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DOI: 10.1057/s41599-018-0066-z OPEN

# Capability and adversity: reframing the "causes of the causes" for mental health

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**ABSTRACT**

Scotland is well known for having the worst health in Western Europe, with the country's premature mortality mainly driven by suicide and substance misuse, rather than physical illness. These problems only emerged relatively recently, and a similar profile of premature mortality, sometimes called "diseases of despair", can be seen in other societies at different times. But what is "despair" in this context, and how might it exert its effects? Studies of the impact of Adverse Childhood Experiences (ACEs) on adult health consistently reveal a similar profile of morbidity, which is thought to relate to the effects of unremitting, unsupported, "toxic" stress. As models of childhood adversity expand to include a wider range of causes and powerful mitigating factors, there is a need to understand why some life events and circumstances are especially harmful. This paper argues that socioeconomic factors, childhood adversity, attachment, resilience and "toxic" stress are all consistent with a broader concept of human potential: Nussbaum's "capabilities approach" to human development. Incorporating our understanding of health and wellbeing in the broader frame of capabilities strengthens our understanding of adversity-related harm, and might also point towards new ways of repairing the social and individual damage they cause.

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> "You must always remember that the sociology, the history, the economics, the graphs, the charts, the regressions all land, with great violence, upon the body." (Coates, 2015)

## Introduction

Scotland is a proud small country, sadly burdened with the worst health in Western Europe. Poverty, inequality and the consequences of de-industrialisation have undoubtedly made Scots more sick, but these are not the only reasons. Even after adjusting for these socioeconomic influences, Scotland still experiences an "excess" of about 5000 deaths per year.

Scotland's high mortality is a relatively recent phenomenon, emerging only from the 1950s onwards (McCartney and Walsh et al., 2012), and mainly driven not by the poor diet of urban legend (Morrison and Petticrew, 2004), but instead by poor mental health and wellbeing. Two thirds of the country's excess mortality is caused by high rates of suicide, alcohol and drug abuse and "external causes", including violence (Walsh et al., 2016).

What's going on? Studies of a range of "unconventional" influences on health (including social capital, "sense of coherence", social mobility, climate, and sectarianism) failed to find any significant effects (McCartney and Collins et al., 2012; Walsh et al., 2013). More recent work has set out a complex, composite narrative which relates excess mortality in the West of Scotland to latent effects arising from historical deprivation, harmful social policy, educational under-attainment, the scope and scale of urban change, and measures of deprivation that probably underestimated the "lived reality" for many Scots (Walsh et al., 2016).

This short paper takes the patient untangling of the causes of excess mortality in Scotland as a starting point for a more general exploration of the socio-economic, psychological and political dynamics which influence population health, and especially mental health. It reviews the insights provided by research into Adverse Childhood Experiences, and argues that we need to embed our understanding of the causes of "toxic" stress within a wider frame. Nussbaum's Capability Approach could provide such a frame.

## An international context

The Scottish case is well known, but certainly not unique. One of the most dramatic peacetime increases in mortality took place in Russia from 1990–1994, when male life expectancy reduced by 6.1 years nationwide, and by an even higher proportion in cities: in Moscow, life expectancy dropped by 7.7 years (Parsons, 2014). The main causes of death were cardiovascular disease, suicide, violence, and alcohol-related deaths. Younger adults were particularly prone to mortality from violence and suicide (Shkolnikov et al., 2001).

Journalist Masha Gessen described the impact amongst her own contacts and acquaintances:

> "The deaths kept piling up. People—men and women—were falling, or perhaps jumping, off trains and out of windows; asphyxiating in country houses with faulty wood stoves or in apartments with jammed front-door locks; getting hit by cars that sped through quiet courtyards or plowed down groups of people on a sidewalk; drowning as a result of diving drunk into a lake or ignoring sea-storm warnings or for no apparent reason; poisoning themselves with too much alcohol, counterfeit alcohol, alcohol substitutes, or drugs; and, finally, dropping dead at absurdly early ages from heart attacks and strokes." (Gessen, 2014)

A similar profile began to emerge in the United States from the late 1990s. Between 1999 and 2013, mortality rates of middle-aged white men and women increased (Case and Deaton, 2015), especially in poorer communities affected by economic decline (Meit et al., 2017). The increased mortality was principally caused by drug and alcohol poisonings, suicide, and alcohol-related liver disease, accompanied by declines in overall health and particularly in mental health.

