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Research

The Relationship Between Aesthetic Sensitivity and Artistic Creativity: A Meta-Analysis in the Context of Correlational Studies

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Abstract:

Aesthetic sensitivity and artistic creativity together encompass individuals' perceptual, emotional, and cognitive responses that shape original and value-based expressions within social, cultural, and technological contexts. This study performed a meta-analysis of correlational studies to investigate the relationship between aesthetic sensitivity and artistic creativity. Additionally, several potential moderators were identified, including sample group, publication type and year, sample age range, publication culture, and type of artistic creativity. A literature search was conducted on the Web of Science, Scopus, TR Index, and ProQuest academic databases to identify studies for inclusion. The search was current through August 2025. Out of 168 studies identified, 25 were deemed suitable. Publication bias was tested using a Funnel plot and the trim-and-fill method, and the analysis employed a fixed-effects model with effect size as the standard measure of relationship strength and direction. The results indicated a moderate-level positive relationship between aesthetic sensitivity and artistic creativity (r=.55). Moderator analyses revealed that publication year, age group, and creativity type moderated the relationship, while publication type, culture, and participant type did not. In future studies, the relationship between aesthetic sensitivity and artistic creativity could be examined by using broader databases such as ERIC and Taylor & Francis, as well as through professional groups, digital art, and AI-supported processes.

Keywords:
Aesthetic sensitivity, Artistic creativity, Correlational studies, Meta-analysis, Creative thinking.

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INTRODUCTION

Aesthetic maturity is a fundamental element of the works created by artists. An artist's aesthetic perception, sensitivity, artistic talent, and motivation directly influence the quality of their work (Laçinbay, 2020). Aesthetic sensitivity refers to the entirety of an individual's perceptual, emotional, and cognitive responses to artistic stimuli. Artistic creativity, on the other hand, is a concept that explains the emergence of forms of expression based on originality, flexibility, and aesthetic values (Sacheli et al., 2022).

In artistic environments, in particular, findings that aesthetic experience triggers idea generation and makes the distinction between viewer and creator more fluid raise questions about the role of aesthetic engagement in creative processes (Savas et al., 2021). Findings in neuroscience and cognitive science highlight the importance of multilevel models by showing that aesthetic perception and creative production are processed through distinct but related neural networks in the brain (Sacheli et al., 2022).

The relationship between aesthetic sensitivity and creativity extends beyond individual talent to operate within social, cultural, and technological contexts. In the digital age, AI-powered applications are taking aesthetic experience to new dimensions. In fields like dance, fashion, and performance, the symbiotic relationship between aesthetic and creative processes is directly reflected in production (Ma, 2025; Smith & Southerton, 2025). Therefore, a person's artistic creation is both a reflection of their aesthetic perception and a true result of their artistic motivation.

The relationship between aesthetic sensitivity and artistic creativity has gained increasing attention across diverse fields such as art education, design, and psychology, yet the theoretical and empirical rationale behind this link remains somewhat fragmented. Recent research underscores the importance of aesthetic experience as a mediating or predictive factor in creative performance (Ma & Huang, 2024; Savaş, Verwijmeren, & van Lier, 2021). For instance, Aparicio-Flores et al. (2025) demonstrated that aesthetic experience and attitudes toward artistic expression significantly correlate with creative tendencies, while Burgart's (1961), early work highlighted how engagement with art education enhances both creativity and aesthetic judgment. Despite these insights, studies vary in focus and scope—ranging from traditional artistic contexts to applied domains such as eco-friendly restaurant design (Horng et al., 2013)—suggesting a need for a more unified understanding of how aesthetic sensitivity operates across creative domains.

Furthermore, some research presents nuanced or even conflicting perspectives on the interaction between creativity, technical skill, and aesthetic appeal. Jeffries, Zamenopoulos, and Green (2018), for example, observed that while aesthetic quality often enhances perceptions of creativity, technical execution can mediate this relationship in complex ways. Similarly, Smith and Southerton (2025) explored how AI-driven creative processes may reshape aesthetic engagement, raising questions about the authenticity and human

dimension of aesthetic experience in creativity. Therefore, establishing a clearer rationale for this study involves synthesizing these diverse findings to clarify whether aesthetic sensitivity functions as a cause, correlate, or consequence of creativity. Doing so is essential not only for researchers aiming to refine theoretical models but also for educators and practitioners seeking to cultivate creativity through aesthetic awareness in both traditional and technologically mediated contexts.

In this regard, a broad examination of the scattered quantitative studies and, in particular, the correlational descriptions in the literature is considered critical for revealing the overall picture of the relationship between these variables. The meta-analysis approach has the power to synthesize findings from different contexts within a common methodological framework to determine if a consistent effect pattern exists. This makes it possible to obtain more reliable results about the direction and strength of the relationship between aesthetic sensitivity and artistic creativity (Bektas et al., 2015). In this context, the aim of this study is to provide a meta-analytical evaluation of the relationship between aesthetic sensitivity and artistic creativity based on correlational findings.

THEORETICAL FRAMEWORK

Aesthetic Sensitivity and Approaches to its Measurement

Aesthetic sensitivity is defined as a tendency that encompasses the entirety of individuals' perceptual and emotional responses to artistic or natural stimuli (Zuo, 1998). It is described as a multidimensional area of sensitivity that combines perceptual discernment, emotional intensity, and consistency in evaluation (Myszkowski et al., 2014). This concept is considered a dynamic process that manifests through the dimensions of duration (e.g., gaze persistence), content (e.g., formal features), and context (e.g., cultural norms) of the aesthetic experience (Ward & Kapoula, 2022). Aesthetic sensitivity is conceptualized as a broad context that goes beyond subjective taste to include cognitive-interpretive and bodily-affective processes (Sacheli et al., 2022). Therefore, it is seen not just as a preference but as an information-processing profile that reflects the coordinated regulation of attention, memory, and emotion (Ciricugno et al., 2023).

This concept is interpreted through different theoretical frameworks, especially from the perspectives of aesthetic philosophy, psychology, and art education, with each framework placing a distinct emphasis on the components of experience, judgment, and meaning-making (Hellstrom, 2011). In aesthetic philosophy, aesthetic experience is considered a unity of sensory pleasure, formal integrity, and intuitive understanding, while sensitivity is seen as the threshold of this unity (Freiberga, 2004). In psychology, aesthetic sensitivity is linked to mechanisms like information processing fluency, expectation violation, and the need for explanation, with fluency/disruption models providing a conceptual basis for these relationships (Consoli, 2015). Neurocognitive approaches suggest that partially overlapping networks are activated between visual aesthetics and creative

cognition, and that sensitivity produces a bias field that influences perceptual choices (Sacheli et al., 2022). Eye movements and gaze behaviors are interpreted as behavioral indicators of sensitivity, revealing focus shifts and attention persistence during aesthetic evaluation (Ward & Kapoula, 2022).

In art education theories, aesthetic sensitivity is considered a foundational component of creative learning ecosystems built on inquiry, possibility thinking, and expressive flexibility (Pavlou, 2013). Research on interactive art and audience participation shows that aesthetic experience deepens through action and feedback, and that sensitivity is shaped alongside bodily empathy (Özdemir, 2022; Savaş et al., 2021). In institutional and organizational literature, aesthetics are at the interface of meaning production and sustainability narratives, instrumentally guiding creative practices (Poldner et al., 2017). Cultural philosophy interprets aesthetic sensitivity in the context of the purpose of learning and the ethical-aesthetic direction of life enriched by taste (Ni, 2021). Art research states that aesthetic judgment is shaped in interaction with historical norms and institutions, and that sensitivity is in constant negotiation with these norms (Ozkan, 2022; Snow & Leach, 1996).

