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# SOFT COMPETENCIES OF UNIVERSITY GRADUATES AND LABOUR MARKET NEEDS

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**Purpose:** The aim of the study is to identify which soft skills are most desired by employers, whether university graduates possess these competencies and at what level, as well as how students of the Faculty of Management and Quality Science at Gdynia Maritime University assess their own soft skills expected by employers and what ways of improving them, they identify during their studies.
**Design/methodology/approach**: Data were collected from both secondary and primary sources. The research method involved content analysis of reports and scientific publications related to the examined issue (secondary sources). For gathering empirical data, the auditory survey method and a questionnaire (instrument) were used. Primary data were reduced and analysed, followed by the formulation of conclusions and suggestions for future research, including the identification of a research gap. The study is a pilot study.
**Findings:** The study identified the most important soft competencies desired by employers among graduates. It was found that graduates possess these skills, but their level of development is insufficient. These findings were confirmed by the results of a pilot empirical study. Ways to improve soft skills during studies were indicated. Recommendations were developed for universities and the business environment to reduce the competency gap in the Polish labour market.
**Research limitations/implications**: The empirical research was limited by a small sample size and restricted generalisability. Secondary sources originated from different periods and industries.
**Practical implications:** Universities should more effectively provide their graduates with soft skills, including through dedicated courses (exercises, workshops), the use of activating teaching methods, and close cooperation with employers.
**Social implications:** Effective cooperation between the demand side (employers) and the supply side (universities and their students) regarding graduates' soft skills may contribute to the improvement of university curricula and the situation in the labour market.
**Theoretical implications:** Universities should conduct systematic, comprehensive scientific research to identify (anticipate) changes in the labour market with respect to graduates' soft competencies and indicate ways of improving them both within the university and in organisational practice.

**Originality/value:** A research gap has been identified and directions for future research in soft competencies of university graduates have been outlined.
**Keywords:** soft competencies/skills, hard competencies, higher education institutions (HEIs)/universities, higher education programmes, employers.
**Category of the paper:** Research paper.

## 1. Introduction

One of the measures of a country's economic condition is the synthetic social development indicator, the Human Development Index. In 2023, this indicator for Poland was 0.906, placing the country among the group of very highly developed nations. Compared to 1990, the average number of years of education among Polish citizens increased by 3.5 years in 2023 (with the expected duration rising by 4.6 years) (Human Development Reports, 2025). It has been demonstrated that Poles now spend more years in education than was the case at the end of the 20th century. Nevertheless, employers believe that university graduates lack the competencies sought after in the labour market (Tyrańska et al., 2021; Bergman Engineering Report, 2025). Research indicates that this situation occurs in other countries as well (Bankier.pl Report, 2022; Hernández-March et al., 2009; Kupczyk, Stor, 2017; Alanazi, Benlaria, 2023). Higher education institutions (HEIs) play a key role in ensuring that future employees possess the required competencies (Bašková, Struková, 2017; Alanazi, Benlaria, 2023; Tyrańska et al., 2021; Szczepańska-Woszczyna et al., 2014; Hyytinen et al., 2023; Szelągowska-Rudzka, 2018; Gawrysiak, Stępień, Polcyn, 2024), but according to entrepreneurs, they do not fully fulfil this role (Alanazi, Benlaria, 2023; Budnikowski et al., 2012; Wronowska, 2015; Strojny et al., 2021; Nakhleh, Hanini, 2022).

Competencies in the labour market have gained significance in the 21st century due to the advancement of modern technologies, primarily artificial intelligence (AI) and Industry 4.0 and Industry 5.0 (Leśniewicz, 2025; Piwowar-Sulej et al., 2025), as well as the need to adapt their achievements to enterprises (Bergman Engineering Report, 2025; Strojny et al., 2021). Technological progress causes rapid and difficult-to-predict changes in the labour market (Filipowicz, 2014; Wodecka-Hyjek, Tyrańska, 2021; Pesha, Kamarova, 2020). These, in turn, increase the requirements for university graduates in terms of both hard, professional competences (related to job position and occupation) (Future of Jobs Report, 2025; Piwowar-Sulej, Austen, 2025; Bašková, Struková, 2017; Czekaj, Tyrańska, Ziębicki, 2022; infuture. institute AGH Report, 2024), and soft, behavioural competencies (Fastnacht, 2006; Bergman Engineering Report, 2025; Ernst & Young, 2023; Igielski, 2024; Jagodziński, 2013; Jelonek et al., 2022) pertaining to individual personality traits, psychophysical characteristics, attitudes, behaviours, and relationships/interactions with other people (Dębkowska, 2022; Studiuj, UEK, 2024; Pesha, Kamarova, 2020). Paradoxically, the development of AI has led to an increased

demand for soft skills (Dębkowska, 2022; Future of Jobs Report, 2025; Bankier.pl Report, 2022), such as oral and written communication, negotiation, coping with stress or conflict situations, decision-making and creative problem-solving, independent action, and flexible thinking (Dyrla-Mularczyk, Pluciński, Borowiec, 2018).

The development of behavioural competencies has been observed since the 1980s (Czekaj, Tyrańska, Ziębicki, 2022). However, today's employees must be able to work together (synergistically leveraging their expertise, skills, and experience) as well as with non-human actors (automated systems and AI-powered machines) (Dębkowska, 2022; Piwowar-Sulej et al., 2025; Czekaj, Tyrańska, Ziębicki, 2022; infuture.institute AGH Report, 2024). According to the Future of Jobs Report (2025, p. 44), 'human labour and supervision over processes remain essential even in areas where generative AI (GenAI) may provide support for humans'. Entrepreneurs believe that in the future, soft skills will be more important than professional (digital and specialist) competences (Dębkowska et al., 2022).

Therefore, the following research objectives were adopted in this article:

- to identify which soft skills are most desired in the labour market (by employers),
- to determine whether university graduates possess these competencies and at what level,
- and to indicate how students of the Faculty of Management and Quality Science (FMQS) at Gdynia Maritime University – future graduates – assess their soft skills desired in the labour market and what methods of improvement they perceive during their studies.

To address the theoretical objectives (1 and 2), a literature review and content analysis of reports from research institutions and HR advisory organisations related to university graduate competencies in the labour market were conducted. The empirical section presents the results of a pilot study carried out among a purposefully selected group of full-time undergraduate students at FMQS at Gdynia Maritime University. The article concludes with a discussion including practical and theoretical implications as well as a summary.

As a result of the conducted research, a scientific gap was identified in the form of the limited number of in-depth, comparative empirical studies conducted in Poland that comprehensively diagnose discrepancies between soft competencies desired by employers (demand side) and the competencies possessed by graduates employed in these employers' companies, shaped by specific curricula (supply side). Until now, research has essentially been conducted either among students (university perspective) or among employers (Ziębicki, Walczak, 2024) (with the exception of the study by Macioł, Minkiewicz, 2008). To improve the educational system in HEIs, it would be advisable to simultaneously consider opinions from both perspectives. The identified research gap points to directions for further studies and constitutes the authors' contribution to the theory of management and quality sciences.

