Life After Hurricane Katrina: The Resilience in Survivors of Katrina (RISK) Project

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Katrina@10 Conference
New Orleans 8-27-2015
Funding Support

- **National Institute for Child and Human Development, NIH**
  - RO1HD046162
  - R01HD057599

- **Harvard Catalyst | The Harvard Clinical and Translational Science Center** (National Center for Research Resources and the National Center for Advancing Translational Sciences, NIH Award8UL1TR000170-05)

- **National Science Foundation**

- **MacArthur Foundation**

- **Robert Wood Johnson Investigator Award in Health Care Policy**

The content of this presentation is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health or any other funding agency.
I. The Study
To qualify for the *Opening Doors Demonstration* in Louisiana, students had to be:

- Between the ages of 18-34
- Parent of at least one dependent child under the age of 18
- Family income < 200% of poverty level
- GED or High School diploma
- No degree or occupational certificate from an accredited college or university
RISK sample: 1019 respondents

- Baseline characteristics of the *Opening Doors* Louisiana sample in 2003-2004
  - 92% female
  - 85% black
  - Average age 26
  - Average age of children 3 years
  - 98% had ever worked
  - 52% currently employed
  - 71% receiving government benefits (mostly food stamps)
  - Median monthly income ($619.85)
  - A disproportionate number (40%) come from the 9th Ward
Studies to Date
Available at www.riskproject.org

- College Re-enrollment
- Pet Loss
- Pre-disaster social support
- Child-related stressors
- Natural mentors
- Intimate relationships
- Interviewer race
- Decisions to evacuate
- Resilience Trajectories
- Children’s Functioning
- Combining Quantitative and Qualitative Methods
- Happiness

- Religion
- Barriers to Community College Completion
- Geographic Mobility
- Relocation Decision Making
- Neighborhood Attainment
- Employment Trajectories
- Changes in BMI
- Post Traumatic Growth
- Conservation of Resources Theory
- Transition to Adulthood
Delgado Students’ Residences by Katrina Flood Depth

Flood Depth on September 2, 2005
- 15.6 feet deep
- 7 feet deep
- 0.5 feet deep

Flood Depth at Students’ Residences
- No extensive surge-related flooding
- To 2 feet
- 2 to 4 feet
- 4 to 6 feet
- 6 to 10 feet

Map showing flood depth at Delgado Students’ Residences in New Orleans, with different colors indicating varying flood depths.
Baseline Survey  
11/03-2/05  
N=1019

12 Month Survey  
Sample A  
12/04-8/05  
N=492

Post Katrina Survey  
Sample A  
5/06-2/07  
N=402  
Response Rate 82%

Post Katrina 12 Month  
Sample B  
3/06-2/07  
N=309  
Response Rate 58%

Hurricane Katrina  
8/25/05

Second Follow Up  
Spring 2010  
Samples A and B  
1019 eligible  
N=720  
Response Rate 70.6%

Qualitative Interviews  
N=60

Qualitative Interviews  
N=60
RISK Collects:

**Psychological Health**
- Psychological distress (K-6 scale); Perceived stress scale (PSS); PTSD symptoms (IES-R); Post-traumatic Growth (PTG); Scales for optimism, self-esteem and goal and life engagement

**Physical Health**
- Self-rated health status; Chronic conditions (e.g. asthma, diagnosed depression, etc.); Body weight, exercise activities; Tobacco use; Alcohol use, binge drinking and illicit drug use; Use of medical care; reasons for lack of use of medical care

**Social Resources**
- Current marital status; family structure; Social support (Social Provisions Scale); Social trust (General Social Survey scale); Civic engagement (volunteering, community service); Attendance at religious services/importance of religion; Effects of hurricane on church and church membership; Social network composition and attributes

**Socioeconomics and education**
- School enrollment by month; Plans for continuing education in the future; Employment; Current employment, including work hours, earnings; Total family income in past month; Current receipt of government transfers (e.g., TANF, food stamps, etc.); Housing tenure, residence in public housing, residential location; Neighborhood perceptions (safety, amenities, satisfaction, preferences)

**Child-related outcomes**
- Problems with child care; spending on childcare; Children’s school history; Child behavior problems (maternal report)
II. Trauma
## Trauma Exposure

<table>
<thead>
<tr>
<th>Katrina Traumas</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did not have enough fresh water to drink</td>
<td>26</td>
</tr>
<tr>
<td>Did not have enough food to eat</td>
<td>35</td>
</tr>
<tr>
<td>Felt your life was in danger</td>
<td>32</td>
</tr>
<tr>
<td>Didn’t have medicine you needed</td>
<td>32</td>
</tr>
<tr>
<td>Needed medical care and couldn’t get it</td>
<td>30</td>
</tr>
<tr>
<td>With a family member who needed medical care and could not get it.</td>
<td>33</td>
</tr>
<tr>
<td>Didn’t know if child/children were safe</td>
<td>23</td>
</tr>
<tr>
<td>Didn’t know if other family members were safe</td>
<td>77</td>
</tr>
<tr>
<td>Were any of your relatives or close friends killed because of Hurricane Katrina or Rita?</td>
<td>31</td>
</tr>
</tbody>
</table>

**Mean # Katrina Traumas** 3.14
Conclusions from first wave 9-19 months after storm

- Prevalence of serious mental illness (depression) doubled from 6.9% to 13.8%
- There was an increase in self reported poor or fair health, and both overweight and prevalence of having at least one diagnosed medical condition rose significantly.
- Nearly half (47.9%) of respondents reported probable PTSD post Katrina
Conclusions from first wave 9-19 months after storm

- Higher levels of loss and trauma were generally associated with worse health status, controlling for baseline socio-demographic and health measures.
- Higher baseline resources predicted less hurricane associated trauma, but the consequences of trauma and loss were similar regardless of baseline resources.
  - For instance, if you had a working car and money for a hotel you were more likely to evacuate and experience less trauma, but if you did not evacuate those higher resources did not prevent you from experiencing negative consequences.
What predicts high Psychological Distress in 2009-2010?

