$$\mathrm{p}\big(\mathbf{x_3^{(k)}}|\mathbf{x_3}^{(\mathrm{k-1})}\big) = \mathcal{N}\big(\mathbf{x_3}^{(\mathrm{k})};\mathbf{x_3}^{(\mathrm{k-1})},\theta\big)$$

$$\mathrm{p}\big(\mathbf{x_2^{(k)}}|\mathbf{x_2}^{(\mathrm{k-1})},\mathbf{x_3}^{(\mathrm{k})}\big) = \mathcal{N}\big(\mathbf{x_2}^{(\mathrm{k})};\mathbf{x_2}^{(\mathrm{k-1})},\exp(\kappa\mathbf{x_3}^{(\mathrm{k})}+\omega)\big)$$

$$\mathrm{p}\big(\mathbf{x_1^{(k)}}|\mathbf{x_2^{(k)}}\big) = \mathrm{Bernoulli}\big(\mathbf{x_1^{(k)}};\mathrm{s}(\mathbf{x_2^{(k)}})\big)$$

$$s(x) = \frac{1}{1+\exp(-\mathrm{x})}$$

For every subject S, we fit the model and obtain parameter sets for *neutral* and *aversive* blocks.

$$s_i = \{\theta_N,\kappa_N,\omega_N;\theta_A,\kappa_A,\omega_A\}$$