Neighborhoods and Youth Mental Health: Findings from the Moving to Opportunity Experiment

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June 5, 2012 : Advancing the Prevention of Mental Emotional and Behavioral Disorders of Adolescents

Funders of the 10-15 Year Evaluation

- US Dept. of Housing and Urban Development (HUD)
- Nat'l Institutes of Health:
  - NIA
  - NICHD
  - NIMH
- Nat'l Science Foundation
- Centers for Disease Control
- US Dept. of Education (IES)

- Foundations:
  - Annie E. Casey
  - Bill & Melinda Gates
  - MacArthur
  - Robert Wood Johnson
  - Russell Sage
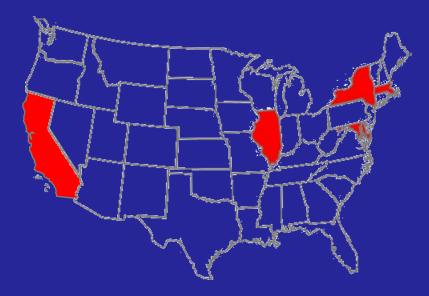 - Smith Richardson
  - Spencer

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Overview

Moving to Opportunity Experiment

- Offered families housing vouchers
- Results from 10-15 year follow-up show:
  - Female youth: low-poverty voucher prevents mental health problems
  - Male youth: very few impacts on mental health
- Possible explanations for gender differences

How MTO and other studies illustrate ideas from the IOM Report

- Importance of community factors
- Braided funding
- Multidisciplinary teams
- Understanding pathways
- Mass media

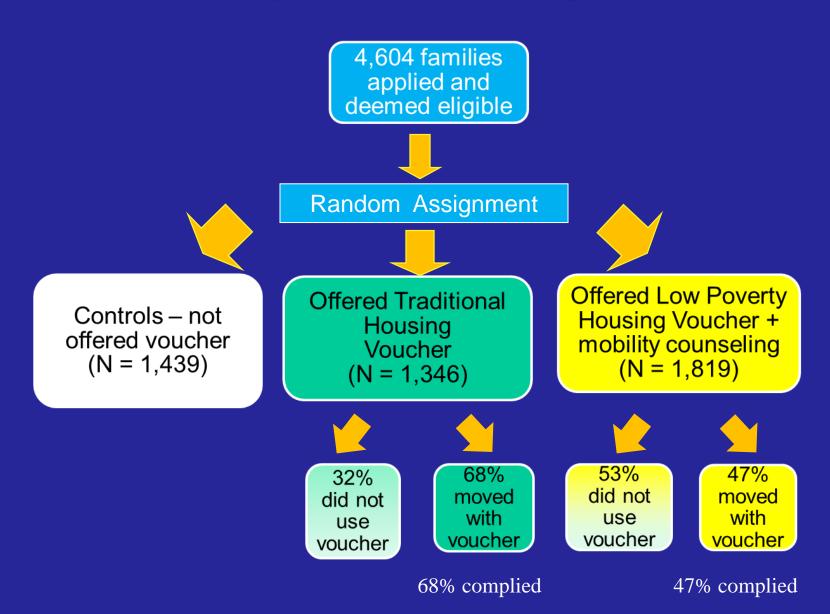# Who Was Eligible for MTO?

- 5 Sites: Baltimore, Boston, Chicago, Los Angeles, and New York

- Families with children in public housing or in project-based assisted housing

- High-poverty neighborhoods (poverty rate ≥ 40%)

- Enrollment 1994 to 1998

Experimental Design

4,604 families applied and deemed eligible

Random Assignment

Controls – not offered voucher (N = 1,439)

Offered Traditional Housing Voucher (N = 1,346)

Offered Low Poverty Housing Voucher + mobility counseling (N = 1,819)

