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European Food Safety Authority as the source of information on food and nutrition

Abstract: European Food Safety Authority (EFSA) was set up by the European Union that operates independently of the European legislative and executive institutions (Commission, Council, Parliament) and EU Member States. It was established in 2002 to be a source of scientific advice and communication on risks associated with the food chain. European Food Safety Authority is responsible for risk assessment, and also has a duty to communicate its scientific findings to the public. It produces scientific opinions and advice that constitute the basis for European policies and legislation. It also play an important role in collecting and analysing data to ensure that European risk assessment is supported by the most comprehensive scientific information available. Thus, it is the treasure trove for present and future public health specialists and nutritionists. Since 29 February 2008 when the Polish EFSA Focal Point was established at the Chief Sanitary Inspectorate EFSA's word has become potentially more reachable for Polish consumers and entrepreneurs. The purpose of this study was to evaluate the knowledge of university students of public health, dietetics and other disciplines related to human nutrition on EFSA's objective and scope of its operation as well as to assess EFSA as a potential source of information for them. The study was carried out using the CAWI method from June to November 2017 among 201 students of public health (68 students) and faculties related to human nutrition (133 students). Among them, 85% of public health students did not work and 82% of students of faculties related to human nutrition neither did. The most of public health students were in their fourth year and among students of faculties related to human nutrition a group in third year the accounted for the greatest part. Results were analysed using configure frequency analysis (CFA) and χ^2 test. Results indicate that 41% of public health student and 11% of students of human nutrition related faculties did not know EFSA at the moment of participation in the study. In both groups of public health students and students of human nutrition related faculties, more participants were not encouraged by the university to use information published by EFSA (respectively

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87 and 63%). Only 4% of public health students and 38% of students of faculties related to human nutrition did use at least once information published by EFSA. The most often indicated cause of not using EFSA's resources was lack of awareness of possibility to explore it (62%). In general, more students of faculties related to human nutrition did know EFSA's activities, were encouraged to use its information and were interested in Polish fanpage of EFSA than public health students. The knowledge of students about EFSA and the possibility of using its resources is insufficient. It is reasonable to include EFSA-related topics in the study program of public health faculty and human nutrition-related faculties in order to better familiarize students with EFSA resources and show them what tools and opportunities they offer in their academic and professional life.

Key words: EFSA, EFSA knowledge, opinions, students
JEL classification: I18, I19, I20, I21

Introduction

Food safety issues are strategically important for many public and private areas. They are one of the highest priorities for public health at national, community and international level.

An increasingly number of areas related to the safety of the food chain, major environmental challenges, the globalisation of trade, the introduction of novel foods and of new food processing technologies may expose the food chain to new risks [Altieri et al. 2011]. Moreover, food crises of the nineties of the 20th century (food disease, dioxin etc.) has contributed to changes of nutritional habits and have led consumers to be more sensitive to food quality and safety. It also caused consequences in economic sense; risk managers were forced to search and develop a more effective food safety system.

In January 2000, the European Commission, aiming at providing the highest level of food safety and the highest possible standards of human health protection adopted the "White Paper on Food Safety" [European Commission 2000]. The document appointed an approach to the matter of an integrated and coordinated food safety policy.

Subsequently, in January 2002 under Regulation 178/2002 European Food Safety Authority (EFSA) has been established. As stated in this regulation, its main mission is "to provide scientific advice and scientific and technical support for the Community's legislation and policies in all fields which have a direct or indirect impact on food and feed safety. It shall provide independent information on all matters within these fields and communicate on risks.". European Food Safety Authority has been tasked with: (i) issuing scientific opinions allowing for risk assessment, (ii) promoting and coordinating the development of risk assessment methodologies, (iii) commissioning scientific studies, (iv) summarising, analysing and collecting scien-

tific and technical data, (v) identifying emerging risks, (vi) establishing a system of networks of relevant organizations, (vii) assisting the EC in crisis management, (viii) providing independent information to the public and interested parties on all matters within its mission with a high level of transparency and (ix) announcing the risks. European Food Safety Authority's Founding Regulation establishes EFSA as a body that operates independently of the European legislative and executive institutions (Commission, Council, Parliament) and EU member states [Regulation 178/2002, Hugas 2007, Proceedings… 2012].

