FINDING ALTERNATIVE METHODS TO ASSESS COGNITIVE FUNCTION

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WHY?

In 2016, there were 11.8 million individuals aged 65 years and above in the UK, and this number is expected to double by 2066 (ONS, 2020).

Increasing Ageing Population in the UK in millions

(Line chart with years 1966, 1991, 2016, 2041, 2066 and series: 85 and over, 75 to 84, 65 to 74)
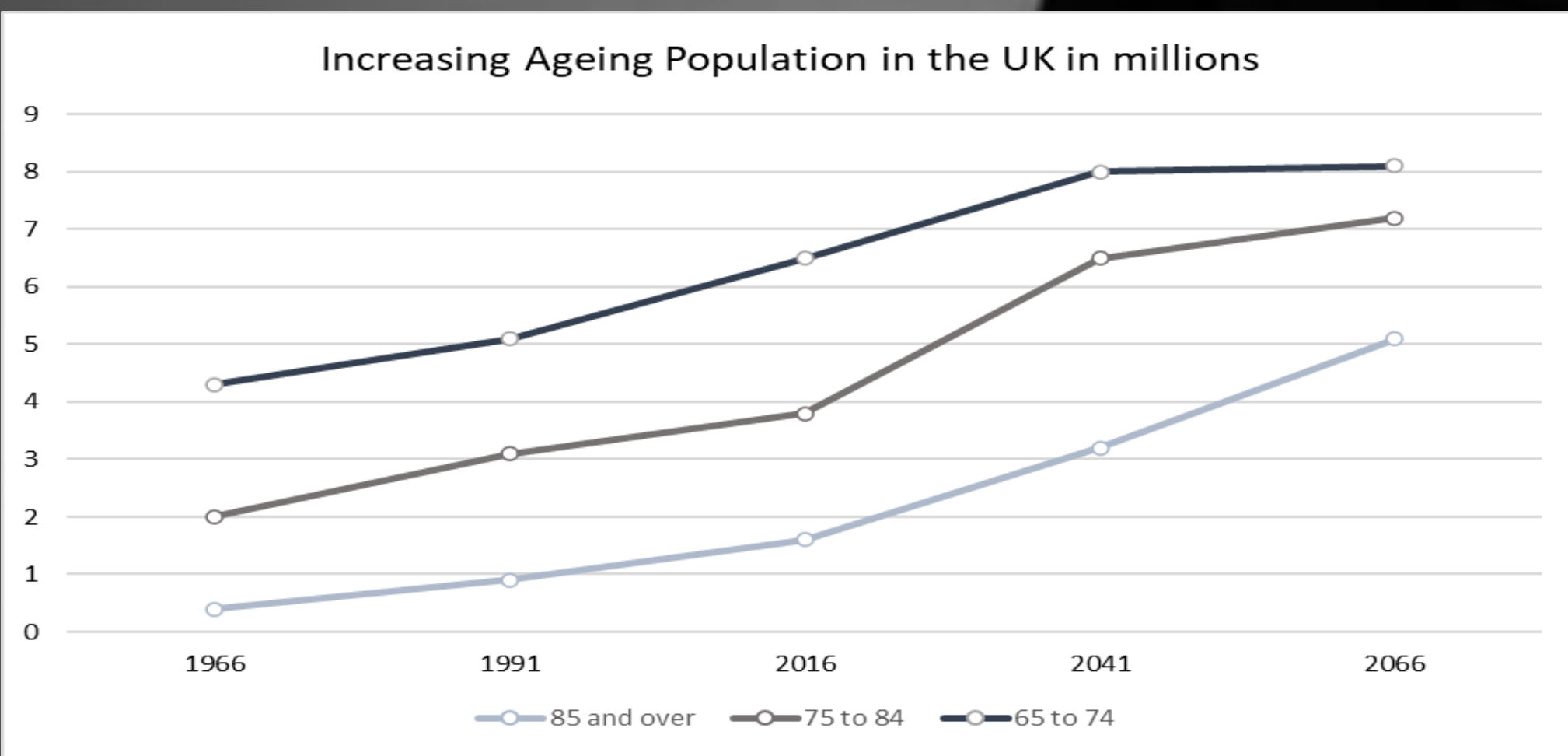
As you grow older, you are more likely to develop memory difficulties, where older adults are initially screened with a set of questions (e.g., MoCA) that can be stressful to some people.