• Only traumas and death predict Psychological Distress, not home damage.
• Those who had greater levels of social support at baseline were significantly less likely to show high psychological stress at either follow up.
### Trajectories of Recovery in 2009-2010 at PK2: PTSD

#### Impact of Event Scale Revised (IES-R) > 1.5

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resistant</td>
<td>44%</td>
<td>Did not show PTSD at either first or second follow-up</td>
</tr>
<tr>
<td>Recovered</td>
<td>23%</td>
<td>Had high PTSD at first but not in second follow-up</td>
</tr>
<tr>
<td>Delayed</td>
<td>10%</td>
<td>No symptoms at first follow-up, but present in second follow-up</td>
</tr>
<tr>
<td>Chronic</td>
<td>23%</td>
<td>High PTSD in both follow-ups</td>
</tr>
</tbody>
</table>

The IES-R is a 22-item self-report scale that assesses distress produced by a specific traumatic event. It was developed to cover all DSM IV criteria for post-traumatic stress disorder (PTSD). The IES-R asks respondents to rate how much they were bothered by symptoms of distress about a traumatic event over the previous 7 days. Responses are coded from 0 ("never") to 4 ("extremely"). Scores are averaged over items, producing a total score that ranges from 0 to 4. Earlier research indicates that individuals with IES-R scores exceeding 1.5 are at high risk of having PTSD.

67% are doing well

33% are suffering
III. Neighborhood
Location of our Respondents

- In 2010 only 13% had not moved at all.
- 35% were back in the city, 25% were elsewhere in Louisiana.
- 40% of the sample were in another state. They were in 31 states, with the largest concentration in Texas.
Figure 4: (A) Spatial distribution across the U.S. of New Orleans respondents one to two years after Katrina.
Dispersion 1 year and 5 years after Katrina

- Evacuation patterns were arbitrary.
  - People got on buses not knowing where they were going.
  - Or they evacuated to places where family or friends would take them in
- At one year after Katrina baseline data did not predict location.
- At five years afterwards, individual characteristics began to influence location, and location began to influence people.
Leaving New Orleans

A lot of those people, they didn’t - they really didn’t have anything. They had no means of transportation, so they couldn’t move. They couldn’t go anywhere but where they sent them. And they sent them there. I mean, it was sort of like the people getting put on the train going with the Holocaust, not knowing where they’re going, just know they’re headed for trouble when they got there. It was a disaster.

(Respondent remembering her experiences at the Superdome.)
Neighborhood effects on BMI

- Participants moved to areas that were 1.5 standard deviations (SD) more sprawling than New Orleans, on average.

- Each SD change in sprawl was associated with 1.49 unit increase in BMI

- In line with previous research on sprawl and BMI, but first natural experimental evidence
The respondents are on average living in significantly better neighborhoods in terms of poverty and disadvantage. They are also living in significantly less segregated neighborhoods.

The new neighborhoods have fewer people in poverty (22% vs. 26%), fewer people with public assistance income (11% vs. 14%), fewer female headed households with children (40% vs. 46%).

They also have more college graduates (18% vs. 15%) and more professionals (16% vs. 12%).

These neighborhoods are more white (39% post K vs. 30% pre K), less black (48% vs. 63%) and nearly double the number of Hispanics (9% vs. 4%).
Do They Like the New Neighborhoods? Themes from the Qualitative Interviews

- Many people report better job opportunities, less crime. Every person who moved out of New Orleans said the schools were better wherever they ended up.
- The new diversity scares a lot of people. Change is experienced as exciting and filled with possibilities and as terrifying.
- Many people report that they feel discriminated against in new locations because they are from New Orleans.
- Most people miss their strong ties to family and neighbors and street life in New Orleans. For some that pulls them back even if they think they would be better off somewhere else.
Returning to New Orleans

- The decision about whether to return is influenced by many factors:
  - Health
  - Housing
  - Jobs
  - Community and Family
  - Children and School
  - Culture and Belonging
The dilemma of whether to return.

- INTERVIEWER: What were the pros and cons?
- RESPONDENT: If I go back to New Orleans, I know that economically it’s not good right now because everything is just not functioning properly right now. So that was going to be bad. If I stayed out here, things were looking up as far as job-wise, like opportunity-wise, but my family’s not here. It’s boring. I’m lonely. It doesn’t even feel the same at all. It just feels like I’m just here. So I can go somewhere here, but no one is here with me. But New Orleans is fun. I know people. I’m comfortable, but I’m not going to get anywhere. I’m like -- so that’s my little battle.
Our Question Going Forward

- How can disaster planning and response promote long term recovery and growth?
- What can a longitudinal study of disaster tell us about how to change how we respond to disaster in the short term?
- What can the exogenous shock of the hurricane and the ongoing decisions people make about their lives, tell us about poverty and mobility over time?
www.riskproject.org

THANK YOU!!