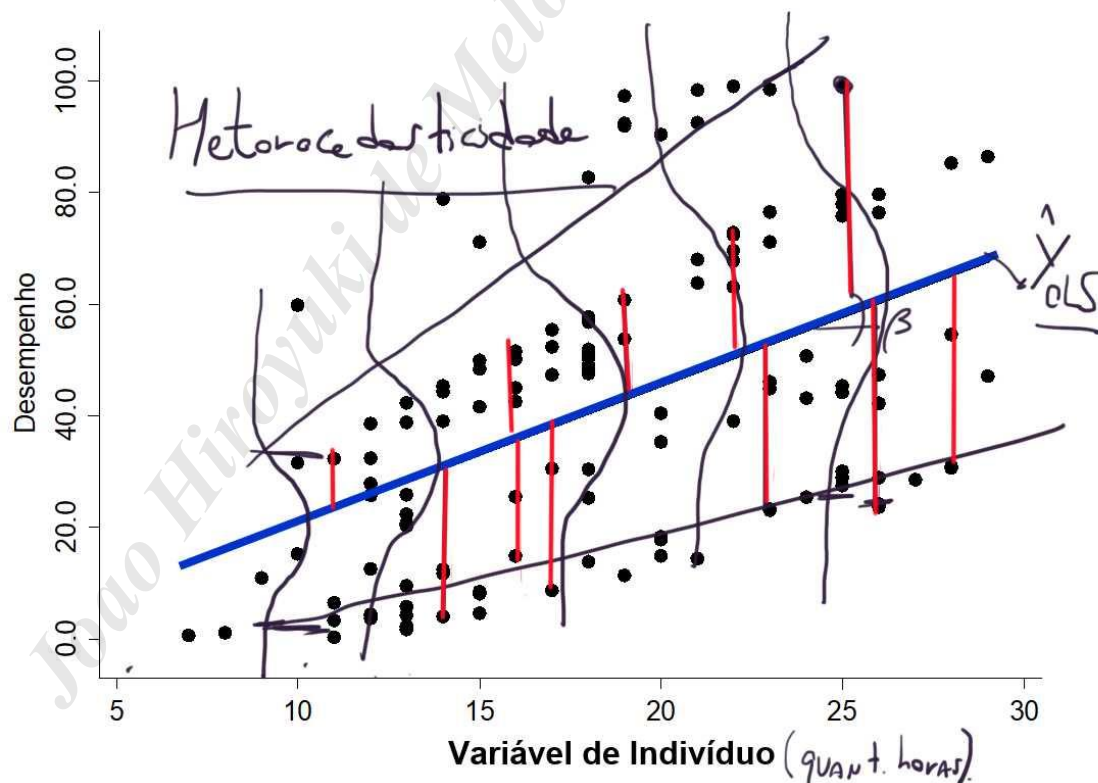
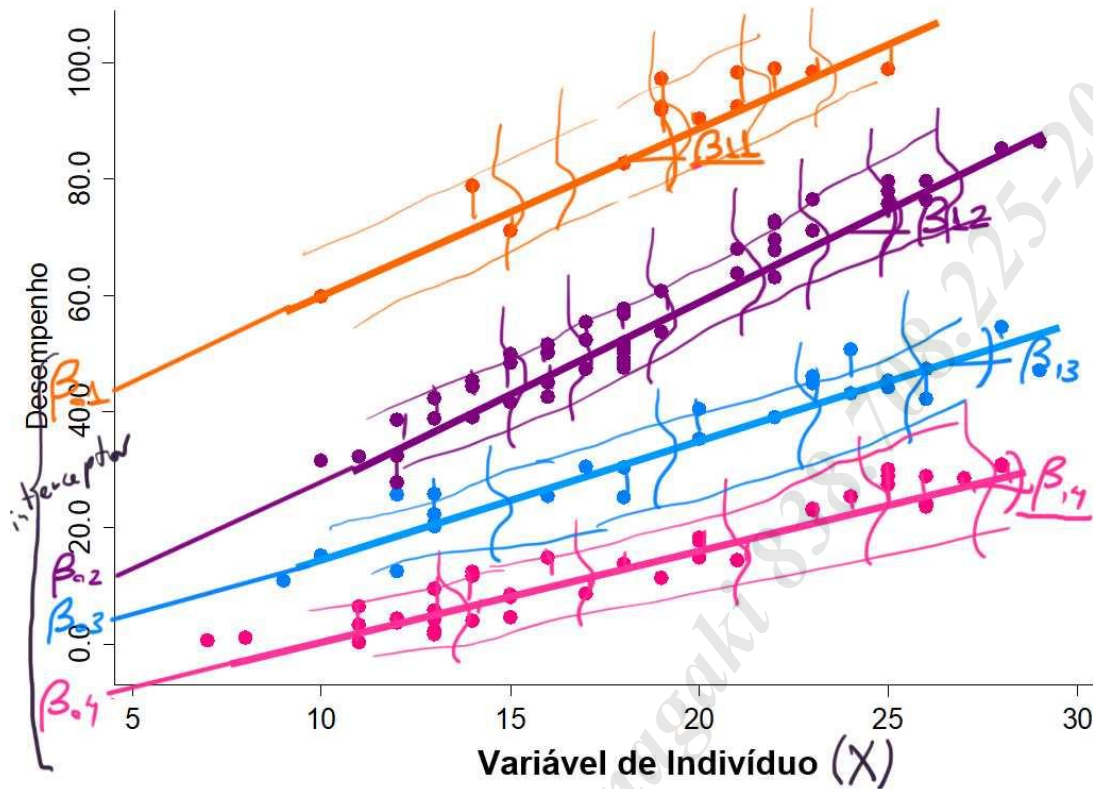