Over two decades many steps have been taken to make food chain safer in the EU. A lot of data has been collected which created strong scientific ground for food science. Within one year EFSA publishes significant number of scientific publications, shares information on current topic related to food and feed in varied forms such as textual statements, infographics, videos ect. In cooperation with the European Centre for Disease Prevention and Control (ECDC), EFSA produces annual EU Summary Reports (EUSR) that cover all information on the food chain. This short review gives insights into the achievements made with integrated food-chain data collection and information system and presents challenges that have to be faced to improve the quality and the effectiveness of the collected data on food, animals and feed. These activities make EFSA reliable source of latest, independent and consistent with evidence-based information. Thus, it is the treasure trove for present and future public health specialists and nutritionists [Proceedings… 2012, Boelaert 2016]. Since 29 February 2008 when the Polish EFSA Focal Point was established at the Chief Sanitary Inspectorate EFSA's word has become potentially more reachable for Polish citizens.

The purpose of this study was to assess the knowledge of university students of public health, dietetics and other faculties related to human nutrition on EFSA's objective and scope of its operation as well as to assess EFSA as a potential source of information for them.

Research material and sources

The data for this study come from a survey conducted by computer-assisted web interview (CAWI) method among students of public health and faculties related to human nutrition. Participants were enrolled between June and November 2017 among users of Polish social media from closed groups available only to students of chosen faculties. Data were collected from participants anonymously and all individuals were informed about the purpose of the survey. For this study purpose, students from universities were included only.

Online questionnaire contained questions with two types of responses: single--choice closed-ended and multiple-choice closed-ended. Questions regarded EFSA

knowledge (including range and goals of its activity) and its source, the level and the structure of utilisation of EFSA's information, and potential interest in subscribing of EFSA's Polish fanpage. The questionnaire was divided into three parts: the first intended to all participants (15 questions), the second – for those who at least once used information published by EFSA (2 questions), and the third – for those who have never used it (1 question). In the first part, knowledge on EFSA and its origin, attitude to EFSA's Polish fanpage, preferences concerning the most preferable type of information were investigated. Questions from second part were about frequency of EFSA's information use and its type (guidelines, boilerplates, publications, databases and analyses, infographics, short videos, glossary or factsheets). Third part was related to the reason for not using EFSA as a source of information.

Non-parametric character of analysed variables has determined non-parametric approach used in analysis. Configure frequency analysis (CFA) was applied to accurately assess correlation between variables. This analysis is intended to searching patterns in contingency tables. It enables to answer a question whether among collected data certain patterns are occurring more often (type T) or less (antitype A) than it might be expected by chance. In this study, searching patterns were conducted to find the most frequent configurations of answers among public health students and students of faculties related to human nutrition, and then to compare them. The Chi-square test was used to evaluate statistical significance of the differences between groups. For all analyses a *P*-value below 0.05 was taken as significant. In CFA Bonferroni correction was used to compute *P*-values. Statistical analysis was carried out using Statistica 13.1.

Results

The study group consisted of 201 students (68 public health students, 133 students of human nutrition related faculties) from universities across Poland. As many as 85% of public health students did not work and 82% of students of faculties related to human nutrition neither did. Among students of public health 51% were in their fourth year of studies, 19% in the first year and 15% in second year, whereas amid students of faculties related to human nutrition 26% were third year, 23% fifth year and 22% fourth-year students.

In the study sample (n = 201), 41% of public health students and 11% of students of human nutrition related disciplines were not familiar with the EFSA term at the moment of the participation in the study.

As shown in Tables 1 and 2, most students of human nutrition related faculties did not work in their profession, heard of EFSA and knew the purpose and scope of EFSA's activities. The majority of public health students also did not work in their profession, but they did not meet EFSA term and had no knowledge about the goal

Table 1
Percentage of students with positive answer to the question about their EFSA experience

No	Question (single-choice questions)	Positive responses [%]			*P*
		A group (*n* = 68)	B group (*n* = 133)	total (*n* = 201)	
1	Working in profession area	16	15	16	< 0.01
2	The familiarity with abbreviation EFSA	58	89	79	< 0.001
3	Having the knowledge of the purpose and scope of EFSA's activities	19	52	40	< 0.001
4	The program of academic classes includes EFSA issues	8	37	45	< 0.001
5	An experience with being encouraged by the university to use information published by EFSA	13	37	29	< 0.001
6	An experience with using information published by the European Food Safety Authority (EFSA)	4	27	31	< 0.001
7	There is EFSA Coordination Point in Poland	59	68	64	< 0.001
8	The willingness of following Polish fanpage of EFSA	23	13	36	< 0.001
9	Publishing of EFSA's information on a fanpage would encourage to use EFSA information	53	67	62	< 0.01

Source: Own research.

and range of EFSA's operation. The assumption of independence among the three variables (answers on questions) was used in the model.

