

A Study on the Impact of Art Experience on AI Acceptance

Xiangyi Ma ^{1,*}

*Corresponding author

¹ Student, Sichuan University, Chengdu, China, misimomoko@163.com

ABSTRACT

In the field of Artificial Intelligence, there exists a much-needed contradiction between the efficient decision-making ability possessed by the technology and its acceptance by society, a contradiction that urgently requires a breakthrough at the theoretical level. This study proposes that art experiences can increase people's acceptance of AI suggestions by stimulating individuals' cognitive openness, providing a new perspective for resolving the difficulties encountered in the process of technology adoption. Through four experiments, this study found that art experience can increase individuals' cognitive openness, which makes individuals more inclined to adopt the suggestions given by AI, and this effect is moderated by the mode of perception, i.e., art experience in the natural state will promote the effect, while analytical mode of perception will weaken or even eliminate the effect. This study breaks the limitation of the traditional technology acceptance model that relies solely on instrumental rationality, reveals the synergistic operation mechanism between art and technology, and provides an important idea for the promotion of AI. This study lays a certain theoretical foundation for the realization of "technology-humanities" collaborative decision-making in the era of artificial intelligence, and also shows that future research needs to further explore the boundaries of the role of art experience.

Keywords: Art experience, AI acceptance, cognitive openness, decision-making.

INTRODUCTION

Artificial intelligence (AI) technology is evolving from narrow AI to artificial general intelligence (AGI), becoming a decision-making participant with cognitive agency. For instance, BlackRock's Aladdin system influences global asset allocation by processing massive datasets, IBM Watson Oncology integrates multidimensional clinical data to generate cancer diagnosis and treatment plans, and Netflix's recommendation engine optimizes content delivery based on user behavior. These algorithm-driven decision-support mechanisms, leveraging big data mining and deep learning models, demonstrate information processing efficiency and pattern recognition capabilities surpassing those of humans (McAfee & Brynjolfsson, 2017). However, although AI's average prediction accuracy is higher than that of human experts, most of decision-makers still rely more on human intuition (Raisch & Krakowski, 2021). This paradox in technology adoption extends beyond the explanatory scope of traditional models such as the Technology Acceptance Model (TAM).

Research indicates that AI acceptance depends on multiple factors: technological readiness, perceived usefulness, and ease of use. Among these, trust and transparency are especially important. To address this, explainable AI can help strengthen user confidence. Additionally, organizational support, ethical considerations, and skill development play vital roles, while cross-sector collaboration holds strategic significance for building a sustainable AI ecosystem (Rane *et al.*, 2024). Venkatesh *et al.* (2016) highlighted in the UTAUT2 model that individuals' emotional states and cognitive traits (e.g., openness to experience) significantly influence technology adoption. Individuals with high cognitive openness are more inclined to adopt innovative technologies (Barnett *et al.*, 2015), offering a new perspective for addressing the challenges in AI adoption. Furthermore, Van Allen and Zelenski (2018) found that art experiences enhance openness by strengthening divergent thinking, a cognitive style particularly conducive to accepting AI recommendations. Therefore, this study takes art experience as an entry point to explore how it influences cognitive openness, thereby altering individuals' preferences between AI-generated recommendations and human expert advice. The aim is to promote the acceptance of AI-driven decision systems and identify optimal human-AI collaborative decision-making models.

CONCEPTUAL BACKGROUND

Acceptance of Artificial Intelligence

The term "AI-generated advice" refers to decision recommendations produced by algorithms, machine learning, and big data analytic, primarily relying on the data processing and computational capabilities of AI systems. Its key characteristics include efficiency and accuracy. AI acceptance is defined as the willingness of an individual or group to adopt and utilize AI technologies. This acceptance is often quantified as a predictive measure, embodied by conscious decisions such as the knowledgeable purchase of AI-integrated devices. (Kelly *et al.*, 2023). Regarding the acceptance of AI-generated advice, scholars have proposed various explanatory frameworks. Many researchers focus on the impact of AI's technical attributes on its acceptance, particularly explain ability and transparency. For instance, in medical settings, if a system can clearly present the basis for its diagnoses—such as through feature visualization or decision-path tracing—doctors' trust in the system significantly increases (Shevtsova *et al.*, 2024). In the field of recommendation systems, users' concerns about the "filter bubble" effect highlight the importance of transparency. If the system explicitly explains its recommendation logic (e.g., based on user history or collaborative filtering

algorithms), users are more likely to perceive the algorithm as fair and thus more willing to accept its suggestions (Areeb *et al.*, 2023).