Prof. Luiz Paulo Lopes Fávero

**Modelos Lineares
Generalizados
Multinível (GLMM)**

- GLLAMM (Gen. Lin. Latent $\left\{ \begin{matrix} \text{Multilevel} \\ \text{Mixed} \end{matrix} \right\}$ Models)
 - Mixed Models
 - HLM (hierarchical Linear models)
 - RCM (random coefficients models)
 - Nested models. (Aninhamento)
- Múltiplas Equações.





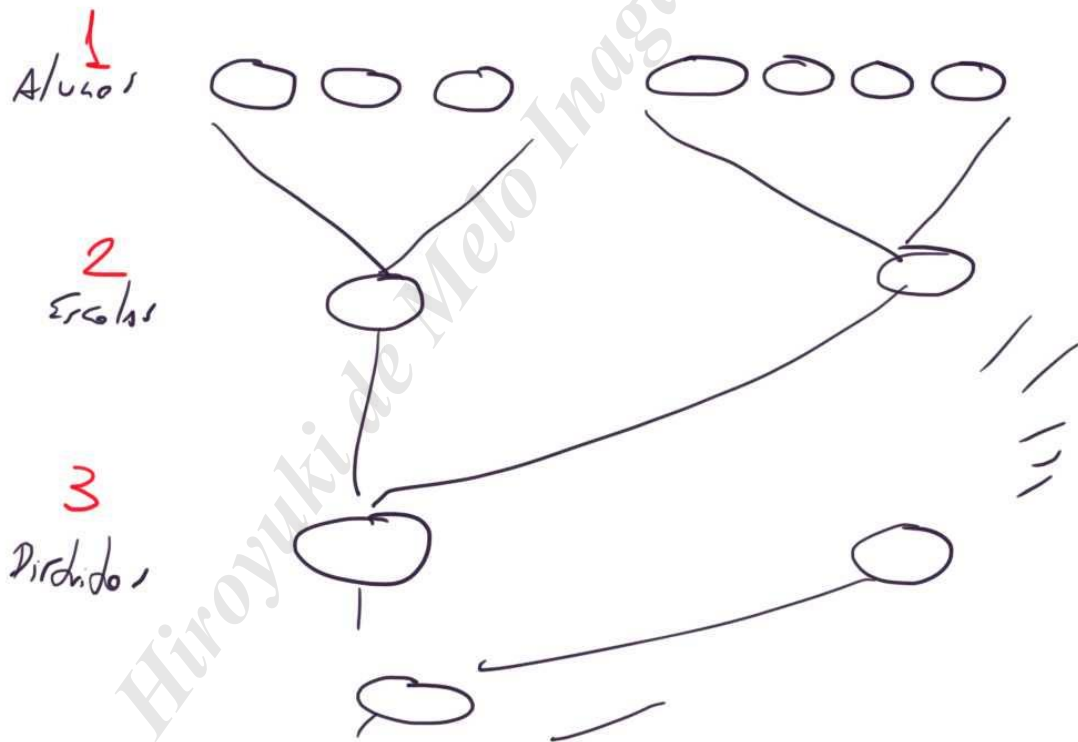
$$Y_{ij} = \underbrace{(\gamma_{00} + \gamma_{01} \cdot W_j + \nu_{0j})}_{\text{intercepto com efeitos aleatórios}} + \underbrace{(\gamma_{10} + \gamma_{11} \cdot W_j + \nu_{1j})}_{\text{inclinação com efeitos aleatórios}} \cdot X_{ij} + \varepsilon_{ij}$$

