Glasgow Centre for Population Health

BRIEFING PAPER 12 CONCEPTS SERIES

Resilience for public health: supporting transformation in people and communities

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KEY POINTS

- The resilience perspective offers a promising framework for supporting individuals and communities in times of crisis and against upheavals which are difficult to predict.
- Resilience offers greatest value when it enables individuals and communities to not only bounce back from crisis but to move beyond crisis and adapt to new circumstances.
- The ability to make sense of changed circumstances and to maintain a continuity of meaning after crisis or challenge is a key aspect of the resilience process for individuals.
- Individual resilience is underpinned by strong social networks that offer support both immediately after challenge and longer term.
- This paper explores how thinking and action in the areas of culture, the economy, governance and infrastructure can be aligned to support resilience in individuals and communities.
- Development of the various forms of social capital, particularly bridging and linking capital, are vital for allowing a variety of perspectives, and solutions to problems, to be heard and contribute to policy-making
- As transformation is a key characteristic of resilience, this has implications for its measurement.

INTRODUCTION

Despite being a concept with a long history, resilience has become the subject of renewed interest and attention in recent years. During a time of uncertainty in terms of austerity, climate change, a changing demographic profile and a more complex and interdependent world, the concept of resilience appears to offer promise in preparing for challenges both known and unknown. This paper explores the concept's usefulness, relevance and key principles of application to help practitioners, researchers and decision-makers utilise a resilience perspective in their work. The content should be of interest to anyone involved in improving the health of people and communities.

This Concepts Paper draws on and summarises the findings from a larger review and synthesis of the resilience literature[1]. This comprehensive report is available on the Glasgow Centre for Population Health (GCPH) website – www.gcph.co.uk.

What is resilience?

Resilience has many definitions. In everyday language the word is associated with '*rebounding or bouncing back'* or '*being able to recover quickly or easily from, or resist being affected by misfortune, shock or illness*'[2]. However, the suggestion that resilience is a property possessed by individuals (akin to 'mental toughness', 'perseverance' or 'resolve') can present difficulties. We, the authors, understand resilience as a process that involves individuals being supported by the resources in their environment to produce positive outcomes in the face of challenge. Understanding the processes that lead to and support positive outcomes are key to understanding resilience.

There are at least two types of resilient outcome. The first is a positive response in the face of a shock or challenge where the individual or community is able to re-establish a level of functioning experienced before the crisis – 'status quo resilience'. This is a type of response demonstrated in the face of one-off events where a return to normality can be achieved.

A second type of resilience is perhaps more relevant to the longer-term concerns of public health and community development. This form of resilience is characterised by responses to shocks and challenges that fundamentally change the circumstances in which people live, where people are not only required to 'bounce back' but adapt and thrive in new circumstances.

These types of resilience are illustrated in the difference between an individual losing their job and finding another employer relatively quickly (status quo resilience) and a community losing an industry, likely never to return, whereby both individuals and the community are required to reassess their role, identity and sources of security in a manner that leads to successful adaptation (transformational resilience).

