

Ranking of Polish physical education higher schools based on the articles published in 2009-2012 indexed by the Polish Ministry of Science and Higher Education

Bartłomiej Jan Barczyński

Faculty of Physical Education, Gdansk University of Physical Education and Sport, Poland

Source of support: Self financing

Received: 14 December 2013; **Accepted:** 24 December 2013; **Published online:** 31 December 2013

ICID: 1083251

Abstract

Background & Study Aim: There are two basic applications of bibliometrics: descriptive and evaluative, with the following functionalities: accountability, knowledge and development that are the mechanisms of strategic management of science. Such approach is consistent with the model of evidence-based policy, based on use of the results of analyses and research in political decision-making, especially decisions about funds allocation. This approach can be also observed in reformed higher education system in Poland. Hence, the ministerial list as well as the *Impact Factor* adopted for the purpose of this article, which is a ranking of Polish physical education higher schools based on publications appearing in 2009-2012.

Material & methods: The study uses scientific articles reported by 25 Polish physical education higher schools with a sport science and related profile, for the period 2009-2012. The verification tool was journals indexes of the Polish Ministry of Science and Higher Education with the assigned points for publications and the *Impact Factor* scoring, based on the Journal Citation Reports of 2009-2012.

Results: From 25 evaluated institutions, 17 (68%) are academies of physical education and 8 (32%) other types of higher schools identified with sports sciences. Among the higher schools, academies of physical education occupied the first seven positions of the ranking. In the period 2009-2012 all institutions published 4,372 scientific articles; 3,455 (79%) were published by academies of physical education, whereas 917 (21%) by academics of eight other types of institutions. Based on two percentile rank classes, the 10% most impacted publications (n=444) were selected, which have the highest score on the ministerial list and the highest *Impact Factor* as potentially highly cited. The scholars mostly prefer journals with 20 (27%), 25 (16%) and 35 (11%) points.

Conclusions: The ranking being the result of evaluation process allowed to determine the position of the unit in relation to other rated units proving that the academies of physical education fulfil their statutory, social and economic mission. High values of indicators obtained every year confirm the great interest of the academies of physical education to meet challenges put before the higher education by both society and business.

Key words: assessment • bibliometric analysis • scientific journals • sports science • physical education • Academy of Physical Education • Impact Factor

Author's address: Bartłomiej Barczyński, Faculty of Physical Education, Gdansk University of Physical Education and Sport, K. Górskiego 1, 80-336 Gdańsk, Poland, e-mail: barczynski@wp.pl

INTRODUCTION

Academy of Physical Education – institution of university type providing education in the field of sport science (physical education, physiotherapy, recreation, sport), having full academic rights (from bachelor to a professor with the right to confer a “doctor honoris causa”). In Poland, there are six academies of physical education: the Academy of Physical Education in Katowice, Kraków, Poznań, Warszawa, Wrocław and the Academy of Physical Education and Sport in Gdańsk.

Bibliometrics – is a statistical analysis of books, articles, or other publications [26].

Polish physical education higher schools – in article the common name for Academies of Physical Education and related public and non-public higher schools, that educate at least on one of the units qualified to sport science (physical education, physiotherapy, recreation, sport).

Evaluation – a process of examining parameters applied to methodology.

Ranking – a classification of performance arranged in descending order.

Among many factors causing changes in science, the competition (often equated with the race) between the economies, businesses, and institutions (both public and private) most deeply affects the development. Thereby, it is changing the face of science perception in terms of “needs” to thinking in terms of “priorities”, “objectives”, “tasks”, consistent with the public interest and exceeding the interests and cognitive horizons researchers themselves. Strategic planning and determining the priorities of science policy at different levels of government or lower, and academic institutions avail of some tools that measure impact, participation, effort, cost effectiveness and profit.

Fundamental tool measuring scientific performance is bibliometry focusing also on: (1) measuring the productivity of authors, research groups, institutions, countries, sectors, disciplines; (2) tracking individual and institutional networks (co-authorship and co-citation); (3) analysing the status of scientific disciplines and capture emerging fields in the science; (4) diagnosing the scientific excellence; (5) identifying scientific areas necessary for the effective conduct of research and development; (6) collecting, ordering and sharing the knowledge oriented at trends in research and development that can be used to increase the capacity and creativity of research institutions, business and individual researchers as well; (7) assessing periodically scholars in the field of scientific work and the effectiveness of teaching; (8) evaluating systematically scientist, institutions, etc.

There are two basic applications of bibliometrics: descriptive and evaluative [1], with the following functionalities: accountability, knowledge and development that are the mechanisms of strategic management of science. Such approach is consistent with the model of evidence-based policy, based on use of the results of analyses and research in political decision-making, especially decisions about funds allocation [2]. This approach can be also observed in reformed higher education system in Poland [3]. A package of six acts under the title “*Building on Knowledge – a Reform of Science for the Development of Poland*” [4-11] is a group of modern and consistent regulations answering to the real and current needs of science, and facilitating the inclusion of our scientists’ work in the main current of global scientific research [12].

On this basis, the Polish Ministry of Science and Higher Education published the regulation of 1 August 2012 on the criteria and procedure for assigning scientific categories to scientific units (in

reference to the Act of 30 April 2010 on the Principles of Financing Science) for purposes of the parametric evaluation of scientific units, where publications are the key element of assessment. Lists of journals, developed in 2009-2012, with assigned points for scientific publications are used for that purpose [13-15].

The journals indexed by the Minister of Science and Higher Education were evaluated by an expert group based on various criteria and methodology published for each evaluation period. In 2009 the evaluation was conducted in two categories: (A) journals indexed in the Journal Citation Reports (10, 15, 20, 24, and 30 points) and (B) Polish or foreign journals listed in the “ministerial list” (1–6 points). In 2010 the evaluation was conducted with a discontinuous variable of points in two categories: (A) journals indexed in the Journal Citation Reports (13, 20, 27, 32 and 40 points) and (B) Polish or foreign journals listed in the “ministerial list” (1, 2, 6 and 9 points). In the years 2011-2012 the evaluation was conducted in three categories by groups of science (science, sociology, humanistic): (A) journals indexed in the Journal Citation Reports (15, 20, 25, 30, 35, 40, 45 and 50 points), (B) Polish or foreign journals listed in the “ministerial list” (1-10 points) and (C) journals indexed in the European Reference Index for the Humanities (10, 12 and 14 points). Additionally, the evaluation covered publications indexed in the Conference Proceedings Citation Index (10 points).

Although the *Impact Factor* is biased and subject of manipulation or cartel practices [16-20], it, however, still belongs to the reference tools to count the citations and assess journals accepted world-wide. Hence, the ministerial list as well as the *Impact Factor* adopted for the purpose of this article, which is a ranking of Polish physical education higher schools based on publications appearing in 2009-2012.

MATERIAL AND METHODS

The study uses scientific articles reported by 25 Polish higher schools with a sport science and related profile, for the period 2009-2012, with the exception of a medical universities due to the different scientific profile and the disproportional publishing and citation level. The verification tool was journals indexes of the Polish Ministry of Science and Higher Education with the assigned points for publications and the *Impact Factor* scoring, based on the Journal Citation Reports of 2009-2012. The publications have been indexed according to the unified lists of scientific journals evaluated by the Polish Ministry of Science and Higher Education in the studied period [13-15]. Of the all analysed journals, 263 were

indexed in the Journal Citation Reports (see Appendix 1) – category (A) and 373 journals in Polish Ministry of Science and Higher Education database (B, C, conference proceedings – see Appendix 2). For the ordinal variable, a descending order of points assigned to them was adopted. The sum of points resulting from accumulated number of articles published in various journals obtained by the institutions was adopted as the major indicator of higher schools ranking. Regardless of the co-authorship of the same or different institutions, the evaluated unit received points assigned to the given publication within category (A), (B) and (C) of the ministerial list or the conference proceedings. The following types of institutions in the Polish higher education system are identified: academies of physical education, universities, technical universities and non-public higher schools.

Statistical analysis based on the percentiles categorised in two rank classes (the method used in bibliometrics) [21-23], cumulative calculating and data aggregated into ranks have been used in the study. Results were saved in a database designed for this purpose in Excel. The data source was the

publications reported by institutions to POL-on system for purposes of the parametric evaluation of scientific units made available by the Polish Ministry of Science and Higher Education. The *Impact Factor* scores were collected directly from the journals' websites or from the Journal Citation Reports accessed through the public libraries.

RESULTS

From 25 evaluated institutions, 17 (68%) are academies of physical education and 8 (32%) other types of higher schools identified with sports sciences. Among the higher schools, academies of physical education occupied the first seven positions of the ranking (Table 1).

The two percentile rank classes designated the first three academies of physical education to be the 10% most productive units, the other 90% of the institutions have achieved less scores. The leader of ranking of Polish physical education higher schools and among academies of physical education is *Wydział Wychowania Fizycznego, Sportu i Rehabilitacji Akademii Wychowania Fizycznego im.*

Table 1. Ranking of Polish physical education higher schools on the basis of scientific articles published in 2009-2012 in journals from the ministerial list (the criterion of order is "total points" for the number of articles in individual journals).

Ranking position	Higher schools (n=25)	Total points	Number of articles
1	Akademia Wychowania Fizycznego im. Eugeniusza Piaseckiego w Poznaniu; Wydział Wychowania Fizycznego, Sportu i Rehabilitacji	3036	286
2	Akademia Wychowania Fizycznego we Wrocławiu; Wydział Fizjoterapii	2454	260
3	Akademia Wychowania Fizycznego im. Bronisława Czecha w Krakowie; Wydział Rehabilitacji Ruchowej	2234	212
4	Akademia Wychowania Fizycznego we Wrocławiu; Wydział Wychowania Fizycznego	2226	386
5	Akademia Wychowania Fizycznego im. Bronisława Czecha w Krakowie; Wydział Wychowania Fizycznego i Sportu	2011	292
6	Akademia Wychowania Fizycznego Józefa Piłsudskiego w Warszawie; Wydział Wychowania Fizycznego	1920	302
7	Akademia Wychowania Fizycznego Józefa Piłsudskiego w Warszawie; Wydział Wychowania Fizycznego i Sportu w Białej Podlaskiej	1810	281
8	Uniwersytet Szczeciński; Wydział Kultury Fizycznej i Promocji Zdrowia	1564	141
9	Politechnika Opolska; Wydział Wychowania Fizycznego i Fizjoterapii	1491	184
10	Akademia Wychowania Fizycznego im. Jerzego Kukuczki w Katowicach; Wydział Wychowania Fizycznego	1467	229
11	Wyższa Szkoła Informatyki i Zarządzania w Rzeszowie; Wydział Turystyki i Nauk o Zdrowiu	1396	143
12	Akademia Wychowania Fizycznego i Sportu im. Jędrzeja Śniadeckiego w Gdańsku; Wydział Wychowania Fizycznego	1387	228
13	Akademia Wychowania Fizycznego we Wrocławiu; Wydział Nauk o Sporcie	1362	191
14	Akademia Wychowania Fizycznego Józefa Piłsudskiego w Warszawie; Wydział Rehabilitacji	1215	152
15	Akademia Wychowania Fizycznego im. Eugeniusza Piaseckiego w Poznaniu; Wydział Turystyki i Rekreacji	1104	161
16	Akademia Wychowania Fizycznego im. Jerzego Kukuczki w Katowicach; Wydział Fizjoterapii	947	141
17	Akademia Wychowania Fizycznego i Sportu im. Jędrzeja Śniadeckiego w Gdańsku; Wydział Turystyki i Rekreacji	744	126
18	Wyższa Szkoła Zarządzania i Administracji w Zamościu; Wydział Fizjoterapii i Pedagogiki	663	109
19	Akademia Wychowania Fizycznego im. Bronisława Czecha w Krakowie; Wydział Turystyki i Rekreacji	660	95
20	Akademia Wychowania Fizycznego im. Eugeniusza Piaseckiego w Poznaniu; Zamiejscowy Wydział Kultury Fizycznej w Gorzowie Wielkopolskim	635	76
21	Uniwersytet Rzeszowski; Wydział Wychowania Fizycznego	609	177
22	Wyższa Szkoła Administracji w Bielsku-Białej; Wydział Fizjoterapii	471	77
23	Uniwersytet Kazimierza Wielkiego w Bydgoszczy; Wydział Kultury Fizycznej, Zdrowia i Turystyki	319	47
24	Uniwersytet Technologiczno-Humanistyczny im. Kazimierza Pułaskiego w Radomiu; Wydział Nauk o Zdrowiu i Kultury Fizycznej	309	39
25	Akademia Wychowania Fizycznego Józefa Piłsudskiego w Warszawie; Wydział Turystyki i Rekreacji	268	37

