# Writing Quantitative Results Christine E. Cooper, Ph.D.

**INDIANATECH** 

- Highlights
- Tips
- Basic Model
- Activity

## Highlights

Fourth main section in an empirical research report

1. Introduction

2. Literature Review

3. Methods

4. Results

5. Discussion

Overview

**Foundation** 

Process

**Facts** 

Interpretation

Might characterize as the "facts" of the study

#### Tips

- Organize by research questions or hypotheses.
- Present descriptive statistics before inferential statistics.
- Present large numbers of statistics in a table.
- Reference a table (or figure) in the text.
- Do not restate the contents of a table within the text.
- <u>Do</u> point out, in the text, highlights from a visual, the most interesting content.



#### **Basic Model**

Each paragraph presenting a primary result includes:

- simplified research question or hypothesis
- analysis test used
- the result
- a simple meaning statement

#### Example

- Hypothesis 1 predicted that concrete metaphors would be easier to understand than abstract metaphors. The result of a paired samples t test supported the prediction, t(102) = -4.43, p < .001,  $\eta 2 = .16$ . Participants were more accurate in their interpretation of concrete metaphors (M = 2.45, SD = .20) than abstract metaphors (M = 2.26, SD = .29). (Morgan & Reichert, 1999, as cited in Morgan, Reichert, & Harrison, 2002, p. 11)
- Which sentences contain each element?
  (hypothesis, test, result, meaning)

INDIANATECH



#### **Breakout For Activities**

You will be paired with a writing partner and have the opportunity to write two results paragraphs (activity 1 & 2).

- Work together to complete each activity.
  OR
- Work separately, read each draft, and discuss.
- Instruction: Take the information provided from an empirical study and craft a paragraph following the model we discussed.

INDIANATECH

## **Activity 1**

H1: There will be a positive correlation between organizational

members' selective self-esteem and their perceptions of

role identity.

Test: Pearson's correlation

• Result: Significant, r = .51, p < .01, r2 = .26

Meaning: Selective self-esteem positively correlates with perception

of role identity.

# **Activity 2**

H1: Reproach types will differ from each other in their

degree of perceived face threat.

Test: ANOVA

Result: Significant, F(3, 87) = 53.79, p < .001.  $g_1 = .65$ 

(Carson & Cupach. 2000, as cited in Morgan, Reichert, & Harrison, 2002, p. 10)

INDIANATECH



#### **Back to Quantitative Session**

 We'll take a few minutes to review the paragraphs as written in each study.

Then process the activities if time allows.

INDIANATECH

## **Activity 1 Write Up**

- Hypothesis 1 proposed a positive correlation between selective self-esteem and perception of role identity. The hypothesis was supported with a significant finding (r = .51, p < .01, r2 = .26). Therefore, members' perceptions of selective self-esteem are positively correlated with their perceptions of role identity. (Trinastich, 1997, p. 36)
- Which sentences contain each element? Are all elements present? (hypothesis, test, result, meaning)

# **Activity 2 Write Up**

- Hypothesis 1 predicted that reproach types would significantly differ from each other in their degree of perceived face threat. To test this hypothesis, mean levels of perceived face threats were compared across groups representing the four reproach categories. ANOVA indicated support for the hypothesis, F(3, 87) = 53.79, p < .001. η2 = .65. (Carson & Cupach. 2000, as cited in Morgan, Reichert, & Harrison, 2002, p. 10)</li>
- Which sentences contain each element? Are all elements present? (hypothesis, test, result, meaning)

**INDIANATECH** 



## More Complex Example

The next two research questions ask how organizational commitment (RQ4) and satisfaction (RQ5) differ by participation class. A MANOVA was conducted to test these questions due to the moderate correlation of commitment and satisfaction(r = .63, p < .01). The test produced a main effect for participation class, F(4, 145) = 17.77, p < .001,  $\eta 2 = .33$  with an indication of significance for each independent variable. The results of a post hoc test are reported to specify which clusters differ significantly. The Games-Howell multiple comparison test was used based on its design, which allows for unequal valiances and unequal sample sizes.

(Cooper, 2002, p. 115)

#### References

- Cooper, C. E. (2002). Communicating your participation at work an exploration of participation types, communication behaviors, organizational commitment, and satisfaction [Doctoral dissertation, The University of Texas at Austin]. Digital Archive.
- Morgan, S. E., Reichert, T., & Harrison, T. R. (2002). From numbers to words: Reporting statistical results for the social sciences. Allen & Bacon.
- Trinastich, C. E. (1997). Organizational self-identity: A working model [Unpublished Masters thesis]. The University of Memphis.

INDIANATECH