

## Supplementary Material

### 1. Variance Accounted For (overall and per muscle) values per subjects.

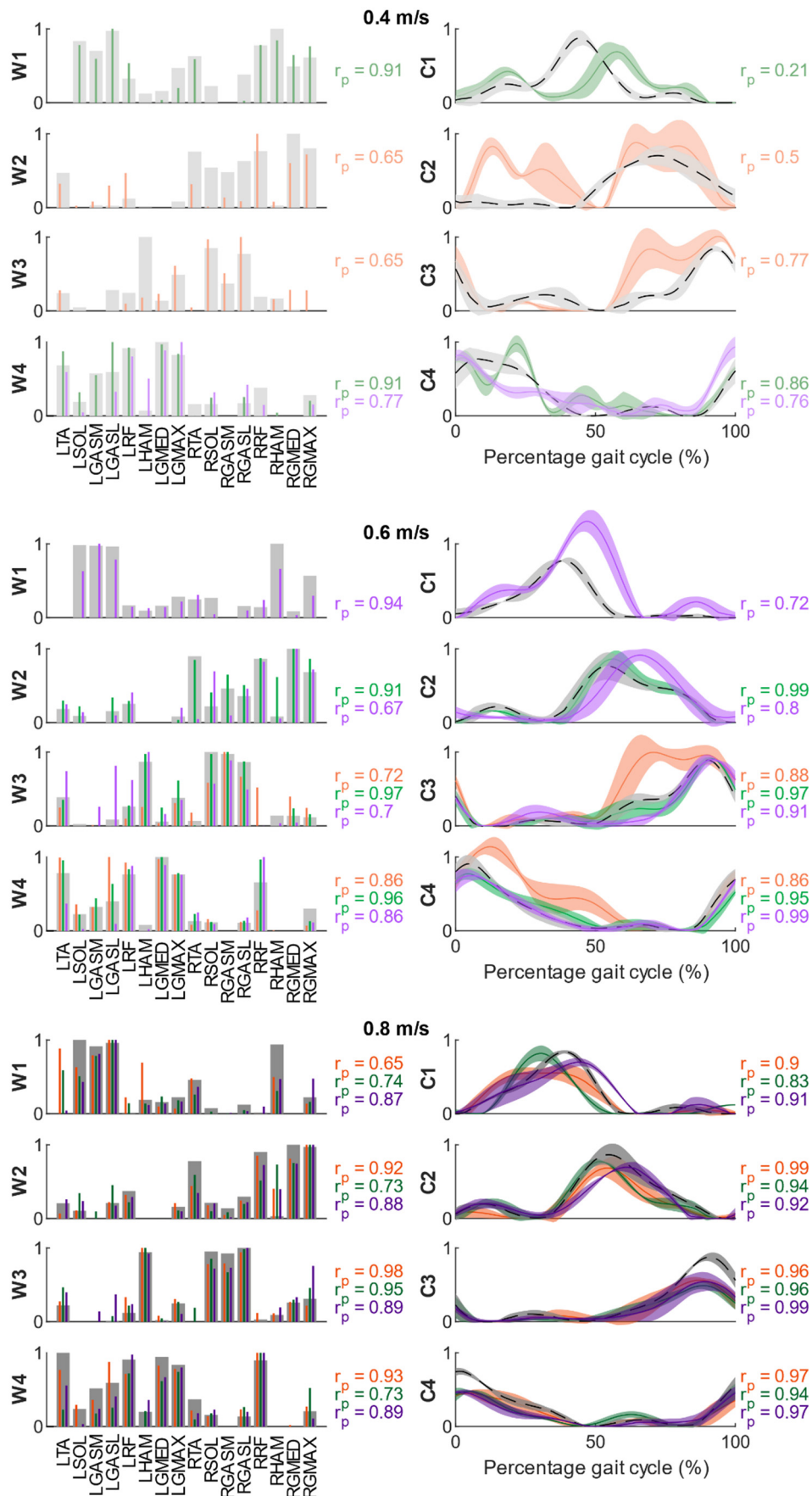
#### Left outward directed perturbations:

Subject	VAF <sub>overall</sub> (%)		VAF <sub>per muscle</sub> (%)	
	Average	Minimum	Average	Minimum
Subject 01	93.51 ± 0.99	92.42	93.54 ± 5.15	66.84
Subject 02	91.82 ± 3.98	84.96	91.89 ± 7.80	29.77
Subject 03	92.94 ± 1.95	89.12	92.90 ± 4.86	76.78
Subject 04	93.54 ± 1.24	91.55	93.90 ± 4.56	71.09
Subject 05	93.84 ± 1.38	92.01	93.36 ± 4.94	68.47
Subject 06	92.29 ± 1.94	89.47	91.68 ± 5.51	75.10
Subject 07	92.87 ± 1.89	88.07	92.88 ± 5.01	60.12
Subject 08	91.34 ± 1.40	88.28	91.30 ± 4.75	72.62
Subject 09	92.62 ± 1.64	88.41	92.90 ± 4.27	75.82
Subject 10	90.12 ± 2.95	83.09	90.58 ± 6.30	52.70
Subject 11	93.17 ± 1.26	91.02	92.84 ± 5.14	71.57
Subject 11	94.05 ± 1.51	90.63	94.55 ± 3.43	80.04

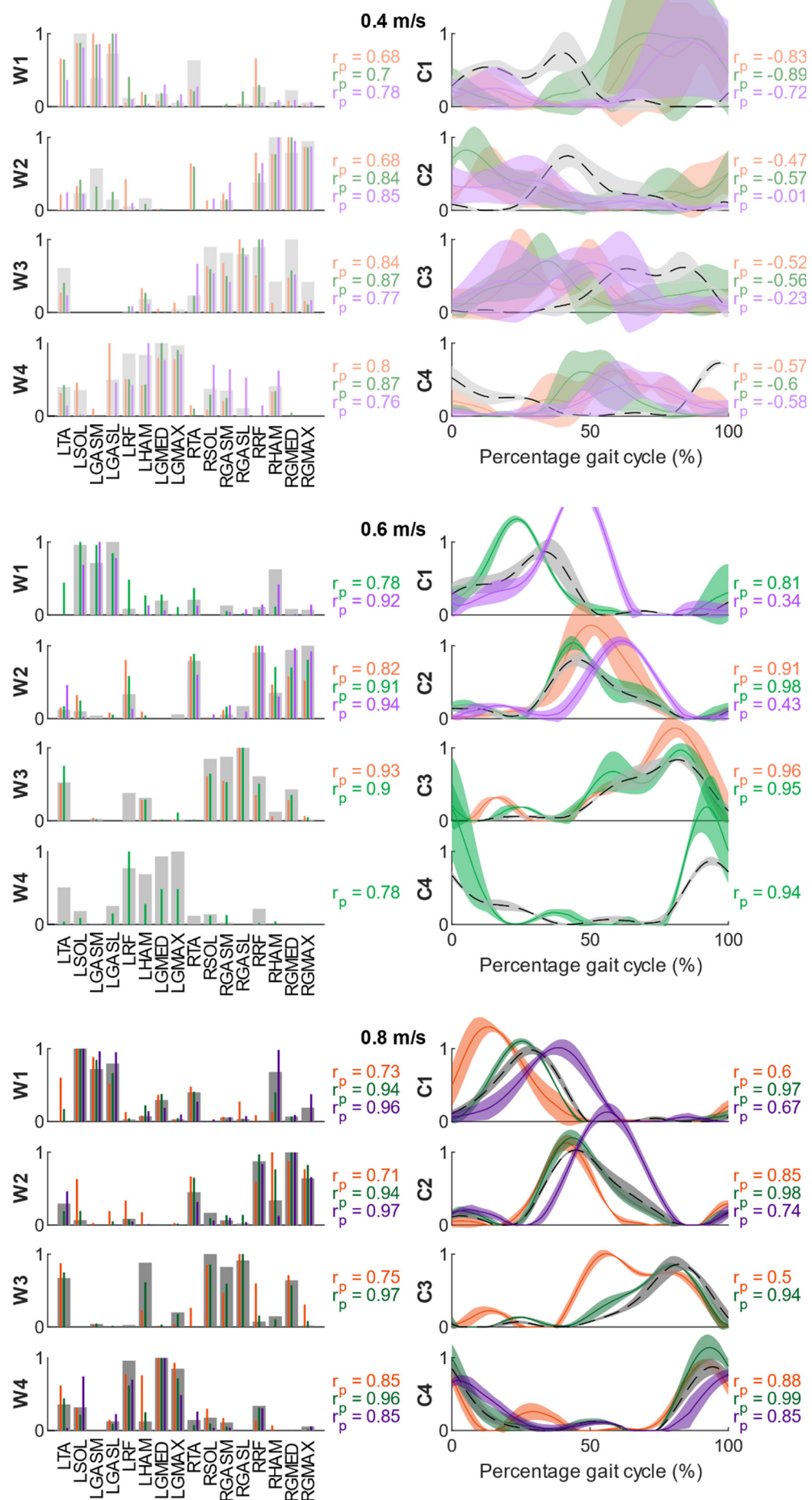
#### Left inward directed perturbations:

Subject	VAF <sub>overall</sub> (%)		VAF <sub>per muscle</sub> (%)	
	Average	Minimum	Average	Minimum
Subject 01	94.00 ± 1.19	91.63	93.61 ± 4.81	68.98
Subject 02	91.93 ± 5.41	76.10	92.55 ± 5.37	73.19
Subject 03	92.34 ± 1.06	91.27	92.24 ± 5.68	70.13
Subject 04	94.21 ± 1.23	92.30	94.03 ± 4.47	78.55
Subject 05	93.36 ± 1.88	89.29	93.86 ± 4.57	68.86
Subject 06	91.60 ± 2.27	85.96	91.07 ± 5.62	71.93
Subject 07	90.81 ± 2.94	83.33	92.47 ± 5.41	70.18
Subject 08	92.22 ± 1.84	89.30	90.95 ± 6.30	54.06
Subject 09	91.15 ± 3.23	84.32	92.88 ± 4.83	71.99
Subject 10	89.47 ± 1.98	87.20	89.86 ± 7.46	52.67
Subject 11	93.84 ± 0.73	92.46	93.12 ± 4.76	77.01
Subject 11	93.68 ± 2.75	87.48	94.26 ± 3.83	80.70

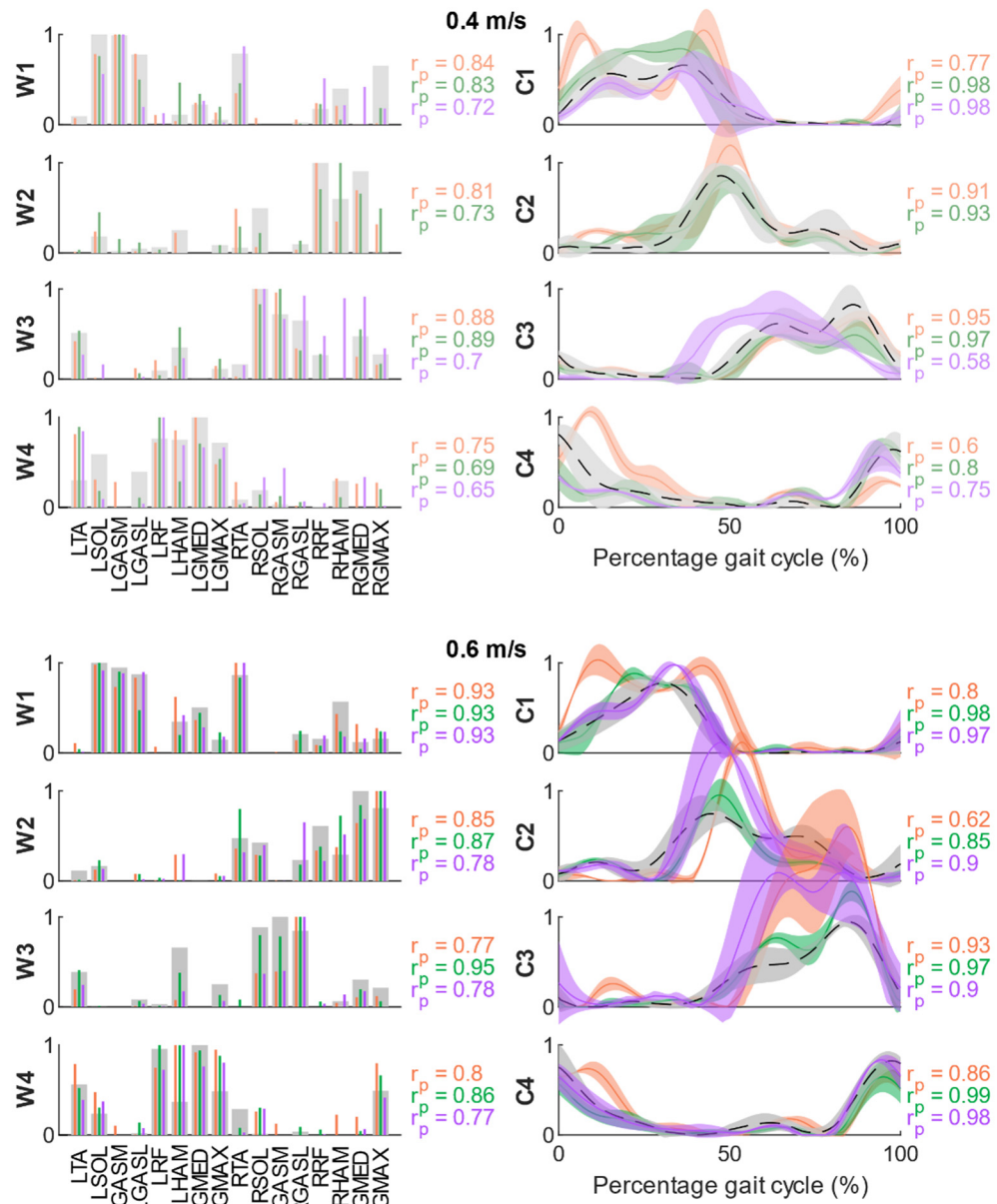
## 2. Muscle synergies and weighting curves for LEFT OUTWARD directed perturbations. Subject 01



