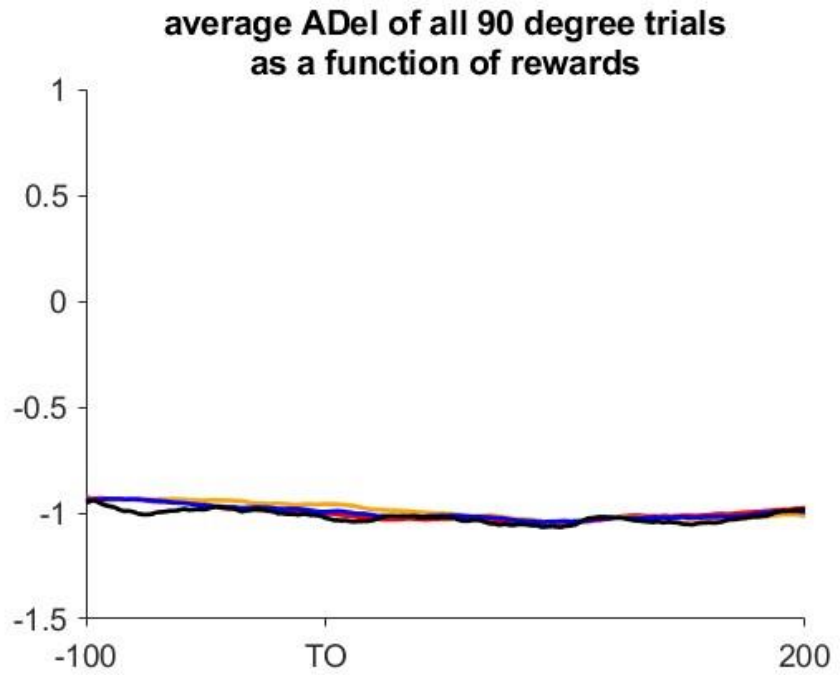
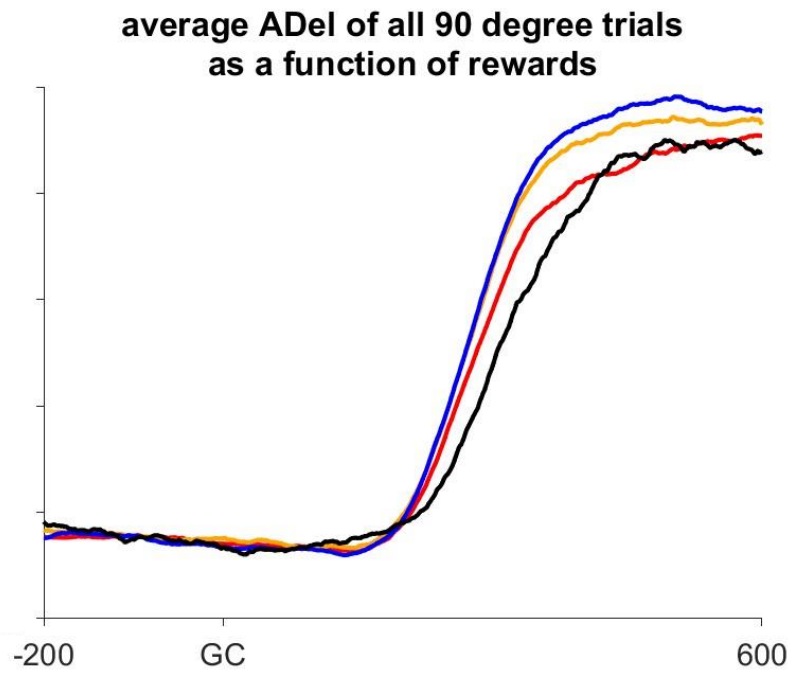
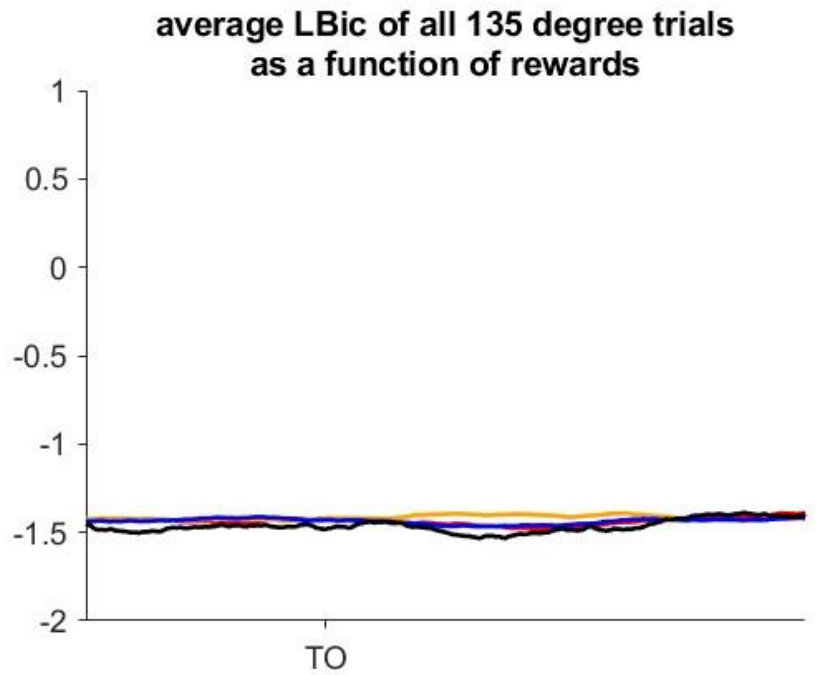
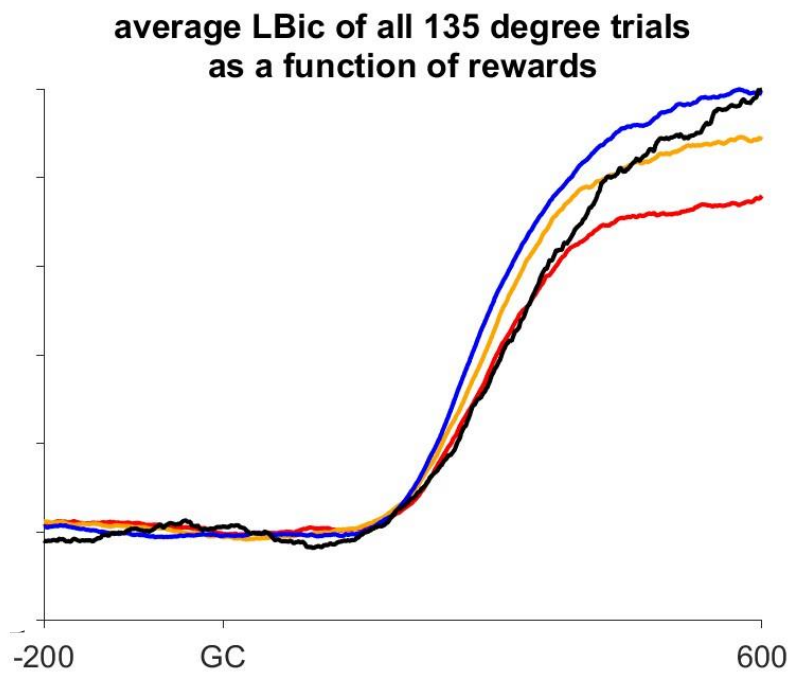
2022/09/23

