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An Examination of the Use of Artificial Intelligence and Creativity Among Fine Arts Faculty Students

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Abstract

This study examines the relationship between artificial intelligence (AI) usage and creativity levels among students studying in faculties of fine arts. With the rapid development of generative AI technologies, artistic production processes and educational practices in art and design disciplines have been significantly transformed. In this context, understanding how students use AI tools and how these tools relate to their creativity has become an important research topic in art education. The research was designed using a relational survey model within the general survey framework. The study group consisted of 201 undergraduate students studying in faculties of fine arts at universities in Türkiye. Data were collected using the Artificial Intelligence Usage Scale and the Kaufman Domains of Creativity Scale (K-DOCS). Descriptive statistics, independent samples t-test, one-way ANOVA, and regression analysis were used to analyze the data. The findings indicated that students' AI usage levels were above the moderate level ($M = 3.80$). Students reported the highest creativity levels in the domains of artistic performance and artistic creativity, while academic and scientific/mechanical creativity were found at moderate levels. Gender comparisons revealed significant differences in academic creativity, scientific/mechanical creativity, and AI usage in favor of male students. Regarding class level, significant differences were found in academic and scientific/mechanical creativity, with upper-level students reporting higher levels of creativity. However, AI usage did not differ significantly across class levels. Regression analysis showed a positive and significant relationship between creativity and AI usage, with creativity explaining 10.2% of the variance in AI usage. Among the creativity domains, only academic creativity and scientific/mechanical creativity significantly predicted AI usage. Overall, the findings suggest that creativity in fine arts students is domain-specific and that different creativity domains relate to AI usage in distinct ways. While academic and scientific creativity appear to encourage the use of AI tools, artistic creativity does not significantly predict AI usage. These results highlight the importance of integrating AI literacy and ethical AI use into art education curricula to support students' creative development in the digital age.

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Introduction

The rapid advancements in artificial intelligence (AI) technologies are transforming many aspects of modern life, from individuals' ways of thinking to their communication habits. In particular, the capabilities of generative AI models, such as generating images from text, style transfer, and composition creation, are reshaping the technical logic of artistic production and bringing about a radical transformation of teaching approaches, curriculum structures, and epistemological foundations in disciplines such as visual arts, architectural design, and media communication (Rong et al., 2025). This transformation profoundly affects not only the production practices of artists but also the educational processes in fine arts faculties that train future artists and designers. In the context of art education, the use of generative AI is tending to move beyond being merely a technical aid and become an active participant in the learning process (Ceran, 2025; Kibici, 2025; Korepanova, 2024). Many new technologies, from augmented reality to AI-powered production tools, allow students to be supported in areas such as idea generation, rapid prototyping, multimodal forms of expression, and interdisciplinary collaborations. Educators are using these tools to explore personalized learning pathways, enhance students' critical thinking skills, and foster dialogues around creativity, authorship, and technology ethics (Fan, 2024).

However, these innovations also bring important questions and challenges. How AI tools affect artistic creativity, how they transform the concepts of originality and authorship, and whether the relationship students have with these tools supports or stifles their creative potential have become increasingly important research topics in the field of arts education (Abdulmajid, 2025; Hiçyılmaz, 2025). The inadequacy of traditional criteria in evaluating works produced by AI, and the unresolved ethical issues such as copyright and data source, leave educators facing a dual responsibility: both to benefit from the possibilities of AI and to protect fundamental artistic values (Gangadharbatla, 2021; Kim et al., 2024). Studies on the use of artificial intelligence by students studying in fine arts faculties in Türkiye and its relationship with their creativity are limited (Dadakoğlu & Bölükoğlu, 2025; Hiçyılmaz, 2024; Yağcı, 2024).

While the existing international literature reveals the effects of AI tools on various dimensions of students' self-efficacy, participation, motivation, and creativity, the extent to which these findings are valid in the local context, the quality of the relationship that Turkish students establish with AI tools, and how these tools are integrated into their creative processes have not yet been sufficiently investigated. This study aims to fill this gap by deeply examining the artificial intelligence usage practices of fine arts faculty students, their perceptions of these tools, and how their creativity is shaped in AI-assisted production processes.

Theoretical Framework

Artificial Intelligence and Artistic Creativity

For students studying in fine arts faculties, creativity is not only a fundamental component of artistic production but also a multifaceted ability central to professional identity and individual expression. Creativity can be defined as the ability to produce original inventions, or it plays a decisive role in the process of generating new ideas or creating original works by resynthesizing an individual's accumulated knowledge, experiences, and concepts from the past (Dikici, 2001). In the context of art education, creativity functions as a process that activates not only the

student's technical skills but also their intellectual and emotional world; it allows the student to question objective information, structure their own learning environment, and reach meaningful conclusions. In this context, the subjective realization of the process, as well as the theoretical infrastructure of visual arts education, is vital for the development of creativity (Kılıç & Yalım, 2025; Sünbül, 2002).

