AN EXPLORATION OF THE RELATIONSHIP BETWEEN LONELINESS AND OPIOID USE

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OUTLINE

CRISIS

> Philadelphia is facing the **greatest** public health crisis in a century. **Every** neighborhood in the city is being hit hard by an epidemic of opioid use and overdose. Across **all** racial and ethnic groups, the number of deaths from drug overdose is higher than the number of deaths from homicide. Of the 1,217 overdoses in 2017, 1,074 involved opioids.

City of Philadelphia

POLICY APPROACHES

> “Although increased availability of prescription opioids fueled the overdose crisis, we have not adequately explored the source of the demand for these medicines… People who use heroin in a deindustrialized steel production area of Pennsylvania cited economic hardship, social isolation, and hopelessness as reasons for drug use, explicitly calling for jobs and community reinvestment to stem overdoses.”

Dasgupta

STUDY

PREVENTING AIDS THROUGH HEALTH (PATH)

- Designed to promote treatment adherence
- Conducted in Philadelphia
- Uses a Nurse Health Navigator
- Multiple iterations
  - 2004-2007
  - HIV+ & Serious Mental Illness (SMI)
  - 5 study checkpoints: Baseline, 3, 6, 12, 24 months

Blank et al

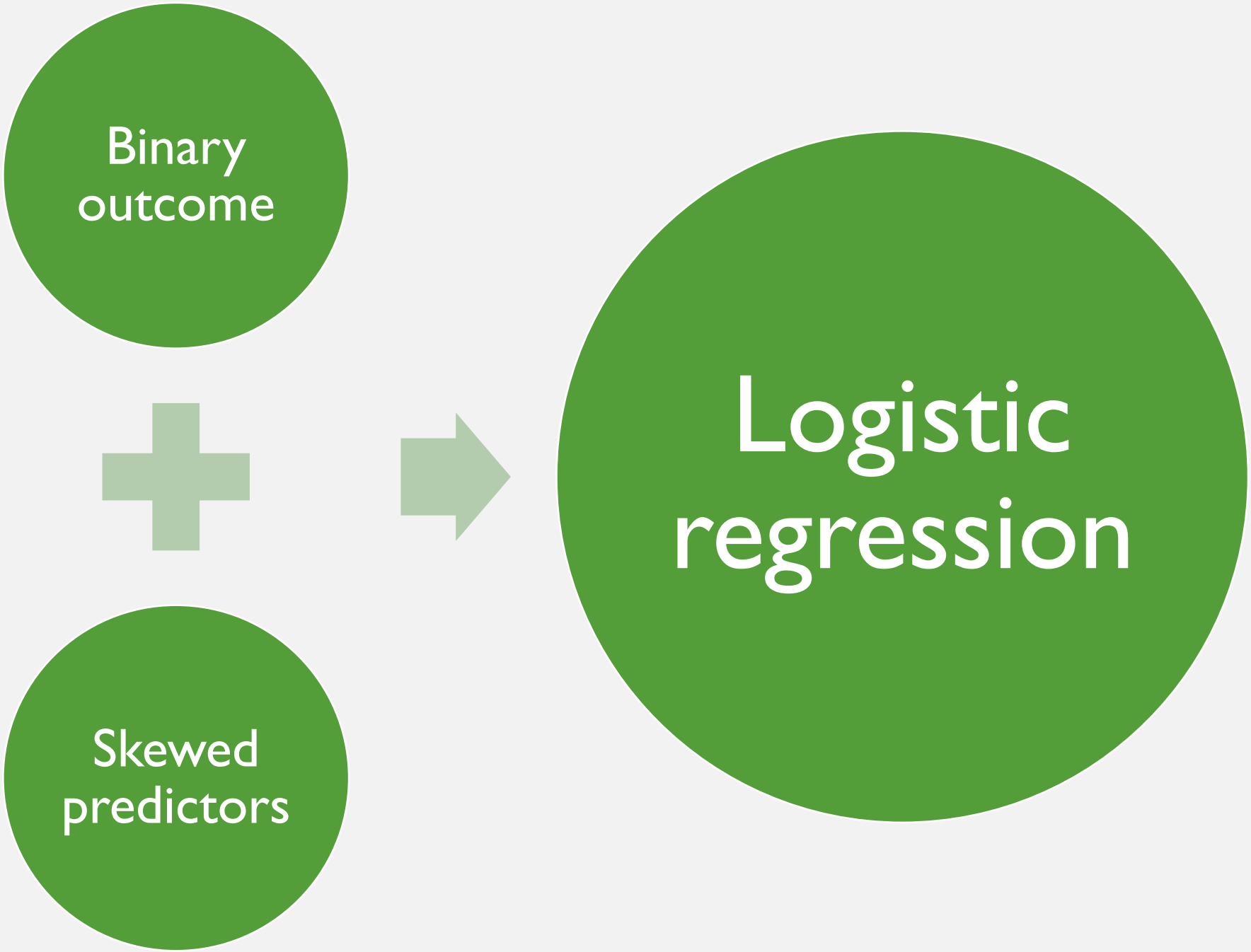
PROJECT

AIMS

1. Challenge the dominant network paradigm surrounding drug use
2. Encourage researchers to measure loneliness in nationally representative studies
3. Shed light on potential causes of the demand for opioids
4. Support community-based intervention strategies

METHODS

WHAT FACTORS PREDICT OPIOID USE?


Binary outcome
Skewed predictors
Logistic regression

VARIABLE CHOICES

1. Maximize outcome occurrence
   - Used opioids in the past 30 days at any checkpoint
   - Opiate medications, heroin, illicit methadone
2. Avoid confounding from the intervention
   - All predictors baseline
3. Loneliness
   - One question
   - How often have you felt lonely in the past month?
   - More specific than any question asked in the NSDUH

RESULTS

OVERALL MODEL

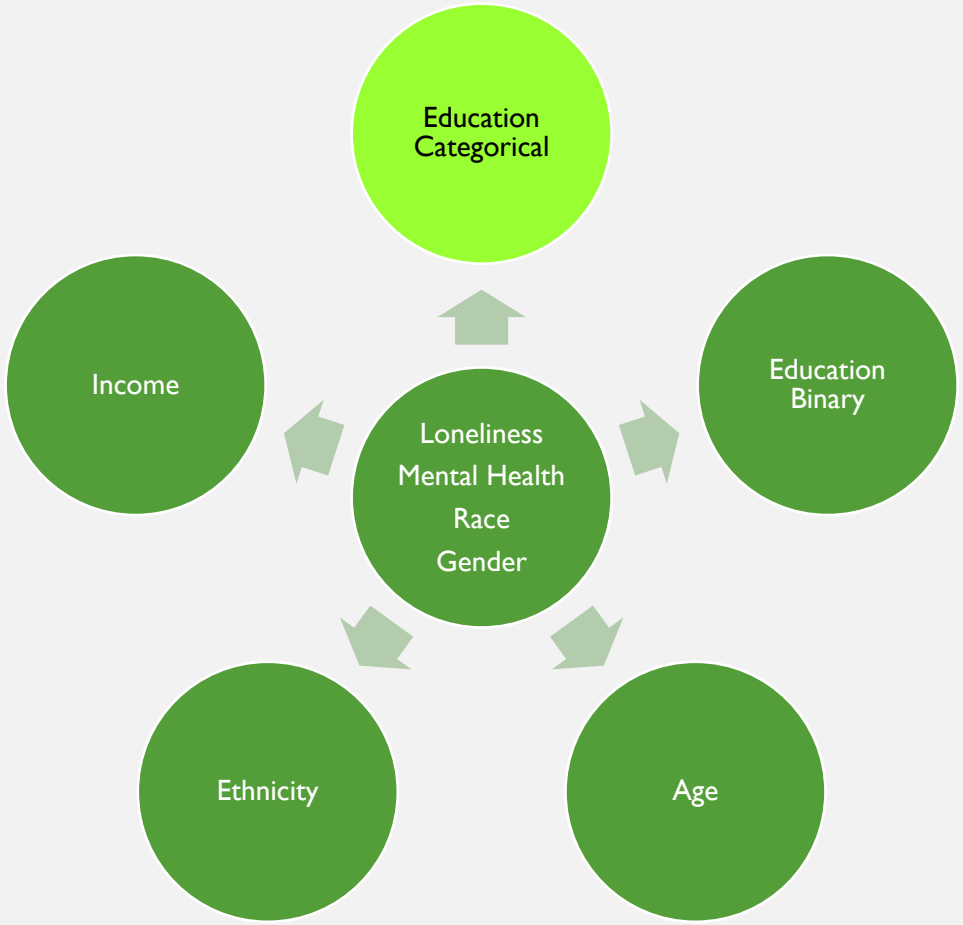
Binary Logistic Regression		
Variable	**Significance**	**Odds Ratio**
Income	0.104	1.000
Black	0.651	0.798
Race Other (non-white, non-black)	0.343	1.857
Gender	0.445	1.272
Ordinal Education	0.700	1.096
Constant	0.003	0.020
Loneliness	0.102	1.219
Mental Health Summary (SF-12): Baseline	0.031	1.051
Model Significance	.056	
Nagelkerke R Square	.084	
Cox & Snell R Square	.058	
N	229	

