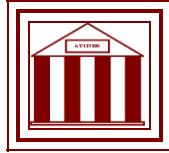# Athens Institute for Education and Research
# ATINER

# ATINER's Conference Paper Series
# FIT2012-0214

# How Can Future Talents of 8-14 Years Old be Identified in Different Sports' Disciplines

**F. Kovaçi**
**Sports University of Tirana (UST)**
**Albania**

**Dh.Skënderi**
**Sports University of Tirana (UST)**
**Albania**

**E. Kodra**
**Sports University of Tirana (UST)**
**Albania**
**A. Bendo**
**Sports University of Tirana (UST)**
**Albania**

# An Introduction to
# ATINER's Conference Paper Series

ATINER started to publish this conference papers series in 2012. It includes only the papers submitted for publication after they were presented at one of the conferences organized by our Institute every year. The papers published in the series have not been refereed and are published as they were submitted by the author. The series serves two purposes. First, we want to disseminate the information as fast as possible. Second, by doing so, the authors can receive comments useful to revise their papers before they are considered for publication in one of ATINER's books, following our standard procedures of a blind review.

Dr. Gregory T. Papanikos
President
Athens Institute for Education and Research

This paper should be cited as follows:

# How Can Future Talents of 8-14 Years Old be Identified in Different Sports' Disciplines

**F. Kovaçi**
**Sports University of Tirana (UST)**
**Albania**

**Dh.Skënderi**
**Sports University of Tirana (UST)**
**Albania**

**E. Kodra**
**Sports University of Tirana (UST)**
**Albania**
**A. Bendo**
**Sports University of Tirana (UST)**
**Albania**

**Abstract**

**Contact Information of Corresponding author:**

**Introduction**

Identifying the new sport talents is of ultimate importance for both sport specialist and the teachers of physical education. Through the application of general tests, we are able to identify the best pool of talented individuals that show the potential to race in different sports disciplines.

**Methods**

Tests were conducted with a number of 800 children (400 girls, 400 boys) between the ages of 8-14. For every given age, the sample chosen was of 100 children. The running test was measured with the help of a hand time, whereas the flexibility was measured with a meter. The tests that were selected to be applied on the chosen sample were as follows: curl –ups, partial curl-ups, shuttle runs, V-sit Reach, pull ups, right – angle push-ups, 50 – yard dash. Through the application of the above explained tests, we had the opportunity to distinguish between a more gifted or less gifted child.

**Results**

Based on the statistical calculation of the results shown in detail in the following tables and graphics, we found the average number of the given exercises children of could complete throughout the four levels of exercising for every gender and age group.                                    In order to calculate the average, a simple frequency method together with the statics analysis (SPSS, version 11) was used. The mean from a simple frequency distribution is computed as: $\bar{X} = \dfrac{\Sigma(fX)}{N}$, where $N$ is the number of the individuals in every given test.  The standard deviation was found according to the formula $SD = \sqrt{\dfrac{\Sigma(fX^2)}{N} - (\bar{X})^2}$, whereas the coefficient of the correlation is $CV = \dfrac{SD}{\bar{X}}$, which varies from 0.036–2.64.

**Discussion and Conclusion**

The individuals chosen for this study were not trained before. The measurements were randomly conducted in order to serve objectivity in identifying the young talented individuals. Based on the results, compared to those of referential value we came to the conclusion: At 90% of strain in 7 tests (for boys and girls)

Test 1, average age 8.2 (F-M), found 1 female talent (1F) and 1 male talent (1M); age 10.3 found 1F and 2M; age 12.4 found 1F and 1M; age 14.2 found 1F and 2M.

