

Sanobar N. Akbarova

senior scientific worker

Republican Scientific and Practical Center of Sports Medicine

Tashkent, Republic of Uzbekistan

ADAPTATION AND STANDARDIZATION OF DEDUCTIVE REASONING TEST FOR 9TH CLASS PUPILS IN UZBEKISTAN

Abstract: *deductive reasoning ability is one of cognitive abilities that is required for the activities of many professional specialties. In Uzbekistan, Jim Barrett's "Deduction" test has been adapted for adolescents and standardized assessment criteria for ninth grade pupils. A total of 1,105 pupils ($M_{age}=15.5$) have participated in the study. The results showed no difference between male and female groups.*

Keywords: *deductive reasoning, ability, test, adaptation, standardization.*

The career guidance and psychodiagnostics is the important fields in the psychology. It is also possible to contribute to the development of society by developing these areas.

It is important to diagnose the level of young people's abilities in career guidance practice. Learning abilities is also important for identifying gifted persons. US scientists have reached great achievements in studying human abilities. The Taxonomy of Human Abilities was developed by E.A. Fleischman, where 52 different abilities were listed. Research to adapt and standardize tests that diagnose cognitive abilities in this taxonomy in adolescents aged 15–16, is currently underway in Uzbekistan. The one ability from this taxonomy is the ability of deductive reasoning.

"Deductive reasoning is the ability to apply general rules to specific problems and to come up with logical answers; for example, deciding whether or not an answer to a non-mathematical problem makes sense, or solving syllogistic reasoning problems. This ability involves applying general rules to specific problems rather than forming general rules from separate pieces of information" [2, p. 21].

The deductive reasoning is more important for the engineer, mathematician, operations-research analyst, computer programmer, physicist, judge, auto mechanic, and

pathologist [2, p. 21]. The US O*Net webpage provides the abilities needed for over 1,000 specialties, where list of other specialties require deductive reasoning also can be seen [3].

Many tests for the study of deductive reasoning have been developed in developed countries, but none of them have been adapted or standardized in Uzbekistan. So, we decided to adapt and standardize one test for 9th class pupils in our country's schools. We applied the "Deduction Test" developed by Jim Barrett [1, p. 55–61].

A total of 1,105 pupils (554 males and 551 females) studying in general and specialized schools of Tashkent, Bukhara and Fergana regions of the country took part in our study.

The test is a paper-pencil, multiple-choice test. It consists of 25 items as logical questions. 20 minutes are allowed to complete this test. The test results were analyzed separately by gender. The distribution of scores obtained on the basis of test results in boys and girls is shown in Figures 1 and 2.

