A Study on the Correlation Between Aesthetic Literacy and Collective Efficacy Among College Students in Art Clubs at G University, Henan, China

Zhenyuan Song[1*] and Yanan Yang[2]

[1] Master of Educational Administration, Stamford International University, Thailand
[2] Lecturer, Stamford International University, Thailand
[*]Corresponding author: 2411160009@students.stamford.edu

Abstract: This study focused on students from art societies of Henan G University as research subjects, and aimed to systematically explore the status, differential characteristics, and the correlation between college students' aesthetic literacy and collective efficacy. Quantitative analysis was adopted for systematic data processing in this research. Questionnaires were distributed to students in art societies of Henan G University, with a total of 188 copies issued and 185 valid copies collected, yielding an effective recovery rate of 98.4%. Statistical methods including descriptive statistical analysis, independent-samples t-test, one-way analysis of variance, and Pearson correlation analysis were employed for data analysis. The results revealed that the overall levels of aesthetic literacy and collective efficacy among art society students in Henan G University were relatively high. In terms of demographic differences, significant variations to varying degrees existed in aesthetic literacy and collective efficacy across groups with different genders, class cadre identities, disciplines and society types. Students who did not serve as class cadres, majored in art-related disciplines, and participated in societies with high artistic practice involvement presented higher overall scores. In terms of correlation, a significant positive correlation was identified between students' aesthetic literacy and collective efficacy, and all dimensions of aesthetic literacy were highly correlated with collective efficacy.

Keywords: G University, Henan, China, Aesthetic Literacy, College Student Art Clubs, Collective Efficacy

1. Introduction

Art education is widely recognized as a key component of holistic student development, particularly in fostering creativity, emotional expression, and aesthetic literacy. Educational systems in Europe and America emphasize the value of artistic experiences in enhancing students' perception of beauty, critical thinking, and overall capabilities (Kim & Kim, 2025). At the same time, the concept of collective efficacy, proposed by Albert Bandura, highlights the importance of group-based confidence in influencing learning motivation, emotional stability, and task performance (Luo et al., 2023). Recent studies show that participation in artistic activities not only improves aesthetic literacy but also strengthens collective efficacy, creativity, and psychological resilience, as students gain a sense of achievement and emotional fulfillment through artistic expression (Mahon & Hevey, 2021).

In China, arts education has gradually shifted from a supplementary subject to an essential part of quality-oriented education, with increasing emphasis on creativity, emotional development, and cultural literacy (Zhu et al., 2025). University art clubs have become important platforms for artistic practice, offering opportunities for self-expression, teamwork, and psychological growth. Particularly in Henan Province, universities actively promote diverse art activities such as music, dance, and painting, integrating local cultural elements to enhance students' aesthetic literacy and cultural understanding (Xu et al., 2022). These activities not only improve artistic skills but also enhance collective efficacy by fostering collaboration, confidence, and a sense of belonging among students (Qiu, 2024).

With the continuous development of art

education in Henan Province and the increasing richness of university art club activities, this study explores the relationship between aesthetic literacy and collective efficacy among club members, as well as differences in these dimensions across various demographic characteristics. This analysis examines students' aesthetic literacy and collective efficacy. As art education and mental health education converge, this research not only deepens theoretical understanding of art education but also provides practical guidance for universities in cultivating students' innovative thinking, emotional expression, and psychological adaptation. Consequently, this study offers theoretical support and empirical evidence for art education reform and policy development in Henan Province and across China. The current deficiencies in students' aesthetic literacy and collective efficacy in art club activities of Henan G University, and puts forward the research focus on exploring the correlation between the two indicators via art activities, suggesting the author briefly illustrate the rationale for selecting this university as the research object.

Research Objectives

1) To understand the current state of aesthetic literacy among students in Henan G University's art clubs.

2) To examine the current state of collective efficacy among students in the art club at Henan G University.

3) To analyze significant differences in aesthetic literacy among students in Henan G University's art club across different demographic background variables.

4) To analyze significant differences in collective efficacy among students in Henan G University's art clubs across various demographic background variables.

5) To explore the correlation between aesthetic literacy and collective efficacy among students in the art club at Henan G University.

