Partial Pooling in LMMs

- LMMs use *partial pooling* to estimate the parameters of the model coefficients.

- Partial pooling takes account of the individual slopes and intercepts for each level of the random effect structure, but also the slope and intercept of the overall model (which ignores how things vary from one participant to the next).

- The following slides are adapted from Tristan Mahr's great blogpost: https://www.tjmahr.com/plotting-partial-pooling-in-mixed-effects-models/

The Dataset

- We are going to use data from 10 participants with measures of reaction time and caffeine consumption.

```
> str(data_all)
'data.frame':  50 obs. of  3 variables:
 $ subject : int  1 1 1 1 1 2 2 2 2 2 ...
 $ caffeine: int  1 2 3 4 5 1 2 3 4 5 ...
 $ rt      : num  1268 1172 1103 885 1036 ...
```

- Contains 50 observations from 10 participants with measures of reaction time and caffeine consumed (measured in cups of coffee).