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Agata Matuszewska-Kubicz

Key competencies in the labour market from the perspective of higher education students

Abstract

The subject of key competencies in the labour market has been discussed in many publications and reports in recent years, presenting the point of view of researchers and employers on the issue. However, the perspective of future employees also seems to be worth discussing; hence this research covers university students currently entering the labour market. Ten competencies identified as key in the labour market are examined: problem-solving, creativity and innovation, analytical and critical thinking, active learning and teaching, interdisciplinarity, emotional intelligence, social intelligence, intercultural competencies, virtual cooperation, digital competency. The study aimed to determine the respondents' opinions and beliefs about selected key competencies on the labour market, their willingness to develop them, and their declared level of these competencies. The survey was carried out using the quantitative method, using the CAWI technique, on a sample of 352 respondents – students of the University of Lodz. The results indicate that the students mostly share the view that the competencies indicated as being key will be expected by employers in the labour market in the next five years. Moreover, for most of the competencies being studied, they assess their current level to be high and see the need to develop them for professional purposes. Discrepancies are also indicated between the students' self-assessment of their competencies and their employers' assessment.

Keywords: labour market, key competencies, students' competencies, competency level, expectations of employers

Introduction

Competencies have long been recognised as the most important component of human capital (Beck, 2003). During recruitment processes, employers are guided by personal and interpersonal competencies in more than 32% of their choices, and intellectual and academic competencies also influence the selection of applicant in about 25% of cases (Piasecka-Robak, 2016). At the same time, it has been noted for years that transformations in the macro- and microeconomic environment also cause changes in competencies expected in the labour market (Marszałek, 2011), hence the proposal to focus on competencies of the future in educational planning (Turek, 2015). Currently, researchers emphasise that in the face of the changes taking place, new flexible labour markets that require new competencies are taking shape (Rakowska & Sitko-Lutek, 2016), and professional activity in the current economy 4.0 requires different characteristics and skills than in the traditional labour market (Janowska & Skrzek-Lubasińska, 2019). Meanwhile, the OECD recommends focusing on developing the most relevant competencies from an economic and social perspective and viewing them in the short and long term (OECD, 2012).

Research to date on key competencies on the labour market is mostly based on employers' and experts' opinions on the competencies desired in future employees. However, it is also worth investigating the opinions of future employees themselves on competencies of the future in the labour market. Obtaining the perspective of this group will allow us to compare the opinions of employers and potential employees on key competencies and perform a more complete analysis of the phenomenon under study. This approach constitutes the originality of the research and is an attempt to fill a significant research gap in this respect. Hence the research aimed to find out the

Agata Matuszewska-Kubicz, University of Lodz, Poland, http://orcid.org/0000-0002-5808-4644

opinions of university students currently entering the labour market on the competencies of the future.

Key competencies in the labour market

In recent years, the topic of competencies desired now and in the future in the labour market has been the focus of many researchers and institutions. Researchers say that in the future, employees will be required to have "interdisciplinary competencies that combine IT knowledge, creative/cognitive skills, intercultural skills, emotional and social intelligence, and the ability to work collectively (in virtual, multicultural teams)" (Przytuła, 2018, p. 202). Today's workers should be able to adapt to sudden changes in the labour market and be equipped with meta-competencies (Sopegina et al., 2016). The authors of a recent World Economic Forum report (2020) predict that the key competencies by 2025 will be analytical thinking and innovation, active learning and learning strategies, complex problem-solving, critical thinking and analysis, leadership and social influence, technology use, monitoring and control, programming and technology development, stress resilience and flexibility, reasoning, problem-solving and thinking, emotional intelligence, user experience, service orientation, systems analysis and evaluation, and persuasion and negotiation. A similar list of future competencies was created for 2022 and described in an earlier edition of the Future of Jobs report. It includes the following competencies: analytical thinking and innovation, active teaching and learning strategies, creativity, originality and initiative, technology design and programming, critical thinking and analysis, complex problem-solving, leadership and social influence, emotional intelligence, reasoning and problem-solving, and systems analysis and evaluation (World Economic Forum, 2018).

Another report – Future Work Skills 2020 – includes among the competencies of the future: sense-making, social intelligence, novel and adaptive thinking, cross-cultural competency, computational thinking, new-media literacy, transdisciplinarity, design mindset, cognitive load management, and virtual collaboration (Davies et al., 2011). A very similar list of competencies was created by the authors of the report Future Skills: Update and Literature Review, adding resilience, i.e. using resources to achieve a long-term goal or positive outcome (Fidler, 2016).