Test 2, av. age 8.2 found 1F and 1M; age 10.3 found 1F and 2M; age 12.4 found 1F and 1M; age 14.2 found 1F and 2M. Test 3, av. age 8.2 found 1F and 1M; age 10.3 found 1F and 2M; age 12.4 found 1F and 1M; age 14.2 found 1F and 1M. Test 4, av. age 8.2 found 12F and 9 M; age 10.3 found 10F and 10M; age 12.4 found 11F and 9M; age 14.2 found 6F and 3M. Test 5, av. age 8.2 found 1F and 1 M; age 10.3 found 1F and 2M; age 12.4 found 1F and 2M; age 14.2 found 1F and 3M. Test 6, av. age 8.2 found 1 F and 1M; age 10.3 found 1F and 1M; age 12.4 found 1F and 2M; age 14.2 found 1F and 7M. Test 7, av. age 8.2 found 11 F and 12 M; age 10.3 found 10F and 13M; age 12.4 found 8F and 11M; age 14.2 found 2F and 15M.

## References

Brown J, (2001). *How to identify and develop outstanding athletes* (97-104).

Carbonaro G, Dal Monte A, Faina M, Manno R, Merni F, Nicoletti I, Nicolini I, (1999). (177-179). [In Italian]

*Calcio,* (1995), *Guida tecnica Organizzativa.* (118-119). [In Italian]

Nadori L, (1993), *SDS.* (101-107). [In Italian]

Harsany L, (1993), *SDS.* Nr.28-29; (108-110). [In Italian]

Brown J, (2001), *Profiling the talented athlete.* (9-26, 106-114)

**Table 1.** *Curl-ups test for 1 min.*

| Girls | | | | | Boys | | | |
|---|---|---|---|---|---|---|---|---|
| 8 Years old | Stress level (in%) | Total number of subjects | Ref. values | Values of our subjects | Difference | Total number of subjects | Ref. values | Values of our subjects | Difference |
| | 20 | 56 | 22 | 20 | -2 | 58 | 23 | 20 | -3 |
| | 50 | 40 | 29 | 27 | -2 | 36 | 31 | 30 | -1 |
| | 70 | 3 | 33 | 30 | -3 | 5 | 36 | 34 | -2 |
| | 90 | 1 | 40 | 37 | -3 | 1 | 42 | 39 | -3 |
| Girls | | | | | Boys | | | |
| 10 Years old | Stress level (in %) | Total number of subjects | Ref. values | Values of our subjects | Difference | Total number of subjects | Ref. values | Values of our subjects | Difference |
| | 20 | 60 | 23 | 20 | -3 | 57 | 28 | 26 | -2 |
| | 50 | 37 | 30 | 30 | 0 | 35 | 35 | 32 | -3 |
| | 70 | 2 | 35 | 32 | -3 | 6 | 40 | 38 | -2 |
| | 90 | 1 | 42 | 39 | -3 | 2 | 48 | 45 | -3 |

| 12 Years old | Girls | | | | | Boys | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Stress level (in %) | Total number of subjects | Ref. values | Values of our subjects | Difference | Total number of subjects | Ref. values | Values of our subjects | Difference |
| | 20 | 70 | 27 | 26 | -1 | 42 | 32 | 30 | -2 |
| | 50 | 28 | 35 | 32 | -3 | 35 | 40 | 37 | -3 |
| | 70 | 1 | 40 | 37 | -3 | 2 | 45 | 42 | -3 |
| | 90 | 1 | 47 | 44 | -3 | 1 | 53 | 49 | -4 |

| 14 Years old | Girls | | | | | Boys | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Stress level (in %) | Total number of subjects | Ref. values | Values of our subjects | Difference | Total number of subjects | Ref. values | Values of our subjects | Difference |
| | 20 | 73 | 30 | 27 | -3 | 44 | 37 | 33 | -4 |
| | 50 | 25 | 37 | 35 | -2 | 43 | 45 | 42 | -3 |
| | 70 | 1 | 42 | 40 | -2 | 11 | 51 | 48 | -3 |
| | 90 | 1 | 49 | 45 | -4 | 2 | 58 | 55 | -3 |

