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Communication and Connections: Fostering Community Resilience to Disasters Before and After Events

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AGENDA

- Conceptual definitions of resilience and community resilience
- Factors, processes, capacities that can increase community resilience
- Tools and resources for community resilience work

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Resilience

Resilience

- Material or physical property

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Resilience



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Resilience



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Resilience

- Can also apply to humans and human systems

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Resilience

- The ability to “bounce back” after an adverse event

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Resilience

- “The capacity of any dynamic system to anticipate and adapt successfully to difficulties”
 - Acosta, Chandra, & Madrigano, 2017

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Levels of Human Resilience

- Individual
 - Child/youth
 - Adult
- Family
- Campus
- Community
- Regional
- National
- Global

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“Bounce FORWARD”

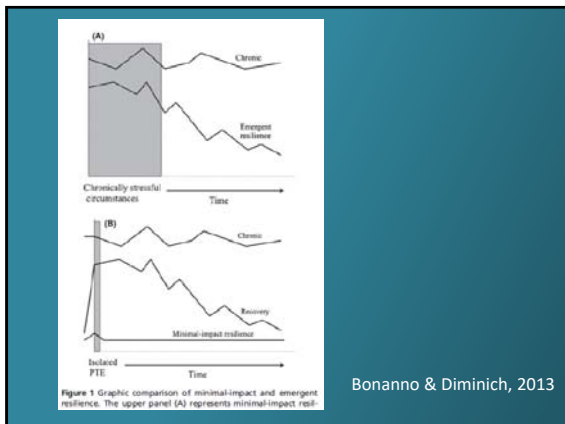
The diagram illustrates the 'Bounce FORWARD' model. It shows a flow from 'Pre-Event Functioning, Adapted to Pre-Event Environment' to 'Post-Event Functioning, Adapted to Altered Environment'. This transition is influenced by 'Stressor Severity, Duration, Surprise' and 'Resilience' (which is further defined by 'Resource Mobilization/Activation' and 'Resource Redundancy/Redundancy Capacity'). The model also includes 'Transition Dysfunctions' and 'Persistent Dysfunctions' as potential outcomes or states during the process.

Norris et al., 2008
Houston, 2015

The graph plots five trajectories (A-E) on a scale from 'Low' to 'High' over time. A vertical line marks the 9/11 event. Trajectory A shows stable functioning. Trajectory B shows gradual recovery. Trajectory C shows delayed reactions. Trajectory D shows a sharp drop followed by recovery. Trajectory E shows a sharp drop followed by a higher level of sustained functioning than pre-9/11.

Figure 1. Depiction of prototypical trajectories provided to 911 participants.
Note: Participants were provided an oral description of each of the trajectories and were asked to select the one that best matched their experience.
A = stable/resilient functioning; B = gradual recovery; C = delayed reactions; D = abrupt distress; E = continuous distress.

Mancini et al., 2015



Bonanno & Diminich, 2013

Community Resilience

Community Resilience

- “The capacity of (a community) to anticipate and adapt successfully to difficulties”
 - Acosta, Chandra, & Madrigano, 2017

Community Resilience

“Emerges from collective activity in which individuals join together in efforts that foster response and recovery for the whole”

– (Pfefferbaum & Klomp, 2013)

Community Resilience

Not a static end-state; a “network of adaptive capacities (resources with dynamic attributes)” that allows a community to recover

– (Norris et al., 2008)

APPENDIX C. CAPABILITY AND CAPACITY-BASED DEFINITIONS OF COMMUNITY RESILIENCE

Capability-Based Definitions

Source	Capability Definitions	Element 1 Ability to anticipate a disaster	Element 2 Ability to maintain basic functions during a disaster	Element 3 Ability to respond	Element 4 Ability to recover, including ability to engage in positive change and move on after disaster	Element 5 Ability to mitigate threats
(Smit & Wandel, 2006)	Adaptive resilience is a dynamic control system that allows a system to absorb external disturbances with transformation of its state or structure, as well as the ability to create a greater sense of place among residents, a stronger sense of community, and a more economically integrated and diverse population.					X
(Bonanno, 2004)	Resilience reflects the ability to DISSEMINATE AND MAINTAIN	X				
Community and Regional Resilience	The capability to anticipate risk, limit growth, and respond and move through survival, adaptability, evolution, and growth in the face of turbulent change.	X		X	X	X
Community and Regional Resilience	When a community is truly resilient, it should be able to assist the surrounding system (ability to help neighboring disaster-stricken communities) and the local population. A resilient community is not only prepared to help prevent or minimize the loss or damage to the property and the environment, but also it has the ability to quickly identify disaster to such, support businesses, and restore other essential services, resulting in a full growth and economic recovery.	X			X	X