Research has also been conducted in Poland. The "Employee of the future" report (Infuture Institute, 2019) gives the following list of competencies of the future: skills in STEM sciences, the ability to share knowledge, design thinking, critical thinking, digital skills, a problem-solving attitude, active learning ability, creativity, negotiation, and cooperation skills. Another Polish report, "Active+ Future on the labour market", includes, among others, digital competencies, the ability to cooperate with other people and machines, and emotional intelligence among the competencies desired by employers (DeLab UW & Gumtree, 2017). In turn, according to the authors of the report "Shoulder to shoulder with a robot. How to use the potential of automation in Poland", the key competencies on the labour market in the future are creativity, teamwork, empathy, critical thinking, problem-solving, and using technical knowledge with the help of technology (McKinsey & Company, 2018). Some of the competencies – design thinking, the ability to adapt easily to changes, and the ability to communicate effectively – were also indicated as competencies of the future by members of the discussion panel of the 2nd Adult Education Forum (Buks, 2017).

Analysing the lists of key competencies mentioned in the above studies, there is an incomplete semantic consistency and similar competencies are named differently (e.g. similar in meaning, although not identical: "non-standard and adaptive way of thinking" and "creativity"). In addition, some of the competencies were included more broadly, and others in a narrower way (e.g. "empathy" being one of the areas of "emotional intelligence").

Bearing in mind the above limitations and inaccuracies, an attempt was made to select the ten most frequently indicated key competencies described in the cited publications. They were divided into three categories, using Smółka's (2008) typology:

- cognitive competencies – problem-solving, analytical and critical thinking, active learning and teaching, interdisciplinarity;
- social competencies (social-psychological, soft) – creativity and innovation, emotional intelligence, social intelligence, intercultural competencies, virtual cooperation;
- hard (technical) competencies – digital competencies.

The ten competencies were the subject of the research carried out and described in this article.

Methodology

The research aimed to find out the respondents' opinions on selected key competencies in the labour market, including the declared level of competencies they possess, their willingness to develop them, and an assessment of their degree of desirability to employers. The results can be used to compare the perspective of experts and employers with that of students entering the labour market in the area of key competencies. They may be helpful in exploring the topic of young people's awareness of how prepared they are to enter the labour market. The selected competencies are indicated as key competencies in the labour market and were described in the earlier parts of this article.

The following research objectives, presented in the form of research questions, were set out in the research:

1. To what extent do the respondents think the competencies will be desired by employers in the labour market in the next five years?
2. How do the respondents assess their competency level?

3. How willing would the respondents be to develop their competencies for professional purposes?
4. Is there a statistically significant relationship between the competencies that the respondents believe employers want and how they assess their level of this competency?
5. Is there a statistically significant relationship between how the respondents assess their level of a given competency and their willingness to develop it for professional purposes?

The relationship between the fourth and fifth research objectives is shown in Figure 1.

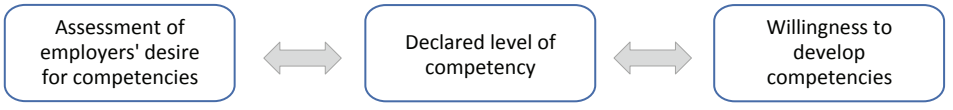
The research used a quantitative method, using the survey (CAWI) technique. It was conducted between June and December 2020 and was based on purposeful selection. It covered a group of 352 full- and part-time students in the last two years of undergraduate studies and in postgraduate studies at the University of Lodz. The structure of the sample is presented in Table 1.

Results

The first research objective was to ascertain to what extent the respondents think the competencies will be desired by employers in the labour market in the next five years. It was measured on the Likert scale from 1 to 5, where 1 meant that the competency will not be desired at all, and 5 – it will be very highly desired by employers. The answers are presented in Figure 2.

As the results indicate, the students believe that the most desirable competencies in the labour market in the next five years will be digital competencies, creativity and innovation, virtual cooperation, analytical

Figure 1
The relationship between the fourth and fifth research objectives



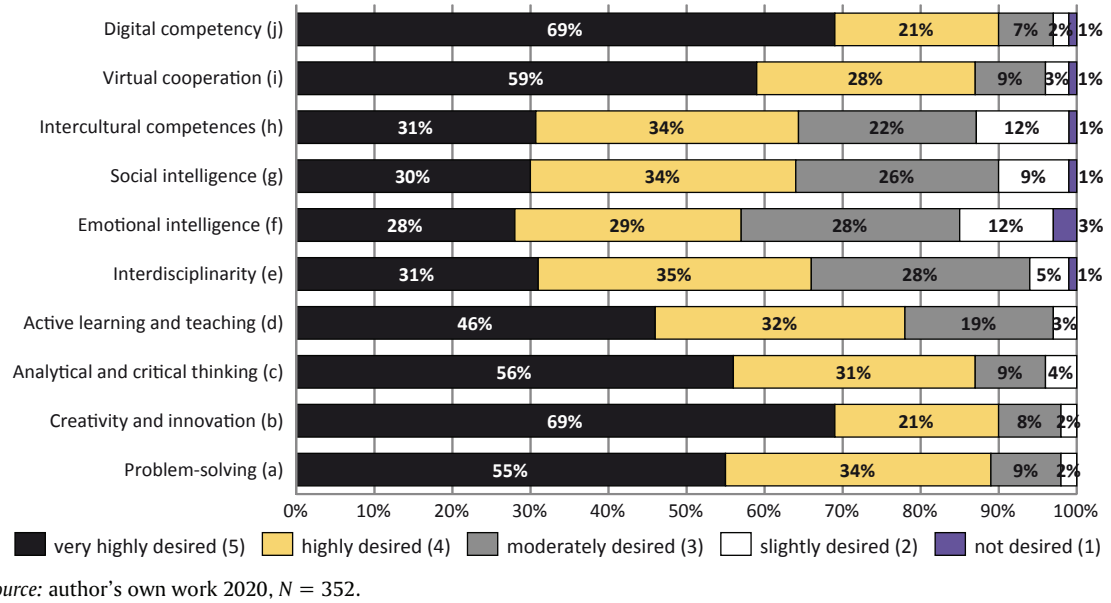
Source: author's own work.

