

Lecture 8: Mixing Methods in Education Policy Research

March 2, 2010

Outline for Today

- Moving to Opportunity
 - ▣ Using qualitative data to understand the lack of program effects
- New Hope
 - ▣ Using qualitative data to understand program effects
- Exam for Thursday

Choosing the appropriate research methodology

- Quantitative research
 - ▣ Descriptive (who, how many, where, when, how often)
 - ▣ Analytic (explains causal links)
 - ▣ Applied
- “Experiments, while necessary, are, however, far from sufficient to support the learning required for effective instructional innovation. Other kinds of research are needed to precisely define educational aims, to identify target populations for intervention, to identify the most promising practices, and to clarify challenges and opportunities for effective implementation of those practices.”

—Prof. Steve Raudenbush, 2005

Benefits of Qualitative Research

- Qualitative methods help to:
 - ▣ Explain the factors that influence an observed outcome
 - ▣ Understand how individuals and communities understand an issue
 - ▣ Study the interactions between relevant groups
- Answer questions such as:
 - ▣ How was it actually implemented? Why did it happen in that context? Why do some participate and others not? What is going on inside the “black box”?

Moving to Opportunity

- Housing voucher demonstration project launched in 1994 in 5 US Cities (Boston, Baltimore, Chicago, LA, NYC)
- Academic context: What is the effect of neighborhoods on social outcomes?
- Policy context: What is the effect of receiving a housing voucher on social outcomes?

Moving to Opportunity

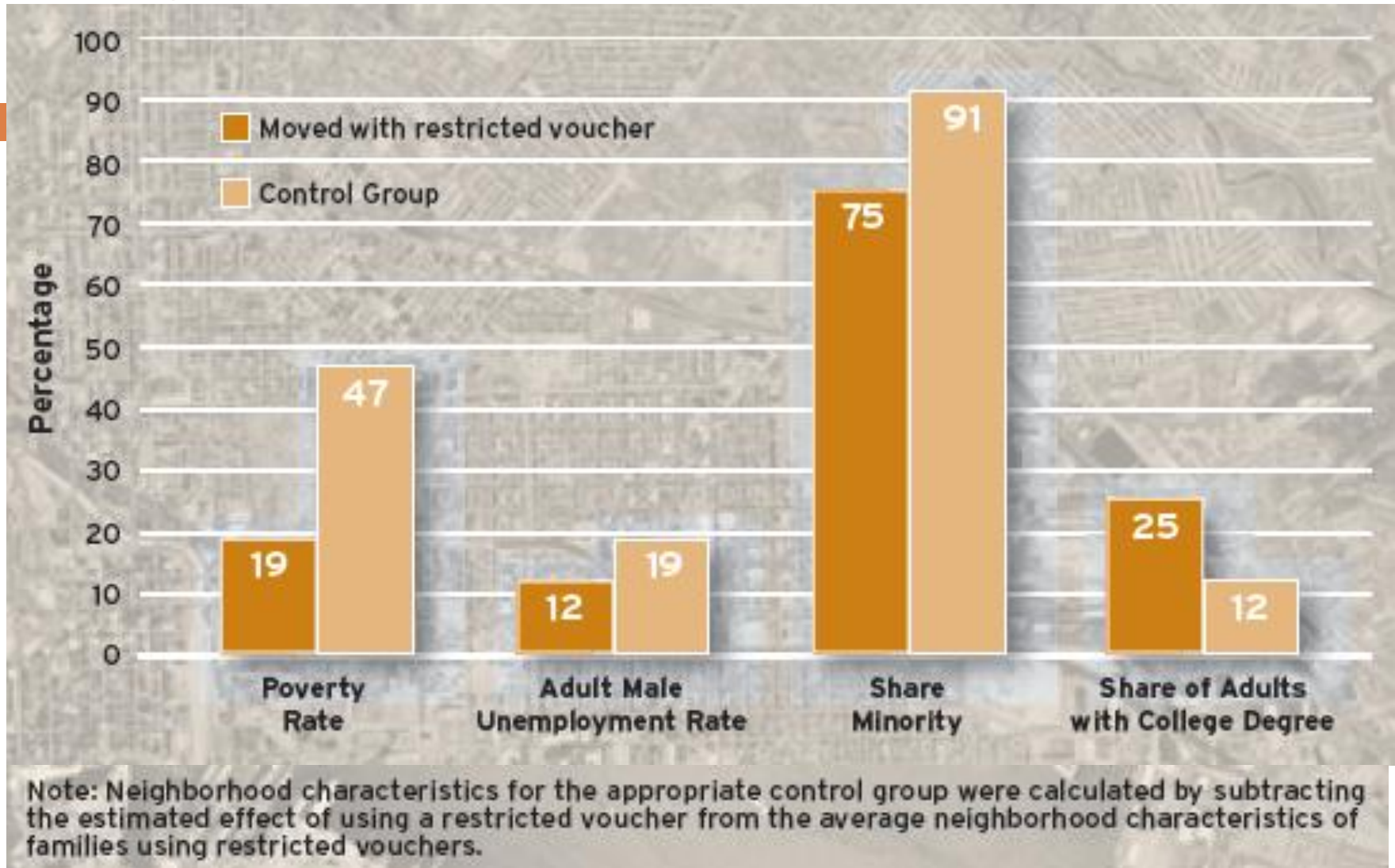
- MTO 3-Group randomization
 1. Experimental group (1,209 families): received housing vouchers that could be used only in <10% poverty census tracts. Counseling agencies helped families to locate and lease suitable housing
 2. Section 8 group (1,729 families): received regular Section 8 vouchers, which could be used anywhere they found a suitable unit. No counseling
 3. Control group: received no vouchers but eligible for project-based assistance