## 2. Theoretical framework

Competencies may be defined differently across various fields and scientific disciplines (Wojtczuk-Turek, 2008; Antczak, 2008). Within management and quality sciences — specifically the human resource management subdiscipline — and for the purposes of this study, competences are understood as the knowledge, skills, experience, personality traits, attitudes and behaviours of employees that enable them to act efficiently, fulfil organisational tasks and roles, and achieve organisational objectives in constantly changing professional situations (based on Walkowiak, 2004; Kupczyk, Stor, 2017).

From this definition, it follows that competencies refer to (Rakowska, 2007; Antczak, 2008; Armstrong, 2000; Pocztowski, 2018; Tyrańska et al., 2021; Dziewońska, 2016):

- the job position (functional approach) — fulfilling organisational roles and executing tasks according to established standards ("output" competences), and
- employee attributes (behavioural approach) — manifested by knowledge, skills, experience, and personality traits that ensure effective job performance and outstanding achievement ("input" competencies).

Competencies associated with the job (work area), which are necessary for an individual to be competent in their position (i.e., what one must be able to do to work in the role), are called professional or hard competencies (competence, competences; competency); these relate to professional proficiency. Competencies based on employee characteristics, individual predispositions, and behaviours that determine the fulfilment of assigned duties and high performance are known as behavioural or soft (no-cognitive) competencies (competency) (Piwowar-Sulej et al., 2025; Antczak, 2008; Pocztowski, 2018; Kupczyk, Stor, 2017; Oleksyn, 2010; Carter, Murray, Gray, 2011).

According to the Future Jobs Report by the World Economic Forum (National Soft Skills, 2025; Zaremba, 2021), 85 percent of professional success stems from well-developed soft skills. This finding was already formulated by Charles R. Mann in 1918 (!) and remains unchanged today (National Soft Skills, 2025). Similar conclusions emerged from Google's 2017 research (Bankier.pl Report, 2022). Behavioural competencies are often the most decisive factor in the employment of graduates (Raczyńska, Stachowska, 2014, 14; Bankier.pl Report, 2022). This view is held by 93% of employers surveyed by ZipRecruiter (Malinsky, 2022). Employers are actively searching for job candidates with soft skills (Wronowska, 2015).

'Competencies imply the ability to transfer what people know and understand to various contexts – i.e., different aspects of work.' (Armstrong, 2000, p. 244). They are a strategic resource for organisations, amenable to management to support organisational development and achieve competitive market positioning (Juchnowicz, 2014; Oczkowska, 2020; Tyrańska et al., 2021; Igielski, 2024; Szelągowska-Rudzka, Mackiewicz, Spodarczyk, 2024).

Organisations develop their own competency models tailored to their needs (Rakowska, 2007; Juchnowicz, 2014; Kupczyk, Stor, 2017; Filipowicz, 2014; Czekaj, Tyrańska, Ziębicki, 2022). They may also utilize competency catalogues (lists) created by various authors, research agencies, and HR consultants. An example list of professional and behavioural competencies, divided into personal, social (interpersonal), and managerial competencies, is presented in Table 1[1].

**Table 1.**
*Classification of soft and hard skills*

| **Behavioural (soft) competencies** | | | **Professional (hard) competences** |
|---|---|---|---|
| **Personal** | **Social** | **Managerial** | |
| Independence | Relationship building | Building an effective organisation | professional knowledge |
| Work organisation | Knowledge and experience sharing | Team building | administration/ record keeping |
| Flexibility and agility/ acting in uncertain situations | Identification with the organisation | Staff assessment and development | acquiring external funding |
| Communication/ communicativeness | Customer orientation | Managerial courage | foreign language proficiency |
| Assertiveness | Emotional intelligence | Leadership | digital skills |
| Creativity | Negotiation | Motivating | project management |
| Analytical thinking | Teamwork/team collaboration | Managerial coaching | knowledge of new media |
| Professional development/ willingness to learn | Conflict resolution | Delegation | information management |
| Innovativeness | Approach to diversity management | Management by objectives | procedures – knowledge and application |
| Entrepreneurship | Openness to change | Planning | process management |
| Coping with stress | | Organising | market research and analysis |
| Problem-solving | | Controlling | business awareness |
| Decision-making | | Strategic thinking | |
| Conscientiousness/ eliability | | Information management | |
| Professional ethics | | Change management | |
| Results orientation | | | |

Source: Own elaboration based on: Filipowicz, 2014, pp. 100, 102; *Model Usługi Rozwoju Strategicznych Kompetencji dla MŚP*, 2013; Dębkowska et al., 2022, pp. 12-14; Piwowar-Sulej et al., 2025, p. 14.

Hard competences are associated with an individual's specific profession and the nature of their duties in the workplace. These vary across job categories (Filipowicz, 2014; MURSK, 2013). They are acquired through educational processes (or training) (Czekaj, Tyrańska, Ziębicki, 2022). Without mastering them at an appropriate level – and reinforcing them with soft competencies – success in today's labour market, as well as finding a satisfying job, would be impossible (Dębkowska et al., 2022; Tyrańska et al., 2021; Dziewońska, 2016).

[1] Other types of competencies are presented, for example, by: Piwowar-Sulej et al., 2025, pp. 14-16; Dębkowska et al., 2022, p. 13; Sidor-Rządkowska, 2006, pp. 22-26; Budnikowski et al., 2012, p. 5.

Managerial competencies pertain to a limited group of individuals in leadership positions. They may also be used by team leaders (for example, leadership, team building, delegation). Personal competencies characterize an individual and stem from their personal traits and predispositions, which determine work quality (approach and manner of task performance). These traits influence the development of social competencies, i.e., interpersonal contacts and relationships with coworkers and external stakeholders. Both these groups of soft competencies are universal (Wronowska, 2015). They are necessary for every employee (and in private life) (Dziewońska, 2016). According to a study conducted by the Warsaw School of Economics, the American Chamber of Commerce in Poland, and Ernst & Young, personal and interpersonal competencies are also the most important criterion used by employers when making decisions regarding the employment of graduates (Absolwent idealny, 2012).

The rapid development of technology, especially artificial intelligence (AI) and information processing (86%), robotics and automation (58%), and energy production, storage, and distribution (41%), creates new opportunities (and risks) for the economy (Future of Jobs Report, 2025, p. 5). It enables a transition from Industry 4.0 (combining automation and digitalization) to Industry 5.0, which is based on human–machine collaboration. This cooperation increases efficiency and productivity, lowers costs, and reduces waste. It requires that employees' professional competencies be reinforced with behavioural competencies (Martyński, 2025; Pesha, Kamarova, 2020). Even engineers, in addition to technical (specialist, professional) competences, must possess non-cognitive skills (Bergman Engineering Report, 2025; Dębkowska et al., 2022; Jagodziński, 2013; Dziewońska, 2016).