The tools developed to measure aesthetic sensitivity vary widely, from performance-based visual aesthetic sensitivity tests to self-report questionnaires (Mullen, 2017). Visual sensitivity tests assess perceptual discernment through true-false choice pairs or scoring mechanisms that operate on the principle of proximity to expert norms (Myszkowski et al., 2014). Eye-tracking and gaze persistence measurements make visible the impact of aesthetic evaluation on attention patterns through behavioral indicators (Ward & Kapoula, 2022). Neuroimaging-based approaches investigate the biomarkers of sensitivity by mapping the shared neural networks of responses to aesthetic stimuli (Sacheli et al., 2022). Self-report scales score subjective experience with factor structures that include components like intensity of appreciation, depth of emotion, and aesthetic interests (Jorgensen, 2018). Studio ethnographies and process data, along with reflective journals, qualitatively capture the manifestations of sensitivity in practice (Lam et al., 2021).

In the educational context, rubrics and product evaluations provide scoring schemes to make the balance between aesthetic emphasis and creative expression visible (Jeffries et al., 2018). In classroom-based collective creativity studies, aesthetic coordination and shared languages of taste are monitored as qualitative indicators alongside participatory strategies (Nouwligbeto, 2024). The combined use of different measurement traditions, through methodological triangulation, allows for a more reliable test of the sensitivity construct (Ward & Kapoula, 2022). Cross-cultural validity and comparability across age groups appear as a fundamental methodological priority in measurement adaptations (Pavlou, 2013).

Artistic Creativity and Theoretical Approaches

Artistic creativity is a multifaceted phenomenon that has been defined sometimes as process-oriented and other times as product-oriented; acquiring context-dependent meanings (Akca & Kavak, 2021; Jorgensen, 2018; Kibici, 2022). Process-oriented approaches emphasize discovery, trial-and-error, and selective regulation, defining creativity as a line of experiential learning (Consoli, 2015). Product-oriented approaches prioritize the qualitative evaluation of the output, highlighting the interaction of novelty and appropriateness with aesthetic value and the role of evaluating communities (Jeffries et al., 2018).

Theoretical approaches to explaining creativity vary along different axes, such as variation-selection, cognitive flow, emotion, and community-based evaluation, and they put forth unique emphases in the artistic context (Consoli, 2015). The approach of blind variation and selective retention opens the discussion on the selection logic of creative production through findings related to aesthetic judgment and personality (Kaufman, 2010). Evolutionary and enactive perspectives suggest that creative effects can be produced through aesthetic engagement even in situations where the agent plays a limited role (Currie & Turner, 2023). Neurocognitive explanations reveal that there are partial overlaps between creative association networks and networks that support aesthetic evaluation, indicating that multiple components operate simultaneously (Sacheli et al., 2022).

Models focusing on perceptual processing discuss how aesthetic experience is layered during the visual processing stream and at which stages of this chain creative decisions emerge (Utz & DiPaola, 2020). Educational theories and philosophies suggest that when aesthetic experience combines with well-being and a search for meaning, it provides a foundation that strengthens creative learning (Jorgensen, 2018). The art education literature suggests that aesthetic inquiry nourishes possibility thinking and that the search for a single correct answer can restrict learner autonomy (Costantino, 2011). Discussions in music and performance art reveal that aesthetic ideals create normative horizons that guide creative processes, and that these horizons need to be critically redefined (Behan, 2022).

The Relationship Between Aesthetic Sensitivity and Creativity

Relevant research shows that aesthetic sensitivity plays a critical role in the development of artistic creativity, a role that is visible at both the process and product levels (Savaş et al., 2021). It is stated that as aesthetic intensity increases, creativity is strengthened in terms of originality and richness of expression (Lam et al., 2021). In prototyping studies, the combination of aesthetic interaction and user experience broadens the range of creative solutions and encourages new combinations (de Farias et al., 2015). In the educational context, it is reported that aesthetic inquiry and possibility thinking activities strengthen students' creative thinking performance (Pavlou, 2013). Aesthetic programs integrated with social studies and art activities can produce lasting and transferable effects on creative

thinking (Dolapcıoğlu et al., 2019). School-based applications of aesthetic-focused creative activities are reported to yield significant gains in problem-solving and expressive flexibility (Gürkan & Dolapcıoğlu, 2020). Interventions in experiential awareness highlight the effects of aesthetic experience processes on creativity learning, demonstrating the cognitive benefits of sensitivity (Yeh et al., 2021). In early childhood, STEAM activities based on "aha" experiences can simultaneously strengthen indicators of aesthetic sensitivity and creativity (Tsuchiya & Gyobu, 2025). Socio-cultural analyses show that aesthetic perceptions activate community-based creative capacity and open up spaces for shared imagination (Farinacci & Stadler, 2024). This suggests that a positive and functional link between aesthetic sensitivity and creativity is likely (Consoli, 2015).

In the relevant literature, a low or non-existent relationship between aesthetic sensitivity and creativity has been reported in some samples, indicating that the relationship is not statistically significant (Myszkowski et al., 2014). Institution-focused critiques argue that aesthetic control and the process of normative taste can limit creative risk-taking and artificially weaken the relationship (Meades, 1979). Evolutionary arguments remind us that aesthetic engagement does not always produce creativity and that context-specific mechanisms are critical (Currie & Turner, 2023). In the performing arts, evaluation-focused pedagogies can limit experiential creativity when aesthetic goals are over-aligned with performance scales (Fryer, 2010). In advertising and creative industries, the integration of expert aesthetics into strategy can, in some cases, lead to standardization and a narrowing of expression, thereby weakening the client-consumer relationship (Bilton, 2009). Discussions in digital culture suggest that AI-powered visual productions can weaken creative identification by creating a sense of aesthetic alienation and non-subjective production (Smith & Southerton, 2025). These different reasons indicate that heterogeneity in the strength of the relationship should be expected due to sample, context, measurement issues, and that regulatory analyses are important.

Problem Statement and Gaps in the Literature

The emergence of different findings regarding the direction and strength of the relationship between aesthetic sensitivity and creativity in the literature highlights the need for a comprehensive synthesis. Some studies suggest that aesthetic experience directly reinforces creative production, while others report that the relationship varies according to context, measurement type, and sample characteristics (Savaş et al., 2021; Lam et al., 2021). Findings that visual aesthetic sensitivity may be partially independent of intelligence and personality, and have only a limited overlap with creativity, can weaken the assumption that there is a high expected correlation (Myszkowski et al., 2014). Models that explain the influence of aesthetic evaluation processes on creative selection, having different predictive Powers, may lead to can increased the heterogeneity of the results (Consoli, 2015).