Sabonmatsu et al (2007)

Questions for Discussion:

- What was the research question(s)?
- What were the findings?
- What was the data? How were educational outcome data collected?
- Why didn't student performance improve?
- What are the potential policy implications of the results?
- Why use multivariate regression?
- Did all treatment-group families use their vouchers?
- Are estimates of program impacts for subgroups valid?

Neighborhood characteristics

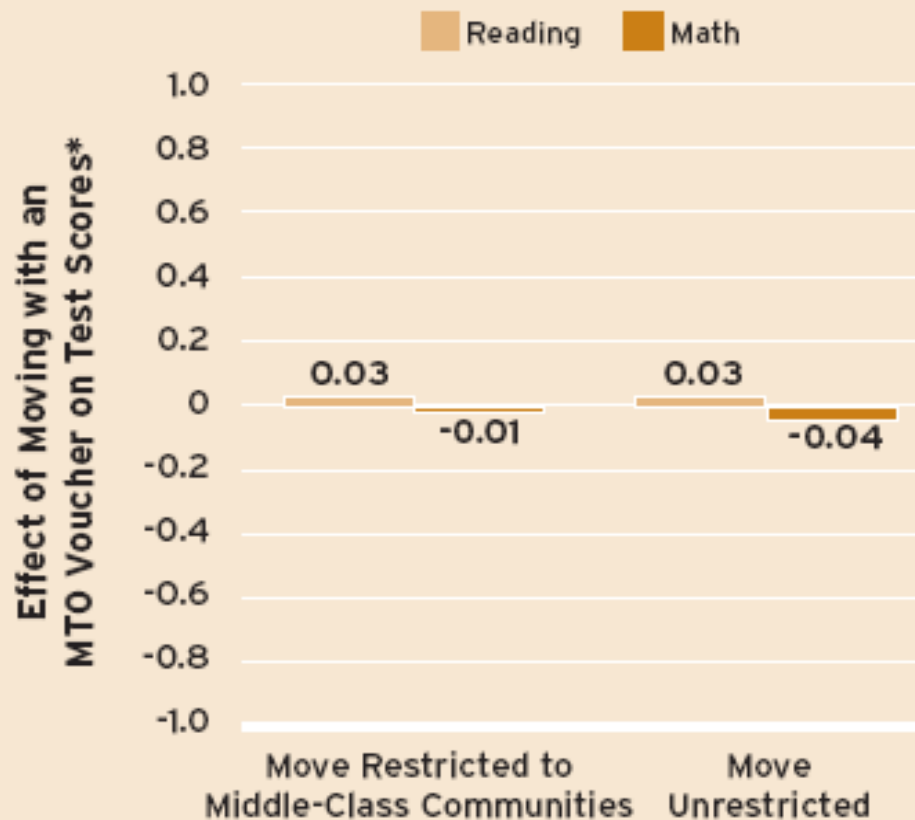


School characteristics



“When we compared [the schools’] performance to other schools in the same states, taking into account the backgrounds of their students, the advantage for the schools attended by housing voucher students disappeared.”

