

'Remember to buy milk', 'Don't forget to send a card to your aunt', 'I promise, I will do it tomorrow', 'Tuesday 3 pm – visit the doctor' ... How often do we have to remember to carry out an intended action in a particular moment and place in the future?

In such cases, we have to rely on our prospective memory – one of the types of memory. The phrase *prospective memory* may raise some doubts, because when we hear the word *memory*, we almost immediately think about the past (i.e. about retrospective memory). However, it seems that failures of prospective not retrospective memory are the most common memory problems (forgetting to visit the doctor, to keep an appointment, to do shopping, etc.). Prospective memory is critical to carry everyday life and, thus, is garnering more and more of substantial attention in cognitive psychology. Despite this fact, there is still a paucity of research on prospective memory. There is even less developmental research on prospective memory – it represents only a small percentage of research in this field of interest. Although the number of studies on the early development of prospective memory has increased recently, it still appears to be insufficient due to the number of requirements that prospective memory faces in contemporary life, and taking into account that prospective memory is crucial to achieving goal-directed activities in everyday life. From the early childhood, children have to “remember to remember” about many daily activities such as packing favourite toys before going on holidays, feeding the fish, packing their gym clothes before classes, picking up their things to take home from kindergarten, delivering a message to a teacher or reminding a parent of a promised treat.

Children struggle with prospective memory tasks in some situations but are remarkably successful in others. Researchers have been trying to find out what determines the efficiency of prospective memory. However, existing results do not provide any undoubted answers. In addition, it is not known precisely when the ability to perform prospective tasks appears, especially in the case of remembering to do something after a set amount of time or at a certain point in time (so called time-based prospective memory). Likewise, the data concerning the event-based prospective memory (that involves remembering to do something in response to a certain event or a person) are not consistent and often bring contradictory findings. This may be due to the lack of a theoretical model of prospective memory relating to its functioning in childhood, which could combine the research into a common direction.

Due to these premises, a study aimed to look for the first signs of prospective memory is planned. To be precise, the objective of this study is to answer the question: when does the ability to perform prospective tasks occur. Another goal of the study is to describe how this ability develops in preschool children, and to identify the role of different cognitive abilities in remembering about intended actions. The planned study is also aimed to verify the theoretical prediction of one of the prospective memory models, which has been successfully used in the general research, but yet has not been thoroughly investigated in very young children.

In order to achieve the objectives, two experiments are planned – one relating to the event-based prospective memory and one to the time-based prospective memory. Children aged 2.5-6.5 years old (i.e. from the entire range of preschool years) will take part in the experiments. Both experiments will be designed to resemble the game that will contribute to greater involvement of children than it would be in the case of traditional experiment. For this purpose the mascots of a mole and an owl will be introduced. The children will be asked to help them in certain activities. Thanks to organizing the experiments in that way, the youngest preschoolers can actively participate in the research. Thus, the first signs of prospective memory can be observed. The tasks used in the experiments will be also directly referenced to the assumptions of the theoretical prospective memory model, which will allow verifying its adequacy in studies involving children. In addition, in both experiments many cognitive abilities, which may be relevant for the development of prospective memory, will be measured.

Therefore, the planned study will provide some conceptual and practical implications. First of all, the study will provide a theoretical framework for future research on prospective memory in childhood. In addition, the study will enable tracing the trajectory of the development of this type of memory in the early childhood, and also it will contribute to the understanding of the specifics of prospective memory and finding the mechanisms which underlie its development. The planned study will also have some practical implications – it will provide the information what can and what cannot be required from a child of a certain age: which tasks they are able to perform and which they cannot yet fulfill (due to the limitations of the prospective memory). Respecting this knowledge will allow for adapting the tasks, which require remembering about intended activity, to the child's age. Such kind of information may be useful, for example, for preschool teachers who are asking a child to perform a certain actions, expecting positive outcomes, while it may turn out that a child does not have the capacity to perform such tasks. Hence, the planned study may be important not only from the point of view of science, but also of educational and social practice.