Both within the whole sample and within the two groups of students, majority of respondents were not encouraged by the university to use the information published by EFSA (Table 1). Public health students more frequently than it was expected were not encouraged to look for EFSA's resources and did not have any classes covering EFSA issues. Human nutrition students who had been spurred to explore EFSA's data were acquainted with EFSA issues during classes more often than it was expected.

Taking into account of antitypes occurring in Table 2, students of human nutrition related faculties whose classes did not include EFSA issues less often than it was expected admitted that they were encouraged to use EFSA resources outside the classroom. In public health students' group, two patterns of answers emerged with the lowest frequency. The first one includes answers of students who had no classes covering EFSA issues but were stimulated to search for EFSA's papers. The second pattern is represented by students whose classes were devoted to EFSA but they themselves were not encouraged to use its resources.

Table 2
Configure frequency analysis of the two questions from the first part of survey. EFSA issues as a topic of academic classes and as a part of universities' activities

Faculty	The program of academic classes included EFSA issues (purpose and scope, possibilities of using information about food and nutrition)	An experience with being encouraged by the university to use information published by EFSA	χ^2	*P*	Type/ /antitype
HN	no	yes	2.837	0.002	A
HN	yes	yes	5.668	0.000	T
PH	no	yes	4.378	0.000	T
PH	no	yes	2.667	0.004	A
PH	yes	no	2.543	0.006	A

HN – human nutrition related faculties, PH – public health.
Source: Own research.

Table 3
Configure frequency analysis of the two questions from the first part of survey. The knowledge of basic information on EFSA

Faculty	Working in profession area	The familiarity with abbreviation EFSA	Having the knowledge of the purpose and scope of EFSA's activities	χ^2	*P*	Type/antitype
HN	no	no	yes	2.783	0.0027	A
HN	no	yes	yes	3.794	0.0001	T
PH	no	no	no	6.549	0.0000	T

Notes as in Table 2.
Source: Own research.

As shown in Table 3 students of human nutrition related faculties who do not work in profession they are more often than expected familiar with abbreviation – EFSA and have the knowledge of the purpose and scope of EFSA's activities. Antitype indicates that they do not know EFSA abbreviation less than expected while maintaining the principle of ceteris paribus in relation to the other two question. There was one pattern of answers emerged with the highest frequency in public health students' group. Its representants more often than expected do not work in profession, are not familiar with EFSA abbreviation and the do not have the have the knowledge of the purpose and scope of EFSA's activities.

The first two types shown in Table 4 suggest that there are more human nutrition students than expected (based on the assumption of variable independence) who would not be interested in following Polish EFSA fanpage and that there are

Table 4
Configure frequency analysis of the three questions from first part of survey. Students' knowledge, attitude towards and interest in EFSA online resources

Faculty	There is EFSA Coordination Point in Poland	The willingness of following Polish fanpage of EFSA	Publishing of EFSA's information on a fanpage would encourage to use EFSA information	χ^2	*P*	Type/ /antitype
HN	yes	no	no	3.360	0.0004	T
HN	yes	no	yes	3.124	0.0009	A
HN	yes	yes	yes	3.559	0.0002	T
PH	no	no	don't know	7.541	0.0000	T

Notes as in Table 2.
Source: Own research.

more than expected of those who would be interested in it. Most of human nutrition students were aware of existing Polish EFSA Coordination Point. In turn, the third type suggests that more public health students than it was expected do not know that EFSA Point operates in Poland, and additionally that they would not follow Polish EFSA's fanpage being, at the same time, undecided towards impact of posting EFSA's information on fanpage. The pattern constituted by all types occurring in Table 4 shows that the interest in EFSA's Polish fanpage is independent of students' awareness of EFSA's Polish division.

