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BERN**

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Report on the ESMO Examination 2024 in Medical Oncology

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1. Introduction

This report was prepared by the Institute of Medical Education, University of Bern, Switzerland. The 2024 examination in Medical Oncology conducted by the European Society for Medical Oncology (ESMO) took place on September 14th, 2024, in the locations Athens, Baghdad, Barcelona, Biratnagar, Cairo, Chennai, Heidelberg, Istanbul, Ljubljana, Milan, Moscow, Paris and Thun. 688 candidates participated in this examination, which consisted of 100 multiple choice questions written in English, French, Slovenian and Spanish.

2. Method

2.1 Candidates

688 candidates participated in the examination: 5 in Athens, 43 in Baghdad, 221 in Barcelona, 5 in Biratnagar, 21 in Cairo, 169 in Chennai, 15 in Heidelberg, 40 in Istanbul, 12 in Ljubljana, 10 in Milan, 40 in Moscow, 65 in Paris and 42 in Thun.

2.2 Format

The examination 2024 was composed of 100 multiple choice questions: 75 type A questions (single choice), and 25 type K' questions (quadruple correct/incorrect decision).

3. Performance of measurement

The diagrams on page 7 give an overview of the psychometric properties of the examination for the group of Western European. This group was chosen for the key validation and the pass/fail limit. The upper diagram shows the distribution of the items in terms of difficulty, the diagram underneath in terms of the discrimination index. At the bottom of this page the reliability (Cronbach's Alpha = 0.90), and the standard error of measurement (3.9) are given. The reliability for the total group is also 0.90, the standard error of measurement is 4.0.

4. Results

4.1 Score distribution

The score distribution is shown on page 8. On average, candidates answered correctly to 63.4% (2023: 62.1%) of the questions, with a standard deviation of 13.1% (2023: 10.9%).

4.2 Passing score

On October 25th, 2024, the ESMO Examination Working Group discussed the questions which displayed statistical deviations. For content reasons, two A questions and two K' questions were eliminated from the evaluation. Therefore, 96 questions remained in the analysis and final evaluation of each candidate.

After psychometric analysis of the difficulty of the examination, analysis of the Rasch model, as well as the difference between mean and pass/fail limit in the last years, the Examination Working Group decided to set the pass/fail limit at 56.2% correct answers (2023: 54.5%), to keep the passing requirement fair and comparable to previous years.

516 attendees (75.0%) passed the examination, and 172 attendees (25.0%) failed the examination (2023: 77.3% passed and 22.7% failed).

4.3 Detailed analyses

From page 9 on, the score distributions for the different locations of the examination are given. The score distributions in percent are shown in the following table.

Location	n	Mean %	SD %	success %
Athens	5	64.0	11.0	80.0
Baghdad	43	59.6	11.4	69.8
Barcelona	221	65.7	11.5	81.4
Biratnagar	5	54.4	18.9	60.0
Cairo	21	57.5	12.3	61.9
Chennai	169	62.3	13.5	72.8
Heidelberg	15	61.4	12.5	66.7
Istanbul	40	66.5	13.0	87.5
Ljubljana	12	67.7	13.9	75.0
Milan	10	60.2	15.0	50.0
Moscow	40	54.0	13.4	45.0
Paris	65	62.3	13.0	75.4
Thun	42	72.0	11.6	88.1
Total	688	63.4	13.1	75.0

The candidates were then grouped into 5 regions according to the address given upon inscription. The countries with the largest numbers of attendees were rated separately. In comparison to the year 2023, there were more candidates from Germany & Switzerland and India. Candidates from Switzerland and Germany were rated together, as well as candidates from Spain and Portugal. These score distributions are shown on page 12. The score distributions in percent are shown in the following table.

Region	n	Mean %	SD %	success %
Egypt	19	57.3	11.6	63.2
Germany and Switzerland	80	68.0	13.0	80.0
India	168	62.4	13.6	73.2
Spain and Portugal	41	65.8	9.0	92.7
Other countries	380	63.0	13.1	73.4
Total	688	63.4	13.1	75.0

The blueprint analyses are shown on pages 13 and 14. On the graph concerning blueprint 1, it can be seen that candidates had more difficulties answering questions on “Hematologic malignancies” than questions on “Gastrointestinal cancers” or “Gynaecologic malignancies”. For the graph concerning blueprint 2, a further example shows that questions on “Geriatric oncology, Cancer in adolescents and young adults, Cancer and pregnancy, Aids associated malignancies” were answered correctly more often than those on “Complications of treatment, Supportive and Palliative Care, Communication and Psychosocial issues” and “Epidemiology, Etiology, Clinical research”. However, this does not allow conclusion on the origin of these differences: The attendees could have performed better in some fields, or the questions were more difficult. Comparisons are also difficult because some fields are represented by few questions (e.g. “Central nervous system malignancies”, “Sarcomas”, “Carcinoma of unknown primary site” and “Endocrine cancers” are represented by 3 items).

The graphs on page 15 show the expected as well as the true values for each field in blueprint 1, separated for each location. It can be seen that candidates from all different locations performed similar: They could exceed the expected values in several blueprint fields, ranging from 5 out of 13 blueprint fields in Thun, to 10 out of 13 in Ljubljana and Moscow. Candidates from the other locations lie in between.

4.4 Differentiated feedback to the individual candidate

Feedback letters with their individual results detailed according to blueprint 1 were given to all candidates. An example of such a feedback letter is given on page 16.

5. Summary

688 candidates participated in the 2024 written examination in Medical Oncology by the European Society for Medical Oncology, in Athens, Baghdad, Barcelona, Biratnagar, Cairo, Chennai, Heidelberg, Istanbul, Ljubljana, Milan, Moscow, Paris and Thun.