Literature Review

Aesthetic Literacy

Aesthetic literacy refers to individuals' ability to understand, appreciate, and create art, encompassing artistic knowledge, emotional expression, cultural awareness, and creative thinking. It has evolved from a focus on technical skills to a multidimensional concept that includes perception of beauty, critical thinking, and interdisciplinary understanding (Kim & Kim, 2025). Research shows that aesthetic literacy not only enhances artistic performance but also promotes students' cognitive development, emotional regulation, and creativity. It plays an important role in mental health and social interaction, as artistic activities help student's express emotions and build psychological resilience (Gani & Hasan, 2023).

In terms of application and measurement, aesthetic literacy is typically assessed through multiple dimensions such as artistic knowledge, appreciation skills, attitudes, and participation (Sayaf et al., 2021). In Chinese universities, art clubs serve as important platforms for cultivating students' aesthetic literacy by providing opportunities for artistic practice, self-expression, and collaboration. However, existing research points out that arts education often overemphasizes technical skills while neglecting deeper aspects such as critical thinking and cultural understanding (Wang, 2024). Therefore, future development should focus on more comprehensive and innovative approaches to enhance students' overall aesthetic literacy and interdisciplinary competencies.

Collective Efficacy

Collective efficacy refers to individuals shared belief in their group's ability to accomplish tasks successfully, a concept proposed by Bandura (1997). It influences motivation, persistence, emotional regulation, and behavioral choices. Research shows that individuals with high collective efficacy demonstrate stronger resilience, better coping strategies, and higher levels of effort when facing challenges (Gani & Hasan, 2023). In educational contexts, collective efficacy is closely related to students' academic performance, learning strategies, and mental health, as it enhances learning motivation and supports effective self-regulated learning (Xu et al., 2022; Luo, 2024).

Studies on students' collective efficacy

indicate that it positively affects academic achievement, emotional regulation, and social adaptation. Measurement tools have evolved into multidimensional scales covering learning ability, behavior, and emotional adjustment, with strong reliability and validity across contexts (Sayaf et al., 2021; Wang, 2024). In China, research confirms that collective efficacy plays a key role in students' learning engagement, psychological well-being, and social development, and can be enhanced through activities such as collaborative learning and artistic participation (Liao & Liang, 2024; Song, 2024). However, existing studies still lack in-depth analysis of contextual and individual differences, suggesting the need for further research on its mechanisms across diverse educational settings.

Relevant Theory of Aesthetic Literacy

Multiple Intelligences Theory, proposed by Gardner in 1983, suggests that intelligence is multidimensional rather than a single fixed ability. It includes various types such as linguistic, logical-mathematical, spatial, musical, bodily-kinesthetic, interpersonal, and intrapersonal intelligence. This theory emphasizes that individuals possess different strengths, providing a foundation for diversified and personalized education.

In arts education, multiple intelligences theory offers an important framework for promoting holistic development. Activities such as music, dance, and painting can enhance students' spatial, musical, and interpersonal intelligences, while also improving emotional expression and social skills (Cassidy, 2007). Although some scholars question the independence and measurement of different intelligences (Waterhouse, 2006), the theory continues to evolve by incorporating elements such as emotional, social, and digital intelligence.

Relevant Theory of Collective Efficacy

Collective efficacy, proposed by Bandura (1997), refers to individuals shared belief in their group's ability to accomplish tasks. It influences motivation, persistence, emotional regulation, and behavior, and is positively related to students' academic performance, learning strategies, and mental health (Gani & Hasan, 2023). In China, studies also show that collective efficacy can be enhanced through collaborative and artistic activities, supporting students' overall development. Based on Social Cognitive Theory, collective efficacy develops through the interaction of individual cognition, behavior, and environment. Research indicates that group activities such as art clubs can strengthen students' confidence, learning motivation, and psychological well-being through social interaction and feedback (Miao & Shi, 2024; Vermeij & de Bruyckere, 2024). Thus, collective efficacy plays an important role in both academic and personal development.

