Children’s Experiences in Disaster and the Personal and Structural Factors that Aid or Hinder Their Recovery

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Introductions
• Over a decade of research on disaster impacts on children;
  • Disasters may exert **enduring impacts** on children and youth
• Children’s health and well-being is highly contingent upon **functioning support systems** in their lives: their families, schools, health care systems, and other community institutions
• Youth want to be actively engaged in their own resilience and recovery
Subfield of Children and Disasters
Research on Children and Disasters

NUMBER OF PUBLICATIONS ON CHILDREN AND DISASTERS

- 2010-16: 824 publications
- 2000-09: 372 publications
- 1990-99: 367 publications
- 1980-89: 76 publications
- 1970-79: 12 publications
- 1960-69: 0 publications
- 1950-59: 5 publications
- 1940-49: 1 publication

Total Publications
Research on Children and Disasters

- Medicine (51.6%)
- Social Sciences... (28.6%)
- Psychology (17.6%)
- Arts and Humanities... (8.1%)
- Environmental Studies... (7.0%)
- Nursing (6.0%)
- Biochemistry, Genetics... (4.5%)
- Business, Management... (4.0%)
- Agricultural and... (3.0%)
- Undefined (0.3%)
- Other (23.5%)
Research on Children and Disasters

Wave 1: Assessing Children's Psychological and Behavioral Reactions to Disaster

Wave 2: Understanding Children's Exposure and Physical Health Outcomes

Wave 3: Characterizing Social Vulnerability and Considering Socio-demographic Characteristics

Wave 4: Placing Children in Broader Socio-ecological Context

Wave 5: Revealing Children's Resilience, Strengths, and Capacities

Wave 6: Centering Children's Voices, Perspectives, and Actions
Two Longitudinal Studies of Katrina
The Gulf Coast Child and Family Health Study
“MOST OF THE AREA WILL BE UNINHABITABLE FOR WEEKS... PERHAPS LONGER... HUMAN SUFFERING INCREDIBLE BY MODERN STANDARDS.”

-- National Weather Service report
Slidell, Louisiana
August 28, 2005
Magnitude of the Problem

• Over 160,000 children were displaced from their homes after Katrina for 3 or more months... many for months or years

• Even two years post-Katrina, school enrollment in LA and MS was still 55,000 below pre-hurricane rates

• The displacement represented an ongoing “exposure” to transiency, uncertainty and disrupted social supports
The New Orleans “Class of 2015”, by Grade in School Year

Sources: Louisiana Department of Education; Department of Health and Hospitals, State of Louisiana
Children as the Center of a “Complex System”

Research Objectives

1. Develop an observational cohort study, representative of a displaced and greatly impacted population in Louisiana and Mississippi

2. Develop the study so that it was relevant to policy-makers and public health officials (as a needs assessment, with rapid turnaround of findings)

3. Develop or expand upon theoretical frameworks in the evolving field of public health disaster science
Gulf Coast Child & Family Health Study (G-CAFH): Recruitment

• 1,079 households in Louisiana and Mississippi recruited within one year of Hurricane Katrina

• Multi-stage cluster sampling
  • Louisiana: random selection of congregate settings (FEMA trailer parks, FEMA trailers in commercial parks, hotels)
  • Mississippi: random selection of congregate settings (FEMA trailer parks, FEMA trailers in commercial parks), FEMA-designated census blocks (moderately to extensively damaged)

• Sample representative of 60,000 to 100,000 displaced and/or heavily-impacted Katrina survivors
Relocation of Trailer Park Evacuees

22 months post-Katrina

33%

Community

33%

Trailer population data

<table>
<thead>
<tr>
<th></th>
<th>Cumulative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group sites</td>
<td>22,471</td>
</tr>
<tr>
<td>Private sites</td>
<td>109,165</td>
</tr>
</tbody>
</table>

Source: FEMA Gulf Coast Recovery Office
## Portrait of Children’s Lives Over Time

