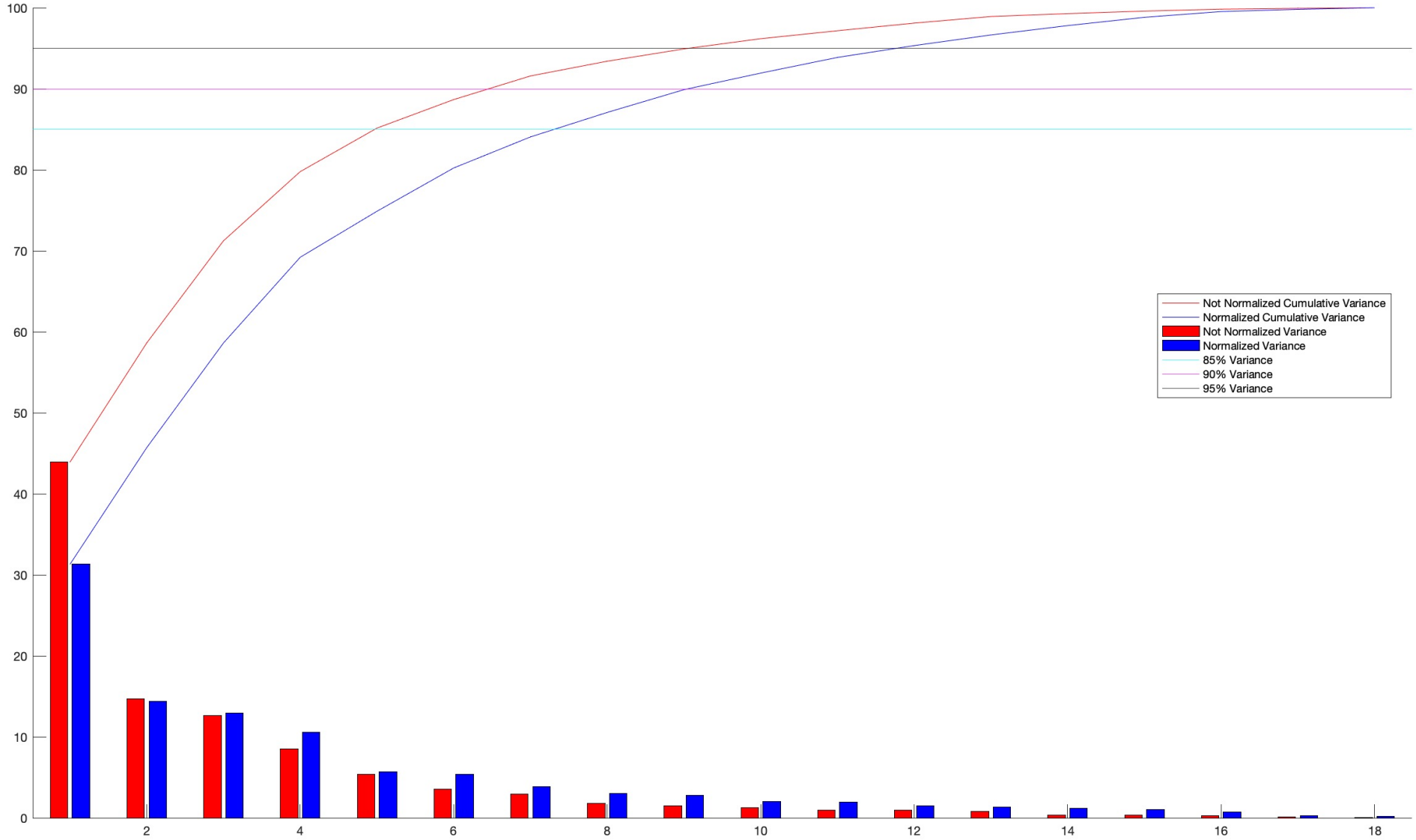
Preliminary Results

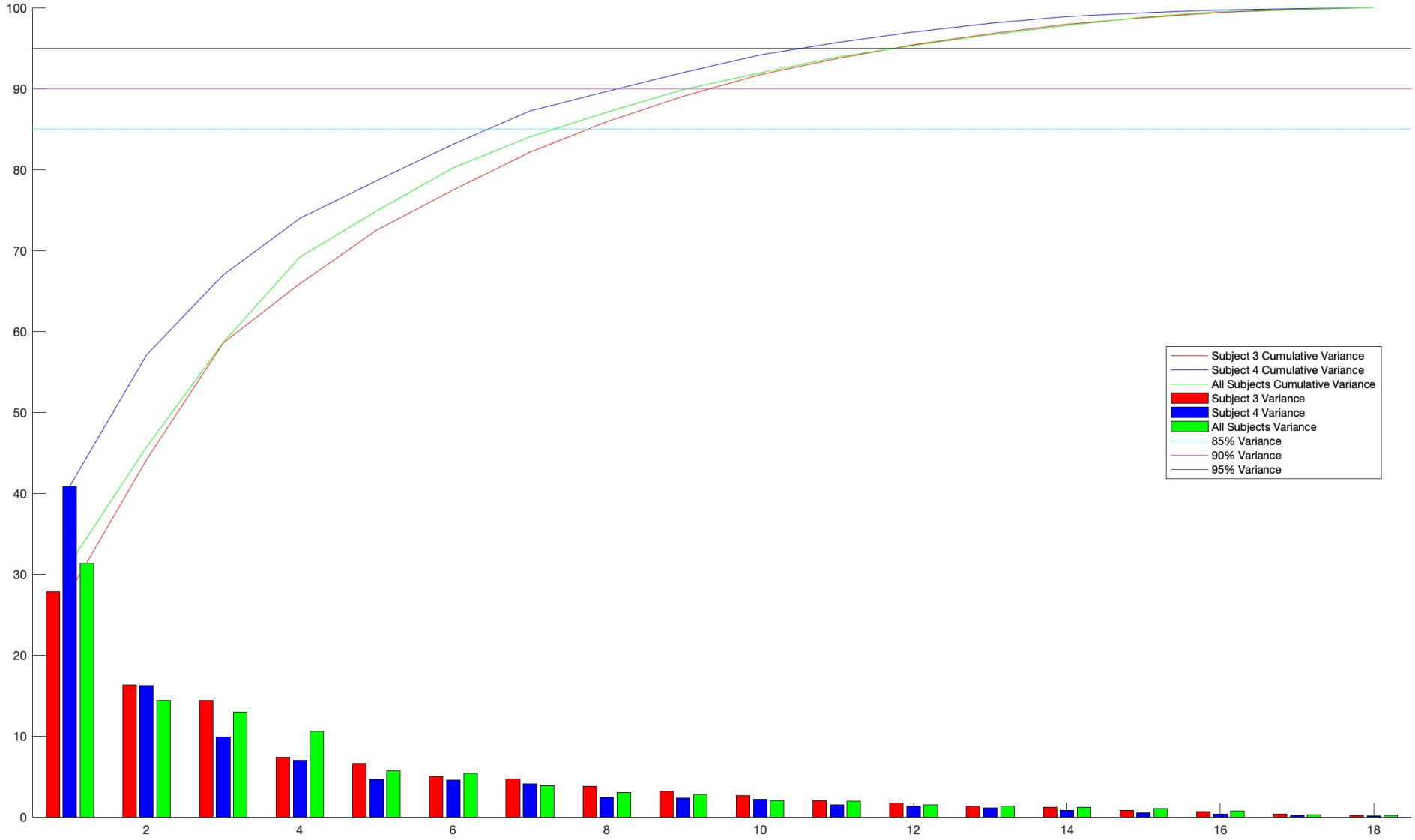
02/07/2021

Variance difference between normalized and