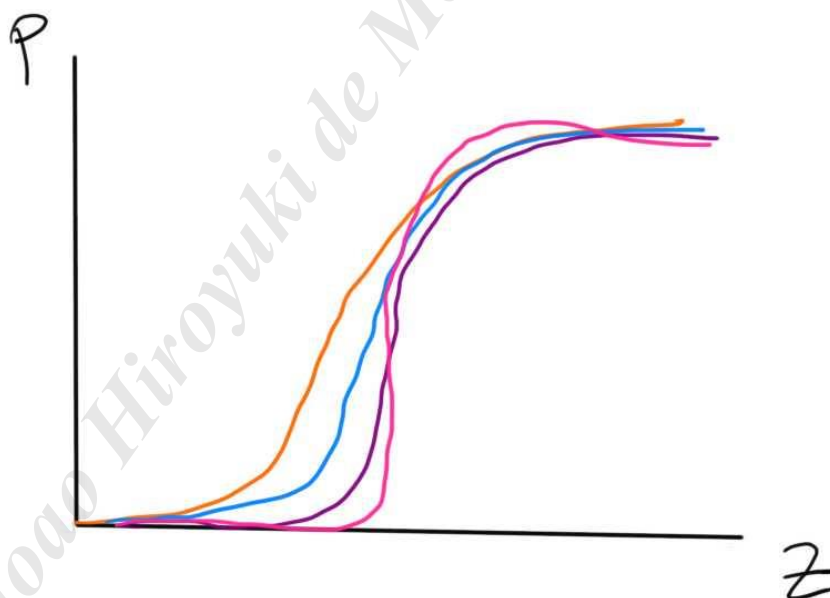
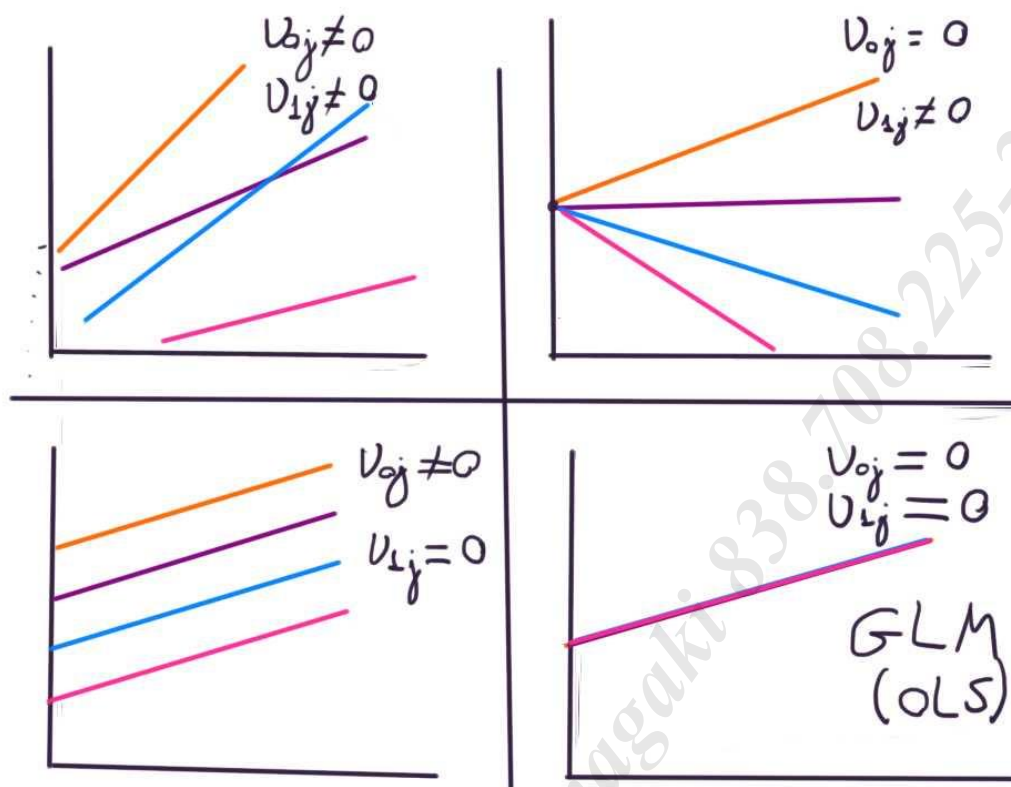
$$\gamma_i = \alpha + \beta \cdot X_i + \mu_i$$