However, technical features are not the sole determinants of AI recommendation acceptance. An individual's psychological state also plays a significant role in their receptiveness to AI advice. As Karataş and Cutright (2023) found, when a sense of divinity is evoked and the salience of God is heightened, people perceive themselves as smaller and become more inclined to accept AI-generated suggestions. Similarly, sociocultural factors are critical variables influencing AI acceptance. For example, individuals with higher education levels are more likely to recognize the functional value of AI, whereas rural areas, due to inadequate technological infrastructure, exhibit lower acceptance rates (Garekwe *et al.*, 2024). Additionally, from an emotional perspective, anthropomorphic design and empathy effects play a crucial role. Studies show that endowing AI with human-like features (e.g., facial expressions, natural language interaction) significantly enhances users' sense of social presence. This emotional bond fosters resilient trust—even when the system makes occasional errors, users tend to maintain their trust (Choung *et al.*, 2023). In summary, when making decisions, people's preferences between AI-generated advice and human expert recommendations depend not only on technical attributes but also on individual emotional and psychological responses.

Art Experience

Art, as a significant manifestation of human civilization, is characterized by the integration of creative thinking and aesthetic value. Hagtvedt and Patrick (2008) define artworks as "skillful and creative expressions of human experience, where the mode of creation is not primarily driven by any other function". The essence of art lies in its profound connection with the human spiritual dimension. Echeverría (2023) argues that art does not merely imitate nature but rather recreates it through human intellect and imagination, endowing it with transcendent artistic value. This creative activity itself represents a transcendence of the material world, reflecting the freedom and agency of the human spirit. Art experience refers to the unique sensations and understandings individuals gain upon engaging with various forms of art, such as painting, music, and theater. According to Dewey (2024), art experience involves a holistic perception through multiple senses, including vision and hearing, leading to pleasure and a sense of immersion. For instance, visual art experiences can evoke a wide range of emotions, including joy, awe, sorrow, and even anger and contempt (Silvia, 2005). As one of humanity's most profound symbolic activities, art elicits not only emotions but also behavioral changes. It is evident that art experience demonstrates practical effects in both emotional arousal and behavioral change. We can speculate that this mechanism may not only apply to consumption scenarios but could also play a role in broader decision-making contexts. Based on this, we propose the following research question and hypothesis.

RQ1. How do art experiences affect individuals' acceptance of AI recommendations?

H1. Art experiences will enhance individuals' acceptance of AI recommendations.

Openness to Experience

The openness trait in the Big Five personality model reflects an individual's receptivity to novel experiences. Research indicates that openness to new phenomena fosters a greater willingness to embrace diverse perspectives, thereby reducing resistance to technological change (Samuelson & Church, 2020). Rossi *et al.* (2024) found that individuals with high openness perceive robotic technology as more usable and beneficial. However, the positive effect of openness trait on AI trust may be context-dependent. Unlike recommendations from human experts, AI systems' decision-making processes are often perceived as "black boxes," and their unpredictability might instead stimulate exploratory tendencies in individuals with high openness. Kaufman *et al.* (2016) demonstrated that openness is closely associated with artistic creativity, emphasizing perceptual, aesthetic, and emotional experiences. The link between openness and artistic creativity reveals its unique cognitive mechanism—when encountering unstructured information (e.g., art experiences or AI recommendations), highly open individuals are more adept at constructing novel cognitive pathways. Furthermore, Van Allen and Zelenski (2018) found that art experiences enhance openness by strengthening divergent thinking, a cognitive style particularly conducive to accepting AI recommendations. In contrast, human expert recommendations typically rely on well-defined knowledge systems and logical reasoning, a structured decision-making mode that exhibits weaker associations with openness. Therefore, art experiences may selectively enhance acceptance of AI (but not human expert) recommendations by fostering a specific form of cognitive openness.

RQ2. What is the underlying psychological mechanism through which art experiences affect the acceptance of AI recommendations?

H2. Cognitive openness mediates the relationship between "art experiences" and "acceptance of AI recommendations".

Modes of Artistic Perception

The perception of art experience can be categorized into two modes: natural immersion mode and technical analysis mode, which exhibit significant differences in their influence on cognition and aesthetic response. The natural immersion mode emphasizes the intuitive perception of formal elements (e.g., color, composition), highlighting art's essence as a sensory activity. In this state, the viewer focuses more on the immediate experience of aesthetic value, including emotional resonance and formal purity, resulting in an immersive aesthetic engagement. The natural mode stems from individuals' intrinsic traits. In contrast, the technical analysis mode prioritizes semiotic decoding and meaning construction, requiring critical thinking to interpret the duality and ambiguity of symbols. While this cognitive approach expands the interpretive framework, it may attenuate immediate emotional responses. Research indicates that aesthetic responses to art are more readily elicited in natural states than through

analytical interpretation based on logical rules (Szubielska *et al.*, 2021). Therefore, Interpretations of the artist's creative intent may interfere with the viewer's spontaneous experience, transforming it into a cognitive activity focused on meaning construction. This leads to our hypothesis:

H3. The perception mode of art experiences moderates their effect on AI recommendation acceptance. Immersive engagement (focusing on emotional/artistic aspects) enhances this positive effect, while analytical engagement (focusing on technical elements) weakens it.