Effects on Test Scores



- What about subgroups?
- Behavior and attitudes?
- Why were there no consistent effects?

DeLuca (2007)

- Qualitative study of the experiences of 35 MTO-mover and 55 control families in Baltimore
- What was learned?
- How has qualitative work shaped the MTO evaluation more generally?

The New Hope “Treatment”

Work 30 hours per week and New Hope provides:

- a wage supplement
- health insurance
- childcare subsidy
- job access (a community service job if needed)
- supportive case workers

Quantitative component

Randomized Study: 1,357 participants

- Baseline survey
 - ▣ Child and Family survey (CFS) (N=578) at 24, 60 and 96 months
- Teacher surveys (N=418) at 24, 60 and 96 months
- Woodcock-Johnson test at 60 and 96 months
- Management Information System (MIS) on program take-up
- Earnings reported by employers to the Social Security Administration

Qualitative component

- 43 randomly-selected experimental and control families
- Six visits per year between years 2 and 4, with a single follow-up in year 8 (participant observations)
- Semi-structured “conversation” covering pre-defined topics.
- Measure theoretically interesting concepts – e.g., sustainability of family routines

Complimentary Methods

- “The qualitative dimension provides a deeper level of meaning to the quantitative variables and analysis, while the larger quantitative sample provides a needed population perspective on the relatively small and potentially idiosyncratic nature of families in the qualitative study.” p. 8

Gibson and Duncan (2005)

- New Hope Ethnographic Study (n=43)
 - Key design decisions:
 - Random or purposive sampling?
 - Stratified random sample (i.e. random within groups defined by race and residential location) + 3 “exemplar families”
 - Treatment group members only or both?
 - Both to allow for comparisons

Selecting the Sample

- Simple Random Sampling- Assign a random *ID* to each person in the sampling frame and draw a sample of n people.
- Stratified Random Sampling- Cross-tabulate members of the target population into strata by dimensions, like gender and SES. Draw a simple random sample within each stratum. Over- and under-sample selected strata as needed.
- Multi-site Cluster Sampling- If subjects are clustered naturally within identifiable sites, you first draw a random sample of sites. Then, within each site, draw a simple (or a stratified) random sample of participants.