Public health students considered factsheet as more useful form of information spreading (51% responses) than infographic (34%), textual post (21%) and video (7%). The order of human nutrition students' answers was similar (Fig. 1).

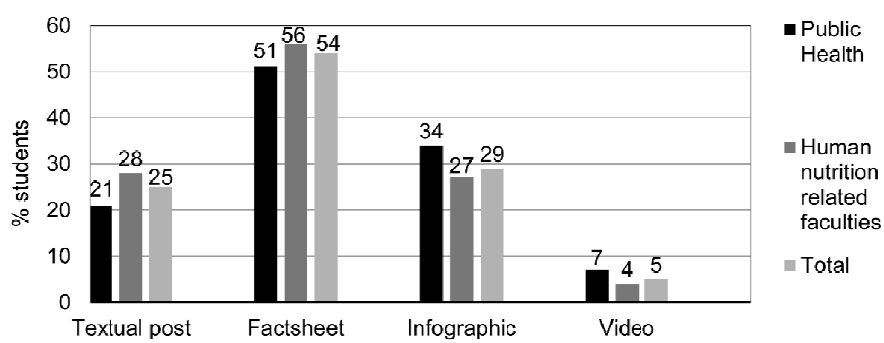
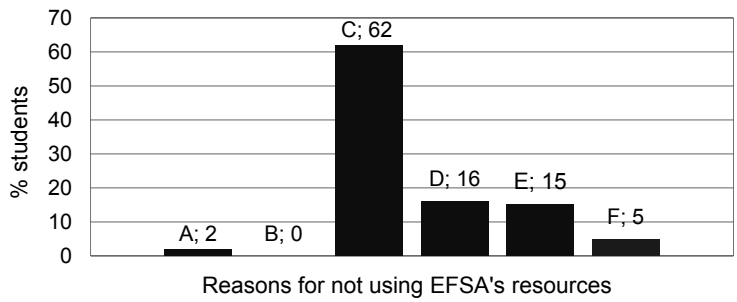


Figure 1
Distribution of students' preferences on forms of information provided by EFSA
Source: Own research.

According to the results, 57% of surveyed students have never used EFSA's resources. Only 4% of those representing public health discipline and 38% of those representing human nutrition discipline did use at least once information published by EFSA (Table 1).

Figure 2 reveals declared causes of not using EFSA's resources (n = 114). Most students indicated lack of awareness of possibility to explore EFSA's data (62%), while several of them indicated lack of potential usefulness of this information (16%), unwillingness to read official papers (15%), insufficient knowledge of English language (5%) and paid access (2%). No one indicated low credibility as a reason.



A – paid access; B – low credibility; C – lack of awareness of such possibility; D – lack of potential usefulness of information; E – unwillingness to read official papers; F –– insufficient knowledge of English language.

Figure 2
Reasons for not using EFSA's resources
Source: Own research.

Conclusions

European Food Safety Authority's website contains valuable and useful information for students of disciplines related to human nutrition as well as for student of public health. Authority's comprehensive approach to the food chain aiming at the protection of European consumers from food-related risks – from the field to farm and factory to fork covers not only science aspects but also managerial issues. Besides contaminants, foodborne diseases, animal health and welfare, plant protection, food production and distribution EFSA's remit includes risk assessment [EFSA 2016]. These subjects might be intuitively linked only with dietitians, nutritionists, and food technologists, but there are also in public health professionals' competences scope. Public health specialist has to apply public sciences to practice and use evidence when developing policies, programs or management systems to be trustworthy professional [Council on Linkages 2013]. Food professionals' decisions, opinions, and advice also require being evidence-based [Masic et al. 2008].

European Food Safety Authority has well-developed communication system from a standard form such as scientific publication (EFSA Journal) through unconventional ones – factsheets, infographics, videos to those currently in fashion i.e. social media – Facebook, Twitter and YouTube (EFSAchanel). The former constitute an invincibly essential information source in academic activity, the latest are increasingly prominent streams, especially amongst students. College students from 18–30 age group are active users of social media. Beside social interaction, entertainment and relaxation they find it as a convenient venue in which information is readily acquired [Hugas 2007, EFSA Portal n.d.]. Vance et al. [2009] indicated that young adult users of social networks are attractive target group to social media campaigns.

