

# Graduate Reasoning Test Battery norm table: South African Combined Group updated 2010

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## Sample composition

The sample consisted of South Africans of all races and languages tested by Psytech South Africa and collaborators in the period leading up to January 2010. Not all respondents completed the entire Graduate Reasoning Test Battery, therefore biographical particulars are reported separately for the Verbal, Numerical and Abstract Graduate Reasoning tests.

## Sample composition: Graduate Verbal Reasoning Test

| Category | Frequency table: Sex |                  |          |                    |
|----------|----------------------|------------------|----------|--------------------|
|          | Count                | Cumulative Count | Percent  | Cumulative Percent |
| F        | 1174                 | 1174             | 40.38528 | 40.3853            |
| M        | 1719                 | 2893             | 59.13313 | 99.5184            |
| U        | 14                   | 2907             | 0.48160  | 100.0000           |
| Missing  | 0                    | 2907             | 0.00000  | 100.0000           |

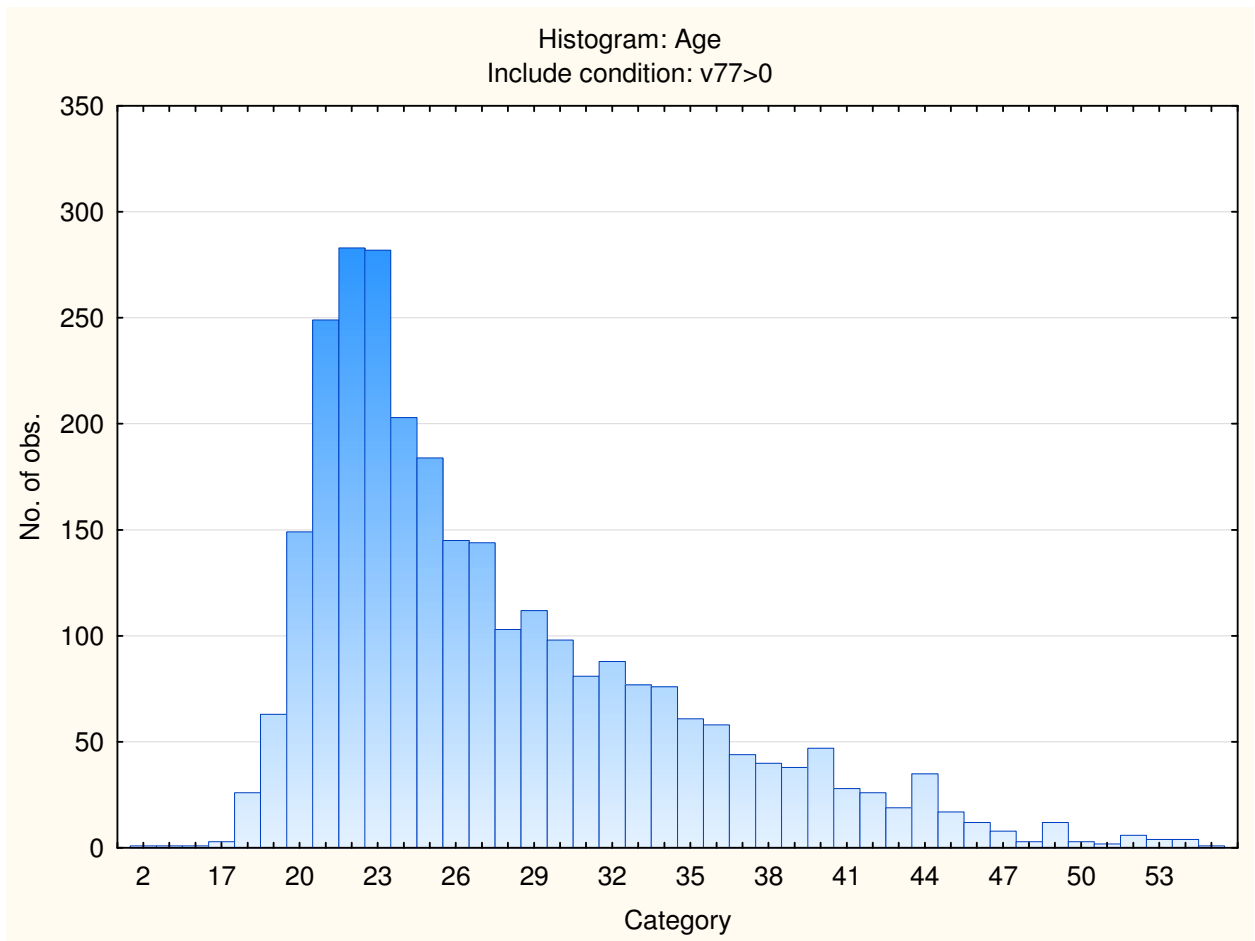
| Category      | Frequency table: Education Group |                  |          |                    |
|---------------|----------------------------------|------------------|----------|--------------------|
|               | Count                            | Cumulative Count | Percent  | Cumulative Percent |
| Degree        | 271                              | 271              | 9.32233  | 9.3223             |
| Grade 12      | 278                              | 549              | 9.56312  | 18.8854            |
| Diploma       | 102                              | 651              | 3.50877  | 22.3942            |
| <Grade 12     | 48                               | 699              | 1.65119  | 24.0454            |
| Post Graduate | 144                              | 843              | 4.95356  | 28.9990            |
| Certificate   | 26                               | 869              | 0.89439  | 29.8934            |
| Missing       | 2038                             | 2907             | 70.10664 | 100.0000           |

| Category    | Frequency table: Language |                  |          |                    |
|-------------|---------------------------|------------------|----------|--------------------|
|             | Count                     | Cumulative Count | Percent  | Cumulative Percent |
| English     | 482                       | 482              | 16.58067 | 16.5807            |
| Afrikaans   | 156                       | 638              | 5.36636  | 21.9470            |
| Setswana    | 28                        | 666              | 0.96319  | 22.9102            |
| isiXhosa    | 127                       | 793              | 4.36877  | 27.2790            |
| Xitsonga    | 6                         | 799              | 0.20640  | 27.4854            |
| isiZulu     | 42                        | 841              | 1.44479  | 28.9302            |
| Sesotho     | 21                        | 862              | 0.72239  | 29.6526            |
| Sepedi      | 14                        | 876              | 0.48160  | 30.1342            |
| isiNdebele" | 3                         | 879              | 0.10320  | 30.2374            |
| Tshivenda   | 5                         | 884              | 0.17200  | 30.4094            |
| siSwati     | 3                         | 887              | 0.10320  | 30.5126            |
| Missing     | 2020                      | 2907             | 69.48744 | 100.0000           |