32% did not use voucher

68% moved with voucher

53% did not use voucher

47% moved with voucher
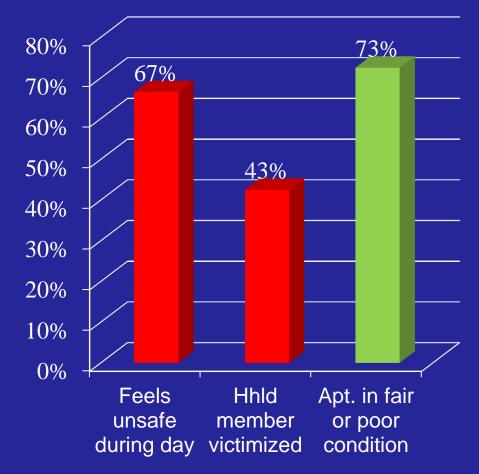
68% complied

47% complied

Similar Families Randomly Assigned to Different Intervention Groups

Baseline Characteristics (%)	Control Group	Traditional Housing Voucher	Low-Poverty Housing Voucher
African-American	62.5	60.7	61.1
Hispanic	30.2	31.9	30.9
Parent had high school diploma	36.1	37.1	38.9
Working	23.9	24.5	26.0
On AFDC/TANF	75.0	75.7	74.6
Married	10.4	11.7	11.5

Why Families Wanted to Move: Safety and Housing Concerns

Baseline Households

80%
70%
60%
50%
40%
30%
20%
10%
0%

67% — Feels unsafe during day
43% — Hhld member victimized
73% — Apt. in fair or poor condition

Main Reason for Moving

- Get away from drugs/gangs 51.5%
- Bigger or better apt. 22.5%
- Better schools 16.8%
- Other 8.0%
- Get a job 1.2%

Families Moved from Public Housing at Baseline …

To Low Poverty Neighborhoods Like This...
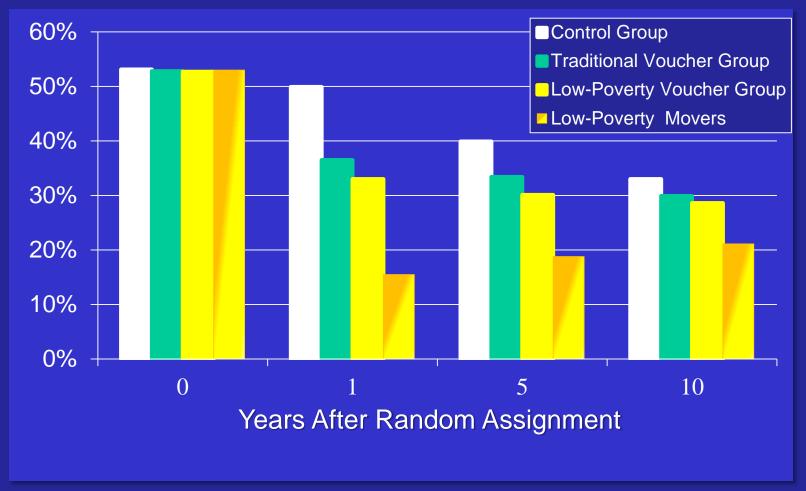

Photo courtesy of Kathy Edin

And Like This...

Photo courtesy of Kathy Edin

New Neighborhoods Had Lower Poverty Rates

Legend:
- Control Group
- Traditional Voucher Group
- Low-Poverty Voucher Group
- Low-Poverty Movers

X-axis: Years After Random Assignment (0, 1, 5, 10)

Differences for years 1, 5, and 10 are statistically significant at p < .01 level.

And Were Generally Safer ...

"So far, since I've been here, I've never heard no gunshots, no none of that. That was a big thing that I, I don't know, I didn't realize it, but once you've grown up in a neighborhood and that's something you heard on a daily basis, you don't know that that's not how it's supposed to be.... after I did, I knew that that's not something I wanted my daughter to get adjusted to."