Hiroo Miyata

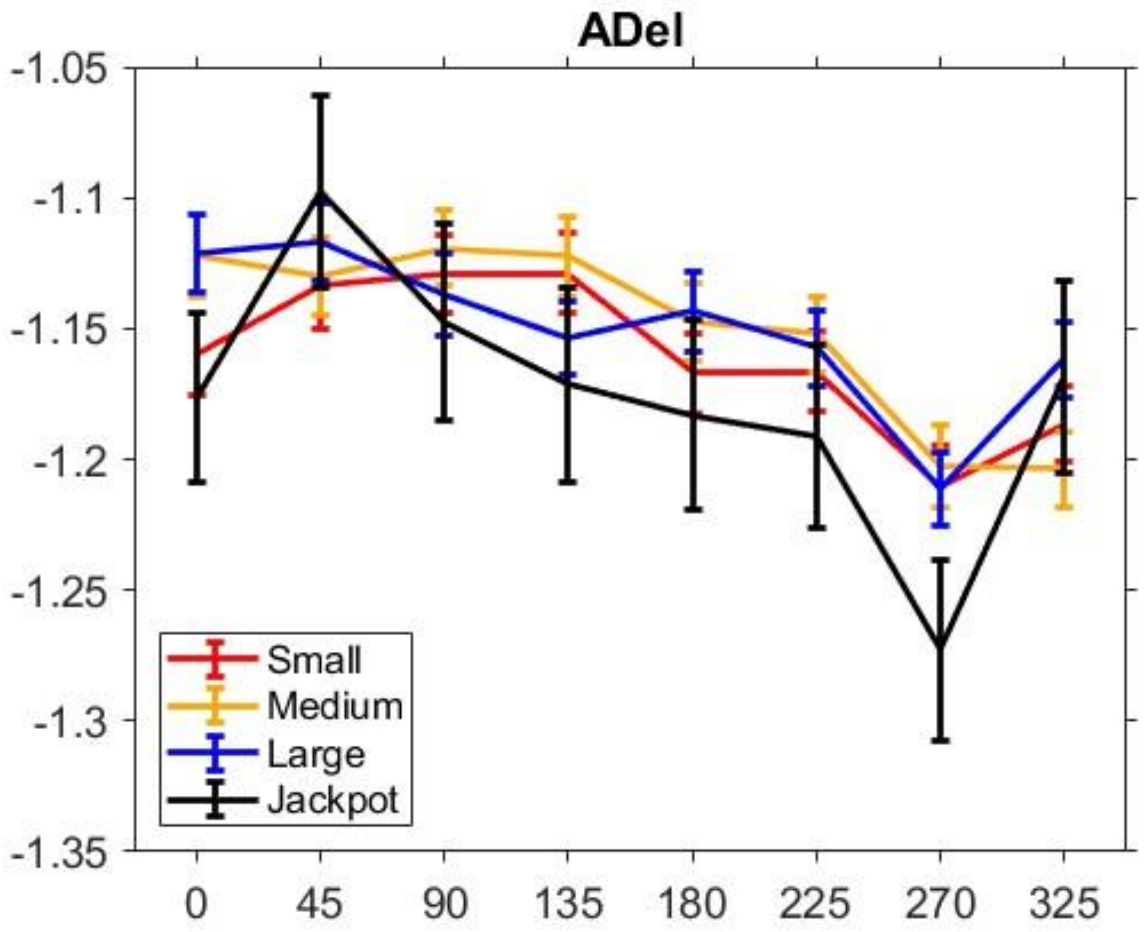

average ADel of all 90 degree trials
as a function of rewards
1
0.5
0
-0.5
-1
-1.5
-100
TO
200