Differences in Aesthetic Literacy Across Different Demographic Variables

Demographic variables such as gender, grade level, class cadre status, disciplinary background, and family background significantly influence students' aesthetic literacy, shaping differences in aesthetic perception, cognition, and practice (Yan et al., 2026). Research shows that female students generally demonstrate stronger emotional sensitivity and interest in art, while male students tend to show more stable but less engaged aesthetic performance (Song, 2024). Aesthetic literacy also increases with grade level, and students serving as class cadres often develop higher levels due to greater participation in artistic activities and organizational experience (Liao & Liang, 2024). In addition, art majors outperform non-art students because of more systematic training and access to resources (Hsiao & Su, 2021).Family background further contributes to these differences, as students from culturally enriched or economically advantaged families have greater exposure to artistic experiences and resources, leading to higher aesthetic literacy, while those from disadvantaged backgrounds face limitations in access and development opportunities (Tang, 2022; Miao & Shi, 2024).

Differences in Collective Efficacy Across Different Demographic Variables

Demographic variables such as gender, grade, class cadre status, discipline, and family background significantly influenced students'

collective efficacy, leading to clear group differences in collaboration, confidence, and behavioral regulation (Yan et al., 2026; Qiu, 2024). Male students generally showed stronger task-oriented and organizational collective efficacy, while collective efficacy tended to increase with grade level. Class cadres demonstrated advantages in coordination and teamwork, whereas non-cadres were stronger in self-management. Art students performed better in collaborative and creative contexts, while non-art students showed higher efficacy in academic self-regulation (Hsiao & Su, 2021). Family background also played a long-term role. Students from supportive and culturally rich families developed stronger interpersonal and collaborative efficacy, while those from less advantaged backgrounds had fewer opportunities for group interaction, limiting their efficacy in artistic or social contexts (Tang, 2022; Miao & Shi, 2024).

Relationship Between Students' Aesthetic Literacy and Collective Efficacy

Recent studies consistently show a significant positive relationship between students' aesthetic literacy and collective efficacy. Engagement in artistic activities such as visual arts, music, and performance not only enhances students' artistic skills and appreciation but also strengthens their confidence, emotional regulation, and motivation, thereby improving their collective efficacy (Qiu, 2024; Luo, 2024). Through participation in art courses and clubs, students gain positive emotional feedback, a sense of achievement, and opportunities for collaboration, which enhance their resilience and ability to cope with academic and life challenges (Chen & Lopez, 2024). This relationship is further supported by the integration of art education and quality-oriented education policies, where higher levels of aesthetic literacy are associated with stronger academic performance, social adaptation, and psychological wellbeing (Zhu et al., 2025; Yan et al., 2026).

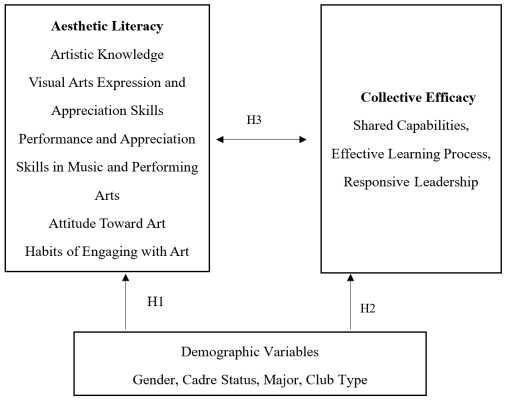


Figure 1Research Conceptual Framework

2. Materials and Methods

This study targeted art club students at Henan G University, with 185 valid responses collected from a population of 344 through convenience sampling, meeting the required sample size and ensuring representativeness. The questionnaire was developed based on the Aesthetic Literacy Scale (Wu, 2017) and the Collective Efficacy Scale (Vermeij & de Bruyckere, 2024), and included demographic information along with measurement items using a five-point Likert scale. Data were collected online via the Wenjuan Xing platform, and all responses were anonymous to improve authenticity.

Reliability analysis showed strong internal consistency, with an overall Cronbach's α of 0.94 for the aesthetic literacy scale, while the collective efficacy scale demonstrated acceptable reliability with all sub-dimensions exceeding 0.70. Validity testing indicated good construct validity, with a KMO value of 0.89 and a significant Bartlett's test, confirming suitability for factor analysis. The extracted factors explained 71.66% of the total variance, and confirmatory factor analysis further supported the scale's structural validity with acceptable model fit indices.

Data analysis included descriptive statistics to summarize overall levels, independent-samples t-tests and one-way ANOVA to examine differences across demographic variables, and Pearson correlation analysis to explore the relationship between aesthetic literacy and collective efficacy.