**Table 2.** *Partial curl-ups test for 1 min.*

| 8 Years old | Girls | | | | | Boys | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Stress level (in %) | Total number of subjects | Ref. values | Values of our subjects | Difference | Total number of subjects | Ref. values | Values of our subjects | Difference |
| | 20 | 63 | 11 | 10 | -1 | 66 | 11 | 11 | 0 |
| | 50 | 35 | 17 | 14 | -3 | 32 | 17 | 15 | -2 |
| | 70 | 1 | 25 | 22 | -3 | 1 | 25 | 21 | -4 |
| | 90 | 1 | 31 | 28 | -3 | 1 | 31 | 28 | -3 |

| 10 Years old | Girls | | | | | Boys | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Stress level (in %) | Total number of subjects | Ref. values | Values of our subjects | Difference | Total number of subjects | Ref. values | Values of our subjects | Difference |
| | 20 | 65 | 17 | 16 | -1 | 61 | 14 | 11 | -3 |
| | 50 | 33 | 24 | 21 | -3 | 36 | 24 | 22 | -2 |
| | 70 | 1 | 27 | 26 | -1 | 2 | 29 | 25 | -4 |
| | 90 | 1 | 36 | 31 | -5 | 1 | 38 | 32 | -6 |

| 12 Years old | Girls | | | | | Boys | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Stress level (in %) | Total number of subjects | Ref. values | Values of our subjects | Difference | Total number of subjects | Ref. values | Values of our subjects | Difference |
| | 20 | 42 | 21 | 19 | -2 | 36 | 24 | 20 | -4 |
| | 50 | 53 | 30 | 26 | -6 | 58 | 32 | 29 | -3 |
| | 70 | 4 | 40 | 37 | -3 | 5 | 48 | 46 | -2 |
| | 90 | 1 | 56 | 51 | -5 | 1 | 60 | 55 | -5 |

| 14 Years old | | Girls | | | | Boys | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Stress level (in %) | Total number of subjects | Ref. values | Values of our subjects | Difference | Total number of subjects | Ref. values | Values of our subjects | Difference |
| | 20 | 64 | 21 | 20 | -1 | 47 | 28 | 26 | -2 |
| | 50 | 32 | 30 | 29 | -1 | 45 | 40 | 37 | -3 |
| | 70 | 3 | 40 | 36 | -4 | 6 | 52 | 48 | -4 |
| | 90 | 1 | 51 | 46 | -5 | 2 | 77 | 73 | -4 |

**Table 3.** *Shuttle runs test (36.50 m), one segment (9.14 m)*

| 8 Years old | | Girls | | | | Boys | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Stress level (in %) | Total number of subjects | Ref. values | Values of our subjects | Difference | Total number of subjects | Ref. values | Values of our subjects | Difference |
| | 20 | 51 | 14.3 | 14.5 | +0.2 | 49 | 13.6 | 13.8 | +0.2 |
| | 50 | 46 | 12.9 | 13.0 | +0.1 | 47 | 12.2 | 12.2 | 00 |
| | 70 | 2 | 12.2 | 12.4 | +0.2 | 3 | 11.5 | 10.6 | +0.1 |
| | 90 | 1 | 11.5 | 11.8 | +0.3 | 1 | 10.9 | 11.1 | 0.2 |

| 10 Years old | | Girls | | | | Boys | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Stress level (in %) | Total number of subjects | Ref. values | Values of our subjects | Difference | Total number of subjects | Ref. values | Values of our subjects | Difference |
| | 20 | 62 | 13.3 | 13.5 | +0.2 | 56 | 12.7 | 12.8 | +0.1 |
| | 50 | 36 | 12.1 | 12.3 | +0.2 | 41 | 11.5 | 11.7 | +0.2 |
| | 70 | 1 | 11.4 | 11.7 | +0.3 | 2 | 10.8 | 11.1 | +0.3 |
| | 90 | 1 | 10.6 | 10.8 | +0.2 | 1 | 10.0 | 10.4 | +0.4 |