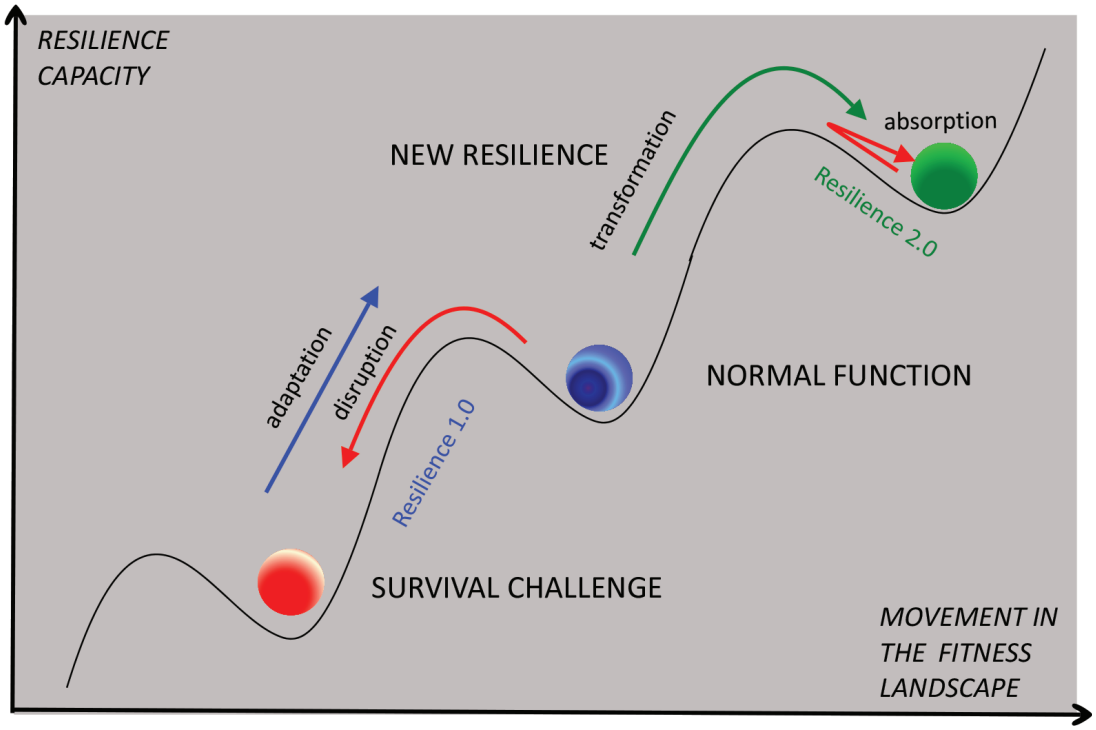
Key to transformational resilience is the ability to make sense of changed circumstances and to maintain a "*forward lean toward engagement, purpose and perseverance*"[3] in the light of not only challenge or crisis but in a manner which takes account of the changed circumstances. Transformational resilience recognises the influence of Antonovsky's (1987)[4] notion of 'sense of coherence' as being vital to wellbeing; individuals require their worlds to be comprehensible, manageable and meaningful. Change can see the removal of the sources of security on which sense of coherence is founded. Resilience is when the world and activity within it remain understandable, manageable and meaningful *despite* changed circumstances.

We live in an age where challenges are multiple and the need for adaptation increasingly common. Some of these challenges are new, such as the need to adjust to the ageing of the population, climate change or the consequences of the latest global economic crisis. Other challenges represent a continuation of problems that our established patterns of response have so far failed to fix, such as inequalities in health. Despite a sharpened focus on activity to tackle health inequalities in recent years, the wealth gap and the deprivation associated with living in poverty remain deeply ingrained. As society becomes more complex and progresses more rapidly, it becomes more difficult to predict where the next serious challenge will present itself. Consequently, 'predict and control' responses to risk become less likely to succeed. Instead, society requires a perspective that supports individuals and communities against upheaval and crises that are difficult to predict.

To this end our working definition of resilience is as follows: "*developing the capacity for populations to endure, adapt and generate new ways of thinking and functioning in the context of change, uncertainty or adversity.*"

Building on this definition, Figure 1[5] below highlights how resilience to a stressor involves a transformation which takes account of the changed circumstances that the stressor brings about.

Figure 1: Transformational resilience.



Source: Hodgson A. Transformative resilience: a response to the adaptive imperative; 2010[5]. Reproduced with kind permission from the author.

The relationship between resilience perspectives and asset-based approaches

The resilience perspective is kindred with asset-based approaches, which the GCPH is also investigating[6]. Both perspectives favour a focus on understanding processes and resources that keep people well and better equipped to navigate crisis and challenge. They also represent a radical departure in terms of planning services and interventions, focusing not only on what can be predicted as future sources of crisis and challenge, but equally on enabling individuals and communities to respond to crises that cannot be forecast. This is important in times of rapid change, since predicting the future becomes increasingly difficult in a more interconnected and interdependent world.

Reacting to problems as they are presented, rather than focusing on developing resilience, is expensive. The Christie Commission (2011)[7 (p 13)] reported "*as much as 40% of all spending on public services (is) accounted for by interventions that could have been avoided by prioritising a preventative approach*". The resilience perspective can help us to identify how practitioners and services can support people and communities to enhance their vitality and viability in the face of challenge and change.

