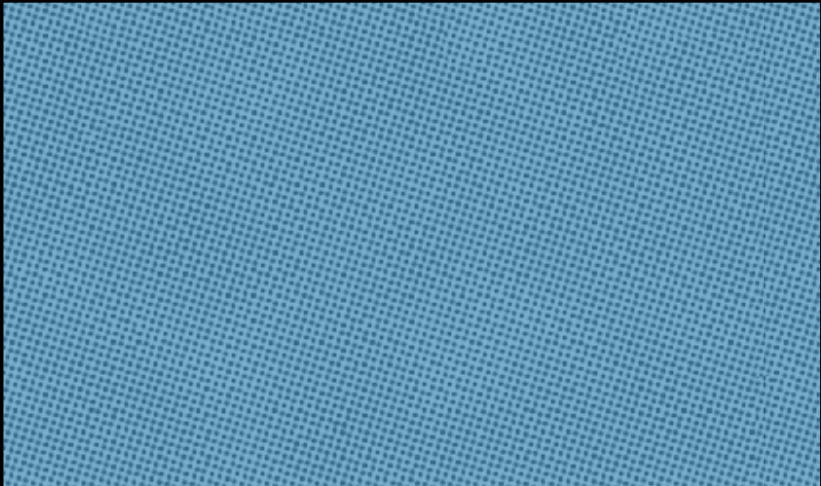


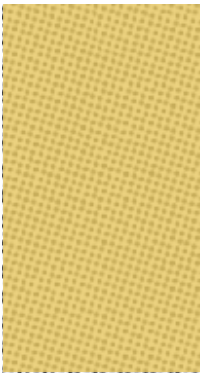




ADDING BLOCKS USING MIXED MODELS









the 1990s, the number of people in the UK who are aged 65 and over has increased by 1.5 million, and the number of people aged 75 and over has increased by 1 million (Office for National Statistics 2000).

There is a growing awareness of the need to address the needs of older people in the community. The Department of Health (1999) has published a strategy for older people, which sets out the government's commitment to improve the lives of older people. The strategy is based on the following principles:

- Older people should be able to live independently and actively in the community.
- Older people should be able to access the services and facilities they need.
- Older people should be able to participate in the decisions that affect their lives.

The strategy also sets out a number of key objectives, including:

- To improve the health and well-being of older people.
- To improve the quality of life of older people.
- To improve the opportunities for older people to participate in the decisions that affect their lives.

The strategy is a key document in the development of policy for older people in the UK. It provides a framework for the development of services and facilities for older people.

The strategy also sets out a number of key actions, including:

- To improve the health and well-being of older people.
- To improve the quality of life of older people.
- To improve the opportunities for older people to participate in the decisions that affect their lives.

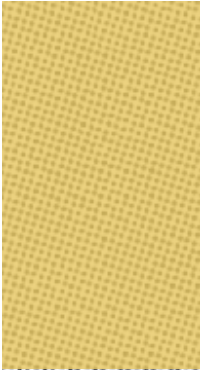
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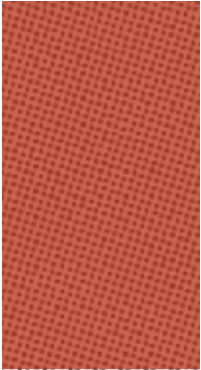
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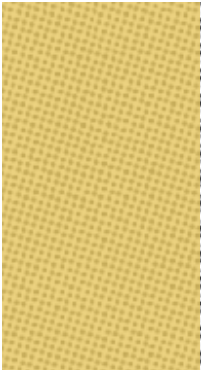




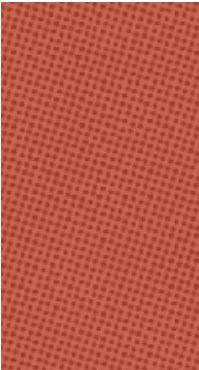












$$y_i \sim \text{Normal}(\mu_i, \sigma)$$

$$\mu_i = \alpha_0 + \alpha_{block[i]} + \beta x_i$$

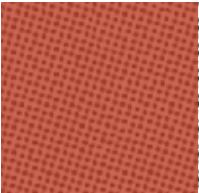
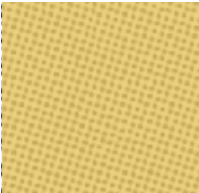
$$\alpha_k \sim \text{Normal}(0, \sigma_\alpha), \text{ for } k \text{ in } \{1, \dots, N_{blocks}\}$$