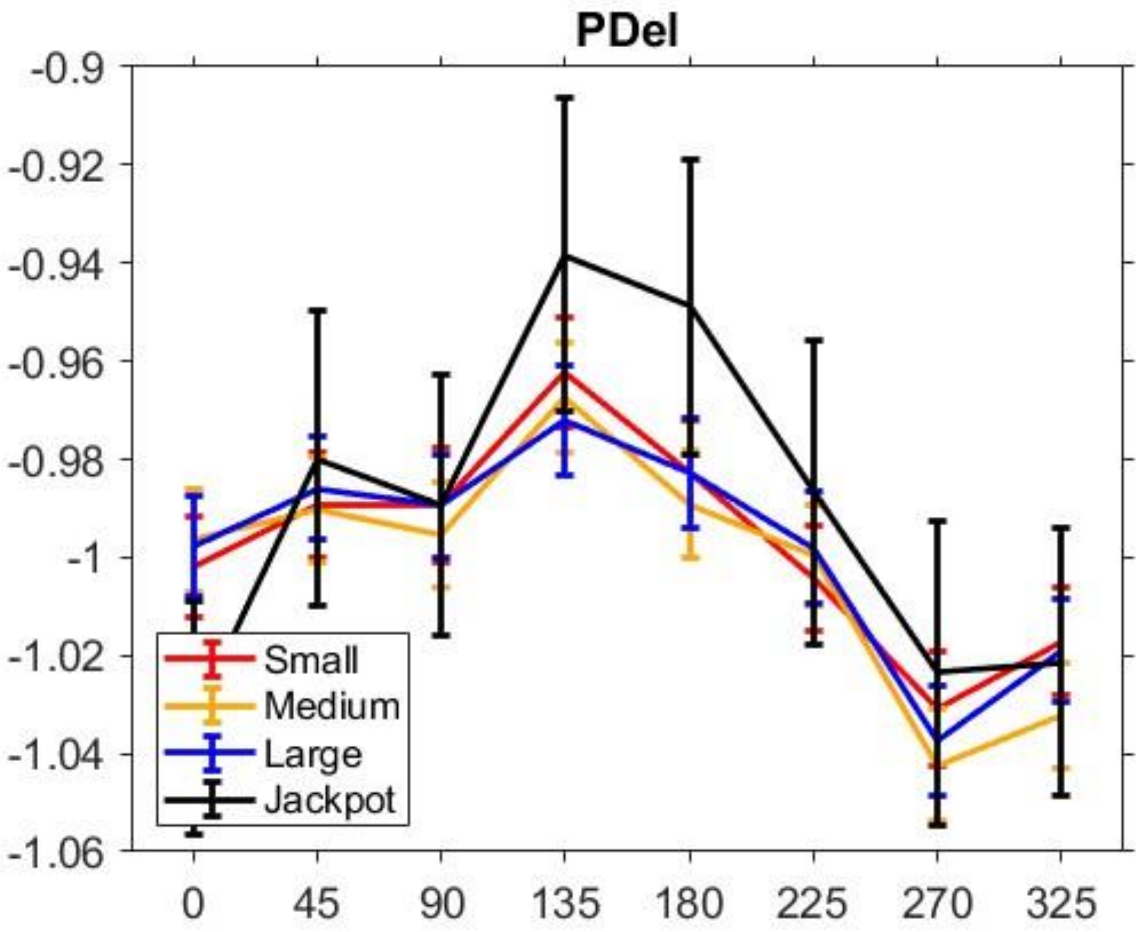

average ADel of all 90 degree trials
as a function of rewards
-200
GC
600


average LBic of all 135 degree trials
as a function of rewards
1
0.5
0
-0.5
-1
-1.5
-2
TO