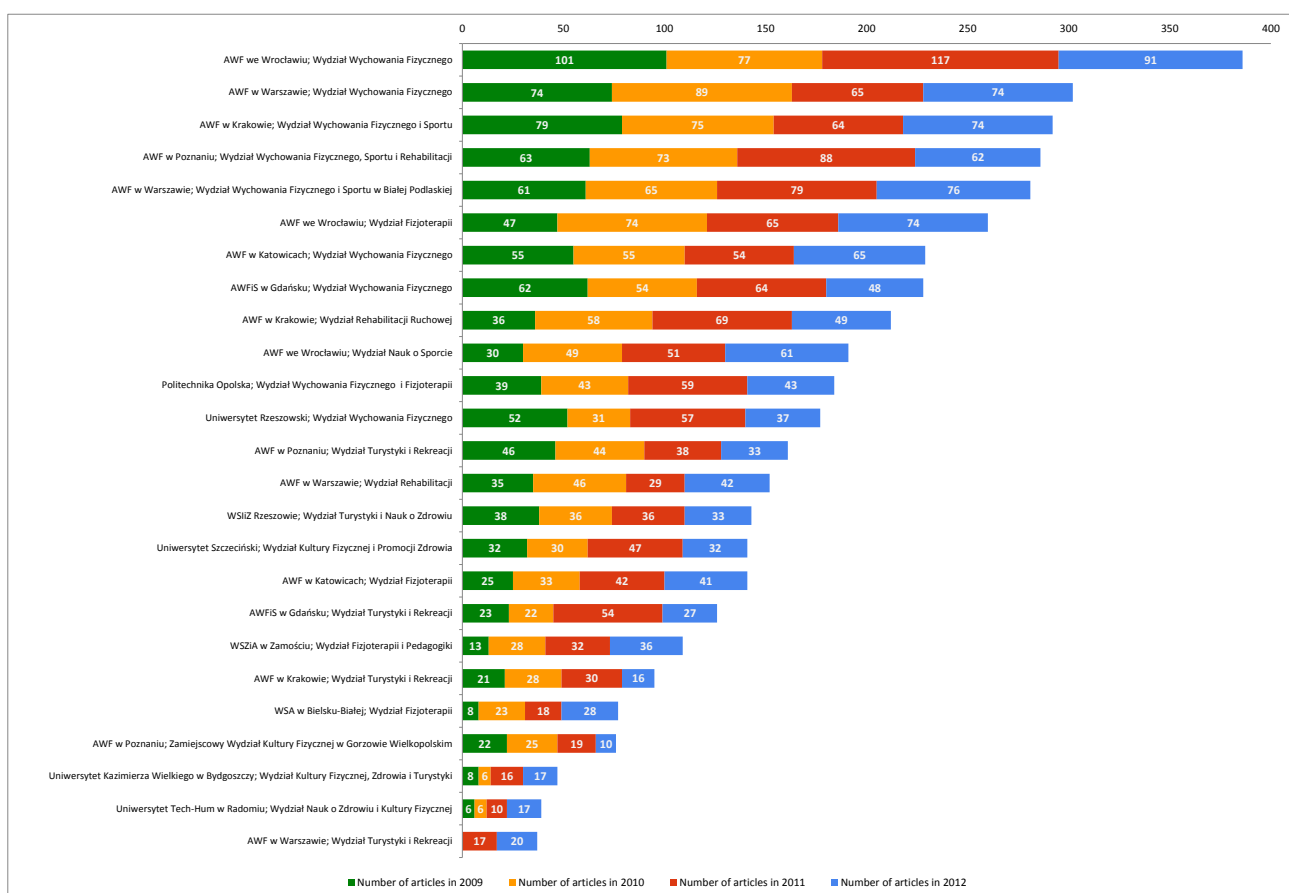


Figure 1. The dynamic of higher schools publications published in 2009-2012 integrated into the cumulative counts

Eugeniusza Piaseckiego w Poznaniu (3,036 pts). The leader among remaining types of institutions is *Wydział Kultury Fizycznej i Promocji Zdrowia at the Uniwersytet Szczeciński* (1,564 pts). The difference between them in total points and number of articles during the same period is almost twice, and can be explained by the specialty and far longer educational tradition of the sport science.

The two institutions closing the ranking are: *Wydział Nauk o Zdrowiu i Kultury Fizycznej at the Uniwersytet Technologiczno-Humanistyczny im. Kazimierza Pułaskiego w Radomiu* and *Wydział Turystyki i Rekreacji Akademii Wychowania Fizycznego Józefa Piłsudskiego w Warszawie*.

Among all higher schools only 1 institution has accumulated over 3,000 points, 4 over 2,000 points, 10 over 1,000 points and 10 units gathered fewest points (Table 1). These results prove that the faculties specific for academies of physical education generate the highest scores, what directly impacts the dissemination of the achievements world-wide.

In the period 2009-2012 all institutions published 4,372 scientific articles; 3,455 (79%) were

published by academies of physical education, whereas 917 (21%) by academics of eight other types of institutions. Most publications were written by scientists from *Wydział Wychowania Fizycznego Akademii Wychowania Fizycznego we Wrocławiu* (n=386) and *Wydział Wychowania Fizycznego Akademii Wychowania Fizycznego Józefa Piłsudskiego w Warszawie* (n=302). Although if we consider the aggregated Impact Factor, the most publications were published by *Wydział Wychowania Fizycznego, Sportu i Rehabilitacji Akademii Wychowania Fizycznego im. Eugeniusza Piaseckiego w Poznaniu* (n=88) and *Wydział Fizjoterapii Akademii Wychowania Fizycznego we Wrocławiu* (n=61) (Table 2).

The relative growth of the number of publication in each year has been observed from 2009 (Figure 1). In 2010 increase in the publications number was 10%, in 2011 the dynamics was 14% and in 2012 there was a decrease of 9%. A detailed analysis of correlation showed that although growth of the number of publications slowed down, the points acquired for articles by the institutions continue to

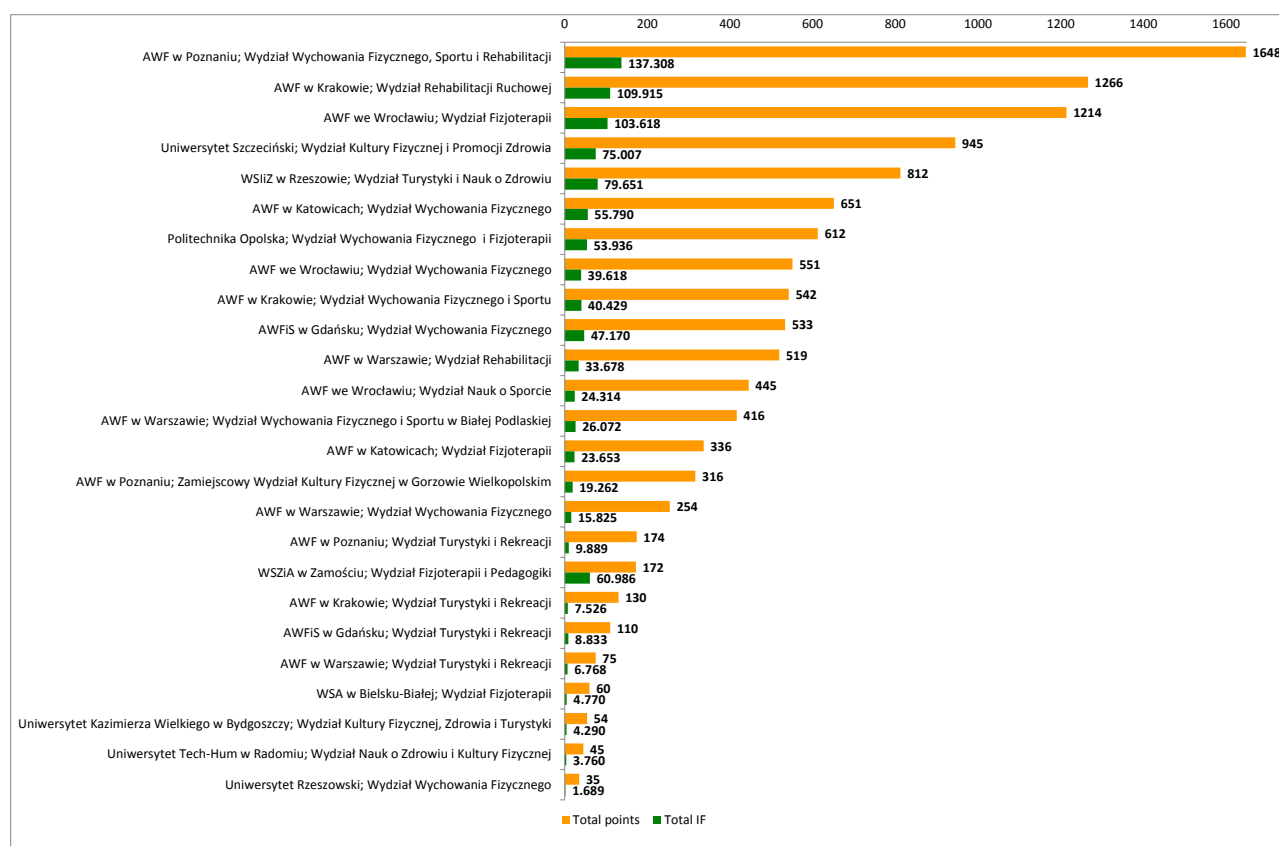


Figure 2. The relation between the 10% most impacted publications (n=444) with the highest score on the ministerial list and the highest *Impact Factor*, based on the percentiles categorised in two rank classes (the method used in bibliometrics).

increase. That is the evidence that higher schools as well as scholars published their articles in prestigious journals. This observation is confirmed also by the dynamic of cumulative *Impact Factor*, which rises in relation to the previous year by 43% (187.271) in 2010, 70% (318.300) in 2011 and 50% (477.483) in 2012 (Table 2).