(de Souza Briggs, Popkin & Goering, 2010. p. 91)

Assessment of Impacts 10-15 Years After Enrollment

- In-person youth interviews conducted by U. of Michigan
  - 89% effective survey response rate
  - Survey of youth ages 13-20 included questions on emotional and behavioral problems (n= 4,644)

- As random assignment ensures similar groups, we can estimate intent-to-treat (ITT) impacts by comparing the mental health of youth whose families were offered a voucher with youth in the control group.
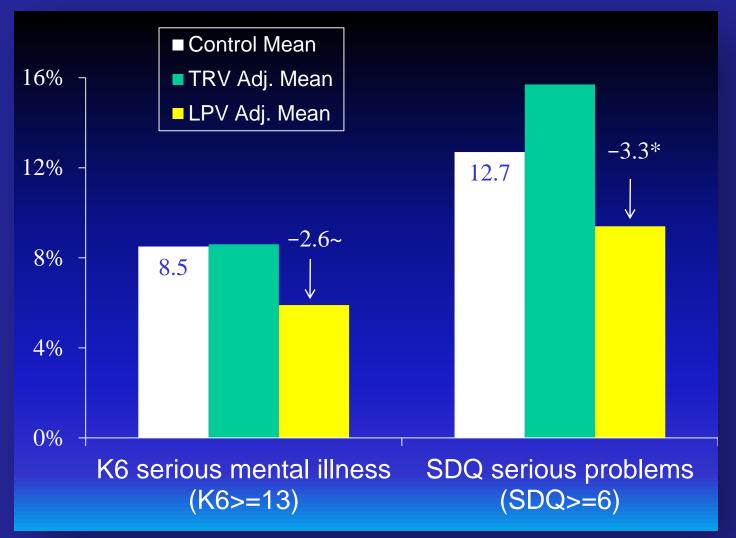
Mental, Emotional and Behavioral Measures

- CIDI Structured Interview to assess depression, bipolar, PTSD, GAD, ODD, and IED (DSM-IV)
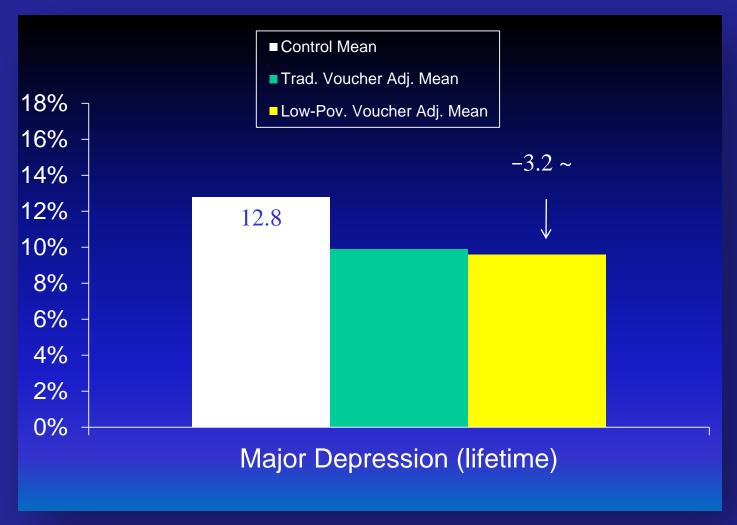
- Behavior Problems Index (abbrev.)

- Kessler 6 (sad, nervous, restless, hopeless, everything effort, worthless)

- Strengths and Difficulties Questionnaire (brief version by Goodman)