UNDERSTANDING WHAT MAKES INDIVIDUALS RESILIENT

The concept of resilience came to early prominence in studies of child development. In this literature, resilience is understood as instances of children flourishing in challenging circumstances. The challenging circumstances in which childhood resilience has been explored include growing up in a disadvantaged neighbourhood, abuse and maltreatment, parental separation, migration, disability and physical or mental health problems. Children who appear to do better than others in such circumstances have been identified as having a range of protective factors that continue to shape understandings of what makes individuals resilient. Examples of intrinsic factors associated with resilience include intelligence and academic ability[8]; self-efficacy, mastery and high self-esteem[9]; internal locus of control[10]; social competence[11]; capacity for problem-solving, planning and foresight[12]; expressiveness, warmth and affection[13]; a secure base[14] and the ability to establish and access networks of support[15].

Despite the identification of associated intrinsic factors, resilience should not be mistaken as an internally possessed trait – external factors are crucial. It is also important to note how resilience relates to an individual's ability to navigate their social networks and other available resources. For example, self-efficacy is not helpful in the absence of opportunity; warmth and affection are impossible without others to be expressive towards and cannot be expressed if peers and family are not available and/or receptive. A secure base and networks of support cannot be created in isolation. External factors associated with resilience reinforce this idea, such as the availability of strong parent-child relationships and positive community experience. The combination of individual characteristics and wider network / environmental processes required for resilience supports the claim that "*without attention to social as well as psychological capital within our communities, models of resilience may have limited applicability*"[3 (p 5)].

Resilience as a process

In adulthood, resilience is understood as a set of processes that enable individuals to pursue a distinctive meaning to life in the face of change in a manner that enables individuals to both handle and move beyond crisis. Marris (1986)[16] sees resilience as the ability to maintain a continuity of meaning when the circumstances and relationships in which that meaning was originally created come to an end. The cause of discontinuity could be the loss of a job, the death of a spouse or the loss of one's community – even when this loss is part of a wider plan of progress through neighbourhood regeneration. The key to resilient outcomes is to restore a sense of continuity in a manner that assimilates the fact of the crisis or change while recognising that the context in which old understandings were formulated and supported no longer exists. In the event of the death of someone close to us, the period of reconstructing meaning in the face of change is understood as grief. This perspective on resilience goes beyond 'bouncing back' in response to crisis to emphasise the process of moving forward; a "*forward lean toward engagement, purpose and perseverance*" [3 (p 6)] in the face of challenge.

However, continuity and change are two dimensions which need to be kept in balance for resilience to flourish. Too severe or rapid an adaptation to change can undermine resilience over the longer term. On the other hand, denial of the change in circumstances in an attempt to uphold established patterns of predictability is uncharacteristic of resilient people. Learning from the experiences of migrants is useful in this regard. Migrants who are able to combine the assets and resources of both their host culture and their culture of origin in creative ways (combining continuity and change) have been shown to be most successful. Those who completely assimilate to the host culture lose their original culture and the coping resources that come with it. Those who maintain their original culture without integrating to the new culture fail to take advantage of new resources, opportunities and networks[17].

A combination of personal characteristics and network support is required for navigating change successfully. In the migrant example, it is not only personal capacities of sociability, openness and being able to take advantage of opportunities that are important, but also the social and environmental backdrop of host communities to enable migrants to be accepted, integrated and to prevent discrimination.

Also important is the degree to which community and societal expectations allow and support adaptation. For example, in relation to resilience in later years, adaptation and growth beyond crisis needs to be incorporated into the narratives society creates for older adults:

"*...the paradigm of midlife decline must be replaced with one that creates expectation of continued growth and development through all stages... the stories of older adults who lived life fully until death, despite physiological and resource decline, need to be heard again and again.*"[18]

The majority of early studies of resilience have focused on individual level outcomes. However, perceived threats such as climate change, food insecurity, peak oil, terrorism and the ongoing financial crisis have further highlighted the interdependent and fragile nature of global systems. Such concerns have fuelled a growing interest in resilience at a scale that extends beyond the individual.

COLLECTIVE RESILIENCE

The following section looks at how the concept of resilience relates to communities in terms of supporting adaptation across populations and within individuals.