This paper examines the three hypotheses through four studies conducted both in the field and in the laboratory. In the first set of studies, we tested the hypothesis related to the core phenomenon—that art experiences enhance people's receptivity to AI-generated advice (Hypothesis 1). We demonstrated this basic effect in two studies: a field experiment (Study 1A) and a laboratory experiment (Study 1B, in which we used identical visual materials framed either as art or non-art to manipulate art versus non-art experiences). Study 2 provided evidence for the proposed mediating mechanism (Hypothesis 2), showing that increased cognitive openness explains this phenomenon. Our research indicates that art experiences enhance individuals' cognitive openness, thereby making them more receptive to AI-provided advice. Study 3 established a boundary condition through a moderating factor (Hypothesis 3). Our findings demonstrate that when people engage with art analytically (i.e., focusing on the technical details of the artwork rather than appreciating it holistically for its symbolic meaning), the positive effect of art experiences on receptivity to AI advice is attenuated.

STUDY 1A: VISITING AN ART MALL ENHANCES ACCEPTANCE OF AI RECOMMENDATIONS

Beijing's Parkview Green FangCaoDi Art Mall is renowned for displaying sculptures and paintings as part of its artistic ambiance. According to its official website (<https://parkviewgreen.com/zh-hans/>), "its pioneering eco-friendly design, commitment to sustainability, and diverse artistic atmosphere create a unique experience for every visitor." Specifically, in addition to paintings, the mall features over 500 sculptures integrated into its open architectural spaces, fostering an immersive artistic environment. In contrast, the non-art mall condition was represented by the Kerry Center, located just a 10-minute walk from Parkview Green FangCaoDi. Both malls host mid-range and luxury brands, attracting similar customer demographics. In Study 1A, we conducted a 2 (mall type: art vs. non-art) \times 2 (location: outside vs. inside the mall) between-subjects design.

Procedure

Research assistants recruited participants at different locations within the malls. In the art mall—outside condition, shoppers were approached before entering the mall. In the art mall—inside condition, participants were recruited as they were about to exit, ensuring they had already experienced the mall's artistic environment. The same procedure was followed for the non-art mall conditions. Participants rated the mall's brand positioning (1 = *low-end*, 2 = *mid-range*, 3 = *high-end*) and its perceived artistic level ("How artistic do you find this mall?" 1 = *not at all*, 7 = *extremely*). Then, across multiple scenarios (purchasing a computer, health supplement recommendations, travel itinerary suggestions, and hotel recommendations), they indicated their preference between human and AI recommendations (1 = *strongly prefer AI recommendations*, 100 = *strongly prefer human recommendations*). The dependent variable was calculated as the average score across these four scenarios.

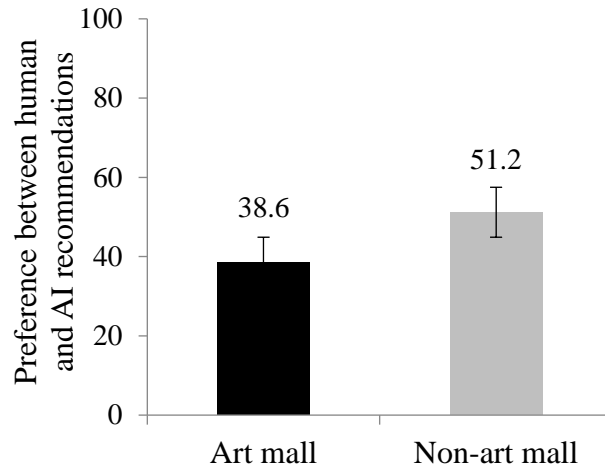
Results and Discussion

Manipulation check

A total of 160 consumers (38.8% female, $M_{\text{age}} = 32.12$, $SD = 17.21$) participated in our survey. An independent-samples t-test revealed that the perceived artistic level of the art mall (Parkview Green FangCaoDi, $M = 5.82$, $SD = 0.91$) was significantly higher than that of the non-art mall (Kerry Center, $M = 2.15$, $SD = 1.03$; $t(158) = 27.34$, $p < 0.001$), confirming the validity of the experimental setting. No significant difference was found in perceived brand positioning between the two malls ($\chi^2 = 1.27$, $p = 0.53$).