Constituent Elements of Community Resilience

- Local knowledge
- Community networks and relationships
- Communication
- Health
- Governance and leadership
- Resources
- Preparedness
- Mental Outlook

Patel et al., 2017

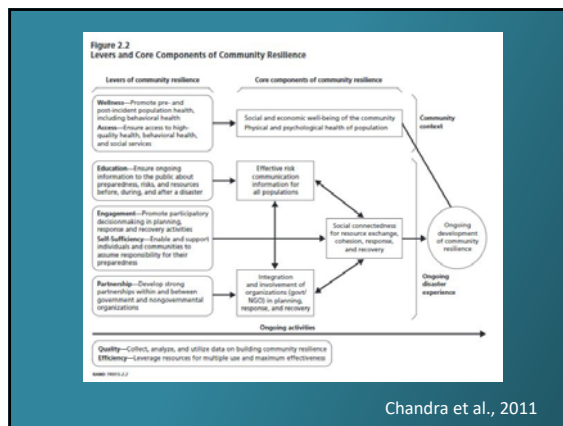
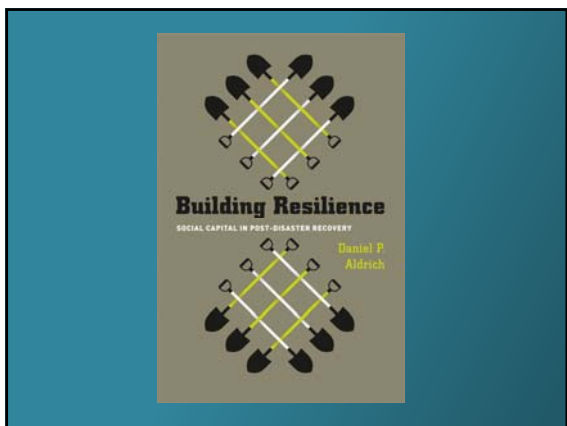
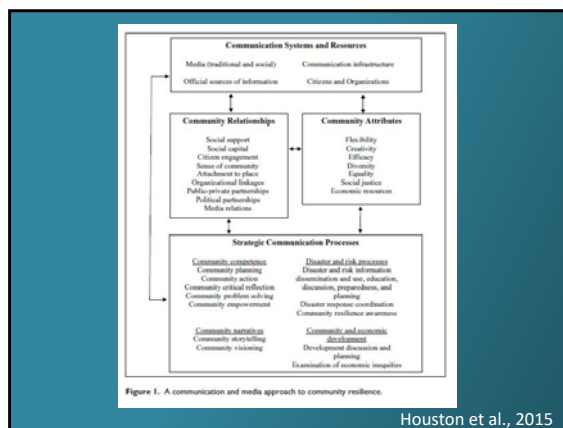
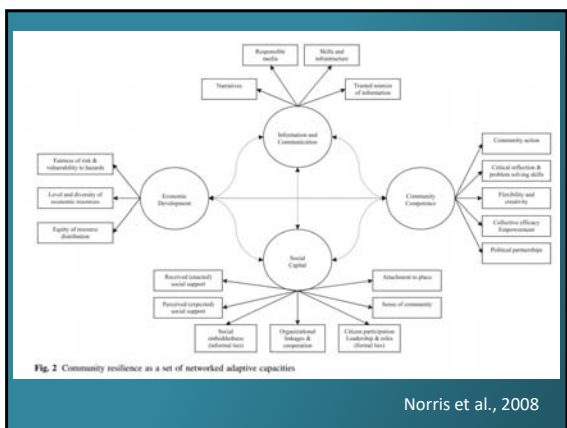
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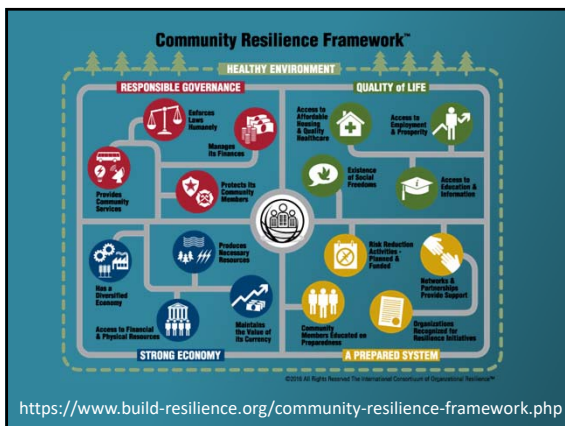
Communities Advancing Resilience Toolkit