| Category   | Frequency table: Language Group |                  |          |                    |
|------------|---------------------------------|------------------|----------|--------------------|
|            | Count                           | Cumulative Count | Percent  | Cumulative Percent |
| English    | 482                             | 482              | 16.58067 | 16.5807            |
| Afrikaans  | 156                             | 638              | 5.36636  | 21.9470            |
| Indigenous | 252                             | 890              | 8.66873  | 30.6158            |
| Missing    | 2017                            | 2907             | 69.38424 | 100.0000           |

| Category | Frequency table: Race Group |                  |          |                    |
|----------|-----------------------------|------------------|----------|--------------------|
|          | Count                       | Cumulative Count | Percent  | Cumulative Percent |
| Coloured | 343                         | 343              | 11.79911 | 11.7991            |
| European | 147                         | 490              | 5.05676  | 16.8559            |
| Asian    | 126                         | 616              | 4.33437  | 21.1902            |
| African  | 383                         | 999              | 13.17509 | 34.3653            |
| Missing  | 1908                        | 2907             | 65.63467 | 100.0000           |

| Variable | Descriptive Statistics: Age |          |          |          |      |                  |
|----------|-----------------------------|----------|----------|----------|------|------------------|
|          | Mean                        | Std.Dev  | Minimum  | Maximum  | N    | No.cases Missing |
| Age      | 27.53472                    | 7.021020 | 2.000000 | 59.00000 | 2837 | 70               |



### Sample composition: Graduate Numerical Reasoning Test

| Category | Frequency table: Sex |                  |          |                    |
|----------|----------------------|------------------|----------|--------------------|
|          | Count                | Cumulative Count | Percent  | Cumulative Percent |
| F        | 1180                 | 1180             | 40.32809 | 40.3281            |
| M        | 1732                 | 2912             | 59.19344 | 99.5215            |
| U        | 14                   | 2926             | 0.47847  | 100.0000           |
| Missing  | 0                    | 2926             | 0.00000  | 100.0000           |

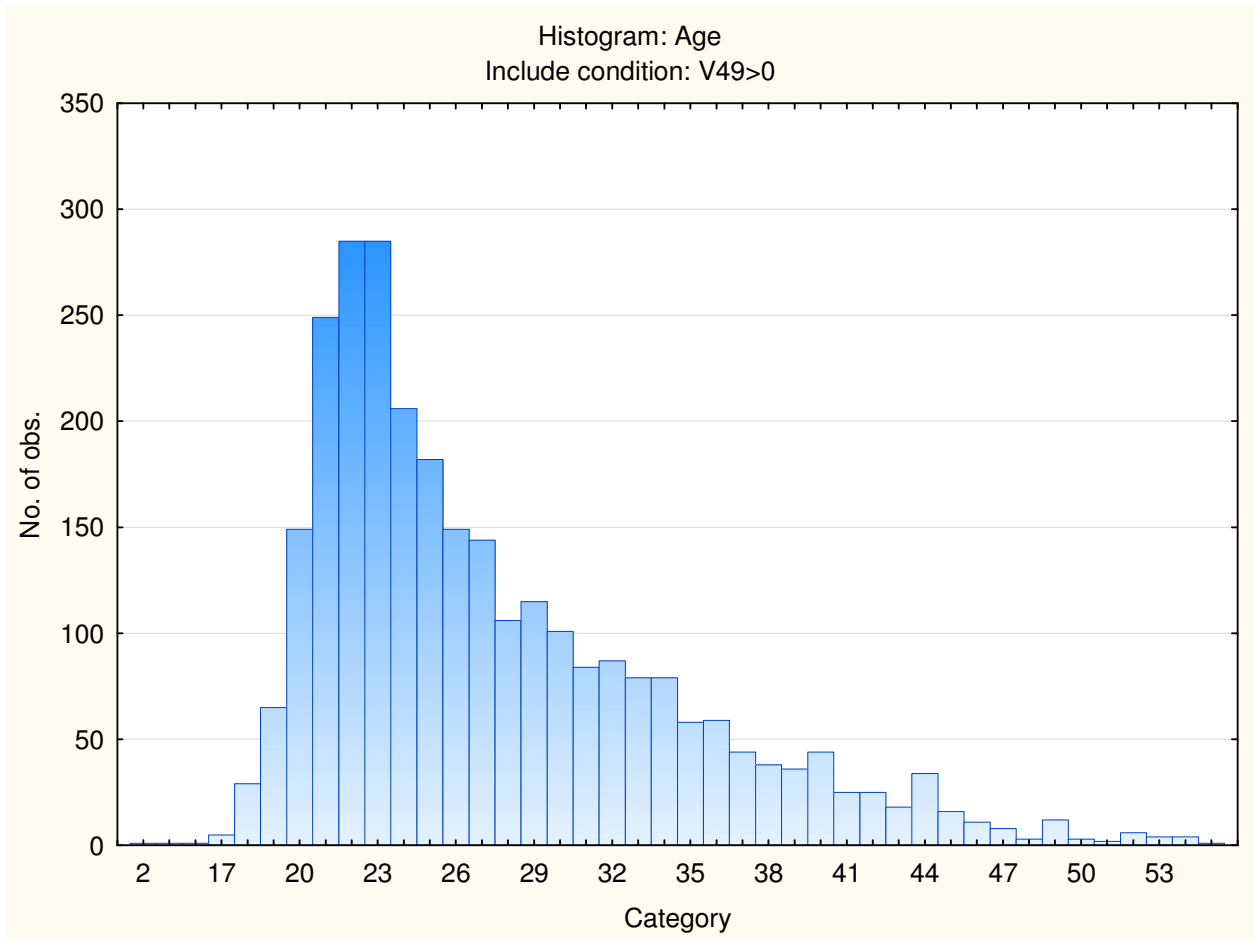
| Category      | Frequency table: Education Group |                  |          |                    |
|---------------|----------------------------------|------------------|----------|--------------------|
|               | Count                            | Cumulative Count | Percent  | Cumulative Percent |
| Degree        | 257                              | 257              | 8.78332  | 8.7833             |
| Grade 12      | 282                              | 539              | 9.63773  | 18.4211            |
| Diploma       | 101                              | 640              | 3.45181  | 21.8729            |
| <Grade 12     | 49                               | 689              | 1.67464  | 23.5475            |
| Post Graduate | 141                              | 830              | 4.81887  | 28.3664            |
| Certificate   | 26                               | 856              | 0.88859  | 29.2550            |
| Missing       | 2070                             | 2926             | 70.74504 | 100.0000           |