3.Results

This study distributed 188 questionnaires and collected 185 valid responses, achieving a valid response rate of 98.4%. Regarding gender, males accounted for 49.73% of participants while females constituted 50.27%. In terms of cadre status, 81 respondents served as class cadres, accounting for 43.78%, while 104 participants did not hold cadre positions, accounting for 56.22% of the total sample. Regarding academic backgrounds, participants came from diverse disciplines: science and engineering majors accounted for 22.16%, humanities and social sciences 21.08%, arts 21.62%, education 20.00%, with other disciplines comprising the remaining 15.14%. The distribution of club types revealed that art clubs had the largest membership at 37.30%, followed by music clubs at 27.00%. Dance and film/TV clubs accounted for 16.80% and 11.90% respectively, while other club types comprised 7.00%.

The diversity of the sample and high response rate enhances the representativeness and reliability of the findings, providing valuable reference for future related research.

Table. 1: Demographic Information of the Participants (N=185)

Variable	Item	n	%
Gender	Male	92	49.73
	Female	93	50.27
Cadre Status	Yes	81	43.78
	No	104	56.22
Major	Science and Engineering	41	22.16
	Humanities and Social Sciences	39	21.08
	Arts	40	21.62
	Education	37	20.00
	Other	28	15.14
Club Type	Fine Arts	69	37.30
	Music	50	27.00
	Dance	31	16.80
	Film & Television	22	11.90
	Other	13	7.00
Total		185	185

(1) Frequency analysis showed that the sample was well distributed across gender, cadre status, discipline, and club type, indicating good representativeness. Students demonstrated a high level of aesthetic literacy overall (M = 4.20, SD = 0.288). Specifically, art knowledge scored 4.22 (SD = 0.387), visual arts skills 4.21 (SD = 0.389), music and performing arts skills 4.21 (SD = 0.387), attitudes toward art 4.18 (SD = 0.365), and art participation 4.19 (SD = 0.368). Collective efficacy was also at a relatively high level (M = 3.75, SD = 0.323), with shared capabilities highest (M = 4.24, SD = 0.347), while effective learning process (M = 3.44, SD = 0.344) and responsive leadership (M = 3.41, SD = 0.341) were moderate.

(2) Differential analysis indicated significant differences across demographic variables. Non-cadre students scored significantly higher than cadre students in aesthetic literacy ($t = -6.174$, $p < 0.001$) and in all sub-dimensions ($p < 0.001$). Significant differences were also found across majors ($F = 34.771$, $p < 0.001$), with art majors scoring highest, and across club types ($F = 3.712$, $p = 0.006$), with fine arts and dance clubs performing better. For collective efficacy, female students scored significantly higher than males in all dimensions (t-values= −8.589 to t-values= −10.123, $p < 0.001$). Non-cadre students again scored higher than cadre students (t-values= −5.201 to t-values=−6.192, $p < 0.001$). Significant differences were also found across disciplines ($F = 33.544$, $p < 0.001$) and club types (F= 3.489 to F= 5.595, p <0.01).

Table 2 Correlation between Aesthetic Literacy and Collective Efficacy

	AK	VA	MP	AT	HP	AL	SC	EL	RL	SE
AK	1									
VA	.536**	1								
MP	.477**	.480**	1							
AT	.376**	.548**	.410**	1						
HP	.471**	.564**	.449**	.367**	1					
AL	.758**	.827**	.746**	.707**	.749**	1				
SC	.612**	.642**	.558**	.530**	.533**	.759**	1			

EL	.630**	.687**	.625**	.539**	.654**	.828**	.753**	1		
RL	.563**	.609**	.633**	.549**	.612**	.573**	.629**	.588**		
SE	.663**	.710**	.631**	.571**	.634**	.847**	.937**	.936**	.556**	1

** Significant at the 0.01 level (two-tailed). * Significant at the 0.05 level (two-tailed). Notes: AK: Artistic Knowledge; VA: Visual Arts Performance and Appreciation Skills; MP: Music and Performing Arts Performance and Appreciation Skills; AT: Attitude Toward Art; HP: Participation in Art; SE: Collective efficacy; SC: Shared Capabilities; EL: Effective Learning Process; RL: Responsive Leadership.

