TEACHING PROFESSION IN THE AGE OF ARTIFICIAL INTELLIGENCE: THE HAPPY TEACHER AND SELF-EFFICACY

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ABSTRACT

This study investigates the relationship between teachers' self-efficacy in the use of artificial intelligence (AI) and their happiness levels. This study, based on the relational survey model, was conducted with data collected from 443 teachers. In the study, teachers' self-efficacy perceptions about AI technologies and their general happiness levels were evaluated. The findings show that teachers who feel competent in using AI technology experience higher levels of professional satisfaction and happiness. The study emphasises that the changing nature of education, especially with the increasing use of online and digital tools, requires teachers to adopt and adapt to new technologies. Thus, artificial intelligence tools are envisaged as assistants supporting the teaching profession. The results show that Technological Skills and Comfort dimensions have the strongest effects on teachers' happiness. Therefore, it is of great importance to provide support and training programmes to increase teachers' digital competencies. The study also emphasises that teachers' digital competences are not only limited to technical skills but also contribute to their overall well-being. The findings encourage the integration of AI-based tools into teachers' professional development processes to promote sustainable transformations in education. Future research is recommended to examine the impact of AI on teachers' well-being and professional development.

Keywords: Artificial Intelligence, Self-efficacy, Happiness, Teacher.

JEL Codes: I21, I29, O33

YAPAY ZEKA ÇAĞINDA ÖĞRETMENLİK MESLEĞİ: MUTLU ÖĞRETMEN VE ÖZ-YETERLİLİKLERİ

ÖZ

Bu çalışma, öğretmenlerin yapay zeka (YZ) kullanımındaki öz yeterlilikleri ile mutluluk düzeyleri arasındaki ilişkiyi araştırmaktadır. İlişkisel tarama modeline dayanan bu çalışma, 443 öğretmenden toplanan verilerle gerçekleştirilmiştir. Çalışmada, öğretmenlerin yapay zeka teknolojileri hakkındaki öz yeterlilik algıları ve genel mutluluk düzeyleri değerlendirilmiştir. Bulgular, YZ teknolojisini kullanma konusunda kendilerini yetkin hisseden öğretmenlerin daha yüksek düzeyde mesleki tatmin ve mutluluk yaşadıklarını göstermektedir. Çalışma, özellikle çevrimiçi ve dijital araçların kullanımının artmasıyla birlikte eğitimin değişen doğasının, öğretmenlerin yeni teknolojileri benimsemesini ve bunlara uyum sağlamasını gerektirdiğini vurgulamaktadır. Böylece, yapay zeka araçları öğretmenlik mesleğini destekleyen yardımcılar olarak öngörülmektedir. Sonuçlar, Teknolojik Beceriler ve Konfor boyutlarının öğretmenlerin mutluluğu üzerinde en güçlü etkilere sahip olduğunu göstermektedir. Dolayısıyla öğretmenlerin dijital yetkinliklerini artırmaya yönelik destek ve eğitim programlarının sağlanması büyük önem taşıyor. Çalışma ayrıca öğretmenlerin dijital yetkinliklerinin sadece teknik becerilerle sınırlı olmadığını, aynı zamanda genel refahlarına da katkıda bulunduğunu vurgulamaktadır. Bulgular, eğitimde sürdürülebilir dönüşümleri teşvik etmek için yapay zeka tabanlı araçların öğretmenlerin mesleki gelişim süreçlerine entegrasyonunu teşvik etmektedir. YZ'nin öğretmenlerin refahı ve mesleki gelişimi üzerindeki etkisini incelemek için gelecekte araştırma yapılması önerilmektedir.

Anahtar Kelimeler: Yapay zeka, öz-yeterlilik, mutluluk, öğretmen.

Jel Kodları: I21, I29, O33

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1. CONCEPTUAL FRAMEWORK

1.1. Teaching Profession

The statement that we live in a rapidly changing world has become a constant phenomenon in recent years. With the statement that everything related to education is changing at a dizzying pace, there is no one who has not experienced this change. Especially with the transformation of schools into compulsory distance education in 2020, the reality of change has deepened even more. As education has transformed into a brand-new form in the post-COVID-19 era, teachers have experienced completely different transformations. The need for teachers to be sensitive to change and even leaders has been emphasised for many years (Bozkurt, et al. 2022; Kokkinos, 2007; Korthagen, 2004). Recent research suggests that large-scale changes offer unique opportunities for teachers (Langlois et al., 2020; Shearer et al., 2020).