average LBic of all 135 degree trials
as a function of rewards
-200
GC
600

Modification of Tuning curve stuff

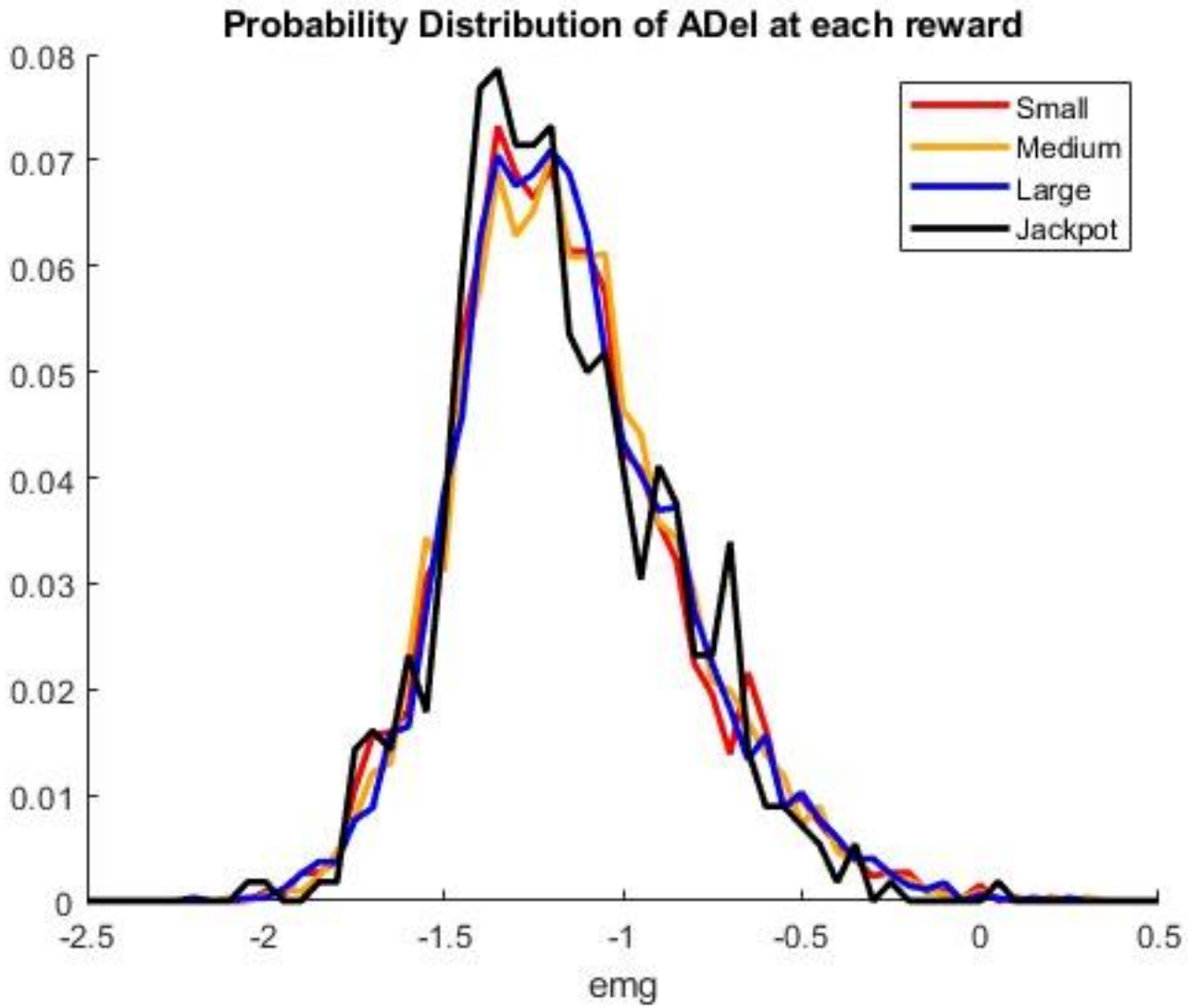




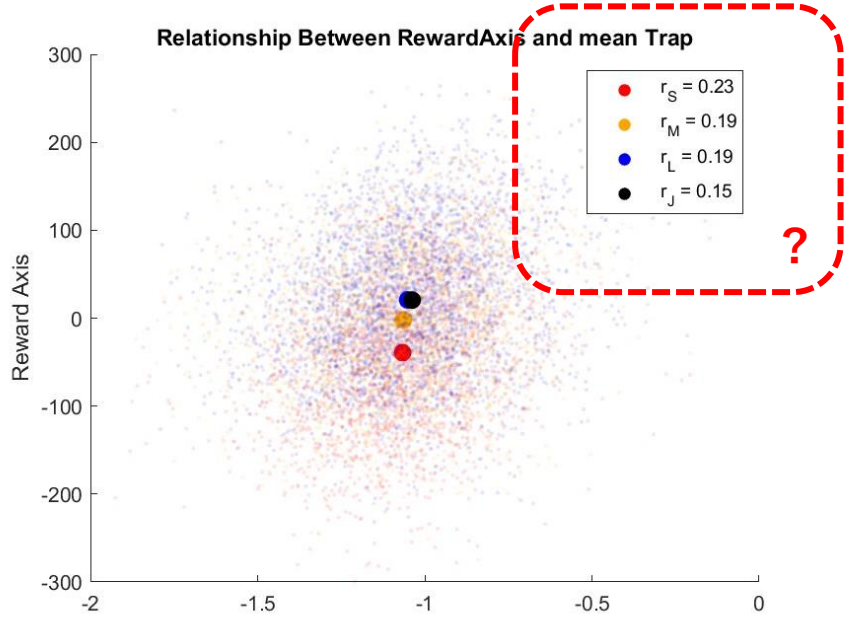
I calculated standard deviation from average EMG of **each datapoint**(-150~+50)

