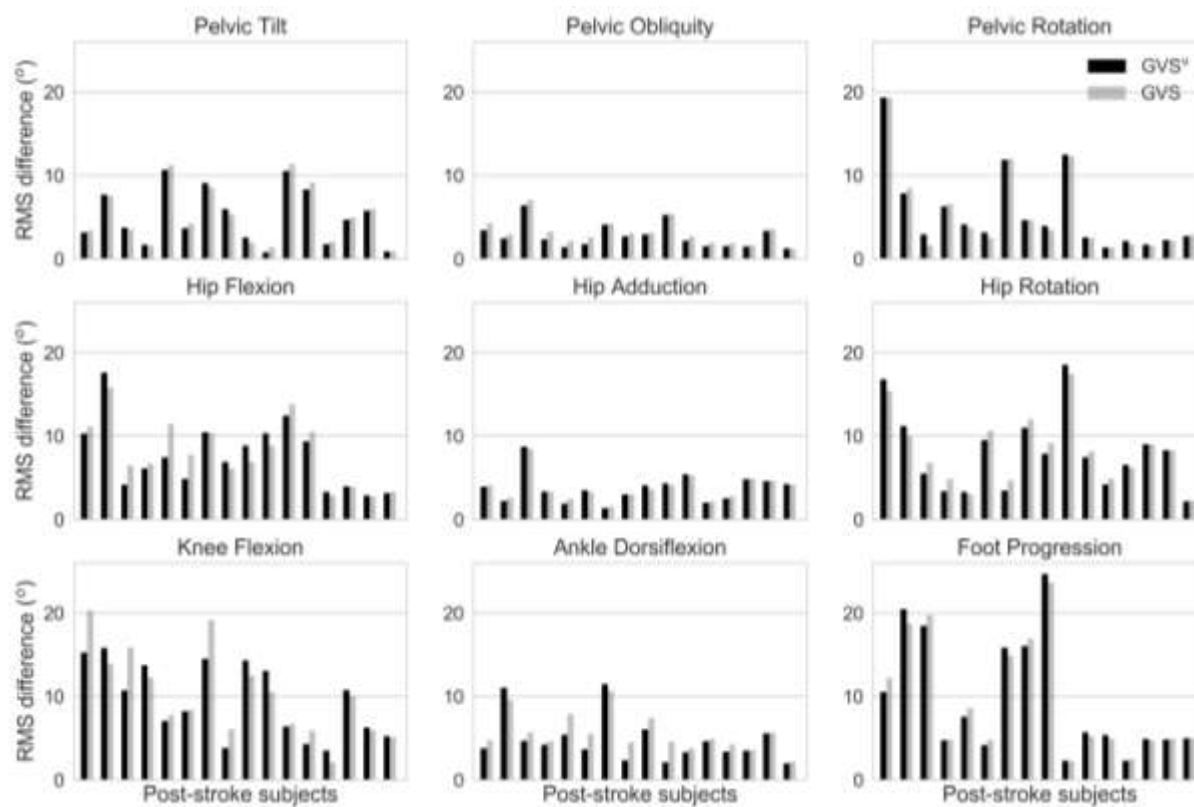


## Supplementary Material

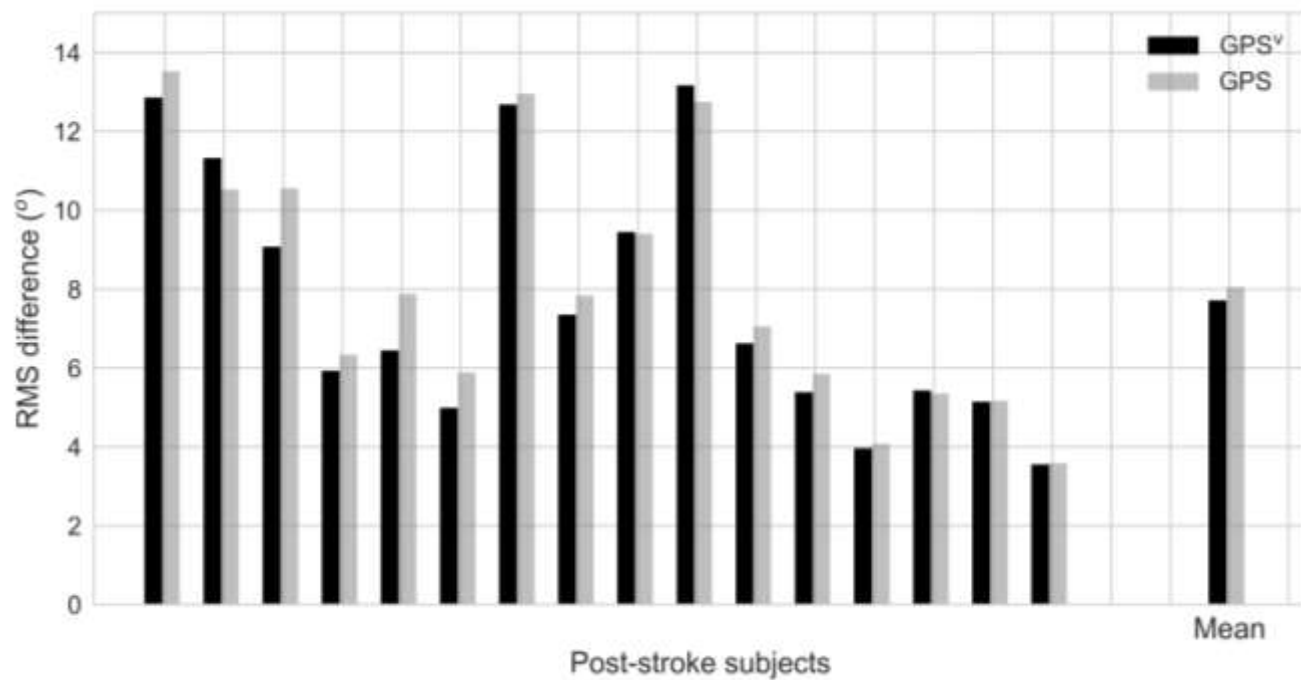
Figure 1 shows plots of the gait variables employed to compute GPS averaged across subjects of the control group at the comfortable speed walking overground, on the treadmill, and of the resultant data after the hybrid procedure to adjust the data as described in the Methods. Overall, the difference between the overground with treadmill-overground data (RMSE =  $1.5 \pm 0.7^\circ$ ) was smaller than the difference between the overground and treadmill data (RMSE =  $2.3 \pm 0.8^\circ$ ),  $d = 0.54$ ,  $p = 0.034$ .