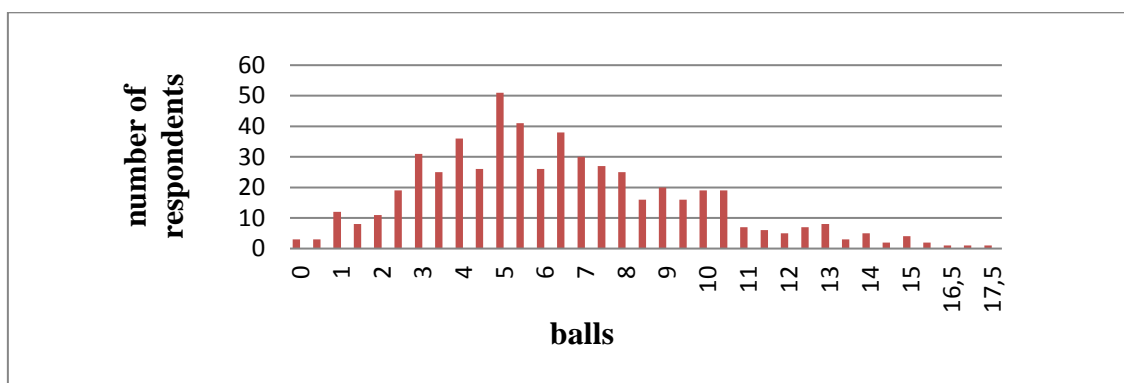


Fig. 1. Results of the deductive reasoning test in 9th class boys

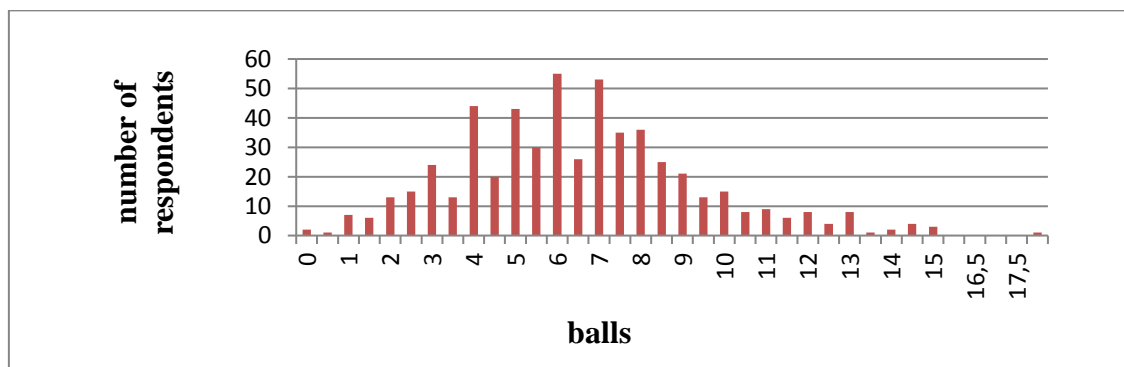


Fig. 2. Results of the deductive reasoning test in 9th class girls

Based on these data, criteria for assessing the deductive reasoning of adolescents aged 15–16 years were developed (table 1).

Table 1

Criteria for assessing the deductive reasoning of adolescents aged 15–16
in Uzbekistan on the basis of the Jim Barrett test

Estimation and values		Male	Female
Level of deductive reasoning	Very low	0–2,5	0–2,5
	Low	3–4	3–4,5
	Middle	4,5–8	5–8
	Good	8,5–10,5	8,5–10
	High	11–25	10,5–25
Statistical values	Fixed maximal balls	17,5	18
	Average value	6,44	6,53
	Dispersion, Var (X)	10,43	8,18
	Standard deviation, σ	3,22	2,86

The results show that gender differences in adolescents are almost imperceptible in the manifestation of deductive reasoning ability.

These assessment criteria of adolescents can be applied in Uzbekistan.

In the later stages of the study, it is advisable to create computer programs for this test and also to develop assessment scales for other age groups.

References

1. Barrett, J. (2008). Ultimate aptitude tests: assess your potential with aptitude, motivational and personality tests. London and Philadelphia: Kogan Page. 210.
2. Fleishman, E. A., & Relly, M. E. (1992). Handbook of human abilities: Definitions, measurement, and job task requirements. Bethesda, MD: Management Research Institute.
3. O*NET Resource Center. Retrieved from <https://www.onetcenter.org/overview.html> (access date: 04.02.2018).

Акбарова Санобар Нарзикуловна

канд. психол. наук, старший научный сотрудник

Республиканский научно-практический центр спортивной медицины

АДАПТАЦИЯ И СТАНДАРТИЗАЦИЯ ТЕСТА НА ДЕДУКТИВНОЕ МЫШЛЕНИЕ ДЛЯ УЧЕНИКОВ 9 КЛАССА В УЗБЕКИСТАНЕ

Аннотация: способность к дедуктивному мышлению – это одна из когнитивных способностей, которая необходима для деятельности многих профессиональных специальностей. В Узбекистане был проведен тест на дедукцию Джима Барретта у подростков и унифицированы критерии оценки для учащихся девятых классов. Всего в исследовании приняли участие 1105 учеников ($M_{age}=15,5$). В ходе исследования не было выявлено различий между мальчиками и девочками.

Ключевые слова: дедуктивное мышление, способность, тест, применение, стандартизация.

Список литературы

1. Barrett J. Ultimate aptitude tests: assess your potential with aptitude, motivational and personality tests. – London and Philadelphia: Kogan Page, 2008. – 210 p.
2. Fleishman E.A., & Relly M.E. (1992). Handbook of human abilities: Definitions, measurement, and job task requirements. – Bethesda, MD: Management Research Institute.
3. O*NET Resource Center. Retrieved from <https://www.onetcenter.org/overview.html> (access date: 04.02.2018).