Beyond the individual, resilience can be approached at the level of communities, cities, regions or at a national or international scale; this is known as *collective resilience*. Resilience at these levels concerns not only the population affected, but also the environment in which their collective resilience is tested. The concept of 'place resilience' has been used to describe the interaction of influences within a geographically defined space. Here, people are not the primary focus but are part of wider system of interdependent factors. However, this paper is concerned with applying a population health perspective which puts people at the core of how places function and is therefore focused on the resilience of communities.

In understanding the link between resilience at the level of the individual and the community, both levels are interconnected and feed off one another, with resilience in one domain supporting resilience in the other.

Ecological perspectives

Ecological studies provided the early frameworks and 'systems' based perspectives that have been influential in contemporary understandings of the resilience concept[19-23]. Holling described two defining characteristics of a resilient system – first, the ability to absorb changes and persist and, second, the size of a disturbance a system can tolerate before it shifts into an alternative configuration[20]. This second characteristic represents a similar process to the transformative aspect of individual resilience discussed above.

Ecological perspectives propose a four-phase cycle of adaptation and change in which systems are interlinked in continual, adaptive cycles of growth, accumulation, restructuring and renewal[20].

This cycle of change highlights an important point about the flexibility of systems – growth that is accompanied by stability, certainty and rigidity of systems, weakens the ability to be flexible, and lessens resilience to threats. Further, in times of uncertainty and weakened controls, potential and innovation can thrive. However, human-dominated systems, as opposed to ecosystems, are capable of conceptualising and looking towards the future. Therefore, communities and cities can develop plans for recovery and renewal that allow the system to develop in a new and different trajectory.

While death and decay (or 'release') is natural in ecological terms, these notions can be difficult to accept in human terms (e.g. the recent public sector bail out of banks on the brink of collapse). Wallace and Wallace (2008)[24] argue that such patterns in human systems are not natural processes but products of policy.

The role of social capital

In regard to the social conditions required for resilient communities, forms of social capital[a] are crucial for enabling ways of functioning and thinking for resilient responses to emerge and circulate. Three types of social capital are required. Firstly, *bonding capital* (links to people with similar values) is necessary to provide a sense of community support and social solidarity which allows communities to bounce back to pre-crisis functioning. However, it is *bridging capital* (links to people with different values) which allows the exchange of understandings, perspectives and possible ways forward from which new responses to changed circumstances are able to emerge. Bridging capital therefore becomes necessary for transformation and adaptation.

Linking capital (links to people who interact across formal organisational networks or levels of authority) supports resilient responses through allowing a two-way flow of information between the grassroots of communities and those who make decisions and plan for them (allowing people to be heard). It works best when a diversity of perspectives can shape agendas and the opportunities that leadership structures create for communities do not become static and disempowering.

Re-storying

As with the narratives told of individuals discussed above, 're-storying' – the ability for new stories to be created, told and heard in a manner which reflects communities' histories and biographies while allowing new directions to be set – is a key characteristic of communities and societies which support individual and collective resilience.

[a] Social capital can be defined as "networks together with shared norms, values and understandings that facilitate co-operation within or among groups."[25]

SUPPORTING RESILIENCE IN INDIVIDUALS AND COMMUNITIES

We regard the following factors as vital for supporting resilience at an individual level:

- There needs to be recognition of the wider sources of resilience for individuals, found at the level of community or family. These require support and investment.
- We must also recognise that resilience at the level of the individual and the community are interconnected and feed off one another, with resilience in one domain supporting resilience in the other. Resilient individuals promote and require reliable networks of trust and support. Resilient communities include individuals who are trusting and supportive.
- Deficit-orientated approaches – those characterised by a focus on need, dependence on professional intervention and defining people and comunities in negative terms – should be complemented with interventions that help people make crisis meaningful by using it as an opportunity for growth. This requires different skill sets from deficit approaches, which, in public health terms, strive to return to pre-crisis conditions. Although the focus on individuals can be time-intensive, the rewards can outweigh costs through potential for longer-term savings. Voluntary sector organisations often have expertise in this area (see the GCPH publication *Assets in Action*[6] for examples).

For community to be supported:

- Structural inequalities must continue to be a focus of effort. Poverty and deprivation are sources of vulnerability. While describing populations in deficit terms will undoubtedly mask the prevalence of resilient individuals, enduring resilience cannot reasonably be expected within a population living at the sharp end of structural inequalities.
- Diversity should be supported and promoted, particularly in terms of the economy of a place and the leadership and governance models it values. Actions to support these characteristics are discussed in the remainder of this paper. An individuals' ability to participate meaningfully in common issues is imperative for building social solidarity, trust and therefore collective resilience.