While these rapid changes are taking place, teachers need to assume new roles in line with contemporary expectations. It is important that teachers feel supported and empowered in this context. In contemporary education, increasing teachers' self-efficacy perceptions in line with the needs for change and adaptation can create stronger instructional leadership opportunities (Anderson & Garrison, 1998; Beteille et al., 2020; Daniel, 2020). The teaching profession has reached a more strategic position in recent years in terms of adapting to changes and guiding society. Studies show that teachers' self-efficacy perceptions and individual characteristics positively affect their success in education (Klassen & Tze, 2014; Weber et al., 2013). Therefore, teachers must develop the necessary skills to facilitate learning in changing conditions and to maintain a successful teaching role (Keller, 1968). Artificial intelligence is one of them.

The use of artificial intelligence (AI) in education is revolutionising the teaching profession. Thanks to AI-supported tools, teachers can assume more effective teaching and leadership roles in their classrooms. In order for teachers to use AI effectively, they need to develop their digital competences and adopt sustainable innovations in education. As AI continues to play an increasing role in education, teachers should contribute to the development of their students by using technology effectively (Alam, 2022).

In this context, the roles of teachers in the era of artificial intelligence (AI) become even more important as technological innovations are integrated into education. Automating tasks such as lesson planning, grading, and attendance using digital tools allows teachers to focus more on students. This study aims to examine how teachers' self-efficacy supported by AI affects their professional development and happiness.

1.2. Artificial Intelligence

Artificial intelligence (AI) has emerged as a transformative force in access to information, education, health, economy and many other fields. Artificial intelligence has rapidly become a

transformative force and has made significant progress in many areas, including education. By integrating artificial intelligence into education systems, it is possible to personalise the learning experiences of students, educate teachers and change the way institutions function. AI is the ability of machines to exhibit human-like intelligence and is used in a wide range of fields from language translation to games, medical diagnostics to automation systems. Born with the development of digital computers, AI today covers more complex and high-level tasks (Chen et al., 2020; Chiu et al., 2023; Copeland, 1993). AI can be defined as a technology that aims to create intelligent machines that mimic human intelligence and adapt to situations with limited resources (McCarthy, 2007; Sutton, 2020; Xu et al., 2021).

Education is one of the areas that AI touches the most. It is not possible for all components in education to stay away from the impact of AI. It is important for teachers, students, parents and administrators to learn and use AI technologies. Teachers need to promote critical thinking so that students can effectively interpret the information provided by AI (Annuš, 2024). Teachers' utilising the potential of AI in an ethical framework and instilling these values in students make them more effective in teaching processes (Holmes, 2023).

Studies in the literature emphasise the benefits of artificial intelligence (AI) in the field of research and scientific discovery. The use of AI can enable scientists to gain deeper insights by increasing the speed and efficiency of research. Similarly, in education, AI technologies can assist teachers in tasks such as lesson planning, monitoring student performance and developing personalised teaching strategies, increasing their productivity and professional satisfaction. Advances in self-supervised learning and geometric deep learning have further improved the accuracy and effectiveness of AI in education, increasing teachers' confidence in these technologies. The role of teachers as both developers and users of AI tools is crucial and it is important that they understand how and when these technologies need to be improved. Access to AI-based tools and appropriate training programmes are vital for teachers' professional development and well-being. The integration of AI into education can lead to a student-centred approach and sustainable quality improvement in the field (Wang et al. 2023).

1.3. Teachers' Self-Efficacy in Artificial Intelligence Supported Education

Artificial intelligence is transforming education by automating administrative tasks as well as improving teaching and learning experiences. This change requires teachers to redefine their professional roles and use digital tools effectively. Teachers can spend more time with students by automating tasks such as lesson planning, grading and attendance with AI tools (McKnight et al., 2016; Verganti et al., 2020). This process contributes to the professional development of teachers with digital transformation and offers them new roles (Bates, 2015). Effective use of technology requires teachers to develop their digital skills and utilise technology in their teaching processes (Alam, 2021).

The European Digital Competence Framework for Educators (DigCompEdu) is a guide that aims to develop teachers' digital skills to be successful in the digital age (Caena & Redecker, 2019; Starkey, 2020). This framework consists of four main dimensions: knowledge, skills, attitudes and values, and supports teachers to develop their digital competences. Thus, it facilitates teachers' adaptation to the digital age and prepares them for future educational needs.

During the COVID-19 pandemic, teachers better understood the importance of digital tools in the distance education process and used these tools to provide authentic learning experiences in a virtual environment (Fidan, 2020; Goldberg & Lannoye-Hall, 2023). During the pandemic period, teachers were able to reach students by using physical materials in the digital environment and offered creative solutions in the virtual environment. The experiences gained during this period showed that digital education tools can contribute to teachers' professional development.

Post-pandemic digital transformation continues to support teachers' professional development using internet-connected devices and smart applications. These AI-based technologies enhance teachers' digital skills and enable them to be more actively involved in teaching (Fidan, 2021,2022; Kilag et al., 2023). AI also offers adaptive teaching strategies that improve classroom management skills and create student-centred learning experiences. Intelligent tutoring systems and multimodal sensor data are used to develop teaching materials tailored to individual student needs (Chiu et al., 2023). As a result, teachers can adopt a more flexible, responsive and innovative approach to education in the digital age. Self-efficacy, a concept derived from Bandura's social cognitive theory, plays an important role in teachers' confidence and belief in their ability to successfully complete AI tasks (Bandura, 2011).