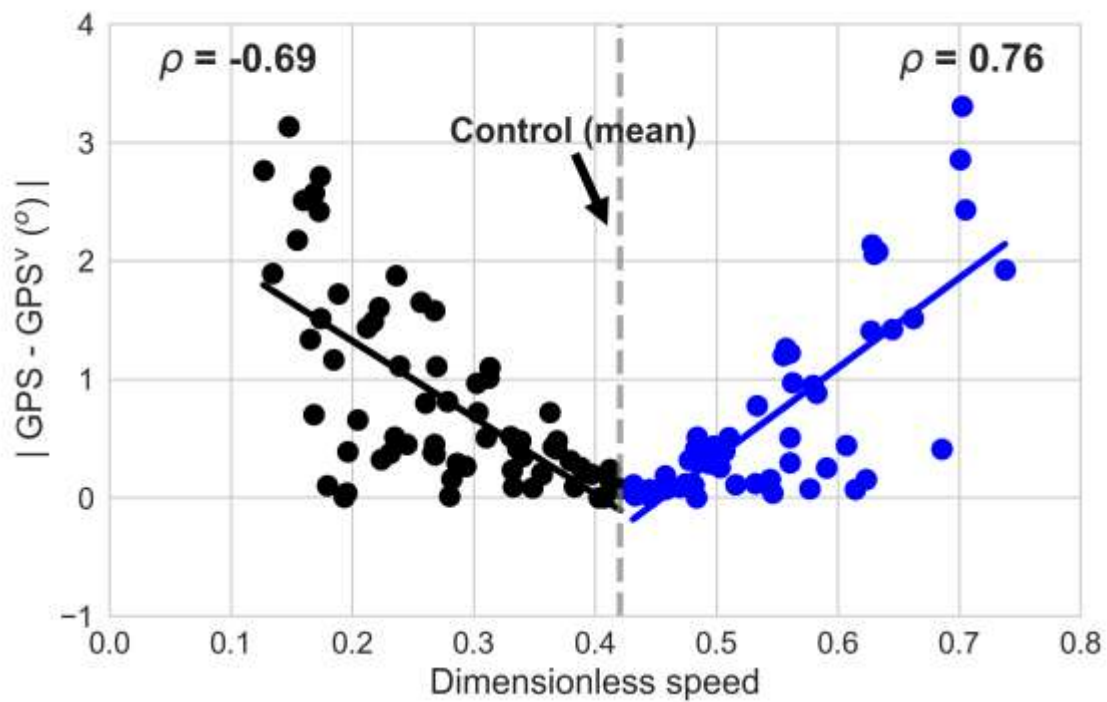
**Figure 1.** Average patterns across all participants of the control group for each of the gait variables at the comfortable speed of the overground data, treadmill data, and treadmill-overground data.



**Figure 2.** GVS<sup>v</sup> and GVS values for each gait variable corresponding to each post-stroke subject from the slowest to the fastest gait speed.



**Figure 3.** GPS<sup>v</sup> and GPS values corresponding to each post-stroke subject from the slowest to the fastest gait speed and the mean value across all subjects.



**Figure 4.** Absolute difference between the GPS and GPS<sup>v</sup> values versus the dimensionless speed for for all participants and gait speeds in the control group. The vertical dashed line represents the mean gait speed.