Cumulative Adversity: Clarifying the Problem, Proposing Solutions

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Adversity is common

- Includes trauma and severe stress
- Almost 94% of Americans report exposure to at least one adverse experience.
- More adversity - and worse reactions to it - portends worse physical and mental health over time.

Garfin, Holman, & Silver, *Journal of Traumatic Stress*, 2019
Garfin, Thompson, & Holman, *Journal of Psychosomatic Research*, 2018
Adverse experiences do not occur in isolation

Coping with cascading collective traumas in the United States

The year 2020 has been marked by unprecedented cascading traumas, including the COVID-19 pandemic, an economic recession, race-driven social unrest and weather-related disasters. Mental health consequences of direct and media-based exposure to compounding stressors may be profound. Policymakers must act to ease the burden of trauma to protect public health.

Roxane Cohen Silver, E. Alison Holman and Dana Rose Garfin

Acute response to trauma is linked with downstream effects on health over time.
Epidemiological studies of collective trauma
Epidemiological studies of collective trauma

Cumulative exposure to adversity is a health disparity
Epidemiological studies of collective trauma

Cumulative exposure to adversity is a health disparity

Community-based interventions
Epidemiological studies of collective trauma → Cumulative exposure to adversity is a health disparity → Community-based interventions
Research on collective trauma

To get more meaningful information, we need studies that are:

- **prospective**, identifying “at risk” samples *pre-event*

- **longitudinal**, with *immediate* as well as repeated post-event assessments

- both regional and national, using **representative samples** of the population under study

- **comprehensive** (small, cross-sectional studies with non-representative samples are inefficient and offer little new information)
<table>
<thead>
<tr>
<th>Amount</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cumulative</td>
<td>Specific</td>
</tr>
<tr>
<td>exposure</td>
<td>exposure</td>
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</table>

Baum, 1987; Garfin et al., 2014; Garfin et al., 2020; Kessler et al., 2012; Norris et al., 2002
Chilean Earthquake

- Data collected by IPSOS Chile
- Probabilistic design closely matched Chilean census data
- 2,008 face-to-face interviews
  - 2-months post earthquake
  - Oversampling in the epicenter region
  - Epicenter = 1,004

Garfin, Silver, Ugalde, Linn, & Inostroza, 2014, *Journal of Abnormal Psychology*
8.8 Magnitude Chilean Earthquake

Disaster Cascade
Community Level

Secondary Stressors
Individual Level

Earthquake      Tsunami      Looting
Property Loss   Injury   Death
Specific Effects:
Secondary Stressors (Property Loss, Injury, Death)

- Injury
  - Posttraumatic Stress, $\beta=0.43, p<0.01$
  - Global Distress, $\beta=0.35, p<0.01$

Garfin, Silver, Ugalde, Linn, & Inostroza, *Journal of Abnormal Psychology*, 2014
Cumulative Effects: Secondary Stressors (Property Loss, Injury, Death)

Cumulative Number of Secondary Stressors

\[ \beta = 0.35, \ p < .01 \]

Posttraumatic Stress

\[ \beta = 0.17, \ p < .05 \]

Global Distress

Garfin, Silver, Ugalde, Linn, & Inostroza, *Journal of Abnormal Psychology*, 2014
Specific Effects: Disaster Cascade (Earthquake, Tsunami, Looting)

- Tsunami Exposure
  - $\beta = 0.58, p < .01$
  - $\beta = 0.45, p < .01$

- Posttraumatic Stress
- Global Distress

Garfin, Silver, Ugalde, Linn, & Inostroza, *Journal of Abnormal Psychology*, 2014
Boston Marathon Bombings

GfK KnowledgePanel
- Anonymous web-based survey
- Representative samples (N=4,675)
  - Boston (n=846) and New York (n=941); remainder of the US (n=2,888)
- Population weights

Prospective, longitudinal design
- Pre-bombing data
- Acute assessments
BREAKING NEWS
TWO PLANES CRASH INTO TOWERS OF WORLD TRADE CENTER

BREAKING NEWS
SANDY BLASTS ATLANTIC CITY
CNN's Ali Velshi reporting on storm's arrival

BREAKING NEWS
HURRICANE SANDY CATEGORY 1
Hartford, CT
30 MPH

BREAKING NEWS
CBS News: A Suspect Is In Police Custody

BREAKING NEWS
TWIN BOMBS EXPLODE IN BOSTON
WHITE HOUSE CALLS IT "ACT OF TERRORISM"
Prior Cumulative Exposure to Collective Trauma & Responses to the Boston Marathon Bombings (N=1,760)

Garfin, Holman, & Silver, *Psychological Science, 2015*
Acute Stress Symptoms & Prior Media-based Exposure to Community Trauma

