СОЦИОЛОГИЧЕСКИЕ ИССЛЕДОВАНИЯ В ОБРАЗОВАНИИ

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Attitudes towards artificial intelligence in professional and personal life

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Abstract*. Introduction*. Digital competence is seen as key to employment, education, and social domains in the 21st century. At the same time, there is no universal framework for studying attitudes towards artificial intelligence (AI) and its use in professional and personal life. *Aim*. The *aim* of the present research is to outline respondents' attitudes towards the benefits and threats of AI that may facilitate or hinder the process of intelligent AI integration into different aspects of life. *Methodology and research methods*. This article outlines results from a pilot study of attitudes towards AI, conducted with a sample of 125 Bulgarian students and professionals. The research design is mixed (quantitative and qualitative) and includes questionnaire, focus groups and interviews. *Results and scientific novelty.* The results reveal that both young people and adults base their opinions on their assessment of AI performance and find positive implications in terms of facilitating task performance, but have strong reservations concerning job security and the use of AI in the social sphere. They also suggest that AI skills need to become integrated into education. Future research directions highlighted include differentiating between educational, professional, and personal domains and self-assessing digital literacy from an evidence-based vs. state of the art perspective. *Practical significance.* Insights from this study focus on mindful mindset, educational settings and the redesign of educational content, particularly forms of critical engagement and use of AI.

Keywords*:* artificial intelligence, attitudes towards artificial intelligence, artificial intelligence in education

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Отношение к искусственному интеллекту в профессиональной и личной жизни

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Аннотация. *Введение.* Цифровая компетентность рассматривается как ключ к занятости, образованию и социальной сфере в XXI веке. При этом не существует универсальной основы для изучения отношения к искусственному интеллекту (ИИ) и его использованию в профессиональной и личной жизни. *Цель.* Целью настоящего исследования является определение отношения респондентов к преимуществам и угрозам ИИ, которые могут способствовать или препятствовать процессу интеграции интеллектуального ИИ в разные аспекты жизни. *Методология, методы и методики.* В этой статье представлены результаты пилотного исследования отношения к ИИ, проведенного на выборке из 125 болгарских студентов и специалистов. Дизайн исследования смешанный (количественный и качественный) и включает шкалы, фокус-группы и интервью. *Результаты и научная новизна.* Установлено, что как молодые, так и взрослые люди основывают свои мнения на оценке эффективности ИИ и находят положительные последствия в связи с облегчением выполнения задач, но имеют серьезные сомнения относительно безопасности работы и использования ИИ в социальной сфере и подчеркивают, что навыки ИИ должны стать частью образования. Выделенные будущие направления исследований связаны с дифференциацией образовательных, профессиональных и личных сфер, а также самооценкой цифровой грамотности с точки зрения фактических данных и современного уровня развития. *Практическая значимость.* Результаты исследования сосредоточены на осознанном мышлении, состоянии образовательной среды и редизайне образовательного контента, в частности, на формах критического взаимодействия и использовании ИИ.

Ключевые слова: искусственный интеллект, отношение к искусственному интеллекту, искусственный интеллект в образовании

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Introduction

Artificial intelligence and augmented intelligence have long been on the agenda. The continuing rapid development and improvement of information technology (IT) makes it difficult to describe and track when first artificial intelligence (AI) appeared, and how it penetrates personal and professional life. For this reason, we wanted to track the perceptions and attitudes of young people and adults on this issue, given the many directions Digital Europe is taking in science, education, career development and other areas. We set out to compare whether there are differences in perceptions and attitudes towards the use of AI, where the main benefits or fears associated with the use of AI are perceived, and for what purposes users prefer to use AI. In this way, we have tried to outline a general picture of perceptions and attitudes towards AI.

Digital transformation involves education and literacy, including the emergence of AI systems in citizens' everyday lives [1]. The challenge we address is critical thinking and awareness in terms of consciously using AI, which underpins the concept of digital literacy. Developing digital literacy, which European and global reports show is underdeveloped across generations, is a key focus for us. Regarding attitudes towards AI, digital literacy and ICT in general, there is no universal model to study the construct of attitudes [2]. This is the main objective of this pilot study – to collect preliminary findings, which to be the basis for future research, and to outline the factors that form positive and negative attitudes.