Table 1
Structure of the surveyed sample

Total number of respondents	Number of respondents by gender		Number of respondents by level of study		Number of respondents by mode of study	
352	Female	Male	Undergraduate studies	Postgraduate studies	Full-time studies	Part-time studies
	251	101	78	274	285	67

Source: author's own work.

Figure 2
Evaluation of the degree of desirability of the competencies to employers in the next few years according to respondents



Source: author's own work 2020, $N = 352$.

and critical thinking, and problem-solving. At least 87% of the respondents indicated that these competencies will be very highly or highly desired by employers. From the competencies listed, the least desired will be emotional intelligence, social intelligence and intercultural competencies. However, even for these competencies, at least 57% of respondents said they believe that they will be very highly or highly desired by employers. At the same time, the percentage of respondents who think that a given competency will be little or not desirable in the labour market is, at most, 15% (in the case of emotional intelligence). Therefore, it may be assumed that those surveyed mostly share the view that the competencies indicated as competencies of the future will be expected by employers in the labour market in the next five years.

The second research objective concerned the respondents' assessment of the competencies they possessed. This assessment was measured on the Likert scale from 1 to 5, where 1 meant a very low level and 5 meant a very high level. The respondents' answers are presented in Figure 3.

As the results indicate, the respondents assessed the majority of the competencies at a very high or high level, i.e., problem-solving, creativity and innovation, analytical and critical thinking, active learning and teaching, emotional intelligence, social intelligence, virtual cooperation, digital competency. As regards the two remaining competencies – interdisciplinarity and intercultural competencies – most respondents assessed their level as medium.

The third research objective concerned the respondents' willingness to develop the indicated competencies for professional purposes. This willingness was measured on the Likert scale from 1 to 5, where 1 meant extremely unlikely and 5 meant extremely likely. The answers are presented in Figure 4.

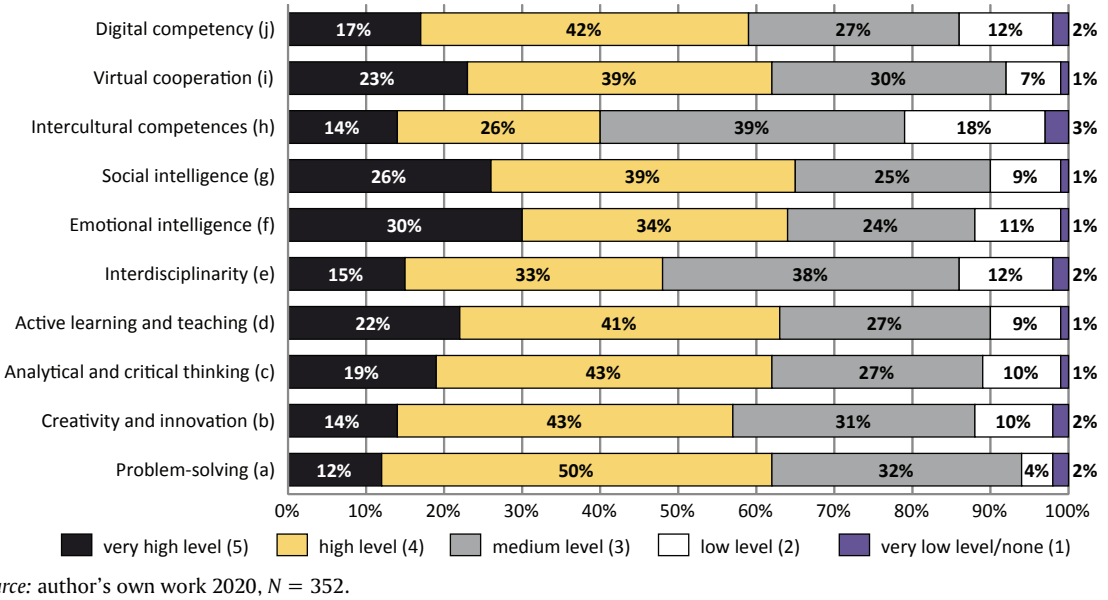
As the results indicate, the students overwhelmingly expressed their willingness to develop all the indicated competencies for professional purposes. For each of the competencies, at least 72% of respondents indicated that they were extremely likely or likely to develop them. The competencies that students are most willing to develop are problem-solving, analytical and critical thinking, creativity and innovation, and digital competencies. In contrast, they are least likely to develop emotional intelligence.