Creativity offers multifaceted contributions to the holistic development of fine arts faculty students and the shaping of their professional competencies. Through art education, students find opportunities for emotional and spiritual relaxation, as well as self-discovery, self-expression, and the development of social skills. Students who actively participate in the creative process learn to overcome emotional obstacles such as shyness, fear of making mistakes, or excessive self-criticism, while simultaneously gaining psychological benefits such as increased self-confidence and a sense of accomplishment. As Dikici (2001) emphasizes, creative imagination makes it possible to change a person's beliefs about themselves and the world they live in, and the products of those beliefs; in this respect, creativity plays a key role in activating the imagination that underlies all the advancements of civilization. Today, the view that creativity is both an innate talent and a capacity that can be developed through education is gaining traction (Çellek, 2002). Therefore, the educational programs conducted in fine arts faculties need to be structured in a way that will reveal and develop students' creative potential. Restrictive, authoritarian, and overly structured educational environments hinder creativity, while environments where students can move freely, think, and interact with different disciplines contribute to nurturing creativity (Yağışan et al., 2007). The importance of creativity for fine arts faculty students stems from the fact that it is a fundamental competency they will need not only in artistic production processes but also in all areas of life, such as lifelong learning, problem-solving, and adapting to changing conditions (Geçen & Parsıl, 2020).

Creativity in general, and artistic creativity in particular, has evolved beyond the traditional means-effect relationship with the development of contemporary technologies, transforming into a more complex and dialogical form of interaction. Today, technologies such as artificial intelligence, virtual reality, and augmented reality offer artists the opportunity to transcend the limitations of traditional media; they accelerate creative processes and qualitatively transform audience participation (Zhong & Zhang, 2025). An empirical study by Zhong and Zhang (2025) reveals that artists using digital tools achieve a 15% advantage in creative time and a 20% advantage in cost compared to those working with traditional methods, and also experience a 3.8-fold increase in audience interaction. These findings demonstrate that technology is not only an aid in artistic production but also a transformative force that enhances creative potential and expands the accessibility of art. One of the most complex aspects of the relationship between technology and artistic creativity emerges in the discussions regarding the position of artificial intelligence systems in the creative process.

The concept of "rigorous creativity," developed with reference to Manghani and Savage (2025), suggests that AI should not be viewed merely as a tool, but rather as an open and dialogical relationship between humans and machines. This perspective aims to move beyond the binary approaches trapped between automation concerns and technological problem-solving by positioning AI as a "thought partner" and an "encounter." Yang et al. (2025), on the other hand, argue that the use of neural networks in artistic practice questions the artist's classical position as an autonomous creator; that today, the artist's role is increasingly redefined as a conceptualizer who

determines the parameters of the creative process and a curator who interprets and selects the results produced by algorithms. This transformation raises fundamental questions about the nature of artistic creativity; it necessitates a rethinking of categories such as originality, authorship, and aesthetic value.

While artificial intelligence is defined as an advanced technology capable of mimicking abilities thought to be unique to humans, such as learning, problem-solving, and self-improvement, generative AI emerges as a subset with the capacity to generate original content that did not previously exist, based on text, visual, audio, or video inputs. In the context of art, generative AI involves creating works using algorithms, training data, and machine learning, and although its conceptual origins date back to the 1970s, it has been brought to the forefront of cultural and educational discourse since the 2010s with advances in deep learning (Rong et al., 2025).

The relationship between artificial intelligence and creativity is being addressed with increasing interest in the field of art education. AI tools allow students to develop ideas quickly, utilize visual thinking skills, and explore forms of expression beyond traditional media. According to Tao, although AI does not possess human-specific cognitive characteristics, it can influence and transform people's approaches to art and aesthetics. At this point, it should be noted that AI not only creates an aesthetic change in human art but also offers a significant transformation in the artist's identity. The interaction between human creativity and AI necessitates a rethinking of the definition and evaluation criteria of art (Fan, 2024; Epstein & Hertzmann, 2025). In higher education, these technologies are moving beyond being mere tools and transforming into co-creative agents that shape learning trajectories and forms of expression. This transformation manifests itself in three basic forms: (1) AI-assisted art where the human creator retains control but uses AI for tasks such as prototyping, style transfer, or composition; (2) AI-generated art in which the algorithm independently produces output with minimal human intervention; and (3) AI applications in art analysis where machine learning is used to support style assessment, market trend prediction or art history research (Abdulmajid, 2024).

