

# The ANOVA family

COM 631

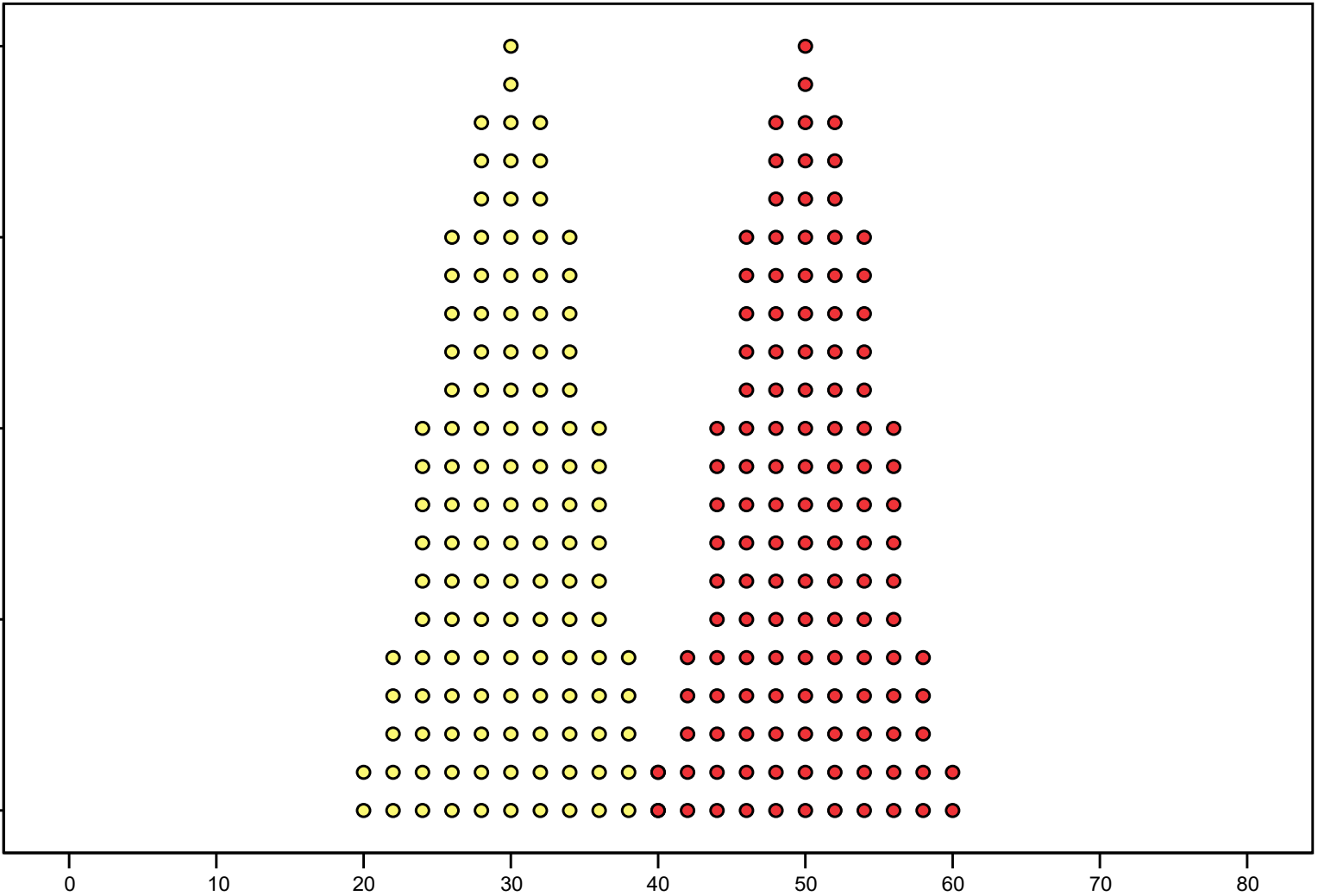
First, a review:

# ANOVA: “Analysis of variance”

COM 631

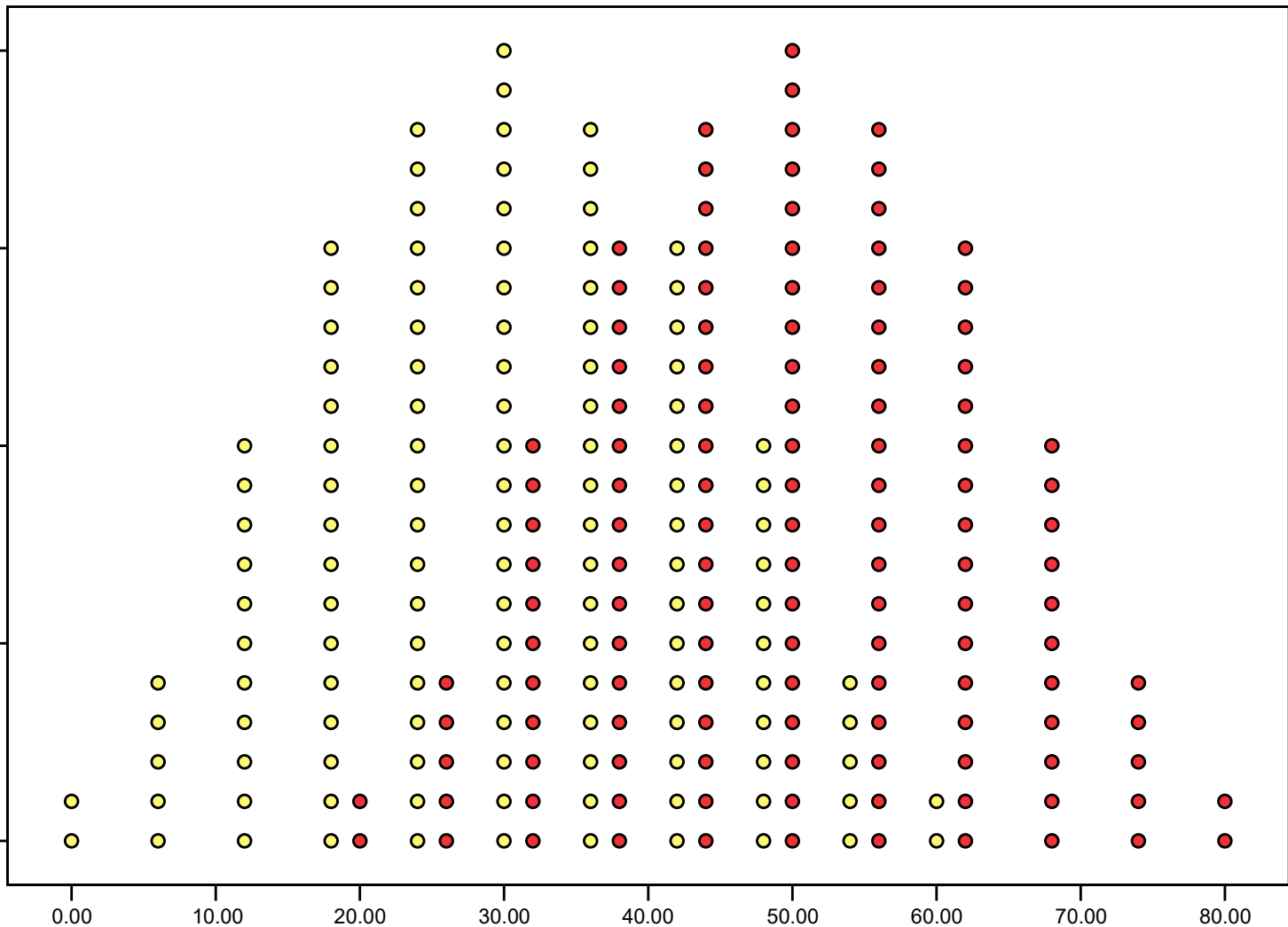
# ANOVA

- Again, why is it called “analysis of variance” when it’s the means that are being compared across groups?



- Mean = 30
- Mean = 50

Note that each of the two colored groups has small variance.



- Mean = 30
- Mean = 50

Note that each of the two colored groups has larger variance than in the previous figure.