| Category    | Frequency table: Language |                  |          |                    |
|-------------|---------------------------|------------------|----------|--------------------|
|             | Count                     | Cumulative Count | Percent  | Cumulative Percent |
| English     | 478                       | 478              | 16.33630 | 16.3363            |
| Afrikaans   | 155                       | 633              | 5.29733  | 21.6336            |
| Setswana    | 26                        | 659              | 0.88859  | 22.5222            |
| isiXhosa    | 125                       | 784              | 4.27204  | 26.7943            |
| Xitsonga    | 5                         | 789              | 0.17088  | 26.9651            |
| isiZulu     | 47                        | 836              | 1.60629  | 28.5714            |
| Sesotho     | 20                        | 856              | 0.68353  | 29.2550            |
| Sepedi      | 14                        | 870              | 0.47847  | 29.7334            |
| isiNdebele" | 3                         | 873              | 0.10253  | 29.8360            |
| Tshivenda   | 4                         | 877              | 0.13671  | 29.9727            |
| siSwati     | 3                         | 880              | 0.10253  | 30.0752            |
| Missing     | 2046                      | 2926             | 69.92481 | 100.0000           |

| Category   | Frequency table: Language Group |                  |          |                    |
|------------|---------------------------------|------------------|----------|--------------------|
|            | Count                           | Cumulative Count | Percent  | Cumulative Percent |
| English    | 478                             | 478              | 16.33630 | 16.3363            |
| Afrikaans  | 155                             | 633              | 5.29733  | 21.6336            |
| Indigenous | 250                             | 883              | 8.54409  | 30.1777            |
| Missing    | 2043                            | 2926             | 69.82228 | 100.0000           |

| Category | Frequency table: Race Group |                  |          |                    |
|----------|-----------------------------|------------------|----------|--------------------|
|          | Count                       | Cumulative Count | Percent  | Cumulative Percent |
| Coloured | 342                         | 342              | 11.68831 | 11.6883            |
| European | 145                         | 487              | 4.95557  | 16.6439            |
| Asian    | 126                         | 613              | 4.30622  | 20.9501            |
| African  | 379                         | 992              | 12.95284 | 33.9029            |
| Missing  | 1934                        | 2926             | 66.09706 | 100.0000           |

| Variable | Descriptive Statistics: Age |          |          |          |      |                  |
|----------|-----------------------------|----------|----------|----------|------|------------------|
|          | Mean                        | Std.Dev  | Minimum  | Maximum  | N    | No.cases Missing |
| Age      | 27.43954                    | 6.952171 | 2.000000 | 59.00000 | 2853 | 73               |



**Sample composition: Graduate Abstract Reasoning Test**

| Category | Frequency table: Sex |                  |          |                    |
|----------|----------------------|------------------|----------|--------------------|
|          | Count                | Cumulative Count | Percent  | Cumulative Percent |
| F        | 1522                 | 1522             | 41.77875 | 41.7788            |
| M        | 2104                 | 3626             | 57.75460 | 99.5334            |
| U        | 17                   | 3643             | 0.46665  | 100.0000           |
| Missing  | 0                    | 3643             | 0.00000  | 100.0000           |

