**Digit Memory Span**

**Abstract:**

Digit memory span is an experiment in which we can recall digits in forward and backward order. A subject xyz was selected to recall the digits. The experimenter asked the subject to recall and repeat the digits. The dependent variable in this practical is memory span of the subject and independent variable of the experiment is digits which the subject was asked to repeat. The experimental hypothesis for this practical is that **“forward memory span is greater than reverse memory span”**. By the experiment, we proved that this hypothesis is true because subject could recall up to 7 digits in forward order and only up to 3 digits in reverse order.

**Introduction:**

The term memory span refers to the maximum length of a sequence that can be reproduced from memory following a single presentation. Scientists have been interested in memory span since the publication of the first important study of memory, 19th century German experimental psychologist **Hermann Ebbingaus’s monograph in 1885.** Using himself as his only subject, Ebbinghaus determined the number of presentations necessary for an error-free reproduction of a sequence of items; he found that this number decreased dramatically as the length of the sequence decreased until the sequence included only seven items, at which point only a single presentation was needed. Ebbinghaus showed no particular interest in this finding, but others did. Within two years, memory span was shown to increase systematically during childhood and to be appreciably shorter for the mentally impaired. Within a decade, memory span was firmly established in what was then an emerging field of mental abilities testing, where it has remained ever since.

**Memory:**

Memory is the faculty of the brain by which information is encoded, stored, and retrieved when needed. Memory is vital to experiences; it is the retention of information over time for the purpose influencing future action.

**Memory Span:**

The number of things someone can remember after being shown a set of objects once, or more generally, the length of time someone can remember something.

**Chunking:**

Chunking is a term referring to the process of taking individual pieces on information (chunks) and grouping them into larger units. By grouping each piece into a large whole, you can improve the amount of information you can remember.

**Types of Memory:**

1. Sensory Memory.
2. Short term Memory.
3. Long term Memory.

**Sensory Memory:**

Sensory memory is the shortest term element of memory. It is the ability to retain impressions of sensory information after the original stimuli have ended. It lasts for 0.20 or 0.30 seconds.

**Short Term Memory:**

Short term memory is the capacity for holding, but not manipulating, a small amount of information in mind in an active, readily available state for a short period of time. For example, it can be used to remember a phone number that has just been recited. It lasts for 20-30 seconds.

**Long Term Memory:**

A long term memory is anything you remember that happened more than a few minutes ago. Long term memories can last for just a few days or few many years.

**Method:**

* **Type of Practical:** Experimental
* **Design of Practical:** Recall & Repeated measures.

**Dependent variable:** Digits (7 for forward span & 3 for reverse span)

**Independent variable:** Memory span of the subject.

**Experimental Hypothesis:** In digit memory span test, forward memory span is greater than backward span.

**Null Hypothesis:**

Forward memory span is less than the backward memory span.

**Subject:**

**Name:** S.F.

**Age:** 20.

**Gender:** Female.

**Education:** BA.

**Apparatus:**

* Test Card.
* Paper.
* Pen.

**Procedure:**

1. First, the examiner asked the subject to sit comfortably.
2. The examiner had a card of digits and applied the test on subject.
3. The examiner asked the subject to recall and repeat the digits in forward way and note the results.
4. Then, the examiner asked the subject to recall the digits in backward order and again noted the results.
5. By comparing the results, we found that the subject could recall up to 7 digits in forward memory span and up to 3 digits in backward memory span.

**Results:**

Forward memory span is greater than backward memory span backward memory span. **7** digits in forward memory span and **3** digits in backward memory span.

**List for Forward Digit Span:**

|  |  |
| --- | --- |
| **Series of Digits**  77  7177  49617  289479  183576  2637037  1001083445 | **Trials**  Recalled.  Recalled.  Recalled.  Recalled.  Recalled.  Recalled.  Recalled |

**List for Backward Digit Span:**

|  |  |
| --- | --- |
| **Series of Digits**  77  7177  49617  289479  1835761  2637037  100108345 | **Trials**  Recalled  Recalled  Recalled  Failed to recall  Failed to recall  Failed to recall  Failed to recall |

**Discussion:**

In digit memory span, forward digit memory span is greater than reverse memory span because in forward order we can quickly recall the digits by using short term memory but it takes a longer while to recall the digits in reverse order and short term memory losts its record because short term memory lasts 20-30 seconds.

There are a number of factors which affect memory span. Some of the factors are extrinsic, or present in the testing situation itself. These factors, if not carefully controlled, cause the memory span test to be statistically unreliable. While the existence of many of these factors has been recognized, extensive studies on their importance have yet to be done. Some of these extrinsic factors include stimulus grouping, response grouping, presentation rate, and S-R compatibility.

Other factors are intrinsic in the individual, and it is these factors which are the basis of "true" memory span. Though numerous factors affect memory span, the test is one that shows surprisingly high reliability. Results obtained by different investigators show that the reliability coefficients for memory span are quite high.

**Reference:**

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