According to forecasts by Deloitte Access Economics (Bankier.pl Report, 2022), by 2030, 66 percent of all jobs will consist of occupations requiring behavioural competencies, and employer demand for these competencies will increase by 22 percent. 'Future professions, thanks to artificial intelligence and automation, will rely to a large extent on soft skills'. (Zaremba, 2021). Machines can perform simple tasks even better than humans, but they cannot replace humans where soft skills are essential. This is why the importance of these skills is growing, while the relative importance of professional competencies is decreasing (Dębkowska et al., 2022; Jelonek et al., 2022).

The selection of behavioural competencies that are most desired for different job groups (professions) depends on the specifics and context of a given organisation. Thus, scientific publications, research institute reports, and HR consulting agency documents present varying sets of these skills. Examples are presented in Table 2 and Table 3.

**Table 2.**
*Behavioural competencies of HEIs' graduates desired by employers and developed for them by research and consulting institutions (examples)*

| Polski Instytut Ekonomiczny | The Graduate School at the University of Cincinnati | Bergman Engineering | World Economic Forum | Zip-Recruiter | Ernst & Young |
|---|---|---|---|---|---|
| Acting in situations of uncertainty | Reliability (you do what you say, you can be trusted) | Complex problem-solving | Analytical thinking | Communication skills | Empathy |
| People management | Engagement (you try to work as well as you can) | People management and coordination of their activities | Curiosity and lifelong learning | Ability to work independently | Ability to manage group dynamics |
| Collaboration with others | Motivation | Critical thinking | Mental resilience | Customer service | Creativity |
| Critical thinking | Problem-solving | Creativity | Leadership and social influence | Time management | Persuasion |
| Negotiation skills | Creativity | Emotional intelligence | Adaptation and cooperation | Project management | |
| Creativity | Communication | Evaluation skills | Creative thinking | Analytical thinking | |
| Emotional intelligence | Flexibility | Negotiation skills | Motivation and self-awareness | Flexibility | |
| Solving complex problems | Teamwork | Decision-making skills | Service and customer orientation | Planning | |
| | Leadership | | Empathy and active listening | | |
| | Time management | | Talent management | | |
| | | | Flexibility and agility | | |

Source: Own elaboration based on: Dębkowska et al., 2022, p. 27; Zaremba, 2021; Future of Jobs Report, 2025, pp. 35-37; Report Bergman Engineering, 2025; Malinsky, 2022; Ernst & Young, 2023.

**Table 3.**
*Examples of soft competencies considered desirable in young higher-education graduates, according to employers and students/graduates, based on findings from various studies*

| M. Armstrong [a] | S. Macioł, B. Minkiewicz [a] | A. Budnikowski, D. Dabrowski, U. Gąsior, S. Macioł [a] | A. Pesha, T. Kamarova [a] | B. Ziębicki, M. Walczak/ A. Wodecka-Hyjek, M. Tyrańska [b] | R. Bašková, Z. Struková [a] |
|---|---|---|---|---|---|
| Team orientation | Independence at work | Effective communication | Interaction with people | Responsibility | Ability to use professional knowledge in practice |
| Communication | Problem-solving skills | Openness to learning and continuous development | Client orientation | Ability to organize own work | Organisation and planning |
| Problem-solving skills | Communication skills | Teamwork skills | Information management | Ability to communicate effectively | Setting priorities |
| Decision-making | Decision-making skills | Ability to define and justify priorities | High uncertainty operation | Teamwork | Bargaining (negotiation) skills |
| Relationship-building | Analytical skills | Ethical behaviour as a basis for action | Social intelligence | Decision-making skills | Independence, ability to take responsibility |

Cont. table 3.

| | | | | | |
|---|---|---|---|---|---|
| Persuasion and influencing others | Ability to work under stress | Responsibility | Mental flexibility | Independence | Ability to identify and solve problems |
| Customer focus | Teamwork skills | Work organisation and effective time management | Emotional intelligence | Flexibility and adaptability | Analytical thinking |
| Stimulating others' development | Critical thinking | Flexibilityand adaptability | Self-control and self-organisation | Openness to learning and continuous development | Information management |
| Creativity | Creativity | Ability to formulate and solve problems | Negotiating | Critical thinking (logical reasoning) | Time management |
| People management | Self-learning | Result orientation | The meanings understanding | Ethical behaviour | Ability to lead a team |
| Change orientation | Ability to lead a group | Ability to work under time pressure | System thinking | Tolerance for workforce diversity | Leadership skills |
| Information management | Negotiation skills | Logical thinking | Creative thinking and innovativeness | Creativity | Convincing and argumentation skills |
| Self-improvement | | Ability to cooperate with people from different environments, countries, cultures | Project thinking and project management | | Customer orientation |
| Assertiveness and self-confidence | | Creativity | Learning | | Self-control and stress resistance |
| | | Analytical skills | Multilingualism, multiculturalism | | Good writing and communication skills |
| | | Decision-making skills | | | Assertiveness |
| | | Empathy | | | Flexibility |
| | | Project management skills | | | Self-knowledge |
| | | | | | Ability to work in intercultural/ international environment |
| | | | | | Innovation management |
| | | | | | Customer orientation |

[a] According to their importance for employers.
[b] According to their importance for students.

Source: Own elaboration based on: Sidor-Rządkowska, 2006, pp. 27-28; Macioł, Minkiewicz, 2008, p. 166; Budnikowski et al., 2012, p. 9; Pesha, Kamarova, 2020, p. 67; Ziębicki, Walczak, 2024, p. 170; Wodecka-Hyjek, Tyrańska, 2021, p. 67; Bašková, Struková, 2017, p. 1571.

Entrepreneurs participating in research share their opinions and experiences with academics, research institutions, and universities. They have a direct impact on the creation of lists of behavioural competencies desired in the labour market (Budnikowski et al., 2012). They indicate which competencies their employees should possess to achieve organisational goals and build the organisation's competitive position (Pesha, Kamarova, 2020). For example,

the ranking of soft skills most expected by employers (score ≥4.00) for master's degree courses in Technology and Management in Construction at the Faculty of Civil Engineering, Institute of Construction Technology and Management, Technical University of Košice (Slovakia) includes: 'ability to use professional knowledge in practice; organisation and planning; priority setting; bargaining (negotiation) skills; independence and accountability; ability to identify and solve problems; analytical thinking; information management; time management; ability to lead a team; leadership skills; persuasive and argumentation skills; customer orientation; and self-control and stress resistance' (Bašková, Struková, 2017, p. 1571) (Table 3). Including academic staff from the Technical University of Košice in the research enabled recommendations regarding the further development of study programs, methods for engaging students, and increasing the alignment of their skills with labour market needs. Among engagement methods, techniques already used at the university held a significant place (Bašková, Struková, 2017).

The study by Macioł and Minkiewicz (2008), conducted in 2006 among graduates of the Warsaw School of Economics (SGH) and their employers regarding soft competencies sought in the labour market, yielded interesting findings. The order of these competencies by importance to entrepreneurs is shown in Table 3. The order assigned by graduates (immediately after graduation) differed (analytical thinking, independence, learning ability, problem solving, communication skills, critical thinking, teamwork, creativity, decision-making, stress management, group leadership, negotiation) and points to a competency gap. After gaining experience in a specific organisation as well as knowledge from studies and self-education, graduates developed these initially lacking competencies to levels equal to or sometimes exceeding (e.g., analytical and critical thinking skills) employer expectations (Macioł, Minkiewicz, 2008).