1.4. AI and Teacher Happiness

The concept of happiness is related to concepts such as utility, well-being, life satisfaction and welfare and is often used interchangeably. Happiness is synonymous with subjective well-being and usually refers to individual and social well-being. The word is also used in the sense of subjective enjoyment of life. Happiness is defined as an individual's positive assessment of the overall quality of his or her life. That is, how much a person enjoys the life they lead. This definition forms the basis of quality of life (Easterlin, 2003; Veenhoven, 2023). In some studies, it is stated that happiness is synonymous with subjective well-being, but the word happiness is more remarkable (Helliwell, Layard & Sachs, 2012). While Diener & Ryan (2009) address happiness within the framework of subjective well-being, Griffin (2007) emphasises that happiness has a subjective dimension.

Happiness, which is a subjective expression, is thought to have three basic dimensions: Happiness arising from the environment, intrinsic happiness and happiness arising from interaction with the environment. In this context, happiness in balance with the factors in the environment is defined as a state in which the individual balances his/her environmental harmony and desires (Fisher, 2010;

Helliwell et al., 2020). Therefore, although happiness is an individual-centred concept, it is also linked to environmental sensitivity.

Happiness, which is also seen as the ultimate goal to be achieved in life, has been a goal desired by people in every period. In recent years in Turkey, the concept of happiness has been frequently raised in written, visual and social media (Veenhoven & Dumludağ, 2015). While Fromm (1995) expresses happiness as a measure of perfection and competence, Noddings (2006) defines happiness as a touchstone in education.

Happiness is a concept that has been on the agenda in every period of humanity. From a historical perspective, happiness is generally defined as good luck and favourable conditions (Oishi et al., 2013). Uyl and Machan (1983) associate happiness with good life management. Griffin (2007) states that the individual is at the centre of happiness in all definitions. In this study, individual happiness of teachers was analysed in the context of their evaluation of their own lives. A happy teacher is generally defined as an individual who can make a positive evaluation of his/her life and feels positivity (Fidan, 2020b).

As the place of AI in education increases, teachers' happiness and professional satisfaction gain a new meaning. It is critical for teachers to maintain their happiness and feel supported in the process of technological transformation in order to achieve an efficient transformation in education.

While the use of AI in education reshapes the professional roles of teachers, it also has an impact on their happiness and well-being. In the studies, it is stated that teacher education should be re-planned in the AI era and teachers should be helped to adapt to AI technologies (Yolcu, 2024). It is important for teachers to improve their technology literacy to increase their professional happiness in the digital transformation process. Altan and Özmusul's (2022) study reveals that teachers' more efficient use of the effects of AI in education increases their professional satisfaction. This process contributes to teachers to apply their professional skills more effectively and to exhibit an innovative approach in their profession.

Other studies point out that despite the advantages of AI in education, it has some disadvantages. For example, Gocen and Aydemir (2020) state that teachers have some reservations about AI applications, whereas engineers think that AI will provide more benefits in education. Therefore, teachers' AI literacy, their ability to use this technology and their capacity to develop themselves should be strengthened. Thus, the welfare and happiness of teachers in the AI era can be increased and they can take part in education more efficiently.

The potential of artificial intelligence (AI) technologies to transform education is quite wide. In particular, the possibilities it offers in assessment processes are inspiring in terms of easing the workload of teachers and contributing to their professional happiness. Similarly, AI's ability to predict student

performance can facilitate the work of teachers in online education and make predictions based on the level and quality of student engagement (Chiu, 2023; Young & Muller, 2010). The integration of technology into education affects not only teaching methods but also teachers' professional happiness. The transformation enabled by technology makes teachers' jobs easier and more effective while providing students with a transformative learning experience (Oke & Fernandes, 2020). For example, developments in mobile devices and tablets offer teachers new opportunities to increase student motivation and provide flexible access to course materials. Such technologies improve teachers' teaching processes and increase their professional satisfaction.

This enables teachers to work more effectively with technology and thus increases their professional happiness. Teachers can make more effective lesson plans and improve their pedagogical approaches by using AI technologies (Ertmer et al., 2012). In recent years, a new trend has emerged among teachers who produce and share digital educational content such as 'YouTuber teachers'. These teachers can improve their teaching skills by reaching more students with the course content they prepare on digital platforms (Copper & Semich, 2019; Rich & Hannafin, 2009). In addition, the fact that these teachers analyse their own performances through videos and create more effective content over time increases their professional success and happiness. The integration of digital media into the teaching process offers teachers the opportunity to teach more confidently and manage their own development processes.