Artificial Intelligence in Art Education: Opportunities and Debates

Art education is considered an important way to develop creative thinking, aesthetic literacy, and cross-cultural understanding. The traditional model emphasizes craftsmanship, individual expression, cultural narratives, and systematic knowledge of art history and theory. However, the introduction of generative AI tools is further transforming creative approaches by providing instant inspiration and shaping teaching strategies, feedback mechanisms, and student engagement in innovative ways (Garcia, 2024).

Recent studies have shown that the integration of AI-based tools into art education has various effects on student experiences. In particular, it has been observed that AI tools have an impact on important factors such as self-efficacy, creativity, engagement, and motivation in students' learning processes (Chiu et al., 2024; Ke, 2023). In a study by Abdulmajid (2025), it was found that art education students using Microsoft Copilot increased stylistic accuracy through iterative prompt refinement, developed critical thinking, and engaged deeply with traditional art practices. Similarly, a study conducted in Türkiye by Hiçyılmaz determined that participants were initially prejudiced and inexperienced towards generative AI, but these attitudes became more positive over time. Students described AI tools as a source of inspiration, stating that they offered support in developing compositions and

played a guiding role in aesthetics and style. However, the pedagogical potential of generative AI is balanced by significant concerns. Some researchers warn that over-reliance could negatively impact the development of technical skills, media literacy, and aesthetic judgment. As Garcia points out, while AI has brought about a transformation in art creation, its fundamental role is not to replace traditional forms of artistic expression, but to expand the boundaries of creativity. Others point out that students' limited understanding of AI systems may lead to superficial engagement or ethical blind spots. Students have also reported challenges such as communication problems, lack of technical knowledge, and concerns about originality. The integration of AI technologies into art education has reopened discussions on concepts such as authorship, originality, and ethical use. AI-generated content has raised significant legal and ethical debates regarding property, originality, and authorship in art (Das & Kundu, 2024; Ritter, 2025). One of the most prominent issues is that current US copyright law does not recognize AI as a legal author. In March 2025, the US Court of Appeals affirmed that only works with human authorship are eligible for copyright protection. This decision has significant implications in the context of education, where students increasingly use generative tools such as DALL-E, Midjourney, and Stable Diffusion (Gaffar & Albarashdi, 2025).

Kim (2025) emphasizes that educators' responsibility is not to decide whether AI is good or bad on behalf of students, but to help them critically examine its effects. This involves guiding students through questions of authorship, data ethics, creative agency, and emotional meaning in art. The question of whether AI truly "creates" or merely mimics and reassembles existing datasets is increasingly featured in art education curricula. These discussions help students realize that copyright is not only a legal category but also a reflection of values surrounding labor, recognition, and identity in creative work. Concerns about originality are also central to the use of AI in art education (Bartlett & Camba, 2024; Hsuan & Wei, 2025). Abdulmajid (2025) notes that AI can effectively reproduce historical styles, but while this encourages creative experimentation and adaptive learning, it also raises significant concerns about originality, authorship, and the ethical use of AI-generated content. In this context, Epstein and Hertzmann (2024) argue that AI art profoundly affects our understanding of creativity and artistic value, and that educators need to rethink their pedagogical approaches to prepare students for these new paradigms. Examining the relationship between the use of artificial intelligence and creativity among fine arts students is critical to understanding one of the most fundamental transformation dynamics facing contemporary art education. Beyond being a tool that accelerates artistic production processes, AI technologies are becoming a learning partner that directly influences students' idea generation, visual exploration, and conceptualization practices (Anson et al., 2025; Filipová & Štěpánková, 2026). Research shows that AI tools broaden students' thought processes, diversify their aesthetic perspectives, and enable the establishment of a new co-creation relationship between humans and machines (Al-Rubaie, 2025; Martiningsih, 2025). However, the nature of this relationship, whether it supports or stifles students' creative potential, can only be answered by analyzing the interaction between the two variables in depth and on a relational basis. In this context, addressing the effects of artificial intelligence use on creativity with a holistic approach has become a vital necessity both for the development of pedagogical strategies and for curriculum design. Examining the relationship between artificial intelligence and creativity also necessitates rethinking the fundamental concepts of art education. Concepts such as originality, authorship, aesthetic value, and artistic intention are awaiting redefinition, stripped of their traditional meanings in AI-assisted production processes (Adeel & Yasmeen, 2025; Kim, 2025).