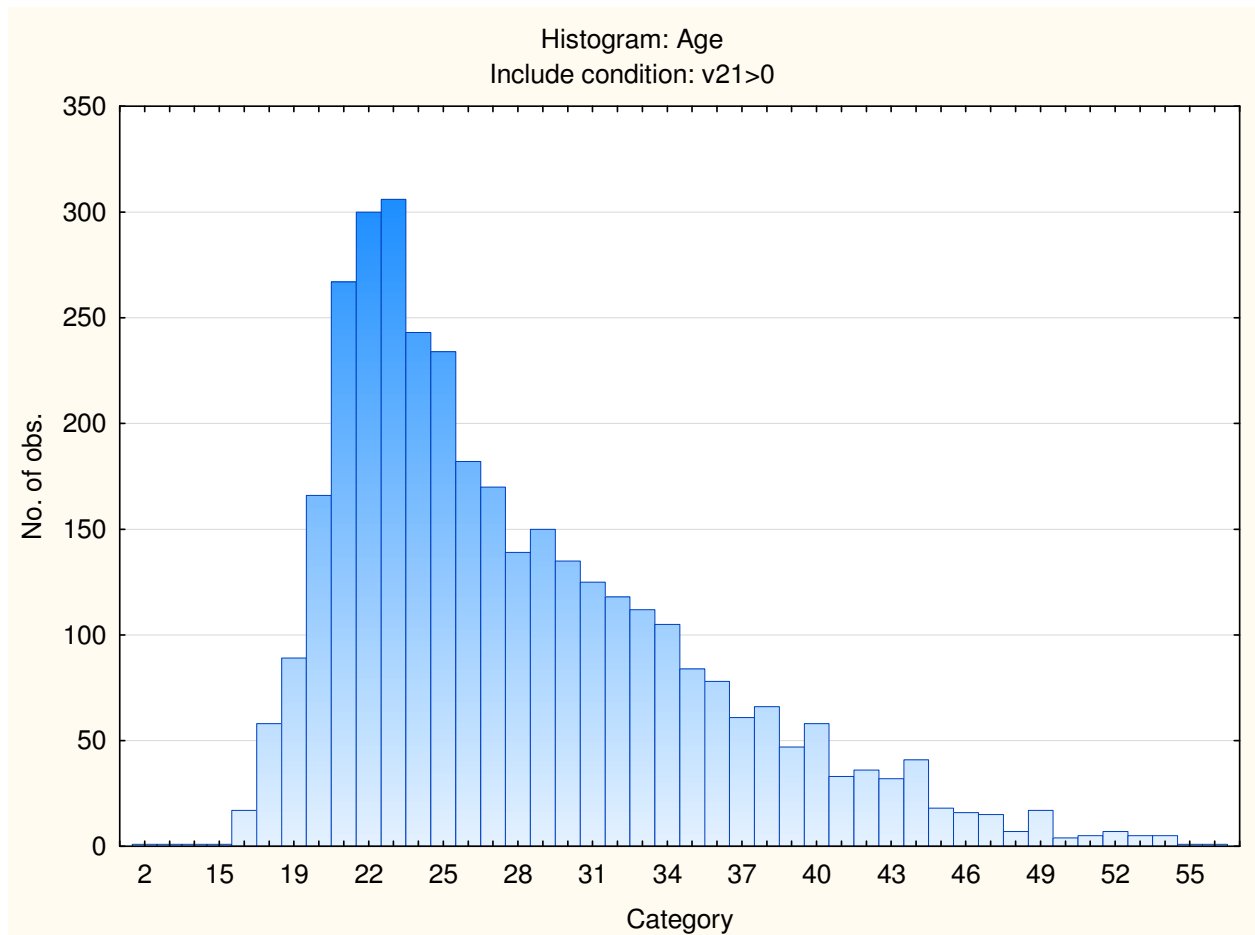
| Category      | Frequency table: Education Group |                  |          |                    |
|---------------|----------------------------------|------------------|----------|--------------------|
|               | Count                            | Cumulative Count | Percent  | Cumulative Percent |
| Degree        | 333                              | 333              | 9.14082  | 9.1408             |
| Grade 12      | 345                              | 678              | 9.47022  | 18.6110            |
| Diploma       | 191                              | 869              | 5.24293  | 23.8540            |
| <Grade 12     | 54                               | 923              | 1.48229  | 25.3363            |
| Post Graduate | 171                              | 1094             | 4.69393  | 30.0302            |
| Certificate   | 28                               | 1122             | 0.76860  | 30.7988            |
| Missing       | 2521                             | 3643             | 69.20121 | 100.0000           |

| Category   | Frequency table: Language |                  |          |                    |
|------------|---------------------------|------------------|----------|--------------------|
|            | Count                     | Cumulative Count | Percent  | Cumulative Percent |
| English    | 528                       | 528              | 14.49355 | 14.4935            |
| Afrikaans  | 198                       | 726              | 5.43508  | 19.9286            |
| Setswana   | 58                        | 784              | 1.59209  | 21.5207            |
| isiXhosa   | 206                       | 990              | 5.65468  | 27.1754            |
| Xitsonga   | 13                        | 1003             | 0.35685  | 27.5323            |
| isiZulu    | 106                       | 1109             | 2.90969  | 30.4419            |
| Sesotho    | 50                        | 1159             | 1.37250  | 31.8144            |
| Sepedi     | 23                        | 1182             | 0.63135  | 32.4458            |
| isiNdebele | 3                         | 1185             | 0.08235  | 32.5281            |
| Tshivenda  | 6                         | 1191             | 0.16470  | 32.6928            |
| siSwati    | 8                         | 1199             | 0.21960  | 32.9124            |
| Missing    | 2444                      | 3643             | 67.08757 | 100.0000           |

| Category   | Frequency table: Language Group |                  |          |                    |
|------------|---------------------------------|------------------|----------|--------------------|
|            | Count                           | Cumulative Count | Percent  | Cumulative Percent |
| English    | 528                             | 528              | 14.49355 | 14.4935            |
| Afrikaans  | 198                             | 726              | 5.43508  | 19.9286            |
| Indigenous | 481                             | 1207             | 13.20340 | 33.1320            |
| Missing    | 2436                            | 3643             | 66.86797 | 100.0000           |

| Category | Frequency table: Race Group |                  |          |                    |
|----------|-----------------------------|------------------|----------|--------------------|
|          | Count                       | Cumulative Count | Percent  | Cumulative Percent |
| Coloured | 364                         | 364              | 9.99177  | 9.9918             |
| European | 183                         | 547              | 5.02333  | 15.0151            |
| Asian    | 152                         | 699              | 4.17239  | 19.1875            |
| African  | 634                         | 1333             | 17.40324 | 36.5907            |
| Missing  | 2310                        | 3643             | 63.40928 | 100.0000           |

| Variable | Descriptive Statistics: Age |          |          |          |      |                  |
|----------|-----------------------------|----------|----------|----------|------|------------------|
|          | Mean                        | Std.Dev  | Minimum  | Maximum  | N    | No.cases Missing |
| Age      | 27.95474                    | 7.191728 | 2.000000 | 59.00000 | 3557 | 86               |

