

## STUDENTS' PERCEPTION OF SOFT SKILLS: SIGNIFICANCE AND CHALLENGES WITHIN EDUCATIONAL AND EMPLOYMENT CONTEXTS

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**Purpose:** The significance of soft skills is rising in the employment market; however, young people's perceptions of them may differ. The objective of the study was to comprehend students' perceptions on soft skills and their importance in professional environments.

**Design/methodology/approach:** A survey was conducted utilizing the CAWI technique to attain the research objective. The research cohort comprised 486 students from four Polish universities. They were students of management and quality sciences, specializing in bachelor's and engineering degrees. The participants were inquired about soft skills, their significance in professional environments, and their cultivation during academic pursuits.

**Findings:** The study's findings indicated that students are aware of soft skills; however, their perceived significance in professional contexts differed by the field of study. It has been demonstrated that there is a need to incorporate soft skills training courses into academic curricula, particularly in engineering fields.

**Research limitations/implications:** The research's limitation was the sample confined to students from Polish universities, perhaps impeding the application of the findings to other countries.

**Practical implications:** The study's findings offer pragmatic recommendations for educational institutions. Implementing mandatory practical training in academic curricula might enhance students' readiness for the requirements of the employment market.

**Social implications:** The cultivation of students' soft skills might influence their subsequent personal and professional lives, especially regarding interpersonal relationships.

**Originality/value:** The finding is significant for organizations tasked with developing and assessing educational programs for students across a variety of academic fields.

**Keywords:** soft skills, hard skills, engineering studies, bachelor's studies, academic curricula.

**Category of the paper:** Research paper.

## **1. Introduction**

In the evolving business landscape, personnel competencies substantially influence organizational performance and market success. In recent years, much emphasis has been placed on soft skills, which have also garnered the attention of scholars. Soft skills encompass a collection of abilities and personality characteristics pertinent to social interactions, adaptability, and collaborative teamwork. These competencies influence the quality of work. Their presence primarily fosters positive interactions with both internal and external clients, enhancing work efficiency and effectiveness, which eventually influences the organization's relevance and market position. Consequently, it is increasingly vital to cultivate these competencies and enhance awareness of their importance for both employers and employees, present and prospective.

## **2. The issue in the context of the literature**

### **2.1. Concept and classification of soft skills**

Employers anticipate that employees possess suitable competencies, defined as the extent of authorities and authorizations, alongside the breadth of knowledge, responsibility, and skills (Drabik, Kubiak-Sokół, Sobol, 2005). Competence is described as possessing knowledge that allows an individual to make judgments and articulate authoritative opinions on matters within their adjudicative capacity, due to their relevant experience and knowledge. This enables us to ascertain that a competent individual is one who has the requisite preparation for particular tasks (Drabik, Kubiak-Sokół, Sobol, 2005). Spencer and Spencer identified competency as "an underlying characteristic of an individual that is causally related to criterion referenced effective and/or superior performance in a job or situation" (Spencer L.M., Spencer S.M., 1993). In this context, competencies regarded as personnel credentials comprise three primary components: knowledge, abilities, and responsibility (Drabik, Kubiak-Sokół, Sobol, 2005). These competencies establish the qualifications of individuals across diverse professions and act as a form of assurance for excellent work and the attainment of success (Konieczna-Kucharska, 2015; Gorustowicz, 2019).

There are numerous classifications of competencies. One categorizes them into hard and soft skills. The initial category comprises specialized competencies in a particular domain or practical skills that can be acquired with considerable quickness. These competencies are readily assessable, verifiable, and measurable. This encompasses, among other qualifications, fluency in foreign languages, expertise with various computer applications, and possession of a driver's license. In the literature, soft skills are characterized as personal, social, interpersonal,

and communication abilities, along with those related to time management and problem-solving (Adler, Rosenfeld, Proctor, 2006). Robbins and De Cenzo equated them to interpersonal skills, defined as "the capacity to collaborate with others, comprehend their perspectives, mentor them, and inspire them both individually and collectively" (Robbins, De Cenzo, 2002). Cimatti similarly characterized them as interpersonal competencies, including communication, leadership, and dispute resolution. The author stated that they are essential for professional achievement across multiple economic sectors (Cimatti, 2016). Grzesiak characterized soft skills as the skills required for regulating thoughts, emotions, and actions that facilitate the attainment of personal and professional objectives (Grzesiak, 2022). These competencies are developed through socialization, are hard to quantify, and are tough to assess. They can be cultivated by self-education and self-discipline.

A variety of soft skills exist. The Spencers assert that soft skills encompass emotional intelligence and adaptive abilities that enhance teamwork (Spencer L.M., Spencer S.M., 1993). Goleman identified four primary areas of soft skills: self-awareness, self-regulation, motivation, and social skills (Goleman, 1997). Each of these areas influences the ability for self-management and relationships with others. Chamorro-Premuzic and others identified that soft skills encompass components such as communication abilities, problem-solving, teamwork, conflict resolution, and leadership competencies (Chamorro-Premuzic et al., 2010). Modern literature identifies numerous other abilities associated with soft skills. Key attributes are emotional intelligence, elevated personal culture, reliability, dependability, and integrity. Emotional intelligence refers to the capacity to comprehend and regulate one's own emotions (Goleman, 2016). Emotional intelligence comprises three categories of competencies: psychological, social, and praxeological. The initial group encompasses self-awareness, self-esteem, and self-regulation. The second group includes abilities essential for cultivating relationships, namely empathy, assertiveness, leadership, cooperation, and persuasion. The final group referenced relates to competencies that characterize the disposition towards tasks. These encompass abilities including motivation, reliability, creativity, organizational skills, time management, teamwork, and team leadership, among others (Goleman, 1997, p. 1). Mayer and Salovey assert that emotional intelligence is essential for managers or team leaders as it facilitates successful team management and dealing with stress (Mayer, Salovey, 1999). Empathy is defined as the ability to perceive the emotional states of others (emotional empathy) and the ability to adopt their cognitive framework and perceive reality from their viewpoint (cognitive empathy) (Drabik, Kubiak-Sokół, Sobol, 2005). According to Goleman, empathy is the foundation for developing strong relationships with employees and clients, which influences loyalty and job satisfaction (Goleman, 1997). In interpersonal relationships, efficient communication is crucial since it promotes transparency, resulting in heightened involvement and efficiency (Blume, Baldwin, Ryan, 2013).

The aforementioned competencies are essential for teamwork and effective collaboration. They are frequently needed for personal development and professional success (Konieczna-Kucharska, 2015).