Research into the opinions of students at the Krakow University of Economics regarding employer expectations for their soft skills, conducted by Ziębicki and Walczak (2024, p. 171), found that students recognized the following as most important: responsibility (average score 4.4), self-organisation (4.38), effective communication (4.37), teamwork (4.33), decision-making (4.23), independence (4.21), flexibility and adaptability (4.20), openness to learning and continuous development (4.16), critical thinking/logical reasoning (4.01), ethical behaviour (3.91), tolerance for employee diversity (3.89), creativity (3.74)) (Table 3). The authors concluded that today's economics students increasingly value soft competencies, considering them more important than hard skills (Ziębicki, Walczak, 2024).

'Universities must understand employers' expectations regarding graduate readiness for entering the labour market (...); they must keep up with changing employer expectations to serve their graduates and the broader community effectively' (Alanazi, Benlaria, 2023, p. 3; also Report infuture.institute, AGH, 2024; Nakhleh, Hanini, 2022).

The "'ideal graduate' of a university – regardless of field – is someone who has acquired the following soft skills, considered universal for all graduates: effective communication, openness to learning and development, activity and engagement at work, teamwork, prioritization, ethical conduct, responsibility, organisational skills and effective time management, flexibility, and adaptability" (Budnikowski et al., 2012, p. 9). According to one-third of employers, the "ideal graduate" must above all possess personal and social competencies (Absolwent idealny, 2012).

Meanwhile, according to the Bankier.pl Report (2022), globally, university graduates possess labour-market-relevant soft skills but not to the degree expected by employers. Likewise, research by the Polish Economic Institute (PEI) indicates that creativity – one of the most frequently cited soft skills (Table 2 and Table 3) – is also the skill most lacking among graduates, with 48 percent of employers reporting this deficit. Other 'missing' (according to PEI) competencies "include collaboration (41%), critical thinking (36%), complex problem solving (33%), flexibility (32%), negotiation skills (28%), people management (25%), emotional intelligence (21%)" (Dębkowska et al., 2022, p. 22).

According to research for the National Centre for Research and Development, "young employees primarily lack competencies such as logical thinking, independent action, communication skills, engagement, willingness to take on challenges, and creativity, including courage to experiment" (Jelonek et al., 2022, p. 6).

Results from Budnikowski et al. (2012, p. 11) 'indicate that employers see the following soft skills as least developed in graduates: negotiation (3.0 on a five-point scale), project management (3.03), entrepreneurship (3.19), decision-making (3.30), organisation and effective time management (3.35), prioritization and justification (3.35), independence (3.47), empathy (3.50), problem formulation and solving (3.56)'.

The ManpowerGroup report from 2021 states that 81 percent of companies have difficulty recruiting employees with required behavioural competencies. Employers note that job candidates most often lack the ability for logical and critical thinking, problem solving, and initiative (25%). It is also difficult to recruit individuals demonstrating reliability, discipline, and responsibility for assigned tasks (35%).

Research by the Polish Development Fund and DELab at the University of Warsaw indicates that students and graduates of Polish universities are aware of the importance of behavioural competencies. At the same time, they rate university education as insufficient in enabling them to acquire these competencies, especially entrepreneurship, teamwork, and creativity—those most in demand on the labour market (Dębkowska et al., 2022), whose lack is reported by employers (Budnikowski et al., 2012; Dębkowska et al., 2022).

On the other hand, graduates with university degrees have an advantage because of the professional competencies acquired during their studies. As a result, once they become familiar with the specifics of the company, they can quickly adapt to employer expectations (Macioł, Minkiewicz, 2008). If, during their education, they also acquire soft skills, they can supplement

their professional knowledge and abilities more rapidly and create value for clients and organisations, contributing to organisational competitiveness (Juchnowicz, 2014; Wodecka-Hyjek, Tyrańska, 2021).

## 3. Methods

To address the first and second theoretical research questions, we analysed the literature and reports issued by research institutions and HR consulting agencies on the competencies of university graduates in the labour market. These studies applied diverse methods (quantitative, qualitative, and mixed methods), used various research instruments (questionnaire, interview guide), and involved different respondent groups (students, graduates, employers, and academic staff). All of them, however, focused on the soft competencies of graduates expected by employers and possessed by graduates to a limited extent. These findings provided the basis for discussion and comparison in the Discussion and Conclusions section and for reference to the results of the empirical study.

The aim of the empirical study was to assess, according to a purposefully selected group of full-time students at the Faculty of Management and Quality Science (FMQS) at Gdynia Maritime University,

- which of the examined soft skills they consider most desirable in the labour market,
- which of these skills respondents have mastered most effectively,
- and what possibilities they identify for improving these skills during their studies.

The study is a pilot study.

At the design stage, the research problem was conceptualized and defined (the occurrence of discrepancies between behavioural competencies of university graduates desired by employers/the labour market and their actual mastery by young people entering the labour market immediately after graduation). The study group was then selected, the auditory survey was chosen as the data collection method, and a questionnaire – used as the research instrument – was developed. The questionnaire covered soft skills most frequently indicated as desirable in the labour market and simultaneously acquired by respondents through elective courses during their studies at FMQS.

The following soft skills were assessed by students:

- Interpersonal communication.
- Decision-making.
- Teamwork.
- Group problem solving.
- Assertiveness.

- Coping with stress.
- Time management.
- Negotiation.
- Conflict resolution.
- Creativity.

The questionnaire also included demographic questions regarding gender, mode of study (full-time, part-time), and professional experience, as well as a question about the need for soft skills improvement during studies. Students were additionally asked to indicate the most effective form of classes for developing these skills in their opinion. Closed questions utilized a nominal scale and a composite attitude (positional) scale. The core of the positional scale is the nominal scale, where individual items from the competency list were evaluated using ordinal scales. The choice of measurement scale in closed questions determined the methods used for data reduction and analysis. The study presented data in tables and used frequency indicators as descriptive statistical methods during the data analysis stage. The results were then interpreted and conclusions drawn. As the study is pilot in nature, the findings and conclusions apply only to the researched population.

The research was conducted in 2023 and involved 60 third-year full-time students at FMQS, participating in elective courses: Interpersonal Communication and Creative Thinking Techniques. These courses develop behavioural competencies. Of the respondents, 70% were women. The majority (77%) had professional experience (including: 67% from part-time jobs, 25% from permanent employment). Their opinions can be considered more balanced and objective (Wronowska, 2015).

## 4. Results

First, students were asked – drawing on their professional experience – to indicate how desirable the assessed soft skills are in the labour market and to rate their own mastery of these skills (self-assessment). The results are presented in Table 4 and Figures 1-3.