THE APPLICATION OF RESILIENCE THINKING: ALIGNING CULTURE, ECONOMY, GOVERNANCE AND INFRASTRUCTURE

The following section, presents an investigation of how the characteristics of resilient individuals and communities can be supported strategically. Four potential areas of activity are considered in the realms of culture, the economy, infrastructure and governance. These dimensions are not exhaustive but have been chosen as illustrative examples of the key ideas within the resilience perspective, of how the promotion of *diversity* and *participation* can support the capacity for transformation and adaptation when challenges to existing ways of living are presented. As actions across domains aggregate, society more generally, as well as the four realms introduced above, will benefit from an enhanced capacity for resilient responses.

Supporting resilience through culture

Understanding how resilience can be embedded within culture is guided by the idea that a resilient community is "*one that has a collectively held belief in their ability to adapt and thrive in spite of adversity*"[26 (p 5)]. In its broader sense, 'culture' refers to the collectively held values, expectations and norms useful for coping, adaptation and survival. These resources are incredibly useful. They enable us to operate in a world which is made predictable and has a shared sense of regularity. They provide a common framework for the 'sense of coherence' Antonovski indentifies as fundamental to wellness and coping with adversity. Marris (1974)[16 (p 8)] describes it as "*the conservative impulse*" through which we are able to "*transfer experience from one situation to another, perceived to be essentially alike; and so the circumstances of life become increasingly manageable, as more and more of them can be put into familiar categories*". In times of rapid change however, the framework of manageability comes loose of its moorings in lived experience – it begins to belong to another time and place, to another set of social relationships. Worse, frameworks which do not take account of change can become inflexible and stigmatising and can obstruct adaptation to challenge and changing circumstances.

New interpretations need space to emerge and for existing narratives to be reinterpreted for changed circumstances. It is here that we find the role for culture in the narrower sense of participation and consumption– as a generator of narratives of change and adaptability but also in providing a space for a diversity of perspectives to be expressed and understood.

Cultural participation which supports the resilience of individuals and communities recognises the need for individuals to be producers as well as consumers of cultural output. The act of cultural creation can be enhancing of wellbeing in and of itself but further, allows multiple perspectives to emerge, leading to the formation of new meanings, practices and responses to changing circumstances. This is crucial in providing resources for 're-storying'.

Digital media provide a particularly fertile ground for opportunities for a diversity of perspectives to be heard and new shared meanings to be forged. Blogs and storytelling websites allow a voice for groups marginalised from more mainstream conduits of culture and can facilitate highly localised forms of expression that support community development (the term 'hyperlocal' has been coined to reflect this). An example in Scotland is the Digital Commonwealth Project[27] led by the University of the West of Scotland which "*focuses on lowering the threshold for involvement for individuals and groups so that they can be empowered to exploit creative tools and technologies to tell their stories, digitally.*

The project reaches out to individuals and groups experiencing social, cultural or economic marginalization, whether related to age, ethnicity, poverty, disability or social isolation". Similarly, the *Mind Waves* website[28] enables the creation and sharing of stories around mental health. Its focus on positive mental health offers cultural balance to deficit orientated perspectives. In offering peer support it also acts as a contact point for a community of interest around mental health and offers ground-up perspectives to support practitioners and inform policy.

The Brazilian resource, Catalytic Communities[29] links grassroots community development projects with a broader global mainstream audience, helping re-shape the narrative of the favellas of Rio de Janeiro. The website "*functions as a news source, agenda-setter, movement-builder and research collaborative... working at the intersection of community development, international networks, media and urban planning*". Both the Digital Commonwealth and Catalytic Communities initiatives provide small scale and highly localised expression against backdrops of highly managed mega events (the Commonwealth Games and the Olympics) that themselves are used to establish new narratives of place and where marginalised voices can be overlooked.

Such cultural production can support the growth of shared experiences that allow communities to arrive at new understandings of themselves and in doing so, support the release of community and individual assets. In the act of creation, individual resources which support wellness are developed and utilised (confidence and sense of agency) but furthermore, the sharing, negotiation and engagement with communities of policy-makers and practitioners allows the growth of bridging and bonding social capital[30]. Consequently, policy-makers should recognise cultural participation as essential for healthy communities but also as a means of 'putting into the frame' a diversity of perspectives.