## **2.2. The significance of soft skills in the employment sector**

Nowadays, soft skills are indispensable in the labor market. Research reveals that employers increasingly value these competencies, expecting individuals to possess advanced specialist knowledge alongside skills in adaptation, negotiation, effective communication, and leadership (Weber et al., 2009). They regard attributes such as work ethic, communication, and interpersonal skills as essential (Robles, 2012). Lippman and colleagues also suggested that soft skills influence employment and job retention (Lippman et al., 2015). They are sought after by candidates for roles in management, sales, consulting, and, more lately, engineering, IT, accounting, or auditing (Fastnacht, 2006). Fastnacht referred to them as transferable skills, which are vital in any professional occupation. Soft skills enable job transitions, retraining, and adaptability to novel situations and professional responsibilities (Fastnacht, 2006).

The significance of these competencies is increasing due to globalization, the digitalization of work, and the merging of professional roles inside businesses, where interdepartmental collaboration has become commonplace (Robles, 2012). Deloitte Access Economics' analysis indicates that by 2030, soft skills would be essential for 66% of all occupations, with key competencies comprising emotional intelligence, critical thinking, problem-solving, and self-directed learning capabilities (Deloitte, 2024).

## **2.3. Students' perception of soft skills**

Research studies demonstrate that students' knowledge and perception of soft skills are influenced by several aspects, including their field of study, educational level, and individual academic and professional experiences. Itani and Srour indicated that students in technical disciplines, such as engineering, primarily value communication skills, leadership, and creativity, while conflict resolution and negotiation are less usually regarded as essential competencies (Itani, Srour, 2016). This study indicates that educational programs in technical disciplines may inadequately prioritize widely recognized soft skills. Another study reveals variations in the perception of soft skills across students from different disciplines (Kohlbeck et al., 2021). Students in the humanities typically see interpersonal skills as paramount, whereas those in the sciences and technical disciplines predominantly emphasize analytical skills and problem-solving abilities (Ramlan, Ngah, 2017). The increasing significance of soft skills in the labor market, along with the diverse awareness of students regarding these competencies, has prompted colleges to progressively implement programs focused on their development. These programs encompass workshops on interpersonal communication, time management, negotiation, and public speaking, all aimed at equipping students with essential competencies for the labor market.

Despite the widespread acknowledgment of the significance of soft skills, the instruction of these competencies within educational curricula continues to encounter many obstacles. Their development necessitates a pragmatic approach, which is frequently challenging to execute within a conventional academic setting. Furthermore, numerous students regard soft skills as inferior to technical expertise, possibly resulting in a diminished appreciation of their significance in career development (Succi, Canovi, 2020).

The literature review indicated that soft skills are progressively esteemed in the labor market, although students' perceptions of them may differ.

The purpose of the study was to comprehend students' perceptions of soft skills and their importance in professional environments. The subsequent research questions have been formulated:

1. Which soft skills do students regard as the most significant?
2. In what manner do students evaluate their own abilities in these competencies?
3. What significance do students attribute to soft skills in relation to their professional careers?
4. Are soft skills cultivated during academic pursuits?

### **3. Methods of research**

A study was conducted employing the diagnostic survey method, the questionnaire method, and the CAWI technique to get answers to the research questions provided. This strategy facilitated rapid access to a diverse cohort of students from various universities in Poland, expedited the research procedure, and diminished study expenses. The research utilized a validated proprietary questionnaire, administered to a cohort of 30 randomly selected engineering and bachelor's degree students. This facilitated the eradication of inaccuracies and enhanced the validity and trustworthiness of the responses. The questionnaire included a demographic part, in which respondents provided particular demographic data, followed by 14 substantive questions. Closed and semi-closed questions, together with a conjunctive cafeteria list, position scales presented in tabular format, and an open-ended question were utilized. The ordinal scale utilized was a 5-point scale featuring verbal descriptors ranging from "strongly agree" to "strongly disagree". For statistical analysis, these terms were assigned point values from 5 to 1. Respondents were inquired about the significance of soft skills in professional settings and their cultivation during university studies. A positional scale was employed to analyze the characteristics that most accurately depict the respondents and to assess the significance of specific soft skills in professional settings. The results are shown as the mean value (M). The study's results were reported as a percentage of replies (%), the mean value (M) accompanied by the standard deviation (SD), and a descriptive analysis. (in the case

of an open-ended question). A ranking (R) of competencies was established to reflect the significance of selected competencies in professional activity, based on the computed mean value. The chi-square test ( $\chi^2$ ) was utilized to ascertain the variations in responses among the respondent groups and Kruskal-Wallis test (H).

The survey questionnaire was published on the Google Forms platform. A link to the survey was distributed to a selected group of respondents. Purposive sampling was employed. Students from four Polish universities were invited to participate in the study, comprising three economic universities (Universities 2, 3, 4) and one non-economic university (University 1) that offers education in managerial disciplines within the social sciences. The study encompassed 486 students, and this number of questionnaires was incorporated into the ensuing research process. The examined cohort comprised students in their concluding semester of undergraduate studies in Management (bachelor's degree) and Quality Management (engineering degree). All participants were between the ages of 22 and 24 years. Table 1 delineates the demographic attributes of the surveyed students, classified by university, field of study, and gender.

**Table 1.**

*Demographic attributes of the surveyed students*

University 1				University 2				University 3				University 4							
Engineering degree N = 92		Bachelor's degree N = 100		Bachelor's degree N = 96		Bachelor's degree N = 100		Bachelor's degree N = 98											
Female		Male		Female		Male		Female		Male		Female		Male		Female		Male	
N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
52	56	40	44	58	58	42	42	54	56	42	44	62	62	38	38	57	58	41	42