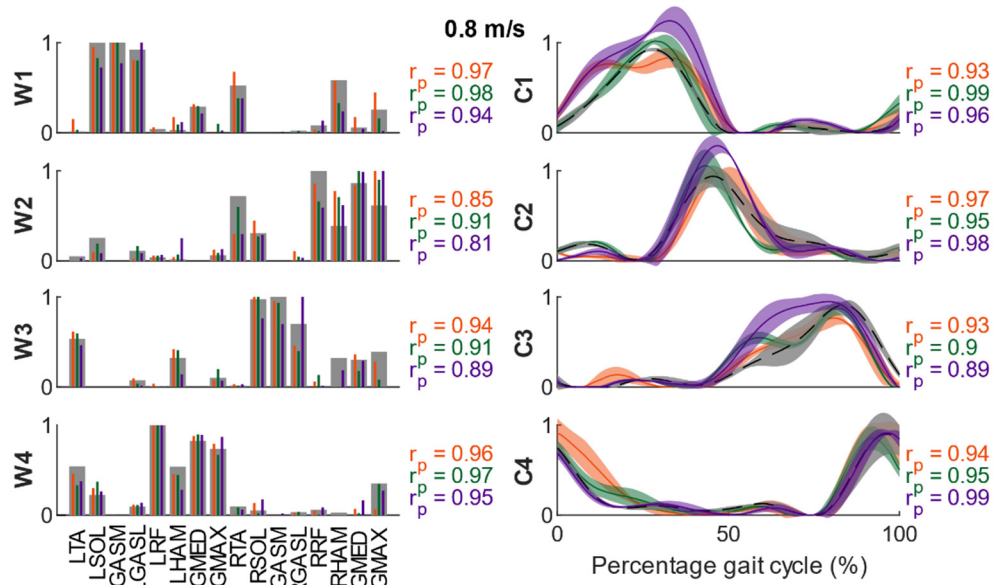
## Subject 02



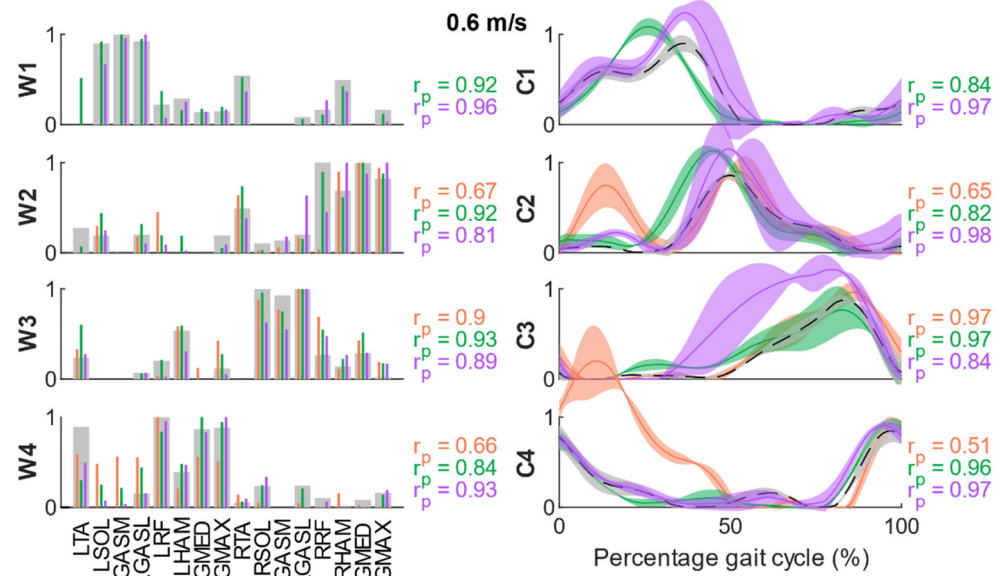
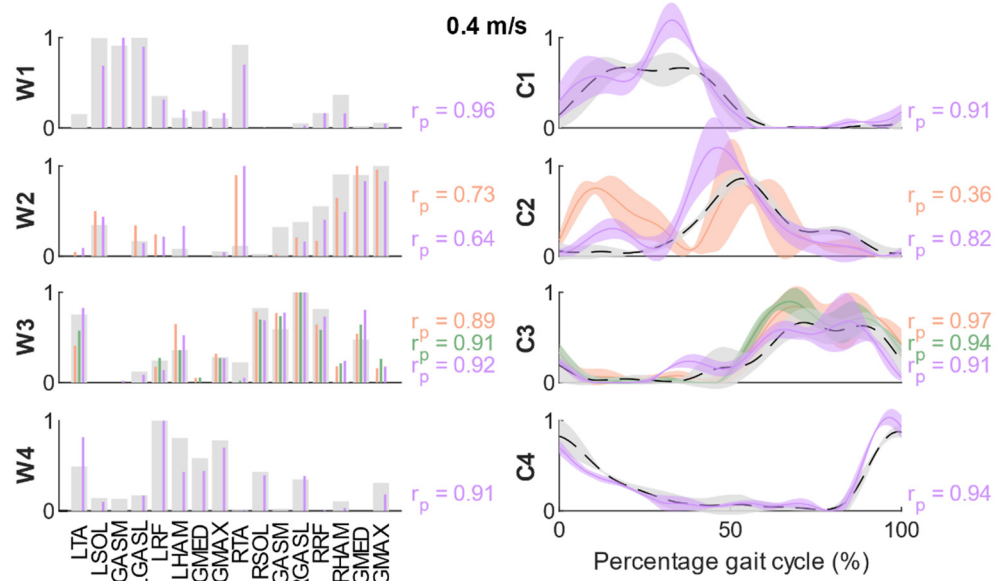
## Subject 03

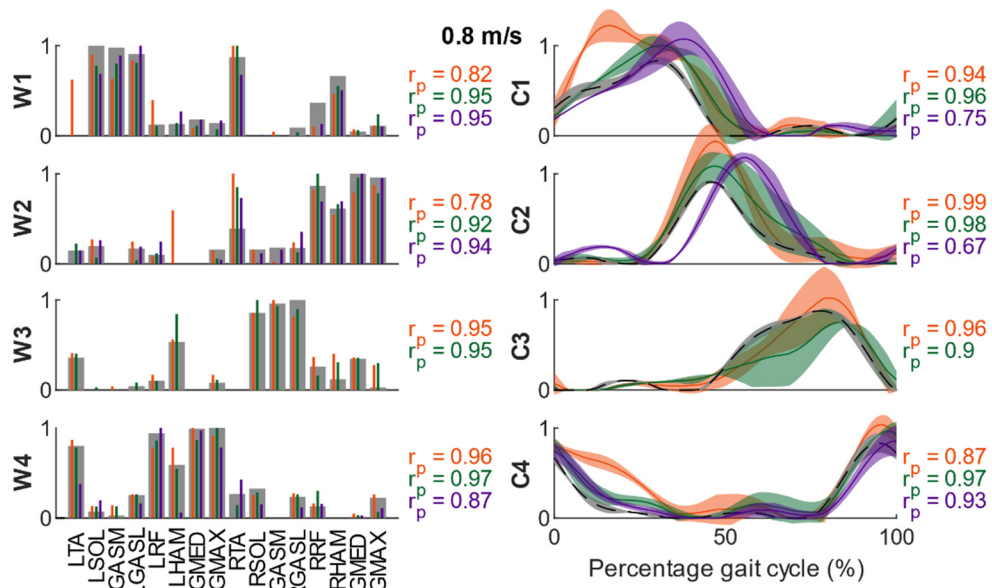




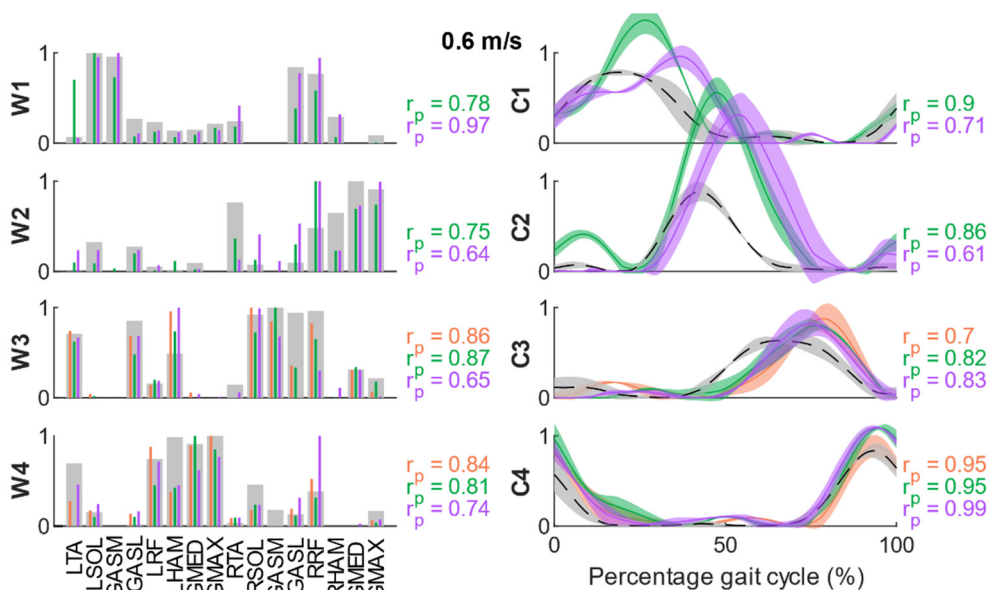
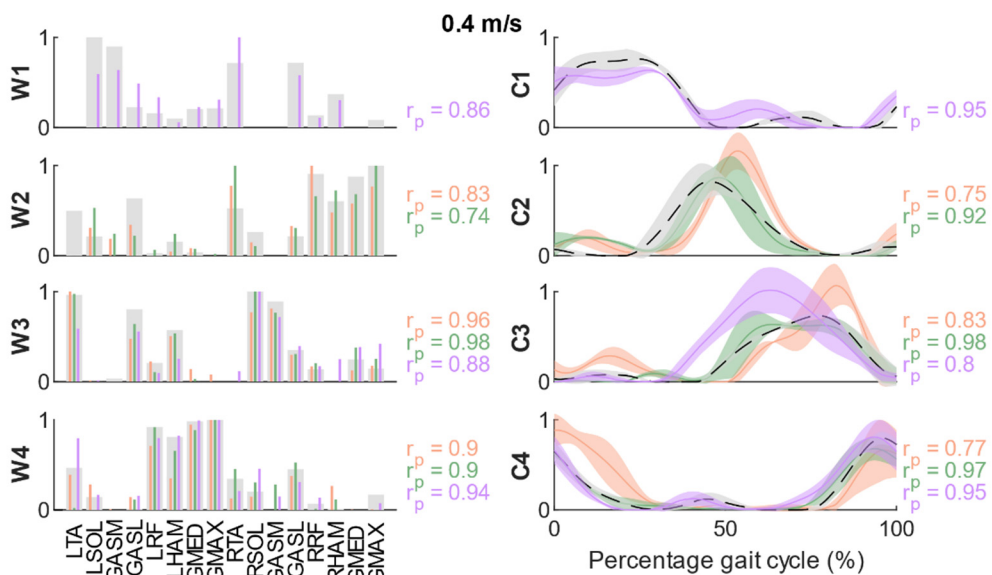


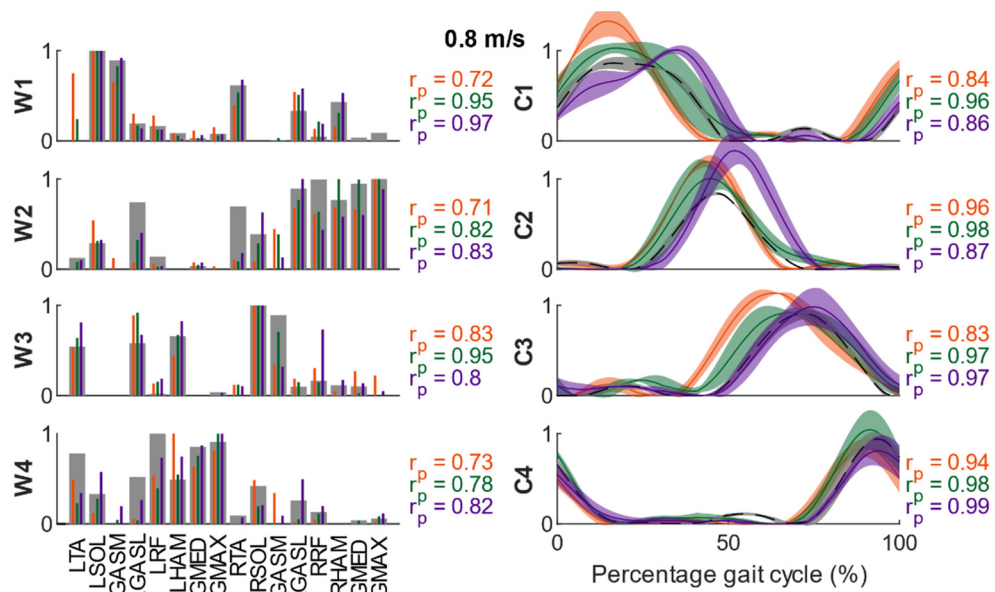
## Subject 04



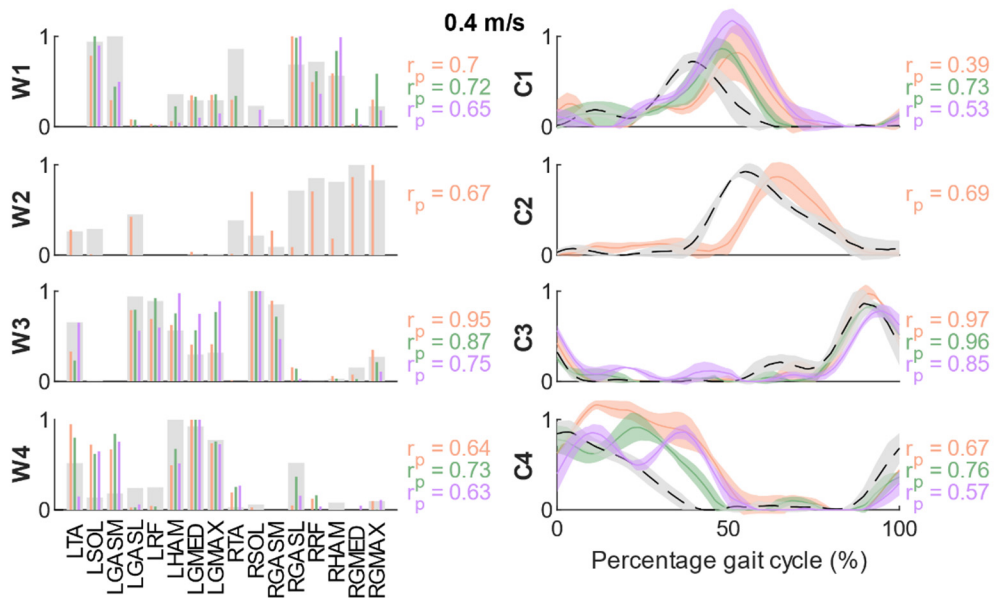


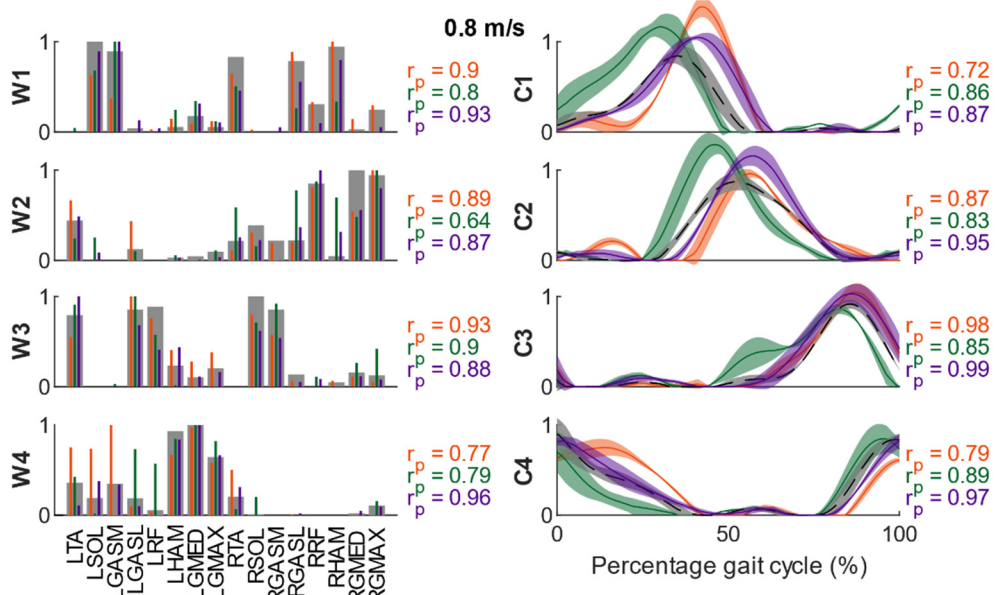
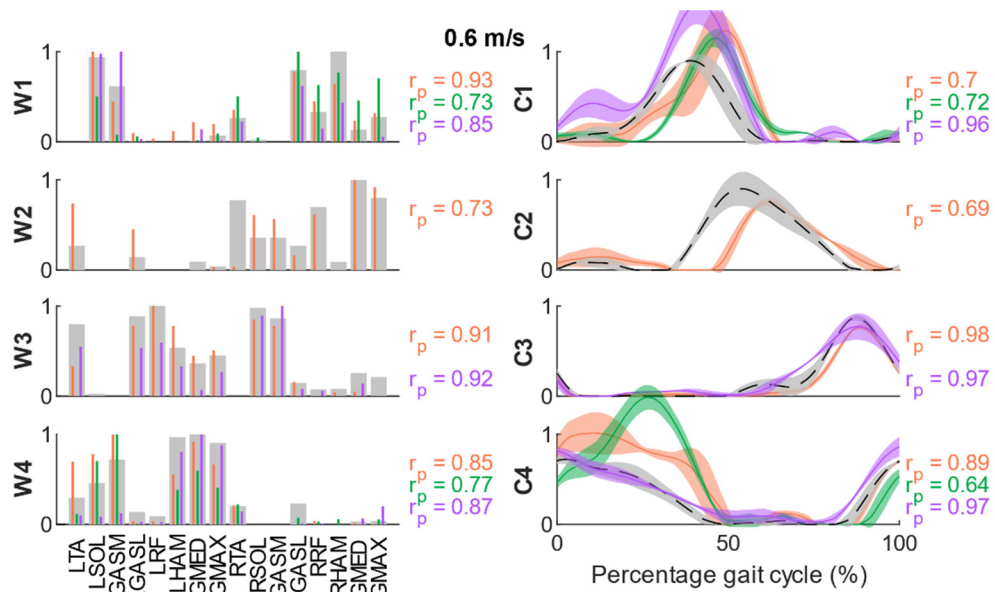
Subject 05