The exam consisted of 100 multiple choice questions; four items had to be eliminated from the evaluation. The exam shows a reliability of 0.90 (Cronbach's Alpha).

On average, candidates answered correctly to 63.4% of the questions, with a standard deviation of 13.1%.

The pass/fail limit was set at 56.2%. 516 (75.0%) candidates passed the examination.

The next examination will be held on Saturday, 18th October 2025.

Difficulty distribution, Difficulty/discrimination index diagram of Western European

ESMO

14.09.2024
Western_EU

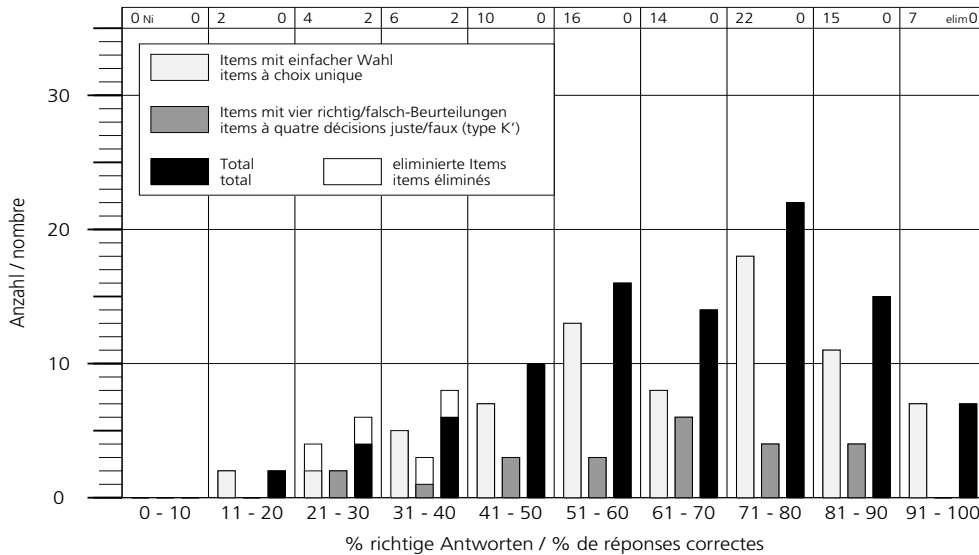
Examination in Medical Oncology

Schwierigkeitsverteilung

K' Halbpunktbewertung

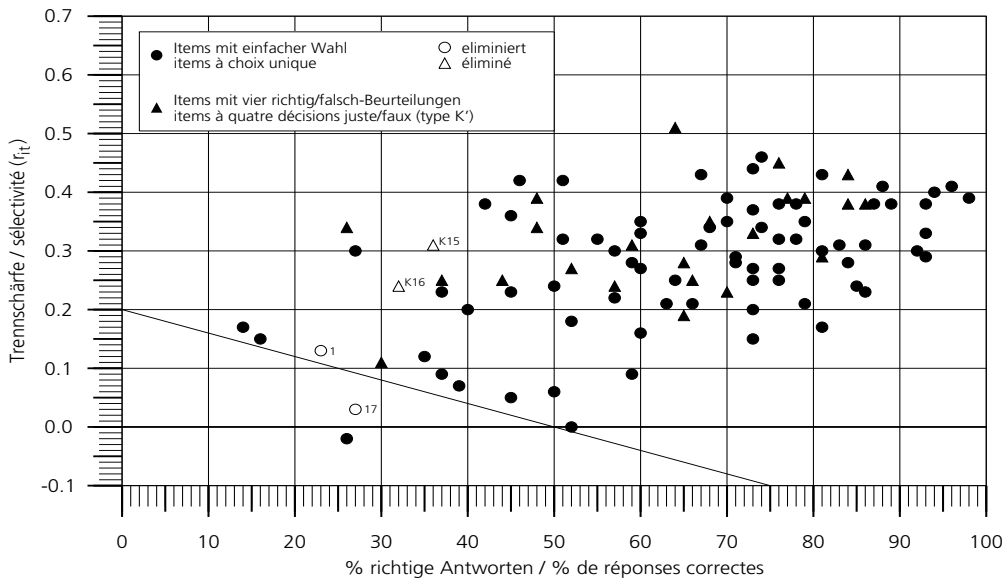
Distribution de difficulté

K' évaluation à demi-points



Schwierigkeits-/Trennschärfediagramm

Diagramme difficulté/sélectivité



Reliabilität (CRONBACH-alpha)
auf 100 Items gerechnet
Standardmessfehler ($s_e = s_x \sqrt{1-r_{tt}}$)
auf 100 Items gerechnet

0.899
0.903
 ± 3.9
 ± 4.0

Fiabilité (r_{It})
calculée pour 100 items
Erreur type ($s_e = s_x \sqrt{1-r_{It}}$)
calculée pour 100 items