Based on two percentile rank classes, the 10% most impacted publications (n=444) were selected, which have the highest score on the ministerial list and the highest *Impact Factor* as potentially highly cited (Figure 2). The scholars mostly prefer journals with 20 (27%), 25 (16%) and 35 (11%) points (Table 3). The most frequently chosen journals for publication was: *Annals of Agricultural and Environmental Medicine* (n=22), *Journal of Strength and Conditioning Research* (n=15), *Archives of Budo* (n=14) and *Physiological Research* (n=10).

Bibliometric analysis of the publications provides many opportunities but due to editorial limitations and the conditions of data use, this paper focuses only on crucial aspects and results enabling to achieve the aim of study.

DISCUSSION

There have been no detailed, complex and long-term studies concerning Polish higher schools of physical education among previously developed rankings based on the number of publications [24-25]. It is difficult to make a direct comparison because of the different qualification criteria, structure of institutions, the number of participating units and period of evaluation. The uniqueness of the presented ranking is based on the units individually undergoing the evaluation (not the entire institutions), what enabled to precisely assess the level of researches, potential of scientific groups, impact on achievements dissemination and effectiveness.

Irrespective of the simplicity of the methodology, the evaluation of physical education higher schools measured on the basis of the number of publications and the points assigned to them according to the journals index of the Polish Ministry of Science and Higher Education and the *Impact Factor* allowed for a reliable classification of institutions. The comparative study of the data provides empirical proof that in the four-year evaluation cycle the undisputed leader is *Wydział*

Table 2. Ranking of Polish physical education higher schools on the basis of scientific articles published in 2009-2012 in journals indexed in Journal Citation Reports.

Ranking position	Higher schools (n=25)	Total IF 2009	Total IF 2010	Total IF 2011	Total IF 2012	Total IF points	Number of articles
1	Akademia Wychowania Fizycznego im. Eugeniusza Piaseckiego w Poznaniu; Wydział Wychowania Fizycznego, Sportu i Rehabilitacji	20.400	35.256	46.731	47.878	150.265	88
2	Akademia Wychowania Fizycznego im. Bronisława Czecha w Krakowie; Wydział Rehabilitacji Ruchowej	17.302	20.929	36.856	41.730	116.817	58
3	Akademia Wychowania Fizycznego we Wrocławiu; Wydział Fizjoterapii	13.190	25.062	32.068	42.525	112.845	61
4	Wyższa Szkoła Informatyki i Zarządzania w Rzeszowie; Wydział Turystyki i Nauk o Zdrowiu	3.741	13.201	13.631	52.763	83.336	33
5	Uniwersytet Szczeciński; Wydział Kultury Fizycznej i Promocji Zdrowia	7.618	6.665	22.051	43.892	80.226	50
6	Akademia Wychowania Fizycznego im. Jerzego Kukuczki w Katowicach; Wydział Wychowania Fizycznego	22.264	7.796	15.818	20.116	65.994	46
7	Wyższa Szkoła Zarządzania i Administracji w Zamościu; Wydział Fizjoterapii i Pedagogiki		3.628	2.640	54.718	60.986	6
8	Politechnika Opolska; Wydział Wychowania Fizycznego i Fizjoterapii	3.127	12.879	23.377	21.567	60.950	31
9	Akademia Wychowania Fizycznego i Sportu im. Jędrzeja Śniadeckiego w Gdańsku; Wydział Wychowania Fizycznego	7.344	7.438	20.732	17.471	52.985	29
10	Akademia Wychowania Fizycznego im. Bronisława Czecha w Krakowie; Wydział Wychowania Fizycznego i Sportu	7.892	6.967	15.785	21.478	52.122	50
11	Akademia Wychowania Fizycznego we Wrocławiu; Wydział Wychowania Fizycznego	4.899	8.985	20.369	16.387	50.640	42
12	Akademia Wychowania Fizycznego Józefa Piłsudskiego w Warszawie; Wydział Rehabilitacji	3.574	11.978	6.958	14.508	37.018	25
13	Akademia Wychowania Fizycznego Józefa Piłsudskiego w Warszawie; Wydział Wychowania Fizycznego i Sportu w Białej Podlaskiej	1.508	6.073	10.487	11.930	29.998	28
14	Akademia Wychowania Fizycznego im. Jerzego Kukuczki w Katowicach; Wydział Fizjoterapii	3.217	4.424	8.733	13.527	29.901	30
15	Akademia Wychowania Fizycznego we Wrocławiu; Wydział Nauk o Sporcie	3.676	7.317	7.867	8.811	27.671	22
16	Akademia Wychowania Fizycznego Józefa Piłsudskiego w Warszawie; Wydział Wychowania Fizycznego	0.102	4.729	3.895	13.754	22.480	33
17	Akademia Wychowania Fizycznego im. Eugeniusza Piaseckiego w Poznaniu; Zamiejscowy Wydział Kultury Fizycznej w Gorzowie Wielkopolskim	4.897	3.153	5.690	7.079	20.819	18
18	Akademia Wychowania Fizycznego i Sportu im. Jędrzeja Śniadeckiego w Gdańsku; Wydział Turystyki i Rekreacji	1.543	0.150	2.254	8.662	12.609	14
19	Akademia Wychowania Fizycznego im. Eugeniusza Piaseckiego w Poznaniu; Wydział Turystyki i Rekreacji	2.642		6.995	2.210	11.847	10
20	Akademia Wychowania Fizycznego im. Bronisława Czecha w Krakowie; Wydział Turystyki i Rekreacji			3.794	4.194	7.988	6
21	Akademia Wychowania Fizycznego Józefa Piłsudskiego w Warszawie; Wydział Turystyki i Rekreacji			5.385	1.629	7.014	5
22	Uniwersytet Technologiczno-Humanistyczny im. Kazimierza Pułaskiego w Radomiu; Wydział Nauk o Zdrowiu i Kultury Fizycznej	0.095		3.172	3.261	6.528	9
23	Uniwersytet Kazimierza Wielkiego w Bydgoszczy; Wydział Kultury Fizycznej, Zdrowia i Turystyki	2.348			3.462	5.810	5
24	Wyższa Szkoła Administracji w Bielsku-Białej; Wydział Fizjoterapii		0.641	1.339	3.431	5.411	4
25	Uniwersytet Rzeszowski; Wydział Wychowania Fizycznego			1.673	0.500	2.173	4

IF - Impact Factor

Table 3. The highest scores on the ministerial list and the highest *Impact Factor* for publications in 2009-2012.

Points awarded to the journals indexed by the Polish Ministry of Science and Higher Education	Number of publications	maximum IF	minimum IF	median IF
50	1	51.658	-	-
45	11	8.376	2.483	4.475
40	36	5.794	1.682	1.843
35	47	7.078	1.730	2.335
32	30	4.857	1.191	2.234
30	42	3.795	0.606	2.071
27	33	6.802	0.517	1.772
25	69	3.398	0.532	2.267
24	26	5.801	1.489	2.342
20	118	2.692	0.290	1.418
15	31	2.205	1.189	1.360

IF - *Impact Factor*

Table 4. The number of articles published in a given language by the higher schools in 2009-2012.

Language	2009	2010	2011	2012	Total number of articles
English	301	356	501	525	1683
Polish	663	701	690	559	2613
other	12	13	29	22	76

Wychowania Fizycznego, Sportu i Rehabilitacji Akademii Wychowania Fizycznego im. Eugeniusza Piaseckiego w Poznaniu (see Table 1 and 2).

The research results presented in the article show that Polish higher schools of physical education meet their statutory mission. The large number of publications (nearly 1,100 per year) and number of journals chosen by the academicians (n=636) is surprising, what proves that Polish sport science is dynamically developing and expansively spread world-wide by the international reputable journals. This observation is confirmed by the proportion of publications published in English (38.5%) in relation to the Polish language (60%), especially if we compare the dynamics of change year by year (Table 4). The remaining 1.5% of articles were published in the following languages: Czech, French, German, Italian, Russian, Slovak and Ukrainian.

The changes of ranking leaders in succeeding editions (2002, 2009, 2013) somehow reflect the changes taking place for over a decade in the education system, the model of higher education and autonomy of scientific institutions in Poland and world-wide as well. Higher education is facing new challenges and objectives in

relation to globalization and its impact on the quality of education. Institutions need to effectively and efficiently manage their resources to meet new challenges and at the same time maintain high standards of education, especially in the context of maintaining the competitiveness of the education system and the conditions of its development. Currently, the main challenge that higher schools must respond to, is to adapt to the pace of change in the competitive environment, greater flexibility in operating and developing educational programs, efficient allocation of resources according to the modern rules for fund raising and financing associated with financial and employment policy, innovation and cooperation with business.

If institutions would be able to handle these challenges, undertake new initiatives and responsibility for own objectives (with the help of professional entities and advanced information systems), they will become a leader before other learn it. Therefore, we can expect further changes of the leader in the ranking of Polish physical education higher schools. The results presented in this article constitute an important empirical proof that Polish specialists in sport sciences creatively overcome barriers to share the research results with "a global recipient". It is a good low efficiency indicator of crushing the Iron Curtain in science

[27]. The analysis of citations of those papers performed by scientists from foreign research centres would enable to further develop the issue and become an important indicator of the effects of this mission.

CONCLUSION

Detailed and accurate data reported by institutions allowed to the unprecedented scale to compare the scientific performance in the Polish higher schools of physical education, measured by the number of publications in scientific journals (appearing world-wide), what evidenced the dynamics and constant development of sport science. Bibliometric analysis, although having some limitations, became the useful tool measuring the productivity of authors, research groups, institutions and country and should not be used as the sole basis for the evaluation

of the achievements. The ranking being the result of evaluation process allowed to determine the position of the unit in relation to other rated units proving that the academies of physical education fulfil their statutory, social and economic mission. High values of indicators obtained every year confirm the great interest of the academies of physical education to meet challenges put before the higher education by both society and business.

ACKNOWLEDGEMENT

The author would like to gratefully acknowledge the support from the Polish Ministry of Science and Higher Education. Any opinions expressed in this paper are solely those of the author and do not in any way represent the views of the Polish Ministry of Science and Higher Education.