The caveat applied to resilience perspectives more generally also applies here – community-level cultural participation and production cannot alone ameliorate complex social problems, particularly those experienced by disadvantaged groups. However, capturing multiple insights and bringing marginal perspectives to the attention of policy-makers and community members does become possible. When cultural production is not owned by experts and professionals but instead allows the release of a community's creativity and capacity, the potential for positive action is enhanced.

Supporting resilience in the economy and work

Our understanding of how the economy and work relate to resilience involves a shift in the way the relationship between the two is normally understood: rather than asking 'what makes an economy resilient?', we ask 'how can the economy and forms of work contribute to the resilience of communities and individuals?'.

Where the concept of resilience has been applied to the economy, it has tended to focus on the strength and resistance of the economy itself, rather than the impact of economic activity on the resilience of people. However, there is literature that investigates the relationship between work and wellbeing (the psychosocial dimensions of work[31]) which can inform the relationship between forms of economic activity and individual resilience.

Examples of work looking at the resilience of *economies* include Bruguglio *et al.*, (2004)[32] who cite factors such as having a flexible and multi-skilled workforce and low unemployment as building economic resilience. Having a diversity of activity in the economy is also cited, allowing flexibility if sources of trade and prosperity discontinue.

However, other economists are critical of using the strength of the economy (often measured though GDP) as a means of establishing the collective wellbeing or resilience of the population. It has long been known that the relationship between GDP and life expectancy displays diminishing improvements after a threshold of around £15,000 per adult[33]. The relationship between GDP and wellbeing reveals a similar pattern[34]. Viewing resilience from the perspective of the economy, rather than the population the economy serves, has led to calls to rethink the dominance of GDP as a measure of success. Jackson (2009)[35] suggests redefining prosperity as an ability to flourish in ways that incorporate meaning, purpose and participation in society in more psychologically satisfying ways than the consumer society has generated. The Oxfam Humankind Index (2012)[36] developed example indicators to assess progress including affordable, decent and safe homes, physical and mental health, a clean, accessible environment and satisfying work. Jackson's call for redefinition to be achieved within the ecological limits of the planet highlights a potential synergy between environmental, individual and collective resilience (Jackson, 2009)[35].

Researchers who have explored the relationships between work and wellbeing provide some indications of which elements might feature in an economy that promotes resilience. Available work roles establish the material and psychosocial conditions in which individual resilience is maintained or compromised. Work has a positive effect on individual health and wellbeing and can reverse the ill-effects of long-term unemployment[37]. In their review of evidence '*Is Work Good For Your Health and Wellbeing?*' Wandell and Burton (2006)[38] outlined work as vital for the material resources for participation in society, for psychosocial health and in the formation of social identity and status.

The functions of employment therefore go beyond the ability to meet financial and material needs. Warr (1987)[39] constructed a 'vitamin' model of employment to highlight nine features that support positive mental health. These are: opportunity for control; opportunity for skill use; externally generated goals; variety; environmental clarity; availability of money; physical security; opportunity for interpersonal contact; and valued social position.

Work can provide an important means of improving the health and wellbeing for both individuals and society when attention is given to the latent qualities (above) of the roles our economy provides. Employment should not over-burden workers, it should provide a degree of control, autonomy and decision-making and improve the creation and access to social capital[40]. In a knowledge economy such characteristics are more likely to be associated with higher value economic activity and of flexible and diverse roles. However, access to roles in higher value industries, even those at low paid entry level, remains restricted.

Warhurst's (2011)[41] discussion of 'good' and 'bad' jobs in Glasgow highlights two interdependent tiers of work being created in the city; prestigious and well-paid jobs in the creative and knowledge industries and 'service class' jobs in hospitality and retail in support of the lifestyles of the creative/knowledge workers. There is an inherent competitive disadvantage for those who have been outside the workforce for a number of years and who lack the connections and cultural capital necessary to obtain meaningful work in the new economy, even in low paid positions. Warhurst suggests welfare policies that support those returning to work with available childcare are key to ensuring equal access to higher quality work. An informal system of like recruiting like in such industries, often through periods of unpaid internship, also needs to be addressed. What remains crucial is that flexibility to maintain the resilience of the economy is achieved in a manner which does not undermine the viability of individual wellbeing and the psychosocial conditions of work.