Score distribution total

ESMO

14.09.2024
Total

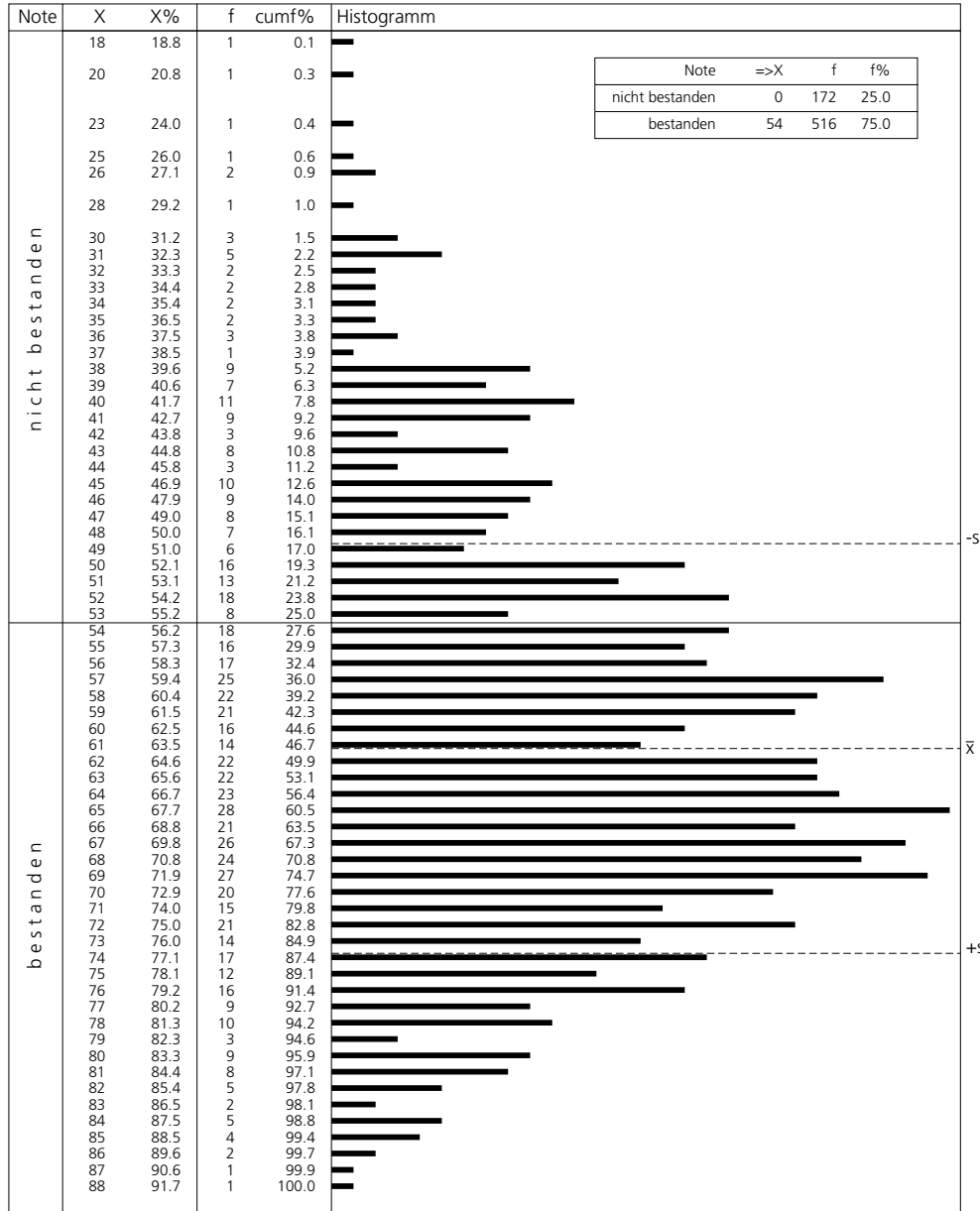
Examination in Medical Oncology

Punkte- und Notenverteilung

Répartition des points et des notes

K' Halbpunktbewertung

K' évaluation à demi-points



Anzahl KandidatInnen
mögliches Punktemaximum

N_p 688
 N_i 96