- Criminal justice records
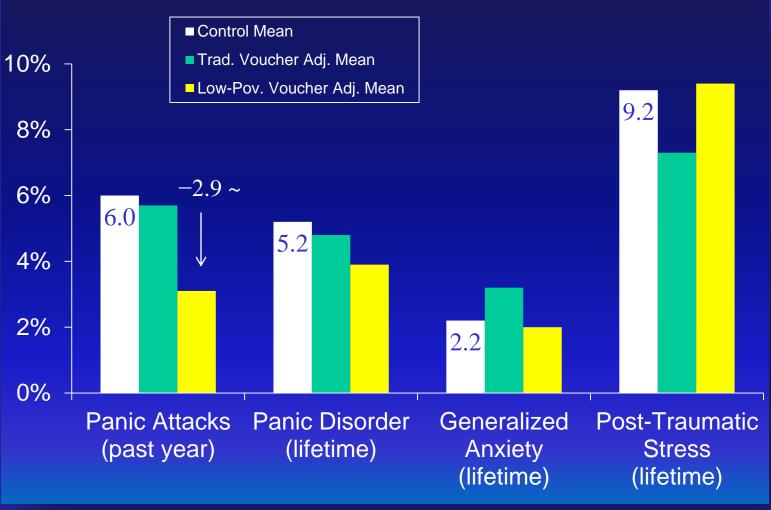
Serious Mental Illness: Females

Legend:
- Control Mean (white)
- TRV Adj. Mean (green)
- LPV Adj. Mean (yellow)

K6 serious mental illness (K6>=13): Control Mean 8.5, LPV −2.6~

SDQ serious problems (SDQ>=6): Control Mean 12.7, LPV −3.3*

*Notes: * = p < .05. ~ = p < .10.*

Depression: Females

Legend:
- Control Mean
- Trad. Voucher Adj. Mean
- Low-Pov. Voucher Adj. Mean

12.8

−3.2 ~

Major Depression (lifetime)

Notes: ~ = p < .10

Anxiety Disorders: Females

Disruptive Behavior & Impulse Control: Females

Legend:
- ■ Control Mean
- ■ Trad. Voucher Adj. Mean
- ■ Low-Pov. Voucher Adj. Mean

Oppositional Defiant Disorder (past year): 6.7, −2.3*

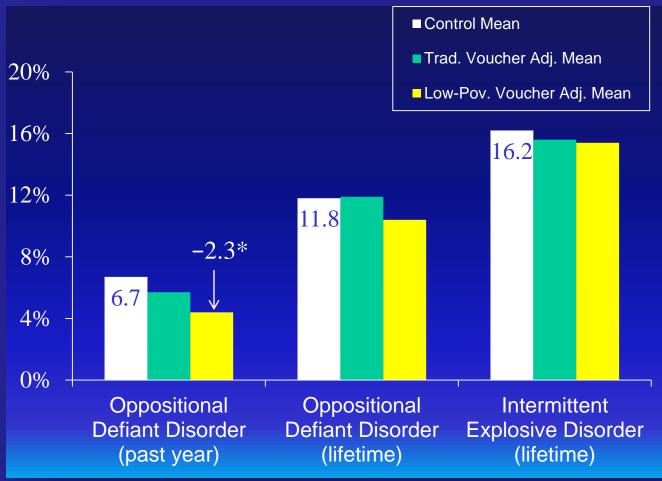Oppositional Defiant Disorder (lifetime): 11.8