# ANOVA family

Name of Statistic/ Statistical Procedure	"Groups"	DVs (which means are calculated for the groups)	Covariates?
1: t-test	one IV (binomial)	one DV (I/R)	--
2: F-test	one IV (nominal)	one DV (I/R)	--
3: Two-factor ANOVA	two IVs (nom)	one DV (I/R)	--
4: Multiple-factor ANOVA	two+ IVs (nom)	one DV (I/R)	--
5: MANOVA	two+ IVs (nom)	two+ DVs (I/R)	--
6: ANCOVA	two+ IVs (nom)	one DV (I/R)	one+ covariates (controls)
7: MANCOVA	two+ IVs (nom)	two+ DVs (I/R)	one+ covariates (controls)

1: t-test...  
one IV  
(nominal/  
binomial),  
one DV (I/R)

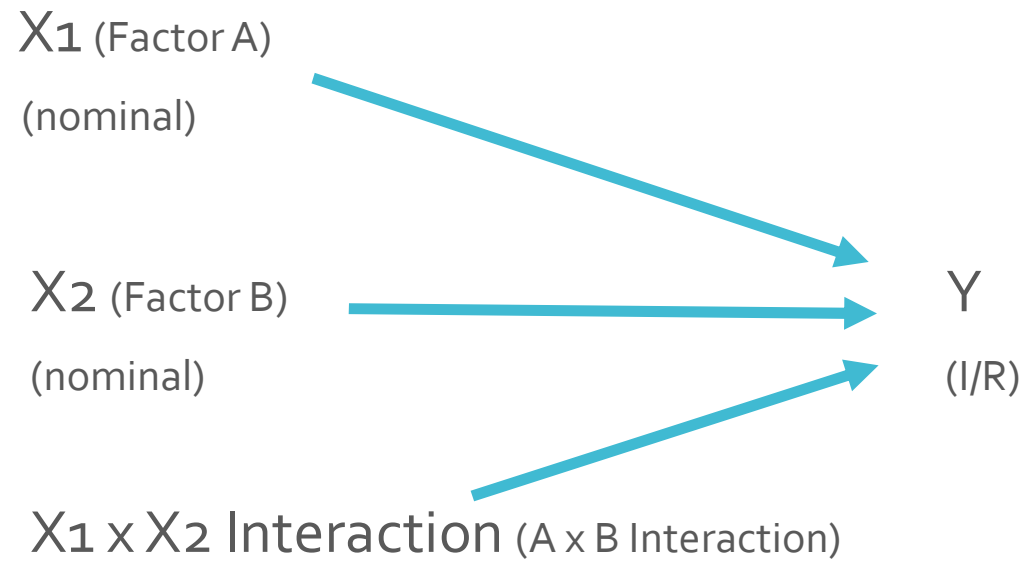




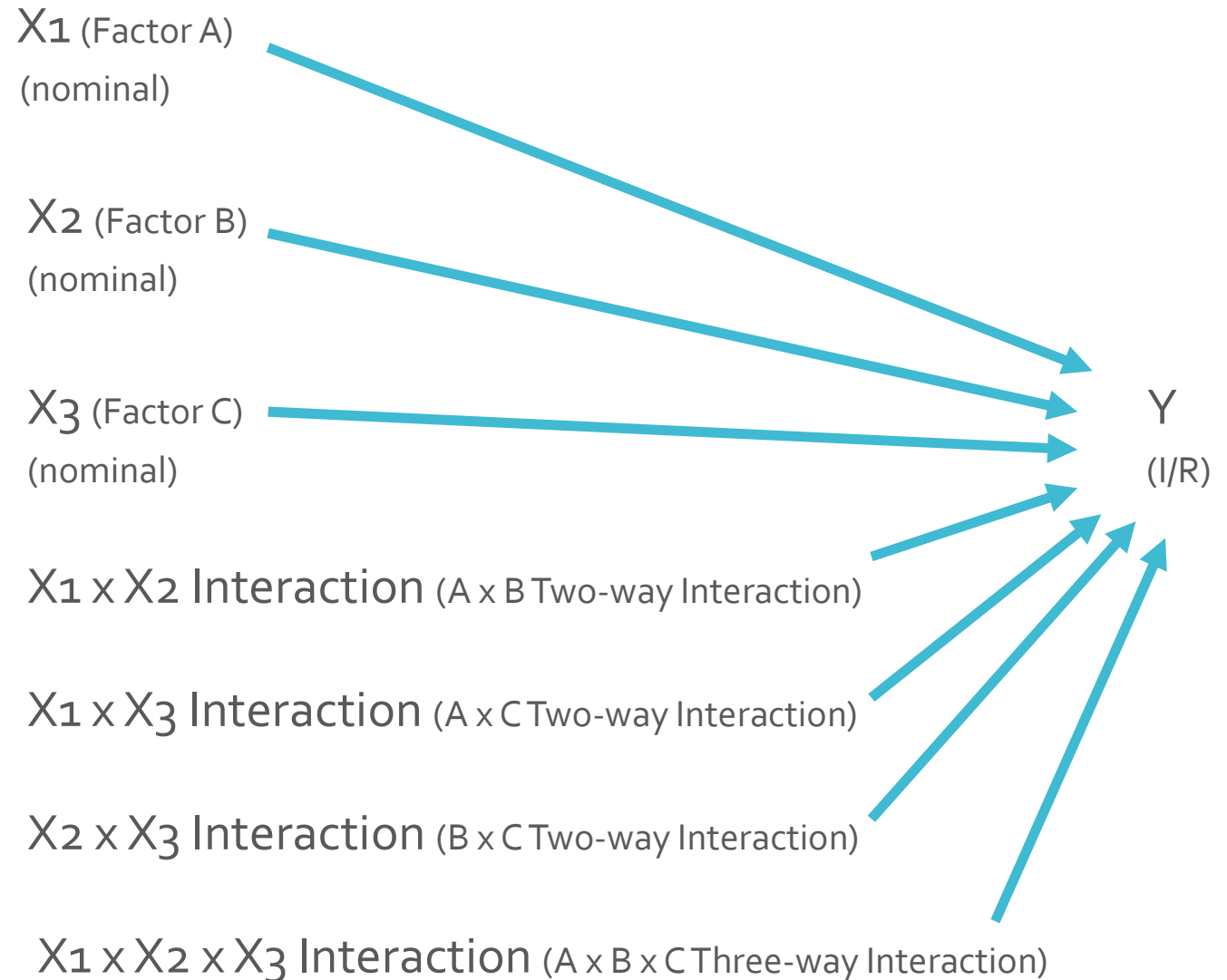
2: F-test...  
one IV  
(nominal),  
one DV (I/R)



3: Two-factor  
ANOVA...  
two IVs  
(nominal),  
one DV (I/R)



4: Multiple-factor ANOVA... two+ IVs (nominal), one DV (I/R)



5: MANOVA...  
two+ IVs  
(nominal),  
two+ DVs (I/R)

$X_1$  (Factor A)  
(nominal)

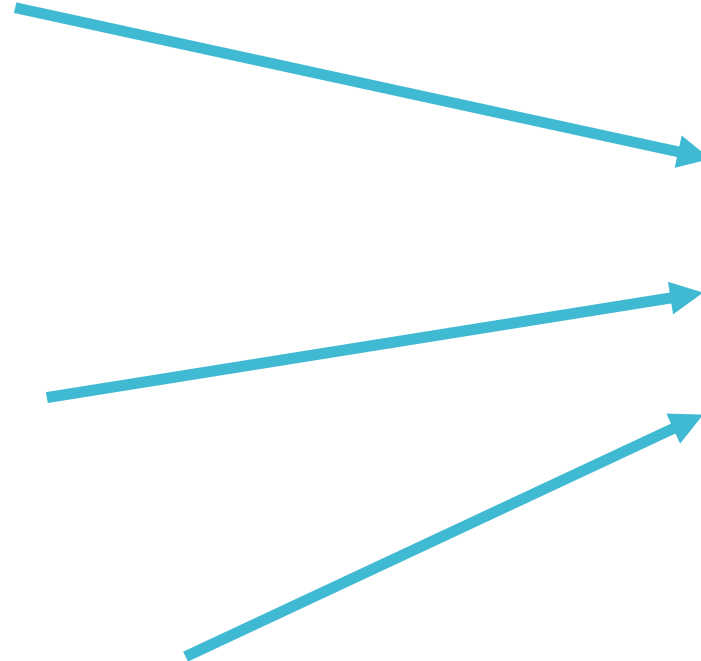
$X_2$  (Factor B)  
(nominal)