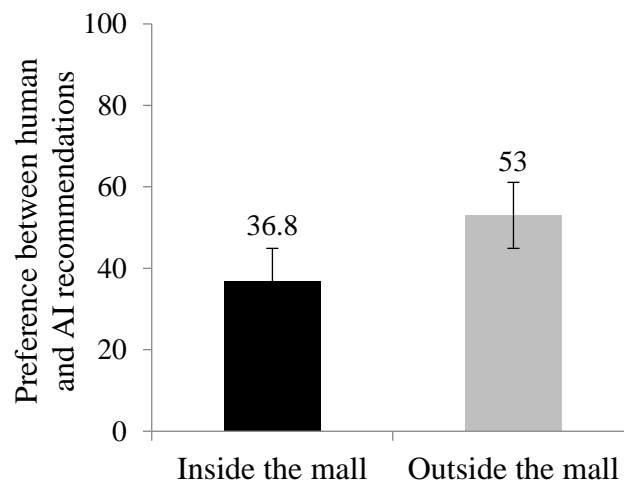
Main effect analysis

A two-way ANOVA showed a significant main effect of mall type: participants in the art mall exhibited a stronger preference for AI recommendations ($M = 38.6$, $SD = 12.4$) than those in the non-art mall ($M = 51.2$, $SD = 14.1$, $F(1, 156) = 39.75$, $p < 0.001$, $\eta^2 = 0.20$), the graphical representation of results is shown in figure 1. Additionally, a significant main effect of location was observed: participants recruited inside the mall ($M = 36.8$, $SD = 11.9$) showed a greater preference for AI recommendations than those approached outside ($M = 53.0$, $SD = 13.7$, $F(1, 156) = 73.62$, $p < 0.001$, $\eta^2 = 0.32$), the graphical representation of results is shown in figure 2.



Source: This study.

Figure 1: The main effect of mall type.



Source: This study.

Figure 2: The main effect of location.

Through this field study, we found that real-world exposure to an art mall significantly enhanced participants' receptivity to AI recommendations, with those inside the mall demonstrating a stronger preference for AI advice than those outside. These results provide preliminary evidence that art experiences facilitate the acceptance of AI-generated suggestions. However, this study has certain limitations. In real-world mall environments, artistic ambiance is often confounded with other variables, such as visitor demographics (e.g., education level) and spatial design (e.g., futuristic decor), making it difficult to isolate the sole effect of art exposure. To validate the generalization of art experiences and eliminate environmental interference, Study 1B will manipulate the framing of artistic perception in a controlled laboratory setting to further examine the robustness of the main effect.

STUDY 1B: FRAMED AS ART, PHOTOGRAPHS INCREASE ACCEPTANCE TO AI RECOMMENDATIONS

Conducted in a controlled laboratory setting, Study 1B aimed to isolate the independent effect of art experiences on AI recommendation acceptance by eliminating potential confounding variables present in the field environment of Study 1A (e.g., mall design features, consumer demographics). Specifically, this study conducted a framing manipulation (art vs. non-art) in which identical visual stimuli (botanical photographs) were presented to participants, with only textual guidance differing to induce distinct perceptual modes (aesthetic appreciation of artistic creation vs. scientific documentation and analysis). This design tested whether art experiences could still significantly enhance individuals' acceptance of AI recommendations when environmental interference from real-world settings was removed. If the art group exhibited significantly higher AI recommendation acceptance than the non-art group in the lab, this would confirm the intrinsic effect of art experiences, independent of spatial design or socioeconomic factors that may have influenced Study 1A.

Procedure

A total of 120 participants (56.7% female; $M_{age} = 28.4$, $SD = 5.7$) were recruited via Credamo and randomly assigned to one of two between-subjects conditions (art vs. non-art). Participants viewed a short online video showcasing botanical photographs taken by a renowned photographer and artist known for close-up images of plants and other organisms. The same images were presented to both groups but framed differently: In the art condition, participants read that the photographs were from an art book

featuring a collection of plant-themed artistic images, emphasizing the artist's reputation for capturing the delicate and sublime beauty of flora. In the non-art condition, participants were told the photographs came from a botanical reference book documenting horticultural and floral characteristics, highlighting the scientist's precision in recording plant features. Subsequently, participants were informed they were planning their first trip to Barcelona and had to choose between two equally priced and time-efficient travel itinerary recommendations—one generated by a human expert and the other by an AI. Their preference was measured on a scale (1 = *strongly prefer AI*, 100 = *strongly prefer human*)

