

The first game that I chose to play from the Cognifit website was “Candy Factory,” which was located under the memory category. Specifically, the game was under the subcategory of short-term memory. I chose this game because I feel like my short-term memory is very strong and that I would be able to get a good score. I was correct in my prediction, as I was able to answer all of the questions correctly. I was not able to receive my score from the game, as it only gave me a certain amount of time before abruptly stopping the game and prompting me to sign up for an account. Executive functions that helped me play the game include organization, decision making, cognitive flexibility, attention, and memory.

I gathered the information about the game that could help me finish the game at a quicker pace. This information includes where the candies and bags were located as well as the order that the candies were organized in. Organizing this information in my brain assisted me in getting the candies into their correct bags quicker in order to get a higher score. Another executive function that I used that helped me succeed in this game was decision making. Being able to quickly decide which candies to drag into the bags as well as choose the bag that had the correct candy in it is what increases the score of the game. Cognitive flexibility also helped to prepare me for this game. Being able to switch my brain to understand the rules of the game and focus on it played a large role in my success along with attention. Selective and sustained attention are the two specific types of attention that helped with this game. Selective attention allowed me to focus on the game even though there were other stimuli present in the environment. Regardless of my roommate being around and the tv being on, I was able to give the game my full attention and get a high score. The focused attention played a role in being able to continue playing the game for the period of time I was given. If I didn’t play for the full amount of time, I would not have been able to continue to increase my score. One final executive function that was used for the

successful completion of this game is memory, specifically short-term memory. Being able to keep the image of the candies in my head for a short amount of time after they disappeared allowed me to replicate the candies positions, which was the main goal of the game.

The second game that I chose to play was the game “Minus Malus” which was located under the category of reasoning and subcategory of processing speed. I chose this game because it involved a small amount of math, which I enjoy. I was successful in hitting every box with the correct number of bullets during this game, earning a score of 110 before my time was cut short by the advertisement. I enjoyed playing this game and proved to be good at it, however, I wish as you leveled up it would have added more numbers that could go on the bullets and higher numbers on the squares so the math would be more difficult. Some executive functions that assisted me in the completion of this game include; planning, reasoning, judgement, impulse control, and memory.

The executive function of planning allowed me to prepare myself for the game and what was to be expected. Before starting the game I had to understand the keys used to shoot the bullets and that the squares I was supposed to shoot would come from the top of the screen. This assisted me in planning how I was going to place my fingers and where I was going to look when the game started. Once the game had started, the executive function of reasoning helped me to shoot the correct amount of bullets that would equal the number on the squares. Being able to know what numbers I need to add together in order to make the squares explode allowed me to play the game correctly and increase my score. The executive function of judgement helps with my aim for the game. In order to hit the squares with the bullets, I had to judge the distance of the square as well as the angle I needed to shoot at to hit it. Without judgement I would not have been able to hit any of the boxes, resulting in no points being scored. Instead of randomly

shooting bullets at a high speed, I had to calculate different factors in order to avoid wasting bullets and points. This was possible due to impulse control. Without the impulse control, the final score of the game would not have been accurate as the shooting would have just been random instead of calculated. Working memory also plays a large role in the success of this game as it allows me to hold on to the information of where to place my fingers and what numbers the keys represent throughout the entirety of the game.

The third game I chose to play was the game “Lane Changer,” which can be found under the coordination category, with the subcategory of response time. I chose this game because I know sometimes my response time can be slow, so I wanted to test it. The game started at a slow pace and a large amount of lanes and as you leveled up, the speed would get faster and the lane number would decrease. This made the game difficult, but I enjoyed it nonetheless. I wasn’t able to catch my score before the advertisement popped up because the game was moving so fast, but I only crashed twice throughout the entirety of the game. Some executive functions that played a role in the completion of this game are planning, decision making, cognitive flexibility, and attention.

Planning was a very important executive function to my success in this game because I had to plan where I was going to place my fingers on the keys in order to be able to make quick and precise movements. It also worked with the executive function of decision making when deciding which lanes to move into. These two together allowed me to look ahead to see if there were more cars in a certain lane and make a quick plan to move into the lane that I could stay in the longest. Without planning the hand positions, it would have been harder to click the right buttons and may have resulted in more crashes. If I didn’t use decision making, it would have been hard to move into different lanes because I wouldn’t be able to choose a lane. Cognitive

flexibility also helped throughout this game because it allowed me to not only understand where my motorcycle was on the screen, but also watch the incoming cars. This required me to use sustained attention while trying to focus on where the cars were coming from along with keeping the knowledge of where my motorcycle was. The sustained attention allowed me to keep my attention on the moving cars for the entire length of the game and prevented my number of crashes. All of the executive functions used for each game are extremely important in many different tasks and help us throughout our lives.

## References

*Cognifit*. CogniFit's Free Brain Games-Play Today. (n.d.). Retrieved December 1, 2021, from <https://www.cognifit.com/brain-games>.