Although neuroimaging syntheses point to shared networks, findings on how this shared network is reflected at the behavioral level cannot be reduced to a consistent effect

size (Sacheli et al., 2022). While aesthetic activities are expected to support creativity gains in some educational contexts, evaluator biases and contextual effects in design and performance measurements can complicate the relationship (Jeffries et al., 2018; Pavlou, 2013). The psychometric diversity of tools used in childhood and adolescence can limit comparability (Mei-Ju, 2014; Gürkan & Dolapcıoğlu, 2020). The fact that eye-tracking, product evaluation, and self-report-based measurements operationalize the same concept differently can lead to a dispersion of effect sizes (Ward & Kapoula, 2022; Aparicio-Flores et al., 2025). Differences in publication language, discipline, and reporting standards also appear to be a significant source of heterogeneity (Snow & Leach, 1996; Bilton, 2009). Furthermore, the impact of retracted studies on field generalization and the lack of reporting on methodological health indicators makes the need for a reliable synthesis even more important (Zhou, 2021). Therefore, instead of interpreting correlational findings one by one, adopting a systematic and transparent meta-analytic approach seems essential. Such an approach would clarify the confidence interval of the general relationship by separating the effects of methodological differences.

Literature highlighting contextual and individual factors that shape the relationship between aesthetic sensitivity and artistic creativity would provide valuable depth to the theoretical framework. Prior studies suggest that cultural and educational contexts significantly influence how aesthetic experience translates into creative output (Aparicio-Flores et al., 2025; Ma & Huang, 2024). Likewise, differences in sample characteristics—such as age, expertise level, or professional background—can moderate aesthetic engagement and creative expression (Burgart, 1961; Savaş, Verwijmeren, & van Lier, 2021). Moreover, evolving creative environments, including the rise of digital and AI-mediated artistic practices, highlight how temporal and contextual shifts reshape the aesthetic–creative connection (Smith & Southerton, 2025). Integrating such moderating perspectives from the literature would thus enable a more comprehensive understanding of the dynamic and context-dependent nature of the link between aesthetic sensitivity and artistic creativity.

The gap in the literature is not limited to discussions of effect size; it also includes the inability to holistically grasp the regulatory effects of cultural, institutional, and technological contexts on the process. In the fields of visual arts and design, there can be a standardization problem between the evaluation criteria for studio-based productions and the goals of in-class pedagogical interventions (Kılınçer, 2025; Lam et al., 2021; Pavlou, 2013). The institutionalization of aesthetics and innovation cycles expands the diffusion of creativity (Snow & Leach, 1996; Poldner et al., 2017). Cross-cultural ethical and aesthetic discussions redefine the relationship of creativity with social goals, and this relationship sometimes calls into question the cultural sensitivity of the measurement tools (Onyeaghalaji, 2018; Ni, 2021). In higher education classrooms, the aesthetic challenges of social creativity further complicate the balance between individual sensitivity and group processes (Nouwligbeto, 2024). Digital and AI-powered creative productions add new layers to the sensory processing of aesthetic experience, challenging classical measurement

frameworks (Utz & DiPaola, 2020; Smith & Southerton, 2025). For these reasons, the need for a comprehensive synthesis that blends different contexts and methods arises. A meta-analysis that include methodological transparency and an evaluation of publication bias is important in this context. Thus, widespread findings in the literature can be systematically evaluated, and applied results can be more reliably substantiated.

In this study, the relationship between aesthetic sensitivity and artistic creativity was investigated within the context of correlational studies. Additionally, the following were identified as potential moderators affect the average effect size; (i) the sample group, (ii) publication type, (iii) publication year, (iv) the age range of the sample, (v) the culture of publication, and (vi) the type of artistic creativity addressed. Based on these variables and the results of previous research, the following hypotheses were tested:

Hypotheses of the study/ Sub-problems

H1: Aesthetic sensitivity has a positive effect on artistic creativity.

H2: Publication year is a moderator of the positive effect of aesthetic sensitivity on artistic creativity.

H3: Publication type is a moderator of the positive effect of aesthetic sensitivity on artistic creativity.

H4: Culture is a moderator of the positive effect of aesthetic sensitivity on artistic creativity.

H5: Sample age range is a moderator of the positive effect of aesthetic sensitivity on artistic creativity.

H6: Creativity type is a moderator of the positive effect of aesthetic sensitivity on artistic creativity.

H7: Sample group type is a moderator of the positive effect of aesthetic sensitivity on artistic creativity.

METHOD

Study Design

This study used a meta-analysis approach to test the relationship between aesthetic sensitivity and artistic creativity within the context of correlational studies. Meta-analysis is a method for combining the results of multiple independent studies on a specific topic and performing a statistical analysis of the findings (Littel et al., 2008; Petitti, 2000).

Search Strategy and Inclusion/Exclusion Criteria

A literature search was conducted on the Web of Science, Scopus, TR Index, and ProQuest academic databases to identify studies for inclusion in the meta-analysis. The search used specific keywords and their synonyms to comprehensively capture the relevant concepts.

The following search queries were used for English databases:

- *"aesthetic sensitivity" AND ("artistic creativity" OR "art creativity" OR "creative expression")*
- *"aesthetic sensitivity" AND ("correlation" OR "correlational study" OR "relationship" OR "association")*
- *"artistic creativity" AND "aesthetic sensitivity" AND ("meta-analysis" OR "systematic review")*
- *("aesthetic sensitivity" OR "aesthetic awareness" OR "aesthetic perception") AND ("artistic creativity" OR "creative ability") AND ("correlation" OR "relationship")*
- *("aesthetic sensitivity" AND "creativity") AND ("meta-analysis" OR "systematic review")*
- *The same scope was maintained for the Turkish databases by using the corresponding Turkish terms:*
- *"estetik duyarlılık" AND ("sanatsal yaratıcılık" OR "yaratıcılık" OR "sanatsal ifade")*
- *"estetik duyarlılık" AND ("korelasyon" OR "ilişki" OR "ilişkisel çalışma")*
- *"sanatsal yaratıcılık" AND "estetik duyarlılık" AND ("meta-analiz" OR "sistematik derleme")*
- *("estetik duyarlılık" OR "estetik farkındalık" OR "estetik algı") AND ("sanatsal yaratıcılık" OR "yaratıcılık" OR "yaratıcı yeti") AND ("korelasyon" OR "ilişki")*
- *("estetik duyarlılık" AND "yaratıcılık") AND ("meta-analiz" OR "sistematik derleme")*

This strategy aimed to provide the most comprehensive search for studies examining the relationship between aesthetic sensitivity and artistic creativity. The cutoff date for studies included in this research was August 2025. Both master's theses and peer-reviewed journal articles were included in the analysis.

Multiple strategies were used to identify studies suitable for the meta-analysis. First, a broad search of titles, keywords, and abstracts was conducted to create an initial pool of studies (168 total) that could potentially address the relationship between aesthetic sensitivity and artistic creativity. Next, the abstracts were reviewed. Based on the criteria

below, 96 studies were excluded. In the second stage, the remaining 72 studies were examined in depth, and it was determined that 25 were suitable for the meta-analysis, while the rest were not.