In Bulgaria, research on AI is mainly conducted in the field of economics and other occupational domains, mostly dealing with social and ethical issues, but not with the broad concept of attitudes from a psychological perspective. On the other hand, its role in education is well recognised, and the Ministry of Education and Science has published guidelines for the use of AI with a view to achieving smart growth. The changes cover the whole cycle of formal education, vocational training and higher education, with an emphasis on lifelong learning to enable people to acquire and improve relevant skills for a changing environment, in line with the EC Ethical Guidelines on the Use of Artificial Intelligence and Data in Teaching and Learning for Educators [3]. There are reviews available; however, there is a lack of empirical research on attitudes towards AI among various groups of respondents, including students, parents, teachers, and practitioners.

The pilot study conducted aimed to provide an idea of respondents' attitudes towards the benefits and threats of AI that may facilitate or hinder the process of smart AI integration. It includes a scale piloted for the study and a qualitative measure – focus groups and interviews and includes pre-service and in-service respondents. Its contribution to the literature lies in its focus on the mindful mindset, as evidenced by the outlined differences and similarities in the responses of various age groups with diverse professional backgrounds. The research questions are:

RQ1. What underlies positive and negative attitudes towards AI?

RQ2. Are their age differences in attitudes towards AI?

RQ3. Is there a differentiation between the preferred use of AI in some occupational/life domains?

The novelty of this pilot study is to highlight the basic motivation for using AI, critical thinking and educational needs for future research and practical implications. The results highlight the need for future research and, most importantly, the need to promote digital literacy in general for the smart implementation and use of AI.

Literature Review

In the 21st century, digital skills are seen as key to employment, education and social sectors, whereas digital economy already accounting for 25% of the global economy [4]. European Commission documents and policies focus on the use and implementation of AI in learning and support, among other priorities. This is a re-

peated confirmation of the urgent need the transformation of educational practices mediated by technology and the development of digital competences in all citizens to be promoted [5]. Digital literacy is considered a key to employment, education and social life and includes a wide range of technical skills, knowledge, communication, collaboration, critical thinking, creativity and problem solving [6].

Much of the research is concerned with specific developments and ethical considerations in their implementation. Research focusing on people's attitudes towards ICT, digital literacy, and AI, divides attitudes into negative and positive depending on the perceived benefits, ease of use and expected threats for the future. Especially when technologies affect employment and social relations, it is found that social changes related to new technologies usually lead to some uncertainty and anxiety [7]. Surveys on perceptions and attitudes focus on different aspects. In general, some of them outline narrow professional or age-specific attitudes, while others try to outline the general picture of human perceptions. From the point of view of findings, research on attitudes towards technological progress can be grouped into polarities – people who are supportive and have positive attitudes and those who are sceptical and expect disadvantages and problems. The negative attitudes recorded relate to fears, most commonly reported in relation to cyber-attacks, mass disinformation, loss of jobs and economic threats. AI attitudes mainly concern fear of job loss in the professional domain.

In general, AI is understood as "science and a set of computational technologies that are inspired by (…) the ways people use their nervous systems and bodies to sense, learn, reason, and take action" [8; p. 4]. J. N. Kok, E. J. Boers, W. A. Kosters, P. Van Der Putten, and M. Poel point out that the development of AI is based on the ability of self-learning [9], and from a cybernetic point of view, the goal of AI design is to promote intelligent behaviour with computer programs. Regarding the possibilities of AI, some researchers, such as W. Fehler, consider the potential and limitations of AI development to be unknown [10]. In contrast, others, including N. Zheng, Z. Liu, P. Ren, Y. Ma, S. Chen, S. Yu, J. Xue, B. Chen, and F. Wang [11], discuss its benefits. They propose the term "augmented intelligence" and emphasise that machine learning is intended to enhance areas where machines demonstrate greater efficiency, rather than to replace human capabilities.