| 12 Years old | | Girls | | | | Boys | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Stress level (in %) | Total number of subjects | Ref. values | Values of our subjects | Difference | Total number of subjects | Ref. values | Values of our subjects | Difference |
| | 20 | 58 | 12.3 | 12.3 | 00 | 64 | 11.4 | 11.5 | +0.1 |
| | 50 | 39 | 11.3 | 11.6 | +0.3 | 34 | 10.6 | 10.7 | +0.1 |
| | 70 | 2 | 10.8 | 11.0 | +0.2 | 1 | 10.1 | 10.4 | +0.3 |
| | 90 | 1 | 10.2 | 10.6 | +0.4 | 1 | 9.6 | 9.9 | +0.3 |

| 14 Years old | | Girls | | | | Boys | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Stress level (in %) | Total number of subjects | Ref. values | Values of our subjects | Difference | Total number of subjects | Ref. values | Values of our subjects | Difference |
| | 20 | 61 | 12.1 | 12.2 | +0.1 | 47 | 10.7 | 10.9 | +0.2 |
| | 50 | 37 | 11.2 | 11.4 | +0.2 | 49 | 9.9 | 11.0 | +0.1 |
| | 70 | 1 | 10.6 | 10.8 | +0.2 | 3 | 9.5 | 9.6 | +0.1 |
| | 90 | 1 | 9.9 | 10.3 | +0.4 | 1 | 9.0 | 9.3 | +0.3 |

**Table 4.** *V-sit Reach test*

| 8 Years old | Stress level (in %) | Total number of subjects | Ref. values | Values of our subjects | Difference | Total number of subjects | Ref. values | Values of our subjects | Difference |
|---|---|---|---|---|---|---|---|---|---|
| | | | | **Girls** | | | | **Boys** | |
| | 20 | 34 | 00 | 00 | 00 | 37 | -2.0 | -2.0 | 00 |
| | 50 | 36 | 2.0 | 2.0 | 00 | 41 | 0.5 | 0.5 | 00 |
| | 70 | 18 | 3.5 | 3.5 | 00 | 13 | 2.0 | 2.0 | 00 |
| | 90 | 12 | 5.0 | 5.0 | 00 | 9 | 3.5 | 3.5 | 00 |

| 10 Years old | Stress level (in %) | Total number of subjects | Ref. values | Values of our subjects | Difference | Total number of subjects | Ref. values | Values of our subjects | Difference |
|---|---|---|---|---|---|---|---|---|---|
| | | | | **Girls** | | | | **Boys** | |
| | 20 | 35 | 0.5 | 0.5 | 00 | 36 | -2.0 | -2.0 | 00 |
| | 50 | 39 | 3.0 | 3.0 | 00 | 39 | 1.0 | 1.0 | 00 |
| | 70 | 16 | 4.0 | 4.0 | 00 | 15 | 2.0 | 1.8 | -0.2 |
| | 90 | 10 | 7.0 | 6.9 | -0.1 | 10 | 5.0 | 4.6 | -0.4 |

| 12 Years old | Stress level (in %) | Total number of subjects | Ref. values | Values of our subjects | Difference | Total number of subjects | Ref. values | Values of our subjects | Difference |
|---|---|---|---|---|---|---|---|---|---|
| | | | | **Girls** | | | | **Boys** | |
| | 20 | 32 | 1.0 | 1.0 | 00 | 46 | -2.0 | -2.0 | 00 |
| | 50 | 44 | 3.5 | 3.5 | 00 | 33 | 1.0 | 1.1 | 0.1+ |
| | 70 | 13 | 5.0 | 4.8 | -0.2 | 12 | 2.0 | 1.7 | -0.3 |
| | 90 | 11 | 8.0 | 7.8 | -0.2 | 9 | 5.0 | 4.5 | 0.5 |

| 14 Years old | Stress level (in %) | Total number of subjects | Ref. values | Values of our subjects | Difference | Total number of subjects | Ref. values | Values of our subjects | Difference |
|---|---|---|---|---|---|---|---|---|---|
| | | | | **Girls** | | | | **Boys** | |
| | 20 | 29 | 2.0 | 2.0 | 00 | 52 | -2.0 | -2.0 | 00 |
| | 50 | 56 | 4.5 | 4.5 | 00 | 39 | 1.0 | 1.0 | 00 |
| | 70 | 9 | 6.0 | 5.9 | -0.1 | 6 | 3.0 | 2.7 | -0.3 |
| | 90 | 6 | 8.5 | 8.2 | -0.3 | 3 | 5.0 | 4.5 | -0.5 |

