



ATTENTION EVALUATION IN WEIGHTLIFTERS

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Abstract

Purpose. One of the most important qualities in weightlifting is attention, as a psychic phenomenon that supports the psychomotor activities. In this sense, our purpose was to study the attention capacity in top performance weightlifters.

Methods. In order to develop our research, we selected 5 top performance weightlifters (boys) aged 26 to 34 years old, components of the "Steaua" Sports Club of Bucharest. We selected our subjects according to the performance criterion, all of them being masters of sports. The research included many stages (we mention that the present research is in progress, reason for which we present only the subjects' results in the initial evaluation), as follows: 1st stage: subject selection; 2nd stage: initial evaluation; 3rd stage: training program for the attention enhancement; 4th stage: final evaluation. For the attention evaluation, we used the Prague test (distributed attention) and the Toulouse-Pieron test (concentrated attention).

Results. After the administration of the distributed attention and the concentrated attention tests, we found out that the investigated subjects registered different scores ("poor", "average", "good").

Conclusions. The analysis of the subjects' partial results suggests that their performances result from the compensation with other psychomotor qualities.

Key-words: attention, evaluation, weightlifting.

Introduction

Athletes are submitted to multidirectional efforts and, in this sense, sports performance is influenced by numerous factors. One of the most important qualities in weightlifting is attention. According to F. Macar (1999), attention is a "multidimensional concept". Attention is a "psychic process, a psychic state, a condition facilitating or perturbing the other psychic phenomena" (Zlate, 2006). "In daily life, the attention involvement is also appreciated as a success-generating factor, while the attention diminution or absence, as a failure-generating factor" (Golu, 2005). M. Epuran (2001) states that attention is a "prerequisite for the awareness of the entire psycho-behavioral life; without it, no external or internal information can be efficiently received or processed". In the final part of this introduction, we want to specify the fact that "there are two totally distinct forms of

attention: one is spontaneous, natural (this is the authentic, primitive, basic form of attention) and one is voluntary, artificial (resulted from education, training. It fully extracts its substance from the spontaneous attention" (Ribot, 2000).

Methods

In order to develop our research, we selected 5 top performance weightlifters (boys) aged 26 to 34 years old, components of the "Steaua" Sports Club of Bucharest. Their sports experience in the weightlifting domain is comprised between 13 and 23 years. We selected our subjects according to the performance criterion, all of them being masters of sports.

In this research, we present the subjects' results in the initial evaluation, respectively in the attention tests: the Prague test - for the distributed attention, and the Toulouse-Pieron test - for the concentrated attention.

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Results

Table 1. Subjects of the research

Crt. no.	Surname and name	Year of birth	Sports classification	Weight class	Sports experience
1.	A.M.	1979	Master of sports	105 kg	22 years
2.	M.I.	1983	Master of sports	85 kg	16 years
3.	O.S.	1981	Master of sports	62 kg	19 years
4.	B.T.	1987	Master of sports	79 kg	17 years
5.	P.V.	1985	Master of sports	77 kg	13 years

Table 2. Results obtained in the Prague distributed attention test - Initial testing - Subject A.M.

Minute	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total
Correct numbers	6	0	2	3	1	5	6	3	4	2	4	4	7	3	2	7	59
- minute																	

After the administration of the Prague distributed attention test, we can notice that the subject A.M. has an average level of the distributed attention, with fluctuations of the attention, and a more difficult integration into the task; although in minute 1 he identified 6 numbers, in the next 4 minutes his performances were poor: minute 2 - 0 numbers, minute 3 - 2 numbers, minute 4 - 3 numbers, minute 5 - 1 number.

The administration of the Toulouse-Pieron barrage test emphasizes a low level of the concentrated attention.

The Cs/Is/Os ratio, expressed by the coefficient of accuracy indicator, reflects a low level of the attention (C_{EX} for the whole test = 0.25), but the values indicate an ascendant trend (the lowest value being in minute 1: C_{EX} for min. 1 = 0.21, and the highest value in minute 4: C_{EX} for min. 4 = 0.33). This may prove that the subject has a good capacity of adaptation to the task and also a good learning capacity, as we can see in the table below.

Table 3. Results obtained in the Toulouse-Pieron concentrated attention test - Subject A.M.

Minute	Correct signs (Cs)	Incorrect signs (Is)	Omitted signs (Os)	Coefficient of accuracy
1	11	4	21	0.21
2	9	2	18	0.25
3	8	1	22	0.23
4	11	0	22	0.33
Total signs	39	7	83	0.25

Table 4. Results obtained in the Prague distributed attention test - Initial testing - Subject M.I.

Minute	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total
Correct numbers	5	3	1	4	4	4	5	2	1	3	6	3	5	4	6	4	60
- minute																	

The administration of the Prague distributed attention test indicates that the subject M.I. has an average level of the distributed attention, with fluctuations of the attention, and a more difficult integration into the task; although in minute 1 he identified 5 numbers, in the next 4 minutes his performances were poor: minute 2 - 3 numbers, minute 3 - 1 number, minute 4 - 4 numbers, minute 5 - 4 numbers.