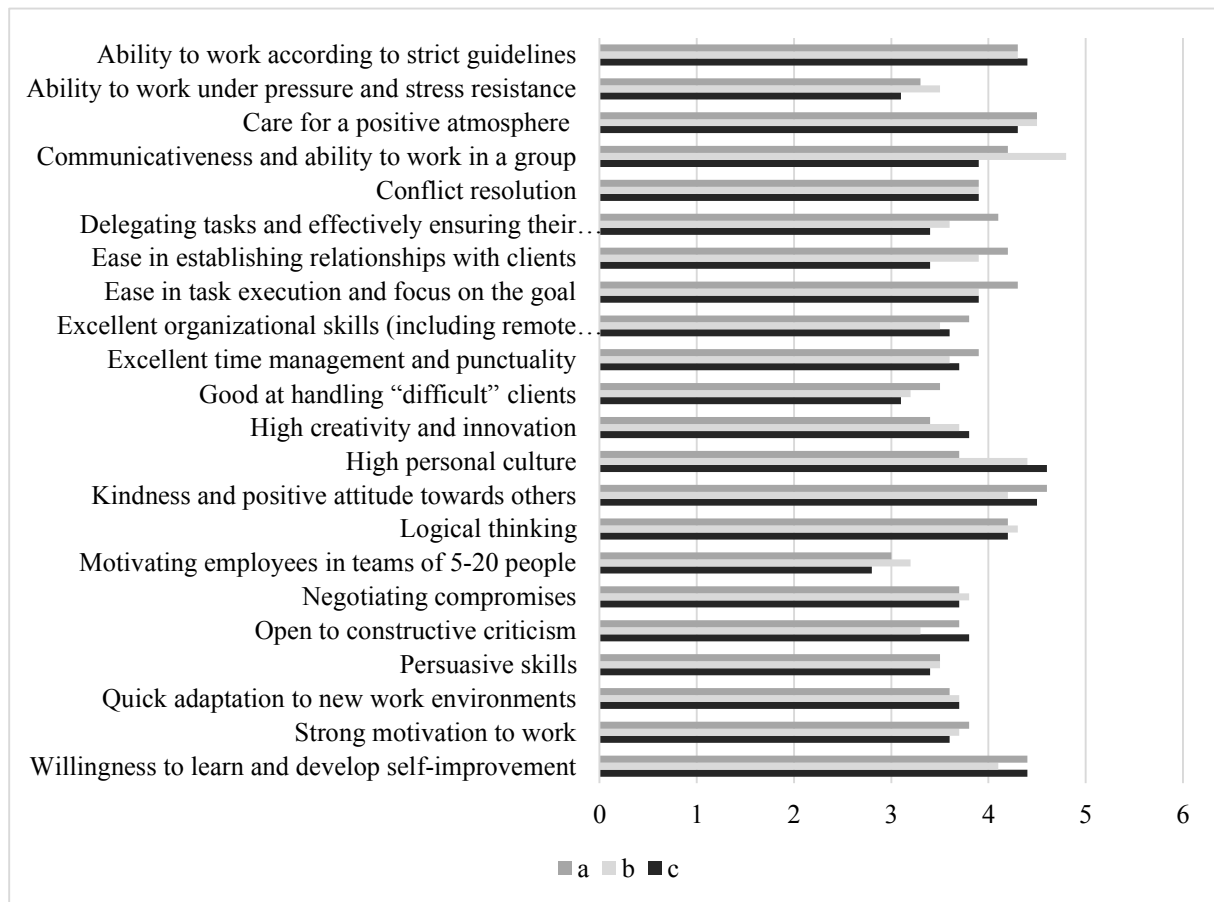
Source: own study.

The participants agreed to partake in the study, which was voluntary and anonymous. The research at multiple universities was carried out from January to March 2024.

#### 4. Results of own research

The initial phase of the statistical analysis involved assessing the significance of response differentiation among various student groups from distinct specializations and universities. No statistically significant differences were observed in the responses of participants from economic universities. Consequently, in the study, students from these universities were aggregated into a single group, their responses averaged, and represented as the opinions of students from "other universities". Statistically significant differences were found in the responses of bachelor's and engineering students, as well as between students of University 1 and other universities ( $H = 46.54$ ,  $p = 7.85e-11$ ).

At the outset of the study, participants were inquired about the characteristics that most accurately depict them. Students' perspectives differed based on the university and the field of study (engineering or bachelor's). The results are illustrated in Figure 1.



where: a - engineering students from University 1, b - bachelor's students from University 1, c - bachelor's students from other universities.

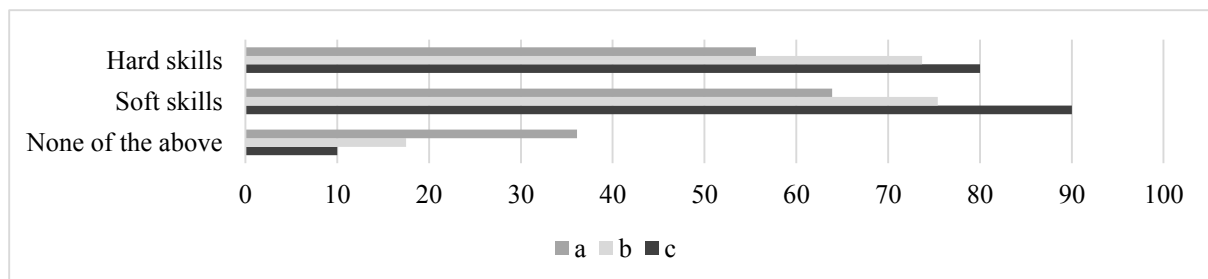
**Figure 1.** Characteristics that best describe the surveyed students (M).

Source: own study.

Engineering students recognized 10 of the 22 enumerated features in themselves, rating them as very good ( $M > 4.5$ ) and good ( $M \in (4.0-4.5)$ ). These students said that they exhibit kindness and positive attitude towards others ( $M = 4.6$ ) and care for a positive atmosphere ( $M = 4.5$ ). The characteristics that accurately depicted them were: willingness to learn and develop self-improvement, ease in task execution and focus on the goal, ability to work according to strict guidelines, logical thinking, ease in establishing relationships with clients, communicativeness and ability to work in a group, and finally delegating tasks and effectively ensuring their completion. The characteristics that least characterized students in this group were high creativity and innovation ( $M = 3.4$ ) and ability to work under pressure and stress resistance ( $M = 3.3$ ). Bachelor's students from the same university identified six attributes that accurately represented them. In the initial group, two characteristics were identified: communicativeness and ability to work in a group ( $M = 4.8$ ) and taking care for a positive atmosphere ( $M = 4.5$ ). The characteristics that accurately depicted the individuals in this group

were: high personal culture, ability to work according to strict guidelines, logical thinking, kindness and positive attitude towards others, and finally willingness to learn and develop self-improvement. The minimum score ( $M = 3.2$ ) was assigned to two attributes: good at handling “difficult” clients and motivating employees in teams of 5-20 people. Bachelor's students from other universities exhibited the least number of matching characteristics. The group was characterized by two attributes: high personal culture ( $M = 4.6$ ) as well as kindness and positive attitude towards others ( $M = 4.5$ ). Additionally, this group was distinguished by the following characteristics: the ability to work according to strict guidelines, willingness to learn and develop self-improvement, care for a positive atmosphere, and logical thinking. These participants were unable to motivate groups of people to work ( $M = 2.8$ ).