AI education and attitudes towards the impact of AI are already available [12]. Some authors specifically highlight the experiences of older adults, noting that studies involving this age group often focus on assistance and assistive robots while overlooking their daily experiences. Furthermore, this demographic is eager to utilise AI and is willing to learn how to do so; however, they lack adequate guidelines for AI-enabled products. This line concerns the need, highlighted by E. Shandilya and M. Fan, for an inclusive virtual environment to make AI usable and accessible for older adults [13]. Attitudes of young people are studied by K. Bochniarz, S. Czerwiński, A. Sawicki and P. Atroszko with the results of the study showing that adolescents are more sceptical of AI, as this is influenced by personal self-perceptions such as low emotional control, hostility and cynicism towards AI [14].

Cultural and organisational factors, as well as gender specificities had been focused in the research by T. Nazaretsky, M. Ariely, M. Cukurova and G. Alexandron. In terms of cultural and gender effects, general measures of attitudes towards AI must account for cultural and gender differences. Individuals in technologically developed countries tend to be more supportive and less fearful of AI, while men generally exhibit a greater preference for AI compared to women [15]. The research by C. Sindermann, P. Sha, M. Zhou et al. focused on occupational setting demonstrate positive attitudes towards interpretable AI among non-experts [16] and that respondents prioritise accuracy over interpretability [17]. The research conducted by A. K. Neudert and N. H. Philip focuses on professional settings and reports positive attitudes. A large cross-cultural survey of public perceptions of the potential harms and opportunities of incorporating AI, covering 142 countries, confirms the conclusions that technological development in countries shapes attitudes, along with the accounted effect of occupation and position. Executives are much more supportive of AI decision making than employees in manufacturing and services [18]. At the personal level, the conclusions are that trust and mistrust in companies lead to positive and negative attitudes towards the risks and benefits of AI [19], and that fears and anxieties are generally related to people's fearful attitudes [20]. Attitudes depend on professional involvement and interactions with automated systems in terms of outlining perceived benefits (AI makes life easier) and fears (AI will take over or replace humans). The results reveal an interesting contradiction – an increase in both optimism and concern, thus special care shall be given to careful management of AI [19, 22]. On personal level conclusions are that corporate trust and distrust leads to positive and respectively, negative attitudes concerning the risks and benefits of AI [20] and that fears and anxiety are generally related to people's anxious attitudes or concerns about evolving conspiracy theories [21].

On individual level, a review of three decades of research on attitudes towards AI accounts an important fact – an increase in both optimism and concern. H. Blagoycheva notes that such mixed views are reported in most studies, with higher support for AI in general, with the specific notion that AI should be carefully managed [22]. In an attempt to better describe people's perceptions and attitudes towards AI, especially their fears, J. P. Stein, T. Messingschlager, T. Gnambs et al. include personality traits and conspiracy mindset [23]. Knowledge of attitudes towards AI as a prerequisite for its intelligent use underpins the development of a scale intended to measure better understanding, which includes six components – perceived humanity, perceived adaptability, and perceived quality of AI, fear of AI use, job insecurity and personal usefulness [24]. A deeper exploration of employee attitudes had led to studies aimed at describing and understanding attitudes, which are barriers to AI adoption due to negative attitudes. One of the paradoxes described is that employees prefer to work with real people rather than with virtual colleagues, while considering the benefits of intelligent automation. As U. Lichtenthaler suggests, the same individuals may have positive or negative attitudes towards AI, depending on the specific situation [25]. The two-factor distinction between positive and negative

attitudes and the role of personality traits has been confirmed by A. Schepman & P. Rodway [21]. Attitudes towards AI have also been examined in relation to self-determination theory and basic psychological needs (autonomy, competence and relatedness) [26].

Research Design

The large body of research suggests that there are many findings describing the many predictors and antecedents of attitudes towards AI, and yet continues to highlight the need to understand them better. Context, professional environment, previous experience, specific occupation, personality traits and dispositions account for subjective perceptions, and the question remains of the universality in perceptions and attitudes that can be derived and included in education and the promotion of critical thinking. The aim of the study is to outline young people's and adults' perceptions of AI and its future perceived impact on their lives. Studying the attitudes of students, teachers, professionals practising in different fields and inclusion of quantitative and qualitative measures aims to give a general picture and insights for future survey. In a convenient sample, a scale for measuring attitudes and the design of focus groups and semi-structured interviews were piloted in view to be implemented in a future survey in educational settings with a focus on digital literacy. The research covers several areas of interest: the place of perceived benefits and fears – positive and negative attitudes towards AI; personal preference to use AI; ranking the domains, in which respondents consider AI performs better than humans; expectations for future development of AI; need for education on proper use of AI.