$$\alpha_0 \sim \text{Normal}(0, 1)$$

$$\beta \sim \text{Normal}(0, 0.3)$$

$$\sigma, \sigma_{block} \sim \text{Exponential}(1)$$



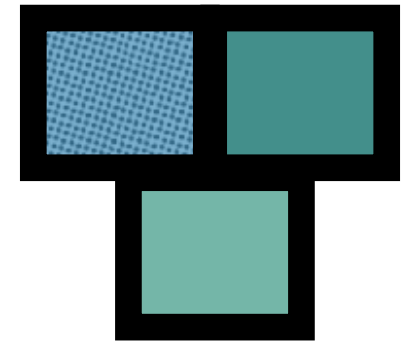








# ADDING BLOCKS USING MIXED MODELS



$$y_i \sim \text{Normal}(\mu_i, \sigma)$$

$$\mu_i = \alpha_0 + \alpha_{\text{block}[i]} + \beta x_i$$

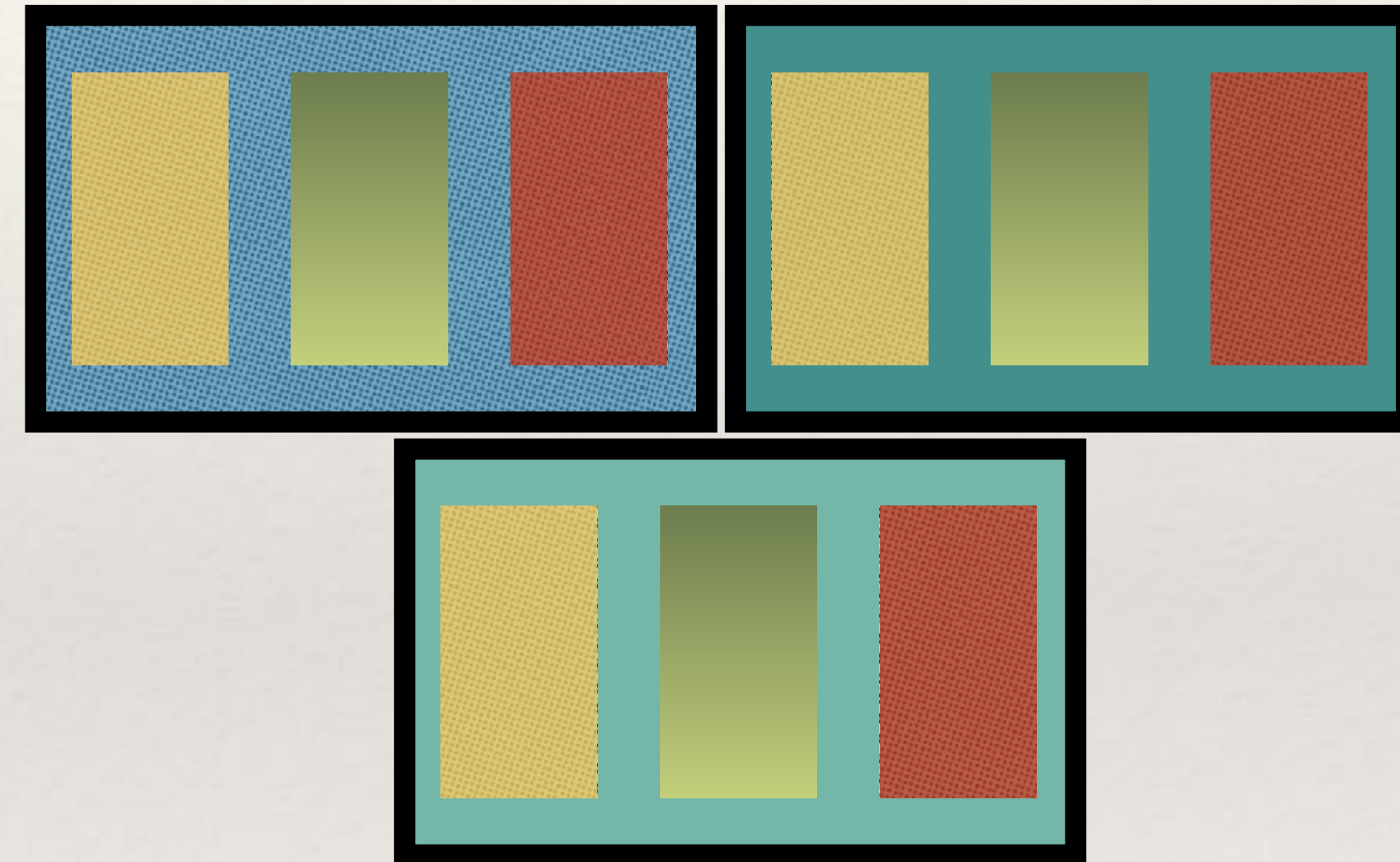
$$\alpha_k \sim \text{Normal}(0, \sigma_\alpha), \text{ for } k \text{ in } \{1, \dots, N_{\text{blocks}}\}$$

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$$\sigma, \sigma_{\text{block}} \sim \text{Exponential}(1)$$



**BIG EXAMPLE COMING UP!**  
**QUESTIONS?**