REFERENCES

- van Leeuwen T. Descriptive Versus Evaluative Bibliometrics. *Handbook of Quantitative Science and Technology Research* 2005; 373-388
- Klincewicz K, Żemigala M, Mijal M. Bibliometria w zarządzaniu technologiami i badaniami naukowymi. Ministerstwo Nauki i Szkolnictwa Wyższego, Warszawa 2012; 16 [in Polish]
- Reforms of research and higher education in Poland. Available from: URL: <http://www.nauka.gov.pl/en/reforms-of-research-and-higher-education-in-poland/> (accessed November 29, 2013)
- Law on Higher Education. Available from: URL: http://www.nauka.gov.pl/g2/oryginal/2013_12/d687905792f5ff6a3ecf84d7df4f8e57.pdf (accessed November 29, 2013)
- Act on Research Institutes. Available from: URL: http://www.nauka.gov.pl/g2/oryginal/2013_05/a6711bbbf2513521db7e31b3774341ec.pdf (accessed November 29, 2013)
- Act on the National Centre for Research and Development. Available from: URL: http://www.nauka.gov.pl/g2/oryginal/2013_05/1d4b64324a4228b54083b242954f0b5b.pdf (accessed November 29, 2013)
- Act on the National Science Centre. Available from: URL: http://www.nauka.gov.pl/g2/oryginal/2013_05/83d60572b6d60c1fb0e92a7023cf996a.pdf (accessed November 29, 2013)
- Act on the Polish Academy of Sciences. Available from: URL: http://www.nauka.gov.pl/g2/oryginal/2013_05/3906ee68b66b4fd7467c26a0051488cc.pdf (accessed November 29, 2013)
- Act on the Principles of Financing Science. Available from: URL: http://www.nauka.gov.pl/g2/oryginal/2013_05/26574a32e5351daaf4c1bcd0bcab48b1.pdf (accessed November 29, 2013)
- Law on Academic Degrees and Title and Degrees and Title in the Arts. Available from: URL: http://www.nauka.gov.pl/g2/oryginal/2013_12/5d2e1e30ef9068c973547ef1db2b70e.pdf (accessed November 29, 2013)
- Provisions Introducing the Acts Reforming the System of Science. Available from: URL: http://www.nauka.gov.pl/g2/oryginal/2013_05/f930c8016d670fa6d95998b35e82b689.pdf (accessed November 29, 2013)
- Reform of Science in Poland. Building on Knowledge. Ministry of Science and Higher Education. Warsaw 2011; Available from: URL: http://www.nauka.gov.pl/g2/oryginal/2013_05/170256ccb0fa76630a26a4930b23d7c7.pdf (accessed November 29, 2013)
- Ujednolicony wykaz czasopism punktowanych z 5 maja 2009 r. Available from: URL: http://www.nauka.gov.pl/ujednolicony-wykaz-czasopism-naukowych/ujednolicony-wykaz-czasopism-punktowanych_22382.html (accessed November 29, 2013)
- Ujednolicony wykaz czasopism punktowanych z 25 czerwca 2010 r. Available from: URL: http://www.nauka.gov.pl/ujednolicony-wykaz-czasopism-naukowych/ujednolicony-wykaz-czasopism-punktowanych_27574.html (accessed November 29, 2013)
- Komunikat Ministra Nauki i Szkolnictwa Wyższego w sprawie wykazu czasopism naukowych z 21 grudnia 2012 r. Available from: URL: http://www.nauka.gov.pl/komunikaty/komunikat-ministra-nauki-i-szkolnictwa-wyzszego-w-sprawie-wykazu-czasopism-naukowych_31733.html (accessed November 29, 2013)
- Vanclay JK. Bias in the Journal Impact Factor. *Scientometrics* 2006
- Falagas ME, Alexiou VG. The top-ten in journal *impact factor* manipulation. *Arch Immunol Ther Exp* 2008; 56(4): 223-6
- Epstein D. *Impact factor* manipulation. *J EMWA* 2007; 16(3): 133-134
- van Noorden R. Record number of journals banned for boosting *impact factor* with self-citations. *Nature News Blog*. Available from: URL: <http://blogs.nature.com/news/2012/06/record-number-of-journals-banned-for-boosting-impact-factor-with-self-citations.html> (accessed December 10, 2013)
- Davis P. The Emergence of a Citation Cartel. The scholarly kitchen. Available from: URL: <http://scholarlykitchen.sspnet.org/2012/04/10/emergence-of-a-citation-cartel/> (accessed December 10, 2013)
- Bornmann, L, de Moya Anegón F, Leydesdorff L. The new Excellence Indicator in the World Report of the SCImago Institutions Rankings 2011. *Journal of Informetrics* 2012; 6(2): 333-335
- Tijssen R, van Leeuwen T. Centres of research excellence and science indicators. Can 'excellence' be captured in numbers? In W. Glänzel (Ed.), Ninth International Conference on Science and Technology Indicators Leuven, Belgium: Katholieke Universiteit Leuven 2006; 146-147
- Albarrán P, Ruiz-Castillo J. The measurement of scientific excellence around the world. Working Paper. Economic Series. Universidad Carlos III de Madrid 2012
- Popinigis J. 1-szy ranking polskich Akademii Wychowania Fizycznego oparty wyłącznie na liczbie artykułów ogłoszonych drukiem w czasopiśmie „Listy filadelfijskiej” w 2001 roku. *Medycyna Sportowa* 2002, 18(11): 453-61 [in Polish]
- Barczyński BJ. Ranking of Polish higher schools based on articles published in Polish sports science journals indexed by the Polish Ministry of Science and Higher Education. *Arch Budo* 2009; 5: 155-164
- OECD Glossary of Statistical Terms. Available from: URL: <https://stats.oecd.org/glossary/detail.asp?ID=198> (accessed December 11, 2013)
- Barczyński BJ, Graczyński M, Kalina RM: Barriers Restricting the Free Dissemination of Scientific Achievements: Own Experiences in Crossing Walls and Bridges. *J Hum Kinet* 2009; 22(22): 7-14

Cite this article as: Barczyński JB. Ranking of Polish physical education higher schools based on the articles published in 2009-2012 indexed by the Polish Ministry of Science and Higher Education. *Arch Budo* 2013; 4: 273-296

APPENDIX

Appendix 1. The most preferred scientific journals from the Journal Citation Reports by the Polish physical education higher schools (ordinal variable is the higher value of total points with the same number of journals).

Ranking position	Journals (n=263)	Number of articles	Total points
1	JOURNAL OF HUMAN KINETICS	72	867
2	ARCHIVES OF BUDO	61	575
3	BIOLOGY OF SPORT	46	628
4	ACTA OF BIOENGINEERING AND BIOMECHANICS	38	438
5	ANNALS OF AGRICULTURAL AND ENVIRONMENTAL MEDICINE	26	658
6	JOURNAL OF STRENGTH AND CONDITIONING RESEARCH	15	541
7	PHYSIOLOGICAL RESEARCH	10	235
8	MEDICAL SCIENCE MONITOR	9	175
	KARDIOLOGIA POLSKA		96
9	GAIT & POSTURE	8	269
	EUROPEAN JOURNAL OF APPLIED PHYSIOLOGY		242
	JOURNAL OF PHYSIOLOGY AND PHARMACOLOGY		219
	ARCHIVES OF GERONTOLOGY AND GERIATRICS		150
10	JOURNAL OF SPORTS SCIENCES	7	234
	JOURNAL OF SPORTS SCIENCE AND MEDICINE		103
11	POLISH JOURNAL OF ENVIRONMENTAL STUDIES	6	100
	SCIENCE & SPORTS		83
12	WSPOLCZESNA ONKOLOGIA-CONTEMPORARY ONCOLOGY	5	75
	JOURNAL OF ELECTROMYOGRAPHY AND KINESIOLOGY		144
	INTERNATIONAL JOURNAL OF SPORT NUTRITION AND EXERCISE METABOLISM		140
	JOURNAL OF SPORTS MEDICINE AND PHYSICAL FITNESS		110
	NEUROLOGIA I NEUROCHIRURGIA POLSKA		75
	NEW EDUCATIONAL REVIEW		75
13	BIOLOGICAL TRACE ELEMENT RESEARCH	4	66
	PLOS ONE		160
	AMERICAN JOURNAL OF HUMAN BIOLOGY		140
	INTERNATIONAL JOURNAL OF PHARMACEUTICS		132
	JOURNAL OF APPLIED PHYSIOLOGY		128
	PHARMACOLOGICAL REPORTS		99
	POLISH JOURNAL OF CARDIO-THORACIC SURGERY		60
	ISOKINETICS AND EXERCISE SCIENCE		58
	PERCEPTUAL AND MOTOR SKILLS		58
	FOLIA HISTOCHEMICA ET CYTOBIOLOGICA		53
PSYCHIATRIA POLSKA	40		
14	MEDICINE AND SCIENCE IN SPORTS AND EXERCISE	3	135
	RESEARCH IN DEVELOPMENTAL DISABILITIES		135
	JOURNAL OF SCIENCE AND MEDICINE IN SPORT		105
	SCANDINAVIAN JOURNAL OF MEDICINE & SCIENCE IN SPORTS		104
	JOURNAL OF NEUROPHYSIOLOGY		102

Ranking position	Journals (n=263)	Number of articles	Total points
14	CELLS TISSUES ORGANS	3	92
	EUROPEAN SPINE JOURNAL		92
	KNEE SURGERY SPORTS TRAUMATOLOGY ARTHROSCOPY		90
	INTERNATIONAL JOURNAL OF SPORTS MEDICINE		70
	JOURNAL OF BIOSOCIAL SCIENCE		70
	ANNALS OF HUMAN BIOLOGY		65
	CLINICAL HEMORHEOLOGY AND MICROCIRCULATION		65
	JOURNAL OF MANIPULATIVE AND PHYSIOLOGICAL THERAPEUTICS		65
	ANATOMIA HISTOLOGIA EMBRYOLOGIA		60
	EXPERIMENTAL BRAIN RESEARCH		60
	INTERNATIONAL JOURNAL OF REHABILITATION RESEARCH		60
	BULLETIN OF THE VETERINARY INSTITUTE IN PULAWY		55
	JOURNAL OF CLINICAL DENSITOMETRY		55
	LYMPHOLOGY		55
	NEUROSCIENCE LETTERS		55
	INTERNATIONAL JOURNAL OF ENVIRONMENT AND POLLUTION		45
	PRZEGLAD MENOPAUZALNY		45
	WOUNDS-A COMPENDIUM OF CLINICAL RESEARCH AND PRACTICE		45
	ACTA PHYSIOLOGICA HUNGARICA		43
	FOLIA BIOLOGICA-KRAKOW		43
POSTĘPY HIGIENY I MEDYCYNY DOŚWIADCZALNEJ	36		
MEDYCYNĄ PRACY	33		
JOURNAL OF HEALTH SCIENCES	23		
ŻYWNOŚĆ, NAUKA, TECHNOLOGIA, JAKOŚĆ	23		
15	BRITISH JOURNAL OF SPORTS MEDICINE	2	80
	JOURNAL OF ATHLETIC TRAINING		80
	EUROPEAN JOURNAL OF NUTRITION		70
	JOURNAL OF TISSUE ENGINEERING AND REGENERATIVE MEDICINE		70
	THE SCIENTIFIC WORLD JOURNAL		70
	MENOPAUSE-THE JOURNAL OF THE NORTH AMERICAN MENOPAUSE SOCIETY		69
	JOURNAL OF PAIN AND SYMPTOM MANAGEMENT		67
	INTERNATIONAL JOURNAL OF CARDIOLOGY		62
	AMERICAN JOURNAL OF PHYSICAL MEDICINE & REHABILITATION		60
	EUROPEAN JOURNAL OF CARDIO-THORACIC SURGERY		60
	JOURNAL OF TOXICOLOGY AND ENVIRONMENTAL HEALTH		59
	RESEARCH QUARTERLY FOR EXERCISE AND SPORT		57
	JOURNAL OF BIOMECHANICS		56
	HOMO-JOURNAL OF COMPARATIVE HUMAN BIOLOGY		52
	ARCHIVES OF MEDICAL SCIENCE		50
HUMAN MOVEMENT SCIENCE	50		
JOURNAL OF APPLIED SPORT PSYCHOLOGY	50		
JOURNAL OF THERMAL ANALYSIS AND CALORIMETRY	50		
CLINICAL REHABILITATION	47		