nombre de candidats
score maximum possible

Mittelwert

\bar{x} 60.9

$\bar{x}_%$ 63.44

moyenne

Standardabweichung

s 12.53

$s_%$ 13.05

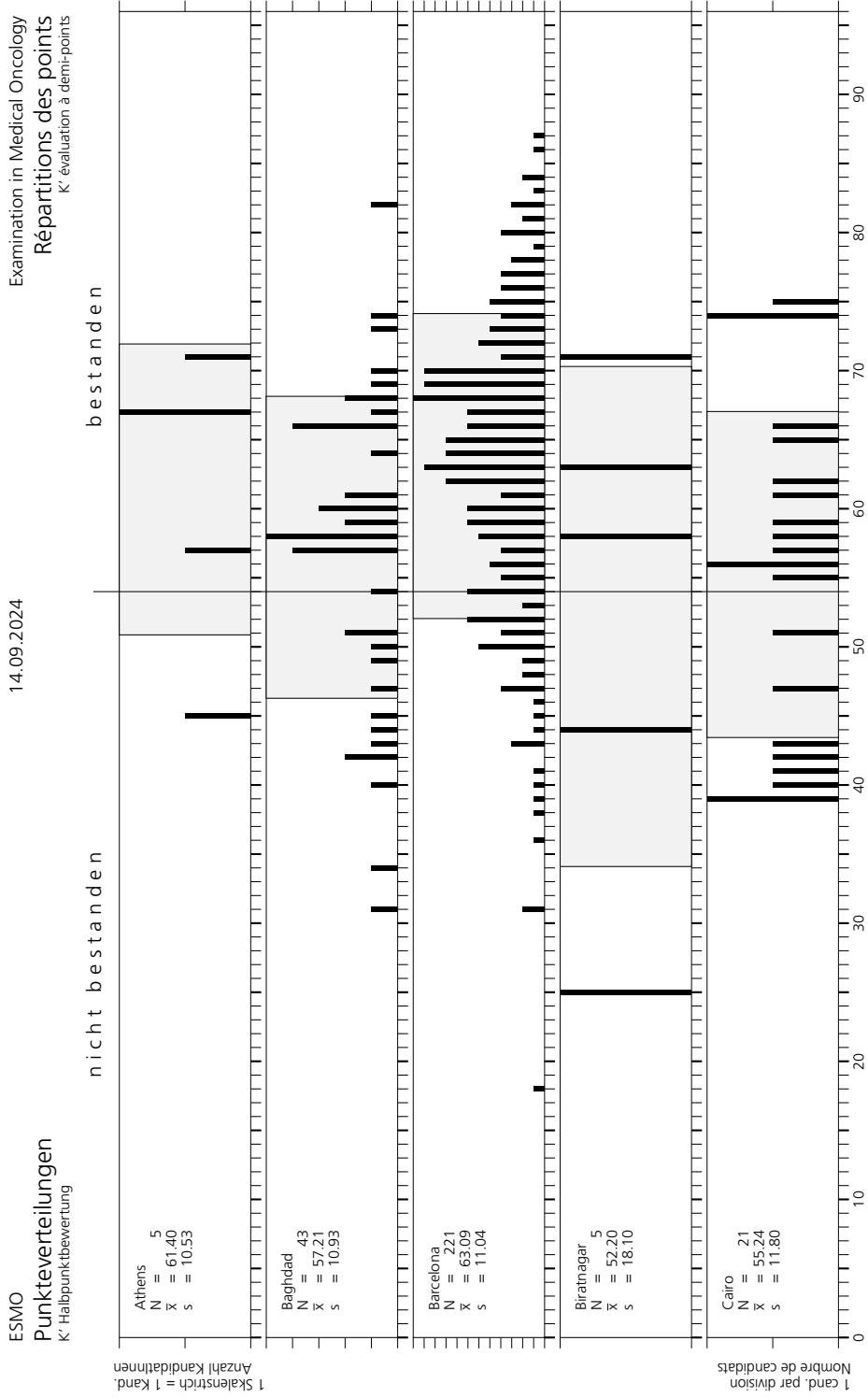
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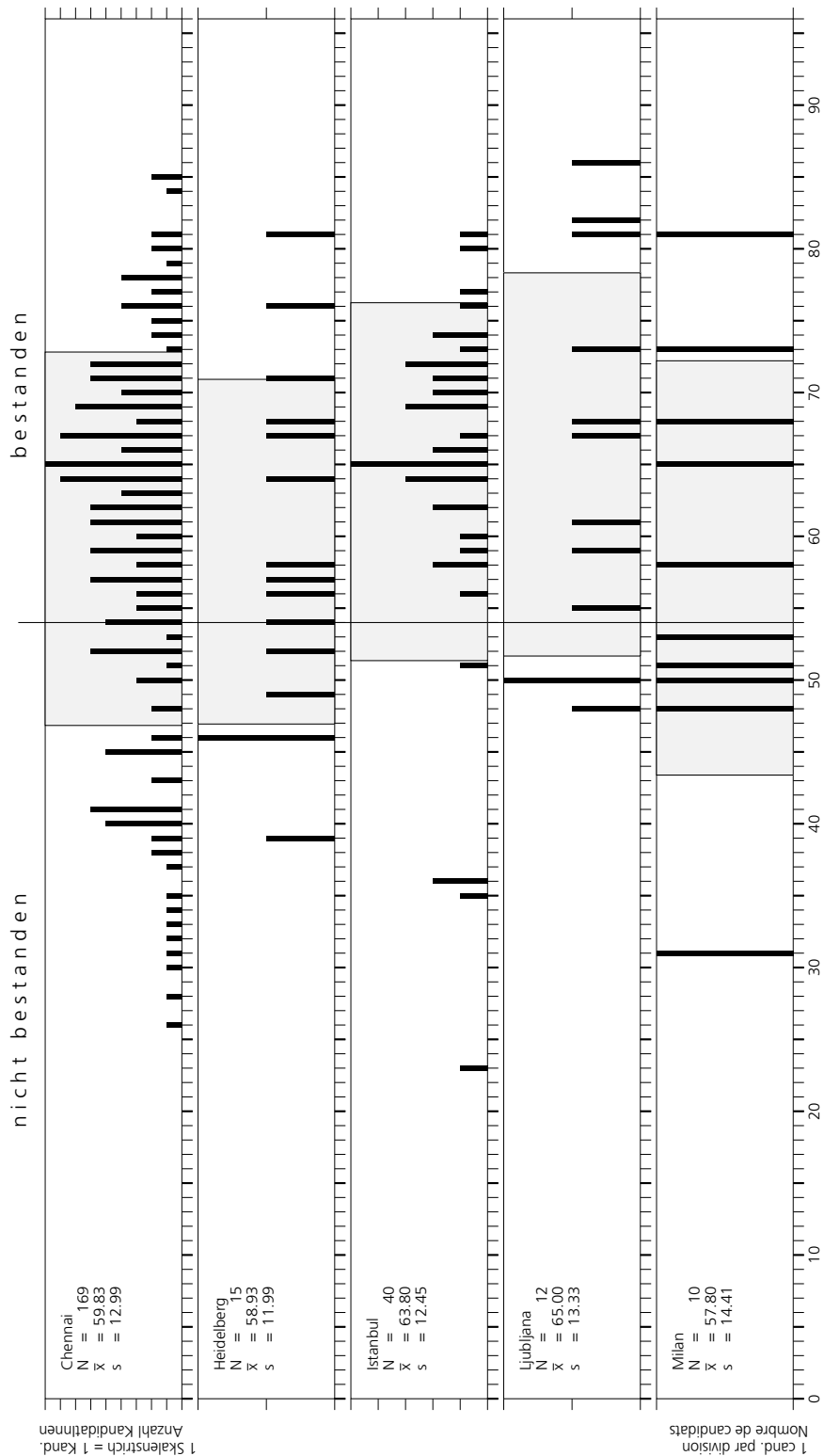
eliminierte Fragen (Nummern)

