

The main subject of the present project are involuntary autobiographical memories. They are often experienced in everyday life. Every time when something that we personally did or experienced in the past spontaneously pops in our mind, we experience involuntary autobiographical memories. These types of memories are most often experienced when we are engaged in an automatic activity with low attention and cognitive resource demands (e.g. washing-up, ironing). Although, we do not try to recall anything from our personal past, it simply pops in our mind triggered by wide variety of cues that can be found in our nearest surroundings (e.g. heard words, seen objects). Involuntary autobiographical memories are usually harmless and they most often relate to positive and pleasant events. However, sometimes they may become a burden especially when they refer to the events we want to forget. It happens especially in post-traumatic stress disorder (PTSD) in which memories repeatedly intrude upon consciousness and are extremely distressing and difficult to control. For that reason, such intrusive memories are one of defining features of PTSD.

The present OPUS project aims to answer the questions; namely, how involuntary memories come to our mind and why some of us experience them more frequently than another. To do so, we will look at a mental ability called “working memory”. On one hand, we use this mental function each time when concentrating on some important task, we ignore the interference from other irrelevant stimuli that are in our nearest surroundings. On the other hand, working memory allows us to maintain some information in our mind while manipulating other. For example, thanks to working memory we can carry on with reading an interesting book uninterrupted while driving a tram with other people talking aloud. It allows us also to continue reading after being interrupted, for example, to show our validated ticket. Thus, it can be expected that the better working memory we have, the stronger we can concentrate on the ongoing task, and thus we should be less prone to experience involuntary autobiographical memories. On the other hand, having better working memory may allow us to simultaneously process more information at the same time. Therefore, one may expect that the stronger working memory, the more memories one may experience. The main aim of the present project is to investigate the basic mechanisms of involuntary memories by studying this particular situation; namely, the extent to which involuntary memories depend on working memory. It can be expected that while each of us may differ from the others in the working memory capacity, this will not affect the frequency with which the involuntary memories are experienced, especially when the ongoing task is easy and not very demanding. On the other hand, when the task demands are high people differing in terms of working memory capacity should differ from each other also in terms of how frequently they experience involuntary memories. In order to verify these assumptions, we have planned experimental studies to thoroughly describe the role of working memory in the formation of involuntary autobiographical memories. For that reason, the realization of the project may give us a comprehensive understanding of mechanisms of involuntary remembering our past.

It is important to highlight that answering the question of how and why IAMs come to mind has important implications for our understanding of intrusive memories in posttraumatic stress disorder (PTSD) and related disorders. For that reason, the realisation of the OPUS project is socially and practically important since it may help developing strategies for coping with such intrusive memories.

Apart from these socially and practically important implications the involuntary memories research completes in a significant way knowledge concerning construction of autobiographical memories. Research on involuntary memories verifies the assumption adopted by the researchers, that one, very specific cue may trigger involuntarily a memory and its construction and retrieval may be unconscious. Finally, involuntary memories are also samples and at the same time indicators of the continuous, conscious and unconscious mental activity that may have also a significant impact on people's mood and well-being.