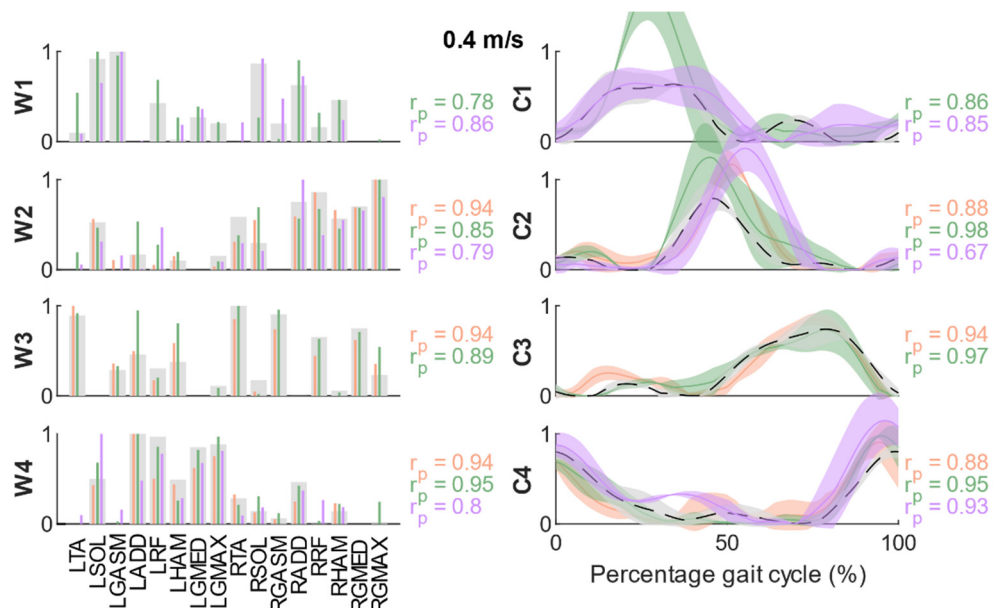


Subject 06

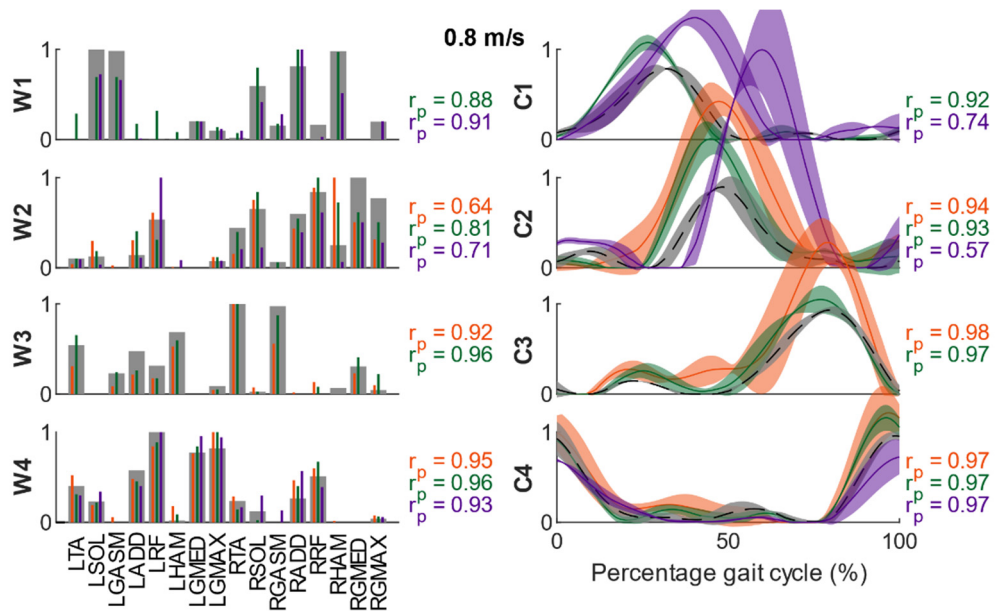
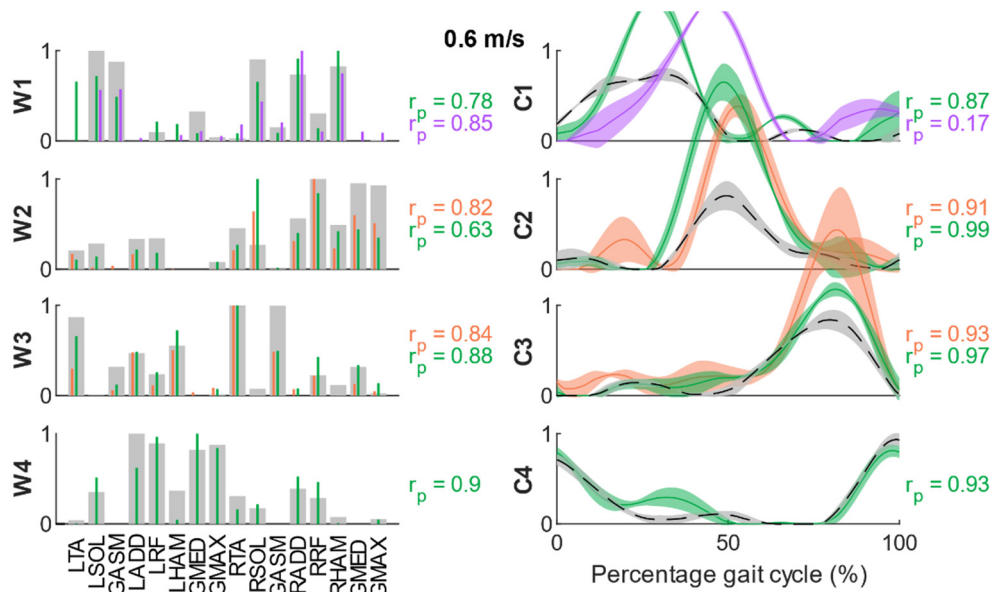