**Table 5.** *Pull-ups test*

| 8 Years old | Stress level (in %) | Total number of subjects | Ref. values | Values of our subjects | Difference | Total number of subjects | Ref. values | Values of our subjects | Difference |
|---|---|---|---|---|---|---|---|---|---|
| | | | | **Girls** | | | | **Boys** | |
| | 20 | 85 | 6 | 5 | -1 | 79 | 6 | 6 | 0 |
| | 50 | 13 | 9 | 8 | -1 | 17 | 9 | 9 | 0 |
| | 70 | 1 | 13 | 10 | -3 | 3 | 13 | 13 | 0 |
| | 90 | 1 | 19 | 17 | -2 | 1 | 19 | 17 | -2 |

| 10 Years old | Girls | | | | | Boys | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Stress level (in %) | Total number of subjects | Ref. values | Values of our subjects | Difference | Total number of subjects | Ref. values | Values of our subjects | Difference |
| | 20 | 55 | 8 | 6 | -2 | 39 | 10 | 10 | 0 |
| | 50 | 43 | 13 | 11 | -2 | 54 | 14 | 13 | -1 |
| | 70 | 1 | 17 | 15 | -2 | 5 | 18 | 16 | -2 |
| | 90 | 1 | 21 | 18 | -3 | 2 | 25 | 24 | -1 |

| 12 Years old | Girls | | | | | Boys | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Stress level (in %) | Total number of subjects | Ref. values | Values of our subjects | Difference | Total number of subjects | Ref. values | Values of our subjects | Difference |
| | 20 | 70 | 3 | 2 | -1 | 35 | 10 | 10 | 0 |
| | 50 | 28 | 10 | 9 | -1 | 57 | 18 | 17 | -1 |
| | 70 | 1 | 15 | 13 | -2 | 6 | 25 | 23 | -2 |
| | 90 | 1 | 21 | 18 | -3 | 2 | 34 | 30 | -4 |

| 14 Years old | Girls | | | | | Boys | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Stress level (in %) | Total number of subjects | Ref. values | Values of our subjects | Difference | Total number of subjects | Ref. values | Values of our subjects | Difference |
| | 20 | 84 | 5 | 3 | -2 | 28 | 15 | 15 | 0 |
| | 50 | 14 | 10 | 7 | -3 | 57 | 24 | 22 | -2 |
| | 70 | 1 | 12 | 11 | -1 | 12 | 30 | 25 | -5 |
| | 90 | 1 | 21 | 20 | -1 | 3 | 41 | 35 | -6 |

**Table 6.** *Right-angle push-ups test*

| 8 Years old | Girls | | | | | Boys | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Stress level (in %) | Total number of subjects | Ref. values | Values of our subjects | Difference | Total number of subjects | Ref. values | Values of our subjects | Difference |
| | 20 | 98 | 0 | 0 | 0 | 87 | 0 | 0 | 0 |
| | 50 | 0 | 0 | 0 | 0 | 11 | 1 | 1 | 0 |
| | 70 | 1 | 1 | 1 | 0 | 1 | 3 | 1 | -2 |
| | 90 | 1 | 3 | 2 | -1 | 1 | 6 | 2 | -4 |

| 10 Years old | Girls | | | | | Boys | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Stress level (in %) | Total number of subjects | Ref. values | Values of our subjects | Difference | Total number of subjects | Ref. values | Values of our subjects | Difference |
| | 20 | 98 | 0 | 0 | 0 | 86 | 0 | 0 | 0 |
| | 50 | 0 | 0 | 0 | 0 | 2 | 2 | 2 | 0 |
| | 70 | 1 | 1 | 1 | 0 | 1 | 4 | 2 | -2 |
| | 90 | 1 | 3 | 2 | -1 | 1 | 7 | 4 | -3 |