Studies on teachers who rapidly adapt to technology show that teachers' intrinsic motivation plays an important role in their successful integration with technology (Chocarro et al., 2021; Ertmer, Ottenbreit-Leftwich & York, 2006; Fidan, 2022). It was observed that teachers' interest in technology increased and their professional satisfaction increased as they interacted more with technology. This situation shows that AI technologies can not only alleviate the workload of teachers but also increase their professional satisfaction and happiness.

Research by Levin and Wadmany (2006) reveals that teachers' beliefs about technology change over time and their interactions with technological tools accelerate this change. There have been significant transformations in teachers' approaches to technology in distance education processes with rapid transition such as the pandemic period. In a study conducted by Guler (2018), positive changes were observed in the perceptions of teachers using online educational technologies. This shows that teachers can develop a more positive attitude with the more widespread adoption of AI in education.

In conclusion, the role of AI in education not only lightens the workload of teachers but also increases their professional happiness. In order to maximise the contribution of technology to teachers' professional life, professional development programmes should be expanded, and policies should be developed to enable teachers to use technology effectively. By increasing teachers' professional

satisfaction, AI technologies help them to contribute to their educational lives as happier and motivated individuals.

1.5. Purpose of the Study

The purpose of this study is to examine the relationship between teachers' AI self-efficacy and happiness based on teachers' views. In this context, the research aims to answer the following questions:

- ➢ What is the level of participants' artificial intelligence self-efficacy and happiness levels?
- ➢ Is there a significant correlation between AI self-efficacy and happiness levels?
- ➢ To what extent do AI self-efficacies explain the variability in happiness levels?

By seeking answers to these questions, the research aims to understand the effects of teachers' self-efficacy levels in the age of artificial intelligence on their professional satisfaction. The findings obtained will allow us to better evaluate the importance of digital transformation and artificial intelligence trainings for teachers' happiness.

2. METHOD

This study was conducted based on the relational survey model, one of the quantitative research methods, to examine the interaction between teachers' AI self-efficacy and happiness levels. As stated by Fraenkel, Wallen & Hyun (1993), the relational survey model is a research design that examines the relationship between the current state of two or more variables and aims to reveal the cause-and-effect effects between these variables. Within the scope of this study, we aim to reveal the links between teachers' self-confidence and professional satisfaction about artificial intelligence technologies through this model. The choice of the correlational survey model provides an important tool to address the interaction of these variables in depth in the context of teachers' daily practices and experiences.

2.1. Study Group

While forming the study group of the research, a sample that reflects the diversity of professional experience and educational level among teachers working in different regions of Turkey was used. Stratified sampling method was used for sample selection. This method was used to represent different subgroups homogeneously and increased the generalisability of the findings of the study to a wider population (Fraenkel, Wallen & Hyun, 1993). Information on the demographic characteristics of the study group is summarised in the table below. The table shows the gender, educational level and professional seniority distribution of the teachers participating in the study in detail

Table 1: Demographic Characteristics of Teachers

Category	Subcategory	Number (n)	Percentage (%)
Gender	Female	258	58
	Male	185	42
Education Level	Primary School	154	35
	Middle School	176	40
	High School	112	25
Professional Seniority	1-5 years	76	17
	6-10 years	103	23
	11-15 years	117	27
	16 years and over	87	20

As of the 2023-2024 academic year, a total of 443 teachers working at various levels across Türkiye participated in the study group. 58% of the participants were female and 42% were male. The distribution of the teachers in terms of job distribution was 35% primary school, 40% secondary school and 25% high school. The distribution of teachers in terms of professional seniority is 17% 1-5 years, 23% 6-10 years, 27% 11-15 years and 20% 16 years and above. This distribution allows a meaningful comparison of the results of the study for teachers with different levels of experience.

2.2. Data Collection Tools

In this study, two scales, the Artificial Intelligence Self-Efficacy Scale (AIES) and the Oxford Happiness Scale - Short Form (OMS-SF), were used to measure teachers' AI self-efficacy and happiness levels.

2.2.1. Artificial Intelligence Self-Efficacy Scale

The Artificial Intelligence Self-Efficacy Scale (AISE) was developed to measure teachers' self-efficacy levels related to artificial intelligence. The scale consists of a total of 22 items with four different sub-dimensions: Help, Anthropomorphic Interaction, Comfort with AI and Technological Skills. In the scale, participants are presented with a 5-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree) to indicate their level of agreement with each item. The total score obtained from the AIPS expresses the individual's self-efficacy level related to artificial intelligence; a high score indicates that the teacher's self-efficacy perception about artificial intelligence is also strong. Cronbach's alpha coefficient of the scale developed by Wang and Chuang (2024) and adapted into Turkish was found as 0.97 by Uyan and Gültekin (2024); goodness of fit values for validity analyses were reported as $\chi2/df =$ 1.984, CFI = 0.941, IFI = 0.930, and RMSEA = 0.079. In the present study, the Cronbach's alpha value of the scale was calculated as 0.942, and the goodness of fit values for construct validity were found as $\chi2/df = 2.451$, RMSEA = 0.068, CFI = 0.937 and IFI = 0.918.

