

The paradox of social resilience: How cognitive strategies and coping mechanisms increase and reduce resilience

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- How people build social resilience:
 - Cognitive strategies
 - Coping mechanisms
- Social resilience can be positive
- Social resilience can be negative
 - The 'delusion of resilience' so individuals act as if they are more resilient than they appear

- Social vulnerability
 - “focuses on those demographic and socioeconomic factors that increase the impacts of hazard events on local populations” (Cutter et al 2009)
 - Vulnerability is negative
 - Vulnerability = probability x impact (Adger, 2006)
- Social resilience
 - “the capacity to prevent or mitigate losses and ... to maintain normal living conditions ... and to manage recovery from the impacts.” (Buckle 2000)
 - Resilience is positive
 - Resilience = tolerance + reorganization (Liao, 2012)

- In general
 - Internal and external vulnerability
 - Internal and external resilience
 - Resilience is often viewed as the alternative side of vulnerability
- Societal structures affect resilience and vulnerability
 - Government involvement may reduce resilience e.g. in Inuit communities (Berkes and Jolly, 2002)
 - Groups regard themselves as incapable (expecting government intervention), a situation of learned helplessness (Furedi, 2007)

A vulnerable group?

- Focused on:
 - People aged over 65 years
 - People with disabilities
 - People aged over 65 years with disabilities
- Often considered to be especially vulnerable and also resilient (Wolf et al 2010)
- Groups that may:
 - have certain types of disability
 - lack the resources to respond to a disaster
 - experience distress at the prospect of evacuating
- But also may:
 - have greater psychological resources
 - benefit from life experience to favourably cope in adverse conditions
 - structure their lives in around social networks in self-organised communities

- Region in the UK with the known risk of coastal flooding
- 27-day field study over 6 weeks
 - 192 people contributed (1.5% of the population)
 - 12 focus groups, 73 individual interviews (residents, carers, etc)
 - toured of sea defences, met local officials, reviewed public information
- All residents had some vulnerability to flooding
 - Lived at sea level, remote, distant from help, poor transport links
 - One of UK's poorest socio-economic areas (38% unemployment; 31% retired); limiting long-term illness (36%)
 - 63% single storey house; 62% medical support; 41% disabilities (86% mobility-related)
- Most had resilience that was hidden
 - 79% would evacuate without delay, >80% transport options
 - A vibrant social community with embedded communication networks
 - Local knowledge about tides, local roads, transport

Build resilience through:

- Cognitive strategies – how people understand their fragility to a disaster & respond appropriately
 1. Risk perception
 2. Self-perception
- Coping mechanisms – how people prepare to reduce the ill-effects of disaster and/or positively influence the environment
 3. Accepting change
 4. Self-organising

Risk perception

(a cognitive strategy for building resilience)

- “people matching the amount of disaster preparation to their perception of the personal risk”
- Features:
 - Respondents underestimated the risk and overestimated their preparations e.g. converted attic by Hardened Preparers (HP)
 - Risk perception influenced by the historical context, knowledge, experience of flooding, and housing type
- Implications:
 - Awareness of the risk raised resilience (e.g. extreme HPs)
 - False impressions of higher resilience (i.e. incorrectly calibrated)

Self-perception

(a cognitive strategy for building resilience)

- “how people view their ability to cope in a disaster and building necessary resilience”
- Features:
 - People overlooked their impairments & believed they could manage activities far beyond their physical capabilities e.g. inflatable boats
 - Hardened preparers (HP) exposed themselves to greater risk because of their perceived self-reliance e.g. freed windows
- Implications
 - Led them to expect to respond in unlikely ways
 - May consider themselves as self-reliant until the disaster occurs, whereupon their provisions are inadequate & they are fragile
 - Independence is important, but viewing capability objectively

Accepting change

(a coping mechanism for building resilience)

- “the degree to which people cope with change and uncertainty”
- Features:
 - Most people would ‘forget everything and just go’
 - They had already accepted change
 - But for deep-rooted routines hinder change
- Implications:
 - Awareness raising can set expectations and help people to prepare for longer-term change
 - Historical events can set expectations

Self-organisation

(a coping mechanism for building resilience)

- “the capacity of individuals to self-organise before/during disasters”
- Features:
 - An external feature – of a community (not an individual)
 - Organised social clubs / community groups
 - 8% were ‘super-attenders’ attending >4 clubs
 - Participation in government-led groups e.g. flood groups
- Implications:
 - Super-attenders create focus, facilitate action, and build momentum
 - External resilience through being able to harness strong social capacities

- Vulnerability is negative
- Resilience can be negative too
 - individuals believe they are resilient (but have actually failed)
- Two types of failure:
 - Type 1. Appearance hides fragility – people seem ok, but are fragile
 - Type 2. Preserve failing resilience – resilient structures that fail to serve their purpose & undermine resilience
- On positive and negative resilience:
 - both can be present at any time
 - one will dominate and, thus, be able to characterise an individual

- Social resilience is independent of social vulnerability
 - Can be simultaneously present
 - Can move independently mediated by risk perception, self-perception, accepting change and self-organisation
 - Social resilience is NOT the alternative side of social vulnerability.
 - Social vulnerability will always exist i.e. cannot be neutralised
 - If individuals think their vulnerability is unacceptable, they may build social resilience and/or reduce social vulnerability
- The relationships :
 - social vulnerability = probability x impact
 - social resilience = risk perception x self-perception x accepting change x self-organisation
 - exposure to disaster = social vulnerability – social resilience

Our findings lead to the following propositions:

- Negative resilience can arise when an individual develops a misguided belief in being resilient and acts accordingly
- Positive resilience lowers vulnerability, while negative resilience increases it
- Cognitive strategies and coping mechanisms lower vulnerability and negative resilience
- The architecture of internal resilience (risk perception, self-perception and accepting change) lowers resilience when not correctly calibrated
- Self-organisation, a hallmark of external resilience, lowers weak internal and external resilience
- Internal resilience complements external resilience but cannot neutralise low external resilience
- Super-attenders are pivotal in building external resilience

Thank you for listening...

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