Resilient societies will therefore value and support forms of employment that offer a diversity of purposes and narratives to be pursued by individual workers. This correlates with the idea of an adaptable and 'multi-skilled workforce' which in turn will offer resilience to the economy.

As well as paid work, community activity and work in the 'hidden economy' (forms of labour that produce economic benefit but are unpaid) require recognition as valuable economic activity. As such, they should be promoted through working practices that support family and community life and by paying living wages[42].

Supporting resilience through governance

Systems of governance can complement activity in the areas of culture, and economy. During crises, local emergency services can become overstretched and fragile. At such times citizen activity often complements the work of front-line services. The task for leadership is to provide the conditions through which these networks can be created and sustained *pre-crisis* and are given the authority and confidence to mobilise in times of crisis. Governance should be configured in such a manner as to support the development of social capital in communities. Of particular importance is having a diversity of voices and perspectives in the decision-making process.

Consequently, community leaders and planners should not only concentrate on the disaster and emergency responses that are often associated with resilience planning (and help communities 'get back on their feet') but create the circumstances whereby community members are in a position to be active in helping find solutions to problems and challenges.

To this end, governance structures should:

- Foster diversity and allow spaces for different styles of voices and perspectives to be heard and feed into planning and decision-making.
- Be participative and promote devolved decision-making.
- Allow opportunities for communities to have ownership of services and an influence on the direction they take.
- Be set within a culture that tolerates small failures when learning is produced as a result. This tolerance should be shared by those who hold leadership structures to account such as the electorate and the media.

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Supporting resilience through infrastructure

As with the economy, a shift in thinking is required from what makes infrastructure resilient to how infrastructure can support resilient populations. Infrastructure as "*the basic physical and organisational structures and facilities needed for the operation of society or enterprise*"[43] includes the services, facilities, utilities and communication systems, as well as the public institutions required for society to meet daily needs. Although seen as a necessary foundation for economic growth[44], with the presence of high-quality infrastructure an indication of a nation's development, its unequal distribution is associated with inequalities in health within societies[45]. Here we consider infrastructure to be the physical structures that enable society to meet basic needs as well as those which facilitate social activity.

The significance of infrastructure to people, beyond meeting their basic everyday needs, stems from its capacity to bind and connect. At a community level, good quality infrastructure can enhance opportunities for social activity and enable people to improve the quality of their lives. In the context of improving or maintaining health and wellbeing, hospitals, schools, community facilities, transport networks and public spaces are relevant forms of infrastructure. Yet these also have a role in connecting communities and creating social capital. There are two aspects to understanding resilience in relation to infrastructure: firstly, the resilience of the infrastructure itself to shocks, anticipated or unanticipated to allow a return to 'business as usual'; and secondly, the manner by which infrastructure supports the sources of adaptation and transformation required for resilience to develop within communities.

Developing infrastructure to support individual and community resilience involves:

- Building infrastructure at the scale of community to support the growth of connections between people in the neighbourhood. This requires adequate transport, community spaces and adaptable community facilities.
- Such 'social' infrastructure – which facilitates social activity and social capital growth – is important during periods of 'business as usual' and 'crisis'.
- Community infrastructure – that which enables people of all ages to meet their daily needs, should be flexible enough to adapt to changing circumstances and provide a supportive social function in times of community need.
- Green infrastructure, such as accessible greenspace can play an important role in increasing opportunities for socialising, improving mental wellbeing, supporting biodiversity and creating more ecologically sustainable urban places.

CONCLUSIONS

The resilience perspective offers value to public health and supports the development of strong communities. In the face of a growing complexity of global trends and processes, risk can become less predictable. It provides a framework for enabling people and communities to not only bounce back but crucially, thrive beyond crisis. The key messages proposed for practitioners and decision-makers around what resilience is and how it is created are:

- Resilience should be understood not as an individual trait but as an outcome of circumstances that enable individuals to seek and receive support in the face of challenge. Support is crucial for 'bouncing back' or status quo resilience but it is links between the grassroots of communities and those that make decisions about them that is key to adapting to new circumstances.
- Transformation and adaptability are key components of resilience. Be it for communities or individuals. Transformation and adaptation are more likely when a diversity of perspectives are expressed, heard and fed into decision-making processes.
- Structural and contextual circumstances such as culture, the economy, governance systems and infrastructure all have a role to play in supporting the capacity for transformation. Actions in each realm can increase the resilient capacity of communities when they are aligned to support the growth of social capital.
- Individual and community resilience support one another. Communities make individuals resilient but it is individual engagement with others and community mindedness that builds community.