- Connection and Caring
- Transformative Potential
- Resources
- Information and Communication
- Disaster Management

Pfefferbaum et al., 2015

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Tools and Resources

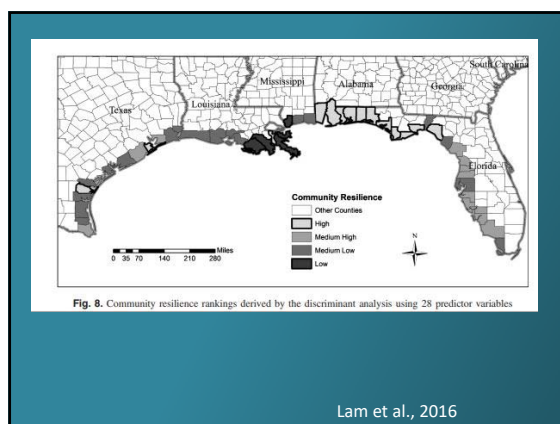
Tools and Resources
Assessment

Tools and Resources
Assessment – Top Down

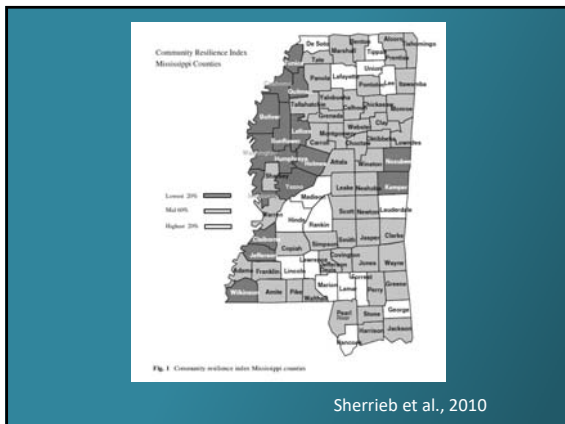
Table 1. Twenty-Eight Indicator Variables Used in the Discriminant Analysis

Type of variable	Acronym	Variable
Demographic	PCTBLACK	Percent African American, 2000
	PCTHISPANIC	Percent Hispanic, 2000
	PCTCHILD	Percent under 5 years old, 2000
	PCTHSE65	Percent over 65 years old, 2000
Social	AVGPERHH	Average number of people per household, 2000
	PCTNOHS	Percent of the population over 25 with no high school diploma, 2000
	PERMLBR	Percent of the workforce that is female, 2000
	PCTFHH	Percent female-headed households
	PCTRENTL	Percent of homes that are mobile homes, 2000
	PCTRENTM	Percent of the population that rent, 2000
Economic	HOUSDEN	Number of houses per square mile, 2000
	PCTPOV	Percent of the population living below poverty, 1999
	PCTUNEMP	Percent of the workforce that is unemployed, 2000
	MEDVLEAF	Median value of owner-occupied housing, 2000
Government	MEDRENT	Median rent, 2000
	PCTRPOP	Percent rural farm population, 2000
	LGFINREVPC	Local government finance, revenue per capita, 2002
	GENEXPFC	Local government finance general expenditures per capita, 2002
Environmental	PERVOTE	Percent of the population that voted in 2000 presidential election, 2000
	EXPEDFC	Local government finance expenditures for education, 2002
	MELE	Mean elevation of the county, 2008
	Health	INFMR
CHBLD		5-year average chronic illness deaths per 10,000 individuals, 1998-2000
DISWFK		Disabled and nonworking labor force per 10,000 individuals, 2000
LRWB		Large rural low-birth-weight babies per 10,000 live births, 1998-2000
HUWSP		Households with no hot water per 10,000 house units, 2000
HUWSP		Households with no plumbing per 10,000 house units, 2000
MD	Non-federal active medical doctors per 10,000 individuals, 2000	