not normalized data



	Not Norm	Norm
85%	5	8
90%	7	10 (9)
95%	10 (9)	12

Variance difference between subjects



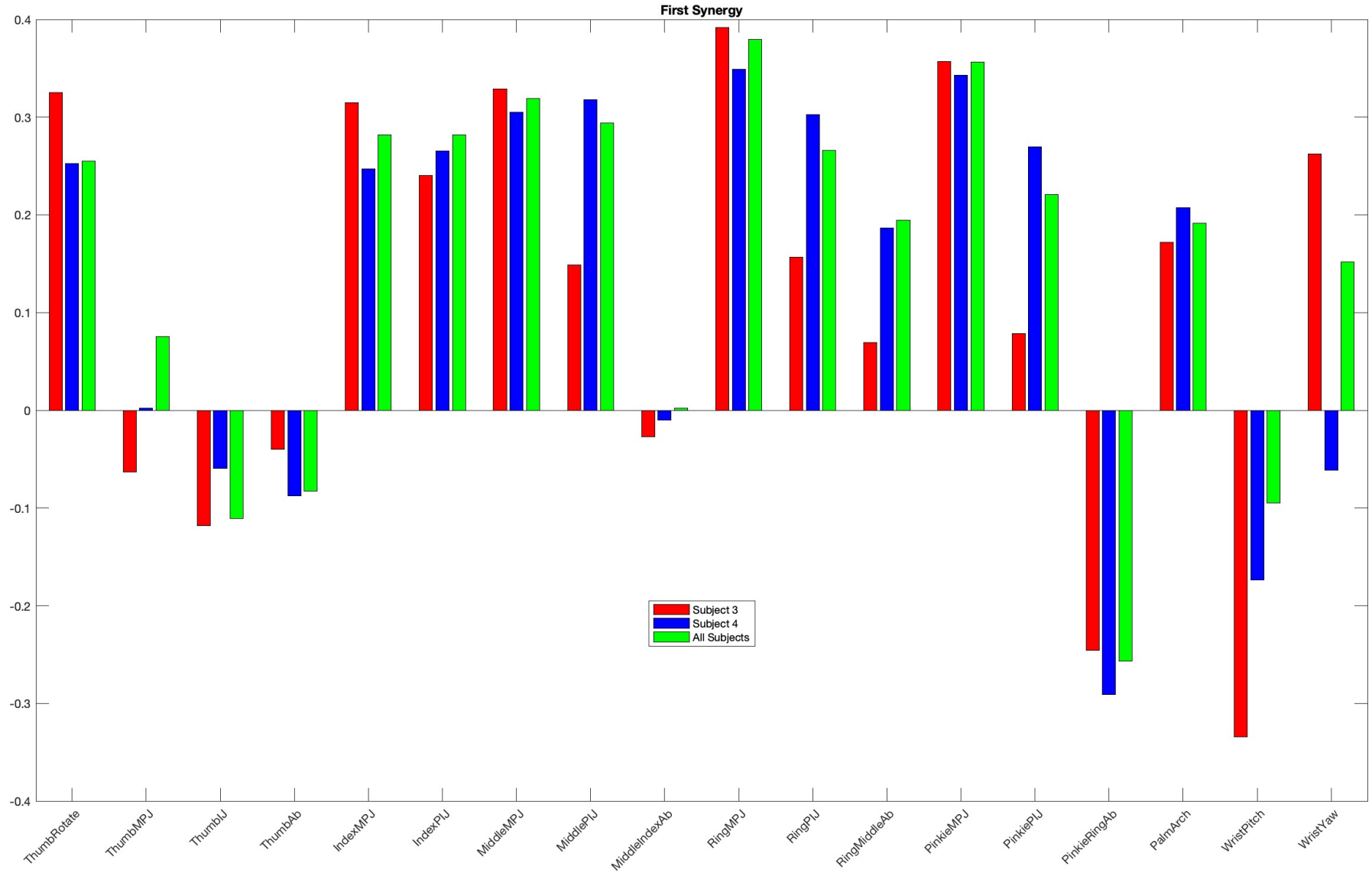
	S3	S4	All
85%	8	7	8
90%	10	9	10
95%	12	11	12

- In general, variance explained is lower than in other studies.
- This could be due to our experimental task.