| 12 Years old | | Girls | | | | Boys | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Stress level (in %) | Total number of subjects | Ref. values | Values of our subjects | Difference | Total number of subjects | Ref. values | Values of our subjects | Difference |
| | 20 | 98 | 0 | 0 | 0 | 70 | 0 | 0 | 0 |
| | 50 | 0 | 0 | 0 | 0 | 23 | 2 | 2 | 0 |
| | 70 | 1 | 1 | 1 | 0 | 5 | 5 | 3 | -2 |
| | 90 | 1 | 3 | 2 | -1 | 2 | 8 | 6 | -2 |

| 14 Years old | | Girls | | | | Boys | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Stress level (in %) | Total number of subjects | Ref. values | Values of our subjects | Difference | Total number of subjects | Ref. values | Values of our subjects | Difference |
| | 20 | 98 | 0 | 0 | 0 | 41 | 1 | 1 | 0 |
| | 50 | 0 | 0 | 0 | 0 | 34 | 5 | 5 | 0 |
| | 70 | 1 | 1 | 1 | 0 | 18 | 7 | 6 | -1 |
| | 90 | 1 | 3 | 1 | -2 | 7 | 11 | 10 | -1 |

**Table 7.** *50–Yard dash test (45.70 m)*

| 8 Years old | | Girls | | | | Boys | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Stress level (in %) | Total number of subjects | Ref. values | Values of our subjects | Difference | Total number of subjects | Ref. values | Values of our subjects | Difference |
| | 20 | 19 | 10.5 | 10.8 | +0.3 | 18 | 10.1 | 10.2 | +0.1 |
| | 50 | 46 | 9.6 | 9.9 | +0.3 | 43 | 9.1 | 9.2 | +0.1 |
| | 70 | 24 | 9.1 | 9.5 | +0.4 | 27 | 8.6 | 8.9 | 0.3 |
| | 90 | 11 | 8.2 | 8.6 | +0.4 | 12 | 8.0 | 8.3 | +0.3 |

| 10 Years old | | Girls | | | | Boys | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Stress level (in %) | Total number of subjects | Ref. values | Values of our subjects | Difference | Total number of subjects | Ref. values | Values of our subjects | Difference |
| | 20 | 25 | 9.6 | 9.9 | +0.3 | 13 | 9.2 | 9.4 | +0.2 |
| | 50 | 44 | 8.8 | 9.1 | +0.2 | 47 | 84 | 87 | +0.3 |
| | 70 | 21 | 8.4 | 8.7 | +0.3 | 27 | 81 | 83 | +0.2 |
| | 90 | 10 | 7.9 | 8.2 | +0.3 | 13 | 75 | 7.8 | +0.3 |

| 12 Years old | | Girls | | | | Boys | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Stress level (in %) | Total number of subjects | Ref. values | Values of our subjects | Difference | Total number of subjects | Ref. values | Values of our subjects | Difference |
| | 20 | 38 | 9.0 | 9.1 | +0.1 | 27 | 84 | 8.7 | -0.3 |
| | 50 | 38 | 8.2 | 8.3 | +0.1 | 40 | 78 | 8.1 | +0.3 |
| | 70 | 16 | 78 | 8.0 | +0.2 | 22 | 73 | 7.5 | +0.2 |
| | 90 | 8 | 73 | 7.5 | +0.2 | 11 | 69 | 7.1 | +0.2 |

| 14 Years old | Girls | | | | | Boys | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Stress level (in %) | Total number of subjects | Ref. values | Values of our subjects | Difference | Total number of subjects | Ref. values | Values of our subjects | Difference |
| | 20 | 70 | 8.7 | 8.8 | +0.1 | 6 | 78 | 8.0 | +0.2 |
| | 50 | 23 | 8.0 | 8.2 | +0.2 | 54 | 7.1 | 72 | +0.1 |
| | 70 | 5 | 7.5 | 78 | +0.3 | 25 | 6.8 | 7.0 | +0.2 |
| | 90 | 2 | 7.0 | 73 | +0.3 | 15 | 6.3 | 6.6 | +0.3 |