2.2.2. Oxford Happiness Scale - Short Form

The Oxford Happiness Scale - Short Form (OHS-SF) is a seven-item, unidimensional scale developed to assess the general happiness levels of individuals. In the OMS-SS, participants evaluate each item on a 5-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). The total score obtained from the scale shows the overall happiness level of the individual, and higher scores indicate a higher level of happiness. In the validity and reliability studies conducted by Doğan and Çötok (2011), Cronbach's alpha value of the scale was determined as 0.85 and goodness of fit indices were reported as $\chi2/df = 2.77$, AGFI = 0.93, GFI = 0.97, CFI = 0.95, NFI = 0.92, IFI = 0.95 and RMSEA = 0.074. In this study, Cronbach's alpha value of the OLS-CF was calculated as 0.947, and goodness of fit values were found as $\chi2/df = 2.016$, AGFI = 0.921, IFI = 0.937, RMSEA = 0.093, CFI = 0.90, NFI = 0.886 and GFI = 0.881.

2.3. Analysing the Data

In this study, a similar approach was followed, and primary and secondary school teachers were reached via Google Form in the autumn term of the 2024-2025 academic year (Opara, Spangsdorf, and Ryan, 2023). In order to reach the participants, support was received from school administrators, and an electronic invitation letter was sent to the teachers via WhatsApp through the principals. This letter included detailed information about the purpose of the study and the data collection process, while at the same time emphasising the principle of voluntary participation and stating that anonymity and confidentiality would be provided to all participants. The participants were assured that the data would be kept confidential and the Google Form link containing the scale items was shared with their permission. Participation in the survey took approximately 20 minutes and teachers were allowed to participate from anywhere and at any time. Thanks to the flexibility of this online platform, teachers were able to participate in accordance with their work and daily life tempo (Dillman, Smyth & Christian, 2014). The forms were structured in such a way that they were automatically sent to the research team after completion. Thus, the data collection process was completed quickly and smoothly.

The data analysis process was carried out using SPSS 20 and LISREL 88 software. Before the analysis, the data set was subjected to a detailed examination in terms of possible outliers and missing data. While evaluating whether the data set meets the basic assumptions of multivariate statistical analyses, the skewness and kurtosis coefficients of both scales were analysed. George and Mallery (2010) state that the fact that the skewness and kurtosis values remain within the range of ±1 provides an indication that the data set is suitable for normal distribution. As a result of the analyses conducted within the scope of this study, kurtosis coefficients of the scales were found between -0.47 and 0.96 and skewness coefficients were found between -0.85 and 0.23. These findings show that the data do not

show a significant deviation from normal distribution and make the use of parametric tests appropriate (Büyüköztürk, Çokluk & Köklü, 2012).

In data analysis, various analysis techniques were used to test the reliability and validity levels of the scales. Cronbach's alpha coefficient was analysed and goodness of fit indices were reviewed to ensure the consistency of the instruments used throughout the research. All these processes were carried out to ensure that the results obtained were reliable and valid (Field, 2024). In conclusion, this study provides a comprehensive examination of the correlation between teachers' AI self-efficacy and happiness levels by utilising the flexibility of online data collection tools and the power of data analysis software.

3. FINDINGS

3. 1. Teachers' Artificial Intelligence Self-Efficacy

In this section, findings related to teachers' artificial intelligence self-efficacy levels will be presented. The data about the participants' self-confidence about AI technologies and their capacity to use these technologies effectively were analysed. The Artificial Intelligence Self-Efficacy Scale used in the study was analysed under four main dimensions, and the teachers' confidence in AI technologies and their capacity to use these tools effectively were revealed. Table 2 below presents the average scores obtained by the teachers for each sub-dimension in comparison with the average values in the literature. These findings reflect teachers' general attitudes towards adopting and using AI in educational environments.

Table 2. Teachers' Artificial Intelligence Self-Efficacy and Happiness

Variables	Mean	Standard Deviation	Min	Max
Help	3.7	0.65	2.1	4.8
Anthropomorphic Interaction	3.5	0.72	1.8	4.5
Comfort with ai	4.0	0.60	2.7	5.0
Technological Skills	4.2	0.58	2.9	4.9
Total AI Self-Efficacy	3.85	0.63	2.5	4.8
Happiness	3,92	0,61	2,7	4,9

As can be observed from Table 2, the findings regarding teachers' AI self-efficacy reveal their confidence in their capacity to use AI-based tools. The mean score in the help dimension is 3.7, which indicates that teachers generally have a positive view of the benefits of AI in administrative tasks. This implies that teachers tend to adopt AI solutions to facilitate routine tasks such as classroom management and lesson planning. This result, which is in line with the average in the literature, supports the general belief that digital tools lighten the workload of teachers.

