

Unimpaired Novel Object Recognition in Developmental Prosopagnosia



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Introduction

Recent studies have shown that 22-80% of developmental prosopagnosics (DPs) have mild to major object recognition deficits as well as significant group-level deficits in object recognition.

Prior investigations have largely used familiar objects (e.g., cars) as their measure of object recognition, and performance on these object categories could depend on object-specific experience.

To better characterize DPs' object recognition abilities, 30 developmental prosopagnosics and 30 typically-developed controls (TD) were administered a novel object memory test (NOMT Ziggerins) and the Cambridge Face Memory Test (CFMT).

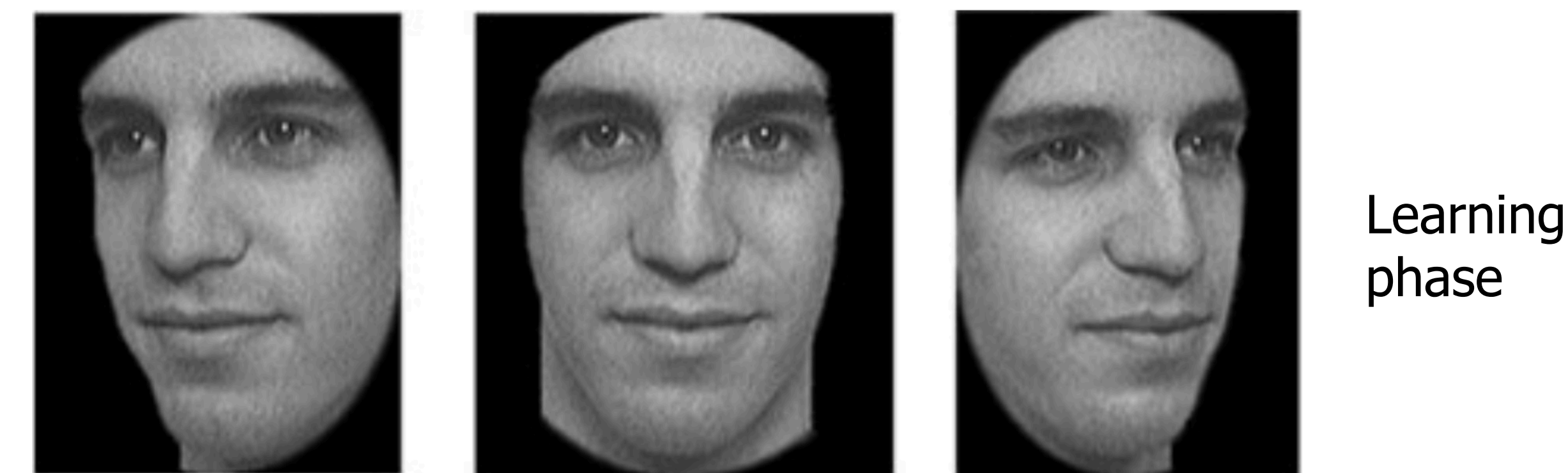
Methods

Test Battery

- Cambridge Face Memory Test
- Novel Object Memory Test – Ziggerins

Participants are shown either a face (CFMT) or object (NOMT) from 3 different viewpoints and must subsequently select the face or object they have learned from among 3 choices, 2 of which are distractor items. This repeats for 6 target items.