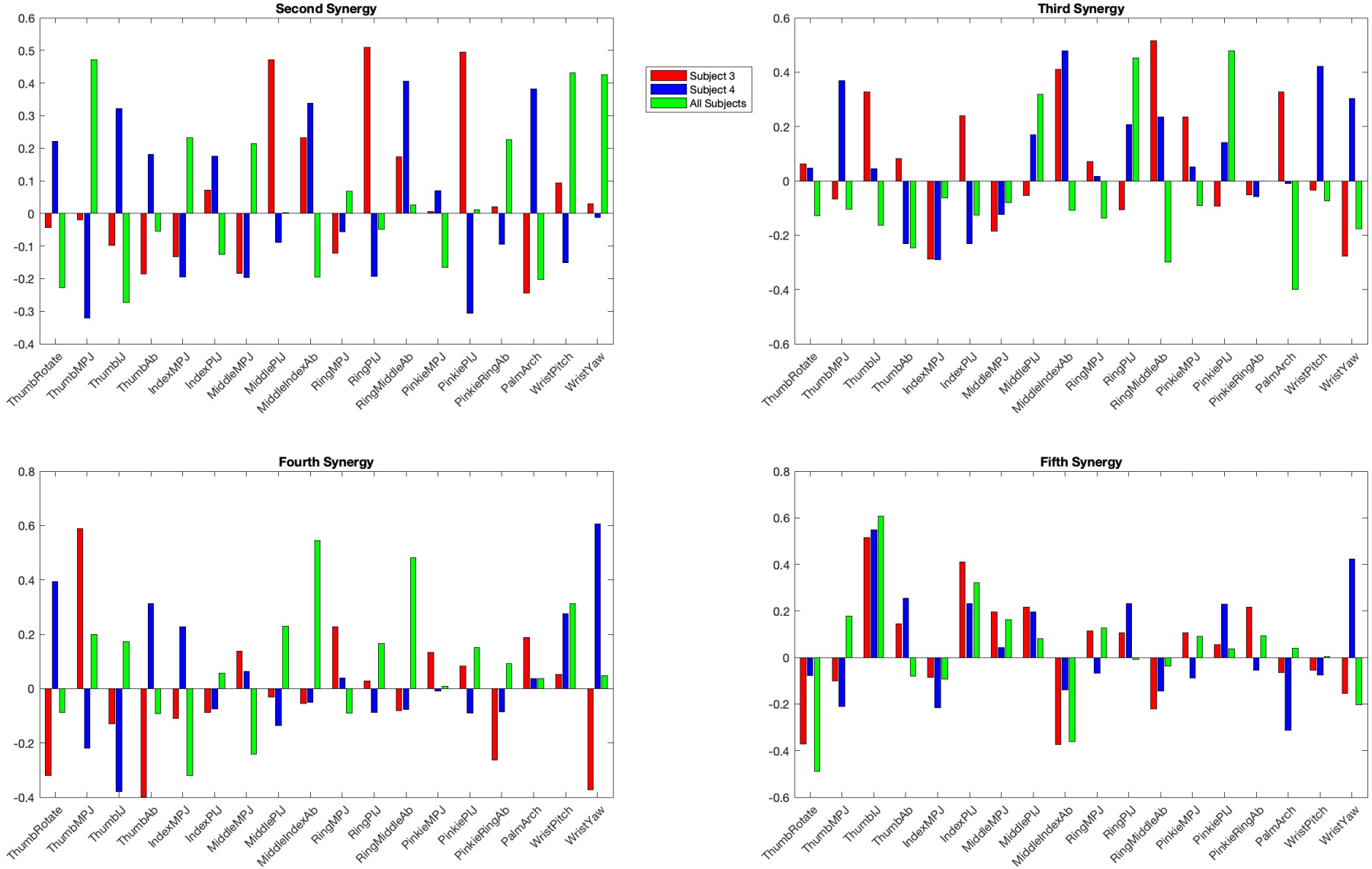
Synergy considerations

- ”Lower-order principal components […] are mainly responsible for coarse hand opening and closing – and higher-order principal components corresponding to finer hand shape adjustments”. *[Santello et al. 2016]*.
- “Although there are striking similarities in synergy vectors across subjects, there are subtle differences as well. […] Such differences are in general larger in the synergies with lower eigenvalues”. [*Thakur et al. 2008*].
- “This suggests that the finer or more precise synergies are subject-dependent”. [*Jarque-Bou et al. 2019*].
- “The exact order of the principal components across subjects differed”. [*Thakur et al. 2008*].
- Here, synergies are not matched. The idea is to apply hierarchical clustering as in *Jarque-Bou et al. 2019*.

First Synergy

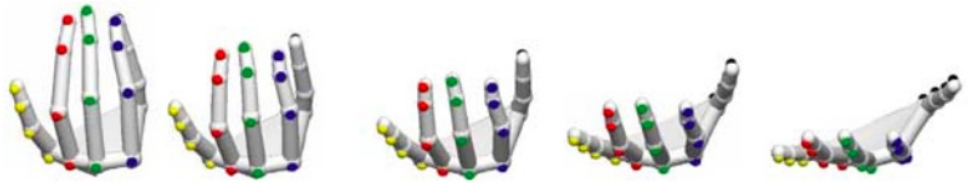


Second to Fifth Synergies



Next steps

- Hierarchical clustering.
- Calculate dynamic synergies (how synergies evolve during time).
- Synergies representations.



Items to comment

- Vicon Nexus.
- Mendeley.