

Assistive Technology and the Wellbeing of Societies from a Capabilities Approach

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This Special Issue considers two core facilitators of functioning: assistive technology and environmental intervention. Assistive technology includes assistive products and related services, while environmental intervention refers to adaptations to a person's environment. Assistive technology and environmental intervention represent a continuum of impactful yet under-realised enablers. Usually lensed through the paradigm of functioning, disability and health as articulated in the WHO International Classification of Functioning, Disability and Health (WHO ICF) [1], we propose a re-thinking of assistive technology and environmental intervention through human rights and developmental economics as expressed through Sen's capability approach and Nussbaum's capabilities approach [2,3].

These paradigms share many concepts expressed with different terms. Both the biopsychosocial model and the capabilities approach start by asking what the person wants to do and be: termed self-determination/person centeredness in health, and freedoms and choice in a capabilities approach. Figure 1 [4] maps key concepts from the WHO ICF about a person (health conditions, body structures and functions, and personal factors), their context (contextual factors and environmental factors), and their functioning (activities and participation), with key concepts from the capability approach.



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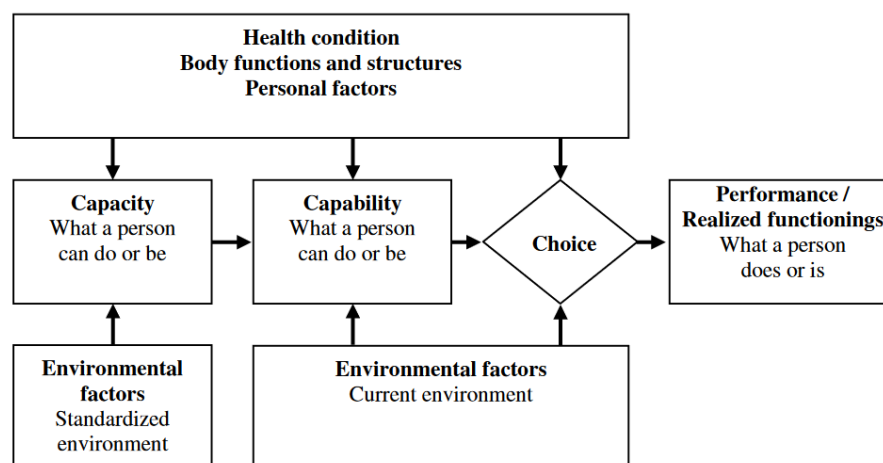


Figure 1. Relationships between constructs of the WHO ICF and the capability approach (reprinted with permission from the author).

One of the creators of the WHO ICF, Jerome Bickenbach, suggests that applying the capability approach will bring about justice in the way societies allocate resources, including marginalised groups such as people with disabilities [5]. The biopsychosocial perspective of health sees practitioners working at individual, family and community levels.

A range of rehabilitative or educative interventions and adaptations are utilised, essentially to improve the relationship between person, task and environment. These interventions may remediate an individual's functioning but will not address the macro factors, such as unstable environments (natural or governmental), which massively influence whether people have access to equal opportunities in life.

From the perspective of developmental economics, the real driver of opportunity to achieve equal outcomes is the distribution of resources. Inequitable resources or lack of resources is unlikely to be new to healthcare workers, people living with a disability, or assistive technology/environmental intervention users. The notion of a capability gap essentially unifies the human experience. This may avoid the marginalisation of many groups, such as people living with a disability or users of assistive technology and environmental interventions, who experience a combination of stigma and low expectations when it comes to resource allocation. The capability approach strengthens the arguments for justice and for equitable resource allocation. The capability approach operationalises the social determinants of health by enabling us to ask: what is creating the capability gap, and at what level must change occur to address this?

The papers in the Special Issue theoretically and empirically explore the links between access to assistive technology or environmental intervention and justice, equity and the wellbeing of societies.

Drawn from international contexts and addressing diverse aspects of the assistive technology ecosystem, these papers illustrate the capability approach in multiple ways. Austin and Holloway [6] revisit foundational writings of capability theory and make the case for assistive technology as a global strategy for human flourishing delivered within a disability justice framework. Country-level AT policy is critically evaluated through a capability lens within Russia (Shoshmin et al. [7]), India, Nepal, the Philippines and South Korea (Gupta et al. [8]). Innovations in provision designed to enhance capabilities are described by Maalim and MacLachlan [9] (the AT Passport in Ireland) and by Boccardi et al. [10] (Makerspaces in North America). Provision is revisited using the capability approach perspective of 'each person as an end' for assistive technology users in Hungary (Menich [11]) and Argentina (Layton et al. [12]). Applying a capability perspective to primary data on assistive products, Brusco et al. [13] present an economic case for robotics in rural Australia. The fundamental question of whether assistive products enhance or equalise opportunities, which is explored through a comparison of capability of people with impairments using and not using assistive products and their non-impaired neighbours in Bangladesh (Borg et al. [14]). Borg et al. demonstrate that assistive products alone enhance capabilities but do not fully equalise opportunities between people with and without impairments. Steel [15] explores the challenges of 'prioritising individual versus collective interventions' (page 5 of 8), calling for radical reform towards a contemporary economic paradigm of inclusive and sustainable development.

These papers support the contention that assistive technology and environmental intervention are instrumental commodities that can play a critical role in enhancing capabilities and closing capability gaps. They exemplify the importance of an ecosystem approach [16–18] to specify roles for duty holders, including governments and civil society, in relation to resource allocation and other systemic actions to ensure the wellbeing of societies. As a whole, this Special Issue exemplifies ways the capability approach can help achieve the goal of the UN Convention on the Rights of Persons with Disabilities [19], that is, full and equal enjoyment of all human rights and fundamental freedoms.

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