The design includes quantitative part – a scale with 6 sub-scales; and qualitative part – focus groups and interviews with the same 6 groups of questions as the 6 subscales. The design of both the scale and focus groups and interviews follow the same research questions in view qualitative data to extend and give more insights of the quantitative data:

1) What are the perceived benefits, underlying the positive attitudes towards AI?
2) What are the perceived threats, underlying the negative attitudes towards AI?
3) Which are the domains of preferred personal use?
4) What is the attitude of respondents towards perceived need of AI training?
5) How professional areas and life domains are considered affected by AI?
6) What are respondents' perceptions of where AI is superior to humans and where humans are superior to AI?

For the initial pool of items generated, we used as guidelines scales that measure attitudes towards AI [12, 16, 19, 21]. The initial pool of items included 230, which were reduced and after piloting form 6 scales with good reliability as described below.

Sub-scales:

1) benefits from use of AI (positive attitude) (13 items, $\alpha = .84$);
2) fears related to AI (negative attitude) (12 items, $\alpha = .75$);

3) personal interest in use of AI (12 items, α = .76);
4) need of study how to use AI (22 items, α = .84);
5) domains, in which respondents would like to use AI and domains; and
6) domains, in which in which AI overperforms human (10 items, α = .79).

All self-response scales are 5-point Likert type. In addition to the acceptable reliability of the scales, they have positive moderate and high positive correlations as expected correlations (r = .49 to r = .67; p = 0,000). Benefits and fears related to AI are negatively associated, benefits perceived for AI use are positively associated with higher interest in use and vice versa, negative attitudes are related to less intention to use and learn how to use AI.

The sample comprised 125 respondents: 90 were administered the scale, 24 participated in two focus groups, and semi-structured interviews were conducted with 11 individuals. All respondents have given their informed consent.

The scale was administered to 1st and 2nd year students (14% men and 86% women; N = 90), enrolled in majors: social pedagogy national security, psychology, programming, preschool pedagogy, pedagogy, media pedagogy, speech therapy, fine arts and design. Recruited participants for the focus groups and interviews: undergraduate students (employed and unemployed), professionals in different fields and students in master programmes who are employed and who are also dabblers in different fields. Results describe the summary of two focus groups (30–40 y.o. and 40–50 y.o. professionals, each one of 12 participants) (N = 24). Additionally, 11 interviews were performed with school and university teachers (N = 11), who are supposed to be direct beneficiaries but also mediators of AI use and whose role model is considered important.

Results

Quantitative study. 69% of the respondents reported having experience with AI, and 39% use it daily, primarily for information searches and educational tasks. In terms of occupations most affected by AI, it is not surprising that IT professionals and developers are considered to be the most dependent on AI development, but many other occupations were listed to a lesser extent in the open-ended responses, including teachers. Most vulnerable professions, specified in the open-end responses that are going to disappear or be negatively impacted by AI are in the field of services. Table 1 summarises the study variables.

Table 1

Descriptive statistics

Variables	Min	Max	Mean	Std. dev
Fears (negative attitudes)	1.60	4.90	3.3300	.68260
Benefits (positive attitudes)	1.42	4.17	2.9917	.64138
Personal interest in AI use	1.00	4.50	2.7778	.67061
Need of studying how to use AI	2.00	5.00	3.3944	.65769
Domains of preferred personal use	1.55	4.14	2.8005	.59339
Domains, in which AI performs better than human	1.67	4.29	2.6745	.58206

Source: Authors own study

Declared personal interest in use of AI and employing in personal practice and life is below the theoretical mean of the scale. Positive result is the awareness of respondents that AI use has to be studied. Fears and negative attitudes among the respondents have higher mean value compared to the perceived benefits from use of AI. The correlation between positive and negative attitudes is moderate and negative (r (90) = -.426; p = 0.000) with significant difference in means (t (90) = - 2.870; p = 0.005). Both personal preferences for using AI and the assessment that AI excels beyond humans in certain areas fall below the mean point on the scale. Variables have strong positive correlation (r (90) = .686; p = 0.000) and significant difference in means (t (90) = 2.564; p = 0.012). At the background of the moderate willingness to trust AI in various fields, respondents based their personal confidence on their assessment of performance of AI compared to human (r (90) = .686; p = 0.000).