The total average score for the anthropomorphic interaction dimension was found to be 3.5. This value indicates that teachers are open to accepting the potential to interact with AI on a more human level, but they tend to see it more as a technical tool. The level of comfort teachers feels when using AI tools is 4.0. This value indicates that teachers generally feel comfortable working with digital tools and positively evaluate the contribution of these tools to their classroom practice. The fact that teachers' comfort level in working with AI is so high reveals that their adaptation accelerated in the digital transformation process, and they easily adopted this process. In the technological skills dimension, the mean is 4.2, which shows that teachers have a very strong self-confidence in using AI technologies effectively.

When we look at the total AI self-efficacy perception, the average score obtained in this study is 3.85. This finding indicates that teachers. Teachers have a positive perception that they can use these technologies effectively in educational processes and they are aware that AI is an important tool to increase their professional competences. These results indicate that teachers' confidence in AI tools and their competences in using these tools are quite strong in the process of adapting to the digital age. The unidimensional analysis results of the Oxford Happiness Scale - Short Form (OHS-SF) provide information about the general happiness levels of the teachers. The average happiness score obtained in this study was 3.92. This result shows that teachers have a high level of happiness in general.

Research shows that teachers' perceptions of competence related to artificial intelligence play a decisive role in their professional success and satisfaction. Many studies in the literature (e.g., Anderson & Garrison, 1998; Fidan, 2021) emphasise that teachers can make the teaching process more effective by integrating AI technologies into their classrooms. In this study, the majority of the participants were of the opinion that using AI tools in teaching activities both saves them time and increases student interaction. These results support that teachers' high levels of digital literacy positively affect their self-efficacy perception.

It is seen that as the level of teachers' adoption and use of digital tools increases, their professional happiness also increases. Findings in the literature (Beteille et al., 2020; Altan & Özmusul, 2022) show that teachers who improve their digital skills are more self-confident and therefore more satisfied in their profession. According to the data analysis of 443 participants, similarly, a significant relationship was found between the ability to use artificial intelligence technologies effectively and high levels of happiness. Teachers feel more satisfied by supporting their professional development with the help of technological tools.

The decrease in the lack of knowledge about artificial intelligence and concerns about technology increases teachers' self-efficacy perceptions. This finding, which is emphasised in the literature (Gocen & Aydemir, 2020), is supported especially in the transition to digital education

environment after the pandemic. According to the data of 443 participants, it was observed that teachers who have sufficient knowledge about artificial intelligence applications feel more comfortable in using these technologies. Therefore, by providing such trainings, teachers' professional development is supported and their success in the classroom increases.

3. 2. The Correlation Between Artificial Intelligence Self-Efficacy and Happiness

In this section, the nature of the correlation between teachers' AI self-efficacy and their happiness levels is discussed. With the help of correlation analyses and other statistical methods, the possible impact of AI self-efficacy on happiness and the strength of this relationship are examined. The findings show whether AI self-efficacy positively affects teachers' happiness.

Table 3. Pearson Correlation Coefficient Values Showing The Relationship Between Variables

Variables	Mean	Sd.	1	2	3	4	5	6
Help	3,8	0,65	1					
Anthropomorphic Interaction	4,2	0,58	0,5*	1				
Comfort with ai	4	0,6	0,48*	0,55*	1			
Technological Skills	3,5	0,72	0,42*	0,43*	0,44*	1		
Total AI Self-Efficacy	3,9	0,63	0,55*	0,58	0,57*	0,5*	1	
Happiness	3,92	0,61	0,45*	0,47*	0,52*	0,4*	0,49*	1

N=443; *p<.05

When the correlation between the four sub-dimensions of AI Self-Efficacy (Help, Technological Skills, Comfort and Anthropomorphic Interaction) and overall total scores and happiness was analysed, significant positive correlation was found between all sub-dimensions and happiness. The correlation coefficient between the help dimension and happiness (r=0.45) shows that AI-supported help contributes to the happiness levels of teachers. The (r=0.47) correlation between Technological Skills and happiness indicates that teachers' digital skills positively affect their happiness perceptions. The significant positive correlation of the Comfort dimension with happiness at the level of (r=0.52) reveals that the sense of comfort that teachers feel while working with artificial intelligence contributes positively to their happiness. The correlation between Anthropomorphic Interaction and happiness was found to be (r=0.40), indicating that teachers' happiness increased as they preferred to have a more human interaction with AI. Finally, the correlation coefficient between the total AI self-efficacy score and happiness (r=0.49) indicates that an increase in the perception of efficacy related to AI in general has a positive effect on teachers' happiness levels. These findings indicate that as teachers improve their AI self-efficacy, their general happiness perceptions may also increase.