Garfin, Holman, & Silver, 2015, Psychological Science
UC Irvine COVID-19 Study

Wave 1

Mental and physical health survey 2018-19

March 11-13
WHO declares pandemic;
US declares emergency

January 2020

11,000+ NORC AmeriSpeak panelists randomly assigned to 3 W1 cohorts

Cohort 1:
3/18-3/28
(n=2,122)
190 COVID-19 deaths in US

Cohort 2:
3/29-4/7
(n=2,234)
3,500 COVID-19 deaths in US

Cohort 3:
4/8-4/18
(n=2,158)
18,300 COVID-19 deaths in US

Wave 2:
9/26-10/10/20
204,000+ COVID-19 deaths in US

N=5,661

Total N=6,514
Type of Cumulative Exposure and Early Responses to COVID-19

- Acute Stress Scores
- Depressive Symptoms

*** p < .001

Holman, Thompson, Garfin, & Silver, *Science Advances*, 2020
State-Level vs. Person-Level Predictors of Mental Health Outcomes (N=5,661)

-0.05
0
0.05
0.1
0.15
0.2
0.25

State-Level Cases
State-Level Deaths
State-Level Stringency Index
Personal Cases
Personal Deaths
Self COVID-19 Illness
COVID-19 Media

Global Distress
Loneliness
Traumatic Stress

Standardized Coefficient

*** p < .001, ** p < .01, * p < .05

Thompson, Freeman, Jones, Holman, Garfin, & Silver, in preparation
Collective traumas are experienced in the context of individuals’ lives.
Collective traumas are experienced in the context of individuals’ lives.

**Traumatic Events**
- Child abuse
- Neglect
- Molestation
- Suicide of a loved one

**Stressful Events**
- Parent’s divorce
- Illness
- Economic hardship
- Bereavement

Occurrence in childhood, adulthood, or recent months
Timing of Cumulative Adversity and Early Responses to the Boston Marathon Bombings (N=3,583)

* p < .05, ** p < .01  Garfin, Holman, & Silver, *Psychological Trauma: Theory, Research, Practice & Policy*, 2020
Type & Timing of Adversity & Longer-term Responses to the Boston Marathon Bombings (N=3,583)

* p < .05, ** p < .01 Garfin, Holman, & Silver, Psychological Trauma: Theory, Research, Practice & Policy, 2020
**Type & Timing of Adversity & Longer-term Responses to the Boston Marathon Bombings (N=3,583)**

- Childhood Trauma
- Adulthood Trauma
- Recent Trauma
- Recent Stress

* p < .05, ** p < .01 Garfin, Holman, & Silver, *Psychological Trauma: Theory, Research, Practice & Policy*, 2020

**Lifetime Trauma & Recent Stress**

- Job loss
- Financial hardship
- Discrimination

* p < .05, ** p < .01 Garfin, Holman, & Silver, *Psychological Trauma: Theory, Research, Practice & Policy*, 2020
Long-term responses to 9/11

**Violent Events**
- Physically attacked
- Witnessed domestic violence
- Sexual relations under force
- Suicide/homicide of a loved one

**Loss Events**
- Death of a friend
- Death of mother
- Death of father
- Death of brother or sister
Type & Timing of Childhood Adversity & Long-term Responses to 9/11 (N=991)

*** p < .001

Garfin, Hatanaka, Juth, & Silver, in preparation
Epidemiological studies of collective trauma

**Cumulative & specific effects**
- Community-level events
- Individual-level adversities

**Timing of events is also important**
- Childhood trauma
- Recent stressors
Epidemiological studies of collective trauma

Cumulative exposure to adversity is a health disparity

Community-based interventions
Who is more likely to experience cumulative adversity?

- Women
- Underrepresented minorities
- Lower income
- Lower education

Sweeting, Garfin, et al., 2020; Garfin et al., 2019; Garfin et al., under review; Novaco, Garfin, & Thompson, in preparation
Early Childhood Maltreatment & Odds of Intimate Partner Violence (IVP) in Adulthood (N=1,606)

Neglected Witnessed Parental Violence  Physically Harmed  Sexually Assaulted

* $p < .05$, ** $p < .01$, *** $p < .001$

Novaco, Garfin, & Thompson, *in preparation*
Early Childhood Maltreatment & Odds of Intimate Partner Violence (IVP) in Adulthood (N=1,606)

- Neglected
- Witnessed Parental Violence
- Physically Harmed
- Sexually Assaulted
- Cumulative Count of Maltreatment

* p < .05, ** p < .01, *** p < .001

Novaco, Garfin, & Thompson, *in preparation*
Type of Violence & Global Distress over Time (N=1,606)

Global Distress (Standardized coefficients)

- Intimate Partner Violence: **
- Other Recent Violence: ***
- Non-violent Adversity: ***

