The Role of Enzymes in Cognitive Enhancers and the Implications of Intervention When Used as Smart Pills.

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Abstract. Learning is a complex process, that depends of many functions of the brain like memory, concentration, information processing, perception and language. As such, learning capacity can be diminished by age or conditions that alter these functions. Drugs devised to target and restore these abilities are called nootropics. Enzymes as biological catalysts come into play in many processes that directly or indirectly affect brain activity which makes them perfect candidates to manipulate in order to create nootropics. Promising efforts have already been conducted like BACE1 inhibition for reversing cognitive damaged caused by Alzheimer's disease or acetyl and butyryl inhibitors cholinesterase to treat patients with moderate to mild AD. As nootropics get of out of the scope of disease treatment and enter the realm on human enhancement with the name of "smart pills", the implications of enzyme intervention becomes relevant.