# UK Biobank

# Web-based version of Numeric Memory Test

## Version 1.5

http://www.ukbiobank.ac.uk/
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# Contents

# 1   Introduction

1.1   This manual details the procedure for the numeric memory test.

1.2   The UK Biobank cognitive function tests have been selected to cover a range of cognitive domains and are believed to be sensitive to cognitive decline and dementia. All tests have been constructed specifically for use in UK Biobank and other epidemiological studies in order to conform to the constraints of conducting large population-based studies. Tests have been constructed using established testing paradigms that have been shown to produce valid scores and to be acceptable to participants.

1.3   Respondents were invited to complete the questions using their own devices, via touchscreen interface (tablet or phone) or traditional desktop computer.

# 2   Numeric memory test

2.1   At the start of the test, the following text is shown:

*"In the next game you will be shown a number to remember. The number will then disappear and after a short while you will be asked to enter it into the number pad on the screen. The number will become longer each time you remember correctly. Press 'Next' for a short video demonstration."*

*"The first number will be 2 digits long. When you're ready to begin, touch the 'Next' button"*

2.2   Respondents watch a short video demonstration and proceed to the game.

2.3   The participant is shown an N-digit number, which is displayed for 2000 ms + (the number of digits [i.e. N] x 500 ms). During this time, the on-screen keyboard is inactive. The number then disappears and after a wait period of 3000 ms, the participant is asked to enter the remembered number in reverse onto the activated screen. Once the remembered number has been entered and the participant has touched the "Next" button, the entered number is removed and the keyboard deactivated for 600ms before either displaying the next number or ending the test. The test starts with a 2-digit number and becomes 1-digit longer each time they remember correctly (up to a maximum of 12 digits). No displayed digit is the same as the previous digit or previous but one digit. If the number is 2 digits, the test ends after 5 successive incorrect answers. If the number is 3 or more digits, the test ends after 2 successive incorrect answers
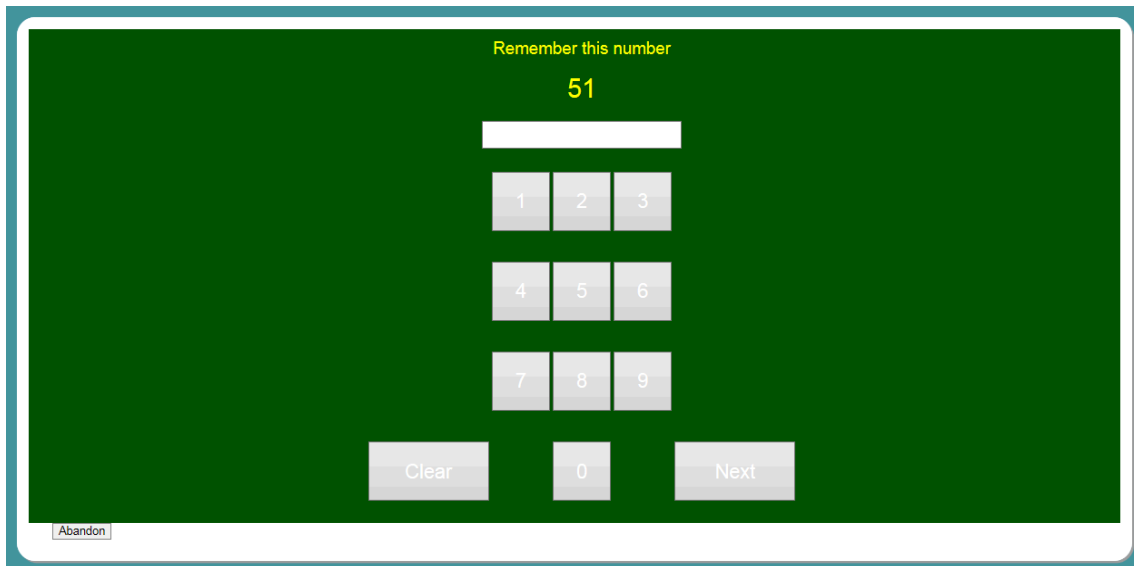
*Fig. 1. The web numeric response screen*

## 3   Data captured

The following data are stored for the web-based version of the test:

- Data field 20138: When the numeric memory test was completed
- Data field 20240: Maximum number of digits remembered (up to 12)