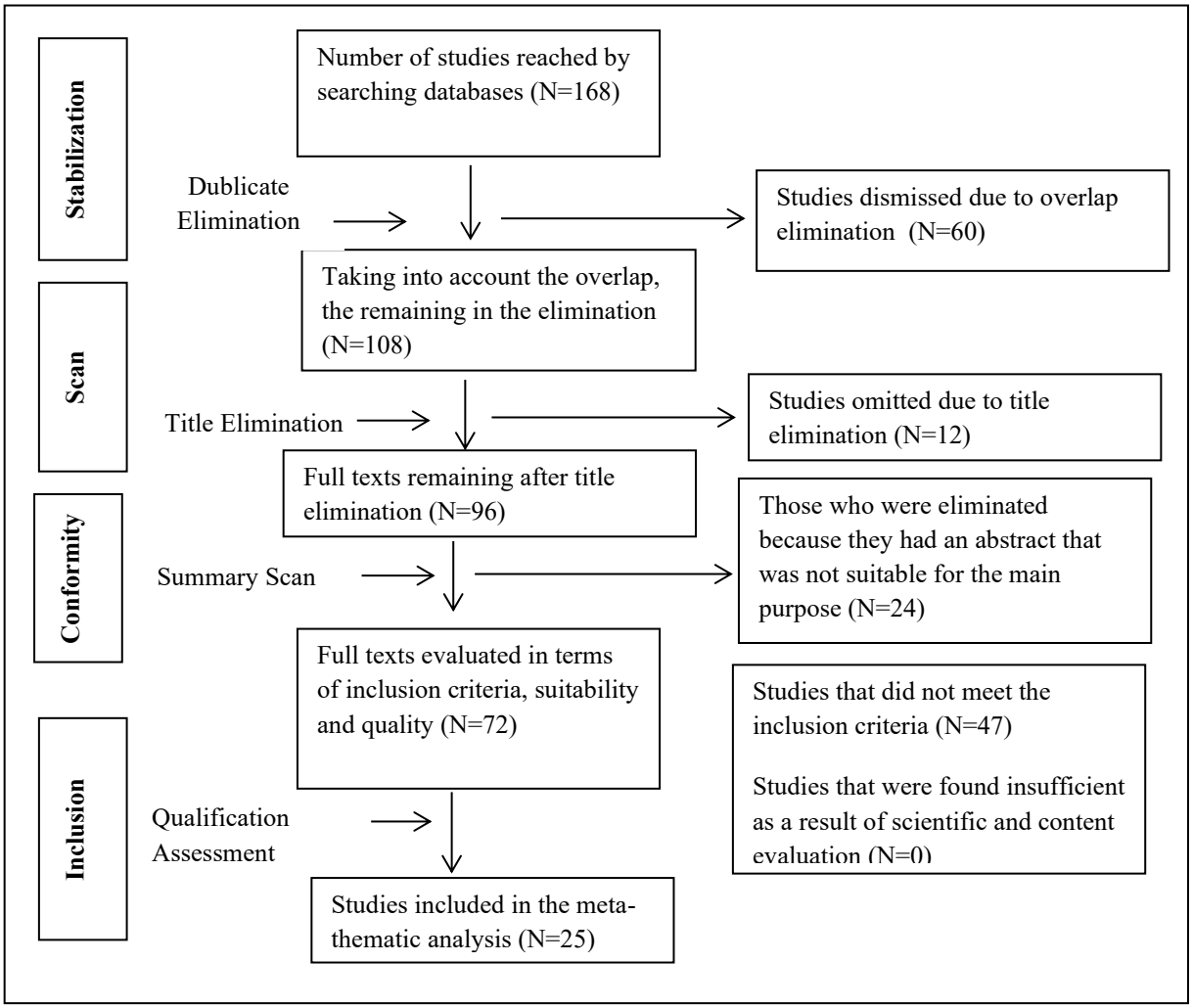

Figure 2. PRISMA Flow Diagram Studies Included in the Analysis

The descriptive statistics for these 25 studies are presented in Table 1.

- The inclusion criteria for this study were as follows:
- The study must contain the necessary statistical information for a correlational meta-analysis (n and r or R^2 values).
- The study must cover the topics of aesthetic sensitivity and artistic creativity.
- The reasons for excluding studies from the meta-analysis were:
- The study did not provide any quantitative data.
- The study did not include a correlation value.

- The study did not use behavior as a unit of measurement.

The characteristics of the studies included in the meta-analysis are presented in Table 1.

Table 1

Characteristics of Included Studies in the Meta-Analysis

Options		**1**	**2**	**3**	**Total**
Research		Before 2000	2001-2020	After 2021	-
Publication Year	*n*	2	7	16	25
	%	8.0	28.0	64.0	100
		Thesis	Article		-
Research Type	*n*	2	23		25
	%	8.0	92.0		100
Research		Expert	Student		
Publication Year	*n*	6	19		25
	%	24.0	76.0		100

According to Table 1, a total of 25 studies were included in the meta-analysis. When examining the distribution of studies by publication year, the vast majority (64%) were published after 2021, with 28% published between 2001 and 2020, and 8% published before 2000. Regarding the type of research, articles constituted the vast majority of studies (92%), while theses accounted for 8%. In terms of the sample group, it was found that 76% of the studies worked with student groups, while 24% worked with expert groups.

Coding Procedure

The coding procedure is a fundamental step for organizing and extracting data, ensuring that only information relevant to the study's purpose is selected from a complex pool of research findings. To this end, a coding form was prepared before the statistical analysis, and the coding was carried out systematically according to this form. The main goal was to create a general framework encompassing all studies and to develop a detailed coding system that would not overlook the unique characteristics of individual studies.

The coding form used in this study consisted of the following components:

- Research bibliography
- Sample information

- Culture where data was collected
- Methodological information
- Quantitative values

Statistical Procedures

The effect size calculated in meta-analyses is accepted as a standard measure to reveal the strength and direction of the relationship within studies (Borenstein et al., 2009). In this study, the Pearson correlation coefficient (r) was used as the indicator of effect size. Since the correlation coefficient can take values ranging from −1 to +1, the r coefficients obtained in the analyses were first converted into a standard form using Fisher's z transformation, and then the calculations were performed (Hedges & Olkin, 1985).

In correlational meta-analyses, when more than one correlation value is reported for the same variable category, there are different approaches for deciding which value to include in the analysis (Borenstein et al., 2009; Kulinskaya et al., 2008). This study followed this procedure: (i) If the reported correlations were independent, all correlation values were included and treated as independent studies. (ii) When correlations were dependent, the average correlation coefficient was used. Although various methods have been proposed in the literature to correct this average, many approaches can lead to an overestimation of the correlation coefficient (Schyns & Schilling, 2013). For this reason, the average correlation value was used in this study as it provides a more conservative estimate.

In meta-analyses, two main models are generally used: the fixed-effects model and the random-effects model. The appropriate model is is chosen by examining which assumptions regarding the characteristics of the included studies are met (Borenstein et al., 2009; Kulinskaya et al., 2008). The fixed-effects model is preferred when (i) the included studies have the same functional structure and (ii) the goal is to calculate the effect size for a specific population. In contrast, the random-effects model is considered appropriate when there are methodological or contextual differences among studies and the goal is to generalize the obtained effect size to a broader population. Considering the characteristics of the studies examined in this research, the random-effects model was chosen for the analyses. All meta-analysis procedures were carried out using Comprehensive Meta-Analysis (CMA) software.

Moderator Variables

Moderator analysis is a statistical technique used within a meta-analysis to examine differences that emerge between subgroups and to test for divergences in the average effect sizes of the moderator variables. In meta-analytic studies, this analysis is pre-structured based on the primary goals of the research and is applied systematically according to the planned steps (Littel et al., 2012). The significance of the differences among the groups created by the moderator variables is typically evaluated using the Q statistic developed by Hedges and Olkin (1985). Within this method, the total Q value is divided into two components: Qbetween (Qb) and Qwithin (Qw). Qw tests the level of homogeneity within the

subgroups of moderator, while Qb indicates the differentiation between the groups (Borenstein et al., 2009; Hedges & Olkin, 1985).