Intermittent Explosive Disorder (lifetime): 16.2
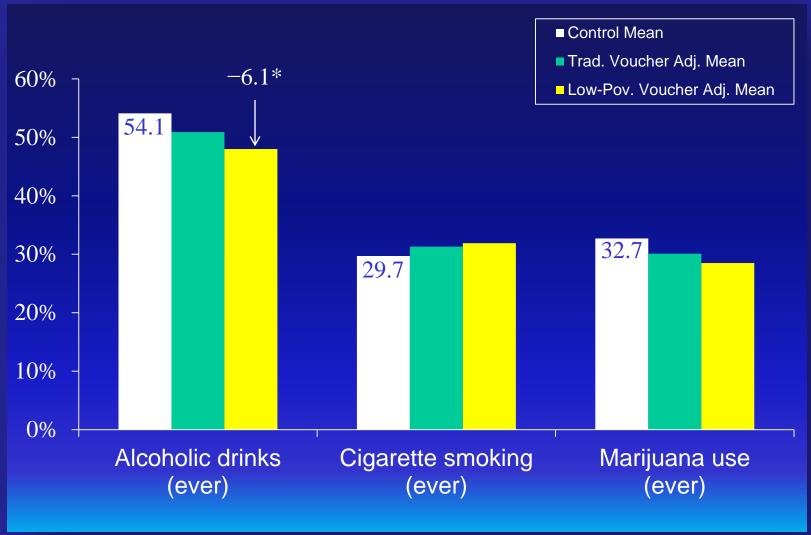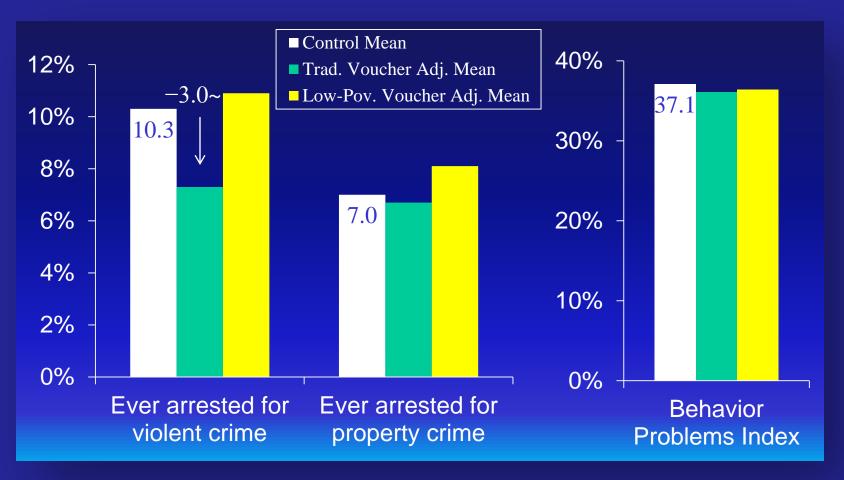
Notes: * = p < .05

Substance Use: Females

Behavior Problems & Arrests: Females

Notes: ~ = p < .10

Estimates Imply Large Relative Risk Reductions for Female Youth Who Moved with a Low-Poverty Voucher

1. Outcomes	2. Impact of Offer (ITT)	3. Impact of Moving (TOT)	4. Counter-factual (CCM)	5. Relative Risk Reduction (TOT/CCM)
Depression (lifetime)~	-3.2	-6.5	15.2	-43%
Serious mental illness~	-2.6	-5.3	10.9	-49%
Serious behavioral problems (SDQ)*	-3.3	-6.8	14.0	-49%
ODD (past year)*	-2.3	-4.6	8.2	-56%
Panic attacks (past year)~	-2.9	-5.9	9.1	-65%
Alcohol use (ever)*	-6.1	-12.4	60.8	-20%

Notes: * = $p < .05$. ~ = $p < .10$.
Assuming offer of a voucher did not have an impact on families who did not use it.

In Contrast, For Male Youth…

A few mixed impacts:

- Beneficial impact on behavior problems index (TRV)
- Adverse impact on PTSD (TRV)
- Adverse impact on cigarette use (LPV & TRV)

But NO detectable impacts on MOST mental health problems including:

- serious mental illness (K6)
- serious emotional/behavioral problems (SDQ)
- depression, bipolar, GAD, IED, ODD, or panic disorder
- alcohol, marijuana use
- arrests

What Might Explain Gender Differences?

MTO randomization was NOT designed to test pathways.
However, we can get some ideas by looking at impacts on potential mediators.

Mediator Impacts Applicable to Both Males and Females…	
Neighborhoods are less poor.	Schoolmates modestly higher performing.
Housing is in better condition.	No impacts on household income.
Parents are less depressed, less extremely obese, and less diabetic.	No impacts on academic achievement.