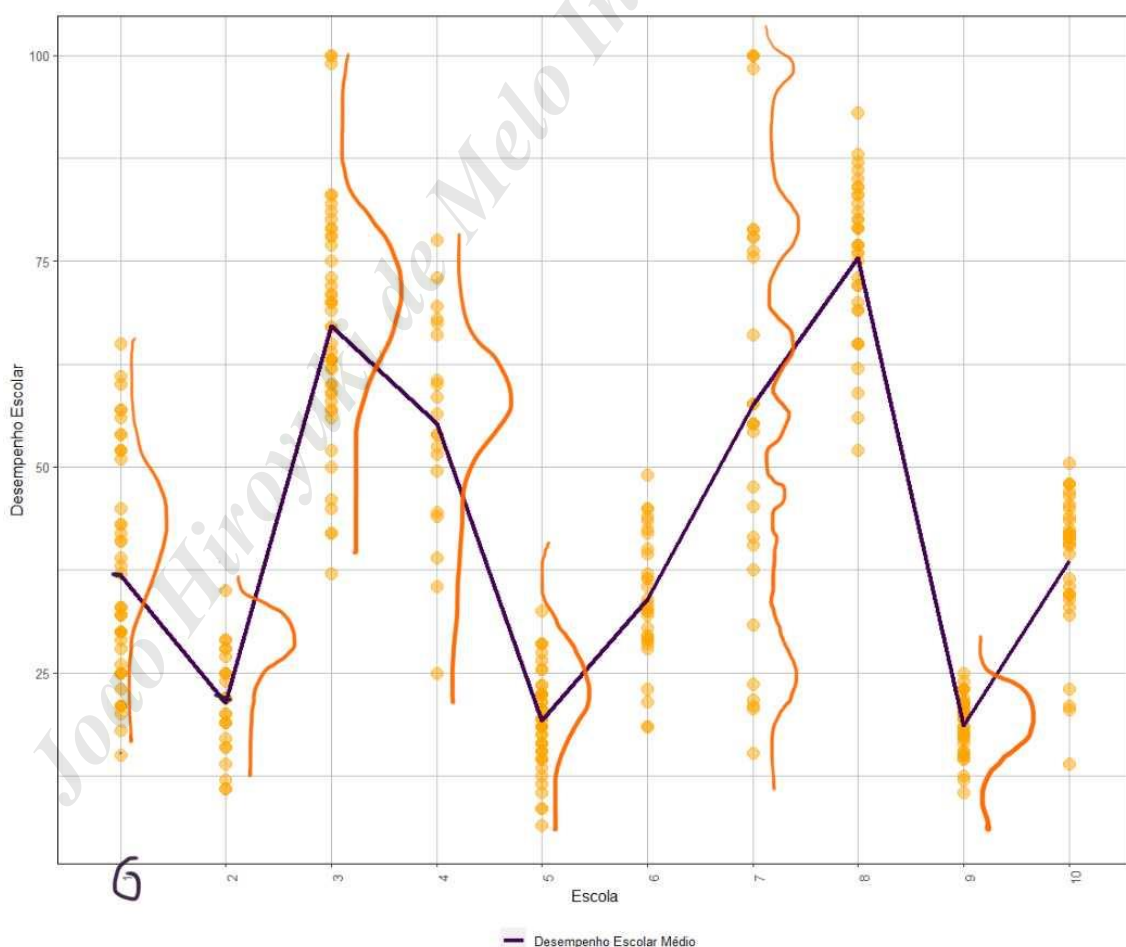
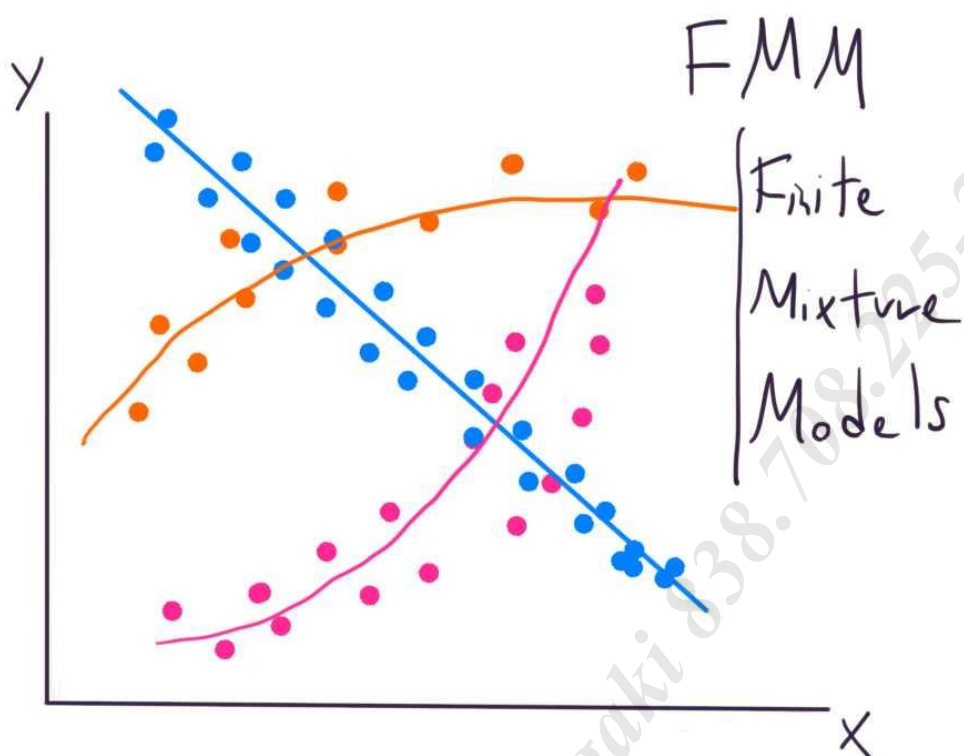
$$Y_{ij} = \underbrace{\gamma_{00} + \gamma_{10} \cdot X_{ij} + \gamma_{01} \cdot W_j + \gamma_{11} \cdot W_j \cdot X_{ij}}_{\text{Efeitos Fixos}} + \underbrace{v_{0j} + v_{1j} \cdot X_{ij} + \varepsilon_{ij}}_{\text{Efeitos Aleatórios}}$$

$$Y_i = \alpha + \beta_1 \cdot X_{i1} + \beta_2 \cdot X_{i2} + \mu_i \text{ (OLS)}$$

Erro
Idiosincrático







Fixed effects: desempenho ~ 1

	value	Std.Error	DF	t-value	p-value
(Intercept)	<u>42.38711</u>	6.468659	348	6.552689	0

$$\text{desempenho}_{ij} = 42,38711 + \boxed{U_j} + \varepsilon_{ij}$$