
Executive Functions Are Better than IQ?

John Okutemo¹ and Mitsu Nakamura^{2*}

¹MD, PhD, Usman University, Sokoto, Nigeria

²MD, PhD, Graduated University of Advanced Studies, Miura, Japan

*Corresponding author: Nakamura M, MD, PhD, Graduated University of Advanced Studies, Miura, Japan, Tel: +81 46-858-1500; E-mail: mitsunaka216@gmail.com

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Here is another great pillar of intelligence formation: the development of executive functions. Executive functions are essential, it is the cognitive skills that allow us to act in an organized way to achieve our objectives [1,2]. Experts identify three main areas: working memory, inhibitory control and cognitive flexibility. Indeed, when we want to do something, whether it is solving a math exercise, making a declaration of love, learning to play the piano or learning a dance step; we need three so-called executive skills: we need a good working memory, which allows us to keep information in memory and organize it; a good inhibitory control, which allows us to inhibit distractions to stay focused, to control our impulses, our emotions, or inappropriate actions; and finally, we need cognitive flexibility, to be creative and adjust our strategies in case of mistakes [3-5]. These executive functions are fundamental. Hold them tight. They allow us to function, to be able to achieve in the world what our intelligence commands [6-9]. Indeed, when we have a good memory, good self-control and flexibility, we can act successfully and swim with confidence in the great bath of life. Conversely, without them, we simply could not have intentionally organized and controlled behaviour to achieve any goal. Any situation of action or learning would be made difficult. These skills are considered by experts as the biological foundations of learning [7,10-12]. Indeed, if children have weak inhibitory control, the slightest distraction distracts them, waiting their turn to speak or act is difficult for them, they have difficulty controlling their emotions and they do not show perseverance [5,13,14]. If their working memory is not developed enough, they forget the instructions, they have difficulty organizing their actions, and do not remember the meaning of the paragraph they have just read. Finally, if they lack cognitive flexibility, they have great difficulty in re-organizing their action if necessary, get discouraged quickly if their strategy does not work and do not necessarily identify their mistakes [15,16]. This can have a profound impact on the overall classroom climate and is often reported by teachers as a source of frustration and burnout." These children themselves feel a great disadvantage compared to their friends, they are not able to follow the complexity of a game for example and can thus be sidelined by their peers.

Conversely, many studies indicate that children who have developed good working memory, inhibitory control and flexibility achieve better academic performance, and, as adults, pass exams better, enter better universities and obtain more satisfying jobs [17,18]. But beyond that, and this is what really interests us, they have the means to achieve the goals they set for themselves in their lives.

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Many studies indicate that when we have well-developed executive functions, i.e. good working memory, inhibitory control and flexibility, our chances of success and growth are more assured than with a high IQ. A study, known as The Marshmallow Test, was conducted in the 1960s by psychologist Walter Mischel of Stanford University. It aimed to measure the relationship between the development of one of these executive functions - inhibitory control - and success in adulthood. To measure this, Walter Mischel willed 500 4-year-old children and followed them for nearly 30 years. The test consisted of placing a Chamallow in front of each child, then leaving him alone, sitting in front of the Chamallow, for about fifteen minutes. The psychologist explained to the child: "If you don't eat the Chamallow while I'm away, you'll have one more when I get back." Not all children showed the same patience, and those who managed to wait did not necessarily have the highest IQs. Children who had been able to control themselves and wait until they were 4 years old, had more friends in adolescence than others, managed their stress better, had better self-esteem, expressed themselves better, entered better universities and, as adults, had more satisfying jobs - even with lower IQ. Finally, they had significantly fewer alcohol or drug problems at the age of 32, and were in better health, than those who - at 4 years old - had not been able to resist the temptation of Chamallow.

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