Ranking position	Journals (n=263)	Number of articles	Total points
15	FIBRES & TEXTILES IN EASTERN EUROPE	2	45
	MUSCLE & NERVE		45
	JOURNAL OF MOTOR BEHAVIOR		44
	ADAPTED PHYSICAL ACTIVITY QUARTERLY		40
	CENTRAL EUROPEAN JOURNAL OF BIOLOGY		40
	GYNECOLOGICAL ENDOCRINOLOGY		40
	INTERNATIONAL JOURNAL OF SPORTS PHYSIOLOGY AND PERFORMANCE		40
	JOURNAL OF ENVIRONMENTAL RADIOACTIVITY		40
	JOURNAL OF PHYSIOLOGY AND BIOCHEMISTRY		40
	SCANDINAVIAN JOURNAL OF PUBLIC HEALTH		40
	ACTA BIOCHIMICA POLONICA		35
	POLISH JOURNAL OF VETERINARY SCIENCES		35
	SCANDINAVIAN JOURNAL OF CLINICAL & LABORATORY INVESTIGATION		35
	ADVANCES IN CLINICAL AND EXPERIMENTAL MEDICINE		30
	BIOCYBERNETICS AND BIOMEDICAL ENGINEERING		30
	EUROPEAN JOURNAL OF CANCER PREVENTION		30
	SHOCK AND VIBRATION		30
	JOURNAL OF BACK AND MUSCULOSKELETAL REHABILITATION		28
	MEDICINA DELLO SPORT		28
PHYSIOTHERAPY	26		
JOURNAL OF PHYSIOLOGICAL SCIENCES	23		
16	NEW ENGLAND JOURNAL OF MEDICINE	1	50
	MOLECULAR PHARMACEUTICS		45
	NEUROIMAGE		45
	NEUROREHABILITATION AND NEURAL REPAIR		45
	THORAX		45
	DEVELOPMENTAL MEDICINE AND CHILD NEUROLOGY		40
	EUROPEAN JOURNAL OF PAIN		40
	INTERNATIONAL JOURNAL OF NANOMEDICINE		40
	INTERNATIONAL JOURNAL OF OBESITY		40
	JOURNAL OF PHYSICAL ACTIVITY & HEALTH		40
	JOURNAL OF PHYSIOLOGY-LONDON		40
	JOURNAL OF PINEAL RESEARCH		40
	JOURNALS OF GERONTOLOGY SERIES A -BIOLOGICAL SCIENCES AND MEDICAL SCIENCES		40
	REVIEW OF GENERAL PSYCHOLOGY		40
	ECONOMICS & HUMAN BIOLOGY		35
	EXPERIMENTAL GERONTOLOGY		35
	FOOD AND CHEMICAL TOXICOLOGY		35
	JOURNAL OF BIOLOGICAL CHEMISTRY		35
	JOURNAL OF THE INTERNATIONAL SOCIETY OF SPORTS NUTRITION		35
	MANUAL THERAPY		35
MOVEMENT DISORDERS	35		
MUTAGENESIS	35		



Ranking position	Journals (n=263)	Number of articles	Total points
	ORGANIC & BIOMOLECULAR CHEMISTRY		35
	OSTEOPOROSIS INTERNATIONAL		35
	THROMBOSIS AND HAEMOSTASIS		35
	AMERICAN JOURNAL OF CARDIOLOGY		32
	APPLIED PHYSICS A-MATERIALS SCIENCE & PROCESSING		32
	ARCHIVES OF PHYSICAL MEDICINE AND REHABILITATION		32
	EUROPEAN JOURNAL OF PUBLIC HEALTH		32
	EUROPEAN RADIOLOGY		32
	FEBS LETTERS		32
	INTERNATIONAL JOURNAL OF PSYCHOPHYSIOLOGY		32
	JOURNAL OF INTELLECTUAL DISABILITY RESEARCH		32
	JOURNAL OF REHABILITATION MEDICINE		32
	MECHANISMS OF AGEING AND DEVELOPMENT		32
	NEUROMUSCULAR DISORDERS		32
	PERMAFROST AND PERIGLACIAL PROCESSES		32
	ACTA PHYSIOLOGICA		30
	APPLIED PHYSIOLOGY NUTRITION AND METABOLISM-PHYSIOLOGIE APPLIQUEE NUTRITION ET METABOLISME		30
	BRAIN INJURY		30
	CLINICAL BIOMECHANICS		30
	CLINICAL JOURNAL OF SPORT MEDICINE		30
	EUROPEAN JOURNAL OF CARDIOVASCULAR PREVENTION & REHABILITATION		30
16	EUROPEAN JOURNAL OF NEUROSCIENCE	1	30
	EXPERIMENTAL PHYSIOLOGY		30
	GLYCOBIOLOGY		30
	GRAEFES ARCHIVE FOR CLINICAL AND EXPERIMENTAL OPHTHALMOLOGY		30
	INTERNATIONAL JOURNAL OF COLORECTAL DISEASE		30
	INTERNATIONAL JOURNAL OF PUBLIC HEALTH		30
	INTERNATIONAL JOURNAL OF SPORTS SCIENCE & COACHING		30
	JOURNAL OF BIOMATERIALS SCIENCE-POLYMER EDITION		30
	JOURNAL OF HELMINTHOLOGY		30
	JOURNAL OF PHYSICS-CONDENSED MATTER		30
	JOURNAL OF TRANSPORT GEOGRAPHY		30
	MOLECULAR AND BIOCHEMICAL PARASITOLOGY		30
	PARKINSONISM & RELATED DISORDERS		30
	SPINAL CORD		30
	WATER AIR AND SOIL POLLUTION		30
	ADSORPTION-JOURNAL OF THE INTERNATIONAL ADSORPTION SOCIETY		27
	AGING MALE		27
	BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS		27
	BRAIN RESEARCH BULLETIN		27
	CLINICAL AND EXPERIMENTAL RHEUMATOLOGY		27
	CROATICA CHEMICA ACTA		27
	INTERNATIONAL IMMUNOPHARMACOLOGY		27



Ranking position	Journals (n=263)	Number of articles	Total points
	JOURNAL OF THERMAL BIOLOGY		27
	MATURITAS		27
	PARASITOLOGY		27
	PEDIATRIC NEPHROLOGY		27
	TRANSFUSION		27
	BIOSCIENCE BIOTECHNOLOGY AND BIOCHEMISTRY		25
	CARDIOVASCULAR TOXICOLOGY		25
	CLINICAL BREAST CANCER		25
	EUROPEAN JOURNAL OF PEDIATRICS		25
	EXPERIMENTAL AND TOXICOLOGIC PATHOLOGY		25
	HUMAN IMMUNOLOGY		25
	HUMAN VACCINES		25
	INTERNATIONAL JOURNAL OF GYNECOLOGICAL CANCER		25
	INTERNATIONAL JOURNAL OF SPORT PSYCHOLOGY		25
	JOURNAL OF AGING AND PHYSICAL ACTIVITY		25
	JOURNAL OF BONE AND MINERAL METABOLISM		25
	JOURNAL OF TEACHING IN PHYSICAL EDUCATION		25
	METABOLISM-CLINICAL AND EXPERIMENTAL		25
	NEUROCHEMICAL RESEARCH		25
	PARASITES & VECTORS		25
	STRESS: THE INTERNATIONAL JOURNAL ON THE BIOLOGY OF STRESS		25
16	TISSUE ANTIGENS	1	25
	AMERICAN JOURNAL OF SPORTS MEDICINE		24
	BIOMOLECULAR ENGINEERING		24
	CARBOHYDRATE RESEARCH		24
	CARDIOVASCULAR RESEARCH		24
	DISABILITY AND REHABILITATION		24
	ECOLOGICAL ECONOMICS		24
	EUROPEAN JOURNAL OF PERSONALITY		24
	JOURNAL OF CHEMICAL PHYSICS		24
	JOURNAL OF NEUROCHEMISTRY		24
	JOURNAL OF RURAL STUDIES		24
	SPINE		24
	AGING CLINICAL AND EXPERIMENTAL RESEARCH		20
	AMERICAN JOURNAL OF CHINESE MEDICINE		20
	AMPHIBIA-REPTILIA		20
	ANNALS OF TRANSPLANTATION		20
	ANTHROPOLOGISCHER ANZEIGER		20
	ANTICANCER RESEARCH		20
	BLOOD PRESSURE		20
	BMC PUBLIC HEALTH		20
	CIRCULATION JOURNAL		20
	EDUCATIONAL GERONTOLOGY		20



Ranking position	Journals (n=263)	Number of articles	Total points
	ENDOCRINE		20
	EUROPEAN ARCHIVES OF OTO-RHINO-LARYNGOLOGY		20
	EUROPEAN JOURNAL OF OPHTHALMOLOGY		20
	EUROPEAN JOURNAL OF SPORT SCIENCE		20
	GEOGRAFIE-PRAGUE		20
	GLYCOCONJUGATE JOURNAL		20
	INTERNATIONAL JOURNAL OF FOOD SCIENCES AND NUTRITION		20
	INTERNATIONAL JOURNAL OF OCCUPATIONAL AND ENVIRONMENTAL HEALTH		20
	JOURNAL OF INVESTIGATIONAL ALLERGOLOGY AND CLINICAL IMMUNOLOGY		20
	JOURNAL OF MOLECULAR STRUCTURE		20
	JOURNAL OF PEDIATRIC ENDOCRINOLOGY & METABOLISM		20
	JOURNAL OF THROMBOSIS AND THROMBOLYSIS		20
	KIDNEY & BLOOD PRESSURE RESEARCH		20
	MULTIBODY SYSTEM DYNAMICS		20
	NUTRITION RESEARCH		20
	ORTHOPEDECS		20
	OSTOMY WOUND MANAGEMENT		20
	PHOTOCHEMISTRY AND PHOTOBIOLOGY		20
	PHYSIOLOGICAL MEASUREMENT		20
	PROTEIN EXPRESSION AND PURIFICATION		20
	PRZEMYSŁ CHEMICZNY		20
16	RHEUMATOLOGY INTERNATIONAL	1	20
	TETRAHEDRON LETTERS		20
	TISSUE & CELL		20
	ZEITSCHRIFT FÜR PHYSIKALISCHE CHEMIE-INTERNATIONAL JOURNAL OF RESEARCH IN PHYSICAL CHEMISTRY & CHEMICAL PHYSICS		20
	ZOOTAXA		20
	ACTA DERMATOVENEROLOGICA CROATICA		15
	ACTA NEUROBIOLOGIAE EXPERIMENTALIS		15
	ACTA POLONIAE PHARMACEUTICA - DRUG RESEARCH		15
	BRATISLAVA MEDICAL JOURNAL-BRATISLAVSKE LEKARSKE LISTY		15
	CENTRAL EUROPEAN JOURNAL OF MEDICINE		15
	COLLEGIUM ANTROPOLOGICUM		15
	INTERNATIONAL JOURNAL OF MEDICINAL MUSHROOMS		15
	INTERNATIONAL JOURNAL OF OCCUPATIONAL SAFETY AND ERGONOMICS		15
	JOURNAL OF APPLIED BIOMECHANICS		15
	JOURNAL OF COASTAL RESEARCH		15
	JOURNAL OF EXERCISE SCIENCE & FITNESS		15
	NUTRICION HOSPITALARIA		15
	OPEN HOUSE INTERNATIONAL		15
	PHLEBOLOGIE		15
	PHYSIKALISCHE MEDIZIN REHABILITATIONSMEDIZIN KURORTMEDIZIN		15
	POLISH JOURNAL OF PATHOLOGY		15