**Table 8.** *Estimation results of new talents in 90% stress exercises level (age 8 – 10 years old)*

| Tests | Average age | New-talents Girls (in %) | New-talents Boys (in %) |
|---|---|---|---|
| 1 | 8.2 | 1 | 1 |
| | 10.3 | 1 | 2 |
| 2 | 8.2 | 1 | 1 |
| | 10.3 | 1 | 1 |
| 3 | 8.2 | 1 | 1 |
| | 10.3 | 1 | 1 |
| 4 | 8.2 | 12 | 9 |
| | 10.3 | 10 | 10 |
| 5 | 8.2 | 1 | 1 |
| | 10.3 | 1 | 2 |
| 6 | 8.2 | 1 | 1 |
| | 10.3 | 1 | 1 |
| 7 | 8.2 | 11 | 12 |
| | 10.3 | 10 | 13 |

**Table 9.** *Estimation results of new talents in 90% stress exercises level (age 12 – 14 years old)*

| Tests | Average age | New-talent girls (in %) | New-talent boys (in %) |
|---|---|---|---|
| 1 | 12.4 | 1 | 1 |
| | 14.2 | 1 | 2 |
| 2 | 12.4 | 1 | 1 |
| | 14.2 | 1 | 2 |
| 3 | 12.4 | 1 | 1 |
| | 14.2 | 1 | 1 |
| 4 | 12.4 | 11 | 9 |
| | 14.2 | 6 | 3 |
| 5 | 12.4 | 1 | 2 |
| | 14.2 | 1 | 3 |
| 6 | 12.4 | 1 | 2 |
| | 14.2 | 1 | 7 |
| 7 | 12.4 | 8 | 11 |
| | 14.2 | 2 | 15 |

