Time-Based Prospective memory in children and Adolescents with 22q11.2 deletion syndrome

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INTRODUCTION

The novelty of this study was to explore time-based prospective memory in 22Q11.2 using the Dresden Cruiser task. Prospective memory (PM) is a form of memory that involves remembering to perform a planned action or intention at some future point in time. (Eg. Remember to put his history book in his schoolbag for the next day)

METHODS

Participants:

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<th>Healthy Children N =18</th>
<th>22q11Children N= 16</th>
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<td>Age</td>
<td>11.17 (2.08)</td>
<td>11.94 (3.13)</td>
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The Dresden cruiser task

1. The ongoing task

In the ongoing task, participants have to drive a target car and overtake as many cars as possible without crashing.

2. The prospective memory task

In the PM-task, participants have to remember to refuel the target car but had to press on a button to make the fuel appear on the screen. The fuel gauge allowed participants to check how long they had before needing to refill the car.

RESULTS

Performance was measured by refuelcount, the number of times the participant successfully refueled and monitoring was measured as the number of times the participant chose to check the fuel gauge.

Prospective memory performance

A main effect of group was observed for the prospective memory performance, F(1,32)= 4.13, p= 0.01, η²_p =0.11, with higher performance in healthy children than in 22q11 children. No significant difference was found between the two groups for monitoring, F<1 or for the ongoing task, F= 2.7.

DISCUSSION

• PM deficits in 22q11 children compared to healthy children
• 22q11 children less able to refuel the car even though they checked the gauge the same amount of times
• Failures of PM = negative impact in daily life, particularly in academic (studying for an exam instead of attending a party) and social sucess (remembering to meet a friend after school)
• Perceptive : better understand PM deficit, develop training program to rehabilitate PM (Eg. electronic memory aid)

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