**Table 4.**
*Respondents' views on the usefulness (desirability) of individual behavioural competencies in the labour market and their self-assessment of proficiency in these competencies (average results)*

| The soft competencies examined | Usefulness of competencies | Self-assessment |
|---|---|---|
| Interpersonal communication | 4,49 | 4,01 |
| Decision-making | 4,56 | 3,64 |
| Teamwork | 4,42 | 4,04 |
| Group problem solving | 4,29 | 3,92 |
| Assertiveness | 4,49 | 3,48 |
| Coping with stress | 4,70 | 2,78 |

Cont. table 4.

| | | |
|---|---|---|
| Time management | 4,37 | 3,29 |
| Negotiation | 4,05 | 3,25 |
| Conflict resolution | 4,32 | 3,87 |
| Creativity | 4,27 | 3,67 |

Source: Own elaboration.

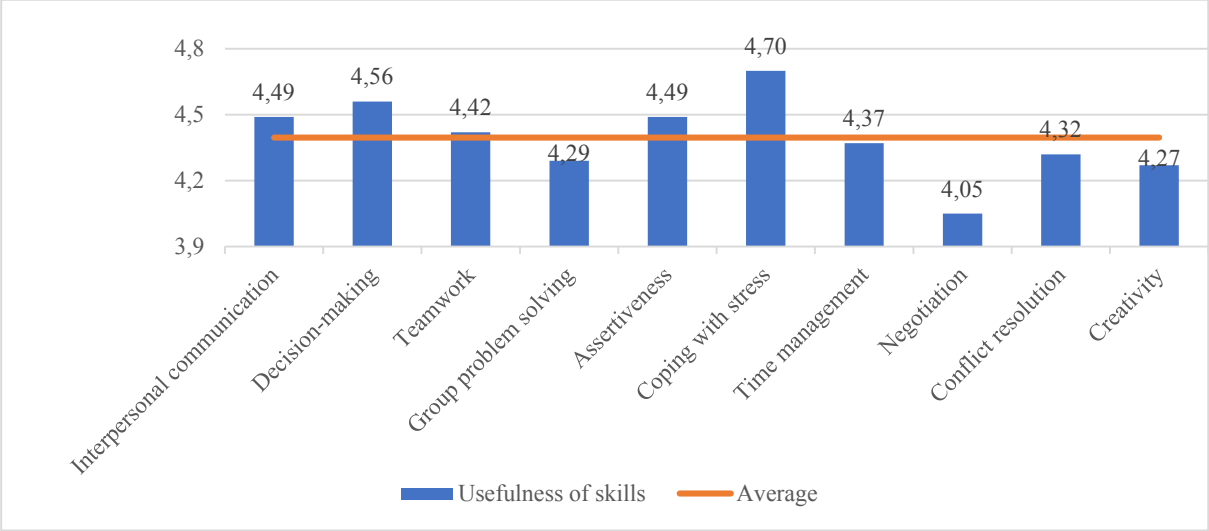


**Figure 1.** Soft skills most and least desired in the labour market according to the respondents.

Source: Own elaboration.

As shown in Table 4, there is a competency gap between labour market demand for the assessed skills and the level of mastery declared by students (self-assessment). For each soft skill, students' self-assessments were lower than the level desired by employers (i.e., above 4 on a five-point scale) (Fig. 1).

Coping with stress (mean rating 4.70) was considered by surveyed students to be the most desirable competency among employers (Table 3, Fig. 1). Next in the ranking were: decision-making (4.56), interpersonal communication and assertiveness (both 4.49), and teamwork (4.42). Negotiation, in the opinion of respondents, was the least valuable skill in the labour market (4.05). Also, below the average were: creativity (4.27), group problem solving (4.29), and conflict resolution (4.32) (Fig. 1).

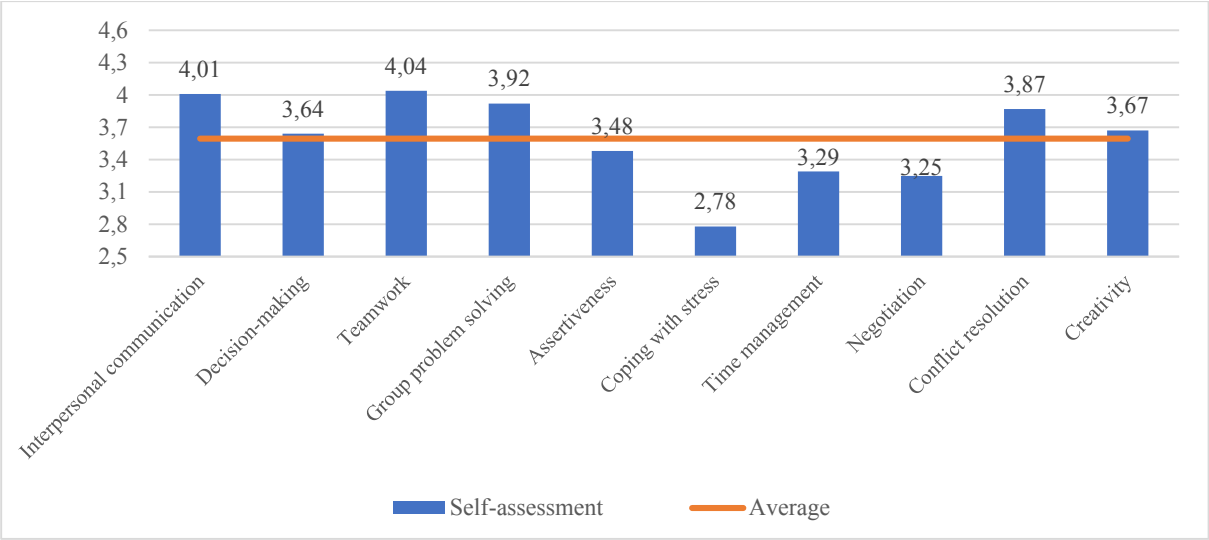


**Figure 2.** Respondents' self-assessment of their behavioural competencies

Source: Own elaboration.

In students' self-assessment, the highest scores were given to: teamwork (4.04), interpersonal communication (4.01), group problem solving (3.92), and conflict resolution (3.87) (Fig. 2).