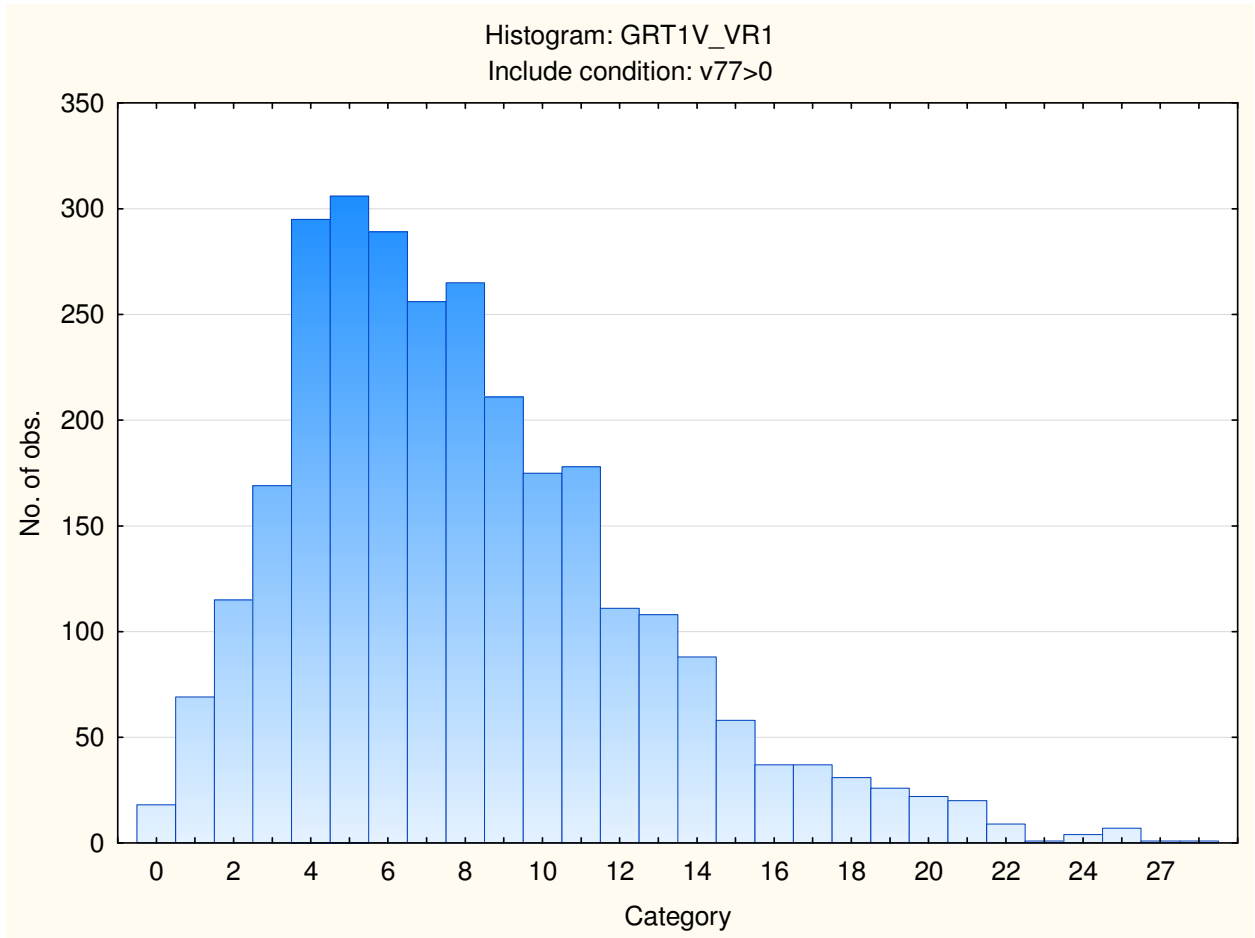




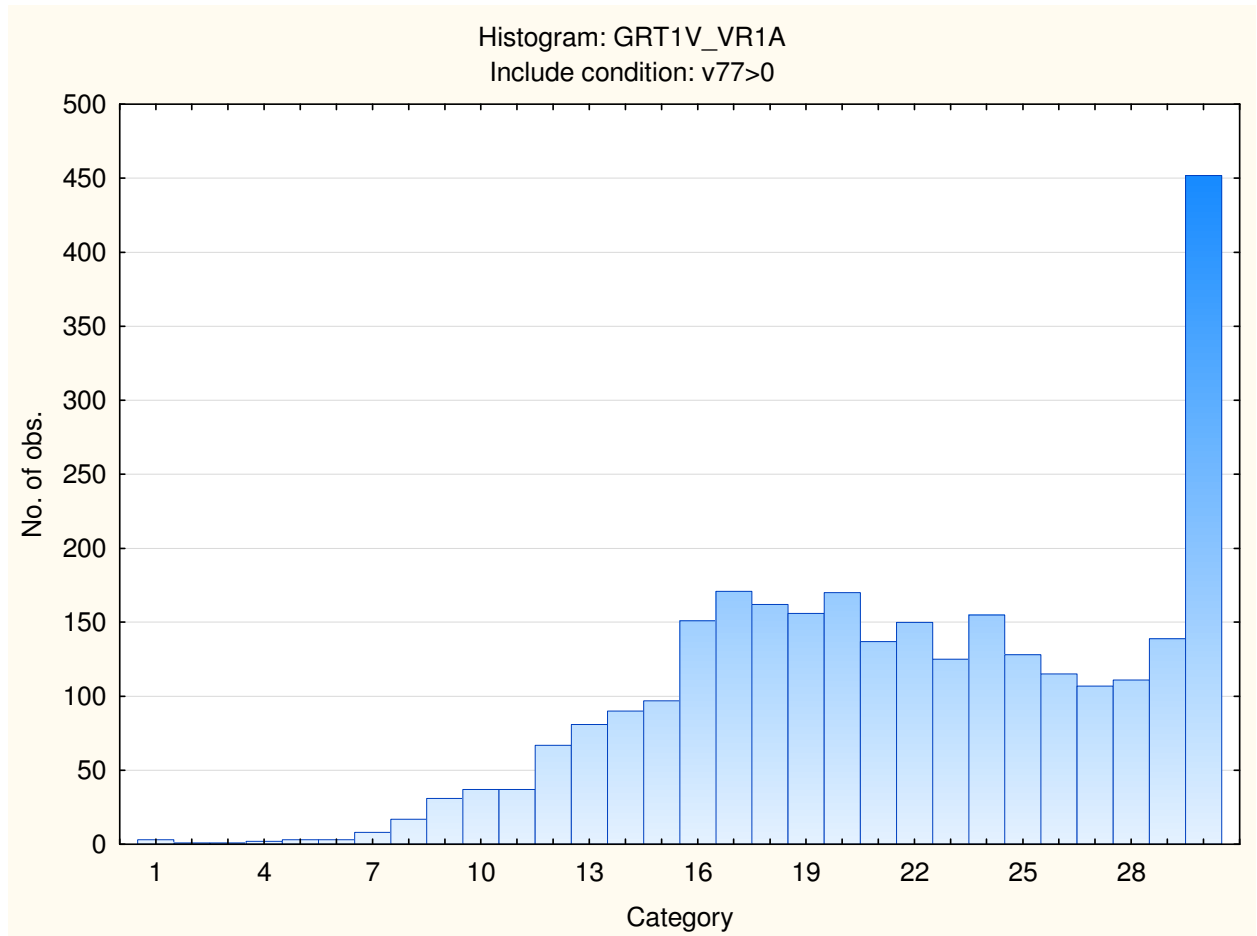
| Variable                                     | <b>Descriptive statistics on Graduate Reasoning Test Battery subtests</b> |          |          |          |      |                  |
|--|---|----------|----------|----------|------|------------------|
|  | Mean  | Std.Dev  | Minimum  | Maximum  | N    | No.cases Missing |
| Graduate Verbal Reasoning                    | 8.01066   | 4.495875 | 0.000000 | 28.00000 | 2907 | 0                |
| Graduate Verbal Reasoning items attempted    | 21.67939  | 6.115689 | 1.000000 | 30.00000 | 2907 | 0                |
| Graduate Numerical Reasoning                 | 7.33766   | 4.898714 | 0.000000 | 25.00000 | 2926 | 0                |
| Graduate Numerical Reasoning items attempted | 16.60800  | 5.346566 | 1.000000 | 25.00000 | 2926 | 0                |
| Graduate Abstract Reasoning                  | 9.77079   | 4.000879 | 0.000000 | 25.00000 | 3643 | 0                |
| Graduate Abstract Reasoning items attempted  | 20.39665  | 4.463712 | 1.000000 | 25.00000 | 3643 | 0                |