The fourth research objective determined whether there is a statistically significant relationship between the competencies that the respondents believe employers want and how they assess their level of these competencies. For this purpose, for each pair of variables related to a given competency (perceived assessment of the desirability of the competency and the assessment of their level of this competency), the Spearman rank correlation coefficient was calculated along with the test of statistical significance, which are presented in Table 2.

As Table 2 shows, for each competency, there is a statistically significant correlation between the competencies that the respondents believe employers want and how they assess their level of these competencies ($p < 0.05$). This means that as the respondents' assessment of the desirability of a given competency to employers increases, how they assess their level of the given competency also increases, which is confirmed by positive values of the Spearman rank correlation coefficient. However, the low values of that coefficient indicate that for almost all analysed competencies, the relationship is weak – the weakest being "Problem-solving". The only exception is "Interdisciplinarity", where the coefficient reached the highest value among the competencies studied, and this relationship can be considered moderate (Cohen,

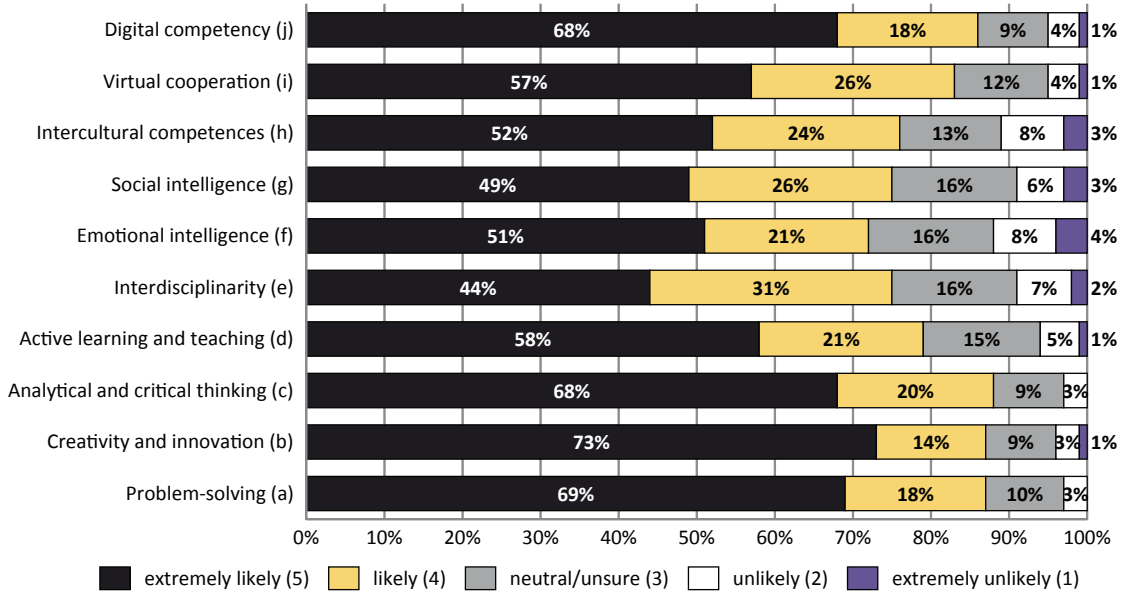
Figure 3

Assessment of the current level of competencies



Source: author's own work 2020, $N = 352$.

Figure 4
Willingness to develop the indicated competencies for professional purposes



Source: author's own work 2020, $N = 352$.

Table 2
Correlation between the competencies that the respondents believe employers want and how they assess their level of these competencies

Competency	Significance	Spearman rank correlation coefficient
a. Problem-solving	0.007; $p < 0.05$	0.144
b. Creativity and innovation	0.001; $p < 0.05$	0.169
c. Analytical and critical thinking	0.005; $p < 0.05$	0.203
d. Active learning and teaching	$p < 0.001$	0.271
e. Interdisciplinarity	$p < 0.001$	0.374
f. Emotional intelligence	$p < 0.001$	0.198
g. Social intelligence	$p < 0.001$	0.225
h. Intercultural competencies	0.001; $p < 0.05$	0.184
i. Virtual co-operation	$p < 0.001$	0.185
j. Digital competency	0.004; $p < 0.05$	0.155

Source: author's own work 2020, $N = 352$.

1988, after Field et al., 2012, p. 58). This means that there is a moderate, positive relationship between how desirable the respondents believe "Interdisciplinarity" is for employers and how they assess their level of this competency.