Concerning personal confidence and predisposition to use results are above the mean of the scale for some areas (e.g. Searching for information; Identifying fakes, plagiarism, fake news; Forecasting natural disasters and crises, economic and political forecasts; Working with large databases; Design logos, of cars, furniture, buildings, etc.); and summarising texts to extract the essence of information. Below the means are Beauty consultancy – make-up / hair advice; Creating a scientific text; Tactical choices, betting, predictions, Customer services; Creating learning content; Education, Creating artistic text; Recognising depression/suicidal tendencies through social media content analysis; Recruitment; Communication; Composing; Creating visual art; Driving a car; Medical diagnosis; Performing surgical procedures; and Providing psychotherapy and counselling (Fig. 1). Despite the slightly higher score of the variable mean of AI performance compared to the variable, measuring how comfortably respondents will feel to use AI, there is no significant difference in the responses where AI performs better and obviously AI performance underlie personal preferences.

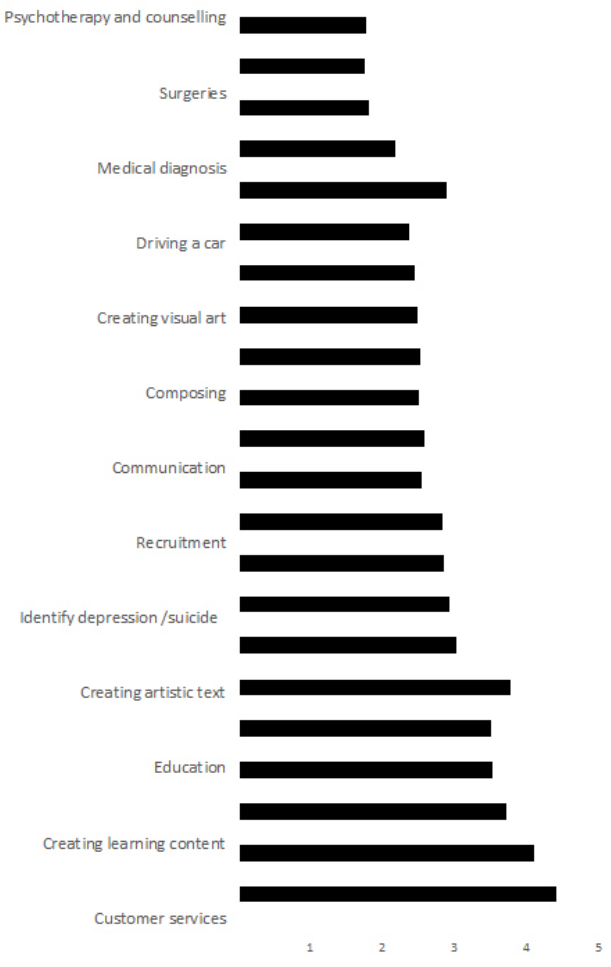

Fig. 1. Ranged areas, from most to less preferred areas for use of AI and where Ai excels humans

Source: Authors own study

Summary of the focus groups and interviews. What is common for the focus groups and interviews is contrary to the youth attitudes: in particular, more positive attitude towards AI despite the polar views. Since there are no significant differences but similarities between youth and adults, attitudes are summarised below for both focus groups.

Negative attitudes. Out of all 35 adults, only 1 had an exclusively negative attitude, supporting the position that social and emotional relationships are highly af-

fected, as well as job security. Negative attitudes were recorded for 1/3 of the adults. The most negative attitudes of the adults were related to career and professional risks. Respondents referred to the unfair competition between professionals who use AI in their work and those who work traditionally and consider this to be the most disloyal. The second, more balanced view is held by about half of the adults (mostly 30–40 years of age). They emphasised: "It is how you use AI that matters. AI cannot be described as either beneficial or threatening, it depends on people". The general feedback is summarised in quotation marks, using the original wording: *"knife is a knife, but it can be a cutter or a killer. It depends on how you use it", "It is very frightening that we do not know how to control it. We are also afraid of the new. But then we can learn to use it", "The problem lies in the professions and the protection of copyrights".* Participants gave examples of art photographers who won an award, only to have the author give it up and admit that it was created by AI.