In this context, understanding the connection between students' relationship with AI tools and their creativity will not only improve technological literacy but will also contribute to the development of pedagogical approaches that enable students to use these tools consciously, ethically, and transformatively while preserving their own artistic identities and voices. In this respect, the research aims both to contribute to the theoretical field and to provide guiding findings for applied arts education. Based on this theoretical foundation, the aim of the study is to examine the relationship between the levels of Fine Arts Faculty students according to the Kaufman Creativity Test and their use of artificial intelligence. The study sought answers to the following questions:

- 1) What is the level of creativity and use of artificial intelligence among Fine Arts Faculty students according to the Kaufman test?
- 2) Do their creativity and use of artificial intelligence differ in relation to the gender variable according to the Kaufman test?
- 3) Do their creativity and use of artificial intelligence differ in relation to the class level variable according to the Kaufman test?
- 4) Does the Kaufman test significantly affect the creativity and use of artificial intelligence among Fine Arts Faculty students?

Method

This research focuses on examining the creative characteristics and artificial intelligence usage of fine arts faculty students in terms of certain variables. The research was designed using a comparative correlational survey model and a correlational model within the scope of a general survey model.

Sample

The study group for this research consists of university students studying in Fine Arts Faculties of universities in Turkey. Since reaching all students requires significant time, effort, resources, and teamwork, a convenient sampling method was chosen, resulting in 201 students. 71.64% (n=144) of the students are female, and 28.36% (n=57) are male. 27.36% (n=55) of the students are first-year students, 24.88% (n=50) are second-year students, 25.87% (n=52) are third-year students, and 21.89% (n=44) are fourth-year students.

Data Collection Tools

Artificial Intelligence Usage Scale

To determine the level of artificial intelligence use among Fine Arts Faculty students, items from artificial intelligence scales developed by Polatgil and Güler (2023), Schepman and Rodway (2020), Wang et al. (2023), and Zare et al. (2025) were used. As a result of construct validity analyses performed with Exploratory Factor Analysis (EFA), it was observed that the 'Artificial Intelligence Use Scale' has a single-factor structure. This single-factor structure explains 53.96% of the variance. The measurement tool, consisting of a total of 15 questions, is in Likert scale form, scored between 1 and 5. In the reliability analysis performed, the Cronbach Alpha (α) reliability coefficient of the scale was calculated as .89.

Kaufman Creativity Test

This study used the Creativity Scale developed by Kaufman (2012) to measure the perceptions of creativity among fine arts faculty students. This scale was adapted into Turkish by Şahin (2016) and used by different researchers (Ozturk & Susuz 2023). The Turkish form of the Kaufman Creativity Test consists of 42 items on a 5-point Likert scale. The rating is from "very little-1" to "very much-5". There are no items that can be calculated by reversing the scale. Construct validity studies conducted with factor analysis examined the Academic Creativity, Mechanical Creativity, and Creativity in Artistic Performance areas of the KCT. The reliability of the scale was calculated using the Cronbach's alpha internal consistency coefficient. The Cronbach's alpha internal consistency reliability coefficients ranged from 0.87 for the entire scale and from 0.76 to 0.88 for the subscales. Acceptable reliability coefficients were found for both the subscales and the total scale. Based on the data obtained in this research, the Cronbach's alpha internal consistency reliability coefficients of the creativity perception scale were found to be 0.88 for the entire scale and between .77 and .90 for the subscales.

Data Analysis

In this study, data were analyzed using independent mean, standard deviation, sample t-test, and one-way analysis of variance. Regression analysis was also applied to examine the relationship between the variables. Skewness and kurtosis values were calculated to examine the distribution of scores obtained from the measurement instruments. For the assumption of normal distribution to be met, the skewness coefficient must be less than 1.5 and the kurtosis coefficient must be less than 1.5 (George and Mallery, 2024). The calculated values revealed that the scale scores used in the study showed a normal distribution. The source of the difference in the results of the variance analysis was determined using the Tukey test.

Findings

The study first presents descriptive statistics of participants' scores on the Kaufman Creativity Scale and the Use of Artificial Intelligence Scale (see Table 1 and Table 2). Then, comparison results of scores from the Kaufman Creativity Scale and the Use of Artificial Intelligence Scale based on gender and grade level are presented (see Table 3-6). Finally, regression values calculated between the scores obtained from the Kaufman Creativity Scale and the Use of Artificial Intelligence Scale are presented (see Table 7).

Table 1. Descriptive Analysis of Kaufman Creativity Scale Scores of Fine Arts Faculty Students.