### **Frequency distributions of Graduate Reasoning Test Battery subtests**

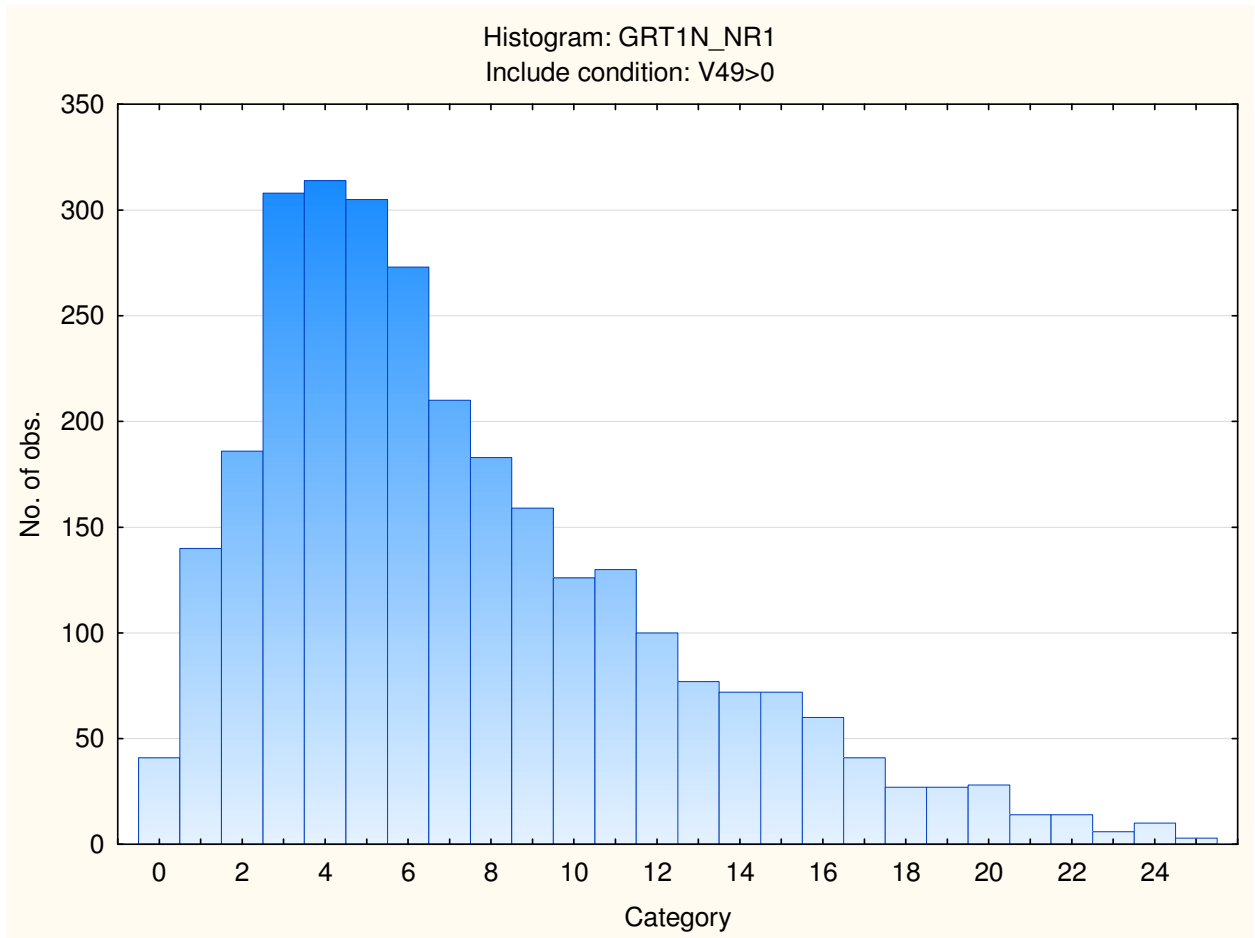
### Frequency distribution: Graduate Verbal Reasoning Test