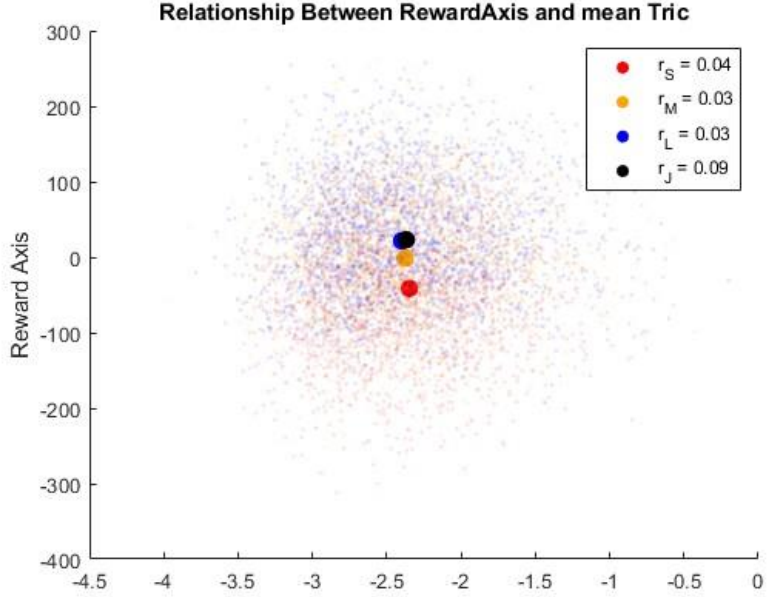
Not each trial …!!