The fifth research objective was to check whether there is a statistically significant relationship between how the respondents assess their level of a given competency and their willingness to develop it for professional purposes. For this purpose, for each pair of variables related to a given competency (how the respondents assess their level of a given competency and their willingness to develop it for professional purposes), a Spearman rank correlation coefficient was calculated along with the test of statistical significance, which are presented in Table 3.

As Table 3 shows, for each competency, there is a statistically significant relationship between the respondent's declared assessment of a given competency and their willingness to develop it for professional purposes ($p < 0.05$). This means that as the respondent's assessment of the level of a given competency increases, so does their willingness to develop it for professional purposes, which is confirmed by the positive values of the Spearman rank correlation coefficient. However, low values of this coefficient indicate that this relationship is weak for all surveyed competencies (Cohen, 1988).

Table 3
Relationship between the respondent's evaluation of the level of a given competency and their willingness to develop it

Competency	Significance	Spearman rank correlation coefficient
a. Problem-solving	0.001; $p < 0.05$	0.169
b. Creativity and innovation	$p < 0.001$	0.220
c. Analytical and critical thinking	$p < 0.001$	0.248
d. Active learning and teaching	$p < 0.001$	0.265
e. Interdisciplinarity	$p < 0.001$	0.239
f. Emotional intelligence	0.005; $p < 0.05$	0.149
g. Social intelligence	0.001; $p < 0.05$	0.183
h. Intercultural competencies	$p < 0.001$	0.269
i. Virtual co-operation	0.007; $p < 0.05$	0.143
j. Digital competency	$p < 0.001$	0.231

Source: author's own work 2020, $N = 352$.

Discussion

The research results provide answers to the research questions posed. Regarding the first research question, the majority of students believe that the competencies will be desired by employers in the labour market in the next five years. They consider digital competencies, creativity and innovation, virtual cooperation, analytical and critical thinking, and problem-solving to be the most desirable. These indications correspond to the results of other studies, where the surveyed students and graduates of Polish universities "are aware of the importance of competencies of the future in the context of the efficient functioning on the changing labour market" (Włoch & Śledziewska, 2019, p. 11).

The students' opinions on the competencies desired in the labour market are worth juxtaposing with the employers' perspective. Table 4 presents the results of 17 surveys of Polish and foreign employers regarding the competencies expected from employees, and reveals that they largely overlap with the ten competencies described in this article. Employers most often indicated the following competencies expected from employees: communication skills, interpersonal skills, teamwork, establishing relations (which is included in social intelligence), creativity and innovation, problem-solving and decision-making, analytical thinking, active learning, and digital skills. In contrast to what the above-cited publications indicate, employers did not specify (or rarely specified) interdisciplinarity, intercultural competencies or virtual cooperation as desirable. The differences between the employers' expectations presented in those studies may be due to the specifics of the individual countries, industries, or organisations.

To a large extent, the opinions of the students presented in this article coincide with the opinions of employers (presented in Table 4). Both groups most often recognised creativity and innovativeness, problem-solving and decision-making, analytical thinking, active learning, and digital skills. Some differences between the opinions of the students and employers may be observed in the area of "social intelligence", the elements of which (communication skills, interpersonal skills, teamwork, establishing relations) are very often listed by employers, while only 36% of students considered them, at most, moderately desirable. However, this discrepancy may be due to inconsistency in the meaning of the names of the competencies or a lack of knowledge of the elements that constitute social intelligence. On the other hand, 87% of students considered virtual cooperation as highly or very highly desirable – a competency that was not listed as expected in the analysed opinions of employers.

At this point, it is worth emphasising the issue of inconsistency and ambiguity in defining particular competencies, which was mentioned earlier in this article. This is connected with the various names given to competencies of similar meaning and the different levels of detail and generality of a given competency, an example of which may be the aforementioned "social intelligence". This problem was also highlighted by Pater (2019), who, citing the International Labour Organisation (2014), among others, emphasised the lack of a coherent, universal typology of competencies and the lack of an integrated approach to measuring the demand for skills.

Regarding how the students assess their competencies, which is the crux of the second research question, most of them evaluated their level as very high or high in eight out of ten competencies, i.e., problem-solving, creativity and innovation, analytical and critical thinking, active learning and teaching, emotional intelligence, social intelligence, virtual cooperation, and digital competency. It is also worth comparing the results with other studies of students from the University of Lodz regarding their competencies (Pamuła, 2018; Popczyk, 2018). The results are also consistent with those of other Polish studies concerning students from universities with an academic profile, which showed that 45% of respondents rated their skills (such as communication, organisational, analytical, teamwork,