<table>
<thead>
<tr>
<th>% living in trailer or hotel</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009/10</th>
</tr>
</thead>
<tbody>
<tr>
<td>% parents not coping well</td>
<td>13.0</td>
<td>17.1</td>
<td>21.1</td>
<td>13.2</td>
</tr>
<tr>
<td>% parents with MH distress</td>
<td>61.3</td>
<td>54.1</td>
<td>44.5</td>
<td>42.6</td>
</tr>
<tr>
<td>% kids not safe in school</td>
<td>24.6</td>
<td>34.4</td>
<td>37.3</td>
<td>28.8</td>
</tr>
<tr>
<td>% who moved in past year</td>
<td>99.3</td>
<td>62.8</td>
<td>67.1</td>
<td>55.0</td>
</tr>
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</table>
Personal and Structural Factors Associated with Children’s Mental Health

```
Prior Social Adversity
  |                 |
  V                 V
Household stressors  Parental constraints
  |               | 1.40**
  | 0.75**       | |
  |               | 0.47**
  | 0.35**       | |
  |               | 0.39*
  | -0.39*       | |
  |               | 0.75*
Neighborhood physical disorder
  |               | -0.29*
  |               | 0.47*
  |               | 0.49*
Neighborhood social disorder
  |               | 0.22***
  |               | 0.49*
SED
```

Prior Mental Health
• Household stressors accounted for the most effect
• Parents had greatest DIRECT effect
• Social disorder had substantial and significant effect
• Prior social adversity had a minimal effect
What happened to the children of Katrina?
What did children need?
What did children need?
How did their lives unfold following the catastrophe / displacement / return?
Who and what helped them?
How did they help themselves and others?
Children, Age 3-18, in the Sample

<table>
<thead>
<tr>
<th>Race and Ethnicity</th>
<th>%</th>
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<tbody>
<tr>
<td>African American</td>
<td>64%</td>
</tr>
<tr>
<td>White</td>
<td>32%</td>
</tr>
<tr>
<td>Hispanic or Asian</td>
<td>4%</td>
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- ~575 tertiary children
- 60 secondary children
- 25 core children
I Made

New friends
Parents, Siblings, Grandparents, Aunts, Uncles

Administrators, School Nurses / Custodians, Childcare Providers

Disaster Relief and Recovery Workers, Social Workers

Neighbors, Friends, Religious Pastors
Three Post-Disaster Trajectories
Hurricane Katrina - 2005

Declining

Finding Equilibrium

Fluctuating

Year 1
Hurricane Katrina - 2005

- Children and youth experienced **simultaneous and ongoing disruptions** in their families, schooling, housing, health and health care, friendships, and other key areas of their lives.
Hurricane Katrina - 2005

- Children and youth experienced simultaneous and ongoing disruptions in their families, schooling, housing, health and health care, friendships, and other key areas of their lives.

- After an initial period of disruption and minor decline, these children were able to regain or attain stability with mobilization of resources and social support.
### Hurricane Katrina - 2005

| Year 1 |
|-----------------|-----------------|
| **Declining**   | **Fluctuating** |
| • Children and youth experienced simultaneous and ongoing disruptions in their families, schooling, housing, health and health care, friendships, and other key areas of their lives. |
| • After an initial period of disruption and minor decline, these children were able to regain or attain stability with mobilization of resources and social support. |
| • These children had a **mixed pattern** of post-Katrina stable moments followed by unstable periods in one or more spheres of their lives. |
Hurricane Katrina - 2005

Year 1

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Before Disaster

During Disaster

After Disaster

Social Forces and Factors
### Three Children

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**Clinton**

**Cierra**
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Hurricane Katrina - 2005

- Year 1

- Fluctuating
- Declining
- Finding Equilibrium
From Katrina to the Deepwater Horizon Oil Spill
The BP Oil Spill

• April 20, 2010, Explosion of Deepwater Horizon drilling rig
• 11 dead, 17 injured
• Oil released for 87 days
• ~180 million gallons of oil spilled by September 2010
• Largest oil spill in U.S. history
Gulf Cost Population Impact Project Goals

- To identify communities along the Gulf Coast - from Panama City, FL to the western border of LA - in which children were adversely affected by the Deepwater Horizon oil spill.

- To characterize the ways that the oil spill affected children along the Gulf Coast.

- To identify the resources and services that would be most helpful to these children.
How Did the Oil Spill Affect Children Along the Gulf Coast?

Findings from the Gulf Coast Population Impact Study

Overview: Goals
- Locate and understand the effects of the oil spill on the health and well-being of children along the most-exposed areas of the Gulf Coast.
- Identify the resources and services that could be most helpful to these children.

