

Childhood Trauma, Poverty, and Adult Victimization

An Application of Multilevel Modeling

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Thanks to Jennifer Freyd, PhD, and Lew Goldberg, PhD, for access to their data



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Overview

- Two aims for this talk
 - Present original data relating trauma, poverty, and revictimization
 - Present an example of the utility of multilevel modeling (a statistical technique) in trauma research

Background

- Sociological research on victimization focuses on community or societal level of analysis
- Psychological research on victimization focused at the level of the individual

Individuals within communities

- Victimization depends on both individual and contextual factors
 - Relationships between individual characteristics & victimization may differ with social context
 - Adverse social context may affect victimization in some people more than others
- Multilevel modeling
 - Statistical technique
 - Allows researchers to incorporate multiple levels of analysis

Current study

- **Q1:** Is there neighborhood-level variability in victimization?
- **Q2:** When accounting for neighborhood-level effects, do childhood trauma and dissociation predict revictimization?
- **Q3:** Does neighborhood-level poverty impact victimization?
- **Q4:** Does community poverty impact relationships between childhood trauma, dissociation, and later revictimization in individuals?

Participants

- 421 members of the Eugene-Springfield Community Sample (ESCS, Goldberg et al.)
- A longitudinally-studied sample of homeowners in metro area of ~330,000
- 96% Caucasian, age range 18 to 85 at first data collection (in 1993)
- Survey data collected in 1997 and 2003

Participants

- Eight target zip codes, within Eugene and Springfield city limits

Measures

- Curious Experiences Survey (CES, Goldberg 1999)
 - 31-item scale measuring dissociation, a revision of the Dissociative Experiences Scale
- The Brief Betrayal Trauma Survey (BBTS, Goldberg & Freyd, 2006)
 - Measures 14 types of traumatic events both before and after age 18
 - Includes traumas with low or no interpersonal betrayal (e.g., natural disasters) and higher levels of betrayal (e.g., sexual abuse by someone close)
 - Only high-betrayal, interpersonal victimization included in analyses

Measures

- Poverty rates for each neighborhood (by 5-digit zip code)
- Obtained from 2000 U.S. census data
- Percent of individuals with incomes below the federal poverty level in 2000

Descriptives

Person-level Descriptive Statistics (N = 421)

Variable	Mean	SD	Minimum	Maximum
Child Betrayal Trauma	0.61	1.00	0.00	5.00
Adult Betrayal Trauma	0.60	0.99	0.00	5.00
Dissociation—CES Total	45.65	10.04	31.00	109.00

Community-level Descriptive Statistics (N = 8)

Variable	Mean	SD	Minimum	Maximum
Child Betrayal Trauma	0.66	0.21	0.28	0.98
Adult Betrayal Trauma	0.73	0.34	0.33	1.32
Dissociation—CES Total	46.38	3.19	42.44	52.26
Community Poverty Rate	0.15	0.07	0.04	0.27

Models 1 and 2

Q1: Is there neighborhood-level variability in victimization?

Equations for Model 1

$$\text{Level 1: } Y_{ij} = \beta_{0j} + \tau_{ij}$$

$$\text{Level 2: } \beta_{0j} = \gamma_{00} + u_{0j}$$

Equations for Model 2

$$\text{Level 1: } Y_{ij} = \beta_{0j} + \beta_{1j}(X_{1ij}) + \beta_{2j}(X_{2ij}) + \tau_{ij}$$

$$\text{Level 2: } \beta_{0j} = \gamma_{00} + u_{0j}$$

$$\beta_{1j} = \gamma_{10} + u_{1j}$$

$$\beta_{2j} = \gamma_{20} + u_{2j}$$

Q2: When accounting for neighborhood-level effects, do childhood trauma and dissociation predict revictimization?