$X_1 \times X_2$  Interaction (A x B Interaction)

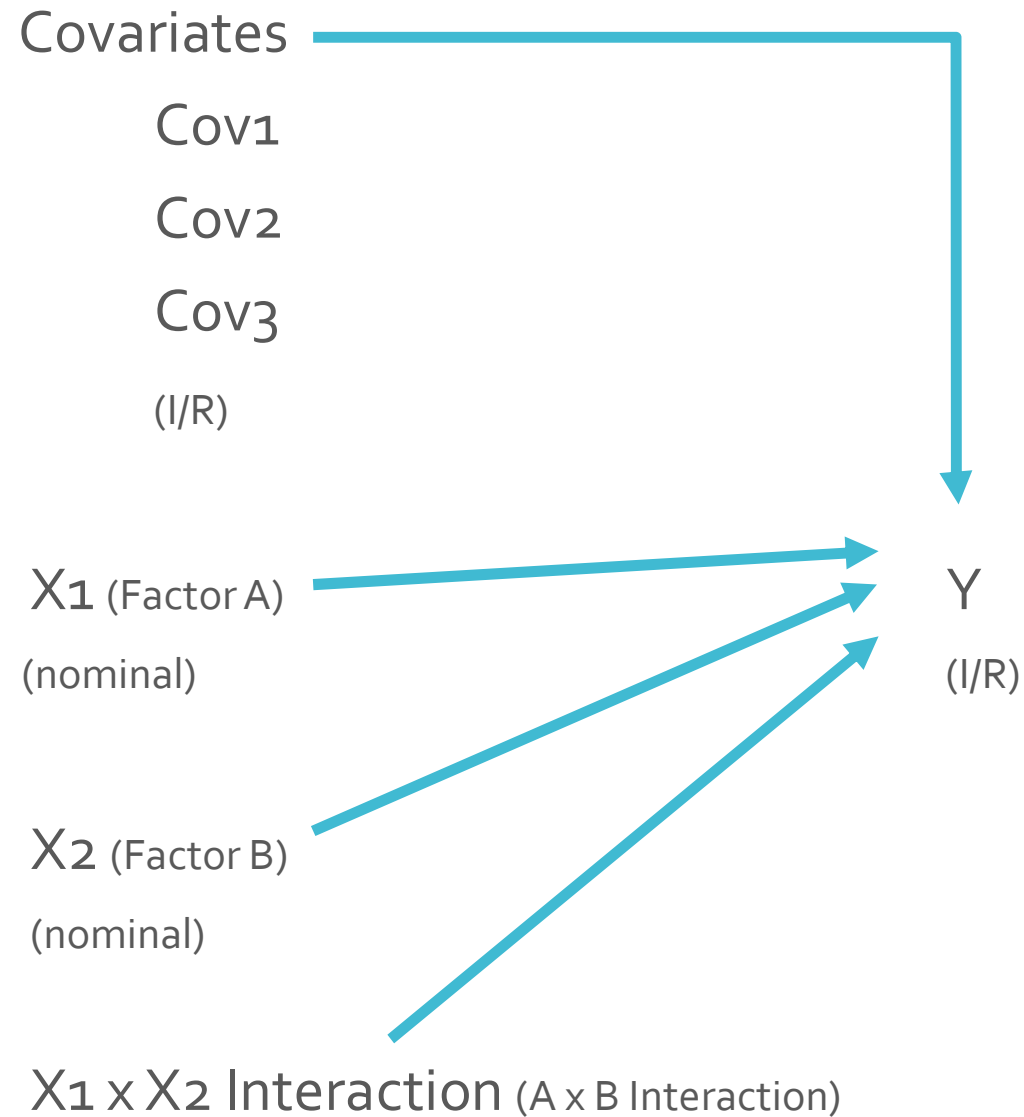
$Y_1$   
(I/R)

