Example of Interaction (Vernoy, 1994)

- Stroop Effect (Stroop, 1935)

Word flashed on screen:

BLUE

Measure: How many milliseconds to correctly name the color of the ink?

This is a CONGRUENT trial: the word and the ink color are the same.

Example of Interaction (Vernoy, 1994)

Word flashed on the screen:

GREEN

How many milliseconds to name the ink color?

This is a CONFLICTING trial: word and ink color are different.

Example of Interaction (Vernoy, 1994)

Word flashed on the screen:

GREEN

How many milliseconds to name the ink color?

This is a CONFLICTING trial: word and ink color are different.

People take longer to correctly name on a CONFLICTING trial.

Example of Interaction (Vernoy, 1994)

Congruent versus Conflicting caused delayed naming of the color

Vernoy (1994) added a second Factor:

Placement of the color name-

Over, On, or Under a color bar.

Name the color on the bar.

Example:

BLUE

BLUE

BLUE

Those were _____ trials.

RED

RED

RED

RED

Those were _____ trials.

Test yourself

How many cells (conditions) are there in this

2 (congruent vs conflicting)

X

3 (Over vs On vs Under)

Design?

Run as a Within Subject or Repeated Measures study—

What does that mean?

Predictions

Would congruent versus conflicting cause a significant difference in correct response time?

Would location cause a significant difference in response time?

(Maybe a little more complicated…)

Let’s try an example

Examples

Ready?

Try to name the color on the bar as quickly as you can

BLUE

RED

GREEN

RED

YELLOW

BLUE

YELLOW

GREEN

GREEN

RED

BLUE

END

Vernoy then added reaction times for each cell and obtained means and standard deviations.

The Independent Variables (Factors) In This Study Were:

A. _____

B. _____

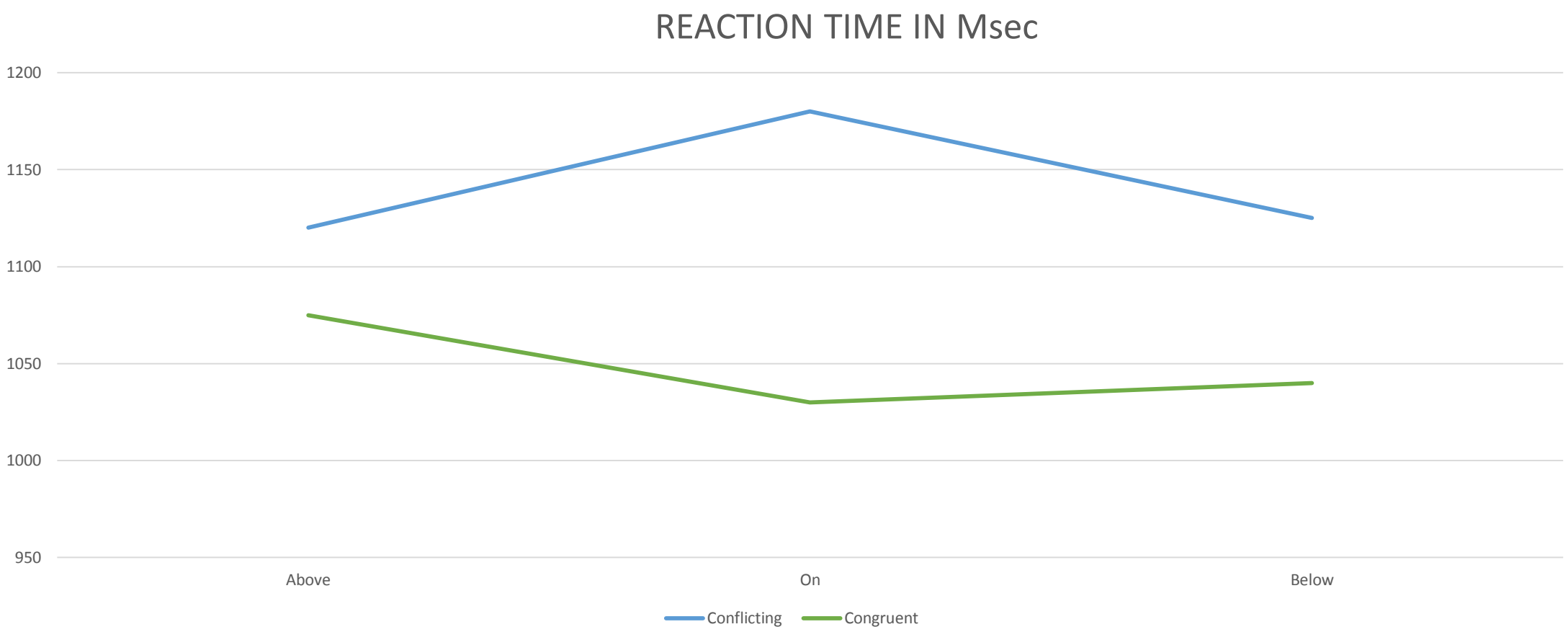
The Dependent Variable was:

