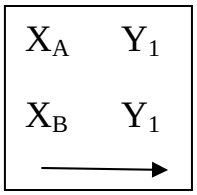
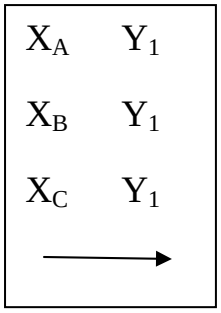
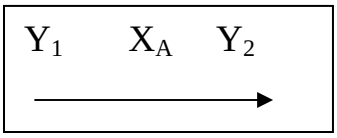
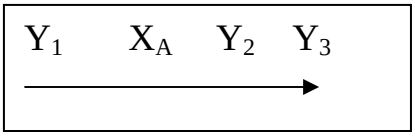
Repeated Measures Analysis

Introduction

X – TRT (IV)

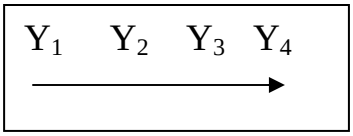
Y – DV

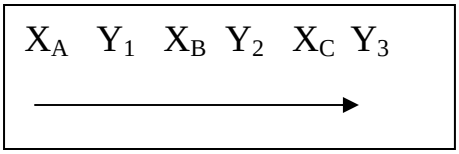
	Comparing 2 Means	Comparing 2+ Means
Between Factor		
Within Factor		

Situations

1. Performance over time (Trend)

(one within factor)





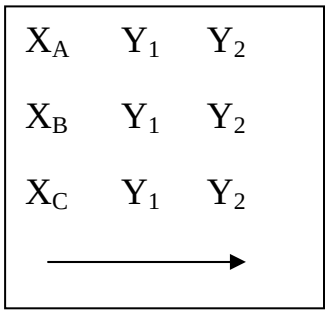
2. Combination with one-way ANOVA

(one between, one within factors)

AKA:

Lindquist Type I

Split plot



Two-way ANOVA with repeated measure on one factor 3 X 2 ANOVA

(one between, two within factors)

Example: DV = Social Interaction, IV1 = Age (3, 4, or 5 years old)

IV2 = Situation (Classroom or Playground), IV3 = Time (AM or PM)

Situation		1		2	
Time		AM	PM	AM	PM
Age	3	----	----	----	----
	4	----	----	----	----
	5	----	----	----	----

3 X 2 X 2 ANOVA

Advantages and Disadvantage of Repeated Measures Designs

Advantages:

1. Removing individual differences (Reducing MS_w).

2. Fewer subjects

ANOVA		Repeated Measures	
	n		
Group 1	20	Group 1	20 - 20 - 20
Group 2	20		
Group 3	20		
	—		
Total	60	Total	20

Disadvantages:

1. Order effect

    Randomize order ABC, BCA, CAB, etc.

2. Carry over effect

    Allow sufficient time