Simple Bar Count of Experience of Montreal Cognitive Assessment

(Bar chart; x-axis: Experience of Montreal Cognitive Assessment — Very Relaxing, Relaxing, Neutral, Stressful, Very Stressful; y-axis: Count)
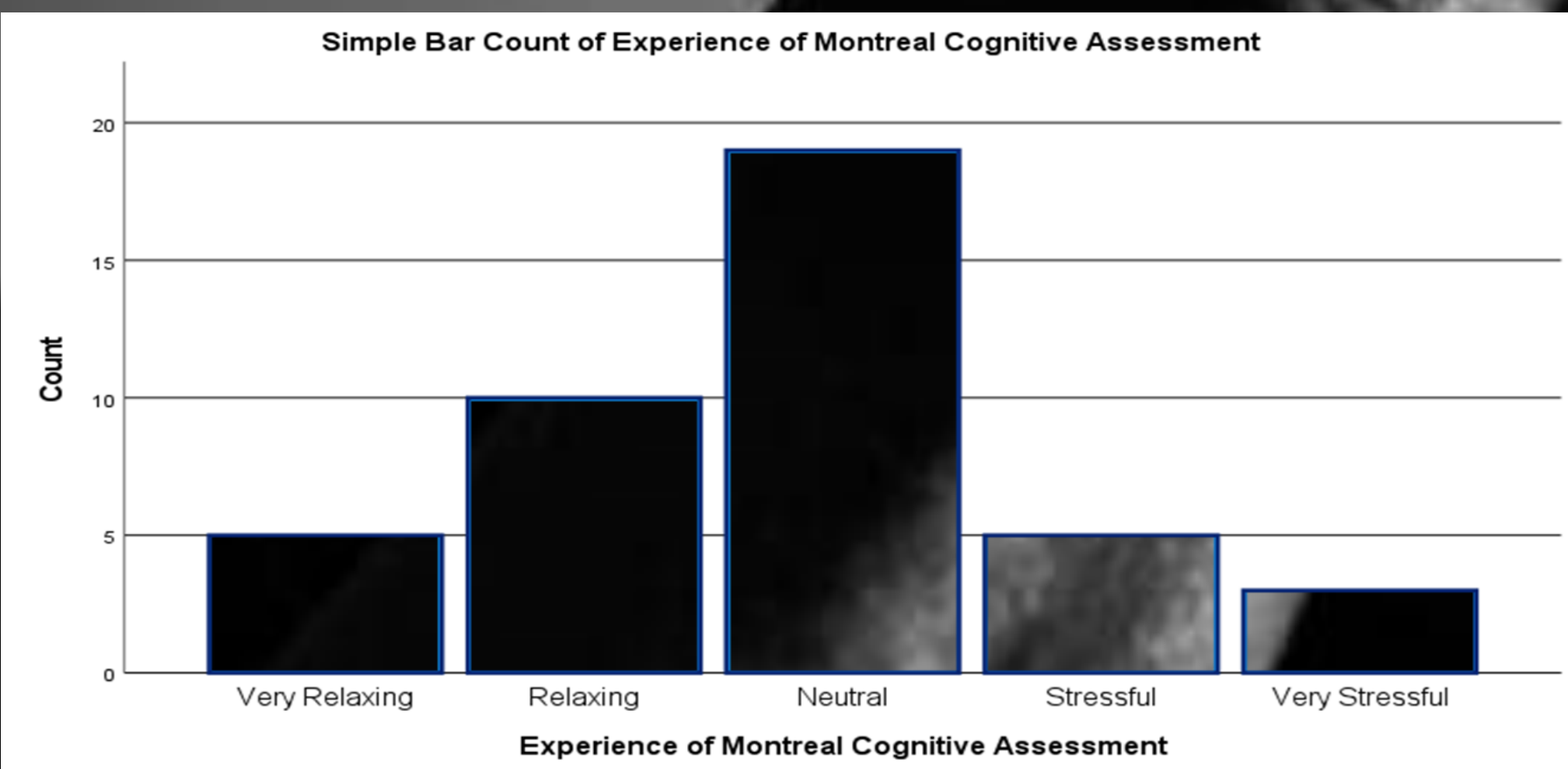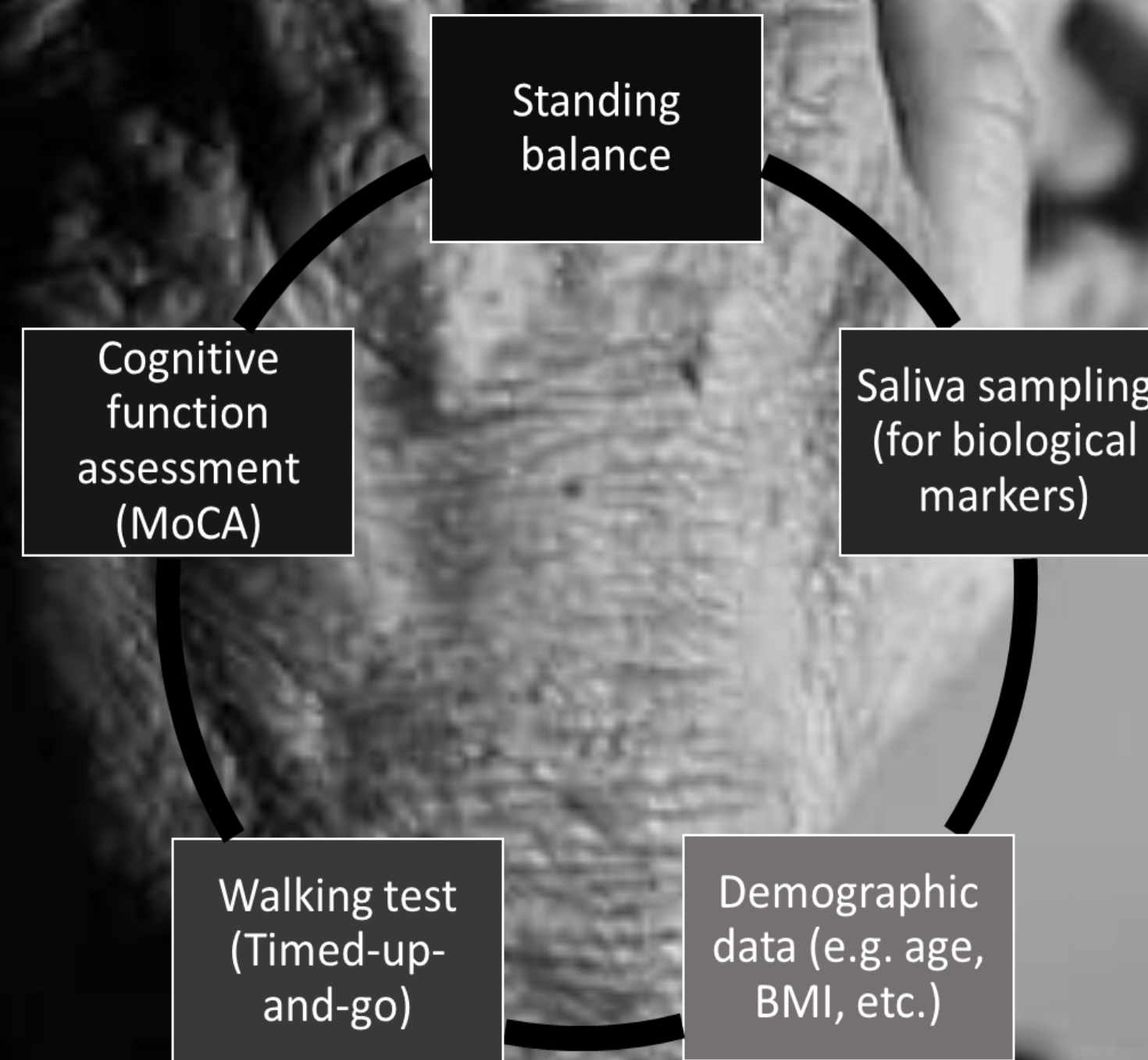
SO?

