**Example Experiment and Scoring Instructions**

An experiment was conducted using a list that consisted of six nouns from each of six taxonomic categories. These nouns were presented in a random order (see Table 1), and participants were asked to remember as many words as possible. Following the presentation, participants performed a filler task (a simple arithmetic task) for 2 minutes. Then, they completed a free recall test in which they wrote as many of the words from the study list as possible in any order. The investigator was interested in two measures: (1) the number of correct responses and (2) the degree of category clustering.

Table 1

Study List Consisting of Six Nouns from Six Taxonomic Categories

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | rain | 9 | nose | 17 | lettuce | 25 | bean | 33 | cucumber |
| 2 | bear | 10 | ceiling | 18 | dog | 26 | shoulder | 34 | snow |
| 3 | rib | 11 | window | 19 | potato | 27 | wall | 35 | waist |
| 4 | stair | 12 | sward | 20 | harpoon | 28 | camel | 36 | floor |
| 5 | monsoon | 13 | horse | 21 | beaver | 29 | knife |  |  |
| 6 | rifle | 14 | hatchet | 22 | bomb | 30 | frost |  |  |
| 7 | goat | 15 | toe | 23 | tomato | 31 | thunder |  |  |
| 8 | corn | 16 | roof | 24 | fog | 32 | ear |  |  |

Table 2 shows the recall output of **Participant A**.

Table 2

Recall Output of Participants A.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 1 | shoulder | 7 | potato | 13 | horse |
| 2 | ear | 8 | corn | 14 | carrot |
| 3 | nose | 9 | cucumber | 15 | cat |
| 4 | rifle | 10 | goat | 16 | door |
| 5 | knife | 11 | bear |  |  |
| 6 | tomato | 12 | window |  |  |

The first step in scoring the output for this participant is to code each response in terms of (1) whether the response is correct (1– correct, 0 – incorrect) and (2) which category out of 6 categories the item was from (1– body, 2 – weapon, 3 – weather, 4 – building, 5 – animal, or 6 – vegetable ). Table 3 shows coding example.

Table 3

Scored Recall Output for Participant A

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Item | Correct | Category |  | Item | Correct  | Category |
| 1 | shoulder | 1 | 1 | 11 | bear | 1 | 5 |
| 2 | ear | 1 | 1 | 12 | window | 1 | 4 |
| 3 | nose | 1 | 1 | 13 | horse | 1 | 5 |
| 4 | rifle | 1 | 2 | 14 | carrot | 0 | 6 |
| 5 | knife | 1 | 2 | 15 | cat | 0 | 5 |
| 6 | tomato | 1 | 6 | 16 | door | 0 | 4 |
| 7 | potato | 1 | 6 |  |  |  |  |
| 8 | corn | 1 | 6 |  |  |  |  |
| 9 | cucumber | 1 | 6 |  |  |  |  |
| 10 | goat | 1 | 5 |  |  |  |  |

The next step is to input the scored output in the Category Clustering Calculator. Input the third and seventh column of Table 3 (labeled “Correct”) to the column labeled “Recalled Items” of the Calculator. Input the fourth and eighth column of Table 3 (labeled “Category”) to the column labeled “Recalled Category” of the Calculator. Be sure to maintain the output order of the recalled items.

The Calculator will compute the following clustering measures for this participant, **RR, MRR, DS, and ARC**, along with **n** – number of recalled items, **c** – number of recalled categories, and **r** – number of category repetition. There will be two outputs: (1) the output based on all recalled items and (2) the output based on correctly recalled items only. Next, cut and paste the output into statistical software, such as SPSS. Because statistical software often uses a row to represent each participant, Table 3 of the Calculator displays the computed values in a row (see Table 4). Highlight the row and paste it into statistical software.

Table 4

Computed Values from the Above Example (Table 3 of the Calculator)

|  |
| --- |
| **Table 3: Tables for statistical software** |
|   |   |   |   |   |   |   |   |   |
|   |   |   |   |   |   |   |   |   |
| **Calculation #1** |   |   |   |   |   |
| n | c | r | Max | E(r) | RR | MRR | DS | ARC |
| 16.00 | 5.00 | 7.00 | 11.00 | 2.63 | 0.47 | 0.64 | 4.38 | 0.52 |
|   |   |   |   |   |   |   |   |   |
|   |   |   |   |   |   |   |   |   |
| **Calculation #2** |   |   |   |   |   |
| n | c | r | Max | E(r) | RR | MRR | DS | ARC |
| 13.00 | 5.00 | 7.00 | 8.00 | 2.00 | 0.58 | 0.88 | 5.00 | 0.83 |
|   |   |   |   |   |   |   |   |   |
|   |   |   |   |   |   |   |   |   |
| **Description:** |   |   |   |   |   |
| n | Recalled items |   |   |   |   |   |
| c | Recalled Categories |   |   |   |   |   |
| r | Repeats |   |   |   |   |   |
|   |   |   |   |   |   |   |   |   |
|   |   |   |   |   |   |   |   |   |
| [Press here to go to Data Tables](file:///C%3A%5CUsers%5Cotani1h%5CDocuments%5CSenkova%20project%5CPublication%5CFinal%5Ccmcc.xlsx#RANGE!MAIN.DATA) |   |   |   |   |