

CC Title

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Outline

- Intro and Motivation
- Model
- Recreate Dr. Phillips' Application
- Our Application

Introduction

Hypotheses:

- Family researchers comparing the attitudes, behaviors, and opinions of pairs
- Collect Dyadic data
 - ▶ Inter-individual reporting
 - ▶ Intra-individual reporting

Motivation

- Difference scores used to analyze dyadic data
- Difference scores allow to see how well they “fit” together
- Common types: algebraic, absolute, and squared difference

$$Z = \beta_0 + \beta_1(X - Y) + \epsilon \quad (1)$$

$$Z = \beta_0 + \beta_1|X - Y| + \epsilon \quad (2)$$

$$Z = \beta_0 + \beta_1(X - Y)^2 + \epsilon \quad (3)$$

Motivation

- Many methodological issues with Difference Scores
 - ① Difficult to identify the underlying mechanism
 - ② Problems with underlying assumptions

Motivation

- Any alternatives?
- Polynomial Regression
e.g.

$$Z = \beta_0 + \beta_1 X + \beta_2 Y + \beta_3 X^2 + \beta_4 Y^2 + \beta_5 XY \epsilon \quad (4)$$

The Data