Publication Bias

Publication bias is based on the assumption that not all research on a particular topic is published. The fact that studies with non-significant or low-level findings are not considered worthy of publication can lead to the average effect size obtained in meta-analyses being overestimated (Hanrahan et al., 2013). This situation, also referred to as "missing data" in the literature, biases the overall effect level reached by meta-analyses and reduces their reliability. Therefore, the existence of possible publication bias is always considered in meta-analysis research. In this study, some fundamental questions were addressed to examine publication bias:

- Is there any evidence of publication bias?
- Could the overall effect size be a result of publication bias?
- How much of the total effect is due to publication bias?

In meta-analysis studies, various statistical methods are used to reveal potential biases. One of the most common techniques is the funnel plot technique. Although a funnel plot does not provide an absolutely objective measurement, it gives an idea of whether there is publication bias in the included studies. In this research, the findings regarding publication bias of the studies included in the meta-analysis are presented via a funnel plot in Figure 2.

An examination of Figure 1 reveals no findings suggesting publication bias in the data from the studies. In the presence of publication bias, the funnel plot is expected to be markedly asymmetrical. Specifically, a clustering of studies on one side of the vertical line representing the average effect size (mostly on the right side) in the lower sections of the funnel on one side of the vertical line representing the average effect size (mostly on the right side) in the lower sections of the funnel would indicate bias. However, no such finding was observed in the distribution of the 25 studies examined in this research, and no strong evidence of publication bias was found.

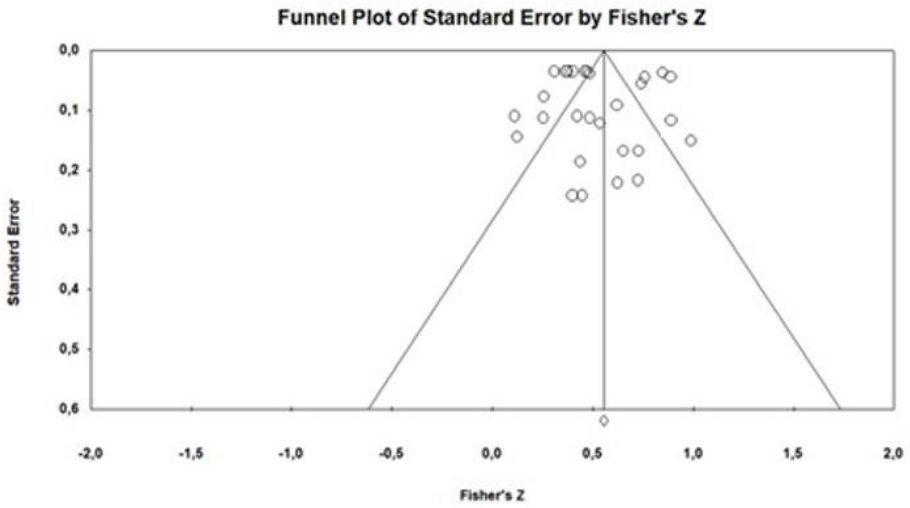

Figure 2. Funnel Plot of Effect Size for Publication Bias

Although no evidence of publication bias was found in the funnel plot analysis, Duval and Tweedie's *trim and fill* method was applied to determine the extent to which the effect size obtained from the random-effects meta-analysis was affected by potential publication bias. The results of this test are presented in Table 2.

Table 2

Duval, Tweedie's trim and fill test results

	Studies Trimmed	Point Estimate	CI (Confidence Interval) Lower Limit	CI (Confidence Interval) Upper Limit	Q
Observed values		0.55	0.48	0.63	577.74
Adjusted values	0	0.55	0.48	0.63	577.78

An examination of Table 2 shows that there is no significant difference between the observed effect size and the estimated (imputed) effect size calculated to address the effect of bias. The main reason for the absence of this difference is that the studies are generally distributed symmetrically on both sides of the central line.

Ethical considerations

This meta-analysis was conducted in strict accordance with the ethical standards of scientific research and publication. Since the study synthesized data derived from previously published empirical studies, no new data were collected directly from human participants or animals. Therefore, formal institutional ethics approval was not required.

RESULTS

The results of the meta-analysis on the correlation between aesthetic sensitivity and artistic creativity are presented in Table 3.

Table 3

Correlation Findings Between Aesthetic Sensitivity and Artistic Creativity: Meta-Analysis Results

Variable	K	*r*	CI (Confidence Interval)		Q	Q_b
			Lower Limit	Upper Limit		
Artistic Creativity	25	.55*	.47	.63	577.74*	
Moderator [Publication Year]						**15.25***
1961	1	.71*	.42	.86		
1992	1	.63*	.29	.82		
2013	1	.33	-.36	.73		
2017	2	.35*	.03	.60		
2018	2	.59*	.38	.74		
2019	2	.26	-.40	.63		
2021	7	.70*	.59	.79		
2024	2	.55*	.30	.72		
2025	7	.43*	.29	.55		
Moderator [Publication Type]						**1.14**
Article	23	.54*	.45	.62		
Thesis	2	.67*	.42	.82		
Moderator [Culture]						**.26**
Horizonal-Individualis	10	.58*	.44	.69		
Vertical-Collectivist	15	.54*	.44	.63		
Moderator [Participant Age Group]						**7.31**
18-20	8	.48*	.33	.61		
21-25	11	.57*	.45	.66		
26-30	2	.83**	.61	.92		
31 and over	4	.42*	-.24	.81		
Moderatör [Creative Type]						**26.81****
Artistic	14	.44*	.34	.52		
Design	6	.67*	.51	.79		
General	2	.58*	.36	.74		
Product based	3	.81*	.71	.88		
Moderator [Participant Type]						**1.42**
Experts	6	.66*	.46	.79		
Undergraduate students	19	.53*	.44	.61		

N=8767, *p<.01, **p<.05

Table 3 contains the meta-analysis results on the relationship between aesthetic sensitivity and artistic creativity. The findings supported hypothesis H1, which posited a positive relationship between aesthetic sensitivity and artistic creativity. The effect size of aesthetic sensitivity on artistic creativity was calculated as r=.55. This value indicates that aesthetic sensitivity has a moderate-level effect on artistic creativity (see Cohen, 2013).

The moderator analysis supported hypothesis H2, which stated that publication year acts as a moderator of the effect size between aesthetic sensitivity and artistic creativity. It was found that aesthetic sensitivity had varying levels of effect on artistic creativity in studies published in 1961 (r=.71), 1992 (r=.63), 2017 (r=.35), 2018 (r=.59), 2021 (r=.70), and 2024 (r=.55). In contrast, the effect of aesthetic sensitivity on artistic creativity was not found to be statistically significant in studies published in 2013, 2019, and 2025. The moderator analysis, conducted using the random-effects model, showed that the difference in effect size among publication years is statistically significant (Q_b=15.25,$p<.05$).

The findings did not support hypothesis H3, which posited that publication type acts as a moderator of the effect size of aesthetic sensitivity on artistic creativity. The moderator analysis found no statistically significant difference in effect size between articles (r=.54) and theses (r=.67) (Q_b=1.14,$p>.05$). Despite this result, the effect of aesthetic sensitivity on artistic creativity is large in both articles and theses.

The findings did not support hypothesis H4, which stated that culture acts as a moderator of the effect size of aesthetic sensitivity on artistic creativity. The moderator analysis found no statistically significant difference in effect size between horizontal-individualist (r=.58) and vertical-collectivist (r=.54) culture types (Q_b=0.26,$p>.05$). The effect of aesthetic sensitivity on artistic creativity is significant in both culture types.