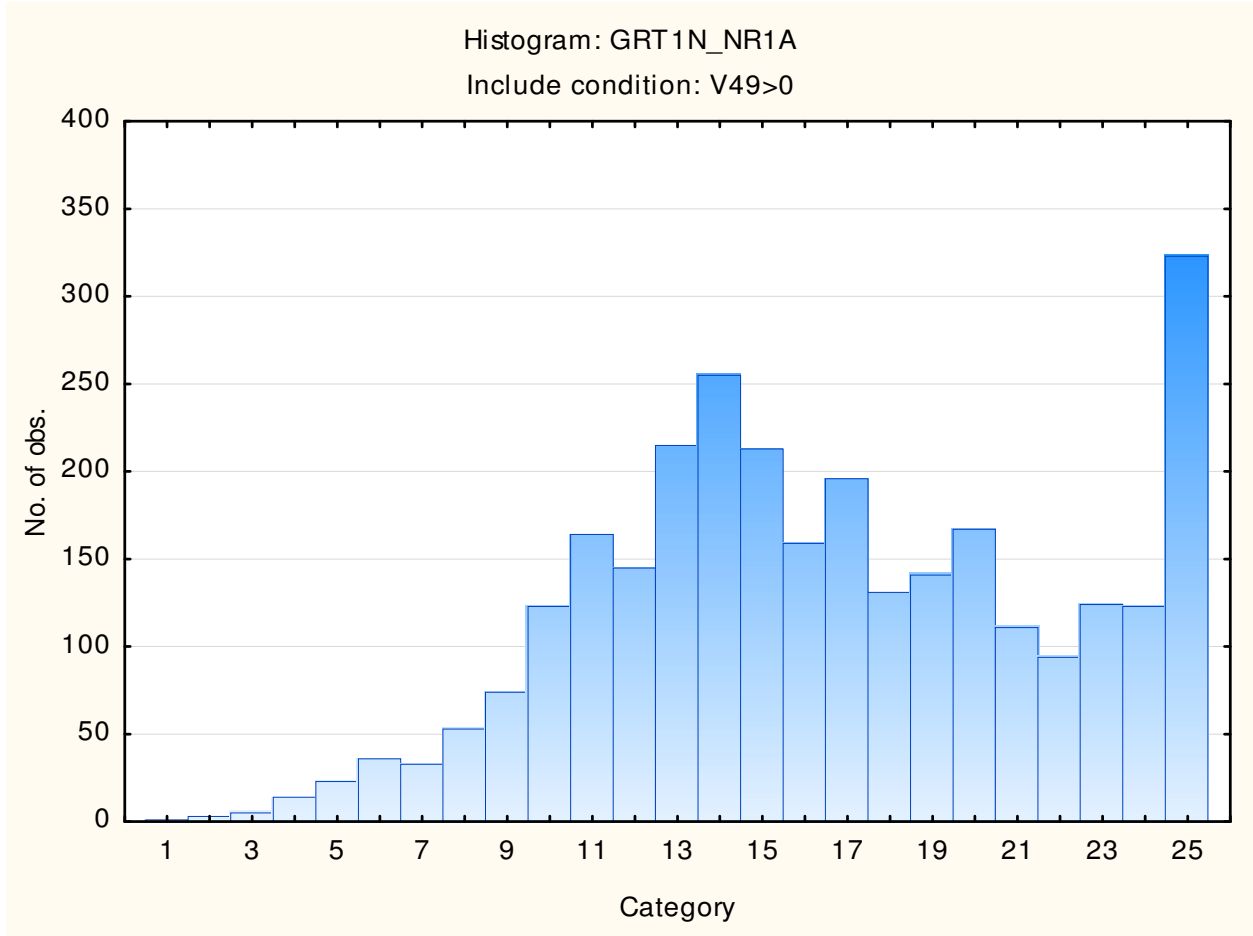
### Frequency distribution: Graduate Verbal Reasoning Test Items Attempted



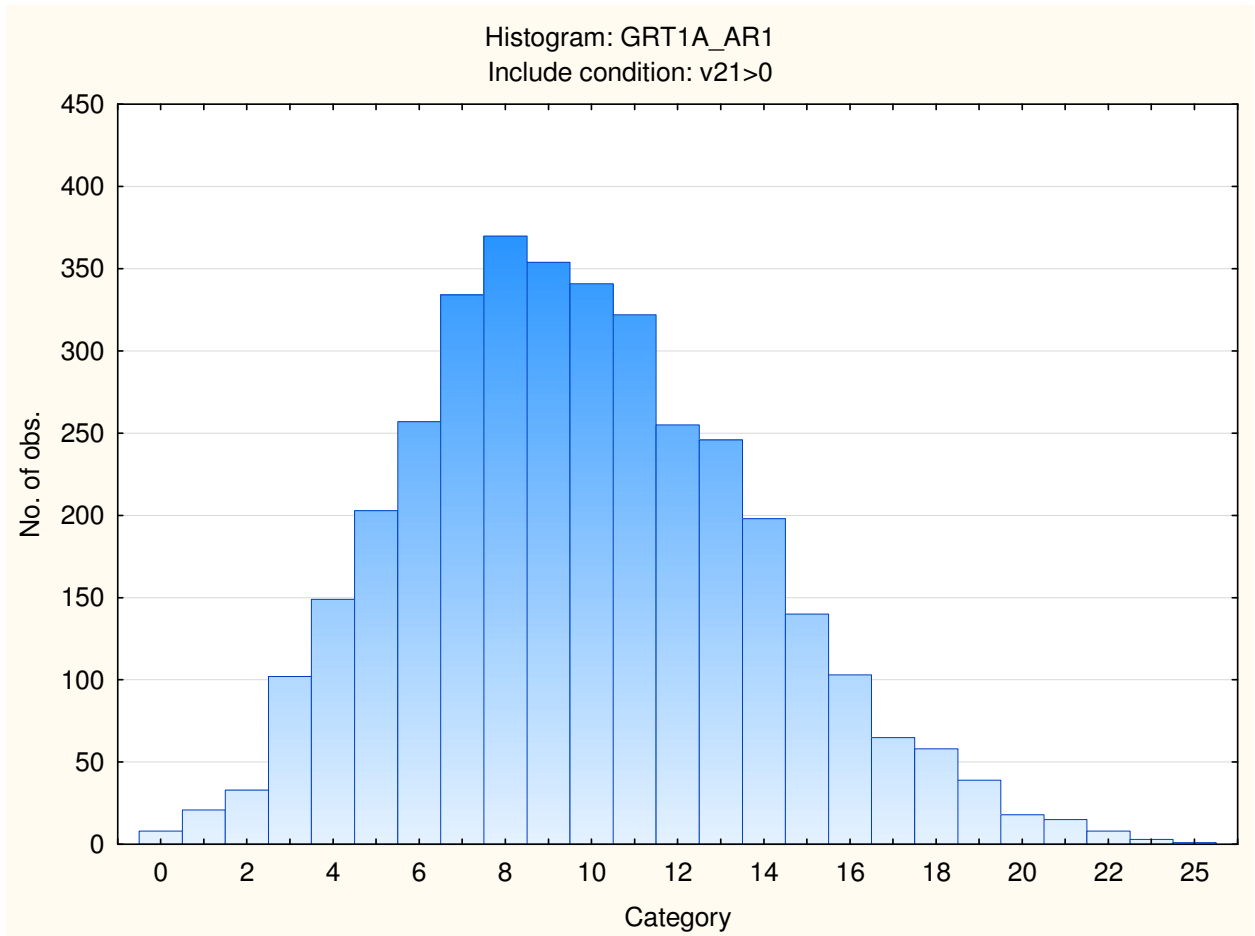
### Frequency distribution: Graduate Numerical Reasoning Test