The subsequent inquiries in the questionnaire pertained to soft skills. The surveyed students reported familiarity with the concepts of "soft skills" and "hard skills," with approximately 77% and 70% of respondents, respectively. Just over 20% of respondents indicated that they are unfamiliar with either of these concepts. Statistically significant disparities were identified in the responses of bachelor's and engineering students ( $\chi^2 = 0.70$ ,  $p = 0,02$ ). No discrepancies were noted in the responses of students from different universities in bachelor's programs ( $\chi^2 = 0.80$ ,  $p = 1.0$ ). The concept of soft skills was more familiar to students from other universities than to those from University 1, particularly among bachelor's students. The study's results are illustrated in Figure 2.



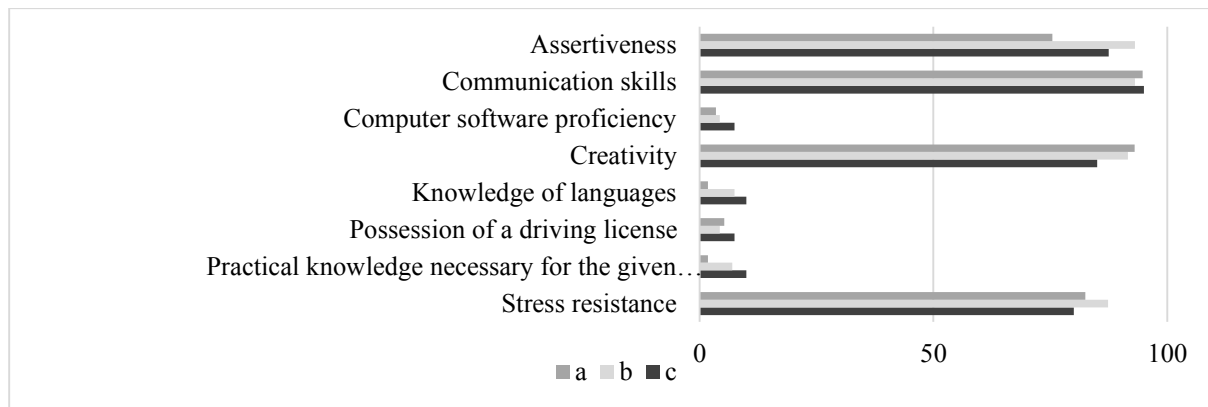
where: a - engineering students from University 1, b - bachelor's students from University 1, c - bachelor's students from other universities.

**Figure 2.** Recognition of the concepts "hard skills" and "soft skills" among the surveyed students (%).

Source: own study.

The respondents were subsequently queried regarding which competencies they identify as soft skills. In the cafeteria list, specific hard skills (foreign language proficiency, possession of a driver's license, computer program expertise, and profession-specific knowledge) and soft skills (assertiveness, communication skills, stress resilience, and creativity) were showcased. These were the most esteemed competencies essential in a professional career. The respondents predominantly identified soft skills accurately, though their responses varied (Figure 3).





where: a - engineering students from University 1, b - bachelor's students from University 1, c - bachelor's students from other universities.

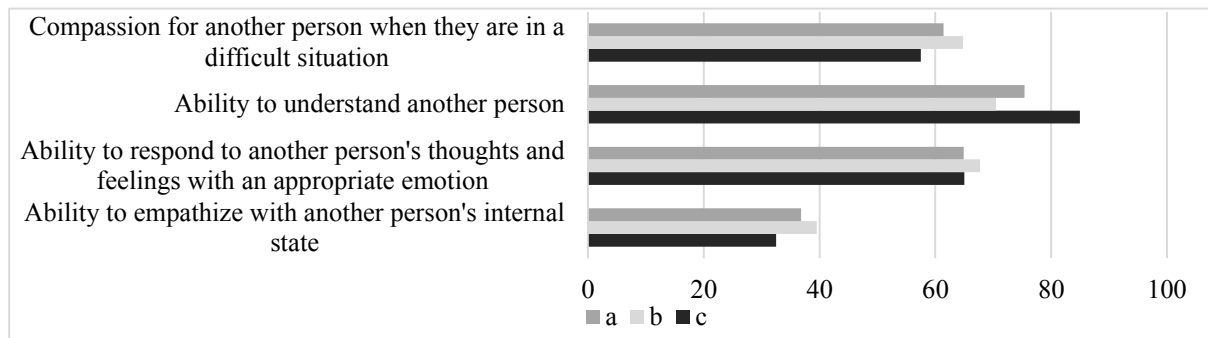
**Figure 3.** Knowledge of soft skills among the surveyed students (%).

Source: own study.

Engineering students frequently linked them to communication skills, creativity, and stress resilience. Bachelor's students from the same university identified assertiveness, communication skills, creativity, and resilience to stress as essential soft skills. Students from other universities exhibited more polarized responses. They included the same competencies as soft skills, but with a lower percentage of indications. Simultaneously, a greater proportion of students associated hard skills with soft skills, including language proficiency or profession-specific knowledge (10% each-compared to 1.8% and 7.75%, as well as 1.8% and 7% in other groups). Among the respondents, 7.5% of the students identified computer programming proficiency and possession of a driver's license as soft skills. The findings indicated that students, although acquainted with the notion of soft skills, are incapable of accurately discerning which competencies belong to this category. The results indicate the necessity for clearer definitions of these concepts in educational programs, consistent with the observations made by Benek (Benek, 2024).

To assess knowledge of soft skills, respondents were queried regarding their understanding of empathy in the subsequent question. The term derives from Greek, signifying "co-feeling or identifying with the emotions of others" (Breczko, 2014). Empathy is defined as "the ability to immerse oneself in the internal state of another individual" (Drabik, Kubiak-Sokół, Sobol, 2005). In the social sciences, it is defined as "a process through which an individual can identify with the emotions of others, anticipate their behaviors, and comprehend their motivations" (Encyklopedia zarządzania, 2024). The respondents were unfamiliar with such definitions of empathy. Merely 36% of them asserted that empathy constitutes the ability to immerse oneself in another individual's internal state. Additional responses from the participants demonstrated their comprehension of this concept. The majority perceived empathy as the "ability to comprehend another person" (77%) and as the "ability to respond to another's thoughts and feelings with an appropriate emotion" (66%) (Figure 4). The respondents' responses were coherent. No statistically significant differences were observed among the responses of various

respondent groups ( $p > 0.05$ ). The results indicated that insufficient comprehension of the concept and importance of individual soft skills may hinder their development in the academic setting.