The findings supported hypothesis H5, which stated that participant age group acts as a moderator of the effect size of aesthetic sensitivity on artistic creativity. The moderator analysis showed that the difference in effect size among age groups is statistically significant (Q_b=7.31,$p<.05$). Within this scope, large effect size of aesthetic sensitivity on artistic creativity was found in the 26 to 30 age group (r=.83), while a medium effect size was found in the other age groups (18 to 20: r=.48, 21to 25: r=.57, and 31 and above: r=.42).

The study supported hypothesis H6, which stated that creativity type acts as a moderator of the effect of aesthetic sensitivity on artistic creativity. The moderator analysis showed that the difference in effect size among creativity types is statistically significant (Q_b =26.81,$p<.05$). In this context, a strong effect of aesthetic sensitivity on artistic creativity was found in the product-based creativity type (r=.81), while moderate-to-strong effects were found in the artistic (r=.44), design (r=.67), and general (r=.58) creativity types.

The findings did not support hypothesis H7, which posited that participant type acts as a moderator of the effect size of aesthetic sensitivity on artistic creativity. The moderator analysis found no statistically significant difference in effect size between experts (r=.66) and

undergraduate students (r=.53) (Qb=1.42,p>.05). In both groups, the effect of aesthetic sensitivity on artistic creativity is significant.

DISCUSSION

This study comprehensively examined the relationship between aesthetic sensitivity and artistic creativity through a meta-analysis of correlational findings. The question of how the perceptual, emotional, and cognitive components of aesthetic sensitivity intersect with creative production has become a shared area of interest for fine arts, art education, psychology, philosophy, and cultural studies, and this common ground makes the need for large-scale data more visible (Sacheli et al., 2022).

First, the research tested the overall direction and consistency of the relationship between aesthetic sensitivity and artistic creativity. The results demonstrate that aesthetic sensitivity exerts a generally positive and significant influence on artistic creativity. Individuals exhibiting higher aesthetic sensitivity tend to perform more effectively in creative thinking and expressive endeavors, suggesting that aesthetic sensitivity extends beyond personal preferences or affective reactions and is directly manifested in creative production (Lam et al., 2021; Savaş et al., 2021). Empirical evidence further indicates that engagement in aesthetic exploration and possibility-oriented thinking enhances creative outcomes (Dolapcıoğlu et al., 2019). Nevertheless, several studies have emphasized that this relationship may differ depending on contextual variables, as institution-centered or normatively constrained aesthetic frameworks can restrict creative risk-taking and innovation (Myszkowski et al., 2014). Such variability underscores the moderating influence of contextual factors in explaining the heterogeneity observed across the literature. In certain cultural or methodological contexts, the association between aesthetic sensitivity and creativity has been reported as comparatively weaker (Currie & Turner, 2023). Despite these discrepancies, the overall meta-analytic findings confirm a robust, positive, and significant mean relationship, aligning with prior evidence that aesthetic sensitivity facilitates creative cognition (Consoli, 2015; Yeh et al., 2021). Moreover, studies in early childhood contexts indicate that aesthetic experiences foster creativity by eliciting insight-driven "aha" moments (Tsuchiya & Gyobu, 2025). Collectively, these findings suggest that aesthetic sensitivity functions as a foundational component that supports and enriches creative production, although its magnitude may vary across developmental stages and contexts. The observed positive and significant association provides empirical support for Hypothesis 1.

The study's second goal was to test whether publication year plays a moderator role in the relationship between aesthetic sensitivity and creativity. The findings revealed that in some periods, the relationship was markedly strong (Burgart, 1961; Dou et al., 2025; Jeffries et al., 2018; Wilson, 1992; Yeh et al., 2021), in some, it was at a medium level (Ma & Huang, 2024; Myszkowsk et al., 2018; Stojilović, 2017; Savaş et al., 2021), and in some years, findings that did not meet the significance threshold were reported (Han et al., 2019; Horng et al.

2013). The presence of patterns in recent studies reporting a weak or non-significant relationship indicates that differences in measurement tradition, task design, and reporting standards should be considered together with the year effect. Period aesthetic emphases, the widespread adoption of interactive art applications, and the integration of out-of-studio production ecosystems with consumption accelerate aesthetic feedback loops, making the production of creative options more visible during certain periods (Lam et al., 2021; Savaş et al., 2021; Utz & DiPaola, 2020). At the same time, normative frameworks in evaluation languages and the emphasis on technical accuracy and performance thresholds in rubrics can, in some periods, push aesthetic risk-taking behavior into the background, reducing the visibility of the transfer (Behan, 2022). From a meta-analytic perspective, year is not read as a causal lever on its own but as an indicator variable for the composite of components such as methodological maturity, sample diversification, and reporting transparency (Borenstein et al., 2009).

Early studies reported stronger relationships in certain contexts can be explained by the more frequent intersection of aesthetic evaluation and creative selection within the same task language. In contrast, in some recent periods, the full alignment of measurement tools with the genre and context may weaken visibility (Jeffries et al., 2018; Myszkowski et al., 2014). Cultural philosophy and sociological readings show that normative aesthetic horizons can expand and contract with the periodical discursive climate, and this fluctuation can have outcomes that are either in favor of or against creative expression (Ni, 2021; Sobande & Osei, 2020). In digital production environments, the acceleration of versioning, prototyping, and user feedback loops can lead, in some years, to a more direct transfer of sensitivity perceptions to creative selection. In other years, however, tool-oriented practices may overshadow aesthetic reasoning (de Farias, Keller et al., 2015; Lam et al., 2021; Utz & DiPaola, 2020). Nevertheless, it is observed that in periods when open data and supplementary material practices are widespread, evidence for measurement and task alignment is tracked more reliably, and the relationship pattern is depicted more clearly (Hedges & Olkin, 2014). In this context, it is suggested that publication year works as a moderator, changing the visibility and strength of the aesthetic sensitivity-creativity relationship by acting in concert with artistic emphasis, measurement tradition, and reporting standards.

The study also tested whether the relationship differed based on publication type and examined the significant difference between theses and peer-reviewed articles. The findings show that the difference in publication type does not alter the overall relationship, indicating a convergence between the types (Borenstein et al., 2009). The data revealed that practices such as methodological rigor, peer-review processes, and coding transparency limit the difference between types (Hedges & Olkin, 2014). In terms of content, the psychometric properties of measurement tools, the aesthetic decision points of task design, and sample diversity appear to be more decisive than publication type in interpreting the relationship (Consoli, 2015). Open data and supplementary material practices increase

reusability across publication types and facilitate meta-analytic synthesis (Borenstein et al., 2009). Pedagogical implications require that aesthetic inquiry be designed in alignment with the theoretical framework, regardless of type (Gürkan & Dolapcıoğlu, 2020; Pavlou, 2013). The consistency in the context of publication type indicates that the relationship between the two variables is strong and its strength remains constant.