After the administration of the Toulouse-Pieron barrage test, the subject's results indicate a low level of the concentrated attention. The Cs/Is/Os ratio, expressed by the coefficient of accuracy indicator, reflects a low level of the attention (C_{EX} for the whole test = 0.25), but the values indicate an ascendant trend (the lowest value being in minute 1: C_{EX} for min. 1 = 0.21, and the highest value in minute 4: C_{EX} for min. 4



= 0.33). This may prove that the subject has a good capacity of adaptation to the task and also a good learning capacity, as we can see in the table below.

Table 5. Results obtained in the Toulouse-Pieron concentrated attention test - Subject M.I.

Minute	Correct signs	Incorrect signs	Omitted signs	Coefficient of accuracy
1	2	4	21	0.21
2	9	2	18	0.25
3	8	1	22	0.23
4	11	0	22	0.33
Total signs	30	7	83	0.25

Table 6. Results obtained in the Prague distributed attention test - Initial testing - Subject O.S.

Minute	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total
Correct numbers - minute	3	3	3	2	1	0	3	0	1	2	3	4	6	2	1	2	36

The administration of the Prague distributed attention test indicates that the subject O.S. has an average level of the distributed attention, with fluctuations of the attention, a more difficult integration into the task and an increased fatigability. After the administration of the Toulouse-Pieron barrage test, the subject's results indicate a good level

of the concentrated attention. The Cs/Is/Os ratio, expressed by the coefficient of accuracy indicator, reflects an average level of the attention (C_{EX} for the whole test = 0.59), this coefficient values indicating fluctuations of the concentrated attention, as we can see in the table below.

Table 7. Results obtained in the Toulouse-Pieron concentrated attention test - Subject O.S.

Minute	Correct signs	Incorrect signs	Omitted signs	Coefficient of accuracy
1	18	3	9	0.55
2	19	0	5	0.79
3	16	5	3	0.57
4	13	4	7	0.45
Total signs	66	12	24	0.59

Table 8. Results obtained in the Prague distributed attention test - Initial testing - Subject B.T.

Minute	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total
Correct numbers - minute	5	4	2	3	5	3	4	6	5	5	0	3	4	5	5	6	65

The administration of the Prague distributed attention test indicates that the subject B.T. has an average level of the distributed attention and a more difficult integration into the task; although in minute 1 he identified 5 numbers, in the next 3 minutes his performances were poor: minute 2 - 4 numbers, minute 3 - 2 numbers, minute 4 - 3 numbers.

After the administration of the Toulouse-Pieron barrage test, the subject's results indicate a good level of the concentrated attention. The Cs/Is/Os ratio, expressed by the coefficient of accuracy indicator, reflects a good level of the concentrated attention (C_{EX} for the whole test = 0.75), as we can see in the table below.



Table 9. Results obtained in the Toulouse-Pieron concentrated attention test - Subject B.T.

Minute	Correct signs	Incorrect signs	Omitted signs	Coefficient of accuracy
1	25	5	1	0.76
2	24	4	3	0.74
3	19	3	4	0.69
4	27	4	1	0.82
Total signs	95	16	9	0.75

Table 10. Results obtained in the Prague distributed attention test - Initial testing - Subject P.V.

Minute	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total
Correct numbers - minute	6	7	2	6	3	5	3	4	4	3	6	0	6	1	5	4	65

The administration of the Prague distributed attention test indicates that the subject P.V. has an average level of the distributed attention, with fluctuations of the attention, a more difficult integration into the task and a tendency to fatigability.

After the administration of the Toulouse-Pieron barrage test, the subject's results indicate a good level of the concentrated attention ($Sc = 87$). The Cs/Is/Os ratio, expressed by the coefficient of accuracy

indicator, reflects a good level of the concentrated attention (C_{EX} for the whole test = 0.81) and the values indicate an ascendant trend (the lowest value being in minute 1: C_{EX} for min. 1 = 0.55 and the highest value in minute 4: C_{EX} for min. 4 = 1). This may prove that the subject has a good capacity of adaptation to the task and also a good learning capacity, as we can see in the table below.

Table 11. Results obtained in the Toulouse-Pieron concentrated attention test - Subject P.V.

Minute	Correct signs	Incorrect signs	Omitted signs	Coefficient of accuracy
1	22	0	18	0.55
2	20	1	5	0.76
3	18	0	1	0.94
4	27	0	0	1
Total signs	87	1	24	0.81

Discussions

The way in which the athletes are able to concentrate may lead to the achievement of higher performances.

The concentration level and duration are closely related to the specific activities performed by the weightlifters. Although the athletes have a different experience in the field and participate in different classes, their distributed attention is low (athlete O.S.) and, respectively, good (athletes A.M., M.I., B.T. and P.V.). The concentrated attention testing emphasizes a low level (athletes A.M. and M.I.) and, respectively, a good level (athletes O.S., B.T. and P.V.).

All the athletes present fluctuations of the attention during the testing.

We must also mention here the results obtained by (Baroga, 1973) in a research on the concentration time. The author used a stopwatch, in order to objectify the athletes' concentration time. In the same train of ideas, we want to mention the research conducted by (Collet, 2002) who provides information about the cerebral cortex activation level. This author's studies lead to

hypotheses concerning the variation of the attention concentration during the respective action.

Conclusions

Although the sports performances of the tested subjects are remarkable, the level of their distributed and concentrated attention is low, a situation that imposes a specific training program, which, in our opinion, would lead to an increase of their sports performances.

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