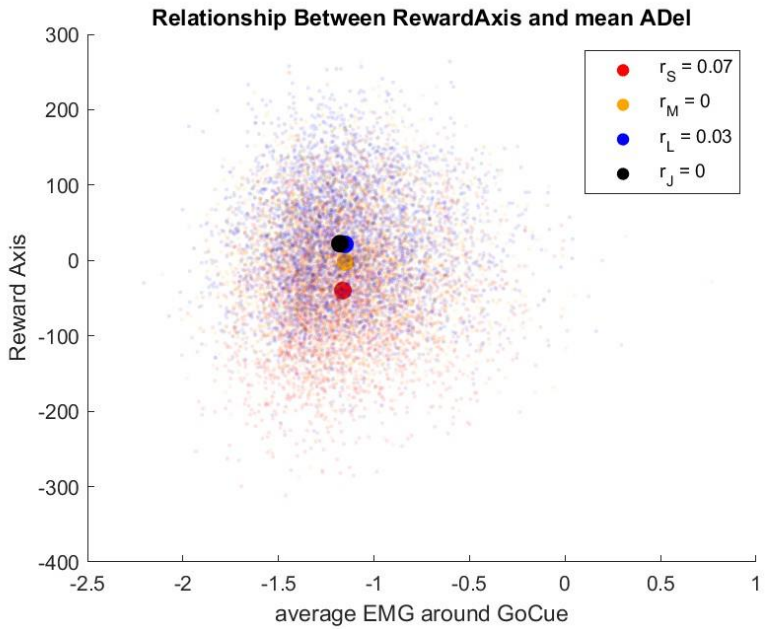
Probability Distributions are same

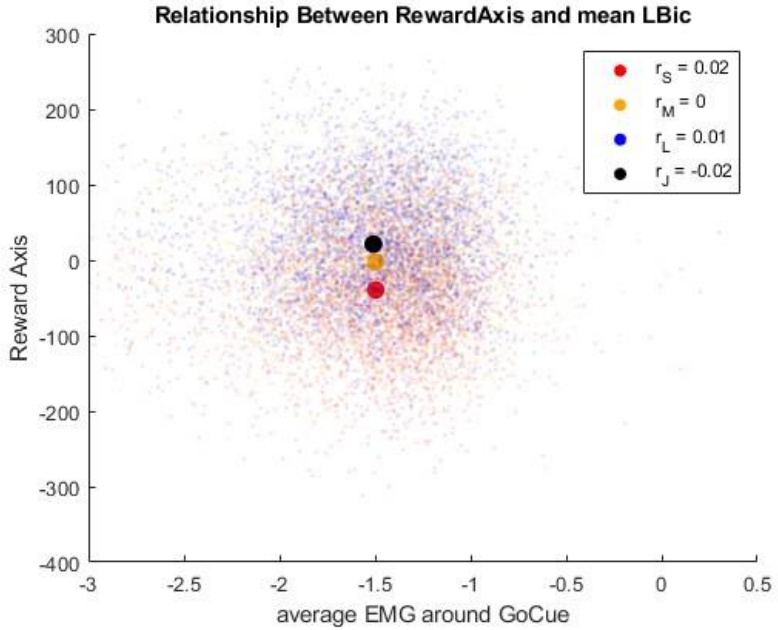


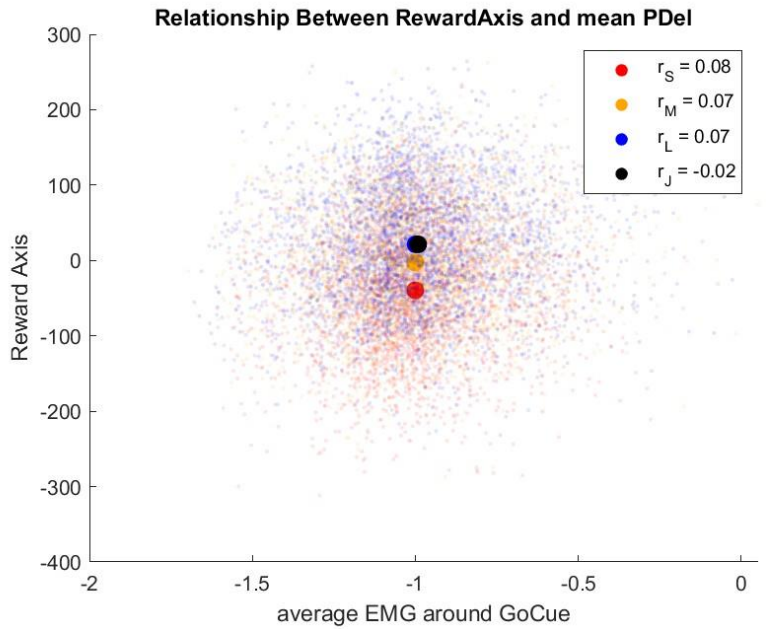
No correlation between RAxis and EMG











How fatigue affect to EMG

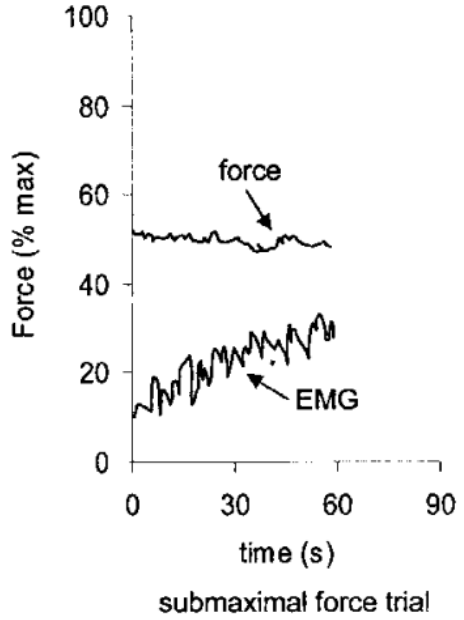
muscle fibers produce less force

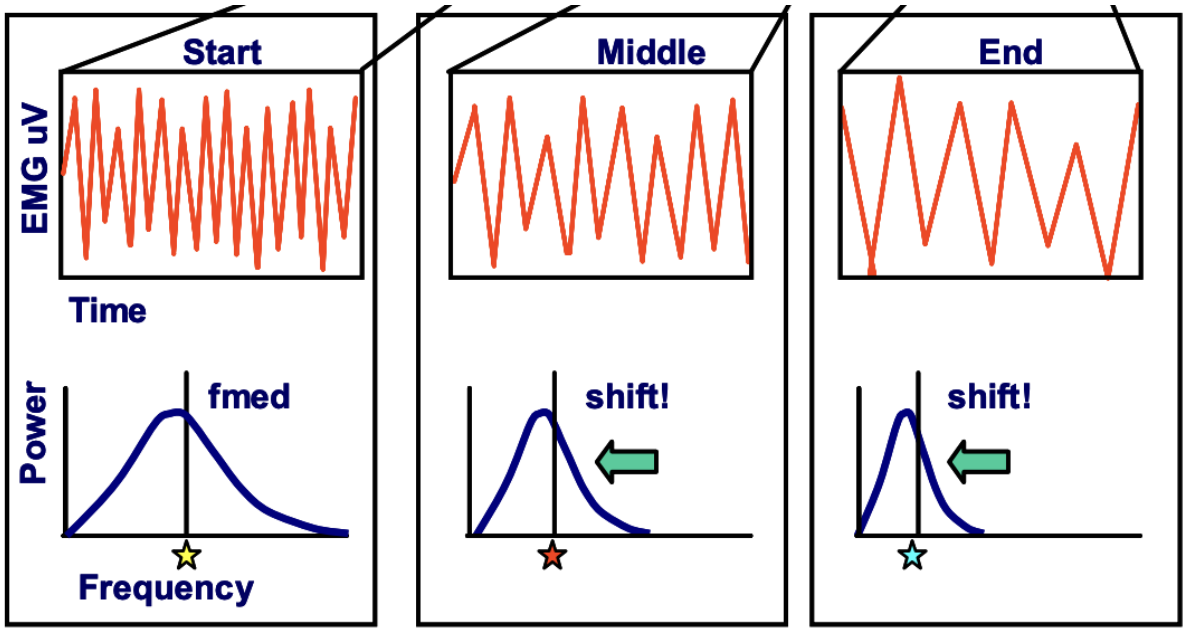
motor units increase