(3) Correlation analysis revealed a strong positive relationship between aesthetic literacy and collective efficacy ($r = 0.847$, $p < 0.01$). All dimensions of aesthetic literacy were significantly correlated with collective efficacy, including art knowledge ($r = 0.663$), visual arts skills ($r = 0.710$), music and performing arts skills ($r = 0.631$), attitudes toward art ($r = 0.571$), and art participation ($r = 0.634$), all at $p < 0.01$, indicating a clear and consistent positive association between the two variables.

4. Discussion

Students in Henan G University's art clubs demonstrated a high and balanced level of aesthetic literacy across all dimensions. Strong performance in artistic knowledge and expression reflected effective integration of theory and practice, while positive attitudes and active participation indicated high intrinsic motivation. Art clubs provided inclusive, experience-based learning environments that enhanced students' aesthetic perception and engagement, consistent with Hsiao & Su (2021).

Students showed a relatively high level of collective efficacy, especially in shared capabilities, while effective learning process and responsive leadership remained moderate. This suggested strong confidence in task completion but relatively weaker learning regulation and leadership responsiveness. The interactive and practice-oriented nature of art clubs played a key role in strengthening efficacy beliefs, supporting García et al. (2019).

Aesthetic literacy varied significantly across gender, cadre status, and club type. Female and non-cadre students generally performed better, and students in fine arts, music, and dance clubs showed higher levels than others. These differences highlighted the influence of emotional engagement, learning experience, and practice intensity on aesthetic development, in line with Liao & Liang (2024).

Collective efficacy also showed significant differences across gender, cadre status, discipline, and club type. Female, non-cadre, and art-major students demonstrated higher levels, reflecting the importance of learning experience, disciplinary alignment, and repeated success in shaping efficacy beliefs, consistent with Kong (2024).

Aesthetic literacy was significantly and positively correlated with collective efficacy. Students with higher artistic knowledge, skills, attitudes, and participation showed stronger confidence in learning and collaboration. Continuous artistic practice provided positive feedback that reinforced efficacy beliefs, forming a virtuous cycle, as supported by Kim & Kim (2025).

5. Recommendations

1) Strengthen Institutional Support for Aesthetic Education

Universities should integrate aesthetic education into talent development systems by incorporating aesthetic literacy into curriculum plans and student evaluations. Arts courses, club participation, and artistic practice can be included in credit or second-classroom management. Schools should also strengthen the connection between courses and art clubs to create an integrated aesthetic education system.

2) Improve the Educational Role of Art Clubs

Schools should support regular and high-quality artistic practice through performances, exhibitions, rehearsals, and other creative activities. Standardized and project-based club management can provide students with stable participation opportunities. At the same time,

schools should improve evaluation, achievement display, and resource support mechanisms for art clubs.

3) Provide Differentiated Guidance for Students

Universities should provide different forms of support according to students' grade levels and disciplinary backgrounds. Junior students should participate in more introductory and experiential activities, while senior students should be encouraged to take leadership and mentoring responsibilities. For non-arts majors, integrating arts with academic learning and daily life can improve both aesthetic literacy and learning confidence.

4) Encourage the Internalization of Artistic Experience

Schools and clubs should guide students to reflect on artistic participation and transform these experiences into long-term collective efficacy and learning confidence. Through reflective activities and peer sharing, students can better recognize their growth and apply the cooperation, confidence, and perseverance developed in artistic practice to academic learning and personal development.

References

Bandura, A. (1997). *Collective efficacy: The exercise of control*. W.H. Freeman.

Cassidy, L. (2007). Appealing to Multiple Intelligences in the Classroom. *Teaching Philosophy*, *30*(3), 293–308. https://doi.org/10.5840/teachphil200730315

Chen, J., & Lopez, E. R. (2024). Academic procrastination, collective efficacy, and self-control among Chinese college students. *International Journal of Research Studies in Education*, *13*(19), 103-136.

Gani, A., & Hasan, M. (2023). The effectiveness of flipped classroom on scientific literacy and critical thinking improvement. *Journal Pendidikan Kimia*, *15*(2), 119–129.

García, L., Sánchez, A., & Rodríguez, C. (2019). The role of emotional intelligence in the classroom: A case study in an educational context. *International Journal of Educational Psychology, 8*(3), 234-253.