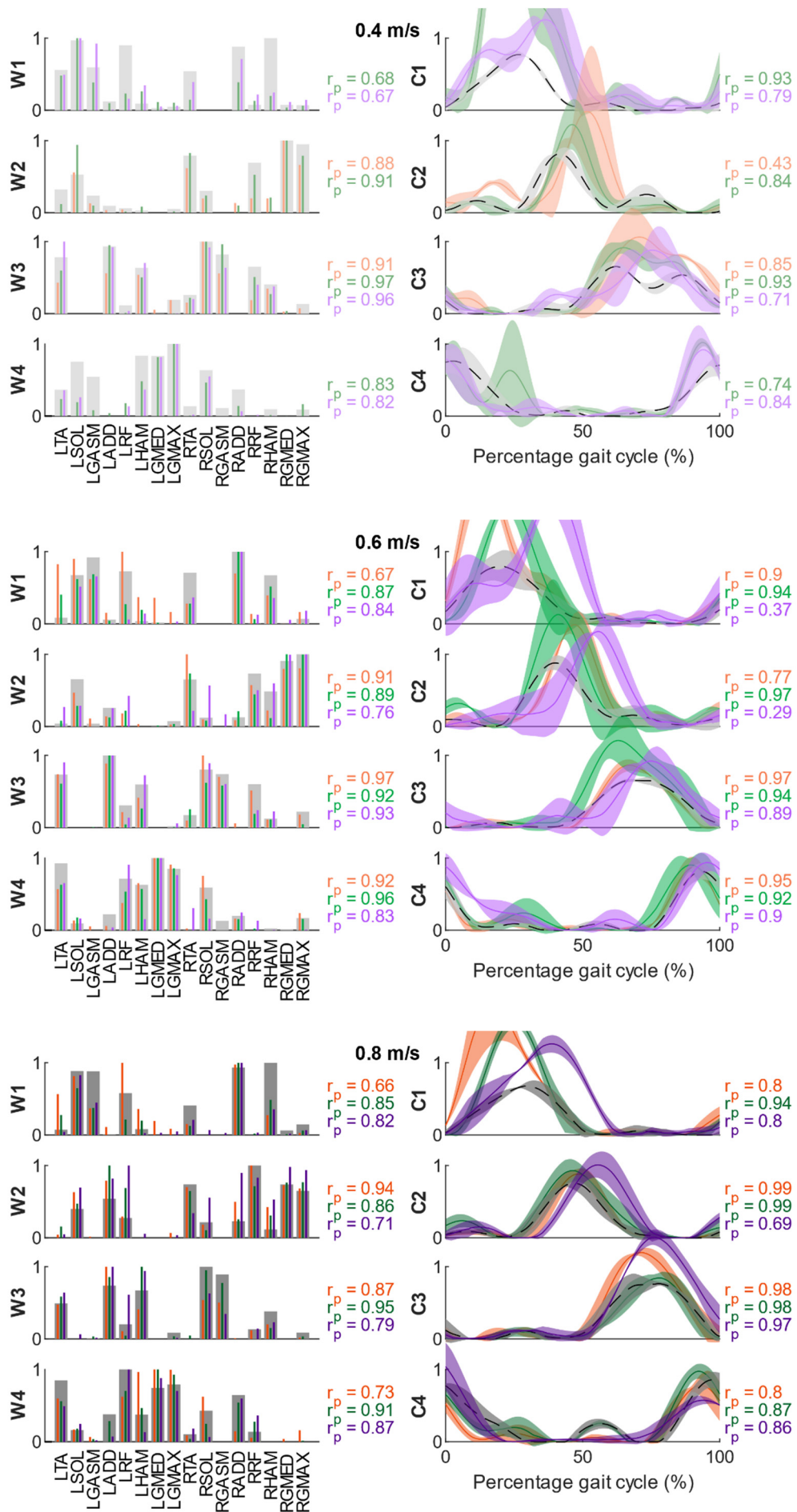
Subject 07



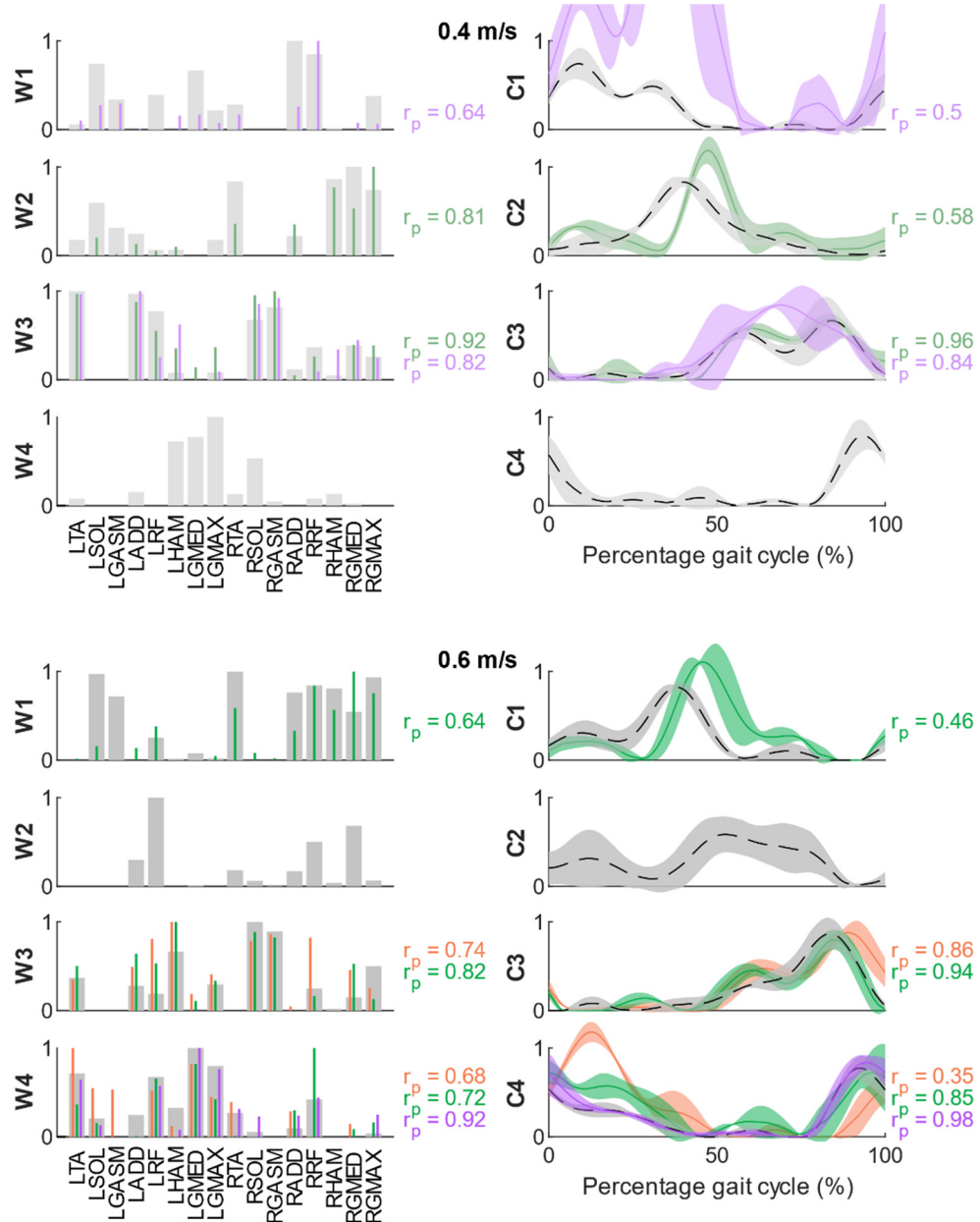


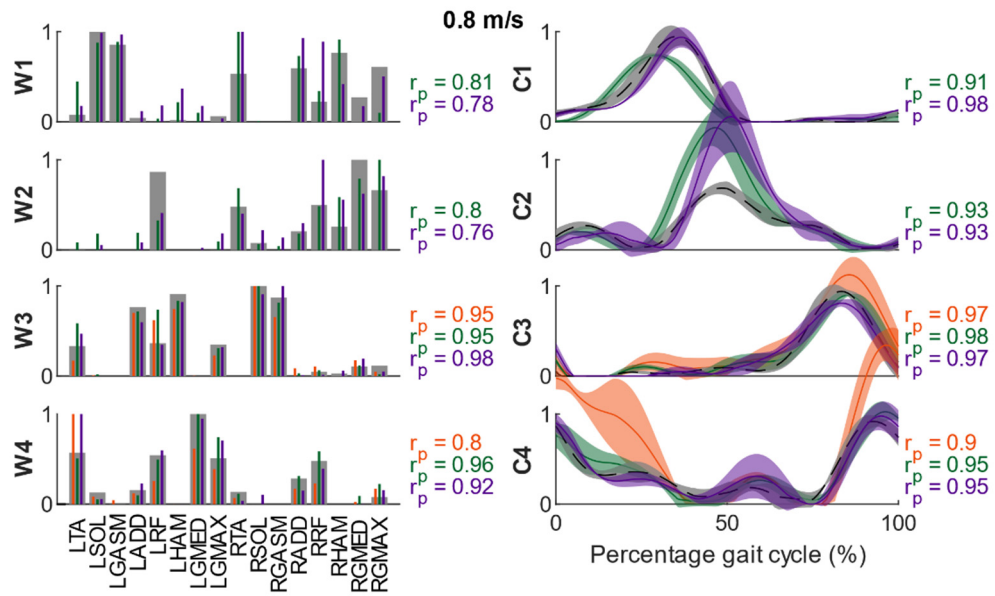


Subject 08

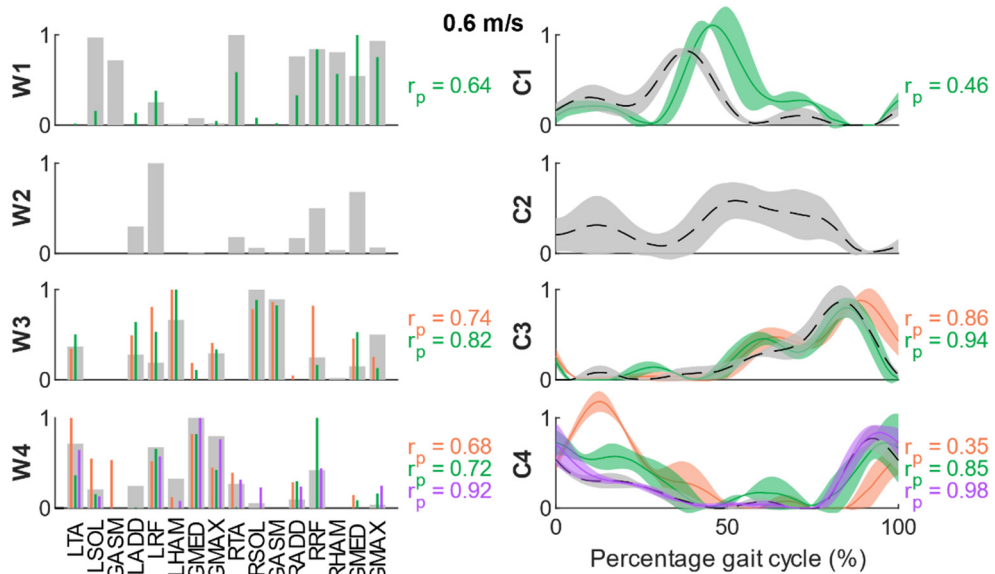
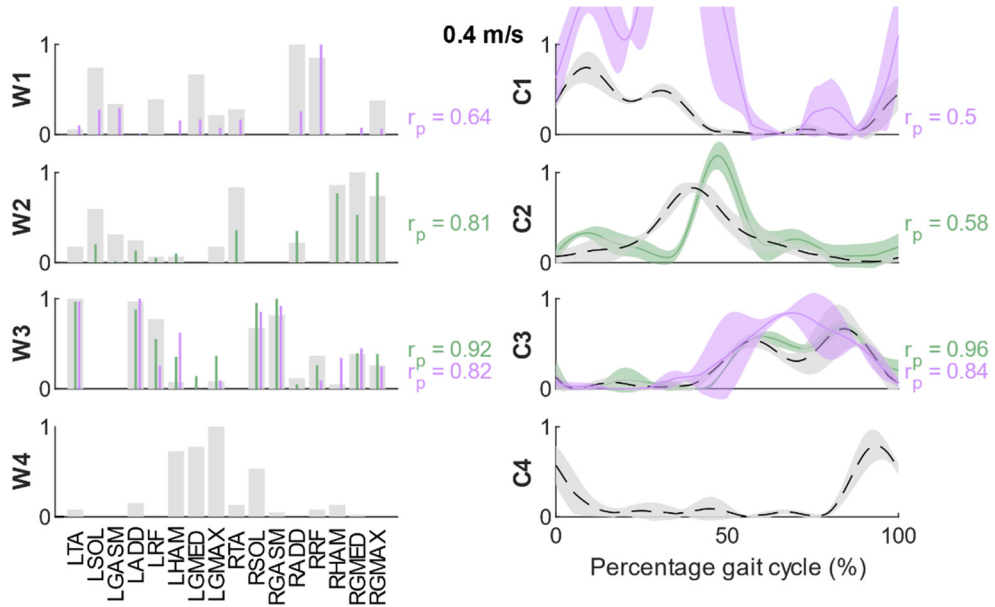


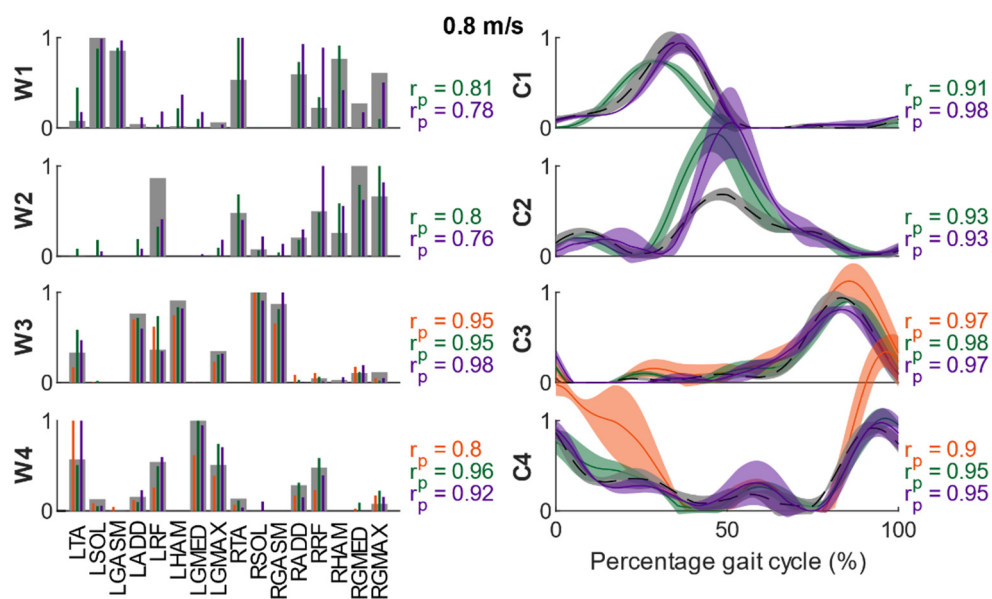
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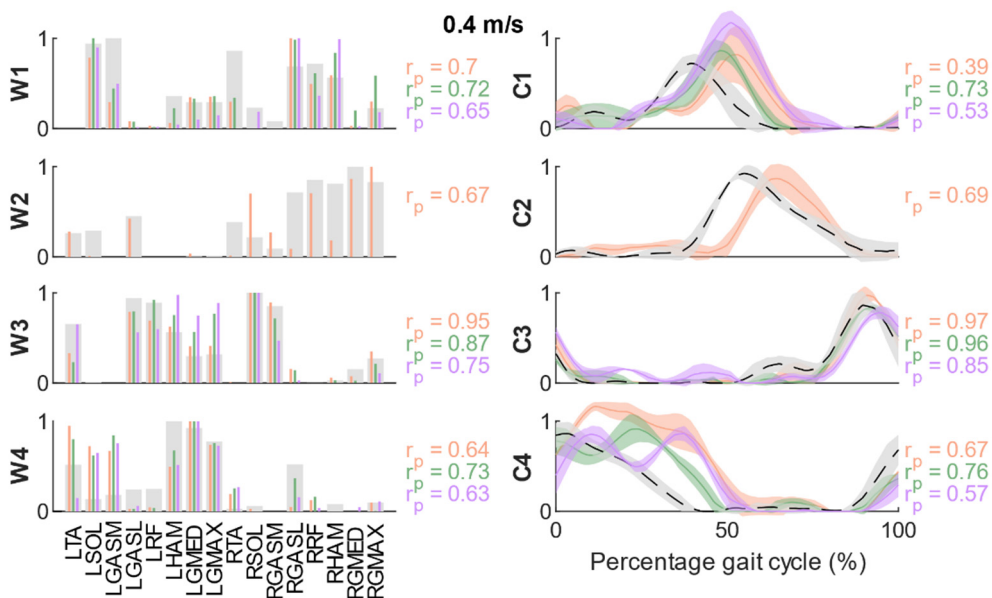


Subject 10

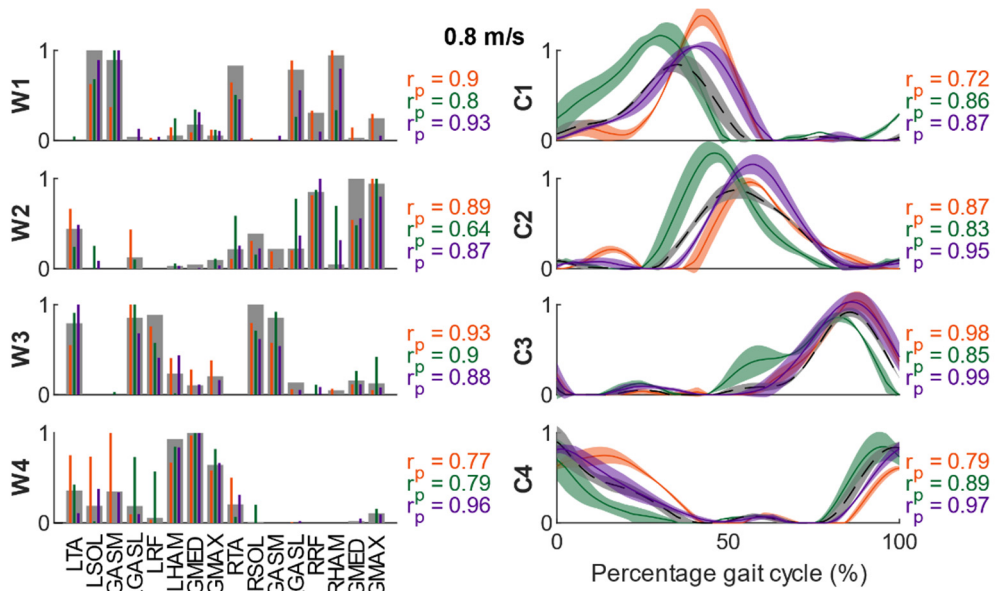
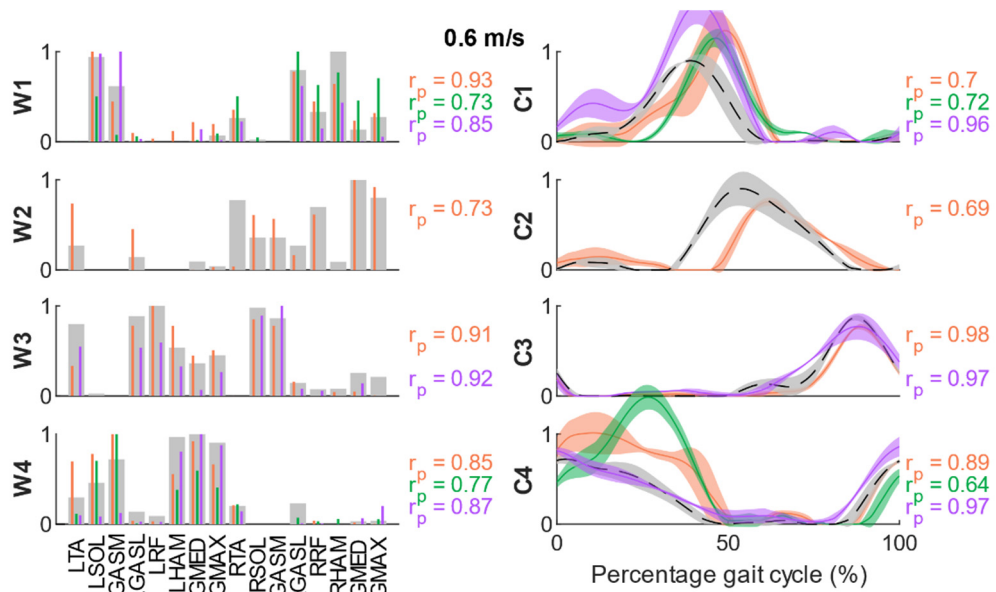