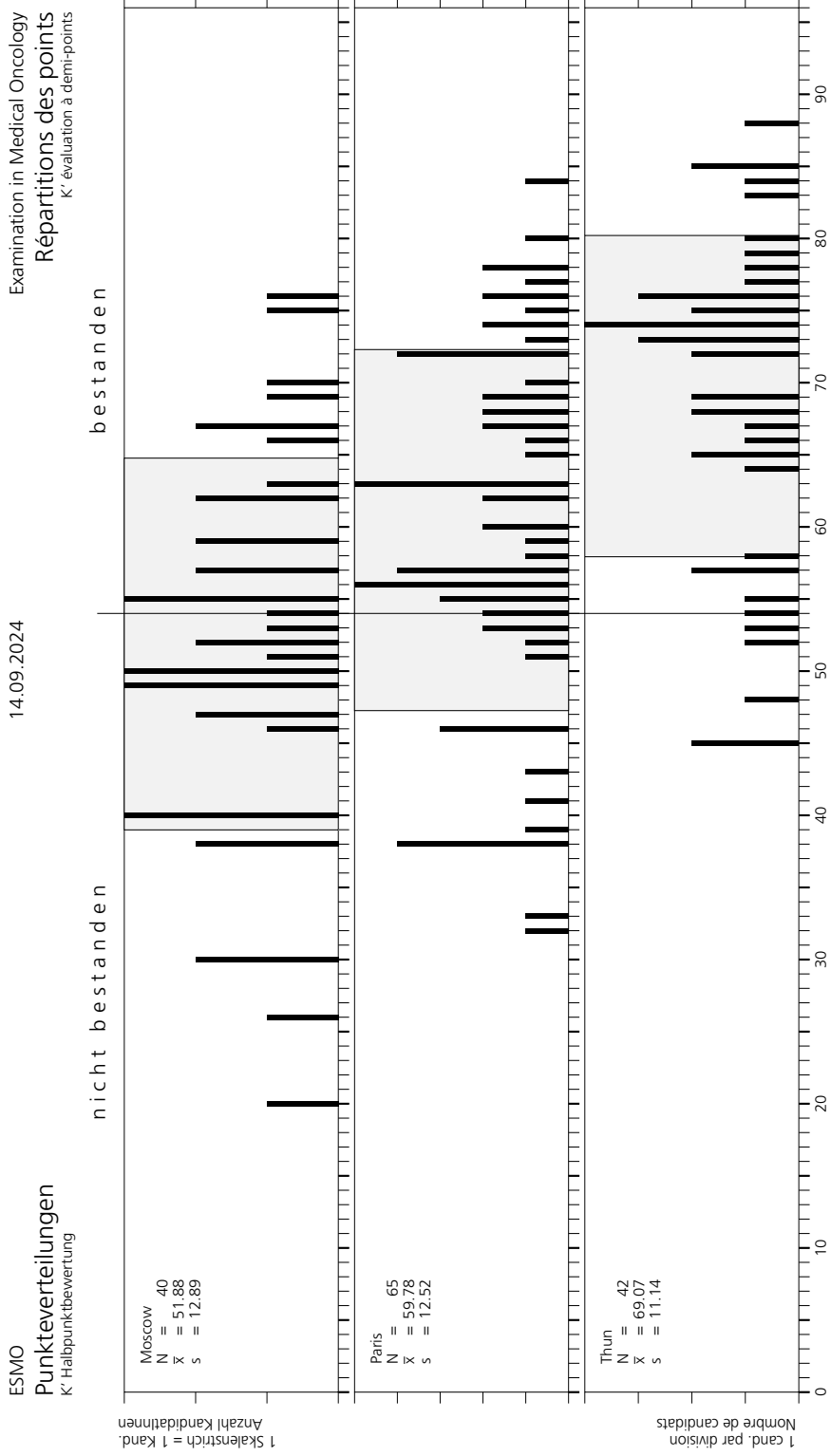
1, 17, K15, K16

questions éliminées (numéros)