*p < .05, ** p < .01, *** p < .001

Novaco, Garfin, & Thompson, *in preparation*
Sweeting, Garfin, Holman, & Silver, *Child Abuse & Neglect*, 2020

N=2,906

Sexual Abuse

Physical Abuse

Parental Neglect

Bullied

Health-related Outcomes

1.66***

1.48**

1.44*

1.57***

*** p < .001, ** p < .01, * p < .05
Sexual Abuse

Physical Abuse

Parental Neglect

Recent Adversity

Health-related Outcomes

N=2,906

Sweeting, Garfin, Holman, & Silver, *Child Abuse & Neglect, 2020*
Cumulative exposure to adversity is a health disparity.
Cumulative exposure to adversity is a health disparity.
Epidemiological studies of collective trauma → Cumulative exposure to adversity is a health disparity → Community-based interventions
Behavioral Chile Health Post-earthquake Outreach
Rates of PTSD 2 months post earthquake, N=2,008

17.6% in Santiago
18.6% in Epicenter
14.8% nationally

Garfin et al., *Psychiatric Services*, 2014
Well-intentioned public health efforts - yet ultimately ineffective (N=2,008)

Garfin et al., *Psychiatric Services, 2014*
Habilidades Para la Vida
“Skills for Life”
Mental health screening

Earthquake

Post quake outreach

Skills for Life

Post assessment
Children’s Trauma Exposure & PTS

<table>
<thead>
<tr>
<th>Event</th>
<th>%</th>
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<tbody>
<tr>
<td>Felt earthquake</td>
<td>90%</td>
</tr>
<tr>
<td>Witnessed rioting</td>
<td>51%</td>
</tr>
<tr>
<td>Temporary relocation</td>
<td>36%</td>
</tr>
<tr>
<td>Permanent relocation</td>
<td>11%</td>
</tr>
<tr>
<td>Injury to self</td>
<td>15%</td>
</tr>
<tr>
<td>Knew someone injured</td>
<td>14%</td>
</tr>
<tr>
<td>Knew someone who died</td>
<td>10%</td>
</tr>
<tr>
<td>Saw a dead body</td>
<td>10%</td>
</tr>
</tbody>
</table>

*Garfin et al., Psychological Trauma: Theory, Research, Practice & Policy, 2014*

* p < .05
Children’s Trauma Exposure & PTS

Cumulative Events: M=4.9, SD=1.78; associated with PTSD $B=.24$, $p=.001$

* p < .05

Garfin et al., *Psychological Trauma: Theory, Research, Practice & Policy*, 2014
Skills for Life and Post-earthquake Outcomes N=119

Garfin et al., *Psychological Trauma: Theory, Research, Practice & Policy, 2014*
Mindfulness-based Intervention to Address PTSD in Trauma-exposed, Homeless Women
Mindfulness-based Stress Reduction (MBSR)
MBSR

Trauma Exposure

Physiological Response

PTSD

Physical and Mental Health Disparities
Adapt MBSR for Homeless Women with PTSD Using a Community Participatory Approach

Community Advisory Board (CAB) → Focus Group 1 → Focus Group 2 → Focus Group 3 → Focus Group 4 → Content analysis → Modified MBSR

Semi-structured interview guide
Sudden, violent death of a loved one
Captivity
Unwanted sexual experience
Sexual assault
Physical assault

89% probable PTSD
Adapt MBSR for Homeless Women with PTSD Using a Community Participatory Approach

Community Advisory Board (CAB) → Focus Group 1 → Focus Group 2 → Focus Group 3 → Focus Group 4 → Content analysis → Modified MBSR

Semi-structured interview guide
Community-based interventions

Importance of working with the community to increase acceptability, feasibility & effectiveness
Community-based interventions

Importance of working with the community to increase acceptability, feasibility & effectiveness

Consider cumulative & specific effects of exposures
Epidemiological studies of collective trauma
Cumulative exposure to adversity is a health disparity
Community-based interventions
Implications

- An expanded conceptualization of trauma exposure may better capture the range of post-trauma responses.

- Trauma exposure creates a cycle of health disparities in marginalized groups.

- Traumatic or violent events may have implications for responses to subsequent trauma over the lifespan.
Implications

• Specific psychosocial stressors (discrimination, financial difficulty, minority status) may result in increased vulnerabilities.

• Community-based interventions may reduce health disparities.

• Important to use multi-methodological, mixed-methods approaches that start with acute assessments and follow people over time.
Positive Benefits Experienced as a Result of the COVID-19 Pandemic

Reflected/readjusted priorities
Recognized new strengths & skills
Increased gratitude
Felt greater sense of community
More time for leisure activities
Reprioritized important relationships

N=5,661

Garfin, Jones, Holman, & Silver, in preparation
N=408
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