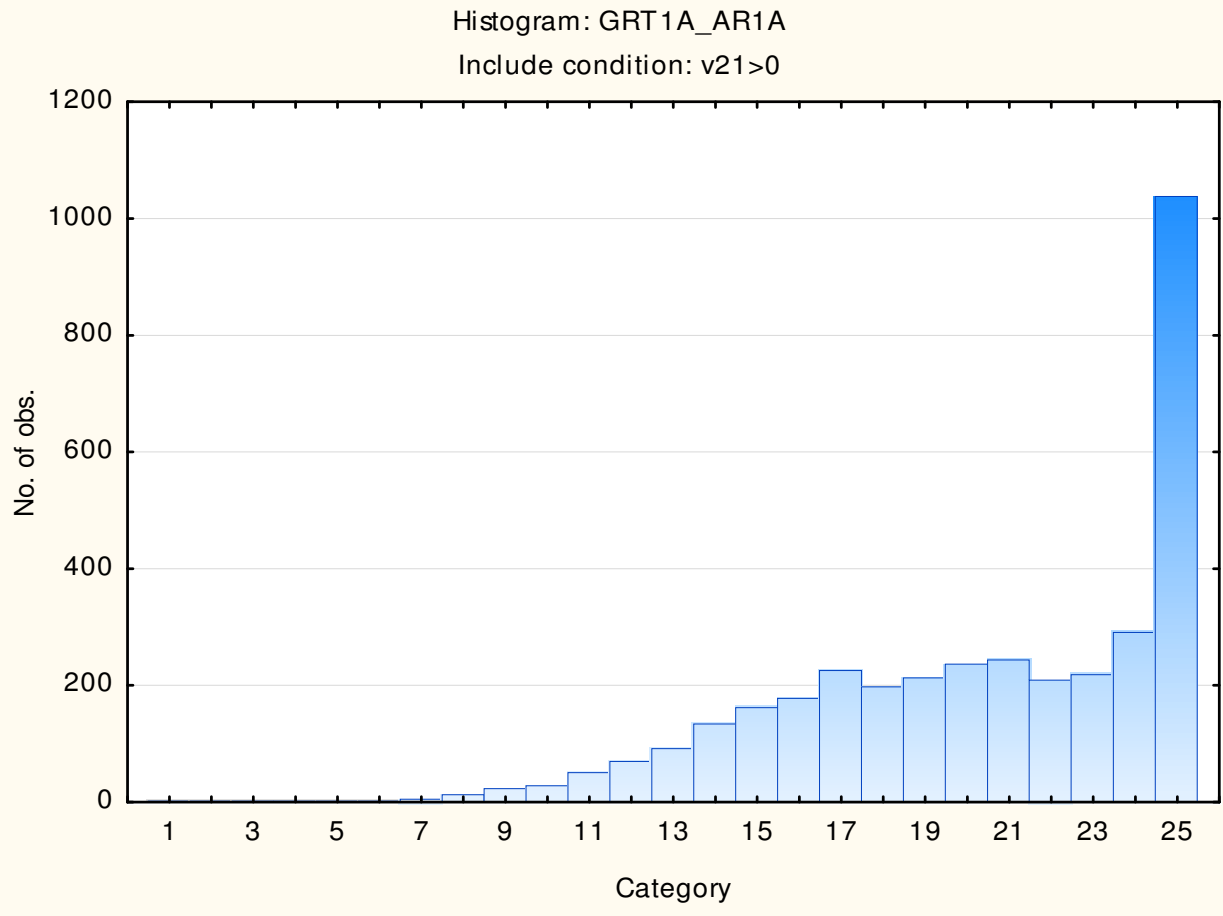


### Frequency distribution: Graduate Numerical Reasoning Test Items Attempted



### Frequency distribution: Graduate Abstract Reasoning Test





## Stanine table

|   | S9_1 | S9_2  | S9_3  | S9_4  | S9_5  | S9_6  | S9_7  | S9_8  | S9_9  |
|---|------|-------|-------|-------|-------|-------|-------|-------|-------|
| <b>Graduate Verbal Reasoning</b>          | 0-0  | 1-2   | 3-4   | 5-6   | 7-9   | 10-11 | 12-13 | 14-15 | 16-28 |
| <b>Graduate Verbal Items Attempted</b>    | 1-10 | 11-14 | 15-17 | 18-20 | 21-23 | 24-26 | 27-29 | 30-30 |       |
| <b>Graduate Numerical Reasoning</b>       | 0--1 | 0-1   | 2-3   | 4-6   | 7-8   | 9-11  | 12-13 | 14-15 | 16-25 |
| <b>Graduate Numerical Items Attempted</b> | 1-7  | 8-9   | 10-12 | 13-15 | 16-17 | 18-20 | 21-23 | 24-25 |       |
| <b>Graduate Abstract Reasoning</b>        | 0-2  | 3-4   | 5-6   | 7-8   | 9-10  | 11-12 | 13-14 | 15-16 | 17-25 |
| <b>Graduate Abstract Items Attempted</b>  | 1-12 | 13-14 | 15-17 | 18-19 | 20-21 | 22-23 | 24-25 |       |       |