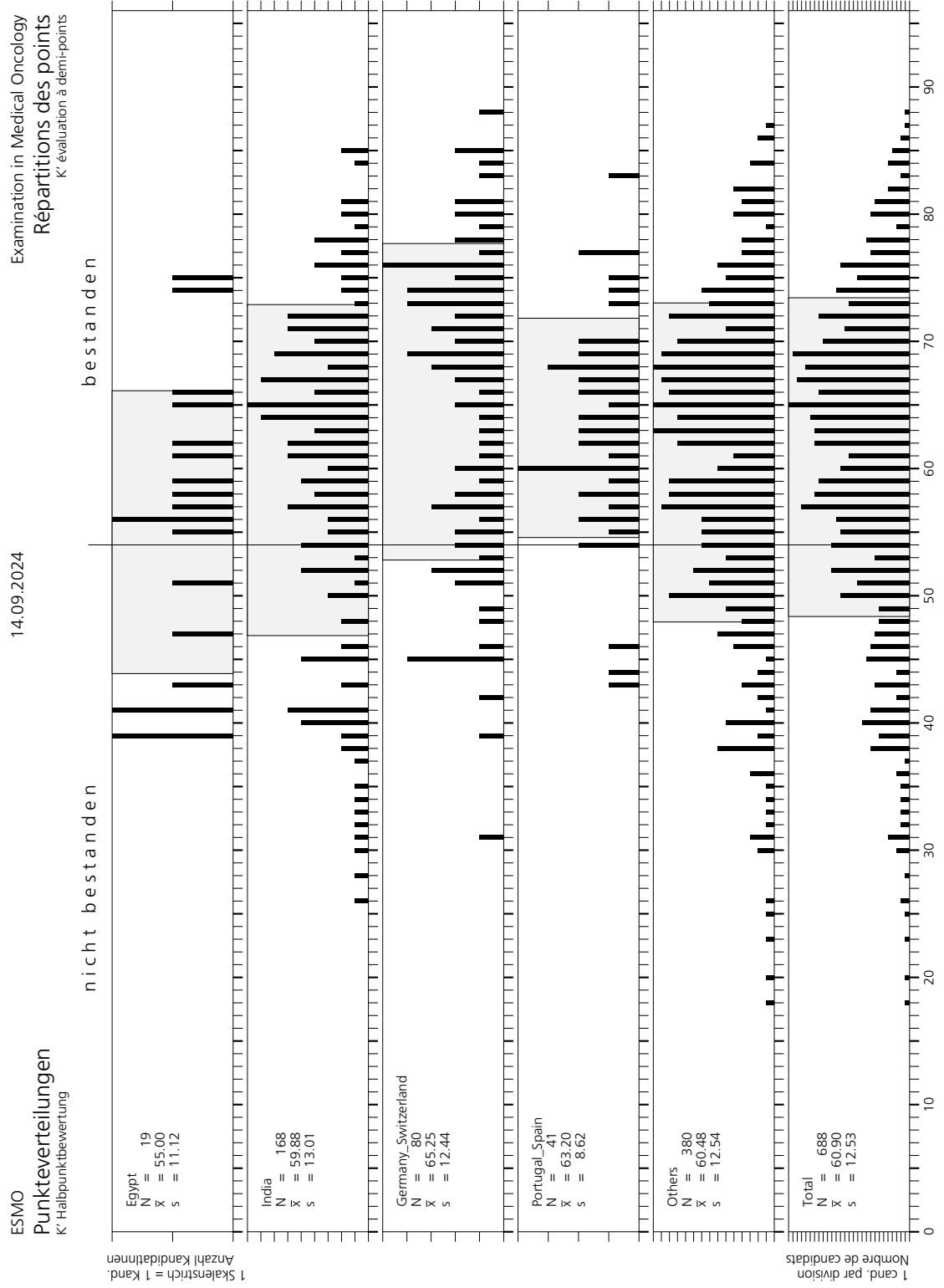
Score distribution (location)







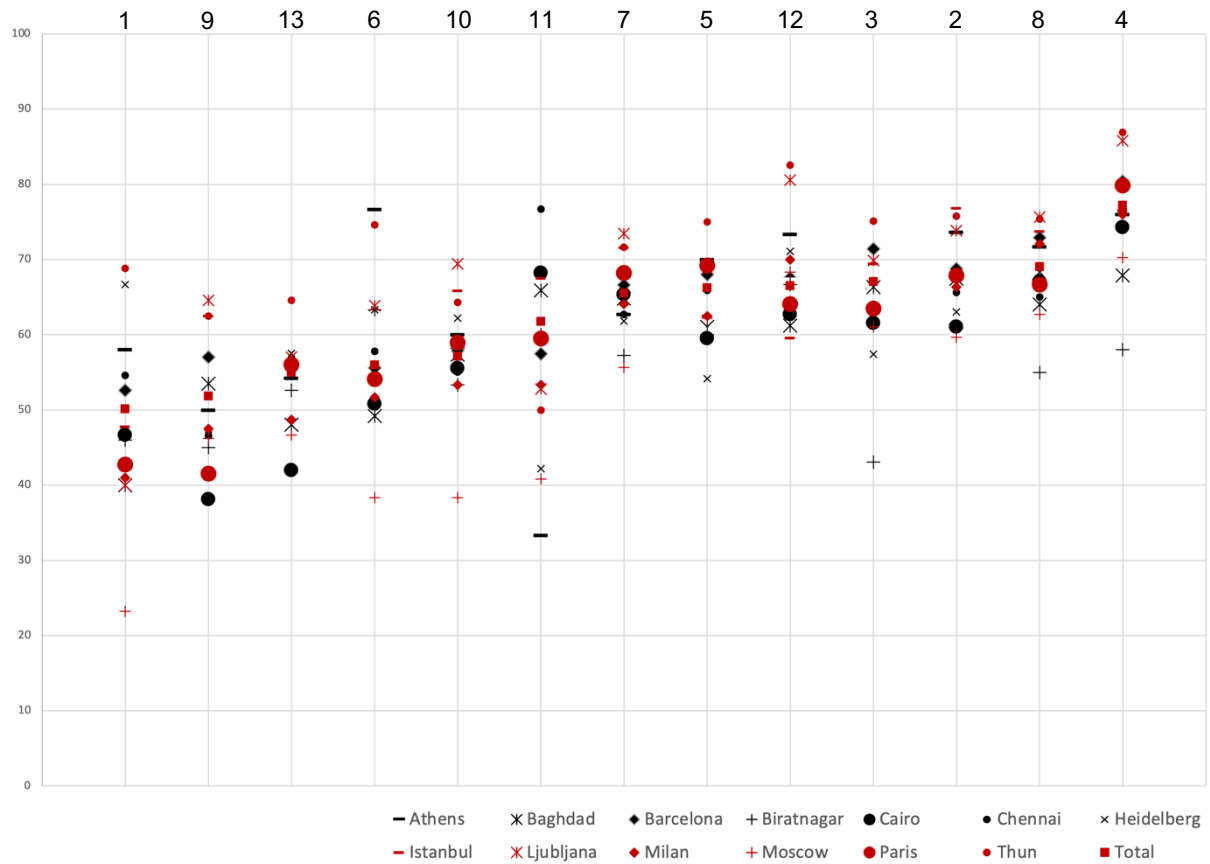
Score distribution (region)