Ranking position	Journals (n=263)	Number of articles	Total points
16	SOLID STATE PHENOMENA	1	15
	SOMATOSENSORY AND MOTOR RESEARCH		15
	TRANSPLANTATION PROCEEDINGS		15
	ACTA CHIRURGICA BELGICA		13
	ARCHIVES ITALIENNES DE BIOLOGIE		13
	EUROPEAN JOURNAL OF MEDICAL RESEARCH		13
	CHINESE JOURNAL OF PHYSIOLOGY		10
	EXPERIMENTAL AND CLINICAL ENDOCRINOLOGY & DIABETES		10
	INTERNATIONAL ANGIOLOGY		10
	JOURNAL OF MUSCLE RESEARCH AND CELL MOTILITY		10

Appendix 2. Other scientific journals indexed by the Polish Ministry of Science and Higher Education preferred by the Polish physical education higher schools (ordinal variable is the higher value of total points with the same number of journals).

Ranking position of preferred journals (n=373)		Number of articles	Total points
1	ROZPRAWY NAUKOWE AKADEMII WYCHOWANIA FIZYCZNEGO WE WROCŁAWIU	276	552
2	ANTROPOMOTORYKA	115	530
3	POSTĘPY REHABILITACJI	94	432
4	SPORT WYCZYNOWY	88	131
5	BALTIC JOURNAL OF HEALTH AND PHYSICAL ACTIVITY	87	406
6	HUMAN MOVEMENT	84	609
7	POLISH JOURNAL OF SPORT AND TOURISM	79	400
8	FIZJOTERAPIA POLSKA	78	392
9	PEDAGOGIKA, PSYCHOLOGIA I MEDYKO-BIOLOGICZNI PROBLEMI FIZYCZNEGO WYCHOWANIA I SPORTU	75	186
10	FIZJOTERAPIA	71	352
11	FIZJOTERAPIA	67	402
12	PRACE NAUKOWE UNIwersYTETU EKONOMICZNEGO WE WROCŁAWIU	62	452
13	REHABILITACJA W PRAKTYCE	60	120
14	STUDIES IN PHYSICAL CULTURE & TOURISM	59	301
15	MEDYCINA SPORTOWA	54	288
	KWARTALNIK ORTOPEDYCZNY		248
	ZESZYTY METODYCZNO-NAUKOWE		28
16	PRZEGLĄD NAUKOWY KULTURY FIZYCZNEJ UNIwersYTETU RZESZOWSKIEGO	49	49
17	ZDROWIE PUBLICZNE	46	206
18	IDO MOVEMENT FOR CULTURE. JOURNAL OF MARTIAL ARTS ANTHROPOLOGY	45	210
19	TURYSTYKA I REKREACJA	41	186
20	PROBLEMY HIGIENY I EPIDEMIOLOGII	40	224
	JOURNAL OF HEALTH PROMOTION AND RECREATION		80
21	ORTOPEDIA TRAUMATOLOGIA REHABILITACJA	39	293
23	ZAMOJSKIE STUDIA I MATERIAŁY SERIA: FIZJOTERAPIA	38	134
24	ROCZNIK NAUKOWY AKADEMII WYCHOWANIA FIZYCZNEGO I SPORTU IM. JĘDRZEJA ŚNIADECKIEGO	37	74
25	ROCZNIKI PAŃSTWOWEGO ZAKŁADU HIGIENY	36	245

Ranking position of preferred journals (n=373)		Number of articles	Total points
26	THE JOURNAL OF ORTHOPAEDICS TRAUMA SURGERY AND RELATED RESEARCH	35	176
	WYCHOWANIE FIZYCZNE I SPORT (PHYSICAL EDUCATION AND SPORT)		160
27	ROCZNIKI NAUKOWE WYŻSZEJ SZKOŁY WYCHOWANIA FIZYCZNEGO I TURYSTYKI W BIAŁYMSTOKU	31	45
28	ZESZYTY NAUKOWE UNIwersYTETU SZCZECIŃSKIEGO, EKONOMICZNE PROBLEMY USŁUG	30	258
	INŻYNIERIA BIOMEDYCZNA		148
29	PEDIATRIC ENDOCRINOLOGY, DIABETES AND METABOLISM	29	212
30	JOURNAL OF COMBAT SPORTS AND MARTIAL ARTS	28	196
	PHYSICAL CULTURE AND SPORT. STUDIES AND RESEARCH		150
31	FOLIA TURISTICA	27	223
	REHABILITACJA MEDYCZNA		120
32	PRZEGLĄD LEKARSKI	25	124
33	MEDYCYNĄ ŚRODOWISKOWA	24	114
34	ZESZYTY NAUKOWE UNIwersYTETU SZCZECIŃSKIEGO EKONOMICZNE PROBLEMY TURYSTYKI	23	116
35	FAMILY MEDICINE & PRIMARY CARE REVIEW	22	109
	MEDICAL AND BIOLOGICAL SCIENCES		108
36	MEDICINA SPORTIVA	20	126
	ACTA BIO-OPTICA ET INFORMATICA MEDICA, INŻYNIERIA BIOMEDYCZNA		80
	SPORTY WODNE I RATOWNICTWO		20
37	AKTYWNOŚĆ RUCHOWA LUDZI W RÓŻNYM WIEKU	18	18
38	ZESZYTY NAUKOWE - WYŻSZA SZKOŁA HANDLU I USŁUG W POZNANIU	17	94
	ZAMOJSKIE STUDIA I MATERIAŁY. SERIA: PEDAGOGIKA		85
	BALNEOLOGIA POLSKA		74
	PRZEGLĄD MEDYCZNY UNIwersYTETU RZESZOWSKIEGO I NARODOWEGO INSTYTUTU LEKÓW W WARSZAWIE		63
	FIZICKOE VOSPITANIE STUDENTOV		51
39	NEW MEDICINE	16	85
	MEDYCYNĄ OGÓLNA		74
40	HANDEL WEWNĘTRZNY	15	102
	STUDIA HUMANISTYCZNE		36
41	TEORIYA I PRAKTIKA FIZICHESKOY KULTURY	14	140
42	KULTURA FIZYCZNA. EDUKACJA, ZDROWIE, OLIMPIZM, SPORT	13	13
43	BIOMEDICAL HUMAN KINETICS	12	74
	PROBLEMY EKOLOGII KRAJOBRAZU		58
	MEDICINA SPORTIVA PRACTICA		24
	ŻYWIENIE CZŁOWIEKA I METABOLIZM		23
44	STUDIA I MATERIAŁY CENTRUM EDUKACJI PRZYRODNICZO-LEŚNEJ	11	54
45	ONKOLOGIA POLSKA	10	58
	NIEPEŁNOSPRAWNOŚĆ I REHABILITACJA		50
	MEDYCYNĄ OGÓLNA I NAUKI O ZDROWIU		40
	ZESZYTY NAUKOWE UNIwersYTETU SZCZECIŃSKIEGO, SERIA: EKONOMICZNE PROBLEMY TURYSTYKI		40
46	GERONTOLOGIA POLSKA	9	63
	CHIRURGIA NARZĄDÓW RUCHU I ORTOPEDIA POLSKA		62
	ZESZYTY NAUKOWE WYŻSZEJ SZKOŁY BANKOWEJ WE WROCŁAWIU		54
	INFRASTRUKTURA I EKOLOGIA TERENÓW WIEJSKICH - INFRASTRUCTURE AND ECOLOGY OF RURAL AREAS		42



Ranking position of preferred journals (n=373)		Number of articles	Total points
46	ZESZYTY NAUKOWE MAŁOPOLSKIEJ WYŻSZEJ SZKOŁY EKONOMICZNEJ W TARNOWIE	9	27
	KARDIOLOGIA PO DYPLOMIE		23
	POLSKI PRZEGLĄD NAUK O ZDROWIU		18
47	ACTA SCIENTIARUM POLONORUM. SERIA: OECONOMIA	8	66
	HYGEIA PUBLIC HEALTH		56
	PEDIATRIA POLSKA		42
	POLISH HYPERBARIC RESEARCH		40
	TURYSTYKA KULTUROWA		32
48	INTERNATIONAL JOURNAL OF OCCUPATIONAL MEDICINE AND ENVIRONMENTAL HEALTH	7	93
	ENGINEERING OF BIOMATERIALS / INŻYNIERIA BIOMATERIAŁÓW		51
	SZKICE HUMANISTYCZNE		37
	ACTA UNIVERSITATIS LODZIENSIS FOLIA OECONOMICA		35
	ENDOKRYNOLOGIA, OTYŁOŚĆ I ZABURZENIA PRZEMIANY MATERII		34
	POLSKI PRZEGLĄD MEDYCYNY I PSYCHOLOGII LOTNICZEJ		32
	PIELĘGNIARSTWO - CHIRURGICZNE I ANGIOLOGICZNE		30
	ANNALES UNIVERSITATIS MARIAE CURIE-SKŁODOWSKA, SECTIO B: GEOGRAPHIA, GEOLOGIA, MINERALOGIA ET PETROGRAPHIA		16
TPS-TWÓJ PRZEGLĄD STOMATOLOGICZNY	14		
49	SCOLIOSIS	6	56
	ZESZYTY NAUKOWE		31
	LEKARZ WOJSKOWY		28
	FORUM OŚWIATOWE		26
	OSTRY DYŻUR		24
	SECURITOLOGIA		24
	ZESZYTY NAUKOWE UNIwersYTETU SZCZECIŃSKIEGO. PRACE INSTYTUTU KULTURY FIZYCZNEJ		6
50	PRZEGLĄD HISTORYCZNO-OŚWIATOWY	5	50
	SPORT AND PHYSICAL CULTURE IN THE MIRROR OF THE SOCIAL SCIENCES: THE 3TH INTERNATIONAL SOCIETY FOR THE SOCIAL SCIENCES OF SPORT CONFERENCE		50
	ENDOKRYNOLOGIA POLSKA		41
	PROBLEMY ZARZĄDZANIA		38
	PRZEGLĄD EPIDEMIOLOGICZNY		34
	FOLIA MORPHOLOGICA		33
	WIADOMOŚCI LEKARSKIE		28
	NOWINY LEKARSKIE		26
	REUMATOLOGIA		25
	BROMATOLOGIA I CHEMIA TOKSYKOLOGICZNA		20
	JOURNAL OF ECOLOGY AND HEALTH		20
	FARMACJA POLSKA		18
	PROBLEMY EKOLOGII		18
	MEDYCYNĄ RODZINNA		15
NOWA PEDIATRIA	10		
51	ORGANIZACJA I KIEROWANIE	4	34
	PRZEGLĄD ZACHODNIOPOMORSKI		30
	SPOŁECZEŃSTWO I RODZINA		27



