Correlation between and within clinical test scores, spatiotemporal gait parameters and walking-adaptability outcome measures

Considerable redundancy was found between clinical test scores and spatiotemporal gait parameters (second block in top row in Figure S1). Of the 54 possible correlations, 45 (83.3%) were significant, out of which 28 (51.9%) were high, 13 (24.1%) were moderate and 4 (7.4%) were low. This was also the case for among clinical test scores (top left block in Figure S1). All 15 possible correlations were significant (100.0%), out of which 3 (20.0%) were very high, 6 (40.0%) were high, 2 (13.3%) were moderate and 4 (26.7%) were low. The spatiotemporal gait parameters were also highly correlated (second block along the diagonal in Figure S1). Of the 36 possible correlations, 34 (94.4%) were significant, out of which 7 (19.4%) were very high, 8 (22.2%) were high, 10 (27.8%) were moderate and 9 (25.0%) were low. For Interactive Walkway walking-adaptability outcome measures, a lower percentage of significant correlations was found (bottom right block in Figure S1). Of the 325 possible correlations, only 57 (17.5%) were significant, out of which 1 (0.3%) was very high, 6 (1.8%) were high, 19 (5.8%) were moderate and 31 (9.5%) were low. Redundancy in the outcome measures thus seems to be less for walking-adaptability outcome measures, indicating that the various walking-adaptability tasks seem to assess different aspects of walking adaptability.
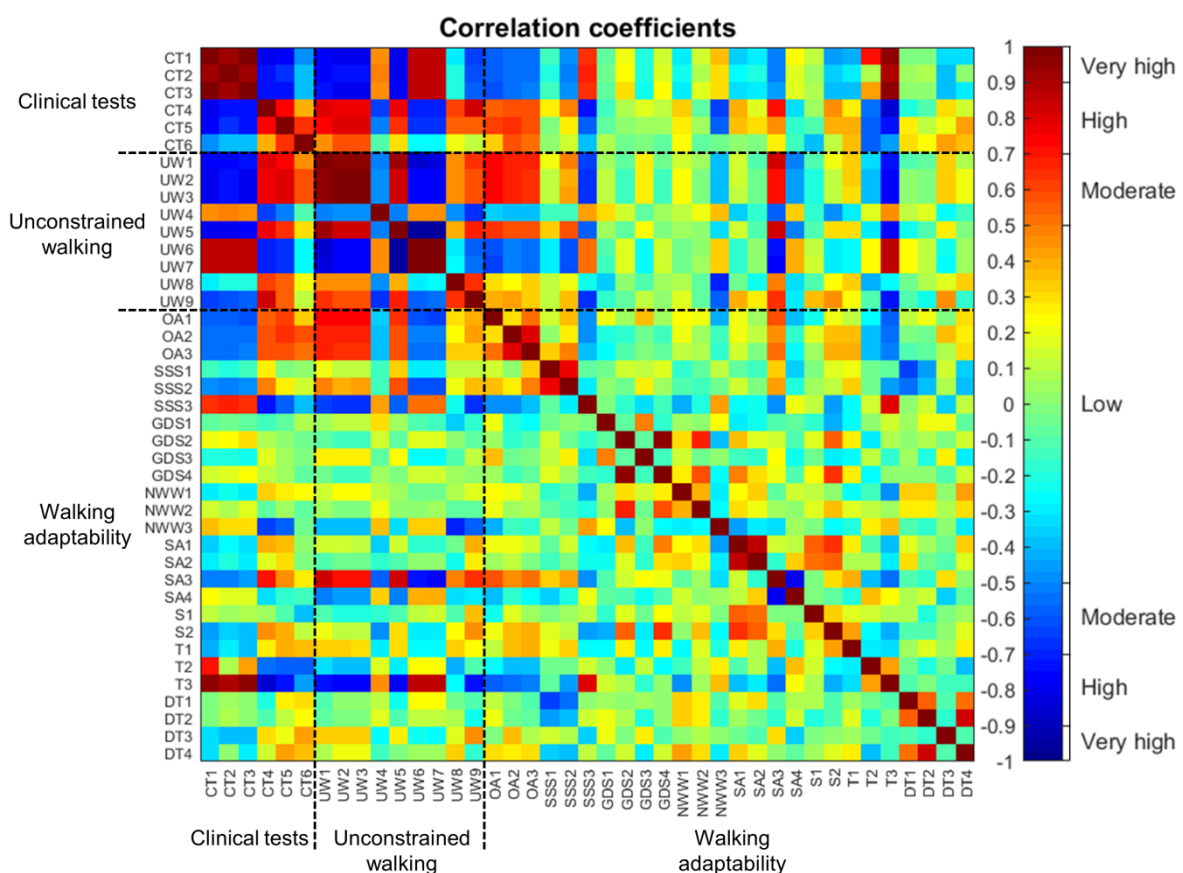

Figure S1. Overview of the correlation coefficients between (i.e., outer boxes) and within (i.e., boxes around the diagonal) the various types of walking ability assessments (i.e., clinical tests [CT1-6],

unconstrained walking [UW1-9] and walking adaptability [OA1-3, SSS1-3, GDS1-4, NWW1-3, SA1-4, S1-2, T1-3, DT1-4]) in stroke patients. The abbreviations can be found in the Table S1. The dotted black lines separate the three types of walking ability assessments.

Table S1. Abbreviations.

Abbreviation	Task	Outcome measure
	Clinical tests	
CT1	Timed-Up-and-Go test	Time (s)
CT2	10-meter walking test – comfortable walking speed	Time (s)
CT3	10-meter walking test – maximum walking speed	Time (s)
CT4	Tinetti Balance Assessment	Score
CT5	7-item Berg Balance Scale	Score
CT6	Functional Reach Test	Reaching distance (cm)
	Unconstrained walking	
UW1	8-meter walking test	Walking speed (cm/s)
UW2		Step length (cm)
UW3		Stride length (cm)
UW4		Step width (cm)
UW5		Cadence (steps/min)
UW6		Step time (s)
UW7		Stride time (s)
UW8		Symmetry step length (%)
UW9		Symmetry step time (%)
	Walking adaptability	
OA1	Obstacle avoidance	Margins trailing limb (cm)
OA2		Margins leading limb (cm)
OA3		Success rate (%)
SSS1	Sudden stops-and-starts	Sudden-stop margins (cm)
SSS2		Success rate (%)
SSS3		Initiation time (s)
GDS1	Goal-directed stepping	Stepping accuracy (cm)
GDS2		Normalized walking speed (%)
GDS3		Stepping accuracy (cm)
GDS4		Normalized walking speed (%)
NWW1	Narrow walkway	Success rate (%)
NWW2		Normalized walking speed (%)
NWW3		Normalized step width (%)
SA1	Speed adjustments	Success rate (%)
SA2		Normalized walking speed (%)
SA3		Success rate (%)*
SA4		Normalized walking speed (%)*
S1	Slalom	Success rate (%)
S2		Normalized walking speed (%)
T1	Turning	Success rate (%)
T2		Turning time (s)
T3		Turning time (s)
DT1	Dual-task walking	Normalized walking speed (%)
DT2		Success rate dual task (%)
DT3		Normalized success rate (%)
DT4		Success rate dual task (%)