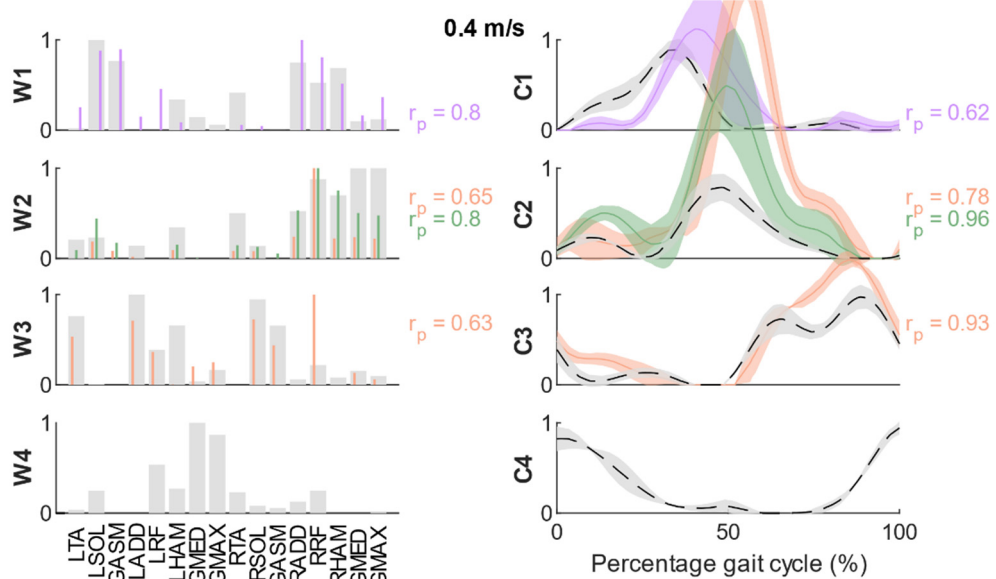
Subject 11

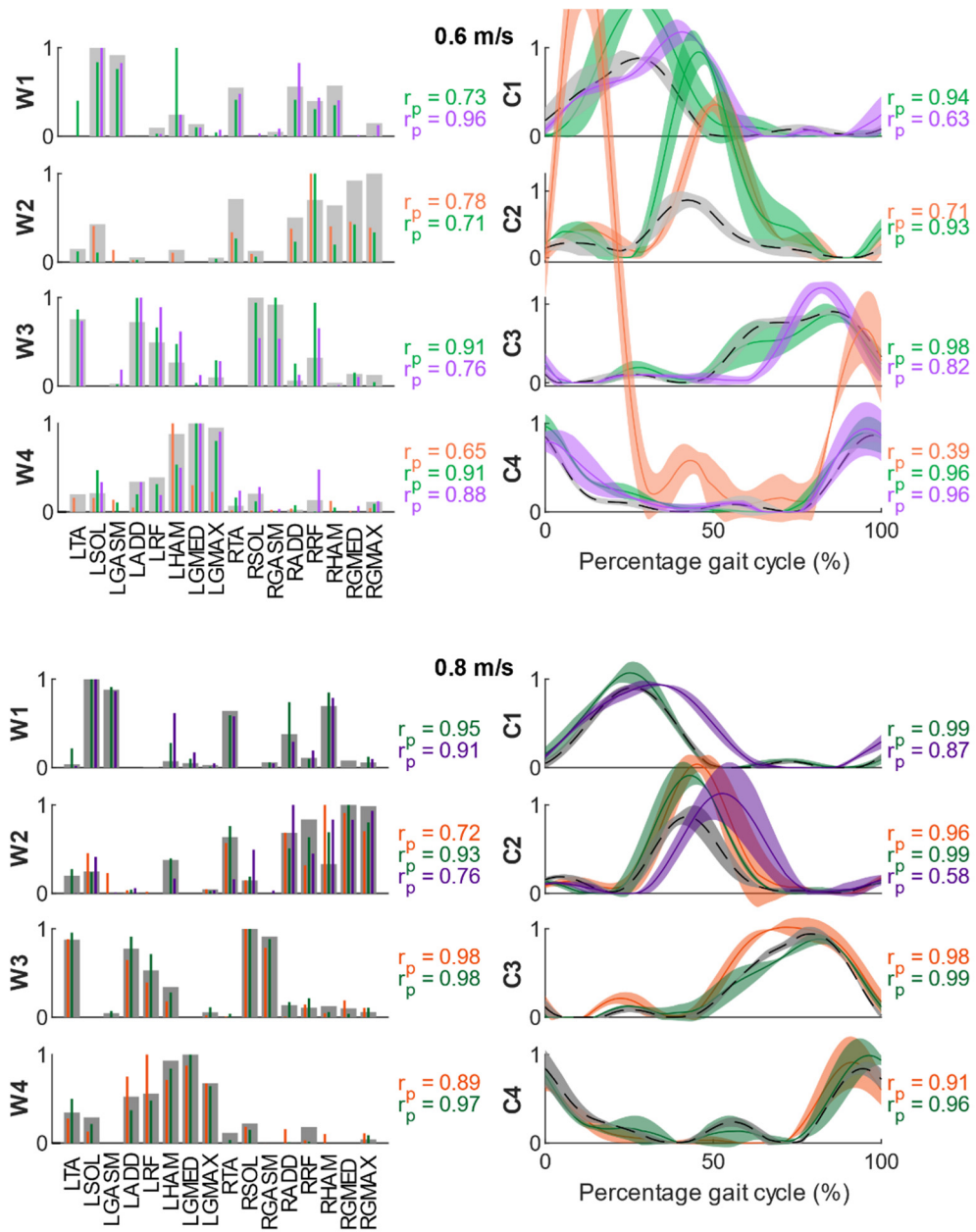




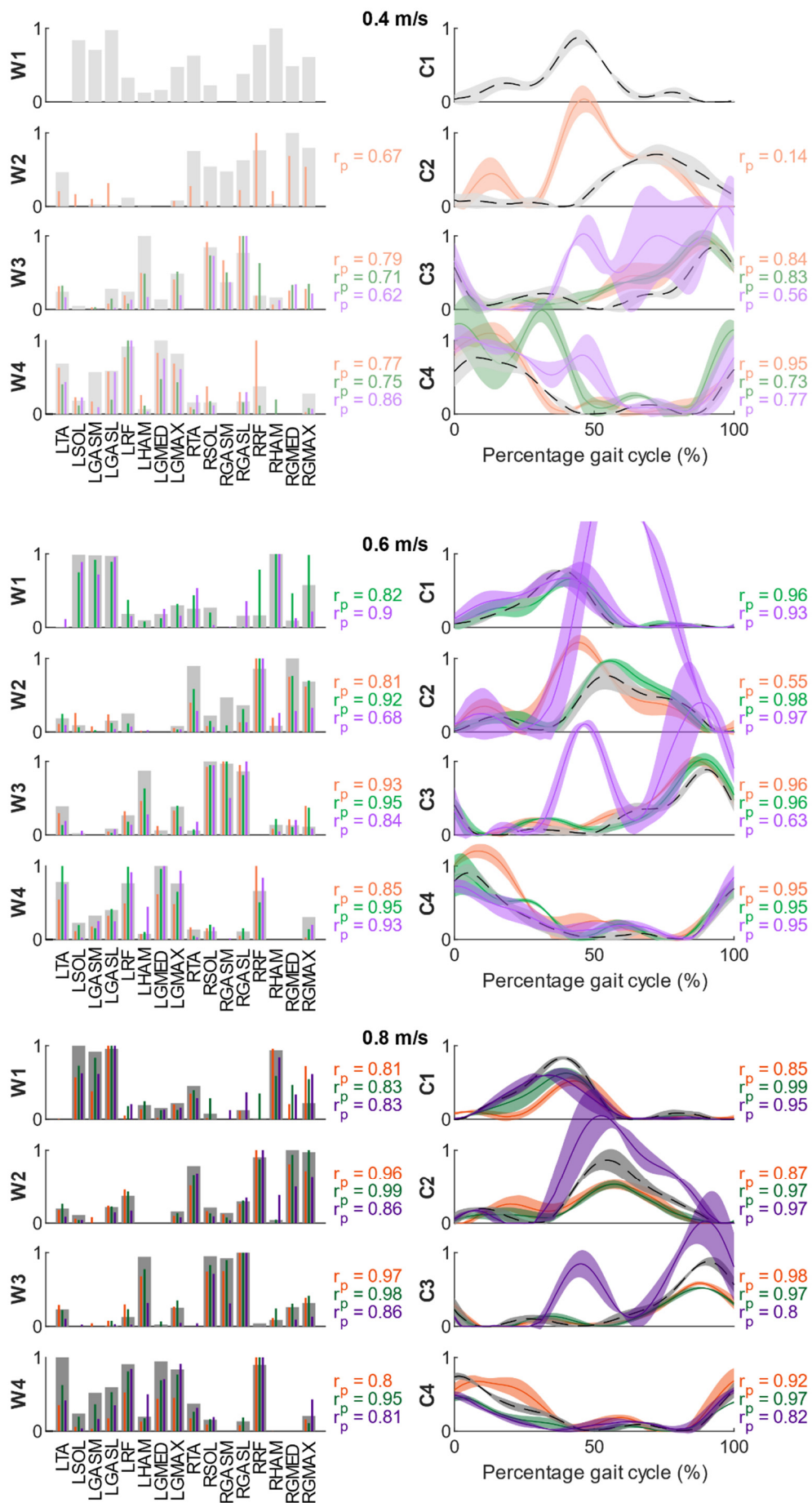


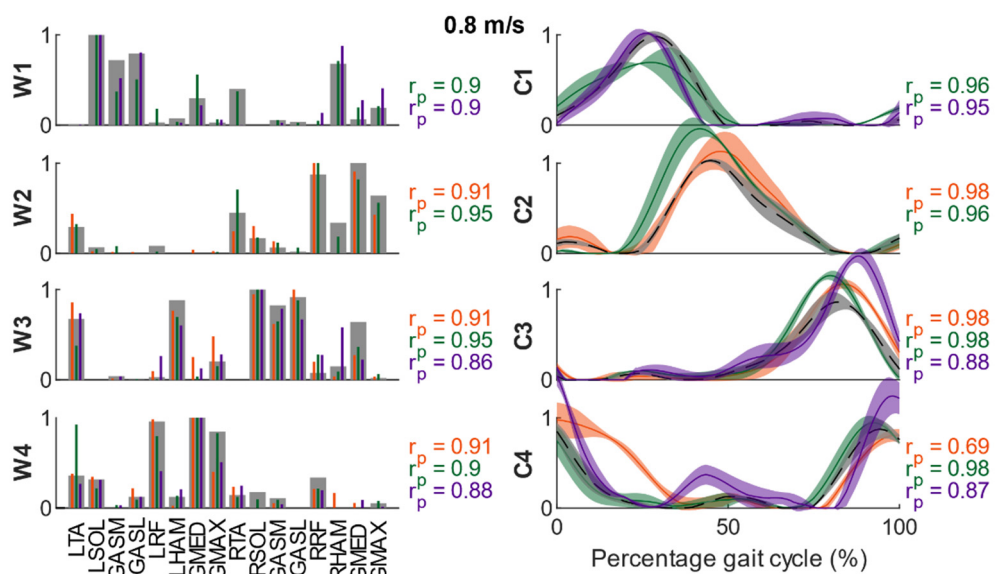
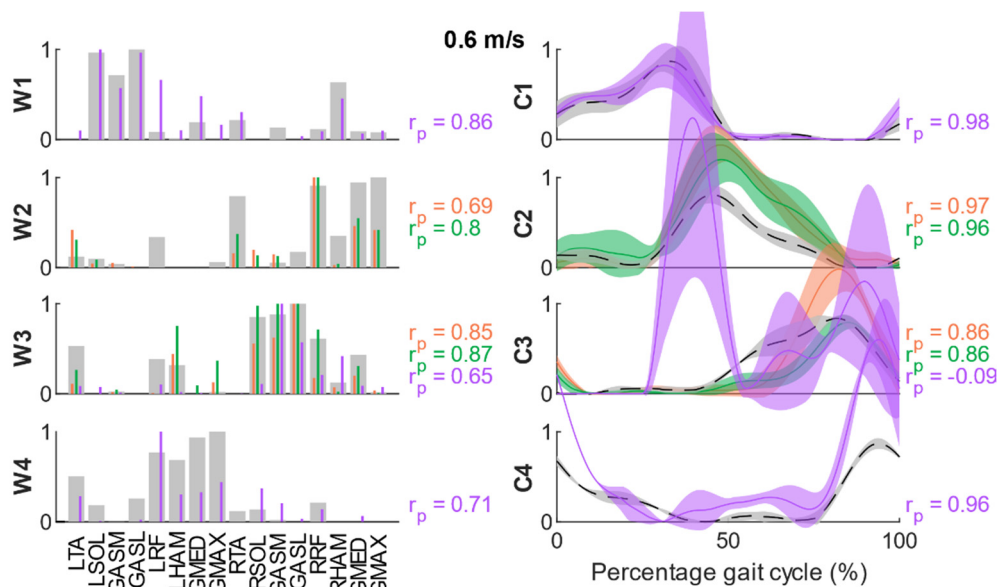
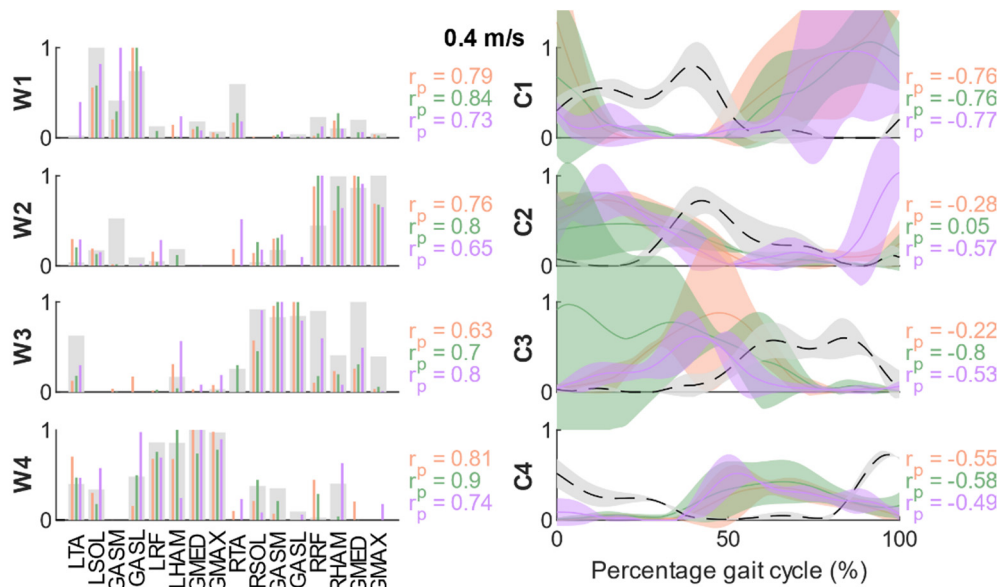
Subject 12



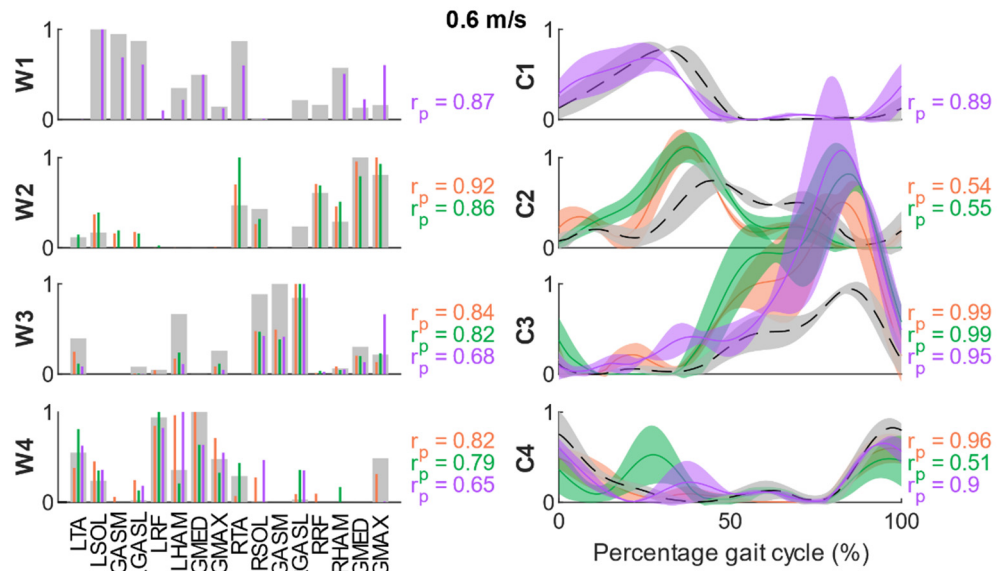
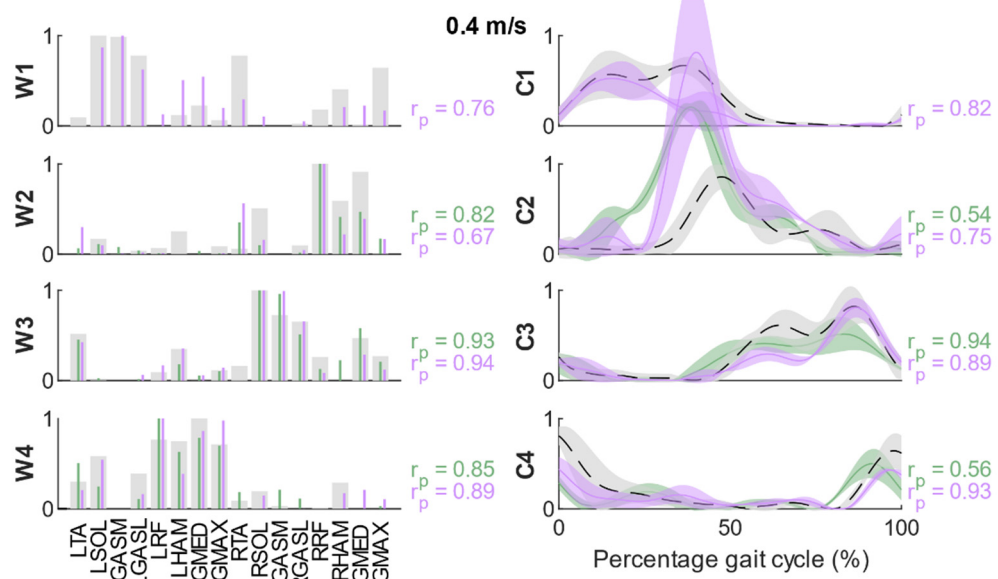