Results for Models 1 and 2

Two-Level Model Predicting Traumatic Victimization in Adulthood			
<i>Tests of Predictive Relationships</i>			
	Coefficient	SE	t
Mean Adulthood Trauma γ_{00}	-0.759	0.318	-2.385*
Childhood Trauma γ_{10}	0.442	0.082	5.361**
Dissociation γ_{20}	0.025	0.008	3.183*
<i>Tests of Unexplained Neighborhood Variability in Predictive Relationships</i>			
	Variance Component	df	χ^2
Adulthood Trauma u_2	0.469	7	16.048*
Childhood Trauma u_1	0.033	7	22.038**
Dissociation u_2	0.001	7	23.783**
Level-1 Error, r	0.620		

Note: Results based on data from 421 individuals from 8 communities. *p < .05, **p < .01

Model 3

Q3: Does neighborhood-level poverty impact victimization?

Equations for Model 3

$$\text{Level 1: } Y_{ij} = \beta_{0j} + \beta_{1j}(X_{1ij}) + \beta_{2j}(X_{2ij}) + r_{ij}$$

$$\text{Level 2: } \beta_{0j} = \gamma_{00} + \gamma_{10}(W_j) + u_{0j}$$

$$\beta_{1j} = \gamma_{10} + \gamma_{11}(W_j) + u_{1j}$$

$$\beta_{2j} = \gamma_{20} + \gamma_{21}(W_j) + u_{2j}$$

Q4: Does community poverty impact relationships between childhood trauma, dissociation, and later revictimization in individuals?

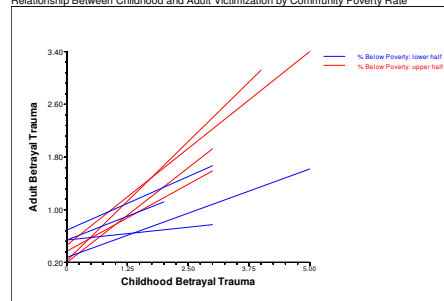
Results for Model 3

Two-Level Model Predicting Traumatic Victimization in Adulthood (with level-2 predictor)			
<i>Tests of Predictive Relationships</i>			
	Coefficient	SE	t
Mean Adulthood Trauma γ_{00}	-0.737	0.315	-2.341*
Percent Below Poverty γ_{01}	0.064	4.932	0.013
Childhood Trauma γ_{10}	0.406	0.049	8.314**
Percent Below Poverty γ_{11}	2.782	0.879	3.164*
Dissociation γ_{20}	0.025	0.008	3.315*
Percent Below Poverty γ_{21}	-0.038	0.119	-0.317
<i>Tests of Unexplained Neighborhood Variability in Predictive Relationships</i>			
	Variance Component	df	χ^2
Adulthood Trauma u_2	0.437	6	15.825*
Childhood Trauma u_1	0.004	6	7.168
Dissociation u_2	0.001	6	23.817**
Level-1 Error, r	0.619		

Note: Results based on data from 421 individuals from 8 communities. *p < .05, **p < .01

Results for Model 3

Relationship Between Childhood and Adult Victimization by Community Poverty Rate



Results

- **Q1:** Is there neighborhood-level variability in victimization?
 - Yes
- **Q2:** When accounting for neighborhood-level effects, do childhood trauma and dissociation predict revictimization?
 - Yes, each uniquely predicts variance in victimization in adulthood

Results

- **Q3:** Does neighborhood-level poverty impact victimization?
 - Yes, but only in association with childhood trauma
- **Q4:** Does community poverty impact relationships between childhood trauma, dissociation, and later revictimization in individuals?
 - Yes, the relationship between childhood trauma and victimization in adulthood tends to be stronger among individuals in communities with higher poverty rates.

Discussion



- This example illustrates the utility of using multilevel modeling to better understand complex social processes like victimization
- Has implications for future research– ignoring social context may produce misleading or incomplete results

Discussion



- Relationship between childhood trauma and revictimization is stronger in higher poverty communities
- Implications for prevention, intervention

Questions?



- More information and reprints available at <http://dynamic.uoregon.edu/>