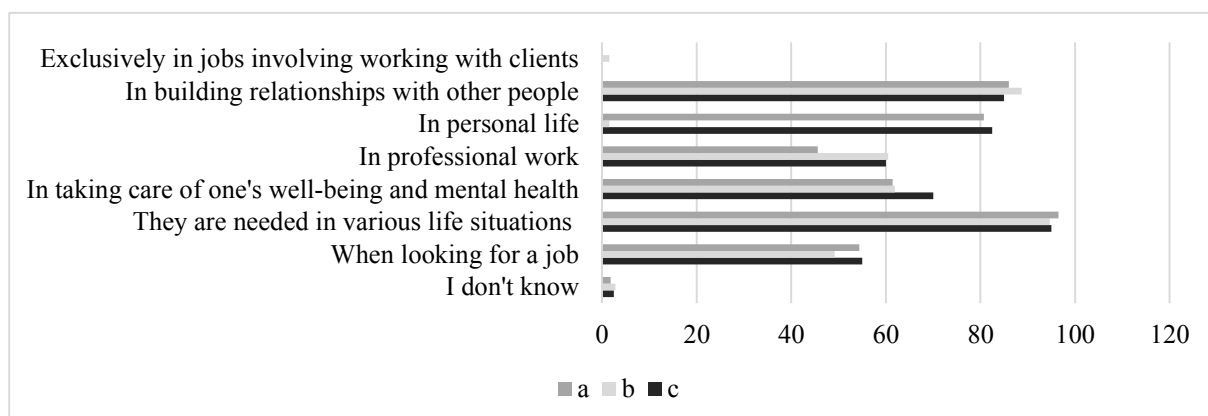


where: a - engineering students from University 1, b - bachelor's students from University 1, c - bachelor's students from other universities.

**Figure 4.** Awareness of the concept of empathy among the surveyed students (%).

Source: own study.

The respondents were inquired about the circumstances in which soft skills are crucial. Their viewpoints were exceedingly varied (Figure 5). The respondents recognized that such competencies are essential in diverse life situations, both personal and professional (95% of respondents affirmed this), in fostering interpersonal relationships (87%), and in maintaining one's well-being and mental health (64.5%). More than 55% of participants asserted that soft skills are significant in personal life. An equivalent number of them recognized their necessity in professional endeavors. A mere 2.3% of the respondents were unaware of when soft skills are required. Statistically significant disparities were observed in the responses of engineering and bachelor's degree students ( $\chi^2 = 0.69$ ,  $p = 0.009$ ). Engineering students more often emphasized the significance of soft skills in professional contexts (55%) compared to personal life, likely due to their pragmatic perspective on these competencies.

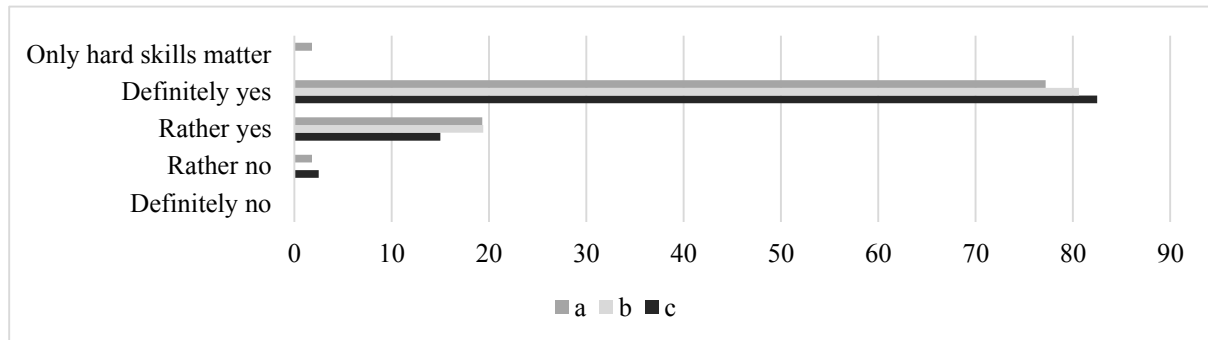


where: a - engineering students from University 1, b - bachelor's students from University 1, c - bachelor's students from other universities.

**Figure 5.** The significance of soft skills in diverse life scenarios as reported by the questioned students (%).

Source: own study.

Numerous researchers assert that soft skills are crucial in professional environments (Succi, Canovi, 2020; Benek, 2024), and this was asked of the surveyed students. A significant majority either strongly agreed (80.1%) or agreed (17.9%) that these competencies are essential in professional settings (Figure 6).



where: a - engineering students from University 1, b - bachelor's students from University 1, c - bachelor's students from other universities.

**Figure 6.** The significance of soft skills in professional employment as reported by the questioned students (%).

Source: own study.

In an open-ended query, respondents were asked to identify the professions in which soft skills are essential. Participants specified certain professions (psychologist, teacher, doctor, salesperson), work titles- predominantly management (director, manager, supervisor, president) - and work environments (corporations, offices, restaurants, stores). A significant proportion of students deemed these competencies beneficial across all professions: 25% of engineering students, 35% of bachelor's students from the same institution, and 40% of respondents from other universities affirmed this view. The latter indicated that these competencies are essential for individuals in managerial positions (25% of replies). Students also expressed that soft skills are essential in careers requiring interaction with others and dealing with clients. Bachelor's degree students from University 1 more often than their fellow students identified managerial roles as ones where soft skills are essential. This response occurred 35 times in this group, representing 35% of the total indications. Students specializing in engineering identified numerous occupations; nevertheless, none said that such competencies are essential in the engineering field. The responses most commonly mentioned are encapsulated in Table 2.

