**Report on Loom Movement Data:**

12-18-23:

Meeting with Leanne notes:

* Discussed the long term goal of submission to a journal.
* Discussed need for additional matched control participants.

I started off the discussion showing Leanne the plot below and link this article:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1693116/pdf/12639336.pdf>

and Showing this Figure:

Which shows the general movement of the right hand going from grab to drop movements

The general discussion with Leanne around this data is that we need to find a way to characterize all the various measures in this study around central points in time. This type of data could be a way to identify the START and END position times for Movement analysis including:

* Velocity
* Acceleration
* Jerk

But also to time stamp the moments that we want to evaluate gaze and arousal as well.

Next steps included: using not only the x-pos of the had but also the y and z to potentially isolate a more accurate start and end time for the movements.

This is a portion of the plot from above. The circled segment is indicative that this data may require some filtering. After some research and a conversation with Juila, I am going to try a butterworth low pass filter. Julia also sent me this paper which I am using to create the filter parameters for order and cutoff frequency:

FILTERING SIGNALS FOR MOVEMENT ANALYSIS IN BIOMECHANICS - Francesco Crenna, 2015