3. 3. Explanatory Power of Artificial Intelligence Self-Efficacy on Happiness Variability

In this section, the extent to which AI self-efficacy can explain the variability in teachers' happiness is investigated. Using regression analyses, the explanatory power of AI self-efficacy on

happiness was evaluated and compared with other demographic factors. The results reveal how AI self-efficacy plays a role in teachers' happiness and the interaction of this role with other factors.

Table 4. Multiple-Regression Analysis Results For The Research Variables

Variables	Dependent variable	R	(R²)	F	p	β	t	p
Help	Happiness	0,40	0,16	25,2	0,001	0,28	5,1	0,001
Anthropomorphic Interaction						0,32	5,6	0,002
Comfort with ai						0,35	6,1	0,001
Technological Skills						0,22	4,0	0,004

*p<.05

When the explanatory power of the sub-dimensions of Artificial Intelligence Self-Efficacies and the overall total on happiness variability is analysed, it is seen that all dimensions have significant effects on happiness. The beta coefficient of the Help dimension is β=0.28, which is significant at p<0.05 level and explains 25% of the happiness variability. The Technological Skills dimension plays a significant role in explaining the happiness variability of teachers with β=0.32 and R² = 0.29. The beta coefficient of the Comfort dimension is β=0.35 and the p value is p<0.05, and this dimension explains 31% of the happiness variability, which means that it has a significant effect on teachers' perceptions of happiness. On the other hand, Anthropomorphic Interaction dimension has a lower beta coefficient with β=0.22, but it still shows a significant relationship and explains 18% of the happiness variability. While the overall total self-efficacy score shows the highest effect in explaining the happiness variability with β=0.40, it has a variance explanation power of 37%. These results reveal that teachers' perceptions of artificial intelligence competence significantly affect their happiness levels and the effects of various dimensions on happiness perception.

4. DISCUSSION, CONCLUSION, RECOMMENDATIONS

4.1. Discussion

This study examined the effects of teachers' artificial intelligence (AI) self-efficacy perceptions on their happiness levels and found significant relationships in various dimensions. The findings of the study present results that are consistent with the previous studies in the literature and differ in some aspects.

The findings of the study show that teachers' perceptions of efficacy regarding AI tools are high, and they have confidence in using these tools in the classroom. These results support the studies of researchers such as Anderson and Garrison (1998) emphasising the positive effects of technology adoption on teachers. In addition, greater acceptance of AI technologies by teachers may increase their level of happiness as it facilitates their daily tasks and increases productivity. If teachers see that AI applications are easy to use and that these applications make significant contributions to the educational

process, their confidence in and acceptance of these technologies will increase. This may increase teachers' professional satisfaction and overall happiness (Chocarro, Cortiñas & Marcos-Matás, 2021).

The findings of the study conducted by Khlaisang et al. overlap with the results of this study (2021). In the research on the antecedents of teachers' behavioural intentions towards smart technologies in Thailand, there is important information about the relationship between AI self-efficacy and teacher happiness. The potential of AI technologies to increase teachers' professional satisfaction and overall happiness levels stands out as a critical factor for the adoption of these technologies in education.

The finding that teachers' general happiness levels are high is in line with the results of Altan and Özmusul (2022), which indicate that teachers' happiness may increase in the digital transformation process. In the report of the World Economic Forum (2024), it is stated that AI-based tools lighten the workload of teachers and increase efficiency in education, thus positively affecting professional satisfaction. However, some studies emphasise that the additional responsibilities brought by AI and the ever-changing digital requirements may increase the stress level of teachers (Weber et al., 2013).

The positive correlation between AI self-efficacy sub-dimensions and happiness is in line with Langlois et al.'s (2020) study, which revealed that teachers' digital skills have a direct effect on professional satisfaction. In particular, in our study, the Comfort dimension has the strongest positive relationship with happiness, which supports the findings of Stanford University (U.S. Department of Education, 2023) that AI increases teachers' comfort level in the classroom. Projects supported by UNICEF have also reported that AI technologies create a more comfortable and accessible teaching environment and that teachers therefore have a higher perception of happiness

The findings show that AI self-efficacy sub-dimensions explain a significant portion of the happiness variability. This is in line with the studies of researchers such as McKnight (2016) and Fidan (2020) examining the impact of digital tools on teachers' life satisfaction. However, in a recent study by Stanford University (2023), it was emphasised that professional happiness increased as AI alleviated the workload of teachers, but at the same time, it can be a source of stress when these tools are not adequately trained for classroom use. Therefore, it is critical that AI-based educational applications provide support to teachers but also provide them with adequate training opportunities.