**Fig. 1.** *Graphics for curl-ups (girls and boys)*
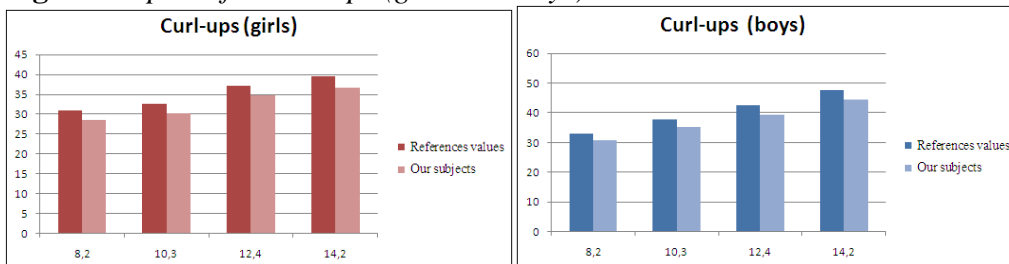


**Fig. 2.** *Graphics for partial curl-ups (girls and boys)*
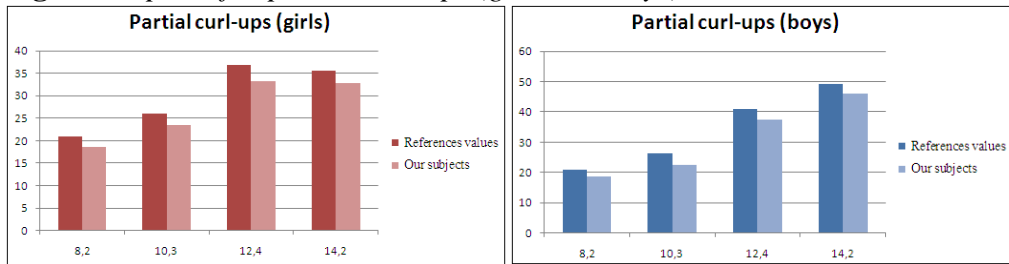


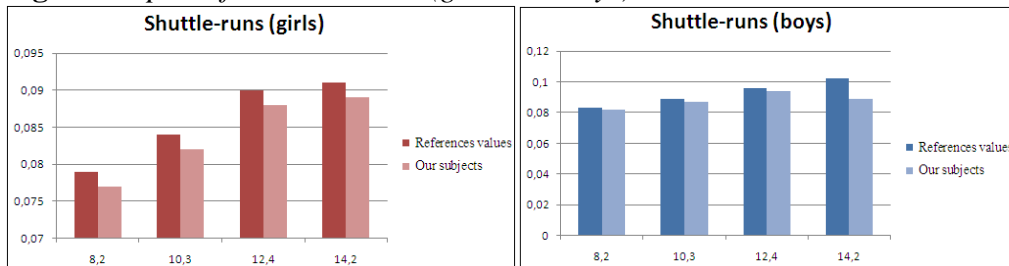**Fig. 3.** *Graphics for shuttle-runs (girls and boys)*



**Fig. 4.** *Graphics for V-sit Reach (girls and boys)*
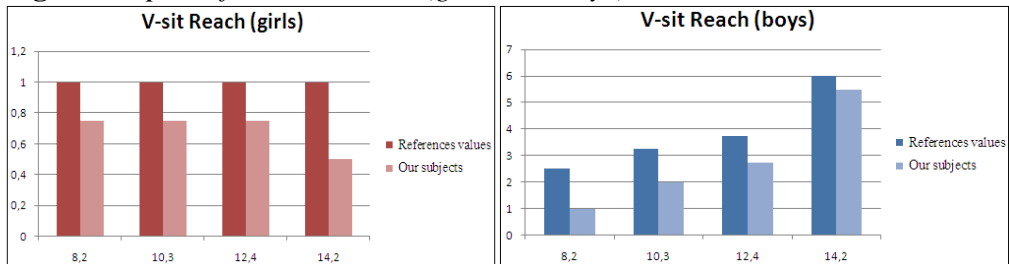


**Fig. 5.** *Graphics for Pull-ups (girls and boys)*

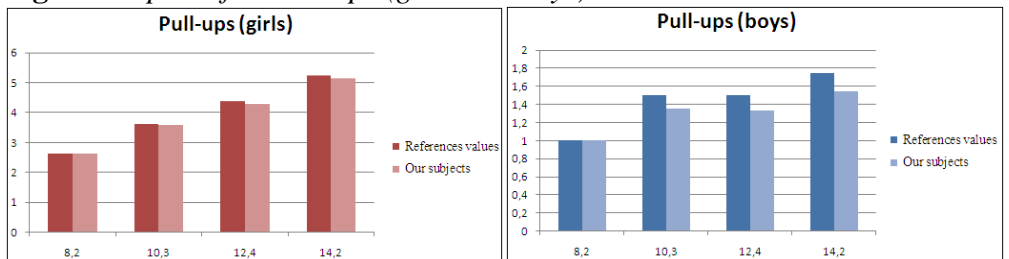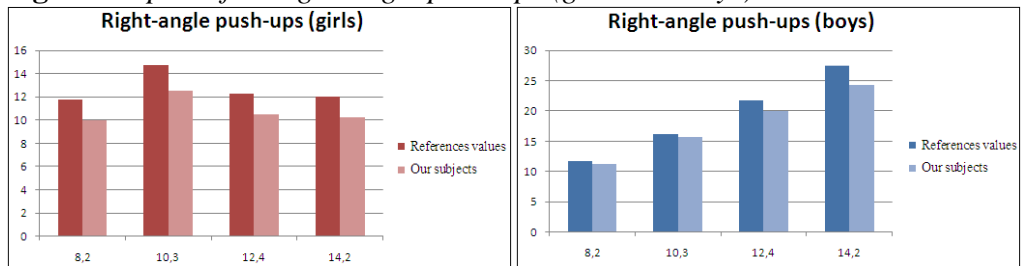**Fig. 6.** *Graphics for Right-angle push-ups (girls and boys)*



**Fig. 7.** *Graphics for 50-Yard dash (girls and boys)*