Discussion

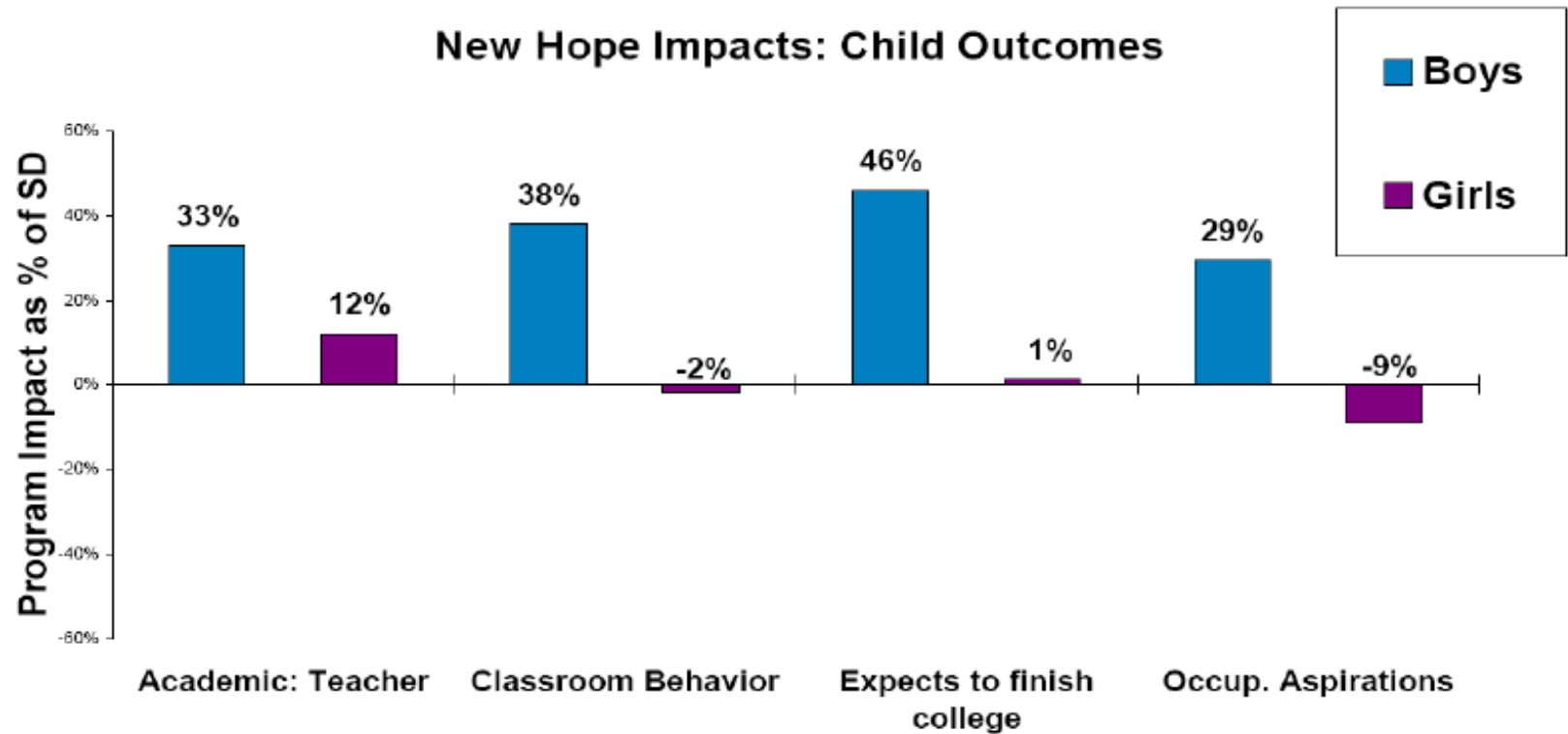


- In what ways did the qualitative research allow the researchers to better understand the effects?
- In what ways did it allow the researchers to isolate the effects?

Gibson and Duncan (2005)

- Uses of qualitative data:
 1. Using qualitative data to understand program effects
 - Example: behavioral effects for boys and not for girls

Differing Effects by Gender



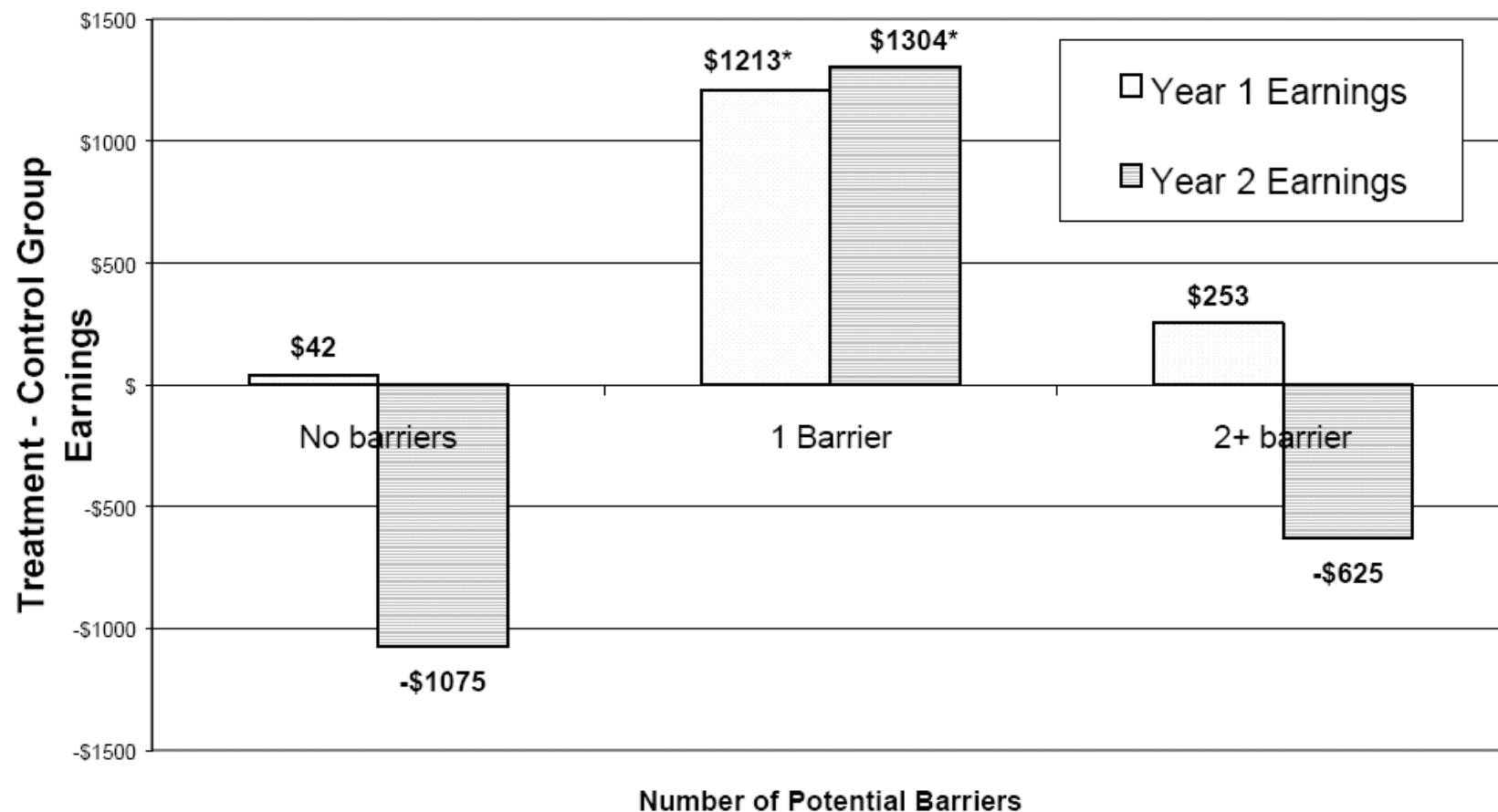
Education Week (2005)