The financial crisis in Greece also led to a rise in suicides and mental health problems, though with a reduction in alcohol use (Laliotis et al., 2016). Premature mortality from substance misuse and suicide is also high in indigenous communities around the world, reflecting current and historical trauma, discrimination and disempowerment (Hunter and Harvey, 2002; Evans-Campbell, 2008; Wilk et al., 2017).

Economic and social dislocation does not always lead to increased mortality (in countries like Iceland, health improved after the financial crash). Where positive effects occur, they seem to be in response to assertive mitigating action by government (Stuckler et al., 2009).

While each situation has its own characteristics, there is typically a pattern of premature mortality strongly influenced by drug and alcohol misuse and suicide. Ethnologist Michelle Parsons borrowed the Muscovite phrase *ne nuzhny* ("dying unneeded") to understand the Russian mortality crisis (Parsons, 2014). Case and Deaton evoke a similar sentiment by describing the causes of increased mortality in the US as "diseases of despair" (Case and Deaton, 2017). The terms may have journalistic rather than scientific origins, but nonetheless we might reasonably ask why being "needed" should be so important, and how "despair" could affect health so dramatically. A growing body of evidence relating to the adult consequences of childhood adversity may offer some clues.

## Can ACEs help us understand these effects?

In 1998, Vincent Felitti and colleagues published a landmark paper about the influence of Adverse Childhood Experiences (ACEs) on health in adulthood (Felitti et al., 1998). ACEs were defined as ten forms of adversity experienced before the age of 18 years. They include exposure to physical, sexual and emotional abuse; physical and emotional neglect; and five kinds of "household dysfunction" (parents separated or divorced, domestic violence, substance misuse, mental illness and incarceration in prison). An "ACE score" is simply the count of these individual adverse experiences.

The study found not only that ACEs were common (two thirds of their sample had experienced at least one adversity), but also that the impact of ACEs on health and social outcomes in later life was immense. For example, smoking a pack of cigarettes per day will reduce life expectancy by about 10 years (Jha et al., 2013); but having an ACE score of six or more will reduce life expectancy by 20 years (Felitti and Anda, 2014).

The findings of the original ACE study have been replicated many times, and a recent meta-analysis showed that individuals with four or more ACEs were at increased risk of each one of the 23 adverse health outcomes identified (Hughes et al., 2017).

ACEs have a much stronger influence on some outcomes than others. While physical inactivity, overweight and diabetes are only modestly associated with ACE scores, the prevalence of smoking,

heavy alcohol use, cancer, heart disease and respiratory disease is moderately increased (two to three times more likely). There is a strong link between mental ill-health and alcohol use, but the strongest associations are evident for problematic drug use, interpersonal violence and self-harm. For example, for people with an ACE score of four or more compared to those with a score of zero, the odds of becoming overweight increase by 39%, and the odds of having cardiovascular disease more than double. But the risk of depression increases more than four times, the risk of being a perpetrator of violence increases eight times, the risk of problematic drug use increases more than ten times, and the risk of making a suicide attempt is more than 30 times higher. High ACE scores therefore seem to be associated with a profile of morbidity similar to that of the "diseases of despair", and the pattern of excess mortality seen in Scotland.

It is generally accepted that ACEs exert their effects through the impact of "major unrelieved stress over prolonged periods of time" (Felitti and Anda, 2014). The phrase "toxic stress" was coined to describe "what happens when children experience severe, prolonged adversity without adult support"(National Scientific Council on the Developing Child, 2014), and the impact of long-term stress on a range of body systems (including immune and endocrine responses, epigenetics, and brain development) is well-characterised (Shonkoff and Garner, 2012; McEwen, 2017). Research has confirmed that the risks associated with ACEs can be mitigated by the presence of a trusted adult being available throughout childhood (Bellis et al., 2017).

The science of ACEs therefore seem to explain at least part of the increased risk associated with socio-economic disadvantage, and a model has been proposed which links conventional socio-economic factors, toxic stress, attachment experience and ACEs with excess mortality (Smith et al. 2016).