Lam et al., 2016



Lam et al., 2016



Sherrieb et al., 2010

Tools and Resources Assessment – Bottom Up

The Conjoint Community Resiliency Assessment Measure (CCRAM) tool

Table 2. Summary of exploratory factor analysis results for community resilience assessment measure using Varimax rotation (n = 726)

Item content	Factor loadings				
	1	2	3	4	5
6. I have faith in the decision makers in the municipal authority (regional council)	.87	.14	.12	.05	.11
7. The municipal authority (regional council) of my town functions well	.86	.16	.12	.06	.10
10. The municipal authority (regional council) provides its services in fairness	.81	.24	.21	.08	.01
15. I have faith in the ability of the elected/un-elected head of my town to lead the town from crisis to emergency management of the town	.77	.21	.25	.07	.15
21. The residents of my town will continue to receive municipal services during an emergency situation	.74	.15	.28	.18	.04
11. In my town, appropriate attention is given to the needs of children	.68	.18	.07	.20	.31
2. I can depend on people in my town to come to my assistance in a crisis	.56	.29	-.05	.15	.20
3. There is mutual assistance and concern for others in my town	.27	.68	.30	.27	.03
16. I believe in the ability of my community to overcome an emergency situation	.42	.64	.28	.14	.03
13. There are people in my town who can assist in coping with an emergency	.38	.78	.01	.18	.11
20. The residents of my town are greatly involved in what is happening in the community of my town (to be activated in times of emergency)	.37	.66	.17	.16	.36
17. My family and I are acquainted with the emergency system of my town (to be activated in times of emergency)	.14	.22	.82	.10	-.01
8. The residents of my town are acquainted with their role in an emergency situation	.16	.24	.82	.09	.10

Leykin et al., 2013

Communities Advancing Resilience Toolkit (CART) Survey[®]
Subscore of this survey indicates that you consent to participate in the survey.

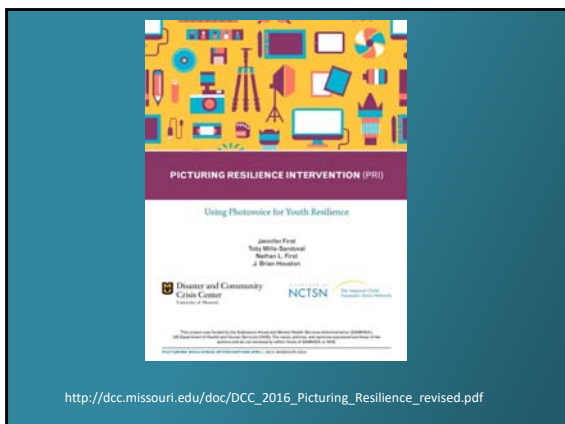
Core Community Resilience Items

The following statements are possible descriptions of your community. Please circle one response for each statement.

Response Options: 1 Strongly Disagree 2 Disagree 3 Neither Disagree Nor Agree 4 Agree 5 Strongly Agree

1. People in my community feel like they belong to the community.	1	2	3	4	5
2. People in my community are committed to the well-being of the community.	1	2	3	4	5
3. People in my community have hope about the future.	1	2	3	4	5
4. People in my community help each other.	1	2	3	4	5
5. My community treats people fairly no matter what their background is.	1	2	3	4	5
6. My community has the resources it needs to take care of community problems (resources include money, information, technology, tools, raw materials, and services).	1	2	3	4	5
7. My community has effective leaders.	1	2	3	4	5
8. People in my community are able to get the services they need.	1	2	3	4	5
9. People in my community know where to go to get things done.	1	2	3	4	5
10. My community works with organizations and agencies outside the community to get things done.	1	2	3	4	5
11. People in my community communicate with leaders who can help improve the community.	1	2	3	4	5
12. People in my community are aware of community issues that they might address together.	1	2	3	4	5
13. People in my community discuss issues so they can improve the community.	1	2	3	4	5
14. People in my community work together to improve the community.	1	2	3	4	5
15. My community looks at its successes and failures so it can learn from the past.	1	2	3	4	5
16. My community develops skills and finds resources to solve its problems and reach its goals.	1	2	3	4	5
17. My community has priorities and sets goals for the future.	1	2	3	4	5
18. My community tries to prevent disasters.	1	2	3	4	5