Positive attitudes. The majority of participants (70%) strongly supported the benefits of chatbots and AI in general. They gave many examples of how they use AI in their jobs. It should be noted that the benefits are only related to the professional field and no one had mentioned entertainment, personal communication, applications for personal growth. Only one advocate shared that it is safer to cry in front of a chatbot because you are not ashamed. Some of the specific daily benefits shared were: big book respondents give the chatbot to summarise in one page; designing materials for use in educational practice that the chatbot has developed. More broadly, the examples referred to the reported position that nothing can be achieved today without the use of apps and AI.

It is important to use the information wisely. Both young people and adults maintained the position that they "check" and "verify" the information, do not just take it for granted, and give many examples of how they do this.

Debate of pros and cons. In both focus groups, two opinions emerged as pros and cons, which are summarised below: There was general agreement that AI and chatbots are part of a process that started a long time ago and has gradually escalated over the last 50 years, and very rapidly during the recent years. The goal is to make people stop thinking. The use of IT technology in generally makes people uncritical, lazy, and the brain does not need to work. Proponents countered that people are translators of content and therefore, cannot stop thinking. No one raised concerns about any particular category of people – age, or any other kind of vulnerability.

The feedback summarised from the interviews supports the positive attitudes outlined in the focus groups, mainly due to professional facilitation. Fears relate to job security and AI is not preferred in terms of communication and social aspects. 7 of the 11 respondents' answers are summarised below (the other 4 are identical).

Designer, art therapist, 50 y. o. had very serious concerns, mainly regarding perceived difficulties in personal identity – impact on adolescents and young people, the formation of models and perverted notions of gender role identification, career choices. Experience also raised concerns about the protection of the profession.

Copywriter, in film industry, involved in both scripting and advertising, 31 y. o. Reported frequent use of AI for convenience and in text preparation and editing. Believed that AI is developing very rapidly and worried about job displacement, despite time savings that cannot be compensated in other ways. He shared the position of the 30-something generation: that they may appear secure, confident and hedonistic, but the situation is experienced differently internally and that this generation is experiencing a lot of anxiety and uncertainty. He gave the example that the IT profession was the most prosperous profession – especially during the pandemic – which has now been replaced by the more powerful AI, and that he himself uses AI to write code rather than people he used to turn to.

A competency-based approach to the use of chatbots was found in *2 PhD students*. Due to the frequent absence of their supervisor, they commented with the chatbot on the articles they had read and were impressed by the communicated feedback; they used to ask it questions about each paragraph and engaged in profound discussions.

Lecturer, audio-visual technology and sound engineering, 50 y. o., reported use of AI in daily practice, because otherwise it would mean endless hours of work. And at the same time, she is aware that what AI does now was done by three humans before its advent, who are now "redundant professions" replaced by AI. But at the same time shared, "I simply cannot stop using this tool today".

University Assistant Professor, 38 y. o. declared to use AI for dissertation writing and simultaneously makes his best to teach students how to use the bots.

School teacher, 35 y. o. primary school, said she used to prepare her lessons using AI in daily practice.

In summary, both young people and adults take the course of development for granted. What is observed for all is coping – trying to find all the advantages to help them adapt to the situation, despite the fact that the allowed professions have been replaced by AI, which now performs the tasks. However, this is not a simple or straightforward process. Concerns about job security probably contribute most to the positive attitudes, which also apply to professional performance, and probably explain the wise declared use of AI. In both cases, the direction is to keep up with the technology, in the case of the younger generation as an immanent event, in the case of the older generation as part of the facilitation of their professional and personal lives. In both cases, the question is to what extent the process is rationally recognised and managed.

Discussion

Replicating previous research [19, 21], there are both pros and cons. What we find positive is that there are no extreme preferences or fears. This is mainly due to the wide range of applications of AI in education, work, personal life, services, routine activities (e.g. searching for information) and communication.