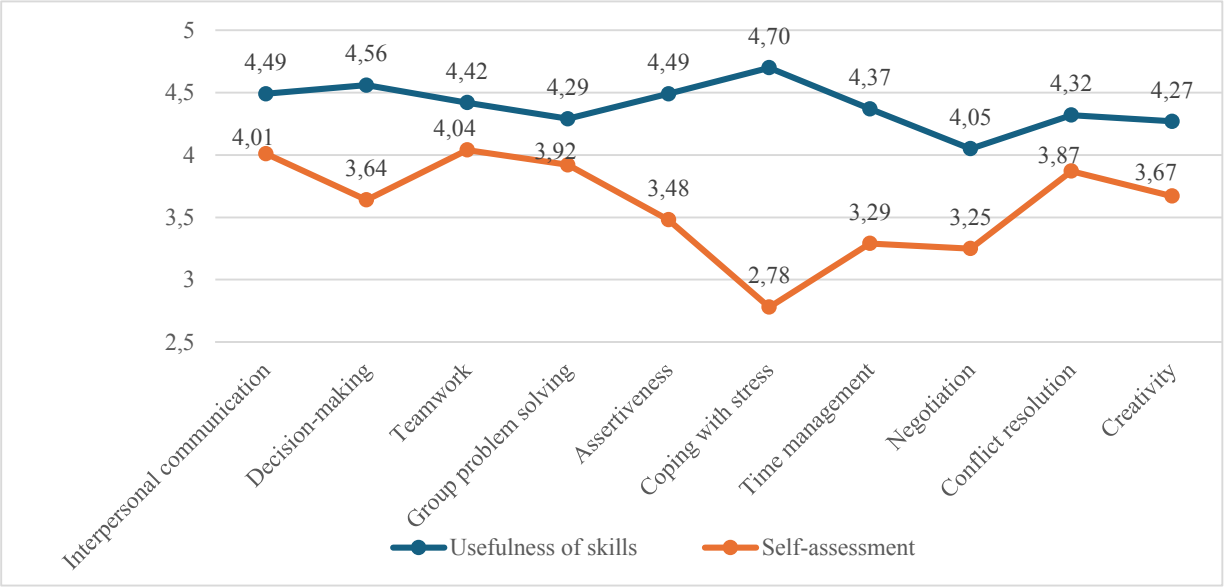


**Figure 3.** Competency gap – the discrepancy between the labour market usefulness of individual soft skills and the respondents' self-assessment of these skills.

Source: Own elaboration.

Figure 3 illustrates the competency gap, i.e., discrepancies between behavioural competencies desired in the labour market and students' self-assessments. The largest gap – almost two rating points (1.92) – was observed in coping with stress. For the next competencies, time management and assertiveness, the discrepancy was about one point (1.08 and 1.01, respectively). The smallest competency gaps were found in group problem solving (0.37), teamwork (0.38), conflict resolution (0.45), and interpersonal communication (0.48).

Thus, these are the behavioural competencies that, according to self-assessment, surveyed students possess best (Fig. 2).

In subsequent questions, respondents were asked to indicate where – at work, in personal life, or during their studies – these soft skills are most needed (Table 5). They were also asked to indicate the most effective ways to develop these competencies during their studies (Table 6) as well as the key benefits resulting from this process (Table 7).

**Table 5.**
*Assessment of the usefulness of the soft skills examined in different areas*

| Areas of use | Average usefulness rating |
|---|---|
| In personal life | 4,31 |
| In professional life | 4,59 |
| During studies | 4,16 |

Source: Own elaboration.

**Table 6**.
*Respondents' answers regarding their preferred form of classes aimed at improving soft skills*

| Forms of courses | Response frequency (%) |
|---|---|
| Classes | 63 |
| Lectures | 12 |
| Lectures and classes | 7 |
| There is no need for such classes | 7 |
| Difficult to say | 12 |

Source: Own elaboration.

**Table 7**.
*Benefits expected by respondents from participating in courses developing students' behavioural competencies*

| Possible benefits for students | Average assessment of benefits |
|---|---|
| Knowledge about soft skills | 3,93 |
| Awareness of the importance of soft skills | 3,98 |
| Guidance for developing one's own soft skills | 4,35 |
| Ability to build interpersonal relationships | 4,27 |
| Increased self-awareness | 4,37 |
| Increased competencies | 4,47 |

Source: Own elaboration.

Respondents' answers indicate that behavioural competencies are most needed in professional work (4.59), followed by personal life (4.31), and least needed during studies (4.16) (Table 5).

The majority (63%) consider classes to be the most effective form of courses for developing these competencies. However, 12% of respondents have no definite opinion on the subject, and another 7% regard improving their skills unnecessary (Table 6).

The greatest benefits indicated by respondents from courses developing behavioural competencies were: improvement of these competencies (4.47), increased self-awareness regarding these competencies (4.37), guidance for their development (4.35), and the ability to build interpersonal relationships (4.27) (Table 7).

## 5. Discussion and conclusions

In implementing the first research objective – identifying which soft skills are most desired in the labour market (by employers) – it was found that the lists of these competencies presented in the scientific literature and in reports for business practitioners differ from each other (Table 2 and 3). The selection of competencies within a specific organisation depends on its characteristics (goals and tasks), the sector in which it operates, its size (SMEs vs. corporations) (cf. Dyrla-Mularczyk, Pluciński, Borowiec, 2018), as well as situational context (including the economic climate) (Jelonek et al., 2022). The most desired competencies in the labour market also change with the evolving environment, especially technological development (Absolwent idealny, 2012; Szelągowska-Rudzka, Mackiewicz, Spodarczyk, 2024; infuture.institute AGH Report, 2024; Strojny et al., 2021).

Among the research agency and HR consulting reports analysed in the article, the most frequently listed behavioural competency is creativity (the ability to generate new solutions) (5 occurrences). The next most common are: people management (group/talent dynamics) (4) and leadership (2); problem solving (4) and decision-making (4); cooperation/teamwork (3) as well as emotional intelligence (2) and empathy (2). Some competencies, such as psychological resilience, engagement, dealing with uncertainty, and persuasion, appear only once in these lists (Table 2).

Among examples of competencies desired by employers and cited in scientific publications, creativity is also most frequently indicated (6 times), as are teamwork (5) or working in multicultural/international environments (3). Following in frequency are: communication skills, negotiation, problem solving, decision-making, analytical skills, customer orientation (4 times each); as well as responsibility, flexibility, and information management (3 times each). Competencies such as people management, tolerance for workforce diversity, entrepreneurship, emotional intelligence, ability to work under time pressure, innovation management, process management, empathy, and the ability to use professional knowledge in practice, appear only in one listing (Table 3).

Thus, employers most need creative graduates (Dyrla-Mularczyk, Pluciński, Borowiec, 2018). Individuals able to respond quickly to changing internal and external conditions, propose, and implement new solutions in organisations that are suited to those circumstances. They can foster innovation, which is particularly important for building the organisation's competitive advantage in the market (Igielski, 2018; Wodecka-Hyjek, Tyrańska, 2021; Tyrańska et al., 2021; Bergman Engineering Report, 2021/2025).

Other frequently indicated and therefore important soft skills for university graduates include: teamwork, problem-solving and decision-making abilities (Galanti et al., 2023), communication, negotiation, people management (group dynamics), customer orientation, analytical skills, and responsibility. The synergy effect – added value derived through

collaboration among different specialists – is key for organisational development, Industry 4.0, and Industry 5.0. Effective adaptation of modern technology requires cooperation between employees in various positions, as well as collaboration between human (employees) and non-human (algorithms, devices) enterprise members (Dębkowska, 2022; Piwowar-Sulej et al., 2025; Czekaj, Tyrańska, Ziębicki, 2022; infuture.institute AGH Report, 2024).