	N	Minimum	Maximum	Mean	Std. Deviation
Academic Creativity	201	2.00	5.00	3.02	0.63
Scientific/ Mechanical Creativity	201	2.00	5.00	3.02	0.55
Creativity in the Field of Artistic Performance	201	2.00	5.00	4.32	0.83
Self/ Daily Creativity	201	1.60	5.00	3.73	1.15
Artistic Creativity	201	2.00	5.00	4.23	0.84

The students' scores on all sub-dimensions are above 3, the theoretical average of the scale. This indicates that Fine Arts Faculty students generally perceive themselves as creative. However, the differences between the sub-dimensions reveal that the sample does not exhibit a homogeneous creativity profile but rather is concentrated in certain areas. Furthermore, students obtained the highest average scores in the 'Artistic Performance' (4.32) and 'Artistic Creativity' (4.23) subscales. Conversely, participating students obtained the lowest average scores in the 'Academic Creativity' (3.02) and 'Scientific/Mechanical Creativity' (3.02) subscales. These two dimensions received values close to the midpoint of the scale (3.00). This indicates that students perceive their creativity in these areas as "neither low nor high," i.e., undecided or moderate.

Table 2. Descriptive Analysis of Artificial Intelligence Usage Scores of Fine Arts Faculty Students

	N	Minimum	Maximum	Mean	Std. Deviation
Artificial Intelligence Usage Scale	201	2.10	5.00	3.80	0.50

Another finding of the study shows the descriptive statistics of the scores obtained by the participating students on the artificial intelligence usage scale. According to the analyses, the average artificial intelligence usage score of the participants was found to be 3.80. This value indicates that the participants' use of artificial intelligence is above average.

Table 3. Comparison of Kaufman Creativity Scale Scores of Fine Arts Faculty Students According to Gender

		N	Mean	Std. Deviation	t	p
Academic Creativity	Female	144	2.98	0.60	2.010	0.046
	Male	57	3.13	0.70		
Scientific/ Mechanical Creativity	Female	144	2.97	0.50	-2.033	0.043
	Male	57	3.15	0.66		
Creativity in the Field of Artistic Performance	Female	144	4.25	0.87	-1.870	0.063
	Male	57	4.49	0.71		
Self/ Daily Creativity	Female	144	3.78	1.14	0.911	0.363
	Male	57	3.61	1.16		
Artistic Creativity	Female	144	4.22	0.86	-0.366	0.715
	Male	57	4.26	0.77		

As shown in Table 3, the scores obtained by participants on the sub-dimensions of the Kaufman Creativity Scale were compared according to their gender. According to the analyses, a t-value of 2.01 was calculated in the Academic Creativity subscale, a t-value of 2.03 in the Scientific/Mechanical Creativity subscale, a t-value of 1.87 in the Artistic Performance Creativity subscale; a t-value of 0.91 in the Self/Daily Creativity subscale; and a t-value of 0.37 in the Artistic Creativity subscale. According to these t-values, a significant difference was found according to gender in the academic and scientific/mechanical creativity areas ($p < 0.05$). It was observed that male participants obtained higher averages than female students in these subscales.

As shown in Table 4, a comparison was made of the scores obtained by participants on the artificial intelligence

usage scale according to their gender. According to the analyses, a t-value of 2.081 was calculated between the average artificial intelligence usage scores of the participants according to their gender. According to this finding, at the significance level of 0.05, there is a difference in artificial intelligence usage in favor of male students.

Table 4. Comparison of Artificial Intelligence Usage Scores of Fine Arts Faculty Students According to Gender

	Gender	N	Mean	Std. Deviation	t	P
Artificial Intelligence Usage Scale	Female	144	3.76	0.51	-2.081	0.039
	Male	57	3.92	0.46		

Table 5 shows the results of comparing the scores obtained by Fine Arts Faculty students from the subscales of the Kaufman Creativity Scale according to their class level.

Table 5. Comparison of Kaufman Creativity Scale Scores of Fine Arts Faculty Students According to Class Level

	Class Level	N	Mean	Std. Deviation	F	p
Academic Creativity	1	55	2.95	0.69	2.712	0.043
	2	50	3.00	0.51		
	3	52	3.01	0.52		
	4	44	3.26	0.78		
Scientific/ Mechanical Creativity	1	55	2.85	0.61	2.610	0.045
	2	50	3.01	0.38		
	3	52	3.13	0.63		
	4	44	3.1	0.52		
Creativity in the Field of Artistic Performance	1	55	4.42	0.66	1.040	0.376
	2	50	4.38	0.81		
	3	52	4.15	1.04		
	4	44	4.32	0.77		
Self/ Daily Creativity	1	55	3.91	1.04	1.478	0.222
	2	50	3.76	1.30		
	3	52	3.77	1.02		
	4	44	3.43	1.21		
Artistic Creativity	1	55	4.24	0.79	2.075	0.105
	2	50	4.46	0.73		
	3	52	4.13	0.91		
	4	44	4.07	0.87		

According to the F-test analyses, the Academic Creativity subscale yielded an F value of 2.71, the Scientific/Mechanical Creativity subscale 2.61, the Artistic Performance Creativity subscale 1.04, the Self/Daily Creativity subscale 1.48, and the Artistic Creativity subscale 2.07. These findings indicate significant differences in the academic and scientific/mechanical subscales of the Kaufman Creativity Scale according to the class level.