But ACEs also have their limitations. Deliberately limited to household effects, ACEs exclude important factors taking place outside the home, such as bullying (Lereya et al., 2015) and racial discrimination (Slack et al., 2016). Researchers have therefore proposed amending the original ten measures to include a range of other harmful exposures, such as racism, witnessing community violence, living in an unsafe neighbourhood, bullying, a history of foster care, parental death, food scarcity, parents always arguing, peer rejection, low socioeconomic status, poor academic performance and having no good friends (Finkelhor et al., 2013; Wade et al., 2016). Extending the scope of ACEs in this way seems to provide a more accurate representation of the prevalence of adversity, especially for people living in deprived and ethnically diverse areas (Cronholm et al., 2015).

In summary, the original ACE study related childhood adversity to poor outcomes in adulthood. Chronic stress mediates those effects over the lifespan, modified by attachment processes in the form of protective relationships with adult carers. Since many poor health outcomes for parents are simultaneously new ACEs for their children, the potential for inter-generational transmission of adversity becomes apparent. Extending the scope of ACEs to include discrimination, exposure to community violence and poverty evokes a complex ecosystem of influences and interdependencies. It seems likely that different kinds of adverse experiences will have different effects, which themselves will be influenced by critical periods for child development, and the impact of protective or mitigating factors (Bush et al., 2016; McLaughlin and Sheridan, 2016).

There is also a more fundamental issue: both the core and extended versions of ACEs are based on harm caused by toxic stress, elicited in various forms across the life course. ACEs represent a deficit model, but what would a normal (or optimal) life course look like? Nussbaum and Sen's "Capabilities Approach" provides a practical insight (Nussbaum, 2011).

## Capabilities

The "capabilities approach" was developed as a paradigm for improving social justice in policy-making by the economist Amartya Sen and the philosopher Martha Nussbaum (Sen, 1999; Nussbaum, 2011). The approach informed the creation of the United Nation's Human Development Index (United Nations Development Programme, 2017), and has been applied to a range of settings including education, equality, employment, economic development and policy development. In this understanding, people have "functionings" which give their lives meaning and value. Those functionings are underpinned by "capabilities", the freedom or opportunities to achieve those functionings. Capabilities focus on what people are able to do and be, without forming judgements about what they actually do in practice.

Nussbaum proposes a set of ten core human "capabilities" which are necessary to live well (Fig. 1). Wellbeing is assessed by the extent to which someone might be able to realise their capabilities in each domain. These capabilities considered as inherently valuable, rather than being simply a means to other objectives. Since it considers ends as well as means, Capabilities recognises that people may vary in their ability to use their resources to achieve their objectives. "Conversion factors" at personal, social and structural levels influence peoples' ability to achieve socially just outcomes (Brunner and Watson, 2015). While focussing on outcomes, Capabilities recognises that resources matter to their achievement; poverty therefore represents a kind of "capability-deprivation" (Sen, 1999).

Childhood adversity clearly has the potential to limit functional capabilities. Nine of the original ten ACE items would disrupt one or more capabilities (with the exception of experiencing parental separation). Childhood abuse and neglect, for example, would harm the capabilities in respect of "bodily health and bodily integrity". Living with someone with mental illness or substance misuse problems might impair "attachment to persons outside ourselves" in the 'emotions category'. The extended list of ACEs is also consistent with capabilities: "poor academic performance" relates to the "senses, imagination and thought domain", and experiencing community violence and discrimination would limit "control over one's environment".

High ACE scores are strongly correlated with an increased risk of suicidal behaviour. Models of suicidal causation emphasise factors such as "thwarted belongingness", defeat, humiliation and entrapment (O'Connor and Nock, 2014), and again these influences would find a place in the capabilities approach, relating as they do to "bodily health, affiliation and control over one's environment".

Similarly, "diseases of despair" are not only about the material consequences of unemployment and poverty (which influence bodily health and control over one's environment), but also the psychological harm caused by the frustration and isolation of political disempowerment (affiliation).

## Conclusion

The emergence of "excess" mortality in Scotland prompted a systematic research effort to identify causes of illness that were not fully captured by conventional socio-economic models. Excess mortality in other societies at different times suggests that a profile of suicide, substance misuse and violence is often manifest during periods of economic and political dislocation and disempowerment. Since a similar profile is highly correlated with exposure to adverse childhood experiences, one might hypothesise that toxic stress might underly "diseases of despair", just as it does childhood adversity.