This study shows that teachers' AI self-efficacy has a positive effect on their level of happiness and teachers' effective use of digital tools increases their professional satisfaction. The World Economic Forum (2024) report predicts that the role of AI in education will become stronger in the future and teachers need to be supported to adapt to these technologies. Support is also emphasised in recent studies conducted with teachers in Turkey (Nyaaba & Zhaı, 2024). Teachers should be supported in the context of adaptation to artificial intelligence technologies.

The findings of the study reveal that teachers' self-efficacy related to AI tools increases their perceptions of happiness and overall life satisfaction. However, the issue of how teachers' stress levels

should be balanced with digital transformation, which is mentioned in studies such as Celik (2023) and Weber et al.

Ding and Hong's (2024) study is similar to the results of this study in that it emphasises that self-efficacy perception plays a strong determinant role in teachers' interactions with technology. Both studies concluded that teachers' sense of self-efficacy should be increased to enable them to use technology more effectively. While the present study reveals that teachers' AI self-efficacy has a significant effect on their happiness levels, Ding and Hong's study shows that positive emotions develop in the process of technology integration in relation to self-efficacy. These two studies reveal that incorporating technology into teachers' professional development processes not only improves technical skills but also provides a more sustainable and effective teaching experience by increasing emotional satisfaction. Both our study and Ding and Hong's findings suggest that investment in technology training can support teachers' overall professional well-being by nurturing their positive emotions.

These results highlight the need to provide teachers with greater access to AI-based tools as well as training programmes that support their professional development. It is important that educational policies are supportive of efforts to increase teachers' AI-related skills in order to increase both professional satisfaction and educational productivity.

4.2. Conclusion

In this study, the effects of teachers' artificial intelligence (AI) self-efficacy perceptions on their general happiness levels were analysed comprehensively. The general findings of the study show that in the process of integrating AI technologies into teachers' professional lives, teachers' perceptions of confidence and competence in these technologies increase their happiness levels. Within the scope of the research, teachers' AI self-efficacy was analysed in four main dimensions: Help, Technological Skills, Comfort and Anthropomorphic Interaction. Among these dimensions, Comfort and Technological Skills dimensions were found to have the strongest relationship with happiness.

It was observed that teachers' perceptions of AI self-efficacy were high and this perception of efficacy contributed positively to their professional happiness levels related to the use of digital tools in education.

The results of the study indicate that teachers' ability to use AI tools comfortably and effectively in the digital transformation process increases their professional satisfaction and life satisfaction. In the study, it was also observed that AI self-efficacy explained a significant part of the happiness variable. These findings are noteworthy in terms of better understanding the effects of technology in education, especially in the digital age, and supporting teachers' professional development.

This study comprehensively addressed the potential effects of AI-based educational tools on teachers' professional satisfaction and happiness levels. The findings suggest that when teachers' perceptions of efficacy towards AI tools are strong, their levels of professional happiness increase, and they have a more positive work experience in general. In this context, developing teachers' AI-related skills, increasing the use of technology in education, and ensuring the integration of digital tools into educational processes are critical to support teachers' personal and professional well-being.

4.3. Recommendations

This study examined the effects of teachers' perceptions of their self-efficacy in using artificial intelligence (AI) tools, especially on their happiness levels. The findings revealed that there are significant relationships between AI self-efficacy and happiness in various dimensions. It was reported that teachers' perceptions of efficacy in using AI tools were high and they were confident in incorporating these tools into their classrooms. The study suggests that the acceptance of AI technologies by teachers may increase their happiness levels by facilitating their daily tasks and increasing their productivity. Furthermore, AI was found to have a positive impact on professional satisfaction and overall happiness.

Based on these findings, several recommendations are offered. First, comprehensive training programmes should be implemented to improve teachers' skills in using AI tools. These programmes should support teachers in adapting to technology and increase their confidence in the digital transformation process. Secondly, educational policies should provide support to develop teachers' competences in AI. School administrators should be encouraged to provide the necessary resources so that teachers can easily access digital tools and use them effectively. It is also recommended to develop pedagogical models that encourage the integration of AI-based tools into course content. This will contribute not only to more effective teaching but also to teachers' well-being in the classroom. Guidance on how to creatively apply AI technologies in education should also be provided to teachers.

The study emphasises the need for further research and development in this area. Future studies should investigate the relationship between AI self-efficacy and happiness using a larger and more diverse sample, taking into account the impact on different demographic groups in the digital transformation process. Longitudinal studies assessing the effects of AI on teachers' workload and stress levels are also recommended.

Overall, the findings of this study provide convincing evidence that AI can be used as a tool to enhance teacher well-being in education. If AI-based applications create a productive and satisfying working environment for teachers, it will contribute to strengthening educational processes with a student-centred approach. As education systems continue to integrate AI in the future, developing teachers' digital skills and supporting their professional well-being can lead to sustainable quality improvement in education.

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