In response to RQ 1 (What underlies the positive and negative attitudes towards AI?), two lines of benefits and risks can be drawn that relate to ethical issues of job

security and the way in which we seek and orient our use of AI. Surveys confirm the positive attitudes of pre-service teachers and their striving for new competences to be included in education [27]. Positive attitudes are also confirmed among teachers [28] and the relationship between attitudes towards AI and competence development [29].

In response to RQ2 (Are there age differences in attitudes towards AI?), there are both similarities and differences in attitudes and perceptions. Both young people and adults use IT mainly to facilitate their daily tasks (education and work). Despite the benefits, both young people and adults (especially 30–40-year-olds) perceive a lot of risks associated with AI, and both young people and adults share the view that the use of AI must be part of education. Adults, despite recognising that AI will lead to job losses, including that their use contributes to this, report that they cannot give up on the benefits.

What is interesting about young people's responses is that fears and negative attitudes outweigh the perceived positive implications. Negative attitudes can be summarised as perceiving AI as dangerous, especially the possible future applications; that AI can take control of humans and destroy humanity; that it makes a lot of mistakes; and that the penetration of artificial intelligence will harm and negatively affect life, especially lead to loss of jobs, so respondents feel afraid. Positive outcomes and implications are expressed in statements such as AI can provide new economic opportunities and has many useful applications, can perform many routine activities much better than humans, can make people happier and promote well-being, can perform better than humans, provides reliable and trustworthy information, and everyone needs AI because it makes life more convenient. Among adults, on the other hand, positive attitudes towards AI prevail. It should be noted, however, that the positive effects are related to the facilitation of work performance. There are high reserves in the area of interaction and communication. Furthermore, in this study, the intelligent use of AI is highlighted in the answers of the respondents, confirming previous research [19, 21, 30].

In response to RQ 3 (Is there a distinction between the use of AI and its preferred use in some occupational/life domains?), personal use of AI is based on respondents' assessment of AI performance compared to humans. The areas of communication and social interaction are still considered to be human, and AI should not be allowed to enter these areas. AI is seen as most efficient in information retrieval and data processing. Obviously, this is due to sample specificities and the subject matter of interest in this area, particularly education. Research in this area confirms that teachers perceive the potential benefits of AI technologies to reduce workload without feeling threatened by being replaced in the future, but notes that the lack of clarity about what exactly AI is can lead to a lack of clarity about the use of AI technologies [31, 32].

In sum, AI competence formation and fostering is a must, and the suggested pathway is through smart delineation of occupational and private domain and education in both.

Conclusion, Limitations, and Future Research

Digital competence has become an essential skill in the 21st century, playing a crucial role in various domains, including employment, education, and social interactions. However, there is currently no universally accepted framework to study attitudes towards artificial intelligence (AI) and its use in both professional and personal contexts. As AI continues to evolve, understanding how individuals perceive its benefits and potential threats is vital to facilitating its smooth integration into different aspects of life. On other hands, the primary objective of this research was to investigate respondents' attitudes towards the benefits and threats of AI. By identifying these perceptions, the study aims were highlight factors that could either facilitate or hinder the process of AI integration into everyday life.

The convenience sample and the small number of respondents are the main limitations of this study. Nevertheless, we believe that the preliminary results provide some insights for future research to produce robust implications that can focus on the differentiation of life domains (education/work and personal life) that can be better differentiated. What can also be concluded for future research is in the area of digital literacy and competence: What exactly do people understand by AI and the differentiation of simple software application use and, most importantly, the differentiation of benefits and risks. This is what we consider to be the focus of education and the development of digital literacy and competence in and out of school, involving everyone. Balanced and mindful use of AI is the only smart way and the intersection, the explanation of the advantages and disadvantages, the underlying respondents' attitudes. This can ensure the intelligent integration and use of AI. Future studies should focus on differentiating between the educational, professional, and personal domains when assessing attitudes towards AI. Additionally, there is a need to explore the concept of digital literacy from both an evidence-based perspective and in terms of its alignment with the latest developments in AI technology. The findings from this pilot study provide valuable insights for developing a mindful approach to AI integration in educational settings. By redesigning educational content to include critical engagement with AI, educators can help students and professionals develop a balanced and informed perspective. These insights also suggest the importance of fostering a thoughtful mindset towards AI, which will be essential for its responsible use in the future.

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