Table 4
Employers' expectations regarding employees' skills

Authors	Surveyed employers	Employers' expectations regarding employees' skills
Azmi et al., 2018b	Employers from Malaysia	leadership skills, teamwork skills, critical thinking and problem skills, communication skills and resource skills, communication skills (the ability to speak English)
Dorożyński et al., 2016	Employers from Poland	being able to discuss and present arguments in an understandable way, working under time pressure, teamwork, drawing conclusions, decision-making under conditions of risk, managing teams of workers, presentation skills, using numerical and statistical data, drafting analyses and syntheses, ability to find creative solutions to various problems, persistence and self-discipline in completing long-term activities, coping with stress, foreign languages, Internet literacy, good command of Polish, ability to use negotiating techniques, ability to conduct a SWOT analysis
Dryl and Dryl, 2016	Employers from Poland	creativity, innovation, dealing with stress, ability to work as part of a team
Dymek--Maciejewska, 2018	SME, employers from Poland	ability to work as part of a team, knowledge gained from experience, ability to deal with stressful situations
Dyrla-Mularczyk et al., 2018	SME, employers from Poland	willingness to learn, organisational skills, communication and interpersonal skills
Guàrdia et al., 2021	Employers from East Africa	Knowledge of a foreign language, cross-cultural and diversity competency, the set of subject-specific skills required to successfully perform a specific occupation, results-oriented performance, digital skills, teamwork, stress management, conflict management, the ability to cope with change, self-management, problem-solving, communication and interpersonal skills, decision-making, creative thinking, analytical thinking, learning to learn
Kocór et al., 2020	Employers from Poland	Self-organisation competencies (time management and punctuality, readiness to take responsibility, self-organisation of work and coping with stressful situations), Interpersonal competencies (being communicative, easily establishing contact with people, teamwork), Cognitive competencies (learning new things, inventiveness, creativity, analysing information and drawing conclusions)
Kudzia, 2017	Employers from Poland	communication skills, technical and computer skills, personal skills (e.g. empathy, willingness to learn and improve one's qualifications, ability to make decisions in time-pressured stressful situations, willingness to learn in order to acquire experience, creativity and innovative approach, learning speed), general professional skills (e.g. attitude to perform tasks efficiently, resistance to stress)
Kurantowicz et al., 2017	Employers from Poland and Spain	employers from Poland: social competency, ability to establish and maintain contacts, ability to cooperate, dealing with difficult situations, teamwork and work organisation skills and curiosity about the world employers from Spain: the ability to adapt to the working environment and labour market situation, often also referred to as the flexibility or versatility of the job applicant, to take on different tasks, ready to take on new challenges, in a constant state of readiness to learn, social, communication and work-team competencies, professional/industry competencies, computer skills and experience of working in an international environment
Lisá et al., 2019	Employers from Slovakia	engagement and willingness to take on extra work, a responsible approach to work, moral and ethical behaviour, learning from feedback, flexibility and adaptability to changes, the ability to achieve the goal; the conviction that I can finish my job; psychological resilience, burden and stress management; flexibility, adaptation to change; overcoming obstacles
Low et al., 2016	Employers from New Zealand (accounting sector)	interpersonal skills, the ability to work with the organisational culture of the firm, oral communication skills, listening skills, teamwork skills, problem-solving skills, perceived ambition/motivation, emotional intelligence
Malik and Venkatraman, 2017	Employers from India	technical skills, soft skills, team building, overall attitude, ethics and values
Polańska, 2019	Employers from Poland	digital skills, teamwork, creativity, work experience, language skills
Rios et al., 2020	Employers from the USA	oral and written communication, collaboration, problem-solving, social intelligence, self-direction

Table 4, continue

Authors	Surveyed employers	Employers' expectations regarding employees' skills
Roszyk-Kowalska and Kraśniak, 2020	Employers from Poland (hi-tech sector)	high level of entrepreneurship, high level of creativity, effective processes of acquiring, using and sharing knowledge, high level of use of the potential of teamwork, high level of innovativeness, ability to cooperate in relational arrangements, high level of independence of employees, skilful management of R&D activity, basing communication systems on modern IT technologies
Różański, 2018	Employers from Poland and the USA	employers from Poland: relationship building, decision-making skills, specialist knowledge, organising teamwork; employers from the USA: communication skills, specialist knowledge, relationship building, creativity, readiness to develop
Suleman et al., 2020	Employers from European countries	cognitive (analytical skills), interpersonal (communication) and organisational abilities (orientation towards results)

Source: author's own work based on indicated studies.

problem–solving, computer, creativity skills, etc.) as high or very high, and 64% rated their social competencies (such as resistance to stress, assertiveness, willingness to learn, commitment to work, the ability to elicit appropriate responses in other people, etc.) as high or very high (Bartczak & Szymankowska, 2020).