As we have shown in our study, in view of increasing share of social network sites (SNSs) in information spreading, EFSA has taken a step towards young recipients by engaging modern channels of information distribution [Vance et al. 2009, Prybutok and Sherry 2015]. To make use of potential educative EFSA's role for public health and human nutrition related faculties students universities should take an action. Stronger engagement on universities part by e.g. using EFSA's websites during courses would increase students' knowledge of tools and possibilities that EFSA offers. In the course of studying university-led workshops concerning exploitation of EFSA's resources would accustom learners to using it in search of professional information.

Although we have gained these findings, our study has several limitations. First, it presumably only engaged students who were the most motivated to participate in the survey. Second, a percentage of students who had started a questionnaire without completing it is unknown. Therefore, in the population at large, the overall knowledge on EFSA's objective and scope of operation may have been lower. It is probable that students who had an interest in EFSA and thereby had a greater awareness of study's subject were more likely to fill in the survey.

An important strength of this study is the fact that this is the first that investigates students' knowledge on EFSA. This study pointed out the low level of use of EFSA's resources amongst students of faculties related to human nutrition, especially of public health students. Also, the study showed the most common causes of not using EFSA's information by students of given faculties. Therefore, our findings could be employed to improve student's perception of EFSA and make it more attractive as an information source for them. These study provides interim findings. It is recommended to continue it.

The knowledge of students about EFSA and the possibility of using its resources is insufficient. In our study, most students were familiar with EFSA less than half of them knew purpose and range of its activities (40%). There was a significant difference between public health students (19%) and students of faculties related to human nutrition (52%). Results of this study revealed that only 38% of B group students used at least once EFSA's information and barely 4% of A group. Also, we indicated that

university-led EFSA promoting was not commonly applied. Lack of knowledge about the possibility of exploring EFSA's data, about the thematic scope of information provided by EFSA and its varied forms were the most often causes that kept students away from using EFSA as a source of information. It is reasonable to include EFSA-related topics in the study program of public health discipline and human nutrition-related disciplines in order to better familiarize students with EFSA resources and show them what tools and opportunities they offer in their academic and professional life. To encourage students to explore EFSA's data practical workshops are necessary.

References

ALTIERI A., ROBINSON T., MENGELERS M., HAVELAAR A., LIEM D., SILANO V., BRONWAER S., 2011: *EFSA 15th Scientific Colloquium: Emerging Risks in Food – from Identification to Communication*, Trends in Food Science & Technology 22, 249–252.

BOELAERT F., AMORE G., Van der STEDE Y., HUGAS M., 2016: *EU-Wide Monitoring of Biological Hazards along the Food Chain: Achievements, Challenges and EFSA Vision for the* Future, Current Opinion in Food Science, 12, 52–62, DOI: 10.1016/j.cofs.2016.08.004

Council on Linkages between Academia and Public Health Practice, 2014: Core Public Health Competencies, http://www.phf.org/resourcestools/pages/core_public_health_competencies.aspx [accessed: 10.03.2017].

European Commission, 2000: *White Paper on Food Safety on 12 January 2000* (COM/99/0719 final).

European Food Safety Authority – EFSA Portal, n.d.: About EFSA, http://www.efsa.europa.eu/en/aboutefsa [dostęp: 25.03.2018].

European Food Safety Authority – EFSA, 2012: *Science Protecting Consumers from Field to Fork*, DOI: 10.2805/2843

GOTTFIED J., SHEARER E., 2017: *News Use Across Social media platforms*, Pew Research Center.

HUGAS M., TSIGARIDA E., ROBINSON T., CALISTRI P., 2007*: Risk assessment of biological hazards in the European Union*, International Journal of Food Microbiology 120, 131–135.

MASIC I., MIOKOVIC M., MUHAMEDAGIC B., 2008: *Evidence Based Medicine – New Approaches and Challenges*, Acta Informatica Medica 16 (4), 219–225, DOI: 10.5455/aim.2008.16.219-225

Proceedings of the SIGCHI Conference on Human Factors in Computing Systems, New York 2012.

PRYBUTOK G., SHERRY R., 2015: *Social Media The key to health information access fo 18-to-years-old college students*, Computers, Informatics, Nursing 33 (4), 132–141, DOI: 10.1097/CIN.0000000000000147

Regulation 178/2002 of the European Parliament and of the Council of 28 January 2002 laying down the general principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety (OJ L 31 of 01.02.2002, pp. 1–24).

