CENTERED POOLED EFFECT

The most common way to represent a normal distribution is with the usual mean and sd parameters:

$$\boxed{x_j \sim N(\mu,\ \sigma)}$$

This is equivalent to:

$$\boxed{\begin{aligned} \tilde{x}_j &\sim N(0,\ 1) \\ x_j &= \mu + \tilde{x}_j\ \sigma \end{aligned}}$$

Centered coefficient

$$logit(p_i) = \alpha_{actor[i]}$$

$$\underline{\alpha_j \sim Normal(\alpha_0,\ \sigma_\alpha)}, \text{ for } j = 1..7$$

$$\alpha_0 \sim Normal(0,\ 1.5)$$

$$\sigma_\alpha \sim Exponential(1)$$

NON-CENTERED POOLED EFFECT

Centered coefficient

$$logit(p_i) = \alpha_{actor[i]}$$
$$\alpha_j \sim Normal(\alpha_0,\ \sigma_\alpha), \text{for } j = 1..7$$
$$\alpha_0 \sim Normal(0,\ 1.5)$$
$$\sigma_\alpha \sim Exponential(1)$$

Non-Centered coefficient

$$logit(p_i) = \alpha_0 + \tilde{\alpha}_{actor[i]} * \sigma_\alpha$$
$$\tilde{\alpha}_j \sim Normal(0,\ 1), \text{for } j = 1..7$$
$$\alpha_0 \sim Normal(0,\ 1.5)$$
$$\sigma_\alpha \sim Exponential(1)$$

$$x_j \sim N(\mu,\ \sigma)$$

$$\tilde{x}_j \sim N(0,\ 1)$$
$$x_j = \mu + \tilde{x}_j\ \sigma$$