Composition of the exam (Blueprint 1)

Subscore		Number of items
1	Hematologic malignancies	5
2	Chest malignancies	11
3	Breast cancer	13
4	Gynecologic malignancies	5
5	Head and neck cancers	4
6	Central nervous system malignancies	3
7	Genitourinary cancers	11
8	Gastrointestinal cancers	12
9	Skin cancers	4
10	Sarcomas	3
11	Carcinoma of unknown primary site	3
12	Endocrine cancers	3
13	Others/Clinic	19

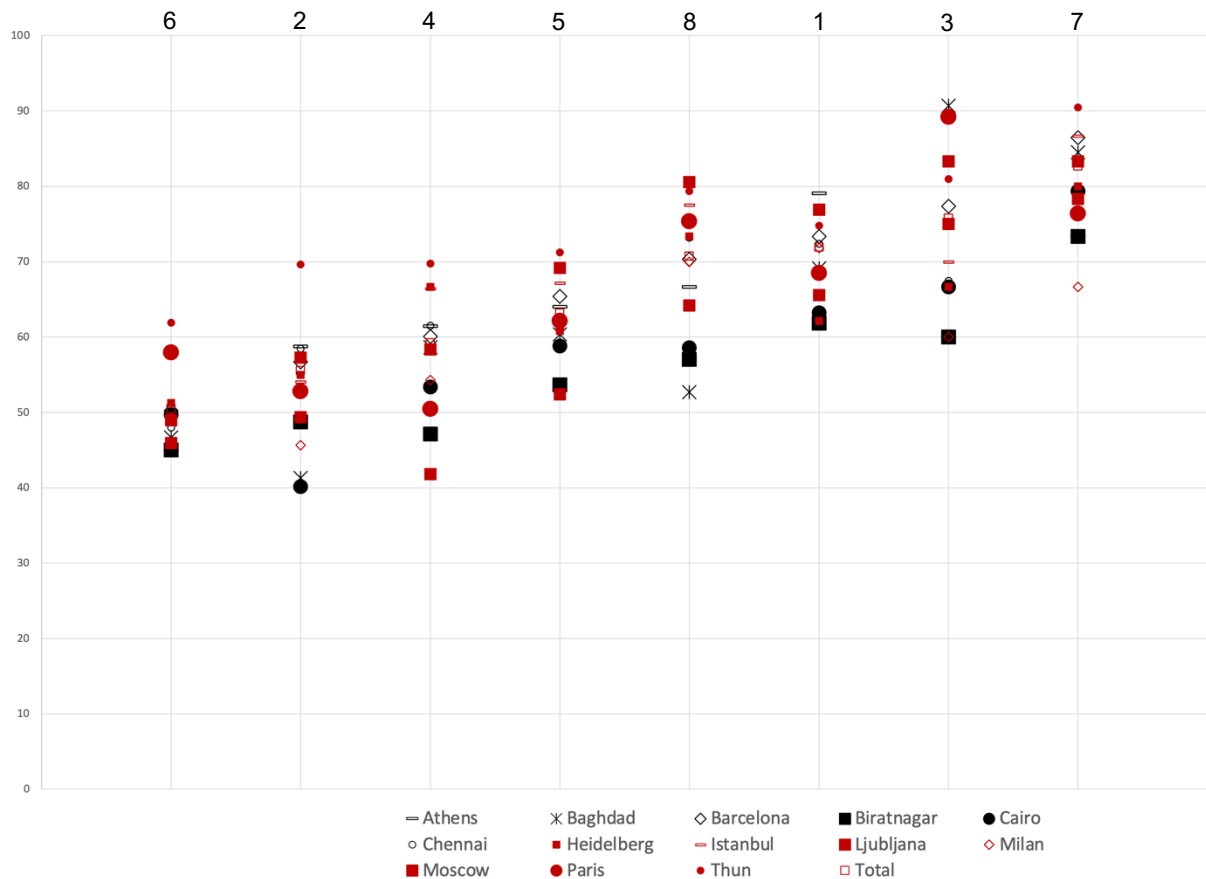
Subscoreanalysis sorted by performance in ascending order



Composition of the exam (Blueprint 2)

