

$$\mathbf{y}_{overall} = \mathbb{1}_{\hat{y} \geq 4}, \quad \mathbf{y}_{satisfied} = \mathbb{1}_{\hat{y}=5}, \quad \mathbf{y}_{dissatisfied} = \mathbb{1}_{\hat{y}=1}$$

$$\text{(w/o intent)} \quad \text{logit}(\mathbf{y}) = \ln \left(\frac{\mathbf{y}}{1 - \mathbf{y}} \right) = \beta_0 + \sum_j \beta_j \mathbf{b}_j$$

$$\text{(w intent)} \quad \text{logit}(\mathbf{y}) = \beta_0 + \sum_j \beta_j \mathbf{b}_j + \sum_k \delta_k \mathbf{d}_k$$

$$\text{(catch-up, ...)} \quad \text{logit}(\mathbf{y}^d) = \beta_0^d + \sum_j \beta_j^d \mathbf{b}_j^d$$

$$\text{logit}(\mathbf{y}) = \delta_k + \sum_j \beta_j \mathbf{b}_j$$

$$\text{(multiLevel)} \quad \delta_k \sim N(\mu_\delta, \sigma_\delta^2)$$