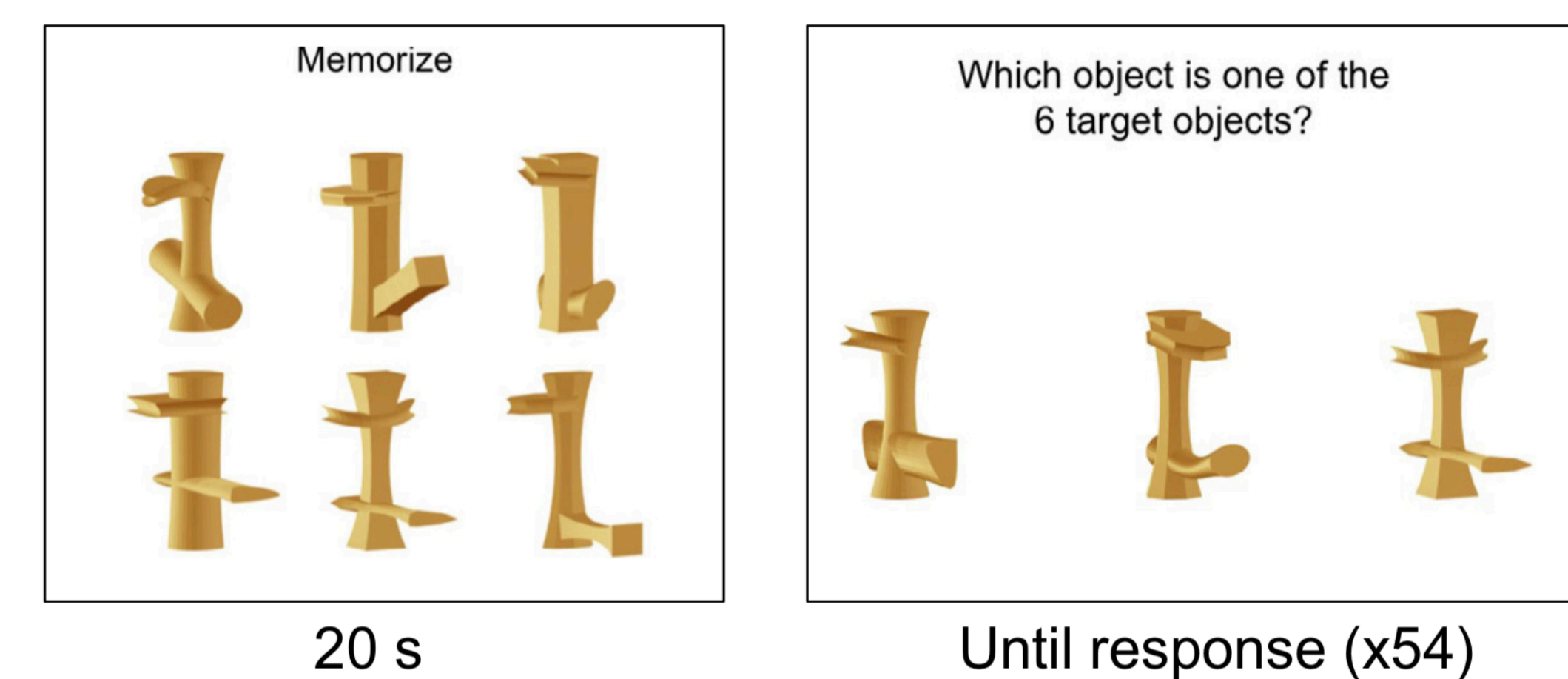
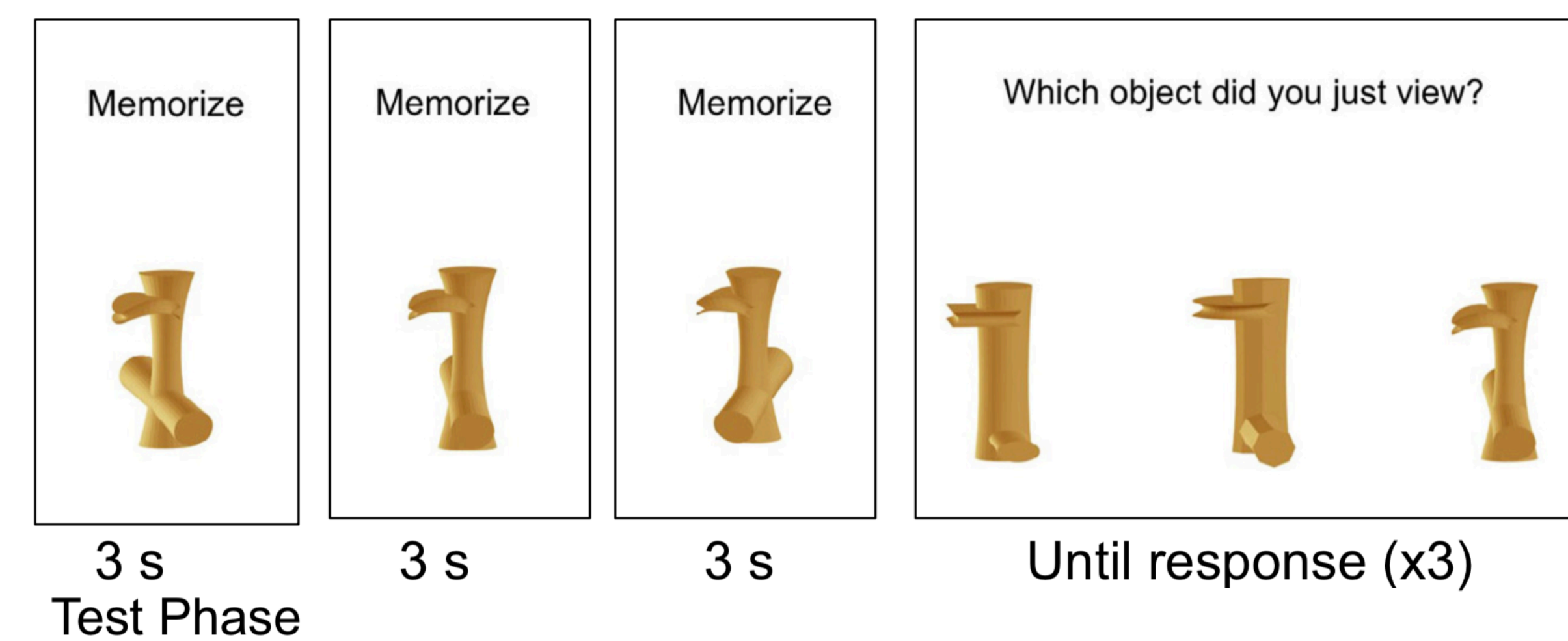
CFMT