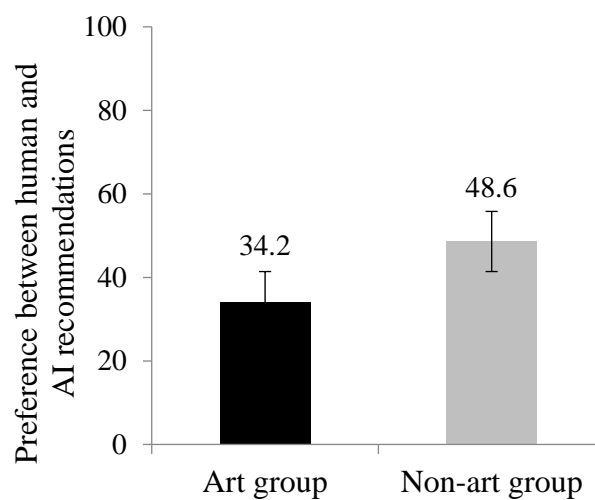
Results and Discussion

Manipulation check

An independent samples t-test revealed that participants in the art condition rated the photographs as significantly more artistic ($M = 6.12$, $SD = 0.83$) than those in the non-art condition ($M = 2.45$, $SD = 1.11$; $t(118) = 21.37$, $p < 0.001$), confirming the success of our manipulation.

Main effect analysis

The art group exhibited significantly greater acceptance of AI recommendations ($M = 34.2$, $SD = 11.5$) compared to the non-art group ($M = 48.6$, $SD = 13.8$; $t(118) = 6.97$, $p < 0.001$). Through stricter experimental control, Study 1B replicated the finding that art experiences enhance individuals' acceptance of AI-generated advice. See figure 3.



Source: This study.

Figure 3: The main effect of art experience on AI acceptance (Lab).

By conducting a controlled laboratory framing manipulation, this study demonstrated that art experiences significantly increased receptivity to AI recommendations (art: $M = 34.2$ vs. non-art: $M = 48.6$; $t(118) = 6.97$, $p < 0.001$). The manipulation check further confirmed a robust difference in artistic ratings ($t = 21.37$, $p < 0.001$), indicating that textual framing successfully induced aesthetic engagement. These results reinforce the notion that art experiences facilitate openness to AI advice. However, while Studies 1A and 1B established an association between art experiences and AI recommendation acceptance, they did not elucidate the underlying mechanism. To address this gap, Study 2 will examine whether cognitive openness mediates the relationship between art experiences and receptivity to AI suggestions.

STUDY 2: THE MEDIATING ROLE OF COGNITIVE OPENNESS

Study 2 aimed to examine the mediating effect of cognitive openness in explaining the relationship between art experiences and increased acceptance of AI recommendations. By conducting standardized scales to measure participants' cognitive openness, we tested whether art experiences enhance individuals' willingness to accept AI advice by fostering greater cognitive flexibility. If Study 2 demonstrated that (1) the art group exhibited significantly higher cognitive openness than the non-art group, (2) cognitive openness was positively correlated with AI recommendation acceptance, and (3) the effect of art experiences on AI acceptance diminished (partial mediation) or disappeared (full mediation) after accounting for cognitive openness, then the underlying mechanism could be established, providing theoretical insights into the technology acceptance model.

Procedure

A total of 110 participants (58.2% female, $M_{age} = 31.2$ years, $SD = 6.8$) recruited via Wenjuanxing were randomly assigned to a between-subjects design (art group vs. non-art group). Visual stimuli were used for manipulation. In the art condition, participants viewed 10 images of famous paintings (e.g., Monet's *Water Lilies* and *Japanese Bridge*, Van Gogh's *Starry Night*), whereas in the non-art control condition, they viewed 10 photographs matched in color and theme but devoid of artistic framing. Next, participants imagined purchasing a titanium-insulated water bottle and choosing between a human or AI recommendation (1 = *strongly prefer AI*, 100 = *strongly prefer human*). They then completed a validated cognitive openness scale.

Results and Discussion

Main effect analysis

An independent-samples t-test revealed that the art group exhibited significantly greater AI recommendation acceptance ($M = 43.6$, $SD = 14.2$) compared to the non-art group ($M = 61.8$, $SD = 16.5$; $t(108) = 4.37$, $p < 0.001$). Moreover, the art group scored significantly higher on cognitive openness ($M = 5.12$, $SD = 0.91$) than the non-art group ($M = 4.23$, $SD = 1.05$; $t(108) = 5.02$, $p < 0.001$).

Mediation analysis

A bootstrap mediation analysis (PROCESS Model 4, 5,000 resamples) confirmed that art experience increased cognitive openness ($\beta = 0.89$), which in turn enhanced AI acceptance ($\beta = -0.31$), with a significant indirect effect ($\beta = -0.28$, $SE = 0.07$, 95% CI [-0.42, -0.15]). The direct effect remained significant ($\beta = -0.20$, $p = 0.02$), indicating partial mediation. The mediation effect accounted for 58.3% of the total effect ($\beta_{\text{total}} = -0.48$), suggesting that over half of art's influence on AI acceptance operated through heightened cognitive openness, supporting Hypothesis 2. In summary, participants exposed to art demonstrated higher cognitive openness, which subsequently increased their acceptance of AI recommendations.