Findings: Exposure
The research team interviewed parents and caregivers in 1,437 households from the Florida panhandle to the western border of Louisiana from April through August 2012.

Findings: Health Status
Parents reported significant health issues affecting their children since the oil spill, including breathing problems, skin problems, and anxiety and depression, among other issues.

Gulfport
Exposed to Oil, Tar Balls, or Dispersant: 18%
Exposed to Strong Smell of Oil: 33%
Household Lost Income or Job: 54%

Skin Problems: 24%
Breathing Problems: 33%
Any Mental Health Problems: 44%

This project is funded by the Baton Rouge Area Foundation
The National Center for Disaster Preparedness (NCDP) is an academically-based research center dedicated to the study, analysis, and enhancement of the nation’s ability to prepare for, respond to, and recover from major disasters, including terrorism.

[Website URL: www.ncdp.columbia.edu]
Community Leaders and Advocates
Health Administrators
Mental and Physical Health Providers
Teachers and Nurses
Parents and Grandparents
Youth

88
64
70
4,149 sampled victims across 3 disasters and 4 datasets
<table>
<thead>
<tr>
<th>Dataset/Project</th>
<th>Event</th>
<th>n</th>
<th>Type</th>
<th>Time period</th>
<th>Representative population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gulf Coast Child &amp; Family Health Study (G-CAFH)</td>
<td>Katrina</td>
<td>1,079</td>
<td>Longitudinal cohort (4 waves)</td>
<td>2006-2010</td>
<td>Displaced &gt;6 months or greatly impacted areas, LA &amp; MS</td>
</tr>
<tr>
<td>Gulf Coast Population Impact Project (GCPI)</td>
<td>Deepwater Horizon Oil Spill</td>
<td>1,437</td>
<td>Panel study</td>
<td>2012</td>
<td>Exposed population in Gulf: FL, AL, MS, LA</td>
</tr>
<tr>
<td>Women and Their Children’s Health (WaTCH)</td>
<td>Sandy</td>
<td>633</td>
<td>Longitudinal cohort (2 waves)</td>
<td>2012-2014</td>
<td>Representative pop in 7 LA parishes: mother-child dyads</td>
</tr>
<tr>
<td>Sandy Child &amp; Family Health Study (S-CAFH)</td>
<td>Sandy</td>
<td>1,000</td>
<td>Longitudinal cohort (2 waves)</td>
<td>2014-2015</td>
<td>Representative of 1 million exposed NJ residents</td>
</tr>
<tr>
<td>Hazard event</td>
<td>Poor General Health</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td><em>Katrina</em></td>
<td>.90</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><em>WaTCH/Oil Spill</em></td>
<td>1.2</td>
<td></td>
<td></td>
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<tr>
<td><em>GCPI/Oil Spill</em></td>
<td>1.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><em>Sandy (reference)</em></td>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Poverty (Income &lt;$20k, versus &gt;$20k)</td>
<td>2.8***</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teenager (&gt;13 years old versus younger)</td>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exposure</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Moderate</em></td>
<td>1.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Major</em></td>
<td>2.1***</td>
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</table>

Parent reports that child’s overall health is fair or poor
• Odds Ratio of Mental Health Distress Among Children at 2 Years after Event

<table>
<thead>
<tr>
<th>Hazard event</th>
<th>Child MH Distress</th>
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<td>1.1</td>
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Parent reports that child is sad or depressed, having problems sleeping or getting along with others, or nervous.
What Helps Children to Recover?
What Helps Children to Recover?

Time

Institutions

Voice and Agency
What Helps Children to Recover?

Time

-- development stage when stressor occurs
-- life-course trajectory
-- time to stability?
-- resilience activation?

Institutions

Voice and Agency
What Helps Children to Recover?

Time

Institutions

Voice and Agency
Children’s Post-Disaster Recovery:
When a child has some semblance of stability, routine, predictability, and well-being in all spheres of life.
Children’s Post-Disaster Recovery:
When a child has some semblance of stability, routine, predictability, and well-being in all spheres of life.
What Helps Children to Recover?

- Time
- Institutions
- Voice and Agency
What do children and youth need?

Skills
Hope
Opportunities
Recovery
Engagement
Line
Project-Based Learning
flooding
Debris
Mentally/Emotionally
Break Down
Homeless/Sheltered
Power/nature
No
Thank you!

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David Abramson
David.Abramson@nyu.edu