Learning phase

NOMT

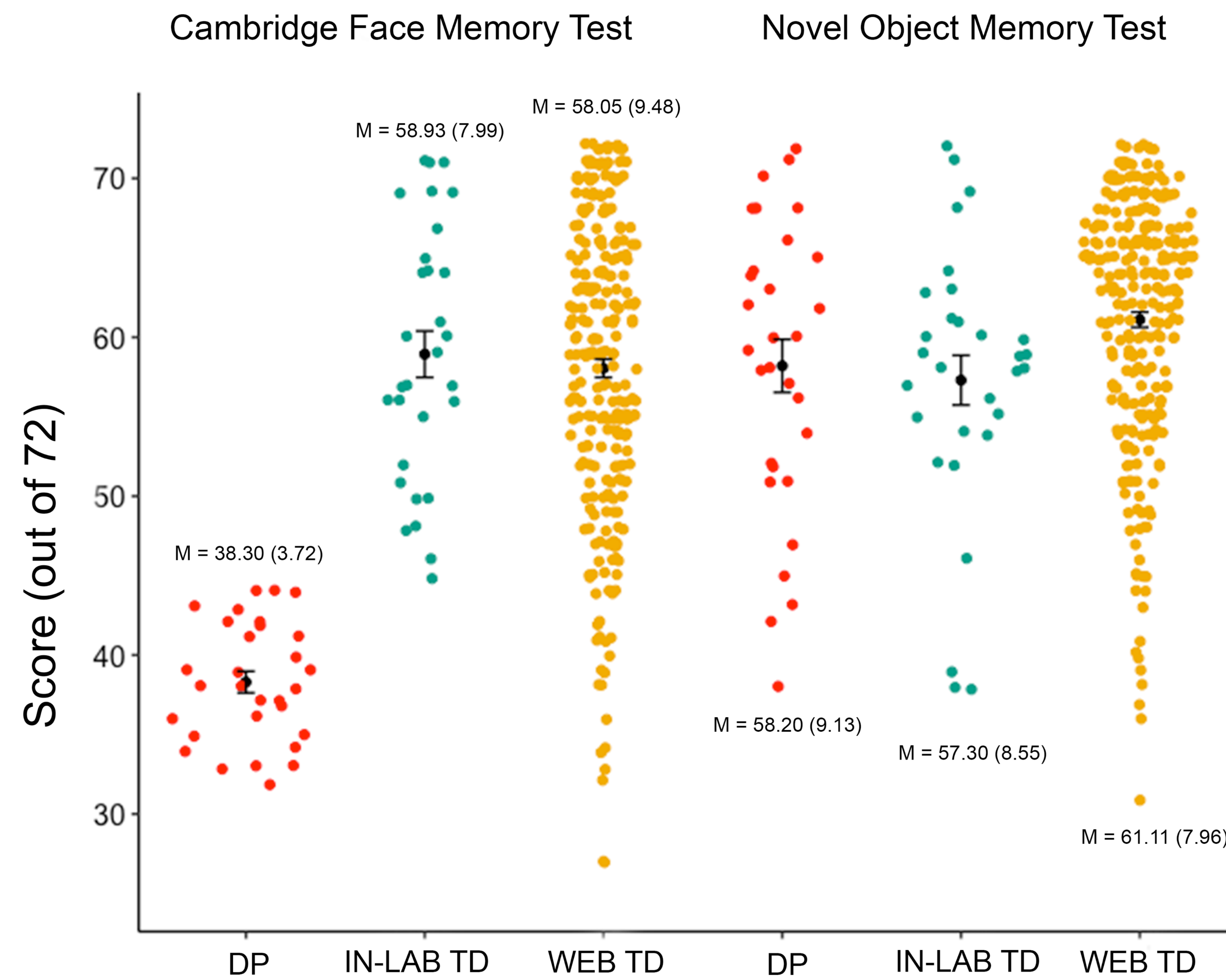
Learning Phase (repeated for each of 6 targets)