If "toxic" stress is so harmful, what might a life free of such stress look like? To ask the question is not to imagine some other-

**Nussbaum's ten capabilities**

"My claim is that a life that lacks any one of these capabilities, no matter what else it has, will fall short of being a good human life" (Nussbaum, 2011)

1. **Life**. Being able to live to the end of a human life of normal length.
2. **Bodily Health.** Being able to have good health, including reproductive health; to be adequately nourished; to have adequate shelter.
3. **Bodily Integrity.** Being able to move freely from place to place; to be secure against violent assault, including sexual assault and domestic violence; having opportunities for sexual satisfaction and for choice in matters of reproduction.
4. **Senses, Imagination and Thought.** Being able to use the senses, imagine, think, and reason, including access to literacy and basic mathematical and scientific training; being able to use imagination and thought in creative, political and religious expression.
5. **Emotions.** Being able to have attachments to things and persons outside ourselves; to love, to grieve, to experience longing, gratitude and justified anger. Not having one's emotional development blighted by fear and anxiety. (Supporting this capability means supporting forms of human association that can be shown to be crucial in their development.)
6. **Practical Reason.** Being able to form a conception of the good and to engage in critical reflection about the planning of one's own life.
7. **Affiliation.** Being able to live with and toward others, to recognize and show concern for other humans, to engage in various forms of social interaction; to be able to imagine the situation of another. Includes protecting freedom of assembly and political speech. Non-discrimination on the basis of race, sex, sexual orientation, ethnicity, religion, national origin and species.
8. **Other Species.** Being able to live with concern for and in relation to animals and the world of nature.
9. **Play.** Being able to laugh, to play, to enjoy recreational activities.
10. **Control over one's Environment.** Being able to participate effectively in political choices that govern one's life; having property rights on an equal basis with others; having the right to seek employment on an equal basis with others having the freedom from unwarranted search and seizure.

**Fig. 1** Nussbaum's ten capabilities (abridged from Nussbaum, 2011 pp 33–34)

worldly utopia, but instead to seek to better understand the conditions in which human potential and happiness can best be realised.

There is more to this swirling ecosystem of material, political and social influences on health than a list of ten capabilities and ten childhood adversities. Yet such a reframing may offer new insights into potential change: as Lewin argued, "there's nothing so practical as a good theory" (Lewin, 1943).

To incorporate ACEs within the capabilities approach usefully frames adversity in a wider social, philosophical and economic context. To do so is not to underestimate the importance of poverty and inequality as drivers of poor health. In fact, it highlights that such socioeconomic factors are not just a cause of disempowerment, but may be themselves a consequence of it. Adversities and capabilities each operate at the level of individuals, households and societies. The capabilities approach emphasises opportunities, as well as impairments, and the influence of communities, as well as individual circumstances. It is respectful of personal choices and priorities, and usefully extends the scope of "adversity" to consider the harm done when educational and political choices are constrained. "Participative, deliberative and democratic," Capabilities generates a key role for public services to design and apply Conversion Factors:

> "the ability to (re)configure services, campaigns, laws, regulations, resources etc. to intervene and achieve a positive and sustainable change in what people experiencing social injustice are actually able to do and be (evidence-informed policy choices), including through co-production or developing assets, and with third sector or private sector partners as required" (Brunner and Watson, 2015)

Childhood adversity and toxic stress are among the underlying causes of many public health problems. Capabilities conceptualises that "toxicity" in a way that might let us recognise and understand it more readily; and in particular to use conversion factors to enable change. These insights are not new in themselves: they are consistent with the priorities of social psychiatry and the recovery movement in mental health, and reinforce the need to tackle inequality, discrimination and educational and political exclusion. ACEs thinking reframes our thinking by asking not "what's wrong with you?" but "what happened to you?" In a similar way, Capabilities links the personal to the structural, and challenges us to change the policy stance and service paradigm from "here's your support" to the more respectful question "what do you need?"

Received: 31 October 2017 Accepted: 19 December 2017
Published online: 13 February 2018

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## Additional information

**Competing interests:** The author declares no competing financial interests.

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