The technological cognitive diminishment hypothesis (TCDH)

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Cognitive scientists, psychologists, and neuroscientists systematically assume that several factors affect human cognition, among which technology plays a pivotal role. There seems to be large consensus on the fact that influences on cognition may be both beneficial for some aspects and deleterious for others. Consequently, while cognitive capacities can be enhanced by technology under certain circumstances, they may be diminished in others. While the possibility of an enhancement of our cognitive capacities has been explored by different perspectives (Farah et al. 2014), especially with a specific focus on the contribution of technology (Anguera et al. 2013, Heersmink 2016), the hypothesis of a technological cognitive diminishment (TCDH) has rarely been explicated by scholars (Tamir et al. 2018) and remains insufficiently explored.

Cognitive enhancement «refers to the improvement of cognitive ability in normal healthy individuals» (Farah et al. 2014). Conversely, cognitive diminishment (Engelsma et al. 2021, Holmen 2022) can be characterized as the diminishment of cognitive abilities in normal healthy individuals. Consistently with the fact that technological artifacts (i.e. computers and video games) have been considered as potential enhancers (Dresler et al. 2013), the hypothesis of a technological cognitive diminishment (TCDH) posits that, under some circumstances, a cognitive diminishment may be caused by some technological artifacts (Clowes 2013, Cassinadri and Fasoli 2023).

In this article we bring together evidence demonstrating that even though scholars have not explicitly formulated the hypothesis that some technological artifacts may diminish some cognitive abilities, it is implicitly recognized by many of them. We contend that just as the hypothesis of an enhancement by technology has been extensively considered, equal attention should be given to the possibility of cognitive diminishment. In light of the emerging era of artificial intelligence, emphasizing the significance of investigating the TCDH remains imperative.

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