Journal Pre-proof

Definition: Compensation

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Discussion Forum: *Definitions*

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Compensation is defined as a cross-level automatic and/or voluntary mechanism through which a genetic, neural, cognitive, and/or behavioural atypicality is counteracted by internal bodily processes and environmental factors. It refers to the effects of functional reorganisation and/or the vicarious role of biological systems and the external environment and devices. Aimed to facilitate a more typical level of functioning, compensation can result in positive and/or negative consequences for people's health, wellbeing, and autonomy.

The word 'compensation' derives from the Latin *compensatio* (noun) and *compensare* (verb) meaning 'weighing against'. It was initially used in genetics but has become most well-established and used in the field of neuropsychology as well as in other medical and psychological domains. Compensation differs from *maintenance* and *reserve*, which are processes through which a potential impairment is less expressed or completely circumvented through accruing resources that outweigh any forms of decline. Compensation has been operationalised to explain mechanisms counteracting neurocognitive atypicalities, either spontaneous or learned, and thereby 'camouflaging' atypical behaviours in neuropsychological and neurodevelopmental conditions.

Compensation is defined in relation to normative standards of cognition and behaviour. Accordingly, an individual may learn alternative ways of processing or behaving, but it is equally possible that environmental factors might be adjusted or supportive tools may be adopted, such that an otherwise 'impaired' individual is able to function more in line with normative standards, i.e., 'two-way compensation'.

Compensation often has an adaptive function but is not always a beneficial process for compensating individuals, such that it can result in effective but also effortful and/or wasteful processes and mechanisms, i.e., maladaptive compensation.