The aim of this study is to find alternative methods to assess cognitive function by using standing balance and biological markers in saliva.

HOW?

The illustration below shows the methods used in this research study.

- Standing balance
- Cognitive function assessment (MoCA)
- Saliva sampling (for biological markers)
- Walking test (Timed-up-and-go)
- Demographic data (e.g. age, BMI, etc.)

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WHAT?

The table below shows some preliminary results of 48 participants.

		Count	Minimum	Maximum	Mean	Standard Deviation
Sex	Female	25				
	Male	23				
Education above 12 yrs	No	6				
	Yes	41				
Body Mass Index Classification (BMI)	Ideal weight	15				
	Obese	12				
	Overweight	19				
	Underweight	2				
Smoking status	Current smoker	2				
	Ex-smoker	26				
	Never smoked	20				
Montreal Cognitive Assessment Category	Cognitively Normal	25				
	Mild Cognitive Impairment	18				
	Moderate Cognitive Impairment	4				
	Severe Cognitive Impairment	1				
Dominant Foot	Left	3				
	Right	45				
Age			65	90	74	6
Weight in kilograms (kg)			38.02	122.94	76.52	16.89
Height in meters (m)			1.50	1.85	1.68	.10
Body Mass Index (BMI)			15.04	45.71	27.07	5.29
Timed-up-and-go score (Trial 1)			6.67	46.00	11.19	5.42
Timed-up-and-go score (Trial 2)			5.89	48.00	10.72	5.78
Timed-up-and-go score (mean)			6.28	47.00	10.95	5.58
Montreal Cogntive Assessment score			9	30	24	5
Alcohol in units/wk			0	40	8	10
Saliva Collection wake-up time (am)			4.00	10.42	6.66	1.16
Time of Saliva collection (am)			4.30	11.00	7.24	1.21
Saliva Collection Post Awakening time (min)			15	60	36	10

WHAT NEXT?

- Conduct pilot study → Disseminate findings of pilot study
- Recruit 27 more participants → Associate cognitive function with standing balance and salivary biomarkers
- Disseminate findings and improve health