This study confirms that art experiences partially enhance AI acceptance by elevating cognitive openness. The findings reveal a psychological mechanism: when individuals engage with art, their cognitive openness increases (e.g., greater acceptance of novelty and technological rationality), making them more inclined to accept AI advice. However, the boundary conditions of this mechanism remain unclear. Its effectiveness may depend on how individuals perceive art—different viewing modes could moderate the effect. Specifically, those who engage with art in a natural, immersive manner may experience stronger cognitive openness activation, whereas an analytical viewing mode might constrain this effect, thereby weakening art's influence on AI acceptance. To test this, Study 3 introduces a moderating variable—perceptual mode (immersive vs. analytical)—to examine the boundary conditions of cognitive openness as a mediating pathway.

STUDY 3: THE MODERATING ROLE OF ART PERCEPTION MODE

Study 3 aimed to explore the boundary conditions under which art experiences enhance AI recommendation acceptance through increased cognitive openness. Different perception modes (e.g., natural immersion vs. technical analysis) may moderate the effect of art experiences on cognitive openness and subsequent AI acceptance. Specifically, if participants engage with art in an analytical mode, their cognitive openness may remain constrained, thereby attenuating art's positive effect on technology acceptance. Should Study 3 demonstrate that the natural immersion group exhibits a significantly greater increase in cognitive openness than the analytical group, it would reveal a critical boundary condition for art's facilitation of AI recommendation acceptance.

Procedure

A total of 200 participants (56% female, $M_{\text{age}} = 29.8$ years, $SD = 6.2$) recruited via Wenjuanxing were randomly assigned to a 2 (Art condition: art vs. non-art) \times 2 (viewing mode: natural vs. analytical) between-subjects design. Participants viewed 10 images (art or non-art) on a 21-inch desktop monitor, with each image displayed centrally in full-screen mode. They could freely observe each image before clicking to proceed. In the art condition, participants viewed 10 famous paintings (e.g., Monet's Water Lilies and Japanese Bridge, Van Gogh's Starry Night). In the non-art condition, they viewed 10 photographs matched in color and theme. In the natural viewing mode, participants observed the images without additional instructions. In the analytical mode, they evaluated each image's lines and colors on two 7-point items: (1) "How much do you like the colors in this image?" and (2) "How much do you like the lines in this image?" Subsequently, replicating Study 2, participants indicated their preference between human and AI recommendations (1 = *strongly prefer AI*, 100 = *strongly prefer human*).

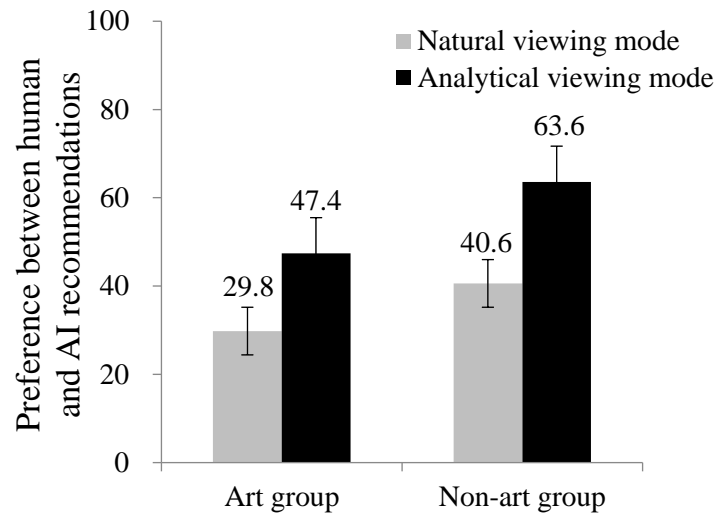
Results and Discussion

Manipulation check

Artistic perception: The art group rated the images as significantly more artistic ($M = 6.05$, $SD = 0.78$) than the non-art group ($M = 2.31$, $SD = 1.12$; $t(198) = 25.17$, $p < 0.001$).

