

Planned Missing Designs: A methodological approach to balancing the time, costs, and need for data in school-wide assessments

MUSCRAT Lab

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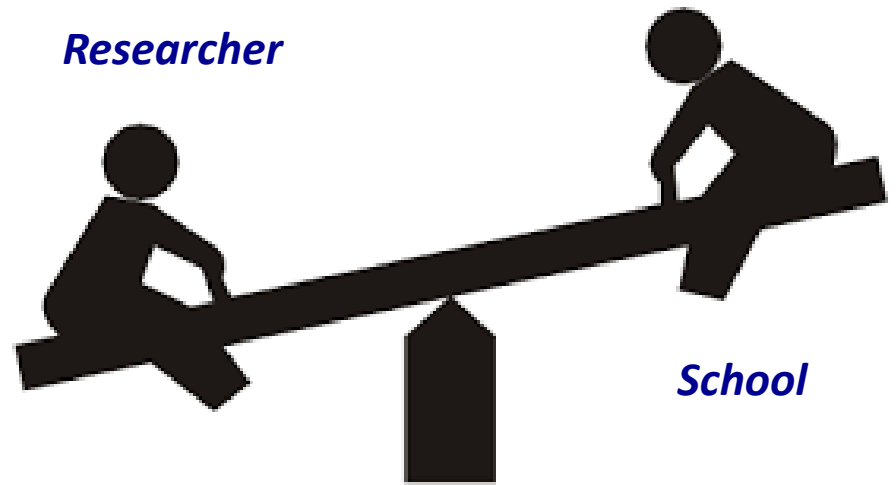
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Road Map

1. What is a planned missing design?
 - a.) Why use it?
2. Example of a project using a planned missing design

Researcher Difficulties with Collecting School-wide Data

- Balancing needs
 - Schools:
 - Limited time
 - Limited resources
 - Space
 - Buy-in from school staff
 - Researchers:
 - Need for data
 - Substantial amounts of data



Planned Missing Designs

- Methodological approach to deal with shortening data collection
- Participants are randomly assigned to conditions in which they do not answer to all items, all measures, and/or all measurement occasions (Little & Rhemtulla, 2013)
- Multiple planned missing designs (Graham et. al., 2006)
 - **3-Form Design**
 - Two-Method Measurement
 - Multiple Matrix Sampling
 - Developmental Time-Lag
 - Wave-to Age-based Designs
 - Monotonic Sample Reduction
 - Growth-Curve Planned Missing

3-Form Design

Form	Block X	Block A	Block B	Block C
1	1	1	1	0
2	1	1	0	1
3	1	0	1	1

Planned Missing Designs: Considerations

- Shorter batteries of questionnaires
- Carefully plan form design and data collection
- Participant fatigue

Project PRIDE

- Create a TDV intervention for 9th-12th graders using the CBPR approach
- Increase Positive Youth Development in PRIDE members



Measurement

TDV and its Covariates

- ✧ Conflict in Adolescent Dating Relationship Inventory (CADRI) (Wolfe et al., 2001)
- ✧ The Attitudes toward Dating Violence Scale (Foshee, Fothergill, & Stuart, 1992)
- ✧ The Cyber Teen Dating Violence Scale (Zweig, Dank, Lachman, & Yahner, 2013)
- ✧ Family Experience Scale (FES) (Moos & Moos, 1994)
- ✧ The Gender Stereotype Scale (Foshee et al., 1998)

School Climate

- ✧ Community & Youth Collaborative Institute School Experience Survey (CAYCI) (Anderson-Butcher, Amorose, Jachini, & Ball, 2013)
 - ✧ Externalizing Behaviors
 - ✧ School Connectedness
 - ✧ Safety
 - ✧ Alcohol, Tobacco, and Drug use

Measurement Considerations

- Research needs/desires
 - DATA, DATA, DATA
 - Opportunity for a large dataset and future publications
- School needs
 - How does TDV impact their students and school
 - Time constraints = 30 minutes
 - Includes travel time, student login, technology difficulties

3-Form Design: Project PRIDE

Block X (66)	Block A (39)	Block B (39)	Block C (38)
CADRI (70) (35)	Externalizing (10)	PANAS Full (20)	RCADS (25)
Acceptance of Couple Violence (11)	Social Responsibility (6)	Drug and Alcohol Use (5)	
Cyber Dating Violence (32) (16)	Gender Stereotypes (10)	Family Experience Scale (9)	Safety (3)
Help Seeking (4)	School Connectedness (3)		Academic Motivation (6)
	RSES (10)	Diversity (5)	Support for Learning (4)

Planned Missing Designs and Data Analysis

- Planning to have missing data complicates data analysis
- What do you do with all the “missing data”?
 - Impute it using multiple imputation
 - Data missing due to this design are missing completely at random and therefore do not skew results
- The purpose of planning missing designs is to shorten batteries without sacrificing data

Many Thanks to

- PRIDE Team
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