Females Impacts	Male Impacts
Feel safer in neighborhood	Feel LESS safe
See less drug activity in neighborhood	No differences detected on seeing drug activity
Fewer friends who use drugs	No differences detected on friends who use drugs.
Less unwanted sexual attention.	(not asked about)

What Do MTO Qualitative Studies Suggest About the Gender Differences?

Male Youth:

- More hostile reception in new neighborhoods, viewed as "criminal"
- Need to posture (act tough) for protection
- Selection into high risk peer groups
- Time use and location: pattern of hanging out on streets and playing informal sports may expose to more delinquent peers and drug activity
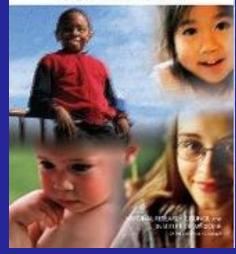
Female Youth:

- Some form friendships at school/work and avoid neighborhoods
- Reduced exposure to unwanted sexual attention

See qualitative work by:

Clampet-Lundquist, Kathryn Edin, Jeffery R. Kling, and Greg J. Duncan (2011).

De Souza Briggs, Popkin & Goering (2011).

Preventing Mental, Emotional, and Behavioral Disorders Among Young People

Progress and Possibilities

How MTO and Other Studies Illustrate Ideas from the IOM Report

1. The Importance of Community-Level Factors and Non-Health Interventions

Housing intervention that:

- Prevented mental health problems for female youth
- Prevented extreme obesity and diabetes for adult women

Changes in community environment rather than the individual or family

2. Braided Funding

"braid funding … so that the impact of programs and practices that are being funded by service agencies … are experimentally evaluated through research funded by other agencies…" (IOM , p. 372)

Program funded by: Housing and Urban Development (contract)

Research grants from public agencies:

- Child Health (NICHD)
- Aging (NIA)
- Mental Health (NIMH)
- Education (IES)

Funds from private foundations

Agencies could collaborate through JOINT RFPs

Leverage setup and tracking costs

3. Multidisciplinary Teams and Methods

*"**fund research consortia to develop multidisciplinary teams** with expertise in developmental neuroscience, developmental psychopathology, and preventive intervention science to foster translational research studies leading to more effective prevention efforts." (IOM, p. 149)*

Methods/Sources:

- Survey data
- Administrative records
- Physical measures
- Dried blood spots (adults)
- Speech analysis

- Plus: Qualitative interviews (ethnographs) by sociologists

4. Unpacking Pathways

Important for:

- identifying the key elements of the intervention

- understanding the subpopulations and settings in which an intervention is likely to be effective

- modifying interventions to address adverse effects or ineffectiveness for certain populations

Examples of detailed follow-up…

MTO qualitative/ethnographic work helps understand:

- complex social interactions and heterogeneous effects
- the importance of safety
- gender differences in social interactions and exposure to delinquent peers.

IOM Report example of a detailed follow-up showed peer-based intervention was less effective than the parent-based because

"at-risk adolescents were learning deviant behavior from the more deviant peers in their group before, during, and after the program." (IOM, p. 270)

Neuroscience and Endocrinology may illuminate pathways and help us understand how stress affects health. For example, stress may increase cortisol levels.

5. Mass Media

"Research funders should support research on the effectiveness of mass media and Internet interventions, including approaches to reduce stigma." (IOM, p. 218)

Triple P (Positive Parenting Program)

- media campaign and general outreach
- seminars, trainings, and counseling for parents
- Great Parenting Experiment – an ITV series with 4.2 million viewers

NICHD's "Back to Sleep" public education campaign to prevent SIDS:

- partnering with pediatric and nursing organizations
- educating the public through posters and ads

Adolescents? Internet and social networking?

Conclusion

Community interventions can have substantial impacts on mental health

Federal agencies could encourage:

- braided funding

- cross-discipline research

- multiple methods to gain fuller understanding of how programs work

- universal prevention programs that reach the public via mass media

(www.mtoresearch.org)