3. Muscle synergies and weighting curves for LEFT INWARD directed perturbations.  
Subject 01

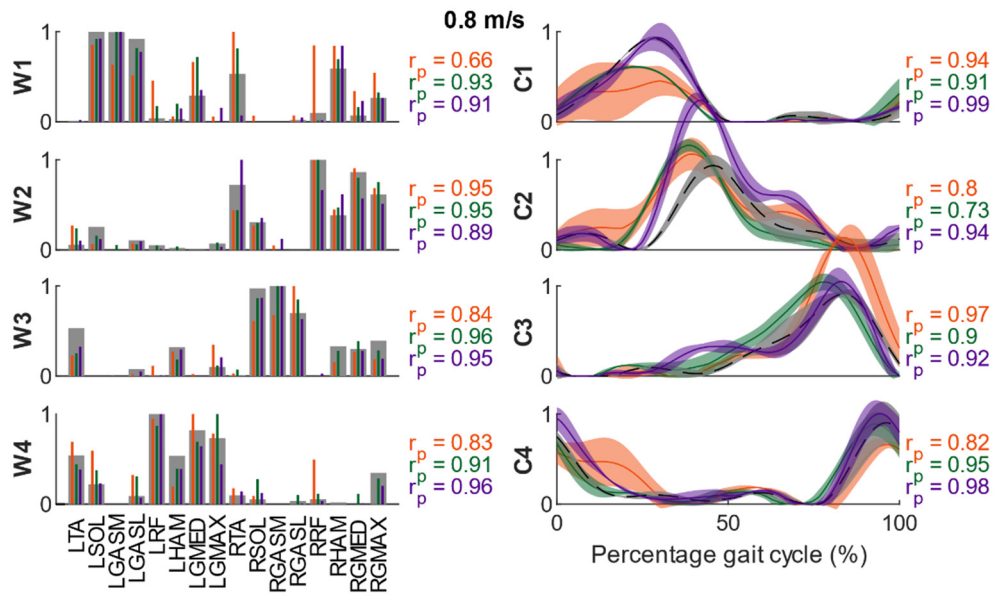




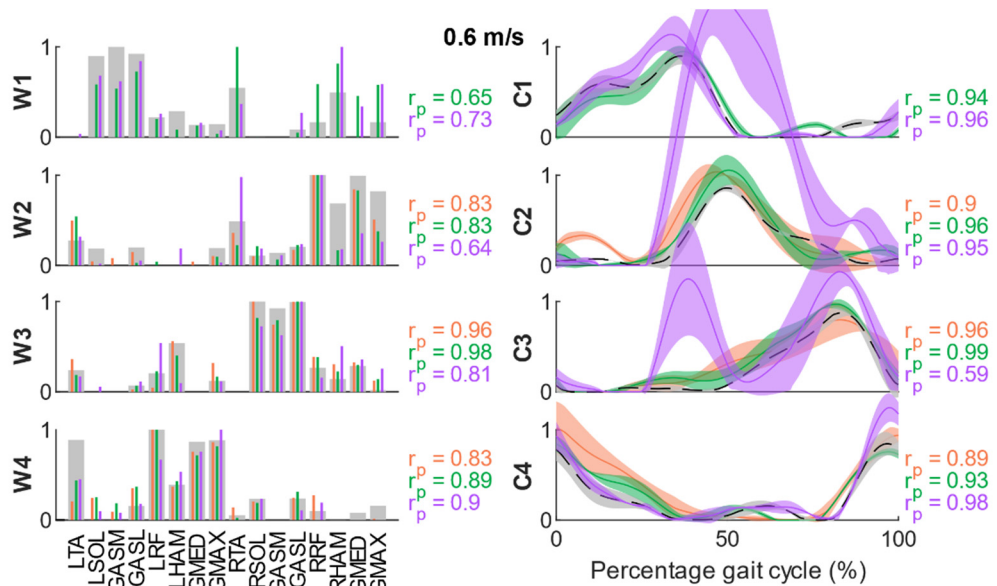
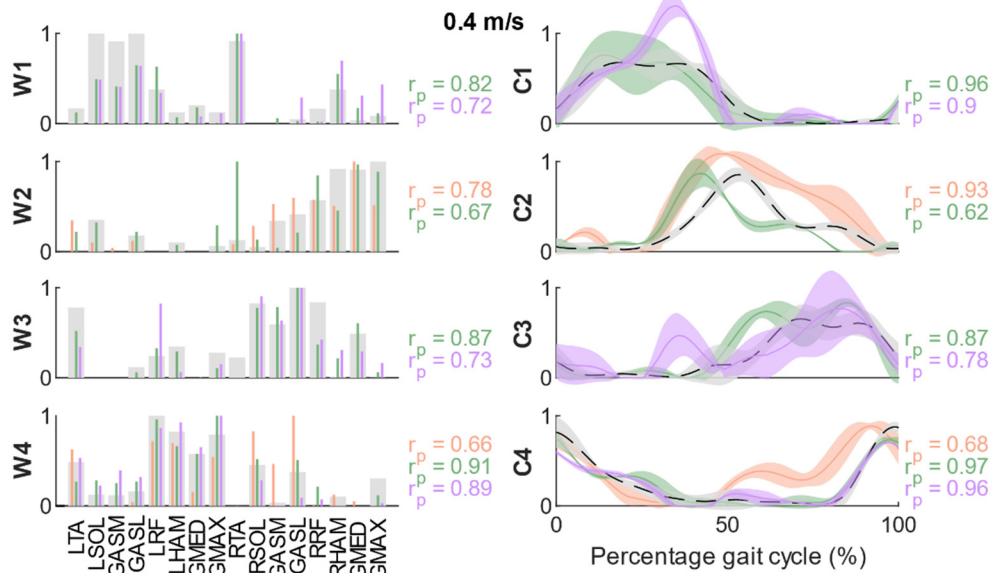
## Subject 03

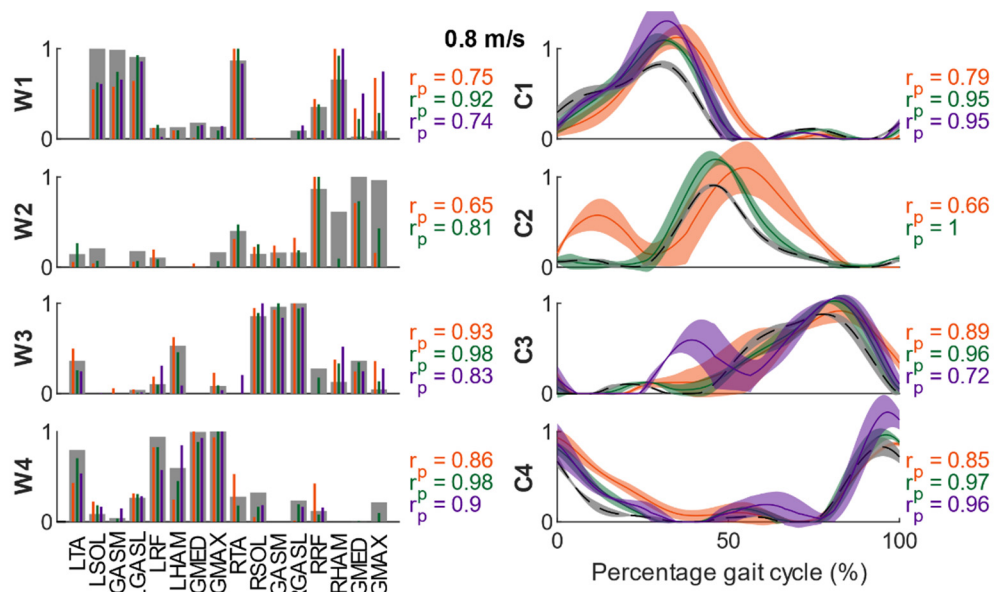




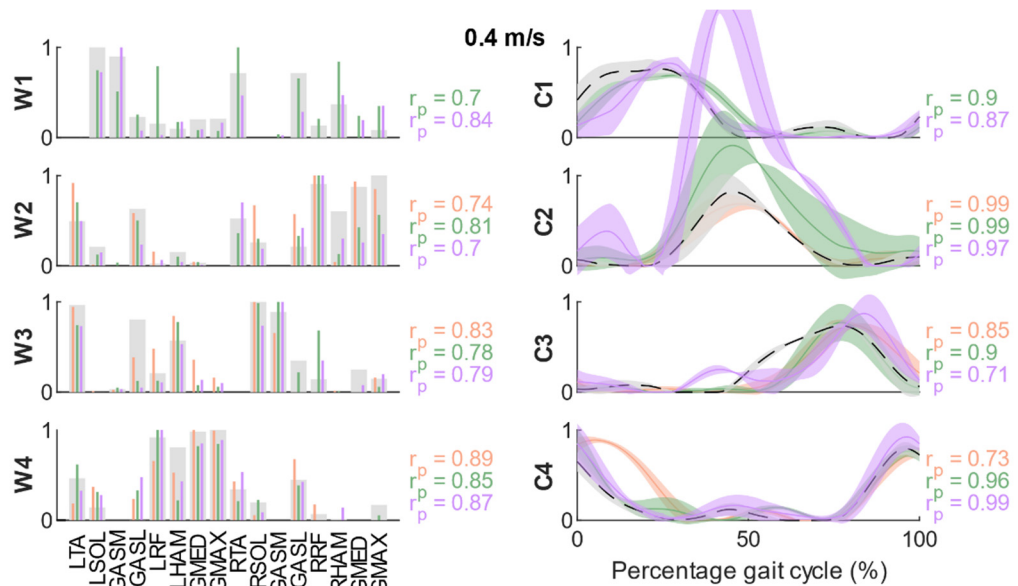


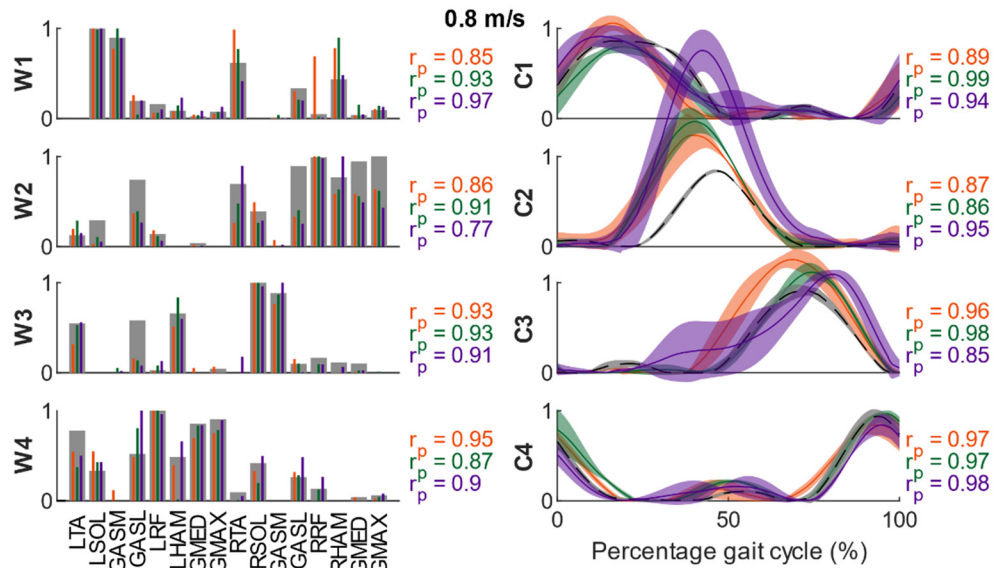
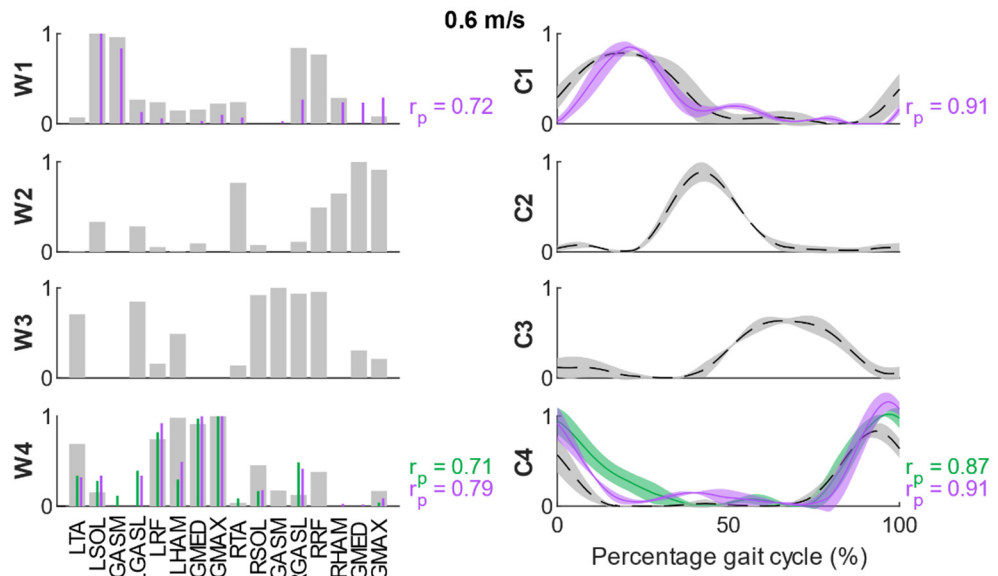
**Subject 04**