Source: Nursing Intervention for HIV Regimen Adherence Among Patients with Serious Mental Illness

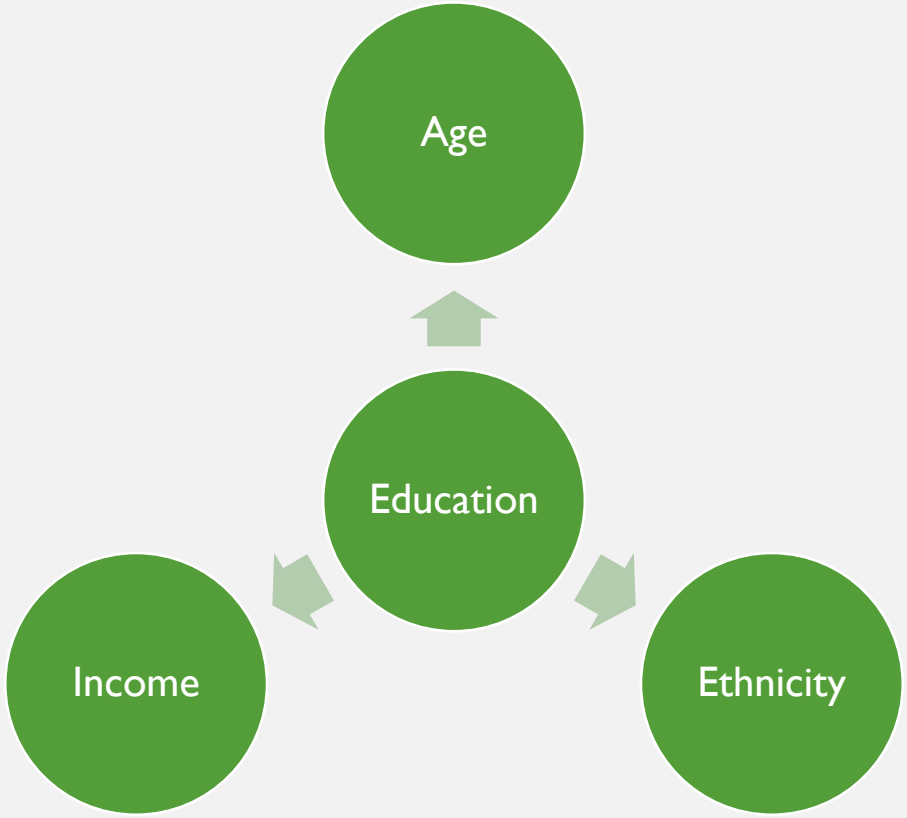
SUBSAMPLE ANALYSES

- Education (especially beyond high school) has profound effects on health behaviors, mental health outcomes, and network structures
- In this sample (and population), education levels are lower than the general population
- Controlling for education can be hard without categorical options and/or a varied distribution