According to Tukey test analyses, students in the fourth and third years were found to have significantly higher levels of academic and scientific/mechanical creativity than students in lower classes.

Table 6. Comparison of Artificial Intelligence Usage Scores of Fine Arts Faculty Students According to Class Level

	Class Level	N	Mean	Std. Deviation	F	p
Artificial Intelligence Usage Scale	1	55	3.77	0.52	0.089	0.966
	2	50	3.81	0.42		
	3	52	3.82	0.53		
	4	44	3.81	0.55		

As seen in Table 6, comparisons were made of the scores obtained by participants from the artificial intelligence usage scale according to their class level. According to the analyses, an F value of 0.089 was calculated between the average artificial intelligence usage scores of the participants according to their class levels. According to this finding, no significant difference was found in artificial intelligence usage according to class level ($p > 0.05$).

Table 7. Predictive Level of Creativity Scores on Artificial Intelligence Usage Scores

	Unstandardized		Standardized		t	P
	Coefficients		Coefficients			
	β	Std. Error	β			
(Constant)	2.494	0.358			6.970	0.000
Academic Creativity	0.166	0.055	0.209		2.998	0.003
Scientific/ Mechanical Creativity	0.151	0.064	0.166		2.360	0.019
Creativity in the Field of Artistic Performance	0.081	0.042	0.134		1.942	0.054
Self/ Daily Creativity	-0.023	0.030	-0.053		-0.776	0.439
Artistic Creativity	0.021	0.042	0.034		0.496	0.620

Dependent Variable: AI Usage. $R=0.32$; $R^2=0.102$; $F=4.44$; $p<0.05$

When Table 7 is examined, it is understood that there is a low-level positive and significant correlation between the scores of the Kaufman Creativity Scale and the use of artificial intelligence among fine arts faculty students ($p < 0.05$). The creativity of the participating students explained 10.2% of the variation in their use of artificial intelligence ($R=0.32$; $F=4.44$; $p < 0.05$). However, when looking at the Beta coefficients, it was seen that only academic creativity and scientific/mechanical creativity significantly and positively influenced the use of artificial intelligence ($p < 0.05$).

Discussion

This study examined the creativity and use of artificial intelligence of Fine Arts Faculty students according to the Kaufman scale. According to the research findings, participating students achieved high average scores in the subscales of "Creativity in Artistic Performance," "Self/Everyday Creativity," and "Artistic Creativity." These

high scores demonstrate that students have very high creative self-efficacy specific to their fields (belief in one's own creative capacity). For these students, who constantly produce original works as required by their curriculum, creativity in these areas is central to their professional identity. In contrast, participants showed a moderate distribution in the academic creativity and scientific/mechanical creativity subscales. These areas encompass traditional academic pursuits such as writing a scientific paper, designing an experiment, or solving a complex theoretical problem. The undergraduate education of Fine Arts students is predominantly practice-based. Although there are theoretical courses (art history, aesthetics), the "academic" definition in the scale refers more to research processes in the natural or social sciences. Therefore, students' perception of themselves as less competent in this area is consistent with their educational background and interests. These data reveal that a group of 201 Fine Arts Faculty students have "art-oriented" creativity profiles, that they partially utilize this competence in daily life, but that they do not perceive themselves as significantly above average in terms of creativity in traditional academic or scientific-mechanical fields. This situation is entirely consistent with the nature of the discipline in which the sample is educated.

Another finding of the study compared the creativity of Fine Arts Faculty students according to gender. According to the analyses, a difference was found in favor of male participants in Academic Creativity and Scientific/Mechanical Creativity. This finding shows a strong parallel with the international literature. In contrast, the absence of gender differences in artistic fields (Artistic Performance, Artistic Creativity, Self/Daily Creativity) is consistent with current findings in the literature (Ozturk & Susuz, 2023). A comprehensive study by Dostál et al. (2017) on university students reported that "Subscales where men scored higher than women were: Mechanical/Scientific and Academic creativity." Similarly, another study at the University of Nebraska-Omaha found that "men rated themselves as more creative than women in the area of mechanical creativity" (Leone, 2018). The study found no significant gender differences in the Artistic Creativity, Artistic Performance, and Self/Daily Creativity subscales. This finding partially coincides with some studies in the literature, but differs from others (Dostál et al., 2017; Miroshnik et al., 2022). The findings of your research support the study of creativity among Fine Arts Faculty students. The study reveals that there is a difference based on gender, but this difference is field-specific. The fact that male students scored higher in Academic and Scientific/Mechanical creativity is consistent with large-scale studies in the international literature. The absence of a gender difference in artistic fields can be explained by the fact that the sample consisted of Fine Arts Faculty students and that both genders have similar levels of interest and competence in terms of artistic creativity.