Ranking position of preferred journals (n=373)		Number of articles	Total points
51	FOLIA POMERANAE UNIVERSITATIS TECHNOLOGIAE STETINENSIS SERIA OECONOMICA	4	20
	MEDYCYNĄ PRAKTYCZNA		20
	PRZEGLĄD GEOGRAFICZNY		20
	ZESZYTY NAUKOWE UNIwersYTETU SZCZECIŃSKIEGO. PROBLEMY ZARZĄDZANIA, FINANSÓW I MARKETINGU		20
	CHRONMY PRZYRODE OJCZYSTA		16
	MEDICAL TRIBUNE		12
	PRZEGLĄD SEKSUOLOGICZNY		8
	STUDIA GEOMORPHOLOGICA CARPATHO-BALCANICA		8
52	PRZEGLĄD PSYCHOLOGICZNY	3	30
	СПОРТИВНА НАУКА УКРАЇНИ		30
	POLSKIE ARCHIWUM MEDYCINY WEWNĘTRZNEJ		28
	ADVANCES IN CLINICAL AND EXPERIMENTAL MEDICINE		27
	BULLETIN OF GEOGRAPHY. SOCIO-ECONOMIC SERIES		27
	POLSKIE FORUM PSYCHOLOGICZNE		27
	STUDIA PHILOSOPHICA WRATISLAVIENSIA		24
	ACTA ANGIOLOGICA		23
	STUDIA I PRACE KOLEGIUM ZARZĄDZANIA I FINANSÓW		22
	POLSKI MERKURIUSZ LEKARSKI		21
	POMIARY AUTOMATYKA KONTROLA		20
	EDUKACJA USTAWICZNA DOROSŁYCH		19
	DIAMETROS. INTERNETOWE CZASOPISMO FILOZOFICZNE		18
	GEOTURYSTYKA / GEOTOURISM		18
	HUMANIZACJA PRACY		18
	TURYZM (TOURISM)		18
	ZESZYTY NAUKOWE. UNIwersYTET EKONOMICZNY W POZNANIU		18
	POLSKI PRZEGLĄD CHIRURGICZNY		17
	PNEUMONOLOGIA I ALERGOLOGIA POLSKA		16
	SCIENTIFIC JOURNAL OF UNIVERSITY OF SZCZECIN „SERVICE MANAGEMENT”		16
	BIO-ALGORITHMS AND MED-SYSTEMS		15
	GERIATRIA		15
	EDUKACJA FILOZOFICZNA		14
	NEUROLOGIA DZIECIĘCA		14
	PRACE KOMISJI KRAJOBRAZU KULTUROWEGO PTG		14
	WIADOMOŚCI STATYSTYCZNE		14
	PROKTOLOGIA		12
	DERMATOLOGIA ESTETYCZNA		10
	WYCHOWANIE NA CO DZIEŃ		10
	EKOLOGIA I TECHNIKA		8
	PARKI NARODOWE I REZERWATY PRZYRODY		7
	BADANIA FIZJOGRAFICZNE		6
KARDIOPROFIL	6		
LASE JOURNAL OF SPORT SCIENCE	6		
PHYSICAL EDUCATION OF STUDENTS	6		



Ranking position of preferred journals (n=373)		Number of articles	Total points
52	CESKA KINANTROPOLOGIE	3	3
	POSTĘPY KOSMETOLOGII		3
	ROCZNIK NAUKOWY WYDZIAŁU ZARZĄDZANIA W CIECHANOWIE		3
53	INTERNATIONAL JOURNAL OF THE HISTORY OF SPORT	2	30
	CENTRAL EUROPEAN JOURNAL OF PUBLIC HEALTH		21
	KULTURA I SPOŁECZENSTWO [CULTURE AND SOCIETY]		20
	KWARTALNIK PEDAGOGICZNY		20
	PRINCIPIA. PISMA KONCEPCYJNE Z FILOZOFII I SOCJOLOGII TEORETYCZNEJ		20
	PROCEEDINGS BOOK		20
	TERAŹNIEJSZOŚĆ – CZŁOWIEK – EDUKACJA		20
	CZASOPISMO PRAWNO-HISTORYCZNE		18
	STATISTICS IN TRANSITION		17
	PRZEGLĄD ORGANIZACJI		16
	STUDIA REGIONALNE I LOKALNE		16
	ZAPISKI HISTORYCZNE POŚWIĘCONE HISTORII POMORZA I KRAJÓW BAŁTYCKICH		15
	POLITYKA SPOŁECZNA		14
	EKONOMIKA I ORGANIZACJA PRZEDSIĘBIORSTWA		14
	KWARTALNIK FILOZOFICZNY		14
	OTOLARYNGOLOGIA POLSKA		14
	STUDIA EKONOMICZNE. ZESZYTY NAUKOWE UNIwersYTETU EKONOMICZNEGO W KATOWICACH		14
	STUDIA MEDIOZNAWCZE		14
	ZESZYTY NAUKOWE ALMAMER WYŻSZA SZKOŁA EKONOMICZNA		14
	ZESZYTY NAUKOWE SZKOŁY GŁÓWNEJ GOSPODARSTWA WIEJSKIEGO W WARSZAWIE EKONOMIKA I ORGANIZACJA GOSPODARKI ŻYWNOŚCIOWEJ		14
	MARKETING I RYNEK		13
	ACTA NEUROPSYCHOLOGICA		12
	FRAGMENTA AGRONOMICA		12
	GASTROENTEROLOGIA POLSKA		12
	GINEKOLOGIA PRAKTYCZNA		12
	NADCIŚNIENIE TĘTNICZE		12
	NAUKA PRZYRODA TECHNOLOGIE		12
	POSTĘPY W KARDIOLOGII INTERWENCYJNEJ		12
	PRZEGLĄD ZACHODNI		12
	STUDIA I MATERIAŁY POLSKIEGO STOWARZYSZENIA ZARZĄDZANIA WIEDZĄ		12
	WIADOMOŚCI PARAZYTOLOGICZNE		12
	ZESZYTY NAUKOWE - ALMAMER WYŻSZA SZKOŁA EKONOMICZNA		12
	ANTHROPOLOGICAL REVIEW		11
FRAGMENTA FLORISTICA ET GEOBOTANICA POLONICA	11		
BEZPIECZEŃSTWO PRACY. NAUKA I PRAKTYKA	10		
NOWA KRYTYKA. CZASOPISMO FILOZOFICZNE	10		
OCHRONA ZABYTKÓW	10		
PEDIATRIA I MEDYCYNA RODZINNA	10		
PSYCHOGERIATRIA POLSKA	10		



Ranking position of preferred journals (n=373)		Number of articles	Total points
53	ROCZNIKI NAUKOWE STOWARZYSZENIA EKONOMISTÓW ROLNICTWA I AGROBIZNESU	2	10
	ZESZYTY NAUKOWE SZKOŁY GŁÓWNEJ GOSPODARSTWA WIEJSKIEGO W WARSZAWIE. EKONOMIKA I ORGANIZACJA GOSPODARKI ŻYWNOSCIOWEJ		10
	ZESZYTY NAUKOWE WYŻSZA SZKOŁA OFICERSKA WOJSK LĄDOWYCH IM. GEN T. KOŚCIUSZKI		10
	PRACE I MATERIAŁY WYDZIAŁU ZARZĄDZANIA UNIwersYTETU GDAŃSKIEGO		9
	ANNALES ACADEMIAE MEDICAE STETINENSIS / ROCZNIKI POMORSKIEJ AKADEMII MEDYCZNEJ		8
	CZYNNIKI RYZYKA		8
	FORUM NEFROLOGICZNE		8
	INŻYNIERIA BIOMATERIAŁÓW (ENGINEERING OF BIOMATERIALS)		8
	LOGISTYKA		8
	MODELOWANIE INŻYNIERSKIE		8
	OPTIMUM. STUDIA EKONOMICZNE		8
	PAMIĘTNIK PUŁAWSKI		8
	POSTĘPY FITOTERAPII		8
	PRACE NAUKOWE WYŻSZEJ SZKOŁY BANKOWEJ W GDAŃSKU		8
	ZESZYT NAUKOWY / „APEIRON” WYŻSZA SZKOŁA BEZPIECZEŃSTWA PUBLICZNEGO I INDYWIDUALNEGO W KRAKOWIE		8
	AKTUALNOŚCI NEUROLOGICZNE		7
	GDAŃSKIE STUDIA PRAWNICZE - PRZEGLĄD ORZECZNICTWA		7
	PROBLEMY MEDYCYN RODZINNEJ		7
	GEOJOURNAL OF TOURISM AND GEOSITES		6
	SEKSUOLOGIA POLSKA		6
	STUDIA MAZOWIECKIE		6
	DYDAKTYKA LITERATURY. EDUKACJA WARTOŚCI. KOMUNIKACJA KULTUROWA		4
	SPORTS ENGINEERING		4
STUDIA I PRACE WYDZIAŁU NAUK EKONOMICZNYCH I ZARZĄDZANIA. ZESZYTY NAUKOWE UNIwersYTETU SZCZECIŃSKIEGO	4		
CRITICAL REVIEWS IN PHYSICAL AND REHABILITATION MEDICINE	2		
TELESNA KULTURA	2		
54	PHLEBOLOGY	1	25
	EPISTEME		15
	PRZEMYSŁ CHEMICZNY		15
	EARLY SCIENCE AND MEDICINE		12
	ACHTZEHNTE JAHRHUNDERT UND ÖSTERREICH. JAHRBUCH DER ÖSTERREICHISCHEN GESELLSCHAFT ZUR ERFORSCHUNG DES 18. JAHRHUNDERTS		10
	AMERICAN COLLEGE OF CARDIOLOGY 61 ANNUAL SCIENTIFIC SESSION AND ACC- I12 WITH TCT		10
	EXPERIMENTS, PROCESS, SYSTEM MODELING, SIMULATION & OPTIMIZATION		10
	GEOGRAPHIA POLONICA		10
	INFORMAT		10
	INFORMATICS AND MODELLING		10
	KULTURA I EDUKACJA		10
	KWARTALNIK HISTORII NAUKI I TECHNIKI (QUARTERLY JOURNAL OF THE HISTORY OF SCIENCE AND TECHNOLOGY)		10
	MEDYCYN WETERYNARYJNA		10
	NEW HORIZONS IN EDUCATION		10
	PRZEGLĄD FILOZOFICZNY NOWA SERIA		10
PRZEGLĄD RELIGIOZNAWCZY	10		