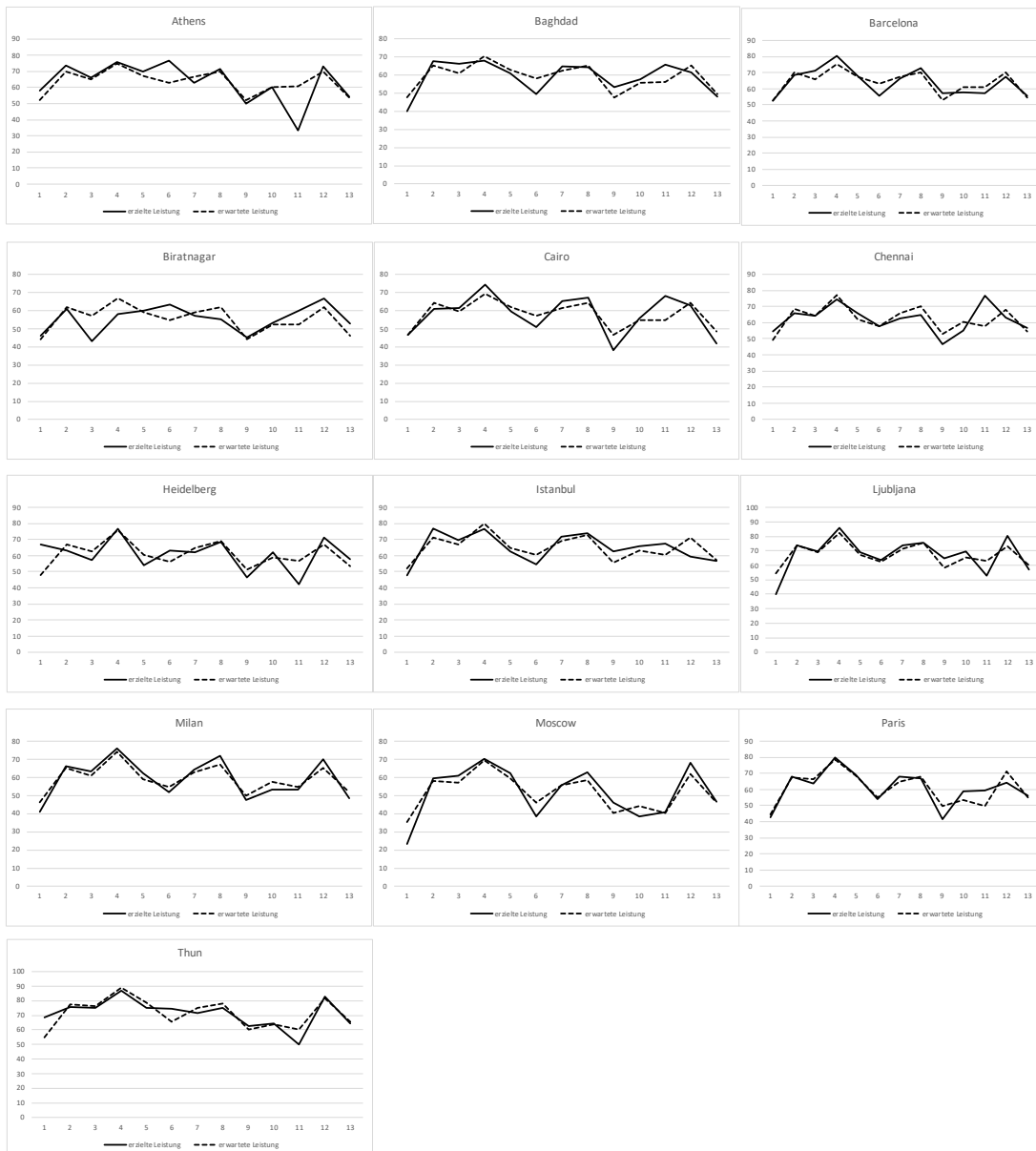
Subscore		Number of items
1	Biology, Immunology, Pathology incl. Tumour Markers, Laboratory medicine	11
2	Epidemiology, Etiology, Clinical research	8
3	Screening and prevention	1
4	Clinic, Differential diagnosis, Staging, Imaging	7
5	Therapy, Surgery, Radiation oncology, Anticancer agents, Biologic therapy, Response assessment and follow up	55
6	Complications of treatment, Supportive and Palliative Care, Communication and Psychosocial issues	8
7	Geriatric oncology, Cancer in adolescents and young adults, Cancer and pregnancy, Aids associated malignancies	3
8	Other issues	3

Subscore analysis sorted by performance in ascending order



Composition of the exam & Subscores according to location

Subscore		Number of items
1	Hematologic malignancies	5
2	Chest malignancies	11
3	Breast cancer	13
4	Gynecologic malignancies	5
5	Head and neck cancers	4
6	Central nervous system malignancies	3
7	Genitourinary cancers	11
8	Gastrointestinal cancers	12
9	Skin cancers	4
10	Sarcomas	3
11	Carcinoma of unknown primary site	3
12	Endocrine cancers	3
13	Others/Clinic	19



Sample feedback letter

ESMO Head Office
Education Department
Via Ginevra 4
CH 6900 Lugano / Switzerland

Mustermann Maxime

Feedback on your detailed exam results

On 14th September 2024 you participated in the ESMO examination in Athens. In order to pass, 54 out of 96 questions had to be answered correctly (56.2%). Your results are shown in detail in the table below. Questions have been grouped into 'subsets / subscores' according to their content.

The column labelled 'points / of' indicates the number of points you obtained out of the maximum number of possible points in each subset.

In the 'success' column, the numbers tell you how your results compare to those of the other candidates.

- 1 You belong to the top 25 %
- 2 You belong to the mean (50 % of all participants)
- 3 You belong to the bottom 25 %, but not to the weakest 5 %
- 4 You belong to the weakest 5 %
- 0 Subscores with less than 6 questions will not be evaluated because of too small measuring reliability.

ESMO examination, 14th September 2024

Mustermann Maxime

Points	of	success	subscore	
				total score: 66.5 result: passed
4.0	5.0	0	Hematologic malignancies	
8.5	11.0	2	Chest malignancies	
8.5	13.0	2	Breast cancer	
4.0	5.0	0	Gynecologic malignancies	
4.0	4.0	0	Head and neck cancers	
2.5	3.0	0	Central nervous system malignancies	
8.0	11.0	2	Genitourinary cancers	
9.0	12.0	2	Gastrointestinal cancers	
2.0	4.0	0	Skin cancers	
1.0	3.0	0	Sarcomas	
1.0	3.0	0	Carcinoma of unknown primary site	
2.0	3.0	0	Endocrine cancers	
12.0	19.0	2	Others/Clinic	