_____

This design was a

_____ design

2 X 3 Factorial Design (Within Subjects)



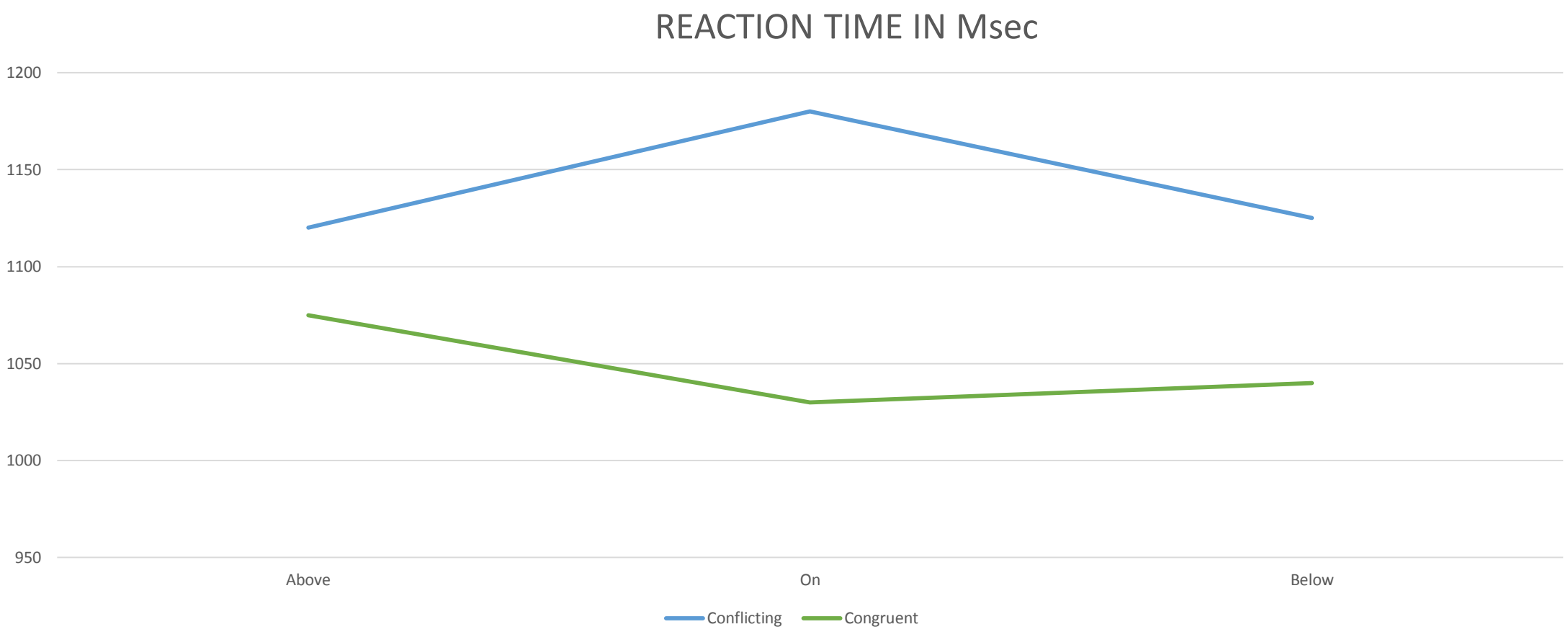
TEST YOURSELF

What are the three F’s that you would get from your Analysis of Variance?

Which one, or ones, look like they would likely be significant? Why?

3F's: 2 main effects + interaction

What does the interaction mean?



Discussion

How would you interpret

1. Significant difference congruent versus conflicting?
2. No significant difference in location (over, on or under)?
3. Significant interaction (Tukey shows difference for “on” location only)?