Why an MLR?

- A MLR (multinomial Logistic Regression) model produces a normalized probability distribution across all state values.

- MLRM also tends to perform reliably on lower populations (we have ~1000 lines of data).

And since all the values sum up to 1, the outputs are <u>directly</u> usable as HMM emissions.

Most importantly, we have categorical variables (Boring, Engaging, Over Stimulating), and an MLR is great for classification problems.

But unlike hard classifiers, MLR expresses uncertainty explicitly. Soft probabilities are good for our Markov Model to smooth ambiguities.

Regression Model: this moment: {x% B, y% E, z% O}
Markov Model: where does engagement go next?