Pfefferbaum et al., 2015



http://dcc.missouri.edu/doc/DCC_2016_Picturing_Resilience_revised.pdf

Tools and Resources Intervention

Communities Advancing Resilience Toolkit (CART)

The CART Process

- 1. Generate a Community Profile**
 CASE Tools & Platform
 CART Assessment Survey
 Key Informant Interviews
 Data Collection Framework
 Other Assessments
- 2. Refine the Profile**
 Community Risk Screen
 Community Vulnerability Assessment
 Stakeholder Interviews
 Secondary Research
 Secondary Analysis
 SWOT Analysis
 Legality and Liability Assessment
 Additional Assessment
- 3. Develop a Strategic Plan**
 Community Climate Screen
 Goals & Objectives
 Strategy & Action Plan
- 4. Implement the Plan**
 Community Goals and Action
 Implementation & Adaptive
 Evaluation & Improvement

Source: "Communities Advancing Resilience Toolkit: The CART Integrated System", 2012, Pfefferbaum, W., Pfefferbaum, B., Van Horn, R., Terrence and Disaster Center, University of Oklahoma Health Sciences Center, Oklahoma City, Oklahoma, United States.

https://www.oumedicine.com/docs/ad-psychiatry-workfiles/cart_online-final_042012.pdf

Resilience in Action

OBJECTIVE ANALYSIS
 PREVENTIVE SOLUTIONS

RESEARCH · LATEST INSIGHTS · POLICY EXPERTS · CAPABILITIES · GRADUATE SCHOOL

Resilience in Action

Climate Change and Community Resilience
 Creating Resilient Cities
 Resilient DC
 Los Angeles County
 Community Disaster Resilience
 Student Resilience
 Resilient Asia Learning
 Collaborative
 Community Resilience
 Toolkits
 Related Wellbeing
 Research
 Resilience Trainings
 Media and News
 FAQs
 Contact

Resilience Trainings
 Learn how you can help prevent, your organization, and your community to withstand resilience in disasters.

Who is this site for? This site is for individuals and community organizations to learn more about resilience and to help communities prepare, withstand, and recover from disasters.

What is community resilience? Community resilience is the ability of communities to withstand and recover from past disasters to strengthen future response and recovery efforts.

How is resilience different from preparedness? Resilience requires participation from the whole community to recovery and helps the community plan for the full length of disaster recovery.

<https://www.rand.org/multi/resilience-in-action.html>

Los Angeles County
 Community Disaster Resilience

About Coalitions Resources Contact

Resources

LACCORD PROJECT-DEVELOPED RESOURCES

Resilience Builder Toolkit (PDF)
 Resilience Builder is a community toolkit that builds upon existing resources in your community to strengthen resilience. It is grounded in six sections and offers strategies to increase resilience.

Community Resilience Workshop (PDF)
 Many people want to know: "What is the difference between building preparedness and building community resilience?" For the third year of the project, the LACCORD team has put together a list of questions, strategies and resources that can help guide organizations and communities towards building resilience efforts as they plan out their activities.

Critique Measures (PDF)
 These resources help to determine the level of community resilience building in an organization or community workshop, focus that are not currently present in the workshop prior to areas of growth and provide next steps for the group to consider.

Glossary
 Currently, there are many different ways that people define "community resilience". This glossary includes LACCORD's overarching framework with definitions.

<http://www.laresilience.org/resources/>

resilience builder
 Tools for Strengthening Existing Resilience in Your Community

Why Community Resilience is Important

Know your Community

Partnership, Collaboration and Inclusion

Share and Learn

What's your Plan?

Community Resilience Action and Activities

<http://www.laresilience.org/documents/resilience-builder.pdf>

RESILIENCE IN COMMUNITIES

Forming a Coalition

Learn how to form a coalition, identify stakeholders, and engage members using a community-partnered approach.

Forming a Coalition

Use this MEDIA STORYKIT STARTUP CARDS & DESCRIBE STAFFILES FOR ENGAGEMENT

USEFUL TOOLS

- PARTICIPATION & SECTION REVIEW TEMPLATE
- STAKEHOLDER ANALYSIS MATRIX
- CONTACT FORM

<http://resilienceincommunities.com/>

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We help cities around the world become more resilient to the physical, social, and economic challenges that are a growing part of the 21st century.