Main effect analysis

A two-way ANOVA (AI acceptance) revealed a significant main effect of visual stimulus: The art group exhibited higher AI acceptance ($M = 38.6$) than the non-art group ($M = 52.1$), $F(1, 196) = 37.44$, $p < 0.001$, $\eta^2 = 0.16$. The viewing mode main effect was also significant: The natural group showed higher AI acceptance ($M = 35.2$) than the analytical group ($M = 55.5$), $F(1, 196) = 58.91$, $p < 0.001$, $\eta^2 = 0.23$. Crucially, the interaction was significant, $F(1, 196) = 18.67$, $p < 0.001$, $\eta^2 = 0.09$. Simple effects analysis confirmed that in the art condition, natural viewing ($M = 29.8$) led to significantly higher AI acceptance than analytical viewing ($M = 47.4$; $t = 6.12$, $p < 0.001$). The difference was even more pronounced in the non-art condition (natural: $M = 40.6$; analytical: $M = 63.6$; $t = 9.34$, $p < 0.001$). In summary, under natural viewing, exposure to art increased willingness to accept AI recommendations, whereas analytical viewing nullified art's positive effect regardless of stimulus type. A graphical representation of results is shown in figure 4.



Source: This study.

Figure 4: The interaction between art condition and viewing mode.

Study 3 demonstrates that art's facilitation of AI acceptance depends on perception mode. This finding identifies a key boundary condition: Only when individuals experience art in a natural, immersive manner does it elevate cognitive openness (as shown in Study 2's mediation pathway), thereby enhancing AI acceptance. Conversely, analytical engagement with art diminishes this beneficial effect.

GENERAL DISCUSSION

Through four experiments, this study investigated the impact of art experiences on AI recommendation acceptance and its underlying mechanisms. Studies 1A (field) and 1B (lab) confirmed that art exposure enhances AI acceptance. Study 2 identified cognitive openness as a mediator, demonstrating that art fosters AI acceptance by increasing cognitive flexibility. Study 3 revealed a critical boundary condition: the effect was pronounced under immersive viewing but absent under analytical observation. Collectively, these findings suggest that art experiences enhance AI acceptance by triggering cognitive openness, but this effect is contingent upon natural aesthetic engagement. This provides empirical support for interdisciplinary integration between art and technology.

Theoretical Contributions

This research extends beyond traditional technology acceptance models that focus solely on functional utility, uncovering a novel cognitive pathway through which art enhances AI acceptance. Our experiments demonstrate that art significantly boosts cognitive openness, thereby increasing acceptance of AI recommendations—particularly under natural aesthetic conditions. These findings challenge the perceived dichotomy between art and technology, highlighting their synergistic potential in fostering innovative thinking. Importantly, we delineate a boundary condition: analytical engagement diminishes art's positive effect, emphasizing the need for immersive design rather than technical deconstruction to activate cognitive openness. These insights provide a theoretical foundation for "promoting technology through aesthetic education," underscoring the pivotal role of contextual fit.

Practical Implications

Art-infused strategies can effectively enhance AI adoption in commercial settings. In physical space design, integrating artistic installations (e.g., sculptures, interactive projections, or AI screens with fluid light effects) can activate users' cognitive openness through environmental aesthetics, as evidenced by Study 1A's art mall findings. For human-AI interface design, avoid art elements that trigger analytical scrutiny; instead, employ minimalist colors and organic animations to subconsciously guide aesthetic engagement. For instance, embedding artistic backgrounds in AI financial advisor interfaces can enhance appeal without disrupting functionality. Additionally, pre-engagement activities like art therapy workshops (Study 2) can cultivate immersive aesthetic habits, directly boosting users' AI acceptance. These strategies collectively form an end-to-end art-driven framework—from physical environments to digital interfaces to cognitive training—offering actionable solutions for optimizing AI adoption.

Limitations and Future Directions

This study has several limitations. First, the experiments were conducted exclusively on young urban Chinese samples using domestic platforms (Wenjuanxing and Credamo), limiting generalizability to older adults, rural populations, and other cultural contexts. Second, the research focused solely on visual arts without incorporating other art forms. Thirdly, the study assumed equivalence between different AI recommendation tasks (e.g., shopping vs. medical decisions) without accounting for their variations in critical dimensions such as risk perception. Methodologically, the reliance on self-reported scales and the exclusive focus on immediate effects present potential constraints. Future research could expand art forms and sample diversity, incorporate longitudinal tracking, and examine the moderating role of risk perception factors.