amplitude increases

muscle fiber conduction velocity become slower

EMG signal frequencies become lower

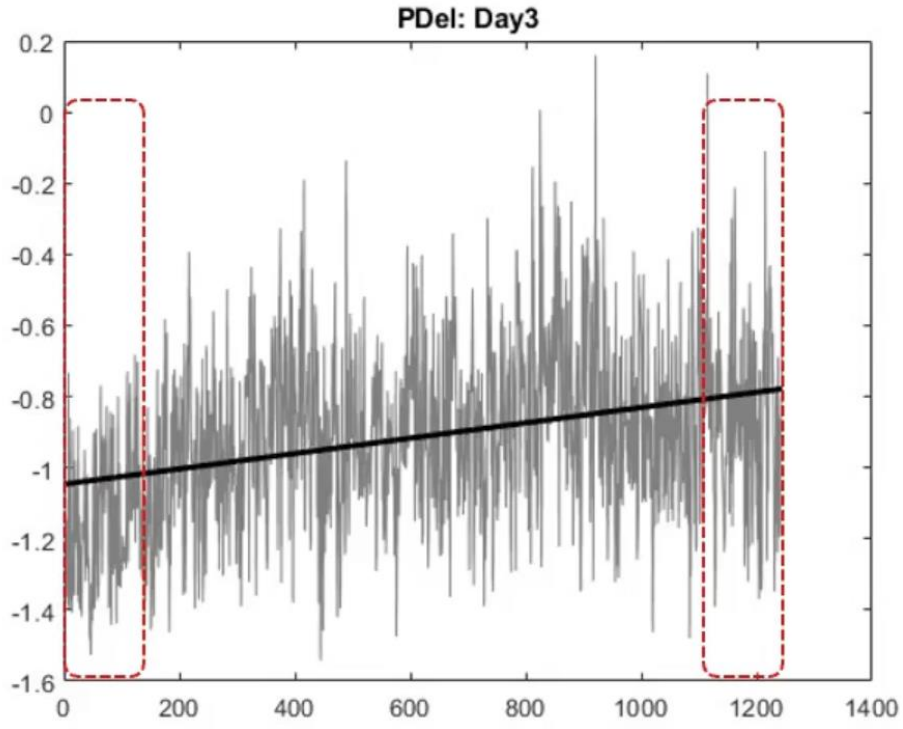


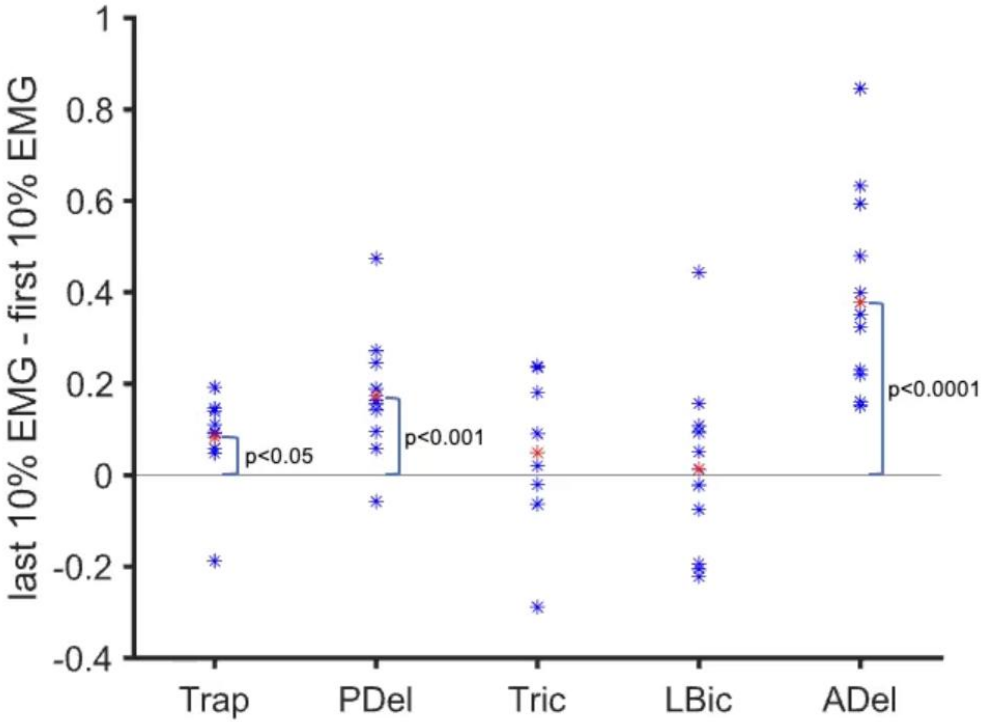


Todd D. Royer, 2015, International Journal of Athletic Therapy and Training

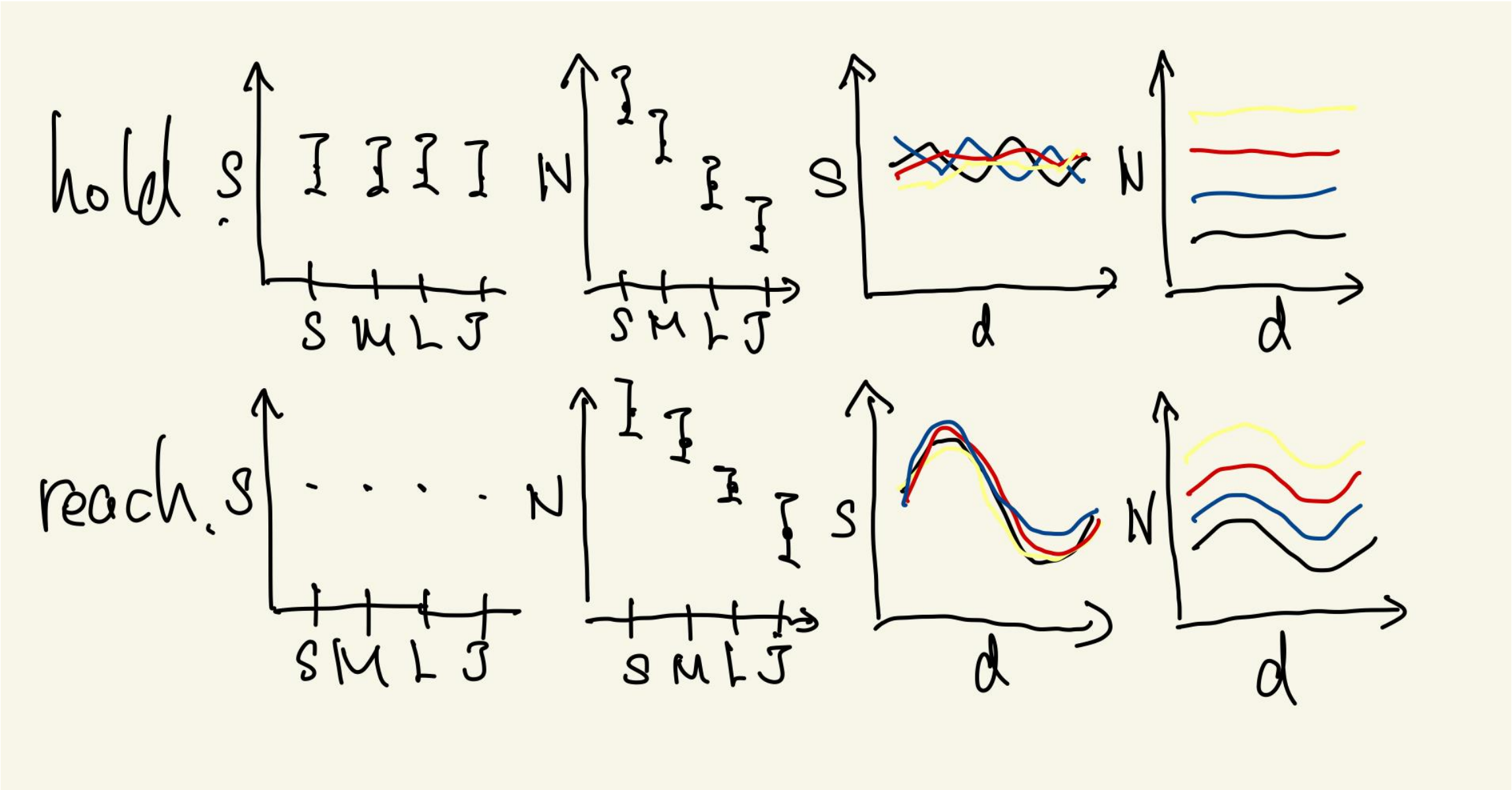
ABC of EMG, P51, Does the muscle fatigue?

Peri-movement EMG change across session