The resilience perspective is potentially difficult for policy and practice domains to implement as an agreed objective. This is because the perspective requires thinking beyond the scope of each domain and requires coordination. Resilient individuals and resilient communities cannot be created through the action of one particular professional group or area of policy. Actions must be aligned with community development, economic policy, service provision and infrastructure planning all having a contribution to make.

Structural and material issues also underpin resilience for people and places. The meeting of basic material needs is a precursor for ongoing resilience and alleviating vulnerabilities (such as low pay) before crisis, and is consistent with resilience perspectives. While it is entirely possible to be resilient in the face of poverty and deprivation, successive periods of stress may serve to weaken, and introduce vulnerabilities that break resilience over longer timeframes. A resilience perspective must complement, rather than replace, action to alleviate the causes of economic inequality.

Resilience is best conceived as a process rather than a trait or quality that can be possessed. It is demonstrated through outcomes of success in the face of challenge. The more fundamental the challenge, the more likely success will be characterised by transformation rather than the maintenance of a pre-crisis state. Transformed states are harder to plan and programme into interventions than is the maintenance of a return to pre-crisis conditions. However, the ability to adapt and transform represents a more sustainable and realistic proposition in the face of risks which are by their nature difficult to anticipate.

The question for those concerned with promoting resilience is how to maintain conditions favourable to adaptation and change in the face of challenge. Resilience conditions are both internal and external to the individual; understanding adaptability as solely a personal skill

is unlikely to produce resilient communities. However, neither is it sufficient to concentrate solely on external conditions (such as the health of the economy or the rigour of accountability procedures) if it does not support the development, adaptation and promotion of capabilities in the people it serves.

Characteristics that support resilience in individuals are those that build strong interpersonal relationships in communities and allow transfers of information and support. Empathy, intelligence, interpersonal skills, the ability to ask for help (and being able to identify and navigate appropriate sources of help) are the building blocks of wider social capital. Promoting the resilience of individuals can therefore be seen as a point of entry into building stronger networks and communities. However, understanding (and measuring) resilience conceived only as an individual characteristic will be to misconceive the nature of the phenomenon.

A NOTE ON MEASURING RESILIENCE

There are difficulties in measuring resilience. Existing scales are not well placed to measure the *transformational* resilience of people and communities.

Issues to consider in the measurement of resilience include:

- Individual resilience has been framed around personal characteristics, attributes, attitudes, relationships, behaviours and personal resources.
- There remains no current 'gold standard' for the measurement of resilience at the individual level. The cultural appropriateness of scales needs to be factored in, since "*definitions of resilience are ambiguous when viewed across cultures*"[46 (p 174)].
- A range of indicators are commonly used when measuring the resilience of cities, regions or nations, such as carbon emissions, recycling, levels of active travel, economic activity. These indicators represent particular perspectives on the nature of the risk or potential discontinuity a society is likely to experience.
- Further, these issues are often measured as isolated threats, rather than as interconnected issues. Such approaches can identify gaps and potential threats but do not capture the process of adaptability and transformation as easily.
- With increasing scale, the complexity of the issues which may require resilient responses becomes difficult to manage or measure. The focus on measurement has largely been on what people need to do more of (e.g. recycling) for places to be considered resilient. A more useful approach would be to consider what populations need to enable transformational behaviours to come to the fore (e.g. for populations to become more future-oriented and to develop collective values).
- Other measures focus on the ability of communities and regions to cope in an emergency – to withstand challenge. Resilience here focuses on preparedness, which does not account for the fact that emerging challenges are not always known or understood, and therefore planned responses may not be sufficient.
- Measures of income and health inequality, distribution of resources and the power individuals and communities have to set agendas and enact change are key indicators of our understanding of resilience. Such measures exist and are well-known but often do not connect with discussions around preparedness and resilience.

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