Another finding of the study was whether cultural orientations significantly change the relationship pattern. According to the findings, although expressive pathways and artistic practices differ among cultures, a similar coordination is maintained in the functional core. The data reveal that cultural norms affect creative evaluation thresholds but do not entirely break the continuity of the fundamental link between sensitivity and creativity. Proximal contextual variables such as design, measurement tool, and participant profile can direct the interpretation of the relationship more signifcantly than culture (Jeffries et al., 2018). Research grounds sensitivity in existential meaning-seeking and value systems, and this grounding offers nuances on how creative decisions are guided by cultural contexts (Jorgensen, 2018; Ni, 2021). Sociological approaches emphasize that aesthetic sensitivity is in negotiation with norms and that production outcomes are shaped by this negotiation (Sobande & Osei, 2020). In the educational context, localized aesthetic activities enhance creative expression by qualitatively transforming it, thus making its value evident (Gürkan & Dolapcıoğlu, 2020). Digital culture can contribute to the convergence of aesthetic patterns by accelerating cross-cultural circulation (Smith & Southerton, 2025). The rapid cycles of user feedback in the fields of design and fashion can highlight similar decision points across cultures (Lam et al., 2021). In this context, the findings indicate that culture functions as an indirect, overarching framework. The comparative meta-analysis suggests a continuity that operates alongside context rather than a major cultural divergence.

The study also tested whether the relationship between aesthetic sensitivity and artistic creativity changes according to developmental stages in different age groups. The findings showed that significant differences emerged among age groups. The data revealed that aesthetic sensitivity has a large-level effect on artistic creativity in the 26–30 age group, while the effect remains more limited in other age groups. It is understood that the young adult period, in particular, is when the link between aesthetic sensitivity and creativity is strongest. This indicates that the function of aesthetic sensitivity in creative processes interacts with developmental factors. The education literature suggests that differentiations can occur in creativity indicators as age progresses and that the ways aesthetic experiences are perceived can change (Pavlou, 2013; Lam et al., 2021). The findings suggest that aesthetic sensitivity is used more effectively and creativity is more strongly supported during the transition from adolescence to adulthood. Unexpectedly, the relationship was found to be relatively lower in the 31, and older age groups. This result suggests that different responsibilities in adulthood may limit the transfer of aesthetic sensitivity to creative processes. Previous research has also reported that aesthetic experiences are more pronounced in childhood and youth (Tsuchiya & Gyobu, 2025). In this context, it appears

that developmental periods contribute differently to the relationship between aesthetic sensitivity and creativity. Furthermore, the fact that cognitive flexibility and emotional intensity peak in young adulthood supports the psychological explanations for this finding (Sacheli et al., 2022). This result highlights the importance of differentiated approaches for different age groups in the context of art education. The difference that emerged among age groups is an important finding that reveals the contextual aspect of aesthetic sensitivity and creativity.

The literature suggests that developmental stages are not merely background variables but a contextual platform where pedagogical and cultural mediators are concentrated (Yeh et al., 2021; Tsuchiya & Gyobu, 2025). When viewed holistically, the pattern differences observed among age groups imply that the transfer mechanisms between aesthetic sensitivity and creativity are sensitive to developmental tasks and community structures (Nouwligbeto, 2024).

The study showed that creativity type acts as a moderator of the relationship between aesthetic sensitivity and artistic creativity. The findings revealed that aesthetic sensitivity has a significant effect on artistic creativity, especially within the domain of product-based creativity. In contrast, the effect was found to be at a lower level for artistic creativity, a medium level for design creativity, and a medium-to-large level for general creativity. This result indicates that aesthetic sensitivity can show effects of different intensities across different creativity types. It is important that creativity has different dimensions depending on the type of creativity and that aesthetic processes provide stronger contributions, especially in the contexts of product development and problem-solving (Consoli, 2015). The relatively lower effect of aesthetic sensitivity in artistic creativity suggests that normative aesthetic criteria in artistic expression processes may limit creative flexibility. In contrast, the strong effect of aesthetic sensitivity in product-based creativity indicates that aesthetic perception assumes a decisive role in functional innovation and production processes. Previous studies have also reported that aesthetic sensitivity is more strongly reflected in creativity, especially in design, engineering, and applied arts (de Farias et al., 2015; Jeffries et al., 2018; Yeh et al., 2021). This finding also shows that educational programs for different creativity types should be supported with aesthetic components. In the digital age, aesthetic sensitivity further accentuates the differences among creativity types in AI-supported design and product development processes (Smith & Southerton, 2025).

In digital art, fashion, and interface design, multimodality and rapid iteration allow sensitivity signals to permeate both production and evaluation phases, and this proliferation facilitates creative expansion (Lam et al., 2021; Savaş et al., 2021). It is emphasized that in general creative tasks, the sensitivity relationship acts like a background regulator, and its visibility can fluctuate according to the task language, context, and the expectations of the evaluating community (Jeffries et al., 2018). In user-experience-focused design contexts, the intensity of feedback loops can create an acceleration effect where sensitivity signals bypass longer circuits and transfer directly to creative selection (Lam et al., 2021). In contrast, in

product evaluations with closed rubrics, the transfer of sensitivity can weaken when tension arises between innovation and normative aesthetics (Fryer, 2010; Bilton, 2009). This picture suggests that the moderation of creativity type is not just a difference in measurement, but also in the functioning of the production ecosystem (Consoli, 2015).

Finally, the study reveals that participant type, such as experts, practitioners, and students, does not act as a moderator in the relationship between aesthetic sensitivity and creativity. The findings showed that the effect of aesthetic sensitivity on artistic creativity was significant in the group of expert participant and similarly at a signifant in undergraduate students. This indicates that the relationship between aesthetic sensitivity and creativity is consistent, even though the participants differ in academic or professional levels. The literature has suggested that experts might evaluate aesthetic processes more consciously and therefore their creative performance might be stronger (Jeffries et al., 2018). However, the meta-analysis findings did not confirm this expectation, revealing similar levels of effect in both groups. This finding suggests that aesthetic sensitivity contributes to the creative process regardless of an individual's level of experience. Studies have reported that aesthetic sensitivity can trigger the creative process in both experienced and less experienced individuals (Consoli, 2015).

Mentoring, studio-matching, and mixed-workshop settings can make the expert-student distinction more permeable within horizontal learning communities, accelerating the circulation of sensitivity signals (Pavlou, 2013; Jorgensen, 2018; Gürkan & Dolapcıoğlu, 2020). In applied arts and design environments, customer-user feedback, stakeholder expectations, and ethical-aesthetic discussions can assume a more powerful regulatory role than profile differences (Poldner et al., 2017). Cultural studies suggest that social norms shape the evaluation horizons for both students and professionals, and that profile differences are therefore often overshadowed by a common cultural context (Ni, 2021; Sobande & Osei, 2020; Snow & Leach, 1996). In this context, the consistency of the relationship indicates that the measurement language and task design can produce an overarching effect that suppresses profile differences

CONCLUSION LIMITATIONS AND RECOMONDATIONS

Conclusion

In every scholarly endeavor, it's essential to candidly address the boundaries that might have affected the study's scope or outcomes. This section sheds light on these limitations, offering a transparent view of the challenges faced, the choices made, and the potential biases inherent in the research methodology or the context in which the study was conducted.

The research findings show that the positive relationship between aesthetic sensitivity and artistic creativity has direct implications for educational programs and pedagogical practices. First, the strong support of creativity by aesthetic sensitivity reveals that programs

should focus not only on knowledge transfer but also on the development of aesthetic perception and sensitivity. Students can exhibit creative performance in artistic processes only if aesthetic dimensions are systematically integrated into learning environments (Dolapcıoğlu et al., 2019). The findings indicate that educational policies need to provide more space for aesthetic experiences and that defining aesthetic sensitivity as a learning outcome will increase students' creative potential. Enriching the curriculum with aesthetic dimensions also increases students' learning motivation and, in the long term, contributes to the development of social creativity (Gürkan & Dolapcıoğlu, 2020). Therefore, the research results reveal the necessity of holistically integrating aesthetic sensitivity into education systems from a pedagogical perspective.