Participants

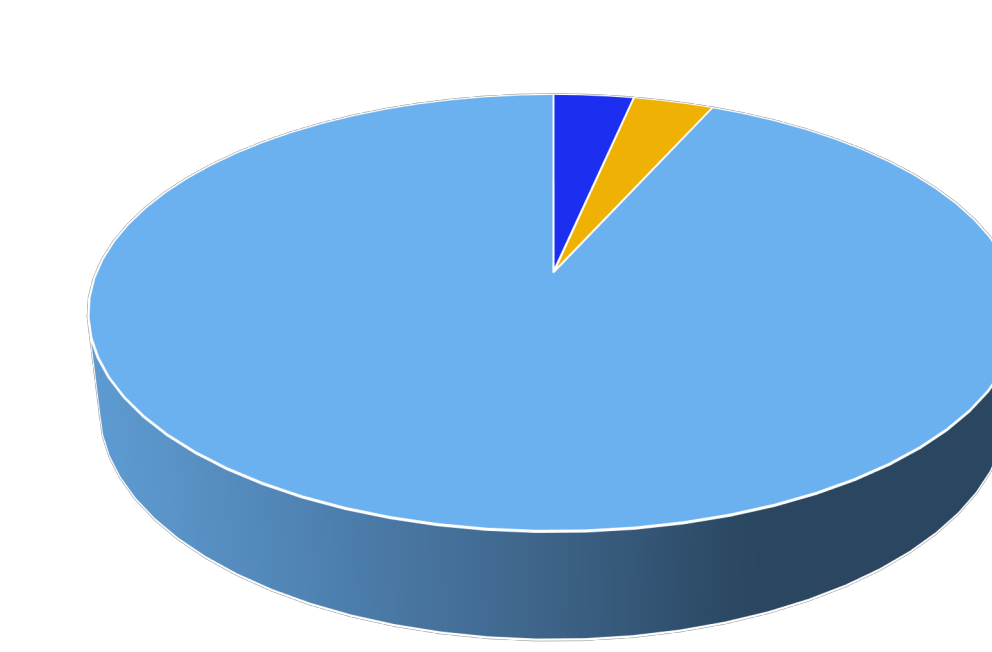
Measure	DP	In-lab TD	Web TD	p-values	
				In-lab	Web
Age	38.50 ± 13.69	39.70 ± 11.09	36.78 ± 12.04	.710	.464
Gender (F:M)	24:5	18:12	160:111	.054	.004**
N	30	30	274		