- An explanation became clear when the field researchers who had been interviewing the families weighed in. The mothers they met had told them that local street gangs were trying to lure their sons by offering expensive sneakers and other items. To pre-empt those temptations, the mothers had used their additional income to buy their sons, but not daughters, those extras.

Gibson and Duncan (2005)

- Uses of qualitative data:
 1. Using qualitative data to understand program effects
 - Example: behavioral effects for boys and not for girls
 2. Using qualitative data to isolate program effects
 - Example: subgroups defined by # of employment barriers

Figure 1: Impact of New Hope on Earnings, by Number of Potential Employment Barriers



Gibson and Duncan (2005)

- Uses of qualitative data:
 1. Using qualitative data to understand program effects
 - Example: behavioral effects for boys and not for girls
 2. Using qualitative data to isolate program effects
 - Example: subgroups defined by # of employment barriers
 3. Using qualitative data quantitatively?
 - To estimate (i.e. place bounds on) population incidence of characteristics that can only be measured through interviews

Example

- Incidence of drug-use in n=43 sample: 0.15
- Formula for the standard error of a proportion:

$$[p(1-p)/n-1]^{1/2}$$

$$SE = [0.15(1-0.15)/42]^{1/2} = 0.055$$

95% Confidence Interval: 0.15 +/- 0.11

- Conclusion: drug-use appears to be non-zero but less than one-third of the population (and some information is better than none at all). However, we still cannot reject the null hypothesis that there is no drug use at all.

Limitations

- Limitations of qualitative data:
 1. Cannot really estimate program impacts
 - $MDE = 0.6$ for most NHES outcomes (big standard errors)
 - Can only identify the largest program impacts
 - Rich description of individual cases is not useful for this purpose
 2. Care must be taken in using qualitative cases to illustrate quantitative findings
 - Is offering “longer vignettes” a solution?

Considerations

- “Complex personal experiences should not be manipulated for illustrative purposes”
- Qualitative data is not merely a collection of anecdotes
- Great benefit to being trained in both methods but difficult to do

Final Thought

“Questions should drive methods; and in the context of constrained resources, only some questions can be pursued. Thus it is essential to articulate a compelling research agenda before evaluating the role that multiple methods might play in reinforcing the scope and credibility of any research effort.

Raudenbush, S. W. (2005). Learning from attempts to improve schooling: The contribution of methodological diversity. *Educational Researcher*, 34, 25-31.

Thursday Preview

- Discuss Computer Assignment #1
- Exam 1: due Monday, March 8th at noon
 - ▣ Be as specific, complete, AND brief in your answers
 - ▣ Exam will be submitted via mycourses under “Assignments”. This is also where the exam will be available at 5pm on Thursday
 - ▣ You may use any notes or texts to help you with this exam, but you may not consult outside materials or anyone else about the exam from the time you access it until you submit your final answers
 - ▣ Email me with clarifying questions or if you have computer problems that you can't resolve. Please be judicious with your questions