'The key success factor for a modern organisation is not technology itself, but people who can use that technology effectively' (Wodecka-Hyjek, Tyrańska, p. 62). Therefore, employees need to learn and continuously develop their soft skills throughout their lives (infuture.institute AGH Report, 2024). They need to build mutual partnership relations, trust, teamwork, and positive interactions with clients. Thanks to behavioural competencies, they will be able to share their knowledge and innovative ideas, create organisational knowledge, core organisational competencies, and the organisation's value and competitive advantage in the environment (Szelągowska-Rudzka, Mackiewicz, Spodarczyk, 2024; Dyrla-Mularczyk, Pluciński, Borowiec, 2018). With soft skills, they will utilize professional knowledge, modern digital technology, and artificial intelligence more effectively (Igielski, 2018; Ziębicki, Walczak, 2024).

In fostering intra-organisational cooperation, other important soft skills include coping in multicultural and international environments (which are highly dynamic and require flexibility), relationship building and influencing others, assertiveness, psychological resilience (coping with stress), skilful use of information and time, process management, project management, innovation management, and leadership.

Czekaj, Tyrańska, and Ziębicki (2022, p. 254), using the example of graduates of economic (business) universities, conclude that in the 21st century 'employees mainly need soft skills, particularly the ability to organise their own work, communication skills, diligence, meticulousness, ability to work in a team, independence, ability to work under time pressure, engagement, and availability.'

Behavioural competencies are universal (Kraśniewska, Dybaś-Stronkowska, 2019). All employees in various organisational roles require them: economists, engineers (Jagodziński, 2013; Dyrla-Mularczyk, Pluciński, Borowiec, 2018; Bašková, Struková, 2017; infuture. institute AGH Report, 2024), IT professionals, accountants, or auditors (Fastnacht, 2006, pp. 110, 113). Their development will allow graduates to adapt more effectively to an increasingly dynamic and demanding labour market in the future (Kraśniewska, Dybaś-Stronkowska, 2019).

The second theoretical objective of the study was to identify whether university graduates possess the soft skills desired in the labour market and at what level. It was found that, between employers' expectations for these competencies and the level of mastery by young people entering the labour market, a competency gap exists. Graduates possess the studied competencies, but at an insufficient level (Bankier.pl, 2022; Dębkowska et al., 2022; Budnikowski et al., 2012; Bašková, Struková, 2017; Ziębicki, Walczak, 2024).

Tyrańska et al. (2021, pp. 5-6) identified 'deficiencies in the academic education system, which fails to provide graduates with the necessary soft skills and digital competencies to enable them to quickly adapt to the work environment', as one of the main reasons for the competency gap globally. Other reasons include:

- rapid technological changes,
- insufficient opportunities for internships or industry training, which would allow new (and current) employees to develop and acquire indispensable skills for their sector already during their education.

Empirical research (the third objective of the study) conducted by the authors among a purposefully selected group of full-time students at the Faculty of Management and Quality Science at Gdynia Maritime University, confirms the existence of a competency gap. The results show that the respondents, most of whom (77%) already have some professional experience, understand the significance of soft skills at work (Table 5; UEK, 2024). At the same time, they are aware that their soft skills do not meet labour market expectations (Table 4, Fig. 3). This is notable, as this faculty had already introduced (Szelągowska-Rudzka, 2018) courses directly dedicated to improving soft skills. Respondents participated in two of these courses: interpersonal communication and creative thinking techniques, delivered as elective lectures. A third course is stress management. Additionally, interpersonal training – delivered as both lectures and classes – forms part of two specialisations (managerial economics and marketing and commerce), focusing mainly on the comprehensive development of behavioural competencies (mainly individual and social). Perhaps if all these courses were mandatory for students of the Faculty of Management and Quality Science, graduates' soft skills would more closely align with employers' expectations. The same recommendation applies to the faculty's second cycle (master's) programs, which include courses on team building, managerial coaching, and team management and leadership. The first two are elective lectures; the last is offered as a lecture and classes for students of only one specialisation.

The soft skills that surveyed students rated as their strongest are: teamwork, interpersonal communication, group problem-solving, and conflict resolution (Fig. 2). These are also practiced in other courses included in their study program, where students complete team tasks and joint projects. They must cooperate, communicate effectively, solve emerging challenges, and later present their work results to the entire group. This means they actively exercise soft skills.

Interestingly, creativity – a competency especially valued by employers and at the same time, scarce (Jelonek et al., 2019) – was considered one of the least important by respondents. Others in this group include negotiation, assertiveness, and group problem-solving (Fig. 1). On the other hand, coping with stress is regarded as most important but also as the least well-mastered skill (Table 4). Students experience stress during their studies and lack effective coping strategies. To overcome this, as students emphasize (Table 6), exercises should allow them to recognize their reactions in challenging, real-life-like situations; discuss and look for

practical coping methods. Therefore, more classes should be provided on stress management and other soft skills.

Overall, the research conducted in both the theoretical and empirical sections clearly demonstrates how important it is for the labour market (employers), for students of all fields, and for today's knowledge-based economy (Szelągowska-Rudzka, Spodarczyk, 2018) to ensure that universities offer courses facilitating the development of soft skills. Universities play a crucial role in this (Nakhleh, Hanini, 2022) and should strengthen their efforts (Strojny et al., 2021). The authors recommend:

- Place greater emphasis on the development of soft competencies within other courses included in study programmes (Jelonek et al., 2019).
- Consider the introduction of a compulsory course/courses aimed at developing soft competencies across all fields of study (not only in economics), preferably in the form of classes or workshops.

  This action may be preceded by the university's application for participation in projects dedicated to the development of future graduates' competencies and financed, for example, by the National Centre for Research and Development (NCBR). After the completion of such a project, tested solutions ready for implementation at the university will remain (Jelonek et al., 2012, pp. 6, 102-107).
- The popularisation of various activating teaching methods at universities, including, in addition to commonly used teamwork and case studies, role-playing, drama, discussions, brainstorming, demonstrations, and project work (Fastnacht, 2006). This is also associated with the development of the teaching competencies of academic staff (Jelonek et al., 2019, p. 54).
- Creating opportunities for students to participate in additional projects and initiatives organized especially for them by university (Kraśniewska, Dybaś-Stronkowska, 2019).
- Supporting and encouraging students to engage in science clubs, student government, and student associations.

The last two actions are especially useful for developing creativity (Studiuj, UEK, 2024).

Higher education institutions must actively develop educational offerings that match the needs and expectations of today's economy, which requires labour market monitoring and the modification of programs and fields of study (Tyrańska et al., 2021). They should be adapted to rapidly changing organisational, sectoral, and environmental competency requirements (Jelonek et al., 2022). The benefits of soft skills development were recognized by students participating in the study (Table 7), who indicated, above all, growth in these competencies, awareness of their usefulness, and the need to improve them due to the constant change in the external environment.

For the development of students' (graduates') not-cognitive competencies, it is also important that university administrators and higher education policymakers are aware of the existing competency gap (Strojny et al., 2021). This entails understanding that employers'

expectations regarding graduates' soft competencies differ from students' and universities' perceptions. For example, Dyrla-Mularczyk et al. (2018, p. 219) note that "soft skills necessary for civil engineering professionals are not included at all in the curriculum for that major, and management-related courses – helpful for developing soft skills – constitute no more than 9% of total course hours throughout the program".