Gardner, H. (1983). *Frames of mind: The theory of multiple intelligences*. Basic Books.

Hsiao, P.-W., & Su, C.-H. (2021). A study on the impact of STEAM education for sustainable development courses and its effects on student motivation and learning. *Sustainability*, *13*(7), 3772.

Kim, N., & Kim, H. (2025). The impact of ai-based English classes on students' multimodal literacy, critical thinking, and creative thinking. *Convergence English Language & Literature Association*, *10*(2), 57–85.

Kong, D. (2024). Psychological richness, self-compassion, and collective efficacy among Chinese nursing students. *International Journal of Research Studies in Psychology*, *10*(2), 231-244. https://doi.org/10.5861/ijrsp.2024.028

Liao, K., & Liang, B. (2024). The two-way feedback of literary and artistic emotional expression and aesthetic nurturing from the perspective of poetics in the age of mathematical intelligence. *Applied Mathematics and Nonlinear Sciences*, *9*(1), 1-19.

Luo, Q., Chen, L., Yu, D., & Zhang, K. (2023). The mediating role of learning engagement between collective efficacy and academic achievement among Chinese college students. *Psychology Research and Behavior Management*, *Volume 16*(23), 1533–1543.

Luo, X. (2024). Self-directed learning and academic collective efficacy among Chinese high school students. *International Journal of Research Studies in Language Learning*, *10*(3), 56–69.

Mahon, C., & Hevey, D. (2021). Processing body image on social media: Gender differences in adolescent boys' and girls' agency and active coping. *Frontiers in Psychology*, *12*(34), 45–59.

Miao, C., & Shi, J. (2024). The Effects of Self-regulated Strategy and its Associations on Collective efficacy for Chinese as a Second Language Acquisition in Collegiate Students. *CALR Linguistics Journal - Issue 15*, *8*(9), 34–56.

Qiu, J. (2024). The educational value of film and television music in middle schools in the

context of digital empowerment. *Research and Commentary on Humanities and Arts.*, *2*(4), 45–55.

Sayaf, A. M., Alamri, M. M., Alqahtani, M. A., & Al-Rahmi, W. M. (2021). Information and communications technology used in higher education: An empirical study on digital learning as sustainability. *Sustainability*, *13*(13), 7074.

Song, B. (2024). English collective efficacy and English autonomous learning ability of Chinese college students. *Journal of Education and Educational Research*, *7*(3), 310–313.

Tang, X. (2022). The relationship between Chinese college students' English learning anxiety and English collective efficacy in Chinese-foreign cooperative education. *Journal of International Education and Development*, *6*(3), 28–34.

Vermeij, M. A., & de Bruyckere, P. (2024). The design and validation of the Collective Student Efficacy Scale: *Understanding the collective processes of CSE. PsyArXiv*, *1* (1), 1-36. https://ssrn.com/abstract=5185485

Wang, (2024). A study on the relationship between achievement motivation and academic collective efficacy of university students under contingency situation. *Journal of North China Institute of Science and Technology, 21*(6), 110-113.

Waterhouse, L. (2006). Multiple intelligences, the Mozart effect, and emotional intelligence: A critical review. *Educational Psychologist, 41*(4), 207-225.

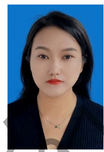
Wu, Kuan-Hsien. (2017). Construction and survey of the aesthetic literacy scale for Taiwanese people. *Journal of Measurement, 64*(2), 131–154.

Xu, Q., Wu, J., & Peng, H. (2022). Chinese EFL university students' collective efficacy for online self-regulated learning: Dynamic features and influencing factors. *Frontiers in Psychology*, *13*(45), 56–70.

Yan, C., Qian, M., & Sun, T. (2026). Parental rearing styles and academic self-handicapping among Chinese university students: The mediating role of academic collective efficacy. *Acta Psychological*, *262*(1), 105997.

Zhu, H., Pramote, P., & Nut, C. (2025). Development of jazz music ensemble curriculum based on albert bandura's observational learning concept, case study Xingtai conservatory of music. *Journal of Eco humanism*, *4*(1), 3967–3977.

Authors' Biography:



The researcher currently studies in MEA Program, Graduate School, Stamford International University, her research interest is in the fields of educational administration, school management and educational leadership.