REFERENCES

- Areeb, Q. M., Nadeem, M., Sohail, S. S., Imam, R., Doctor, F., Himeur, Y., ... & Amira, A. (2023). Filter bubbles in recommender systems: Fact or fallacy—A systematic review. *Wiley Interdisciplinary Reviews: Data Mining and Knowledge Discovery*, 13(6), e1512. <https://doi.org/10.1002/widm.1512>.
- Barnett, T., Pearson, A. W., Pearson, R., & Kellermanns, F. W. (2015). Five-factor model personality traits as predictors of perceived and actual usage of technology. *European Journal of Information Systems*, 24(4), 374-390. <https://doi.org/10.1057/ejis.2014.10>.
- Choung, H., David, P., & Ross, A. (2023). Trust in AI and its role in the acceptance of AI technologies. *International Journal of Human-Computer Interaction*, 39(9), 1727-1739. <https://doi.org/10.1080/10447318.2022.2050543>.
- Dewey, J. (2024). Art as experience. In G. Bakke & M. Peterson (Eds.), *Anthropology of the Arts* (pp. 37-45). London: Routledge.
- Echeverría, F. J. O. (2023). Towards a Transcendental Consideration of Beauty: Polian Aesthetics and Philosophy of Art. *Colloquia, Academic Journal of Culture and Thought*, 10, 161-173. <https://doi.org/10.31207/colloquia.v10i0.142> (in Spanish).
- Garekwe, L., Ferreira-Schenk, S. J., & Dickason-Koekemoer, Z. (2024). Modelling factors influencing bank customers' readiness for artificial intelligent banking products. *International Journal of Economics and Financial Issues*, 14(1), 73-84. <https://doi.org/10.32479/ijefi.15238>.
- Hagtvedt, H., & Patrick, V. M. (2008). Art infusion: The influence of visual art on the perception and evaluation of consumer products. *Journal of marketing research*, 45(3), 379-389. <https://doi.org/10.1509/jmkr.45.3.379>.
- Kelly, S., Kaye, S. A., & Oviedo-Trespalacios, O. (2023). What factors contribute to the acceptance of artificial intelligence? A systematic review. *Telematics and informatics*, 77, 101925. <https://doi.org/10.1016/j.tele.2022.101925>.
- Karataş, M., & Cutright, K. M. (2023). Thinking about God increases acceptance of artificial intelligence in decision-making. *Proceedings of the National Academy of Sciences*, 120(33), e2218961120. <https://doi.org/10.1073/pnas.2218961120>.
- Kaufman, S. B., Quilty, L. C., Grazioplene, R. G., Hirsh, J. B., Gray, J. R., Peterson, J. B., & DeYoung, C. G. (2016). Openness to experience and intellect differentially predict creative achievement in the arts and sciences. *Journal of personality*, 84(2), 248-258. <https://doi.org/10.1111/jopy.12156>.
- McAfee, A., & Brynjolfsson, E. (2017). *Machine, platform, crowd: Harnessing our digital future*. New York: WW Norton & Company.
- Raisch, S., & Krakowski, S. (2021). Artificial intelligence and management: The automation-augmentation paradox. *Academy of management review*, 46(1), 192-210. <https://doi.org/10.5465/amr.2018.0072>.
- Rane, N., Choudhary, S. P., & Rane, J. (2024). Acceptance of artificial intelligence: key factors, challenges, and implementation strategies. *Journal of Applied Artificial Intelligence*, 5(2), 50-70. <https://doi.org/10.48185/jaai.v5i2.1017>.
- Rossi, S., Di Napoli, C., Garramone, F., Salvatore, E., & Santangelo, G. (2024). Personality-based adaptation of robot behaviour: Acceptability results on individuals with cognitive impairments. *International Journal of Social Robotics*, 16(1), 211-226. <https://doi.org/10.1007/s12369-023-01074-1>.
- Shevtsova, D., Ahmed, A., Boot, I. W., Sanges, C., Hudecek, M., Jacobs, J. J., ... & Vrijhoef, H. J. (2024). Trust in and acceptance of artificial intelligence applications in medicine: mixed methods study. *JMIR Human Factors*, 11(1), e47031. <https://doi.org/10.2196/47031>.
- Silvia, P. J. (2005). Emotional responses to art: From collation and arousal to cognition and emotion. *Review of general psychology*, 9(4), 342-357. <https://doi.org/10.1037/1089-2680.9.4.342>.
- Samuelson, P. L., & Church, I. M. (2020). Humility in personality and positive psychology. In M. Alfano, M. P. Lynch, & A. Tanesini (Eds.), *The Routledge Handbook of Philosophy of Humility* (pp. 375-386). London: Routledge.
- Szubielska, M., Imbir, K., & Szymańska, A. (2021). The influence of the physical context and knowledge of artworks on the aesthetic experience of interactive installations. *Current Psychology*, 40(8), 3702-3715. <https://doi.org/10.1007/s12144-019-00322-w>.
- Venkatesh, V., Thong, J. Y., & Xu, X. (2016). Unified theory of acceptance and use of technology: A synthesis and the road ahead. *Journal of the Association for Information Systems*, 17(5), 328-376. <https://ssrn.com/abstract=2800121>.
- Van Allen, Z. M., & Zelenski, J. M. (2018). Testing trait-state isomorphism in a new domain: An exploratory manipulation of openness to experience. *Frontiers in Psychology*, 9, 1964. <https://doi.org/10.3389/fpsyg.2018.01964>.