On the other hand, the infuture.institute (2024) report prepared for the AGH University of Science and Technology in Kraków emphasized the need to redefine the role of the engineer of the future. Such an engineer should be a "technological humanist", combining knowledge from the natural sciences, engineering, humanities, ethics, environmental and social changes, among others. This requires educational changes — specifically, the integration of knowledge from traditional engineering disciplines with knowledge from the social sciences and humanities. Examples of other universities implementing initiatives to develop students' soft competencies and demonstrating good practices in this area were presented by Strojny et al. (2021, pp. 19-29).

Similarly, in response to employer demand, technical faculties at Gdynia Maritime University educating engineers for maritime-related enterprises have introduced courses to develop soft skills. For example: managerial skills and teamwork at the Faculty of Electrical Engineering (Degree programs, WE, 2025), and creative thinking techniques, team management at the Faculty of Mechanical Engineering (Degree programs, WM, 2025).

To overcome the competency gap, higher education institutions also require industry partnerships and closer cooperation with employers. "Industry partnerships can provide students with access to real-world professional experience and enable them to apply theoretical knowledge in practical settings" (Alanazi, Benlaria, 2023, p. 5). The most effective way to eliminate graduates' competency gaps is through real – not merely declarative – close collaboration between universities and employers (Kraśniewska, Dybaś-Stronkowska, 2019). In this context, the offering by employers of opportunities to participate in internships, traineeships, and volunteering, which enable the development and practical application of soft competencies (Spadło, 2025). It is also important for universities and employers to communicate their mutual needs and expectations regarding the development of students' (future graduates') behavioural competencies. Both universities and employers should be involved in these activities since developing graduates' soft competencies brings mutual benefit and shared responsibility. Without well-developed behavioural competencies, young graduates' success in the labour market – and consequently the development and competitive position of universities and the Polish economy – may be significantly hindered.

Students themselves are increasingly aware that soft skills are "essential for effective performance in many varied professional roles, and (…) they greatly facilitate reskilling, job changes, and adaptation to new professions and responsibilities" (Fastnacht, 2006, p. 110) at a given or different employer. They are the key to building professional standing in a rapidly changing labour market, both in the near and distant future, including the need to adapt to

continually emerging new professions (Ziębicki, Walczak, 2024). Thus, "a deeper diagnosis carried out by universities is needed to face future challenges (…) those of ten or fifty years ahead" (Kraśniewska, Dybaś-Stronkowska, 2019, pp. 62-63).

**Practical implications**

Based on studies conducted using both secondary and primary sources, it was found that higher education institutions should place greater emphasis on ensuring that their graduates acquire soft competencies.

This should primarily be achieved through classes and workshops focused on developing these competencies, by employing various activating teaching methods throughout the entire study period, and through close cooperation with employers. Employers, for their part, should also be open to this cooperation.

**A limitation** of the literature review is the use of secondary sources from various periods and industries, as well as the pilot nature of the empirical study. The empirical survey conclusions pertain to the sample studied students from one faculty at Gdynia Maritime University. Nevertheless, when combined with the findings from the analysis of the literature and external reports for employers, these results point to possible directions for further research.

**Theoretical implications**. Based on analysis of data from both secondary and primary sources presented in the article, a research gap was identified: there is a lack of in-depth comparative empirical studies conducted in Poland which comprehensively diagnose discrepancies between the soft skills desired by employers (demand side) and the soft skills possessed by graduates employed with specific education programs (supply side). Previous studies, although relatively numerous (Ziębicki, Walczak, 2024), have been conducted either among students (graduates) or exclusively among employers, thus providing only one-sided conclusions. Comprehensive studies, similar to those carried out by Macioł and Minkiewicz (2008), should be conducted over the long term, simultaneously among students/universities and employers (Ziębicki, Walczak, 2024). This would allow ongoing monitoring of the labour market situation and minimize the competency gap in soft skills among Polish university graduates.

The identified research gap points to directions for future research, which should be comprehensive and comparative. For example, they could focus on identifying the needs of employers from various industries as well as those of university students regarding soft skills desired by those industries. This is not an easy task due to rapid and significant changes in the environment, especially technological changes. However, these changes drive shifts in employers' requirements for soft skills, and should be studied so that universities, with support from the economic environment, can continually improve their educational offer. Such comprehensive, comparative research seems to be an effective way to reduce the soft competencies gap among Polish university graduates.

Soft skills are essential for future graduates to adapt quickly to changing labour market conditions and to recognize the benefits of higher education (Budnikowski et al., 2012). As a result, graduates will become better employees, use their professional (hard) skills more effectively, appreciate the university's role in preparing them for the workforce, and value lifelong learning. The university will enhance its reputation and standing in its environment – including among prospective students.

On the basis of the analysis of the literature and external reports, and despite the methodological limitations outlined in the Methods section as well as the pilot nature of the empirical study, preliminary conclusions and recommendations for employers and higher education institutions concerning the development of graduates' soft competencies were formulated. Moreover, possible directions for further research were indicated and a research gap was identified.

## 6. Summary

The objectives of the study were achieved. The most desirable soft competencies for HEIs graduates, as sought by employers, were identified. Despite differences in the sets of competencies presented in the literature, it can be concluded that the 'ideal graduate', regardless of field of study, should be open to learning and development, active and engaged at work, adaptable, able to work in a team, communicate effectively, act ethically, be responsible and flexible. They should be able to set priorities, organise their work, and manage their time efficiently.

In general, university graduates possess these competencies, though not always at the level expected by the labour market. These competencies should be tailored to the specific organisation, industry, and environmental situation in which the organisation operates. This conclusion is supported by empirical research conducted among a purposefully selected group of Faculty of Management and Quality Sciences at the Gdynia Maritime University students. Although the study is of a pilot nature, it complements the description of the situation on the Polish labour market based on secondary sources, which does not differ from that observed in the global labour market.

The practical implications of this research indicate that universities should do more to ensure that their graduates acquire soft skills. To this end, dedicated courses (in the form of classes and workshops), the use of various activating teaching methods in general – including those aimed at developing behavioural competencies in other courses within the study programme – as well as more intensive cooperation with employers may prove useful. Effective cooperation between the demand side (employers) and the supply side (universities and their

students) regarding graduates' soft skills can contribute to the improvement of university curricula and the situation on the Polish labour market.

From a theoretical perspective, a research gap was identified: there is a lack of in-depth, comparative empirical studies in Poland that comprehensively diagnose discrepancies between soft skills desired by employers (demand side) and those possessed by graduates of certain educational programs (supply side).

It was determined that universities should conduct systematic, comprehensive scientific research to identify (anticipate) changes in the labour market regarding graduates' soft competencies and suggest ways of improving them in both academic and organizational practice. To fulfil this role, such studies should be carried out simultaneously among employers and among the universities from which their employees graduated.

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