**Table 2.**  
*Students' perspectives on professions requiring soft skills*

Attribute	University 1		Other Universities
	Engineering degree	Bachelor's degree	Bachelor's degree
Profession	<ul style="list-style-type: none"> <li>– across all professions, and occupations</li> <li>– in occupations that involve working with people,</li> <li>– work with clients,</li> <li>– in work with children and seniors,</li> <li>– psychologist, doctor, dietitian, journalist, teacher, caregiver, salesperson, cashier</li> </ul>	<ul style="list-style-type: none"> <li>– across all professions</li> <li>– in occupations that involve working with another people,</li> <li>– psychologist, sales consultant, doctor, teacher, salesperson, journalist</li> </ul>	<ul style="list-style-type: none"> <li>– in professions where relationships with other persons are established,</li> <li>– work with clients,</li> <li>– salesperson, teacher, telephone consultant, office worker, clerk, small business owner</li> <li>customer advisor, merchant</li> </ul>
Position	<ul style="list-style-type: none"> <li>– manager, president</li> </ul>	<ul style="list-style-type: none"> <li>– manager, president,</li> <li>– team leader,</li> <li>– managerial positions</li> </ul>	<ul style="list-style-type: none"> <li>– president, director</li> </ul>
Workplace	<ul style="list-style-type: none"> <li>– in services,</li> <li>– in companies, in corporations,</li> <li>– in restaurants, in stores</li> </ul>	<ul style="list-style-type: none"> <li>– in corporation</li> </ul>	<ul style="list-style-type: none"> <li>– own business,</li> <li>– business companies,</li> <li>– marketing department</li> </ul>

Source: own study.

Among the various soft skills, certain ones are especially significant in professional environments. The respondents were requested to specify these competencies. The findings are displayed in Table 3.

**Table 3.**  
*Essential soft skills in professional environments, as identified by the questioned students*

Soft skills	University 1						Other Universities		
	Engineering degree			Bachelor's degree			Bachelor's degree		
	M	SD	R	M	SD	R	M	SD	R
Ability to deal with stress	3.5	2.4	10	3.4	1.2	8	3.5	1.1	7
Ability to delegate tasks	3.8	1.3	2	3.4	0.9	7	3.5	0.7	6
Ability to manage time	3.8	0.9	3	3.5	0.6	5	3.8	0.4	4
Ability to resolve conflicts	3.5	1.8	11	3.8	0.9	4	3.3	1.1	11
Assertiveness	3.6	1.8	5	3.2	1.5	10	3.8	1.1	2
Communication skills	3.4	2.4	12	3.0	1.4	12	3.1	1.2	12
Creativity	3.9	1.3	1	4.0	1.1	1	3.9	1.1	1
Empathy	3.5	0.4	9	2.9	0.6	13	3.0	1.0	13
Ethical behavior	3.6	1.2	7	3.2	1.2	11	3.4	1.2	9
Flexibility	3.5	1.1	8	3.4	1.3	6	3.4	1.1	8
Motivating others to work	3.6	2.4	6	3.9	1.4	2	3.6	1.3	5
Persuasive skills	3.2	1.8	13	3.3	1.3	9	3.6	1.2	5
Work organization	3.7	1.0	4	3.8	0.9	3	3.8	0.8	3

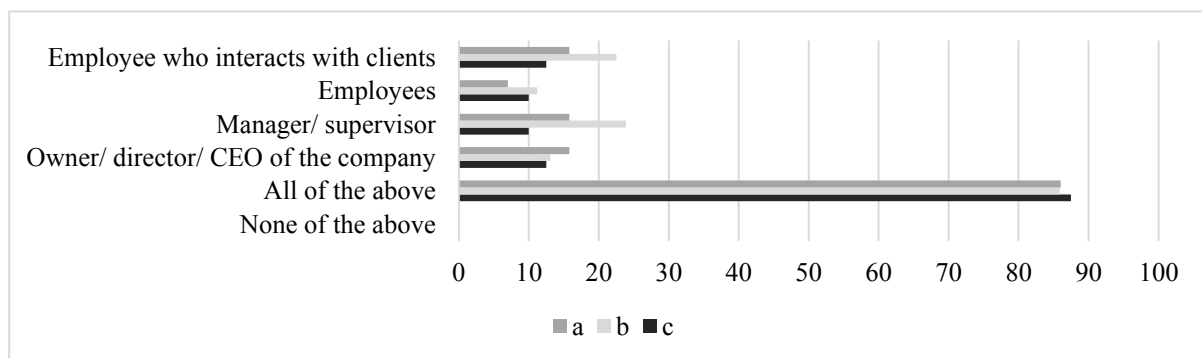
R - rank (the position occupied by a given attribute in a sequence)

Source: own study.

Students from different fields had divergent views on the significance of particular soft skills in professional contexts. Statistically significant disparities were identified in their responses. All respondents concurred that creativity is vital in professional endeavors, securing the top position in all three rankings ( $M = 3.9$ ). Engineering students believe that the most

crucial soft skills for professional work are task delegation and time management, which ranked equally in second place ( $M = 3.8$ ). The subsequent role pertained to work organization. The respondents identified communication skills with clients and colleagues ( $M = 3.4$ ) and persuasive skills ( $M = 3.2$ ) as the least significant competencies. Bachelor's students had divergent viewpoints on this subject, with replies differing between students from University 1 and those from other institutions. The former assigned the ability to motivate others a second rank ( $M = 3.9$ ), whereas students from other colleges ranked it fifth ( $M = 3.6$ ). Discrepancies also pertained to additional competencies. Bachelor's students from University 1 rated work organization and conflict resolution abilities ( $M = 3.8$ ) as the most significant, whereas they deemed communication skills ( $M = 3.0$ ) and empathy ( $M = 2.9$ ) as the least important. In the rating of soft skills for students from other universities, assertiveness, work organization, and time management skills were jointly ranked second ( $M = 3.8$ ). The participants considered communication skills ( $M = 3.1$ ) and empathy ( $M = 3.0$ ) as the least significant, consistent with the previously analyzed cohort. The findings indicate that although there is widespread acknowledgment of the significance of soft skills, the view of their practical implementation may differ based on the field of study. This signifies the necessity to tailor study programs to the particularities of the disciplines to equilibrate the advancement of technical and interpersonal competencies.

Respondents were inquired about which individuals inside the corporation should possess soft skills. Most respondents (86%) asserted that all employees should have these attributes. Others suggested that these competencies should be inherent to managers, executives, and employees who interact with the organization's external customers. In these assertions, bachelor's students from University 1 were prominent. Statistically significant discrepancies were seen between their opinions and those of engineering students from the same university ( $\chi^2 = 0.73$ ,  $p = 0.035$ ), as well as from other universities ( $\chi^2 = 0.69$ ,  $p = 0.007$ ). The results indicate variations in the assessment of soft skills' significance based on the respondents' anticipated professional roles. The responses are depicted in Figure 7.