On the other hand, a study conducted within the framework of the Human Capital Balance shows that respondents aged 18-35 rated their competencies highest (a mean score of 3.8 to 4.2 on a scale from 1 to 5) in terms of using new technologies, learning new things and analysing information, independent work organisation, easily establishing contact with people, working in a group, performing simple accounts, and a willingness to take responsibility. The level of "Working with people of different nationalities" was rated slightly slower (a mean score of 3.4), which corresponds to intercultural competencies in this study (Czarnik et al., 2020). The results are worth comparing with a similar study of Italian students. The areas in which students perceive themselves to be more skilled are relational (knowing how to resolve conflicts, communicate, and work in a group), with an average score of 4.5 on a 6-point scale, and the area of the self (self-enhancement, emotional management, resourcefulness), with an average score of 4.24. On the other hand, the greatest perceived difficulties concern soft skills (organisation of time and space, study strategies, problem-solving and decision-making), which fall within the task area, and motivation (goal orientation, causal attribution, resilience), with an average score of 3.96 and 3.86, respectively (Ricchiardi & Emanuel, 2018).

Students' opinions on their competencies should be compared with the employers' perspective. According to a survey of Polish enterprises, the strengths of university graduates that employers indicated included the ability to search for different kinds of information quickly, the ability to use IT tools, the willingness to learn and improve professional qualifications, and knowledge of foreign languages. Meanwhile, the weaknesses included poor self-presentation, a lack of independence in solving problems, a lack of self-confidence during interviews, and a lack of ability to use acquired knowledge in practice (Kudzia, 2017).

Jasińska and Podgórska's (2015) study showed that employers pointed out students' difficulties with teamwork, communication and self-presentation, a reluctance to make decisions or look for solutions, and continued learning. When it came to their strengths, they pointed mainly to digital competencies. Slightly different conclusions were drawn from a study by Żukowska and Kuźniar (2019), where the largest competency gap of university graduates was noted by employers in the areas of IT and communication, while the smallest competency gaps were identified in the area of general competencies.

Analysing the results of foreign employer surveys, it is worth mentioning that Suleman and Laranjeiro (2018) presented many examples of surveys in which the results indicate employers' dissatisfaction with the competency level of graduates (mainly teamwork and problem-solving skills). Additionally, in their own research, almost all the employers were dissatisfied with graduates' level of soft skills (communication and ability to adapt) and other personal traits. Nevertheless, the firms highlighted good academic knowledge and good technical skills (Suleman & Laranjeiro, 2018). Surveys of Russian employers also indicate inadequate soft skills among modern university graduates for effective professional work (Gruzdev et al., 2018). The results of these studies may therefore indicate some discrepancies between students' self-assessment of their competencies and how employers perceive them.

The third research question concerned the willingness of students to develop the indicated competencies for professional purposes. The vast majority of students expressed a desire to develop all the indicated competencies for professional purposes, in particular, problem-solving, analytical and critical thinking, creativity and innovation, and digital competencies. These results correspond to the Human Capital Balance survey, according to which over 80% of adult Poles are developing their competencies, and the main motivators for the development of professional competencies are the importance of work and the need to meet the challenges it poses (Górniak et al., 2020, p. 30, 37). A similar opinion was also expressed by students and graduates participating

in the "Competencies of the future" study, where 97% of the respondents considered that "nowadays, it is necessary to constantly improve one's education, and studies are only one stage in a lifelong process of acquiring new knowledge and experience" (Włoch & Śledziewska, 2019, p. 25).

The next two research questions concerned the relationship between three variables – the competencies that the respondents believe employers want, how they assess their level of these competencies, and their willingness to develop competencies in the future for professional purposes. Regarding the fourth research question, for each competency, there is a statistically significant positive correlation between the competencies that the respondents believe employers want and how they assess their level of these competencies. For most of the competencies, this relationship is weak, and moderate only in the case of "interdisciplinarity". In response to the fifth research question, for each competency, there is a statistically significant positive correlation between how the students assess their level of a given competency and their willingness to develop it for professional purposes. For all the surveyed competencies, the relationship is weak. As regards examining the interdependencies between the above three variables, for each competency and dependence, a statistically significant positive relationship was found. This may prove that the respondents perceive the need to develop these competencies even when they assess their level as high. Moreover, their declared willingness to develop competencies is connected with their perception of what will be expected in the labour market in the future.

The literature existing today lacks similar broader research on the relationship between the assessment of the desirability of a given competency by employers according to students, the assessment of the level of this competency declared by the student, and the desire to develop the competency in the future for professional purposes. However, it is worthwhile to analyse the individual studied variables in a broader context. The first of these is the issue of assessing competencies by means of self-assessment. There are many tools available in literature for students to self-assess their competencies, e.g. self-assessment of incoming students' base competencies (Zehetmeier et al., 2014) or assessment of students' innovation competencies (Keinänen et al., 2018). There is also research based on self-assessment of competencies of students, e.g. on how prepared they are to the modern labour market (Gawrycka et al., 2021), on the effect of self-assessment on students' independence and writing competency (Ratminingsih et al., 2018), on the ability of first-year students to self-assess communication skills (Mort & Hansen, 2010), on the impact of self-assessment by students on their learning (Sharma et al., 2016) or on self-assessment and peer-assessment as the strategies to empower learning (Seifert & Feliks, 2019). However, despite the popularity of self-assessment of competency, this approach is associated with serious limitations. As Ward and colleagues (2002) point out, despite the accepted theoretical value of self-assessment, studies have consistently shown that the accuracy of self-assessment is poor. Other research on the accuracy of students' self-assessment ability showed that the overall correlations between the scores of self-, peer and tutor assessments suggest a weak to moderate accuracy of student self-assessment ability (Lew et al., 2010). Similar findings were presented in research on the consistency between professional assessment and self- and peer assessment of oral presentation skills, where there were significant differences between self-assessment scores and teacher scores. Self-assessment scores are, for the most part, higher than the marks given by teachers (De Grez et al., 2012). Therefore self-assessment of students' competencies in this study should be approached with caution.