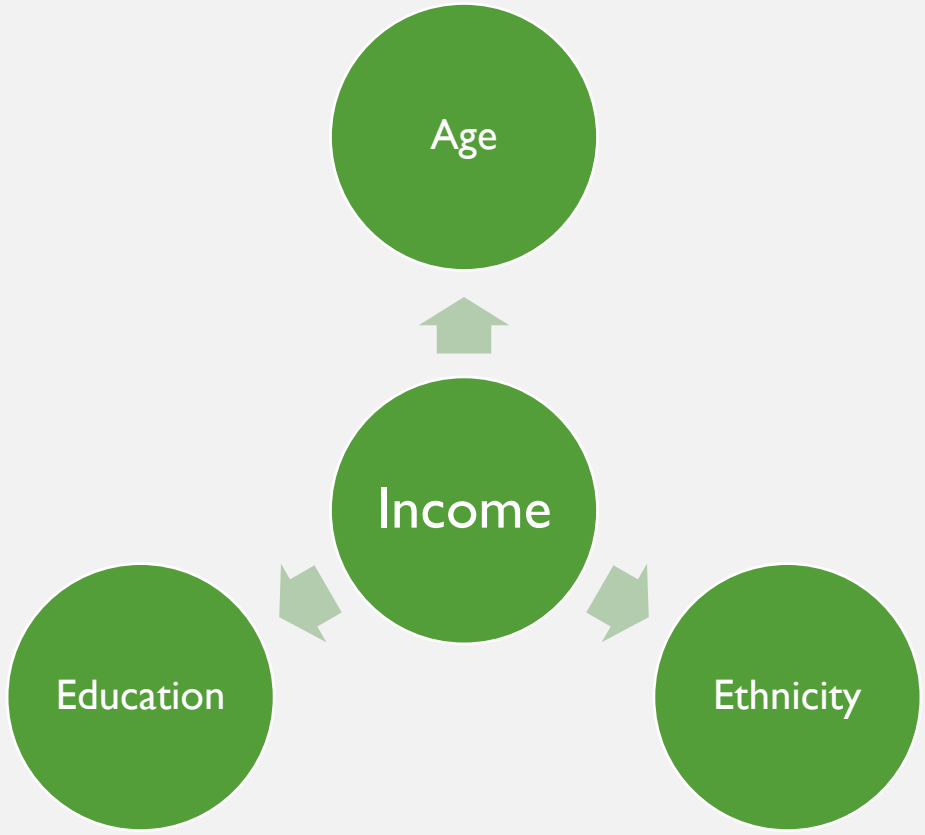
5-PREDICTOR MODELS



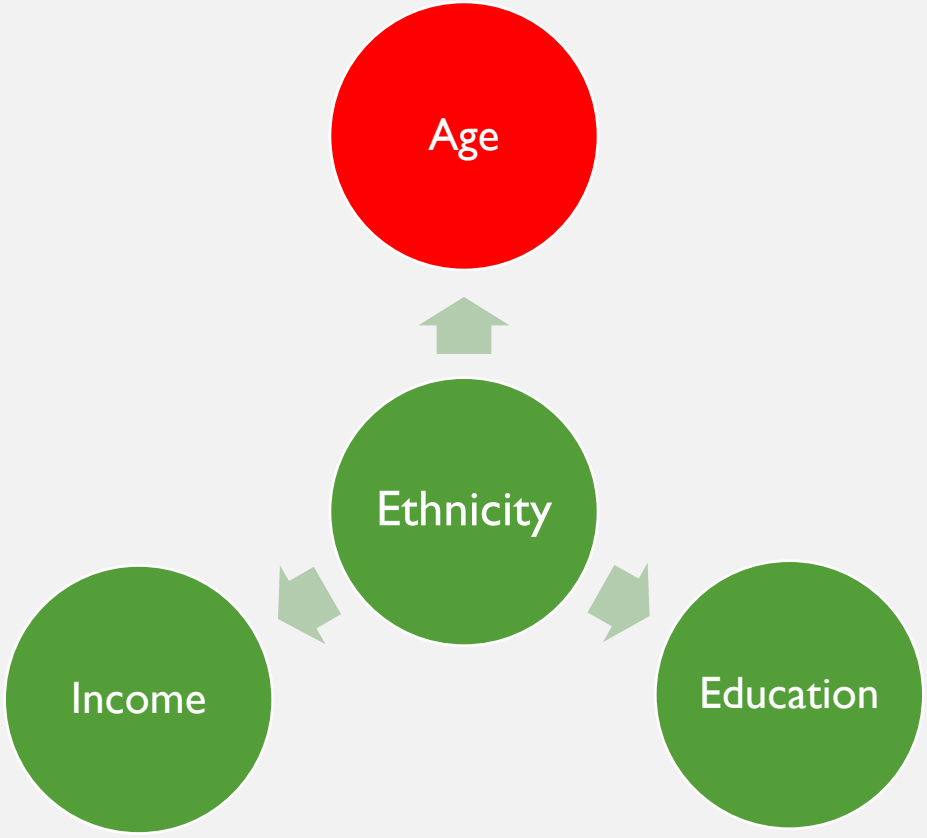
6-PREDICTOR MODELS WITH EDUCATION



6-PREDICTOR MODELS WITH INCOME



6-PREDICTOR MODELS WITH ETHNICITY



WHY INSIGNIFICANT?

Subsample Model Comparison

	Model Significance	Loneliness Significance	Loneliness Odds Ratio	Mental Health Significance	Mental Health Odds Ratio	Race Significance	Race Odds	Gender Significance	Gender Odds
Ethnicity	0.088	0.043	1.307	0.051	1.049	0.117	0.547	0.631	1.175
Ethnicity and Age	0.144	0.043	1.307	0.051	1.049	0.157	0.546	0.229	0.632

Source: Nursing Intervention for HIV Regimen Adherence Among Patients with Serious Mental Illness

DISCUSSION

LIMITATIONS

- Entire sample is HIV+ and has an SMI
- Small sample size
- Geographically limited
- Old

FUTURE STEPS

THIS PROJECT

- Formal social network analysis
- Compare with other drugs
- Explore impacts of case manager relationships

RESEARCH

- Ask questions about loneliness
- Explore correlates of opioid initiation
- Consider alternative network hypotheses

POLICY

- Explore demand-side solutions
- Encourage economic investment
- Promote social investment

LESSONS LEARNED

- Data are messy
- Understanding recodes is really important
- Subsample analyses can provide valuable lessons
- Different means of measurement can provide different results

SPECIAL THANKS

- SUMR Cohort 20
  - Specifically T
- Family
- Joanne, Safa, Ashley

QUESTIONS?

- Combating the opioid epidemic: Fighting back against the opioid crisis in Philadelphia. Retrieved from https://www.phila.gov/programs/combating-the-opioid-epidemic/
- Dasgupta, N., Beletsky, L., & Ciccarone, D. (2018). Opioid Crisis: No Easy Fix to Its Social and Economic Determinants. *American Journal of Public Health*, *108*(2), 182–186. https://doi.org/10.2105/AJPH.2017.304187
- Blank, M. B., Hanrahan, N. P., Fishbein, M., Wu, E. S., Tennille, J. A., Ten Have, T. R., … Aiken, L. H. (2011). A randomized trial of a nursing intervention for HIV disease management among persons with serious mental illness. *Psychiatric Services (Washington, D.C.)*, *62*(11), 1318–1324. https://doi.org/10.1176/ps.62.11.pss6211_1318