VANCE K., HOWE W., DELLAVALLE R.P., 2009: *Social Internet Sites as a Source of Public Health Information*, Dermatologic Clinics 27 (2), 133–136, DOI: 10.1016/j.det.2008.11.010

Europejski Urząd ds. Bezpieczeństwa Żywności (EFSA) jako źródło informacji na temat żywności i żywienia

Abstrakt: Europejski Urząd ds. Bezpieczeństwa Żywności (EFSA) został stworzony przez Unię Europejską. Jego działalność jest niezależna od europejskich instytucji prawodawczych i wykonawczych (Komisji, Rady, Parlamentu) i państw członkowskich UE. Urząd został założony w 2002 r., aby stanowić źródło doradztwa naukowego i komunikacji w zakresie ryzyka związanego z łańcuchem żywnościowym. Europejski Urząd ds. Bezpieczeństwa Żywności jest odpowiedzialny za ocenę ryzyka, a także ma obowiązek przekazywania swoich wyników badań naukowych do informacji publicznej. Wydaje opinie i porady naukowe, które stanowią podstawę europejskich polityk i prawodawstwa. Odgrywa również ważną rolę w gromadzeniu i analizowaniu danych, aby zapewnić, że europejska ocena ryzyka jest wspierana przez najbardziej wszechstronne, dostępne informacje naukowe. W związku z powyższym EFSA stanowi bogate źródło informacji dla obecnych i przyszłych specjalistów zdrowia publicznego oraz żywieniowców. Od 29 stycznia 2008 r., gdy został ustanowiony polski punkt koordynacyjny EFSA z siedzibą Warszawie, przekaz EFSA stał się potencjalnie bardziej osiągalny dla polskich konsumentów i przedsiębiorców. Celem badania była analiza wiedzy studentów (kierunków: zdrowie publiczne, dietetyka, żywienie człowieka i pokrewnych związanych z żywieniem człowieka) na temat celu i zakresu działalności EFSA oraz jego oceny jako potencjalnego źródła informacji. Badanie przeprowadzono z użyciem metody CAWI w okresie od czerwca do listopada 2017 r. w grupie studentów zdrowia publicznego (67 osób) i kierunków związanych z żywieniem (137 osób). W okresie badania 85% studentów zdrowia publicznego i 82% studentów kierunków związanych z żywieniem nie pracowało. Większość studentów zdrowia publicznego była na czwartym roku studiów. Nieco młodsi byli studenci kierunków związanych z żywieniem, wśród których przeważały osoby z trzeciego roku studiów. Wyniki badania przeanalizowane na podstawie konfiguracyjnej analizy częstotliwości wskazują, że 41% studentów zdrowia publicznego i 11% studentów kierunków związanych z żywieniem człowieka nie znało pojęcia EFSA. Niezależnie od kierunku większość studentów twierdziła, że nie była zachęcana przez swoją uczelnię do korzystania z zasobów informacyjnych EFSA. Tylko 4% studentów zdrowia publicznego i 38% studentów kierunków związanych z żywieniem człowieka przynajmniej raz korzystało z informacji publikowanych przez EFSA. Głównymi przyczynami niekorzystania z zasobów

EFSA, zidentyfikowanymi wśród badanych respondentów, były brak wiedzy o urzędzie oraz niemożność korzystania z jego zasobów (według 62% badanych). Większą wiedzę o EFSA deklarowali studenci kierunków związanych z żywieniem człowieka. Częściej znali zakres działalności EFSA, byli zachęcani do korzystania z jego opracowań, wyrażali zainteresowanie śledzeniem polskiego fanpage urzędu. Wiedza studentów na temat EFSA oraz możliwości wykorzystania jego zasobów jest niewystarczająca. Zasadne jest włączenie do programu nauczania na kierunku zdrowie publiczne i kierunkach pokrewnych z żywieniem człowieka zagadnień związanych z EFSA, aby lepiej zapoznać studentów z zasobami tego urzędu i wskazać im narzędzia i możliwości oferowane im w życiu akademickim i zawodowym.

Słowa kluczowe: EFSA, wiedza o EFSA, opinie, studenci
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