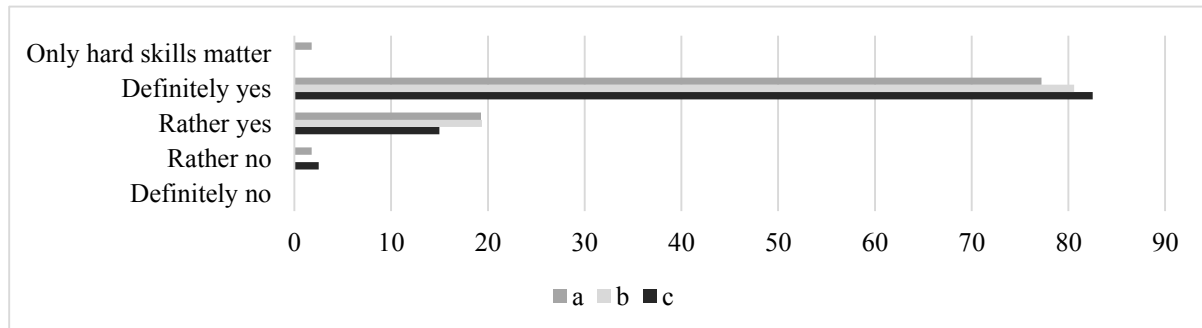


where: a - engineering students from University 1, b - bachelor's students from University 1, c - bachelor's students from other universities.

**Figure 7.** The person in the company who should possess soft skills as reported by the questioned students (%).

Source: own study.

All surveyed students either strongly agreed or agreed that soft skills will be essential in their professional endeavors following the completion of their studies in a specific field (Figure 8). These results align with the observations of other researchers, who have highlighted the growing significance of soft skills in the employment sector (Robles, 2012; Deloitte, 2024).

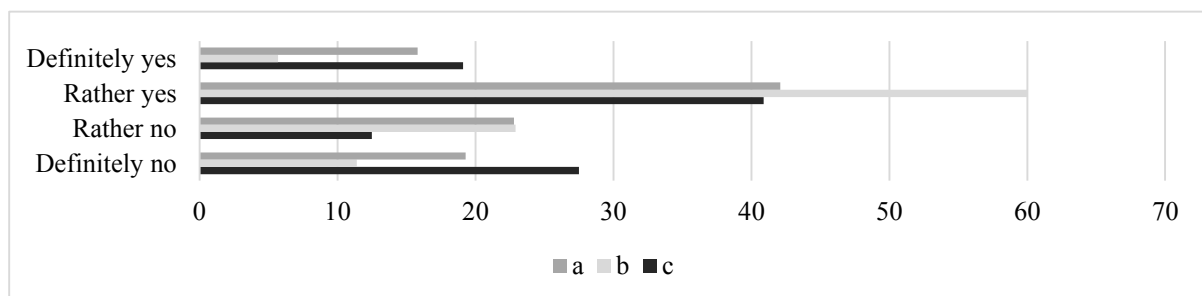


where: a - engineering students from University 1, b - bachelor's students from University 1, c - bachelor's students from other universities.

**Figure 8.** The significance of soft skills in the professional endeavors of students post-graduation in a specific discipline (%).

Source: own study.

Respondents were inquired about the emphasis placed on soft skills and their development during their studies. The responses varied, although the majority of participants indicated that they were either somewhat or significantly developed during their studies. Nonetheless, several students held divergent views on this issue. Students from University 1 indicated that they were either somewhat (23% of replies) or definitely not (on average 15% of responses) influenced. Likewise, several students from other universities perceived that these competencies were somewhat (12.5%) and definitely not (27.5%) cultivated during their university study. Statistically significant disparities were identified in the responses of students from University 1 compared to those from other universities ( $\chi^2 = 0.8$ ,  $p = 0.018$ ). The study's results are illustrated in Figure 9.

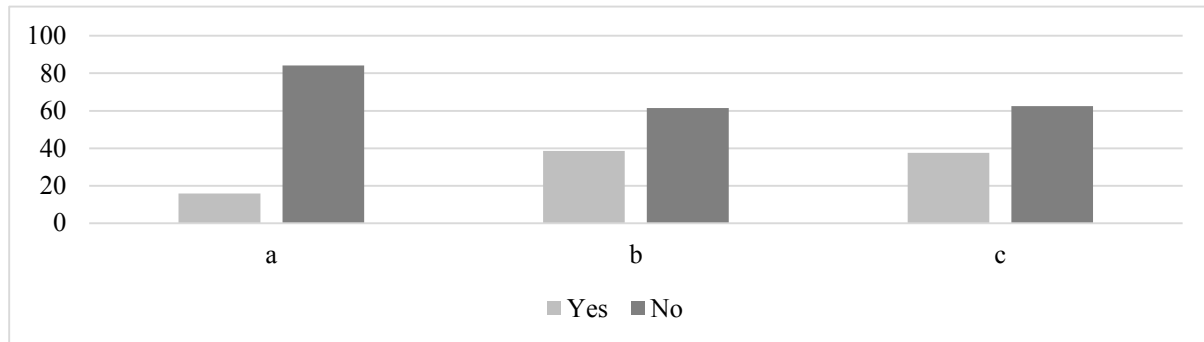


where: a - engineering students from University 1, b - bachelor's students from University 1, c - bachelor's students from other universities.

**Figure 9.** Student perceptions regarding the emphasis on soft skills and their cultivation during academic education (%).

Source: own study.

The respondents indicated that there were no workshops on soft skills included in their studies (Figure 10). 84.2% of respondents from engineering disciplines and 62% of bachelor's students provided such a response. These findings underscore the necessity of cultivating soft skills throughout higher education, particularly in technical disciplines.

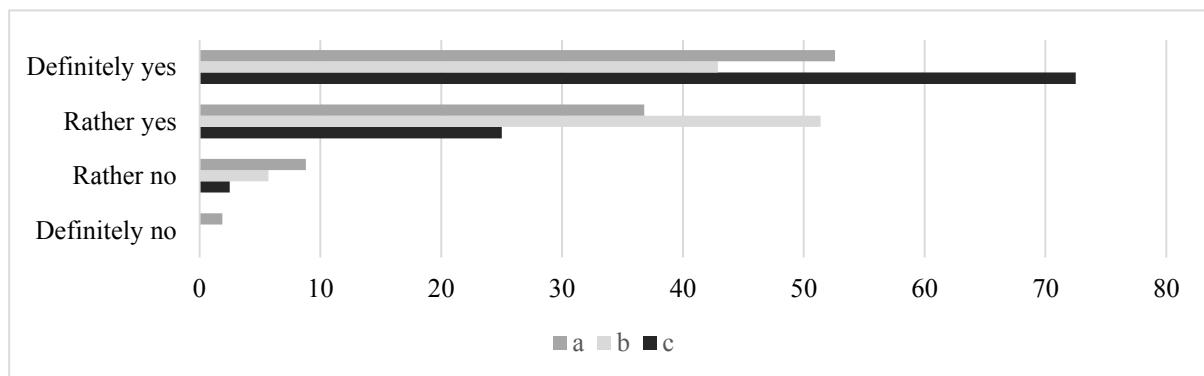


where: a - engineering students from University 1, b - bachelor's students from University 1, c - bachelor's students from other universities.