Another finding of the study compared the Kaufman Creativity levels of Fine Arts faculty students according to the class variable. According to the research findings, significant differences were found in the Academic Creativity and Scientific/Mechanical Creativity subscales according to class level, and Tukey test analyses showed that this difference was in favor of third and fourth-year students. In other words, students approaching the end of their undergraduate education perceive themselves as more creative in academic and scientific/mechanical creativity areas than their peers in lower classes. This finding is consistent with studies showing that creativity can follow a developmental course in higher education. In a study conducted by García García et al. (2014) on engineering students at the Polytechnic University of Madrid, it was found that final-year students had significantly higher creativity scores compared to first-year students. Similarly, the studies of Byrge and Tang

(2015) and Mathisen and Bronnick (2009) show that creative learning experiences and systematic training can increase students' perceptions of creative self-efficacy. The fact that students encounter more activities requiring academic and scientific/mechanical creativity, such as academic writing, research, project development, and technical problem-solving, during their four-year undergraduate education may explain their increased self-efficacy perceptions in these areas.

According to another research finding, the use of artificial intelligence by participating students was found to be above average. This finding quantitatively confirms that artificial intelligence technologies are becoming widespread in art and design disciplines, as in all other fields. As highlighted in the study by Paksın (2020), artificial intelligence technologies are widely used today, and the ease of access to digital data produced worldwide is accelerating studies in this field. It cannot be expected that Fine Arts Faculty students will remain outside of this technological transformation. On the contrary, their active use of these tools can be considered a natural reflection of the artist profile of the digital age. For example, in a study on teachers by Seyrek et al. (2024), it was found that younger teachers used artificial intelligence tools more frequently in their lessons. This suggests that a similar dynamic is at work specifically for Fine Arts students. Young individuals receiving art education adopt and use new digital tools more easily in their creative processes.

Another finding of the research examined the use of artificial intelligence by participating students according to their gender and class level. The use of artificial intelligence (AI) by faculty students did not differ according to their class level. However, there was a significant difference in AI use according to the gender of the participating students. According to the research findings, male participants use AI applications at a higher level compared to their female peers. These two findings of the research are quite valuable in understanding the role of individual differences in AI use. The lack of difference according to class level and the significant difference according to gender (in favor of men) reveal a meaningful picture when evaluated together with the current literature. AI tools (ChatGPT, Midjourney, DALL-E, etc.) can be learned very quickly thanks to their user-friendly interfaces and can be easily adopted by users of all age groups. A study by Mahyoub Hezam & Alkhateeb (2024) revealed that 82% of university students use AI tools, showing how widespread the use of AI has become in higher education. Such widespread use may prevent a significant difference from occurring between class levels. Fine Arts Faculty students are involved in creative production processes from their first year of education. For these students who were introduced to digital tools early, artificial intelligence may be seen not as a new technology, but as a natural extension of digital tools. Therefore, the fact that upperclassmen have more experience may not create a significant difference in usage levels. The study's finding that male participants used AI applications significantly higher than their female peers shows a strong parallel with current research in the international literature. A comprehensive systematic review published in *Discover Education* in 2026 analyzed 30 studies published between 2020 and 2025. According to the findings of this review, male students generally report higher usage frequency, greater self-confidence, and higher behavioral intentions toward using AI tools (Matobobo, 2026). Similar results were obtained in the study titled "AcademAI" by Brown et al. (2025): "Males report higher usage, more positive attitudes, and greater AI literacy compared to women."