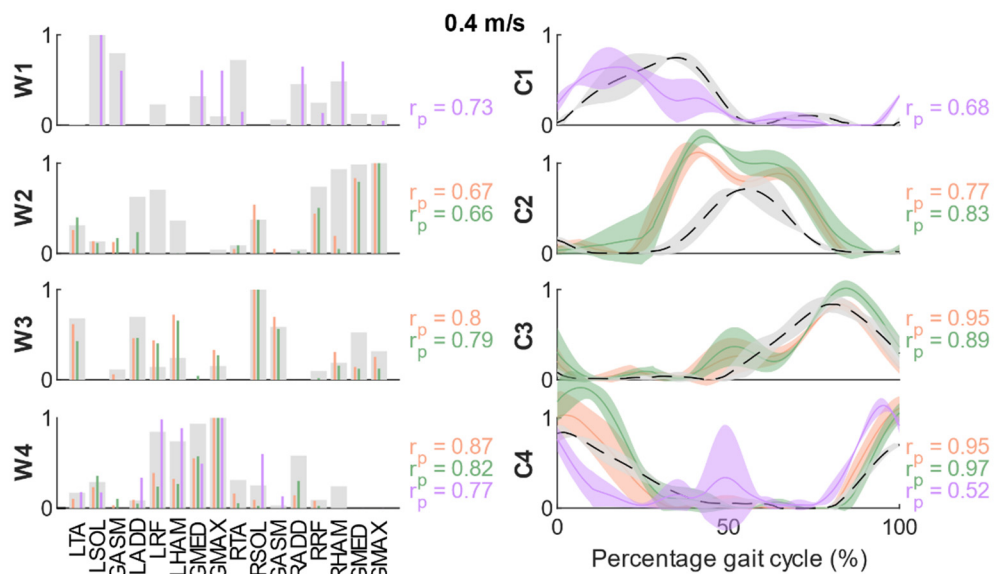


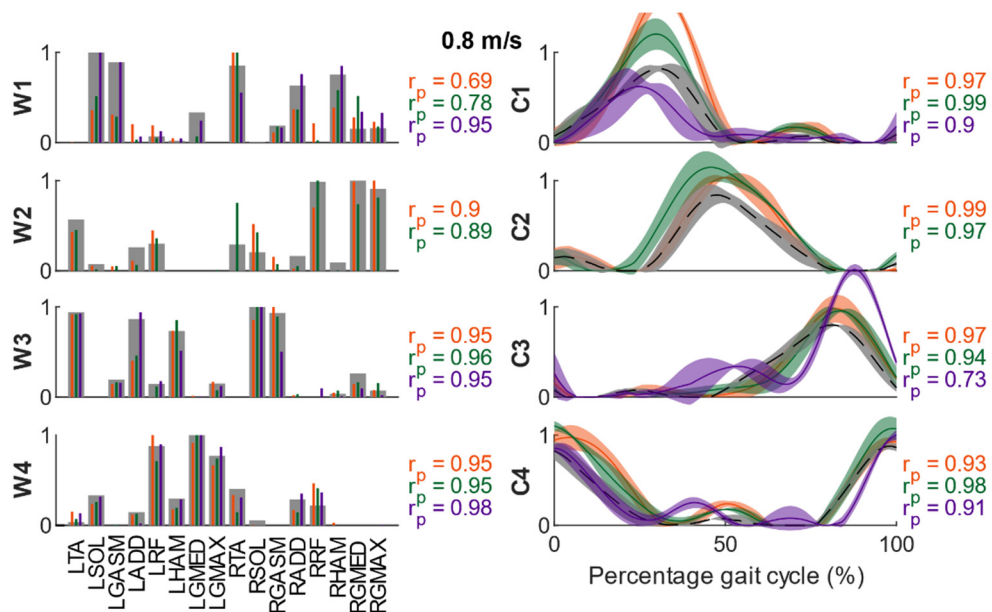
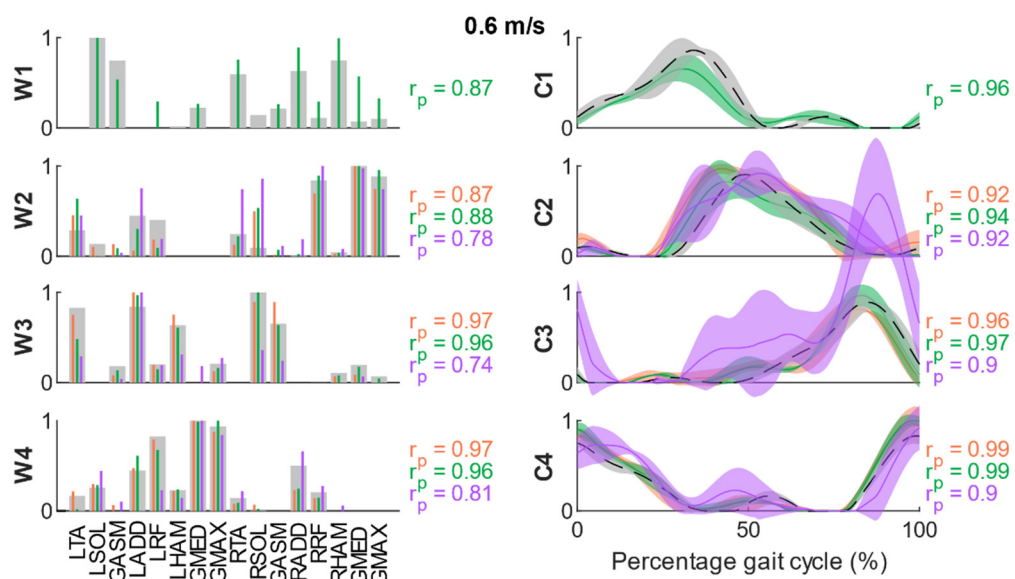
**Subject 05**



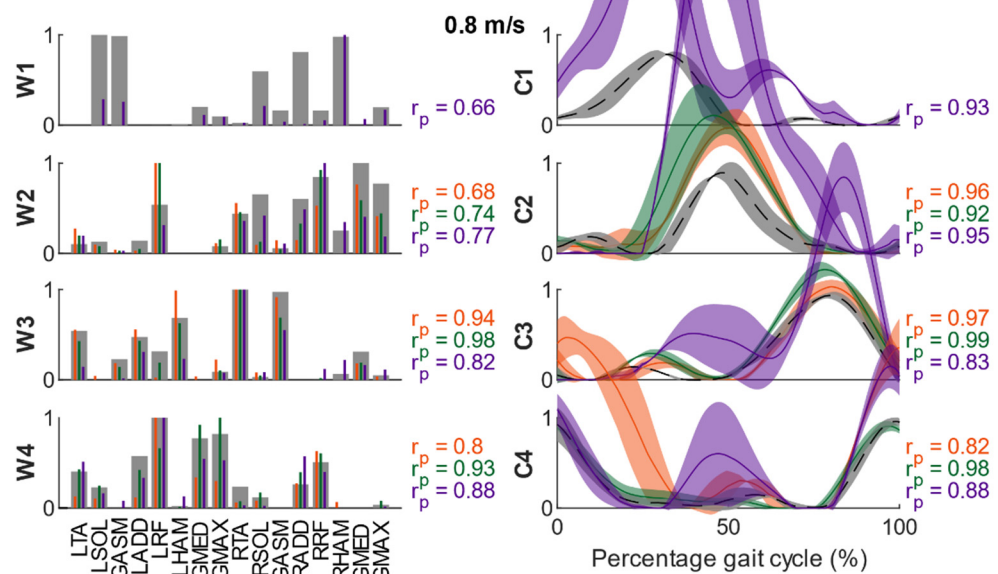
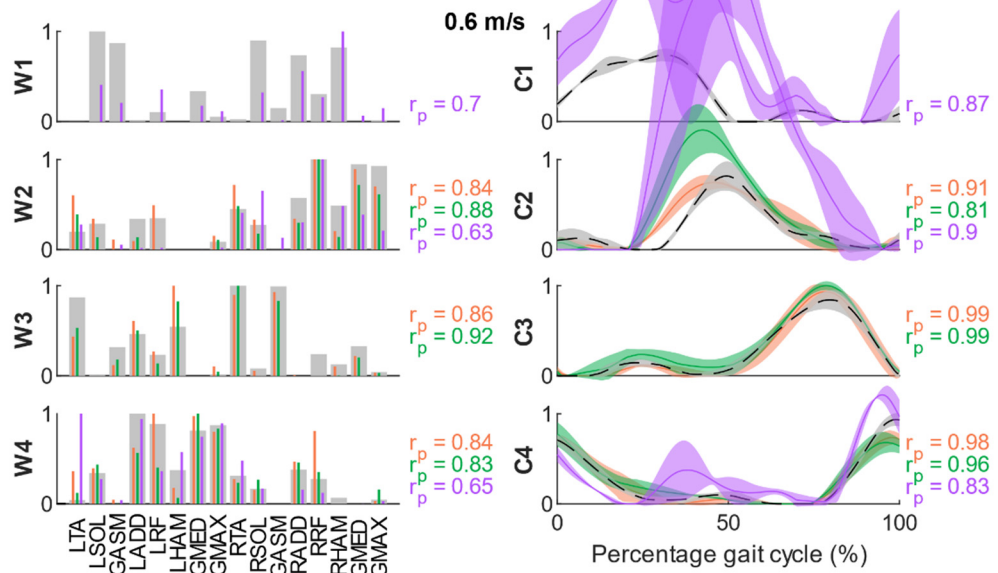
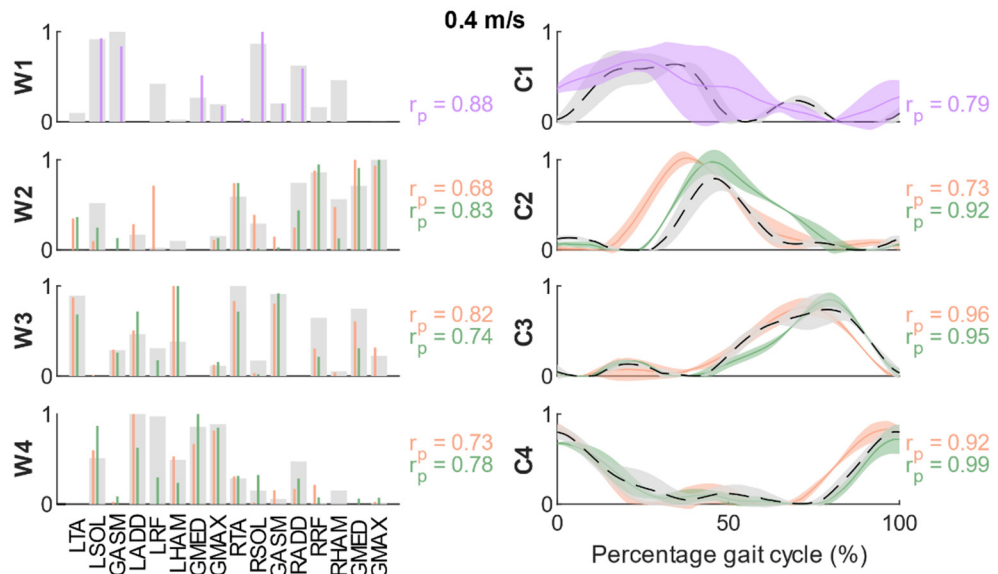


Subject 06



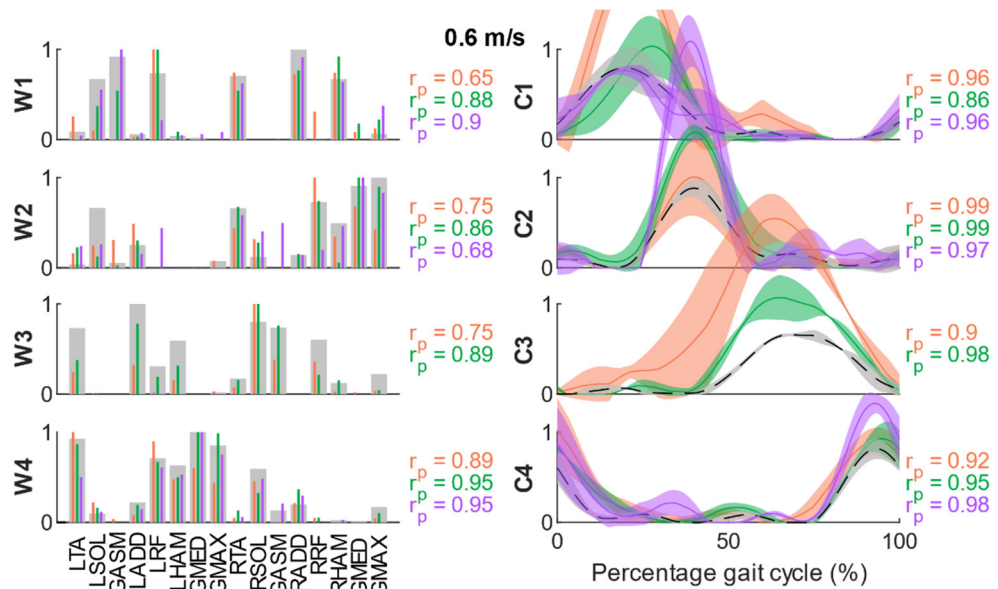
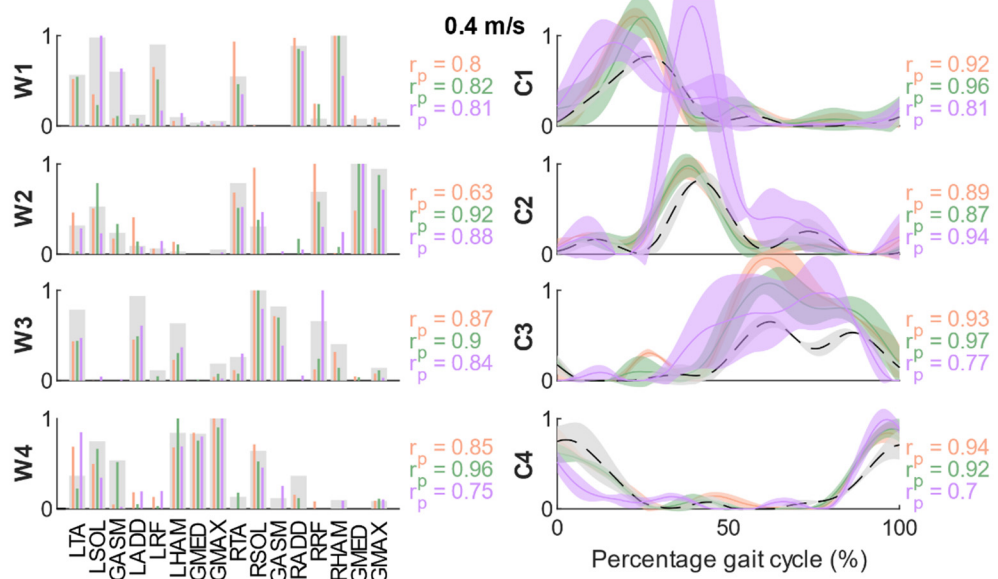


