FA1 Model Equation:

$$y\_{i}=β\_{0}+β\_{1}\left(F\_{i}\right)+β\_{2}\left(G\_{i}\right)+β\_{3}\left(H\_{i}\right)+β\_{4}\left(I\_{i}\right)+β\_{5}\left(F\_{i}\right)\left(G\_{i}\right)+β\_{6}\left(F\_{i}\right)\left(H\_{i}\right)+e\_{i}$$

2. Write the equation for the **predicted outcome** (i.e., conditional mean from the fixed effects only) f**or a person with F=2, G=3, H=4, and I=5**.

$$y\_{i}= β\_{0}(1)+β\_{1}\left(2\right)+β\_{2}\left(3\right)+β\_{3}\left(4\right)+β\_{4}\left(5\right)+β\_{5}\left(2\right)\left(3\right)+β\_{6}\left(2\right)\left(4\right)$$

 STATA: lincom \_cons + f\*2 + g\*3 + h\*4 + i\*5 + f#g\*6 + f#h\*8

 R inside GLHT: c=(1,2,3,4,5,6,8)

3. Write the equation for the **predicted F slope for someone with an G=3, H=4, and I=5**.

$$\left[β\_{1}+β\_{5}\left(G\_{i}\right)+β\_{6}\left(H\_{i}\right)\right] \left(F\_{i}\right)$$

F slope $=β\_{1}(1)+β\_{5}\left(3\right)+β\_{6}(4)$

STATA: lincom F\*1 + F#G\*3 + F#H\*4

R inside GLHT: c=(0,1,0,0,0,3,4)