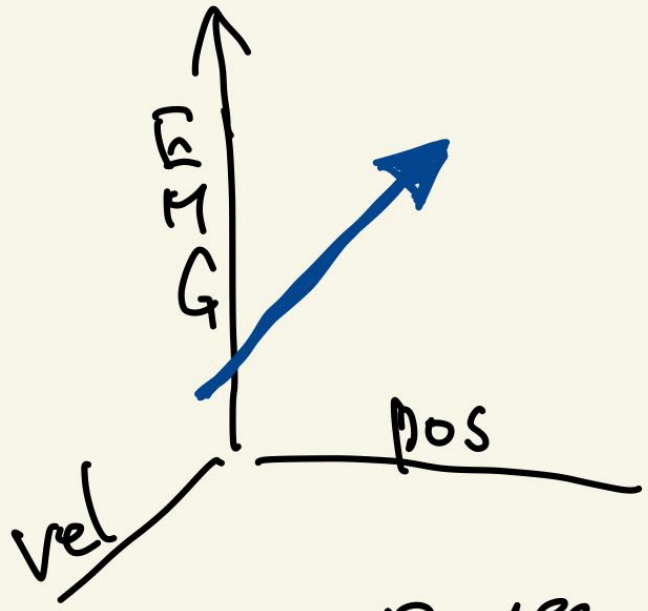
EMGの分布が報酬の関数としてどう変化するか



EMGの値はポジションの位置と関係しているのか

$$M = A \begin{pmatrix} \text{Position} \\ \text{velosity} \end{pmatrix}$$

$5 \times 1 \quad 5 \times 2$



EMGが高いのは、カーソル制御に影響が出るから？

Fatigue References

- https://www.nature.com/articles/s41598-020-68392-6
- https://journals.humankinetics.com/view/journals/ijatt/10/4/article-p43.xml