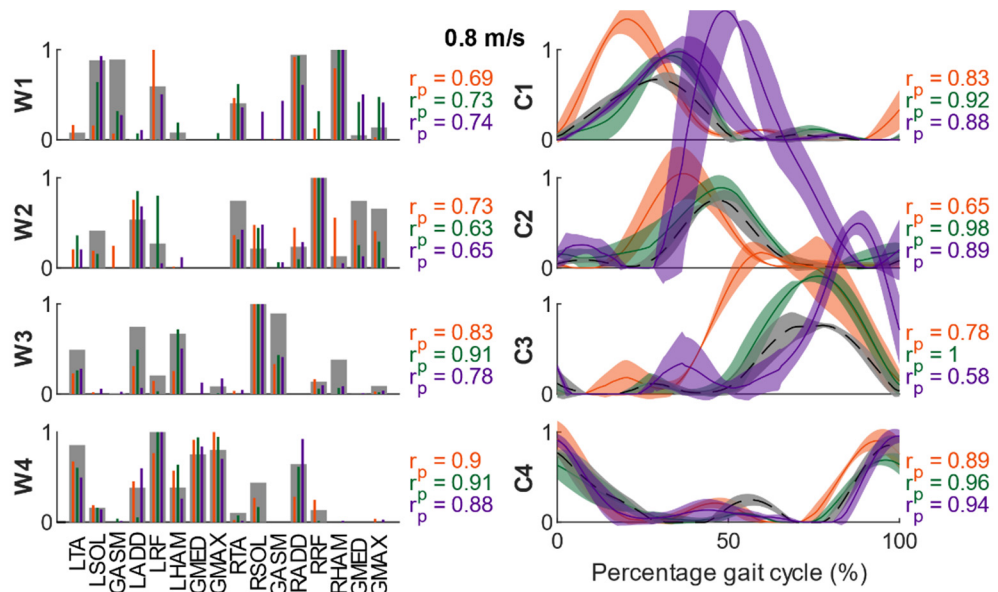
Subject 07



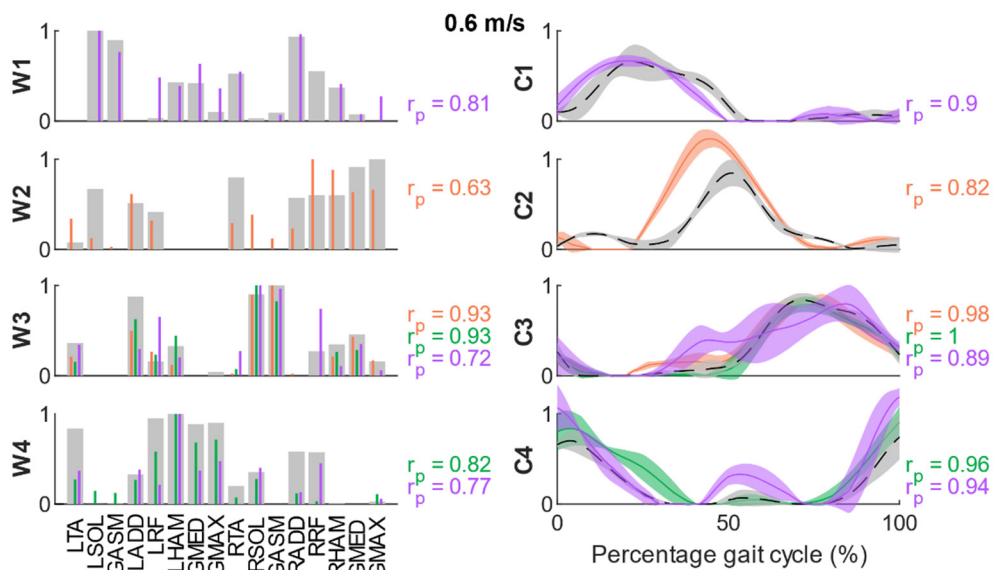
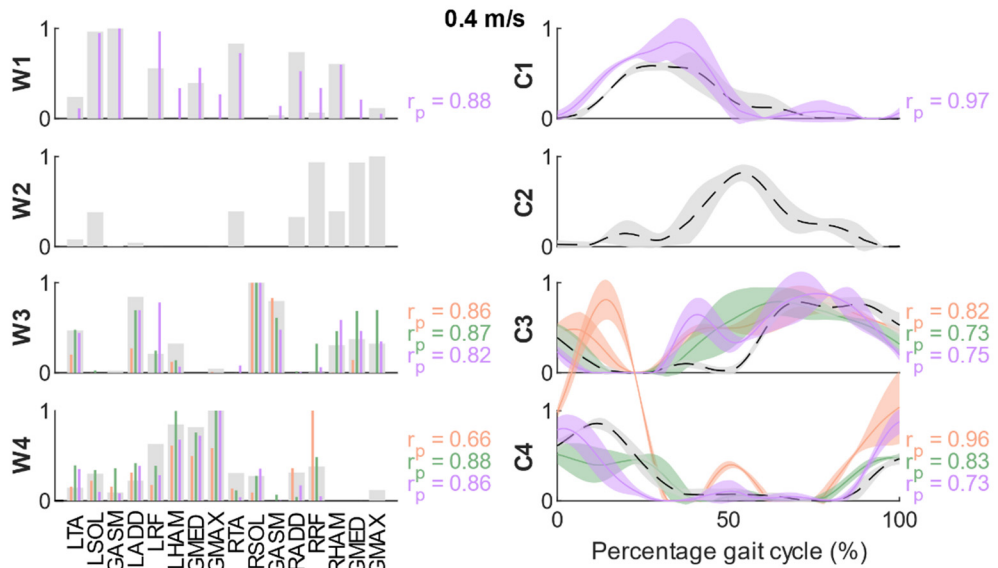


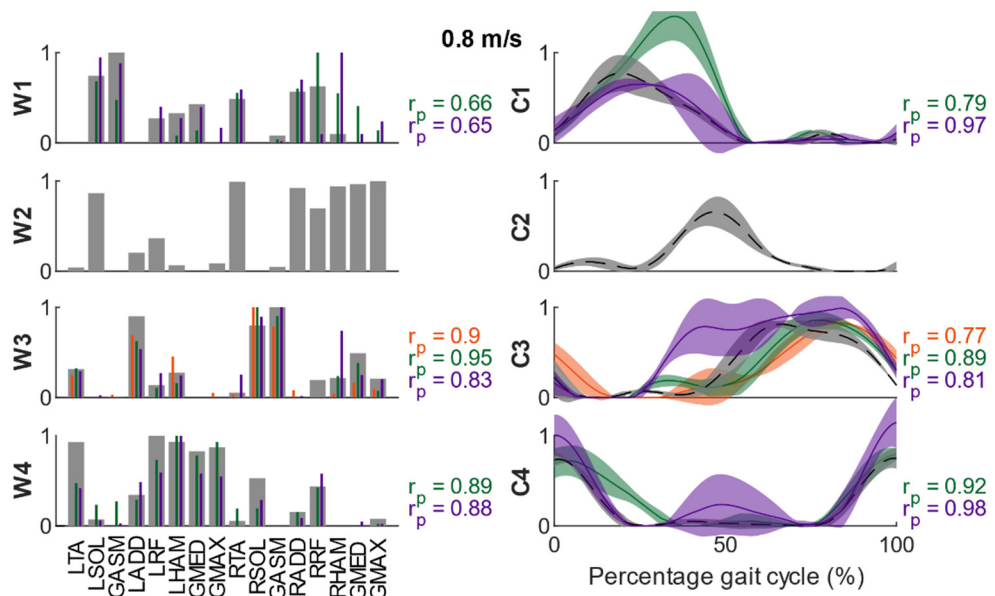
## Subject 08



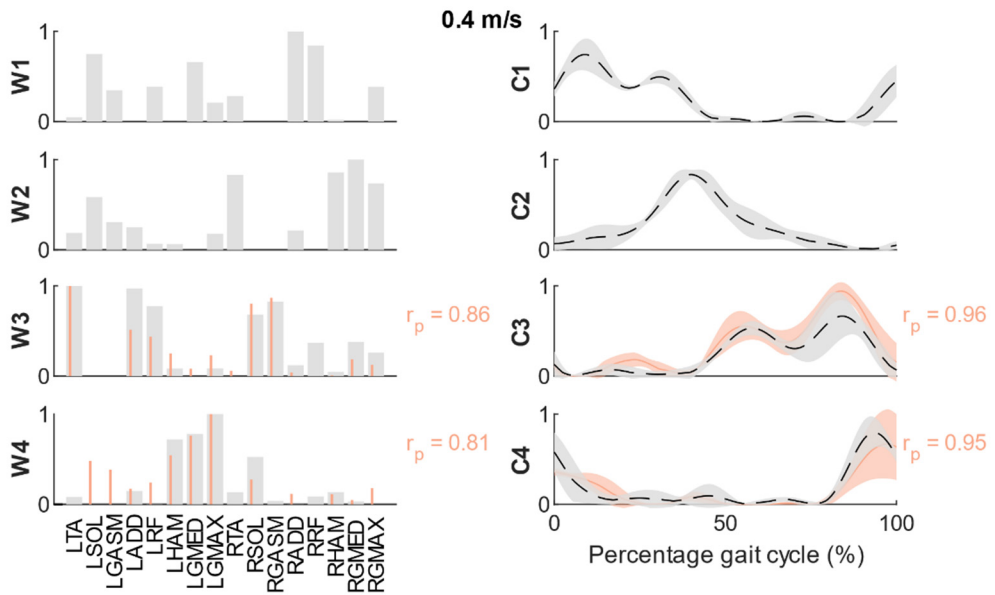


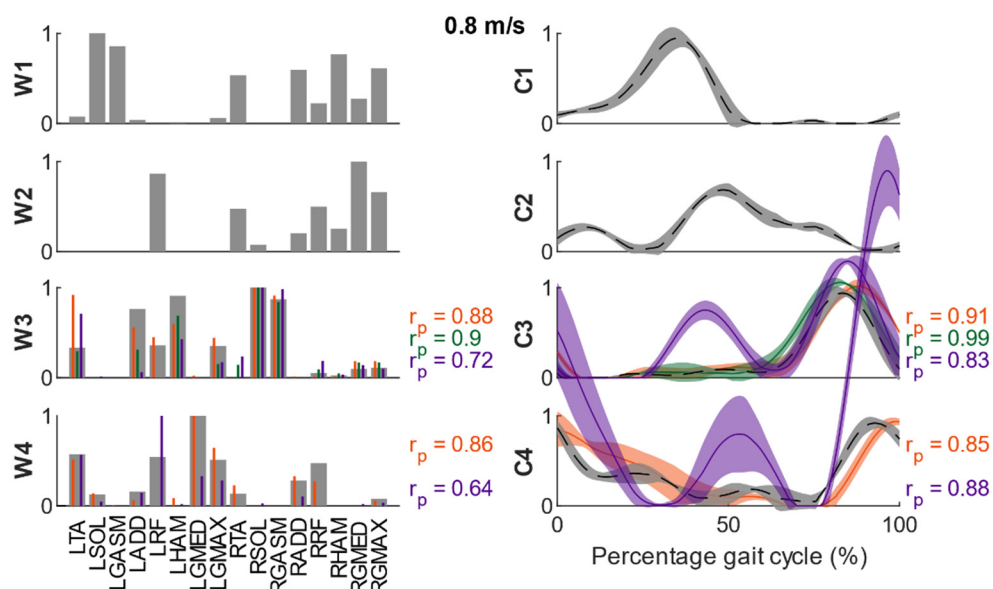
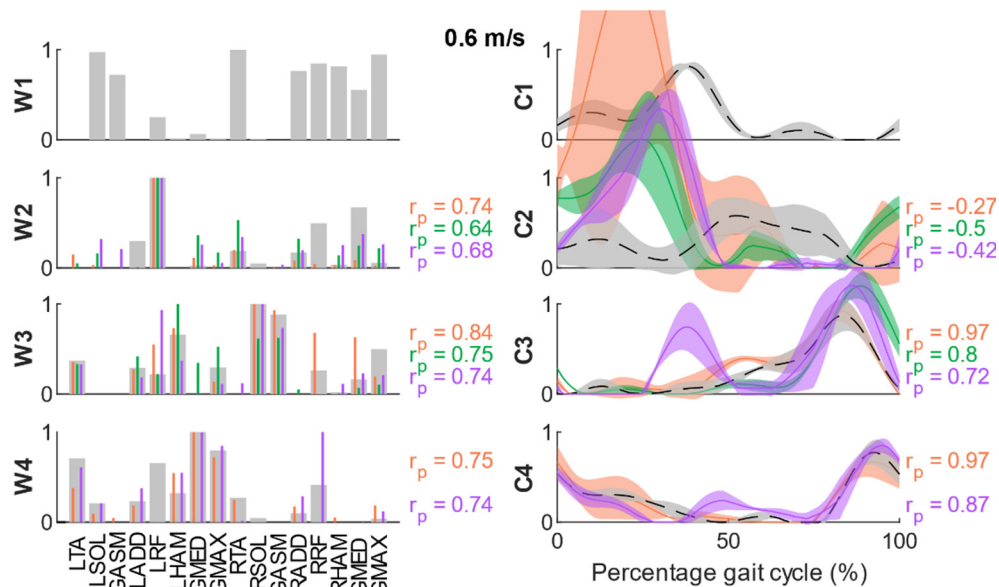
Subject 09



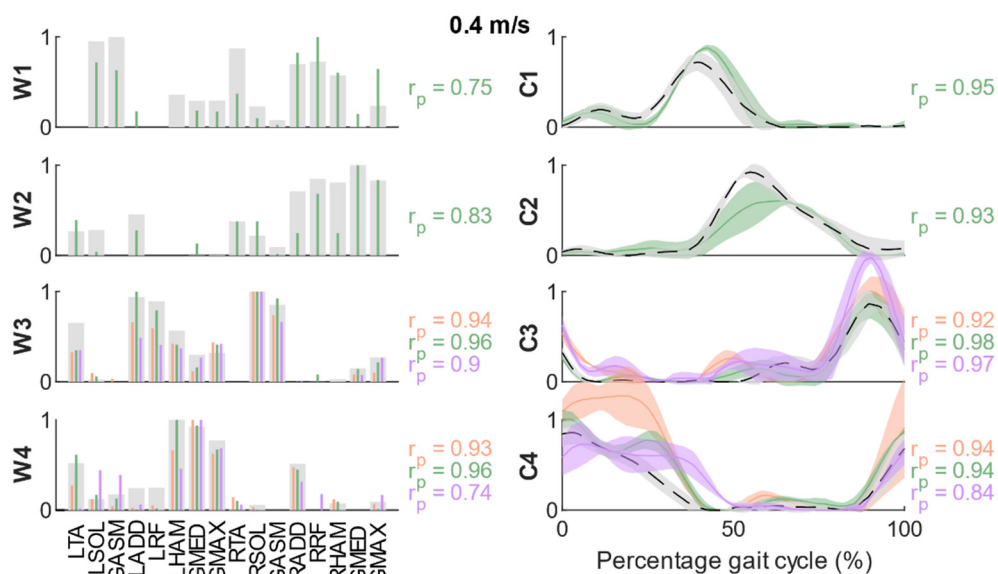


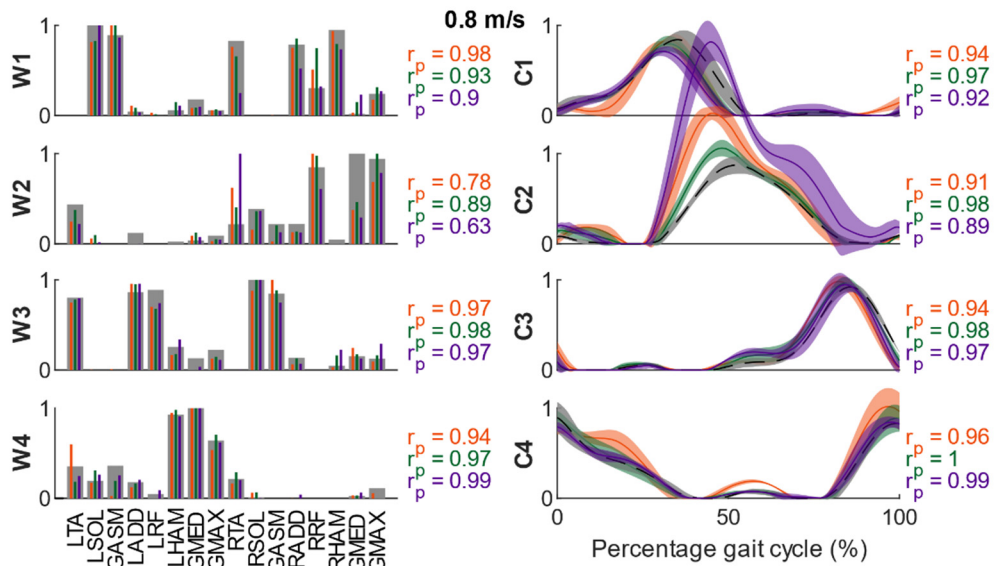
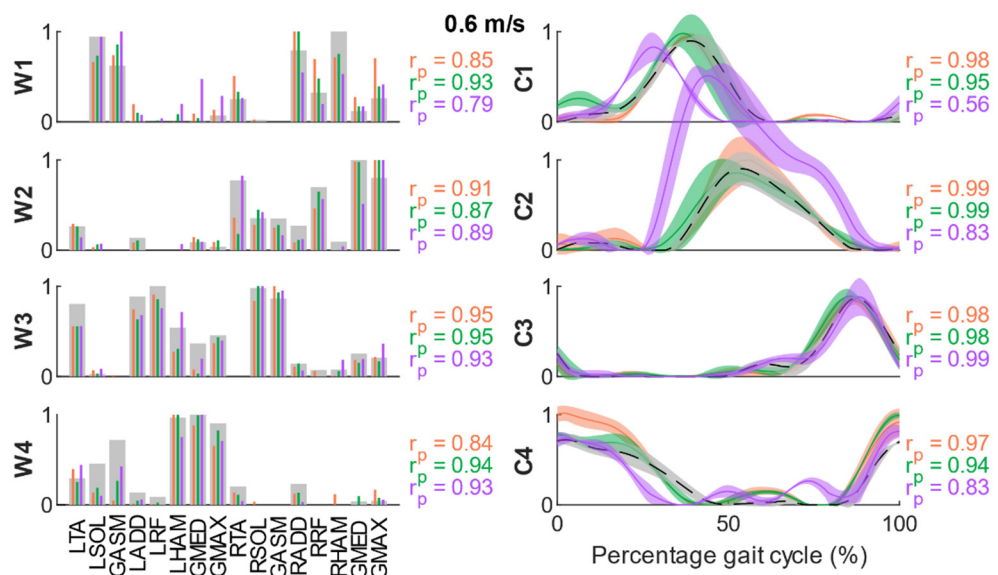
**Subject 10**





**Subject 11**





Subject 12