In the final finding of this research, the relationships between the scores of the Kaufman Creativity Scale and the

use of artificial intelligence by fine arts faculty students were examined using regression analysis. According to the analyses, a positive and significant relationship was found between these two variables. However, according to further analyses, only academic creativity and scientific/mechanical creativity were found to significantly and positively predict the use of artificial intelligence. However, artistic creativity fields (Artistic, Artistic Performance, Self/Diary) did not significantly predict the use of artificial intelligence. This finding shows the field-specific nature of creativity and that different types of creativity are related to the use of technology in different ways. Academic creativity refers to creativity in academic endeavors such as writing scientific articles, designing research, and developing hypotheses. In a study by Eymann, Lachmann, and Czernochowski (2025), it was found that ChatGPT-4 scored significantly higher than graduate students in tasks requiring academic creativity, such as developing scientific hypotheses, designing experiments, and writing research proposals. This finding suggests that individuals with high academic creativity may use artificial intelligence tools more effectively in such tasks, or conversely, This suggests that artificial intelligence tools can serve a supportive function for academic creativity. Scientific/mechanical creativity includes skills such as technical problem-solving, machine invention, and conducting scientific experiments. A study by Mukherjee and Chang (2024) found that modern artificial intelligence can mimic expert creativity in complex scientific work and demonstrate proficiency in cognitive skills such as scientific reasoning and inference. The fact that artistic creativity domains (Artistic, Artistic Performance, Self/Daily) do not significantly predict the use of artificial intelligence can be interpreted in several ways: Artistic creativity relies on human emotions, intuitions, and embodied cognition. In the study by Gyani and Bhattacharya (2025), dependence on artificial intelligence was found to be negatively correlated with Artistic and Performance creativity. The researchers state that "over-reliance on artificial intelligence can negatively impact expressive and performance-based creativity" (Baltà-Salvador et al., 2025).

Conclusion and Recommendations

This research examined the relationship between the creativity levels and the use of artificial intelligence (AI) among 201 students studying at a Faculty of Fine Arts in Türkiye, using the Kaufman Creativity Domains Scale (K-DOCS). The findings revealed the domain-specific nature of creativity and how these domains are related to the use of AI at different levels. The first finding of the research showed that the level of AI use among Fine Arts Faculty students was above average. This finding quantitatively demonstrates the impact of the digital age on art education and reveals that students have high adaptation skills to new technologies. The increasing prevalence of AI tools in the fields of art and design shows that these students are keeping pace with technological transformation and have begun to integrate AI into their creative processes.

While no significant difference was found in AI use according to class level, a significant difference was found in AI use according to gender, favoring male students. This finding is consistent with international literature and suggests that male students have more positive attitudes towards AI tools, while female students may be more sensitive to ethical concerns and reliability expectations. Comparisons of the Kaufman Creativity Scale subscales by gender revealed that male students scored significantly higher than their female peers in the Academic Creativity and Scientific/Mechanical Creativity subscales. No significant differences were found in artistic creativity scores based on gender. When creativity scores were examined by grade level, significant differences

were found in favor of upper grades (3rd and 4th year) in the Academic Creativity and Scientific/Mechanical Creativity subscales. This finding indicates that students' skills in academic writing, research, project development, and technical problem-solving improve during their undergraduate education, and their perceptions of creative self-efficacy in these areas increase. The most critical finding of the study is the positive and significant relationship between creativity and the use of artificial intelligence (AI), with creativity explaining 10.2% of the variation in AI use. Analysis of beta coefficients showed that only Academic Creativity and Scientific/Mechanical Creativity significantly predicted AI use. Artistic creativity domains (Artistic, Artistic Performance, Self/Diary) did not significantly predict the use of artificial intelligence. This finding indicates that AI tools are used more in academic and scientific problem-solving contexts but are not yet integrated to a similar extent in artistic creativity processes. In conclusion, this research revealed the domain-specific nature of creativity among Fine Arts Faculty students and how these domains are related to the use of artificial intelligence at different levels. While academic and scientific/mechanical creativity differed according to both gender and class level and predicted the use of artificial intelligence, artistic creativity domains exhibited a more independent profile from these variables.

In light of the research findings, the following recommendations can be made for practitioners and future research: Courses on the ethical and creative use of AI-powered design tools should be added to the curriculum of Fine Arts Faculties. Students should be encouraged to view AI not as a "threat," but as a "tool" that supports their creative processes. AI literacy training should be widespread at all grade levels, and students should be encouraged to use AI tools from a critical and ethical perspective. Interdisciplinary projects should be designed that combine academic and scientific/mechanical creativity with artistic creativity, ensuring that different creative fields mutually reinforce each other. Longitudinal studies should be designed to examine the long-term effects of AI use on creativity. This research is limited to Fine Arts Faculty students only. Future research should include comparative studies with students from different faculties (Engineering, Science and Letters, Education, etc.) to examine how the relationship between creativity and AI differs across disciplines. Cross-cultural comparative studies should be conducted to understand how the relationship between creativity and AI use is affected by cultural context. This research contributes to understanding the digital transformation in art education by revealing the creativity profiles and artificial intelligence usage trends of Fine Arts Faculty students. Future research and applications can more effectively integrate artificial intelligence into art education as a tool to support creativity.

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