Apart from the issue of the limitations of self-assessment of competencies, it is also worth discussing further the issue of the need to develop competencies – the second variable. The universality of the need to develop competencies can be related to the concept of lifelong learning, which is defined as "all purposeful learning activity, undertaken on an ongoing basis with the aim of improving knowledge, skills, and competency" (Commission of the European Communitie, 2000, p. 3). There are numerous studies on the idea of lifelong learning in the context of higher education institutions' activities, such as supporting university students' lifelong learning development (Ya-Hui et al., 2012), factors effecting students' lifelong learning in higher education (Bayrakçý & Dindar, 2015) or changing curriculum design to engage students to develop lifelong learning skills (Kuit & Fildes, 2014). Even a Lifelong Tendency Scale (LLTS) tool has been developed to determine university students' lifelong learning tendencies (Coşkun & Demirel, 2010). Thus, the declared willingness of the surveyed students to develop competencies in the future for professional purposes may be due to the necessity of lifelong learning as a trend already present in the labour market and ingrained in the students' consciousness.

The third examined variable is the assessment of the desirability of a given competency to employers according to the respondents, which is related to the broader topic of students' awareness of the requirements on the labour market, preparing them to enter the labour market and the concept of employability. Employability is defined as "a set of achievements, skills, understandings and personal attributes, that make graduates more likely to gain employment and be successful in their chosen occupations, which benefits themselves, the workforce, the community and the economy" (Yorke, 2004, p. 410). There has also been research on employability from the students' perspective, on the understanding of the concept (Gedye & Beaumont, 2018; Tymon, 2013), on employability skills (Azmi et al., 2018a; Griffin & Coelhoso, 2019; Succi & Canovi, 2020) and on the actions/strategies taken by students to increase employability (Kinash et al., 2016). When analysing research findings on the labour market from

the students' perspective, students may hold skewed perceptions of the relevance of generic employability skills to their chosen career path, and this fact should be considered when delivering employability skills programmes (Scott et al., 2017). It therefore seems important to build awareness among students about employers' expectations in the labour market.

Conclusion

Summing up the research results, the majority of students surveyed share the view that the competencies indicated as competencies of the future will be expected by employers in the labour market in the next five years. Moreover, although they assess most of their competencies at a high level, they definitely see the need to develop them for professional purposes. These results may prove the high level of awareness of the students surveyed regarding the expectations on the changing labour market and their perception of the need to invest in their professional development. It is also worth noting that the competencies studied are, to a large extent, universal, which means that they may be seen as important for future employees in various industries for various positions. Additionally, comparing the results with the perspective of Polish and foreign employers, both the students and employers agree that most of the competencies will be desirable in the labour market. However, discrepancies appear when assessing the level of students' competencies, with employers in the quoted studies assessing them lower (especially social competencies) than the students themselves. This discrepancy may be due to the subjectivity of the students' self-assessment, and thus the lack of awareness of what observable behavioural indicators demonstrate the possession of a given competency.

The results and limitations of the research point to possible directions for further research in this area. First of all, the author sees the need for more detailed research on key competencies that take into account the division into industries and areas of the labour market, which was not considered in the research presented in this article. From a broader perspective, research on the opinions and beliefs about key competencies of people already working, including a breakdown into employees by generation present on the labour market, also seems worth further attention. Moreover, due to the aforementioned semantic inconsistency and ambiguity of the names of the competencies surveyed, the author suggests that further research should use more precise explanations, short descriptions of the competencies, or a coherent typology of competencies, which could standardise the way they are understood among the respondents. This issue also has practical implications. It is recommended to build young people's awareness (including when they study at university) regarding the competencies they possess, in particular specifying them, ways of measuring them, and ways of improving them.

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Agata Matuszewska-Kubicz holds a PhD in economic sciences in the field of management, an organisational psychologist, a career counsellor, and a soft skills trainer. She works as an assistant professor at the Department of Labour and Social Policy at the Faculty of Economics and Sociology of the University of Lodz and as an entrepreneurship specialist in the Career Service of the University of Lodz. She has several years of professional experience in career guidance and training in soft skills and entrepreneurship. Her scientific interests include human resources management, competencies in the labour market, changes on the labour market, psychology of labour, and employer branding.