Accuracy Results



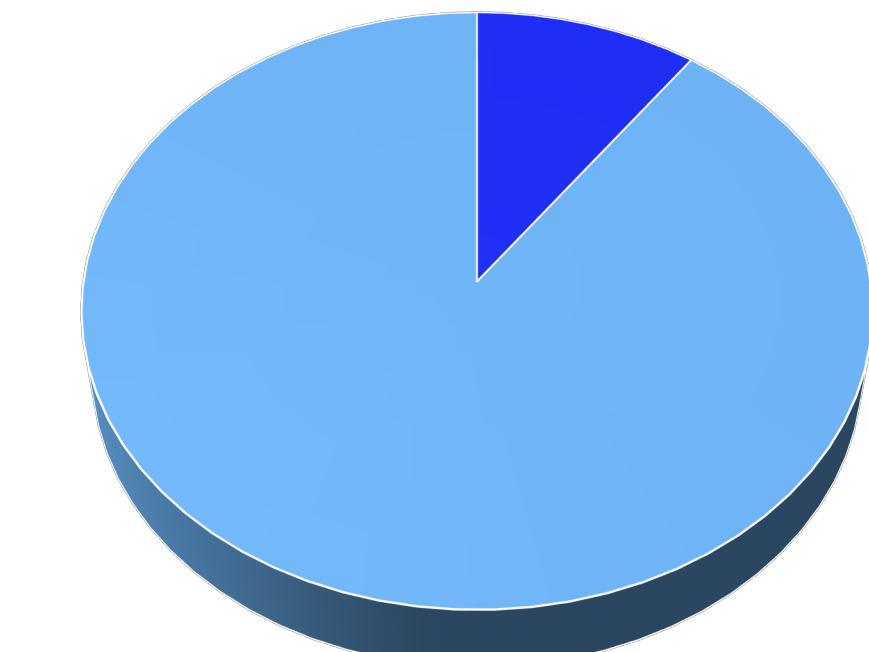
Individual Results

Developmental Prosopagnosics



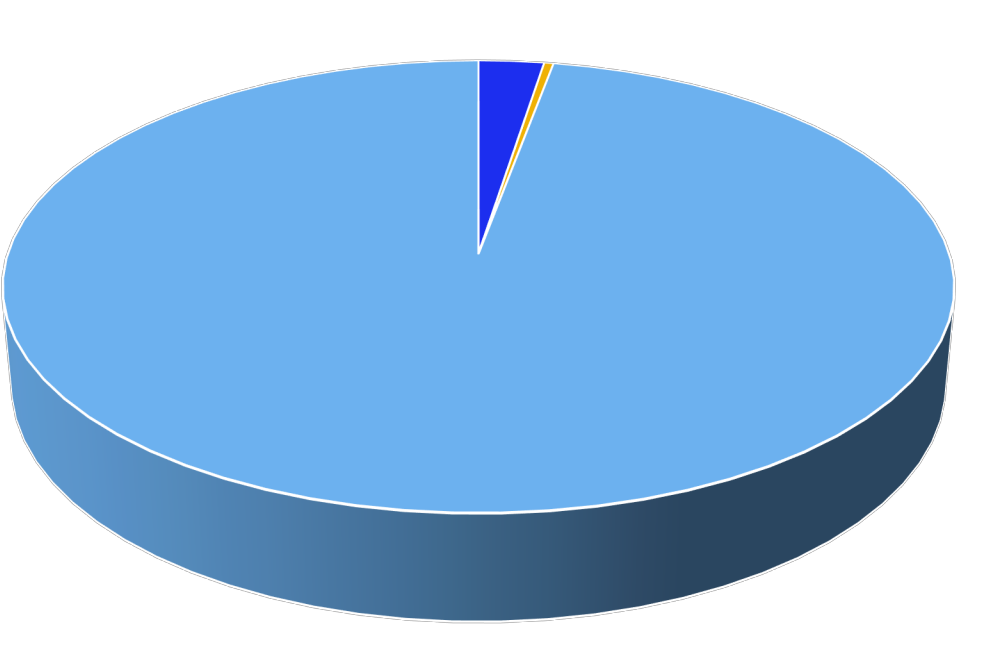
z-score < -2 = 3.3%
-1.7 > z-score > -2 = 3.3%
z-score > -2 = 93.3%