Ranking position of preferred journals (n=373)	Number of articles	Total points
ŚLAŃSKI KWARTALNIK HISTORYCZNY SOBÓTKA		10
THYROID RESEARCH		10
ACTA SCIENTIARUM POLONORUM. SERIA: TECHNOLOGIA ALIMENTARIA		9
ARCHIVES OF CONTROL SCIENCES		9
GINEKOLOGIA POLSKA		9
KARDIOCHIRURGIA I TORAKOCHIRURGIA POLSKA		9
MANAGEMENT		9
MEDYCYNA WIEKU ROZWOJOWEGO / DEVELOPMENTAL PERIOD MEDICINE		9
PSYCHOLOGIA, ETOLOGIA, GENETYKA		9
SYLWAN		9
ZAGADNIENIA EKONOMIKI ROLNEJ		9
ZESZYTY NAUKOWE SĄDOWNICTWA ADMINISTRACYJNEGO		9
EKONOMETRIA. PRACE NAUKOWE UNIwersYTETU EKONOMICZNEGO WE WROCŁAWIU		8
MANAGEMENT AND BUSINESS ADMINISTRATION. CENTRAL EUROPE		8
POLISH JOURNAL OF APPLIED PSYCHOLOGY		8
POLISH JOURNAL OF FOOD AND NUTRITION SCIENCES		8
ZARZĄDZANIE ZASOBAMI LUDZKIMI		8
ANNALES UNIVERSITATIS MARIAE CURIE-SKŁODOWSKA, PHARMACIA, SECTIO DDD		7
INTERNETOWY MAGAZYN FILOZOFICZNY HYBRIS		7
PRZEDSIĘBIORCZOŚĆ I ZARZĄDZANIE		7
PRZEGLĄD STATYSTYCZNY		7
54 ZESZYTY NAUKOWE KOLEGIUM GOSPODARKI ŚWIATOWEJ	1	7
ZESZYTY NAUKOWE SZKOŁY GŁÓWNEJ GOSPODARSTWA WIEJSKIEGO W WARSZAWIE PROBLEMY ROLNICTWA ŚWIATOWEGO		7
ADVANCES IN PALLIATIVE MEDICINE		6
BIBLIOTEKA (UNIwersYTET IM. A. MICKIEWICZA W POZNANIU)		6
CZASOPISMO PSYCHOLOGICZNE		6
DERMATOLOGIA KLINICZNA		6
DIABETOLOGIA DOŚWIADCZALNA I KLINICZNA		6
DIABETOLOGIA PRAKTYCZNA		6
KLINIKA OCZNA		6
KULTURA I HISTORIA		6
KWARTALNIK BELLONA		6
MEDYCYNA PALIATYWNA W PRAKTYCE		6
NEFROLOGIA I DIALIZOTERAPIA POLSKA		6
PIENINY - PRZYRODA I CZŁOWIEK		6
POLSKI PRZEGLĄD DYPLMATYCZNY		6
PROBLEMY PIELĘGNIARSTWA		6
ROCZNIK KOMISJI NAUK PEDAGOGICZNYCH		6
ROCZNIKI PSYCHOLOGICZNE		6
SCRIPTA JUDAICA CRACOVIENSIA		6
SEMINARE. POSZUKIWANIA NAUKOWE		6
STUDIA SOCJOLOGICZNE		6
THE ARCHIVE OF MECHANICAL ENGINEERING / ARCHIWUM BUDOWY MASZYN		6



Ranking position of preferred journals (n=373)		Number of articles	Total points
	WSPÓŁCZESNE ZARZĄDZANIE		6
	ZESZYTY NAUKOWE UNIwersYTETU PRZYRODNICZO-HUMANISTYCZNEGO W SIEDLCACH. SERIA: ADMINISTRACJA I ZARZĄDZANIE		6
	ZESZYTY NAUKOWE UNIwersYTETU SZCZECIŃSKIEGO, FINanse, RYNKI FINANSOWE, UBEZPIECZENIA		6
	ZESZYTY NAUKOWE UNIwersYTETU SZCZECIŃSKIEGO, PROBLEMY TRANSPORTU I LOGISTYKI		6
	ZESZYTY NAUKOWE UNIwersYTETU SZCZECIŃSKIEGO, PROBLEMY ZARZĄDZANIA, FINANSÓW I MARKETINGU		6
	ACTA MECHANICA ET AUTOMATICA		5
	ANNUAL OF NAVIGATION		5
	ATENEUM KAPŁAŃSKIE		5
	IDEA. STUDIA NAD STRUKTURĄ I ROZWOJEM POJĘĆ FILOZOFICZNYCH		5
	INŻYNIERIA EKOLOGICZNA		5
	POLISH ANNALS OF MEDICINE - ROCZNIK MEDYCZNY		5
	POLSKI PRZEGLĄD KARDIOLOGICZNY		5
	PRACA SOCJALNA		5
	PRACE GEOGRAFICZNE		5
	ACTA UNIVERSITATIS LODZIENSIS. FOLIA PHILOSOPHICA		4
	ANNALES UNIVERSITATIS MARIAE CURIE-SKŁODOWSKA, SECTIO AA, CHEMIA		4
	ARCHITECTURE CIVIL ENGINEERING ENVIRONMENT		4
	ARCHITEKTURA KRAJOBRAZU		4
	ARCHIVES OF PERINATAL MEDICINE		4
	CHIRURGIA CZASZKOWO-SZCZĘKOWO-TWARZOWA I ORTOPEDIA SZCZĘKOWA		4
	CZŁOWIEK NIEPEŁNOSPRAWNOŚĆ SPOŁECZEŃSTWO		4
54	EDUKACJA BIOLOGICZNA I ŚRODOWISKOWA	1	4
	INTERNATIONAL JOURNAL OF COMPUTER SCIENCE IN SPORT		4
	INTERNATIONAL JOURNAL OF SPORTS SCIENCE AND ENGINEERING		4
	JOURNAL OF URBAN AND REGIONAL ANALYSIS		4
	LECTIONES & ACROASES PHILOSOPHICAE		4
	METODY INFORMATYKI STOSOWANEJ		4
	OKULISTYKA		4
	OPM - OGÓLNOPOLSKI PRZEGLĄD MEDYCZNY		4
	PEDAGOGIA OJCOSTWA		4
	POLISH JOURNAL OF SOCIAL SCIENCE		4
	POZNAŃ UNIVERSITY OF TECHNOLOGY ACADEMIC JOURNALS. ELECTRICAL ENGINEERING		4
	PRACE I STUDIA GEOGRAFICZNE		4
	PROBLEMY WSPÓŁCZESNEGO PRAWA MIĘDZYNARODOWEGO EUROPEJSKIEGO I PORÓWNAWCZEGO		4
	PRZEGLĄD BADAŃ EDUKACYJNYCH		4
	PRZEGLĄD KOMUNIKACYJNY		4
	PRZEGLĄD PEDIATRYCZNY		4
	PSYCHIATRIA I PSYCHOLOGIA KLINICZNA		4
	PSYCHOLOGIA ROZWOJOWA		4
	QUAESTIONES GEOGRAPHICAE		4
	RUCH FILOZOFICZNY		4
	STUDIA ECOLOGIAE ET BIOETHICAE		4
	STUDIA PASTORALNE		4



Ranking position of preferred journals (n=373)		Number of articles	Total points
	TERAPIA		4
	TRANSPORT MIEJSKI I REGIONALNY		4
	ZESZYTY NAUKOWE - WYŻSZA SZKOŁA ADMINISTRACJI I BIZNESU IM. E. KWIATKOWSKIEGO W GDYNI		4
	ZESZYTY NAUKOWE AKADEMII MARYNARKI WOJENNEJ		4
	ACTA ELBINGENSIA		3
	ACTA PHILOLOGICA		3
	CURRENT PROBLEMS OF PSYCHIATRY		3
	PEDIATRIA PO DYPLOMIE		3
	ANNALES UNIVERSITATIS MARIAE CURIE-SKŁODOWSKA, SECTIO D: MEDICINA		2
	ANNALES. ETYKA W ŻYCIU GOSPODARCZYM		2
	ANNUAL REPORT		2
	BIOPHILIA REHABILITATION JOURNAL		2
	CZŁOWIEK I ZDROWIE		2
	DE DOCTRINA EUROPEA. ROCZNIKI INSTYTUTU EUROPEISTYKI		2
	DERMATOLOGIA PRAKTYCZNA		2
	EDUCACIO I CULTURA : REVISTA MALLORQUINA DE PEDAGOGIA		2
	EGITANEA SCIENCIA		2
	INTERNATIONAL JOURNAL OF ENVIRONMENTAL RESEARCH AND PUBLIC HEALTH		2
	JOURNAL OF HUMAN SPORT AND EXERCISE		2
	KARDIOLOGIA W PRAKTYCE		2
	KWARTALNIK ARCHITEKTURY I URBANISTYKI		2
54	MATERIAŁY I SPRAWOZDANIA RZESZOWSKIEGO OŚRODKA ARCHEOLOGICZNEGO	1	2
	MEDYCYNĄ MANUALNA		2
	NEURAL REGENERATION RESEARCH		2
	NOWA MEDYCYNĄ		2
	ODONATRIX		2
	PAŃSTWO I SPOŁECZEŃSTWO		2
	PEDAGOGIKA PRACY		2
	PERINATOLOGIA, NEONATOLOGIA I GINEKOLOGIA		2
	PORADNIK STOMATOLOGICZNY		2
	PRACE NAUKOWE WAŁBRZYSKIEJ WYŻSZEJ SZKOŁY ZARZĄDZANIA I PRZEDSIĘBIORCZOŚCI		2
	PRO FIDE REGE ET LEGE		2
	PROBLEMY JAKOŚCI		2
	PROBLEMY ZAGOSPODAROWANIA ZIEM GÓRSKICH		2
	RADZYŃSKI ROCZNIK HUMANISTYCZNY		2
	ROCZNIK NAUKOWY		2
	STUDIA EKONOMICZNE REGIONU ŁÓDZKIEGO		2
	STUDIA MEDYCZNE / MEDICAL STUDIES		2
	THE AMERICAN JOURNAL OF CASE REPORTS		2
	ZBLIŻENIA INTERKULTUROWE		2
	ZESZYTY NAUKOWE AKADEMII MORSKIEJ W GDYNI		2
	ZESZYTY NAUKOWE WYŻSZEJ SZKOŁY ZARZĄDZANIA W CZĘSTOCHOWIE		2
	ZESZYTY NAUKOWE. TURYSTYKA I REKREACJA		2



Ranking position of preferred journals (n=373)		Number of articles	Total points
54	ACTA FACULTATIS PHILOSOPHICAE UNIVERSITATIS SAFARIKIANAE	1	1
	ACTA UNIVERSITATIS NICOLAI COPERNICI PEDAGOGIKA		1
	AURA		1
	DYSKURS. ROCZNIK INSTYTUTU POLONISTYKI I KULTUROZNAWSTWA UNIWERSYTETU SZCZECIŃSKIEGO POŚWIĘCONY LITERATURZE I OKOLICOM		1
	JOURNAL OF MEDICINE AND LIFE		1