**Figure 10.** The prevalence of soft skills workshops in the academic curricula of the surveyed students (%).

Source: own study.

Students asserted that academic curricula had to incorporate courses focused on the cultivation of soft skills (Figure 11). These opinions were predominantly articulated by bachelor's students. Engineering students expressed a similar viewpoint; nevertheless, within this cohort, some individuals contended that such subjects should rather (8.8%) and definitely not (1.9%) be incorporated into the curriculum.



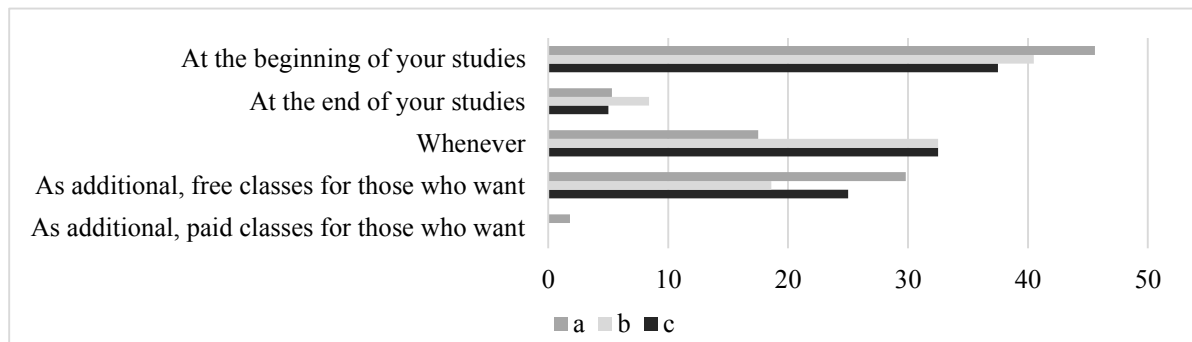
where: a - engineering students from University 1, b - bachelor's students from University 1, c - bachelor's students from other universities.

**Figure 11.** Incorporation of courses focused on soft skills within the curriculum (%).

Source: own study.

Forty-one percent of respondents indicated that soft skills courses should occur at the beginning of their studies, 27% believed they should be scheduled at any point during the academic program, and about 18.7% suggested they should be offered in the last semester (Figure 12). Among the surveyed respondents, several asserted that these classes ought to be conducted inside the institution, albeit outside the formal curriculum (free of charge courses for

interested individuals). Responses from engineering students constituted the majority in this group, accounting for 29%. This corresponds with their convictions on the significance of soft skills in professional endeavors and in their careers post-graduation.



where: a - engineering students from University 1, b - bachelor's students from University 1, c - bachelor's students from other universities.

**Figure 12.** Timing for the implementation of soft skills education throughout academic study (%).

Source: own study.

## 5. Discussion of the results

The study's results reveal disparities in the perception and evaluation of soft skills among students from different fields and institutions, as corroborated by the academic literature. Women constituted the majority of respondents (averaging 58%), potentially impacting the results related to interpersonal skills, which are typically ranked higher by women, as noted by Mleczkowska (Mleczkowska, 2023). This study also revealed discrepancies in the self-assessment of soft skills, their recognition, and the appraisal of their significance in professional contexts. Engineering students assessed their soft skills most favorably, whilst bachelor's students from universities rated them least favorably. Psychology students held a comparably elevated perception of their abilities, asserting a superior self-evaluation in interpersonal skills (Mleczkowska, 2023). The surveyed students demonstrated familiarity with the concepts of soft and hard skills and were predominantly capable of accurately distinguishing between them. Errors in this classification may have resulted from a lack of awareness, insufficient education in this domain, or unsuitable academic curricula. Nonetheless, young people regarded these competencies as significant in both their personal and professional spheres. Creativity was the highest-ranking soft skill among all student groups, whereas empathy and communication, despite their significance in the employment market, were rated the lowest. Creativity received good ratings in the research conducted by Succi and Canovi (Succi, Canovi, 2020). The authors observed that students frequently overrate their creativity and critical thinking abilities. Noah and Abdul reported analogous findings, revealing that the graduates they examined frequently had deficiencies in critical thinking, problem-solving, English communication,



and teamwork competencies (Noah, Abdul Aziz, 2020). Subpar evaluations in empathy and communicativeness suggest that students, particularly in engineering disciplines, underestimate the importance of interpersonal skills. Robles (2012) also noted a diminished assessment of empathy as an interpersonal competency. Itani and Srour (2016) reported comparable results, indicating that students in technical disciplines are less likely to regard abilities such as conflict resolution and negotiating as crucial skills. The inadequate assessments of empathy and communication skills among engineering students may stem from academic curricula that predominantly emphasize technical competencies. This study reveals that most students advocate for the inclusion of soft skills courses in the academic program, corroborating prior findings about the educational requirements of this group. The findings demonstrating the absence of soft skills training in academic curricula align with Benek's research (2024). The author observed that Polish colleges are deficient in practical courses that cultivate abilities such as communication, conflict resolution, or negotiation. The necessity of developing soft skills during university studies has also been recognized by other researchers (Okolie, Nwosu, Mlanga, 2019; Tang, 2019). Okolie and colleagues (2019) stated that universities bear the responsibility for ensuring that graduates possess these competencies. This underscores the imperative of including soft skills training into academic curricula, particularly in technical disciplines.

## 6. Summary

The study provided responses to the research questions formulated. Soft skills, while significant in both personal and professional spheres and anticipated by employers, are evaluated differently by students across multiple universities and disciplines. Engineering students exhibit the highest skepticism towards them. The respondents recognized that these competencies are essential in professional settings and have to be cultivated during their education. They emphasized the imperative of incorporating subjects focused on these competencies into the curricula. An identified issue is the students' excessively inflated self-esteem, insufficient recognition of their deficiencies, and the disparity between their competencies and the demands of the employment market, highlighting the significance of education in this domain. This study's findings offer pragmatic recommendations for educational institutions. Implementing mandatory practical courses and incorporating soft skills into conventional academic curricula could greatly enhance students' readiness for employment requirements.

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