Furthermore, these results offer direct contributions to the understanding of art and creativity in the digital age. The strong effect of aesthetic sensitivity on artistic creativity makes it necessary to discuss how digital environments and technological tools transform this relationship. Today, AI, augmented reality, and virtual reality-based art applications accelerate and diversify the reflection of aesthetic sensitivity on different creativity types (Utz & DiPaola, 2020; Smith & Southerton, 2025). In this context, the research findings show that aesthetic sensitivity is an important factor that determines the quality of creative products in digital art practices. The findings also confirm that the relationship between aesthetic sensitivity and creativity is not limited to traditional art forms but also appears strongly in the contexts of digital design, multimedia, and interactive art. Theoretically, this situation necessitates a re-evaluation of creativity theories to include an aesthetic component.

Limitations

The findings should be interpreted with caution due to the scope and methodological diversity of the included studies; therefore, limitations must be considered when making generalizations. Conceptual differences in the operationalization of aesthetic sensitivity and creativity, the psychometric maturity levels of measurement tools, and the limitations of self-report-based measurements can create sources of heterogeneity in the synthesis (Myszkowski et al., 2014). The reliance of the studies on correlational designs necessitates a cautious approach to directionality and causal inferences (Jorgensen, 2018). Possible language bias due to publication language and access channels, as well as the lack of access to gray literature, can lead to the relationship narrative being skewed towards certain subfields (Borenstein et al., 2009). The risk of publication bias can make the relationship pattern appear more consistent than it is, due to the increased visibility of positive results and the decreased likelihood of reporting null findings (Hedges & Olkin, 2014). Three retracted studies were found in the literature. The existence of these publications, even if excluded from the synthesis, may have indirectly influenced the general discourse on the topic; this possibility should be considered (Zhou, 2021). The fact that classifications related

to age, culture, and creativity type were not sufficiently distinct in some studies can create a degree of uncertainty in the moderator readings.

Recommendations

For future studies, the relationship between aesthetic sensitivity and artistic creativity should be examined not only with correlational methods but also with experimental and longitudinal research. This would allow the causal direction of the relationship to be more clearly established. In addition, databases such as ERIC and Taylor & Francis could be added to the search. The differences observed among creativity types reveal the need for more in-depth comparative research in this area. Future studies should address types such as product-based, design-focused, and artistic creativity separately to clarify the role of aesthetic sensitivity in more detail. In terms of participant types, larger samples that include not only experts and students but also artists, teachers, and different professional groups are recommended. Furthermore, new research focusing on digital art and AI-powered creative processes is important for understanding the function of aesthetic sensitivity in contemporary contexts. Future studies should also investigate how aesthetic sensitivity can be developed through pedagogical practices and the long-term effects of this development on creativity.

In light of these findings, future research could benefit from incorporating additional moderator analyses to further clarify the conditions under which aesthetic sensitivity most strongly influences artistic creativity. Examining factors such as educational background, artistic discipline, or exposure to diverse aesthetic environments could provide deeper insight into the variability of this relationship. Furthermore, translating these findings into educational practice would enhance the study's practical relevance. For instance, educators could design learning environments that intentionally cultivate aesthetic awareness—through activities emphasizing observation, reflection, and creative experimentation—to strengthen students' creative potential. Such pedagogical applications would not only bridge theoretical and empirical insights but also support the development of more holistic and creativity-oriented educational frameworks.

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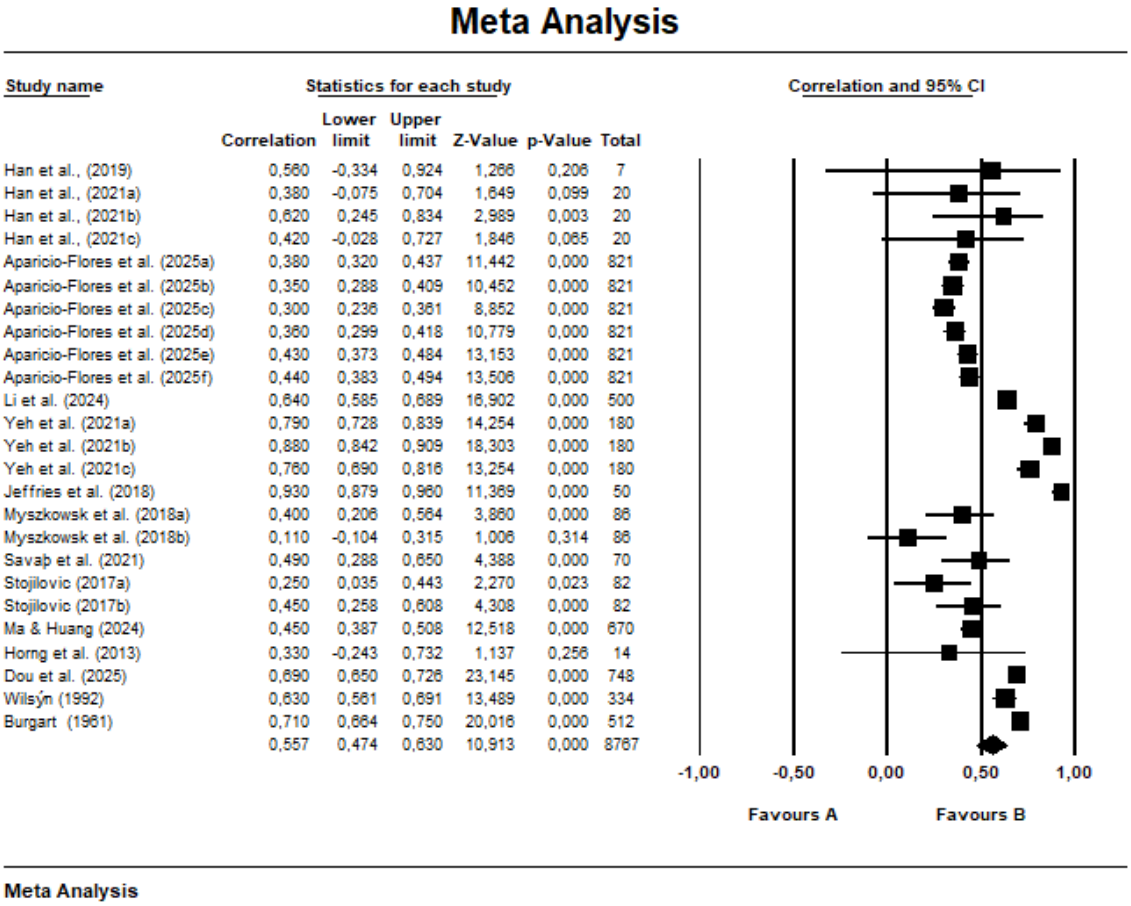
Appendix 1.



Data Availability Declaration

No Primary Data Utilized:

All data supporting the findings of this meta-analysis were derived from previously published studies available in publicly accessible academic databases.

Author Contributions

The sole author of this research, Selma Ceran, was responsible for the conceptualization, methodology formulation, data collection, analysis, and interpretation.

Author(s)' statements on ethics and conflict of interest

Ethics statement: I hereby declare that research/publication ethics and citing principles have been considered in all the stages of the study. I take full responsibility for the content of the paper in case of dispute.

Statement of interest: The author declares no potential conflicts of interest concerning the research, authorship, and/or publication of this article. The study was conducted solely for

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