$Y_2$   
(I/R)

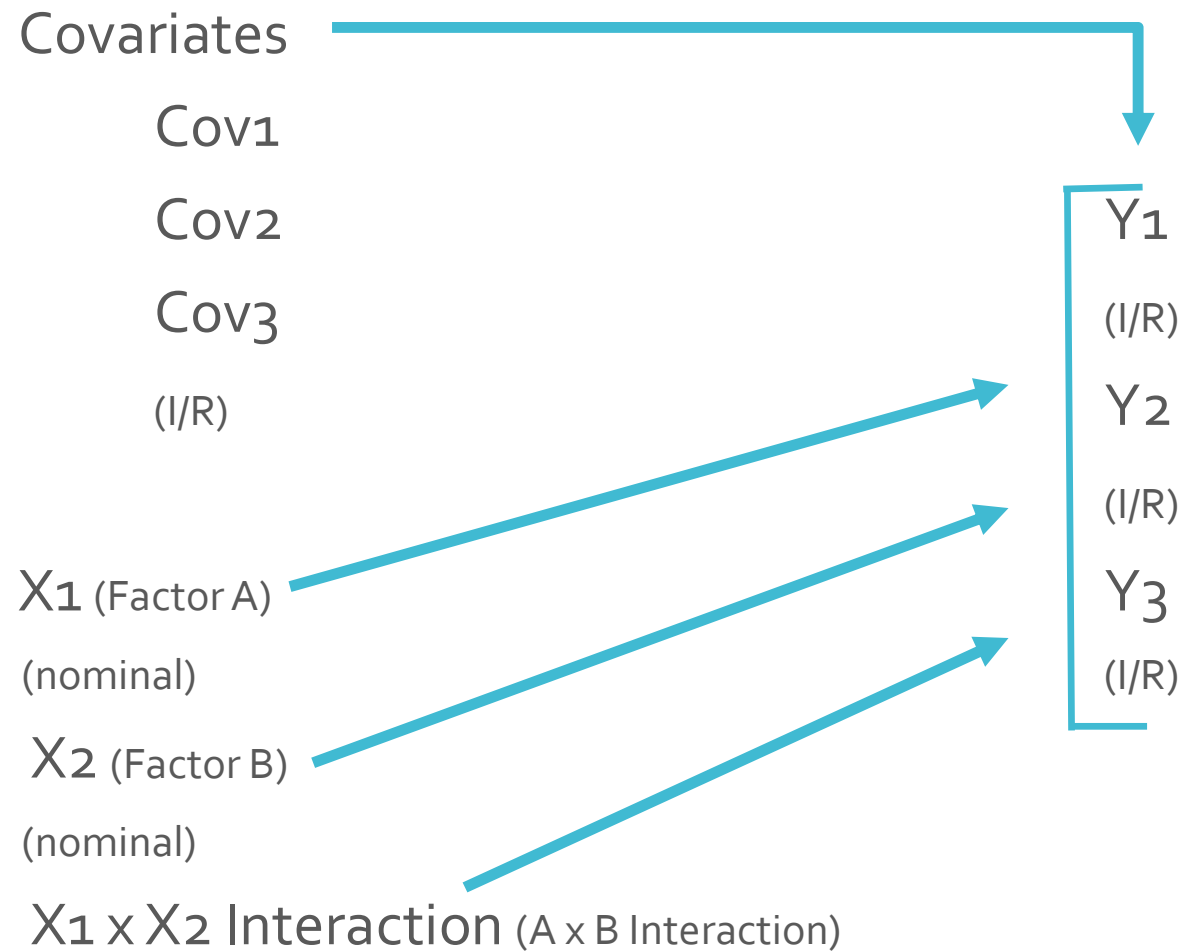
$Y_3$   
(I/R)



6: ANCOVA...  
two+ IVs  
(nominal),  
one DV (I/R),  
one+  
covariates (I/R)



7: MANCOVA...  
two+ IVs  
(nominal),  
two+ DVs (I/R),  
one+  
Covariates (I/R)



end