In-Lab Controls



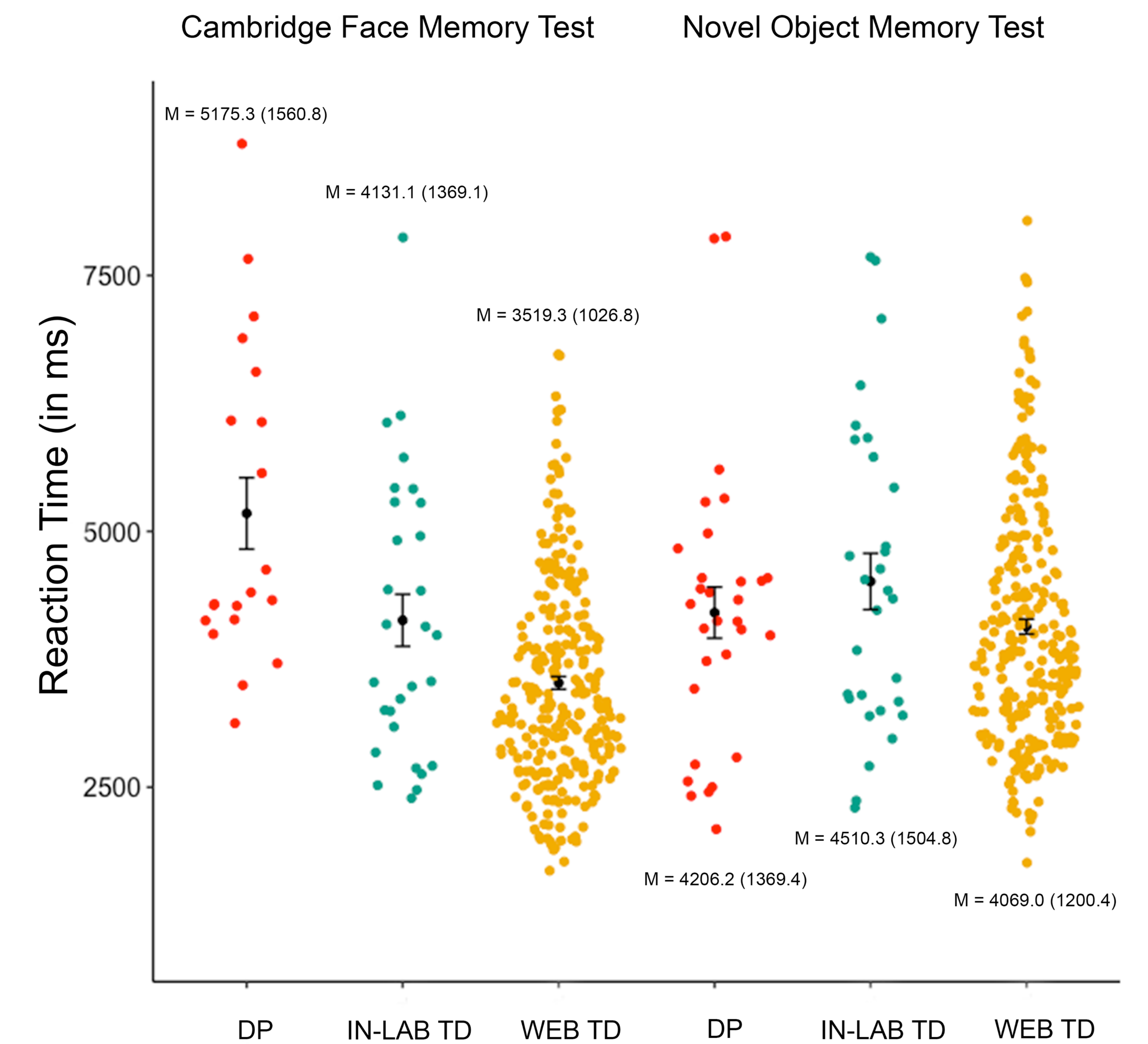
z-score < -2 = 10%
-1.7 > z-score > -2 = 0%
z-score > -2 = 90%

