PSYCHOLOGON

HYPERTHYMESIA

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In the first part of this article you got to know that hyperthymesia is a special condition of autobiographical memory when people remember abnormally huge amounts of their own life experiences, even not the important ones, and you read about the first case from 2006, American school administrator AJ that was deeply studied. Here you can discover how it works and how it is even possible. Afterwards, you can read about some other cases and how they struggle in the everyday life. Finally, there is introduced the way how the discovering of hyperthymesia could help in future research.

How does it work?

Hyperthymesiacs are not "calendrical calculators" like some people with autism or savant syndrome. If given a date, they just easily know it (Foer, 2007). They are different from those people because they are sociable, they can keep the eye contact and appropriate conversation and they have a limited interest in using and memorizing calendars. They have no mnemonic strategies and their memories are like uncontrollable associations, their remembering is automatic.

How is it possible?

This question was answered by a lot of fMRI studies. They indicated that the prefrontal cortex, which is really important for executive functions, decision making and supressing information, is not working properly. It means that hyperthymesiacs are better in storing memories but worse in blocking their retrieval (LePort et al., 2009). In the first study of AJ's brain, McGaugh and his colleagues (2006) found that she has abnormally bigger (7-8 times) areas – the caudate nuclei (for automatic habits) and part of the temporal lobe (collects and

retains facts). When these areas cooperate, they create a type of event recall which istotally automatic.

The caudate nuclei is bigger also in patients with OCD. Hyperthymesiacs were tested for it and they scored significantly higher on the Leyton Obsessional Inventory-Short Form than the controls. They also reported that they collect things, need order in their environment, and/or are germ-avoidant (LePort et al., 2009). For example, they are also categorizing every event in their memory, they need organization also in their memories.

Nevertheless, does their autobiographical memory work in the same way as in us? Hyperthymesiacs were tested for their vulnerability to memory distortions and they failed in the same way as controls with ordinary autobiographical memory. Their brain also works in an associative way, so it is possible that there can appear mistakes and misinformation. Hyperthymesiacs are as susceptible to false memories as controls. However, these findings do not deny their extraordinary ability, because in autobiographical tasks they are correct in 97% (Patihis, 2013).

It would be easy to expect that these people were born like this but is it true? To this date, nobody knows, but researchers are trying to find out. Most hyperthymesiacs start to remember events when they are around 10.5 years old and become aware of their ability at the age of 11.6 (LePort et al., 2009). Is it possible that their superior ability was caused by the environment? The research of hyperthymestic syndrome is still in its beginnings.

Another specifics of hyperthymesia

After the first mention of hyperthymestic syndrome in 2006, there began to explore new cases. McGaugh was contacted by 200 people claiming that they have hyperthymesia, so they were tested. However, only a handful of them were determined to be actual cases of hyperthymesia.

In next research, the scientists studied also their brain laterality and they discovered that being left-handed in hyperthymestic population might be over-presented. Specifically, 5 from 11 in LePort et al.'s study (2012) were left-handed, while likelihood of something like this would be less than 1%.

In LePort et al.'s study (2012), hyperthymesiacs were tested with a wide test battery which concluded also test for remembering faces. They were shown fourteen unknown faces and each face was verbally assigned with first and last name and later asked for it. Hyperthymesiacs were significantly better in this than controls. It might be from the reason that

connection name to face is an important social tool and a common autobiographical occurrence.

As hyperthymesiacs remember everything really vividly and in the same power of emotion as it was that moment, it is also when something negative happens. Because of this they were also tested for depression in Becks Depression Inventory II but there was found no significant difference between them and controls (LePort et. Al, 2012).

What about hyperthymesiacs and relationships? It must be really difficult to live with something with superior memory. Only 2 of 55 in the United States have successful marriages (Spiegel, 2013). In this condition breakups must be horrible. It is not only about close relationships, but sometimes simple conversation may not be easy, too. People without this ability might not understand it, they may thing that it is photographic or autistic. This kind of memory can be really isolating. Specifically, how one HSAM woman says: "it is like being fluent in language that nobody can speak"or "like being in the world where everybody else has amnesia"(Endless Memory, 2010).

How can the discovering of hyperthymesia help in further research?

The discovering of hyperthymesia has opened new doors in the research of autobiographical memory and further understanding could help to find the way how to remember more, also in convalescence in amnesia or treating other disorders of memory.

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Picture source:

http://www.peoplewithpotential.org/hyperthymesia