<https://www.100resilientcities.org/>

Research Results

Research Results

Table 1
Hierarchical regression results for community resilience domains

Variable	Connectivity and caring		Transformational potential		Resources		Disaster management		Community resilience	
	β	R (S.E.)	β	R (S.E.)	β	R (S.E.)	β	R (S.E.)	β	R (S.E.)
Step 1										
Age	.30	.05 (1.00)	.06	.05 (1.01)	-.05	-.05 (1.01)	.06	.05 (1.01)	.05	.05 (1.00)
Sex	.009	.05 (1.04)	.13	.05 (1.02)	.009	.05 (1.01)	.13	.05 (1.01)	.13	.05 (1.04)
Education	-.05	-.04 (1.11)	-.05	-.04 (1.11)	-.02	-.03 (1.12)	-.07	-.03 (1.12)	-.08	-.03 (1.11)
R^2	.08		.02		.02		.02		.02	
F	.48		.05		.02		.02		.02	
Step 2										
Tornado media use	-.15	-.13 (1.06)	.02	.01 (0.71)	.00	.00 (0.71)	.07	.06 (1.07)	.03	.02 (0.71)
Tornado-related media use	.20*	.14 (1.08)	.21*	.15 (1.09)	.07	.06 (1.09)	.15	.13 (1.09)	.08	.14 (1.09)
Tornado talk	.27*	.17 (1.01)	.30*	.20 (1.06)	.02	.01 (1.06)	.10	.09 (1.06)	.12	.08 (1.01)
Tornado-related health talk	.14	.08 (1.04)	.20*	.13 (1.04)	.01	.01 (1.04)	.08	.05 (1.04)	.08	.08 (1.04)
Health R^2	.04		.12		.02		.02		.02	
F	3.33**		3.80**		1.37		2.80*			

* $p < .05$.
** $p < .01$.

Spialek et al., 2016

Research Results

TABLE 3 Predictors of community resilience perceptions

	Unstandardized coefficients		Standardized coefficients	
	b	SE	β	p
Gender (female)	1.14	.74	.08	.123
Age	-.73	.27	-.14	.007**
Education	-.15	.28	-.03	.590
Political ideology (Republican)	.30	.17	.09	.087
Tornado impact	-.59	.27	-.12	.029*
Tornado reactions	-.22	.17	-.08	.197
Tornado media use	.20	.09	.12	.025*
Tornado talk	.26	.11	.13	.019*

Final model: $F(8, 368) = 5.28, p < .001, R^2 = .10$.
* $p < .05$. ** $p < .01$.

Houston et al., 2017

Research Results

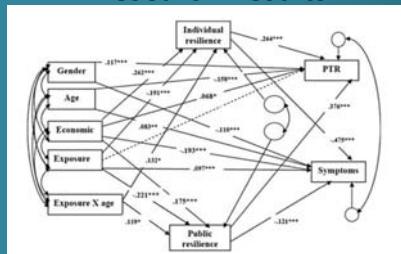


Figure 1. Path analysis model with standardized estimates: demographic characteristics, individual and public resilience, and two war outcomes.
* $p < .05$. ** $p < .01$. *** $p < .001$.
**** Path constrained to zero.

Kimhi & Eshel, 2009

Challenges

Challenges

How do we ensure community resilience efforts lead to integrated action?

Challenges

How do we ensure community resilience efforts are sustainable?

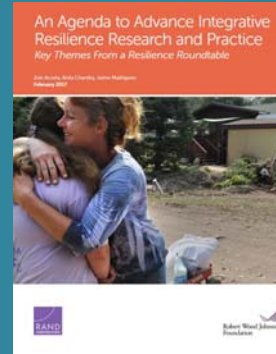
Challenges

Community resilience work is often silent on issues of historical and systemic racism and poverty.

How can social justice and community resilience work be integrated?

Challenges

How can we ensure that a community resilience perspective doesn't put blame for challenges on the community?



https://www.rand.org/pubs/research_reports/RR1683.html

Discussion Questions

What might your role be in fostering resilience in your community?

Discussion Questions

Are there strengths in your community that were not discussed here that might foster community resilience?

Discussion Questions

Are there challenges in your community that were not discussed here that might foster community resilience?

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