Web Controls

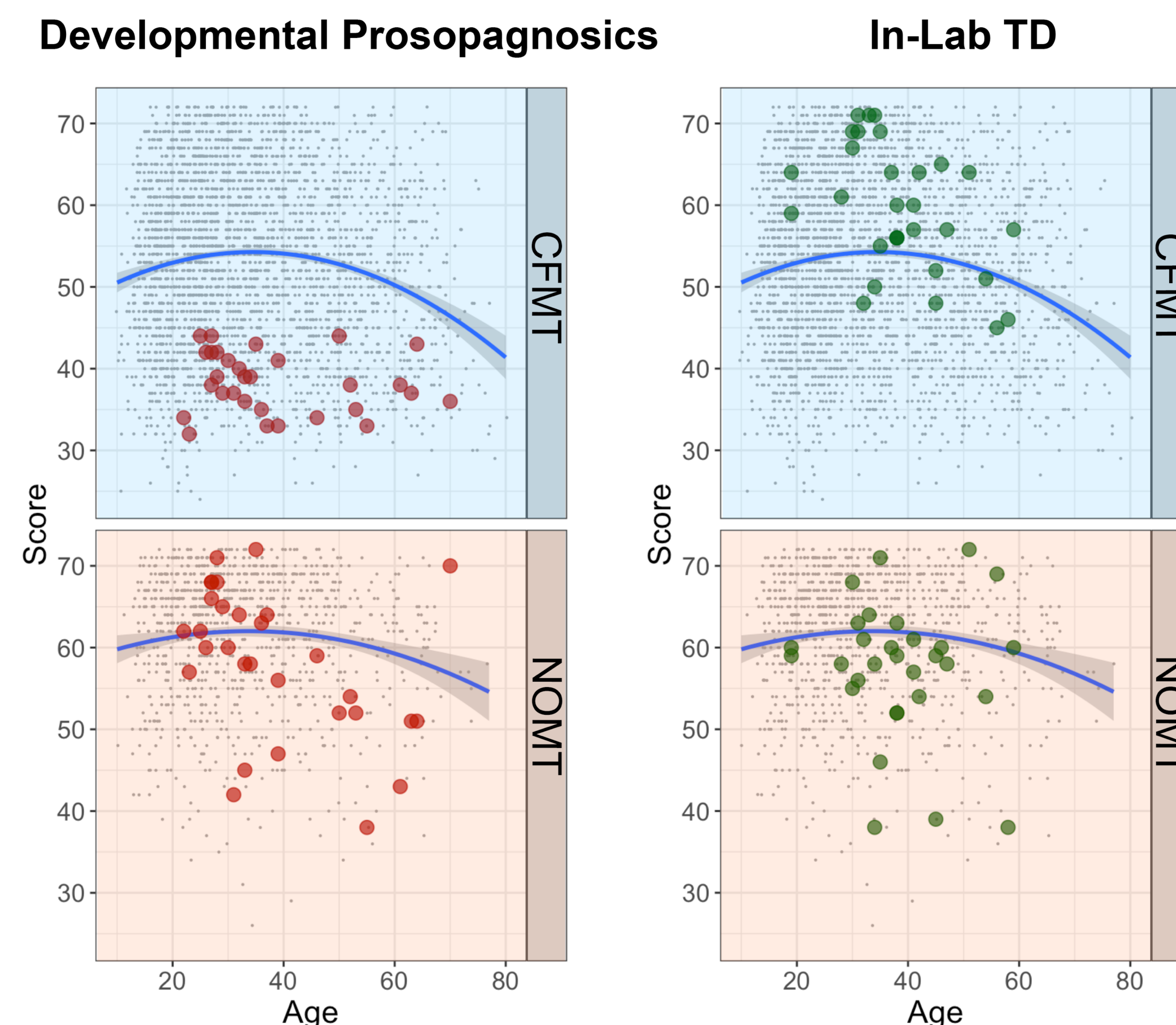


z-score < -2 = 2.55%
-1.7 > z-score > -2 = 0.36%
z-score > -2 = 97.08%

Reaction Time Results



Lab-Tested Participants vs. Age Norms



Discussion

- DPs performed equally as well as control subjects on a test of novel object memory, and the proportion of DPs showing impaired performance was not significantly different from controls.
- These findings suggest that object recognition deficits do not necessarily accompany face recognition impairments.
- Previously reported familiar object deficits may instead be the result of decreased capacity to benefit from experience with familiar object categories.

Acknowledgements

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