

## *Original Paper*

# A Study on the Association between Perceived Music Literacy and Socialist Core Values Identification among Liberal Arts Students: An Empirical Analysis Based on SEM

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### ***Abstract***

*The empirical foundation for "cultivating virtue through aesthetics" in Chinese higher education remains weak. This study examines the association between perceived music literacy (PML) and socialist core values identification (SCVI) among liberal arts undergraduates, with aesthetic experience (AE) and cultural confidence (CC) as dual mediators. Using a cross-sectional survey design with SEM, the study plans to collect no fewer than 800 valid questionnaires through multi-stage stratified sampling across eastern, central, and western China. Bias-corrected bootstrap (5,000 replications) will test mediation effects. PML is expected to show a moderate positive association with SCVI, with AE and CC serving as parallel mediators. This study aims to provide empirical evidence for integrating music education into curriculum-based ideological education.*

### ***Keywords***

*perceived Music Literacy, socialist Core Values Identification, aesthetic Experience, Cultural Confidence, structural Equation Modeling, Mediation Effect*

## **1. Introduction**

### *1.1 Research Background*

The in-depth integration of aesthetic education and ideological and political education in universities has been elevated to a national strategy. National Leader emphasized at the National Conference on Ideological and Political Work in Colleges and Universities that all courses should develop in tandem with ideological and political courses to form a synergistic effect. In 2020, the Ministry of Education's Guiding Outline for Curriculum-Based Ideological and Political Construction in Higher Education incorporated art courses into the curriculum-based ideological and political system,

proposing a trinity teaching objective of value shaping, knowledge imparting, and ability cultivation (Deyi Gao, Aidong Zong, 2017). Music education has a profound theoretical foundation in value cultivation: China's traditional "music education" regards music as a vital medium for moral edification. Book of Rites · Record of Music states, "Music is the blossoming of virtue." In Western thought, Schiller (1795) argued that aesthetic activity elevates humans from a natural state to a moral state, while Dewey (1934) emphasized that aesthetic experience can reshape individual value orientations. Both Chinese and Western theories converge on a core judgment: music education integrates aesthetic function with value-guiding function. However, this judgment has long remained at the level of philosophical speculation, lacking systematic empirical verification.

### *1.2 Research Questions*

Existing studies have four major deficiencies. Firstly, the research subjects are overly generalized. Most previous studies take college students as a whole and fail to focus on the unique characteristics of liberal arts students. Systematically trained in linguistic sensitivity, narrative comprehension and cultural analysis (Danhong Yu, 2014), liberal arts students show strong relevance to music aesthetic appreciation and cultural understanding (Pei Liu, 2011). Chunling Li(2018) found that liberal arts students score significantly higher than science students in cognitive identity, while no obvious difference exists in behavioral identity. Such divergence between cognition and behavior deserves targeted exploration. Secondly, the mediating mechanisms are oversimplified. Current researches have separately verified the mediating effects of aesthetic experience (Zhijun Wang, 2019) and cultural confidence (Hongmei Li, 2020), yet few studies integrate the two variables into one unified model, and studies on chain mediation effect are still scarce. Thirdly, causal statements are inconsistent with cross-sectional research design. Numerous studies adopt causal expressions such as "influence" and "promote" to interpret cross-sectional data results, whereas the path directions in structural equation modeling only represent theoretical hypotheses rather than solid causal evidence (Kline, 2016). Fourthly, backward statistical methods are commonly adopted, with insufficient attention paid to common method bias and social desirability bias (Podsakoff et al., 2003).

### *1.3 Research Questions*

**RQ1:** What is the correlational structure between the four dimensions of PML(Perceiving Musical Literacy)and the three dimensions of SCVI(socialist core values identification)? Are there significant differences in the effect sizes of each path?

**RQ2:** Do AE(aesthetic experience) and CC(cultural confidence) exert mediating effects? Is there a chain mediating path of PML→AE→CC→SCVI?

**RQ3:** Do gender and grade exert moderating effects on the aforementioned correlational paths?

The theoretical significance of this study lies in: for the first time, it incorporates aesthetic experience and cultural confidence into the same mediating model for integrated analysis, proposes and verifies the chain mediating path, and realizes the cross-cultural dialogue between Chinese "music education" thought and Western aesthetic education theories. The practical significance lies in: it provides

empirical reference for the curriculum-based ideological and political construction of public music education in universities, offers differentiated guidance for the design of aesthetic education courses for liberal arts students, and provides a new explanation from the perspective of music education for bridging the "high cognition-low behavior" gap.

## 2. Literature Review and Theoretical Foundation

### 2.1 Definition of Core Concepts

The connotation of Music Literacy has evolved from a skill-oriented approach to a culture-oriented paradigm. Early scholars such as Dalcroze (1921) and Kodály (1964) conceptualized it as "musical reading and writing ability", which exhibited a distinct skill orientation. Reimer (1970) proposed the "aesthetic education" paradigm, extending music literacy to the dimension of aesthetic perception. Elliott (1995) further advanced the philosophy of "praxial music education", emphasizing that music literacy should encompass multidimensional abilities in musical practice. The National Association for Music Education (NAfME, 2014) defined music literacy as a comprehensive competency system covering "creating, performing, responding, and connecting", marking the transition from a technical definition to a cultural one. In the Chinese context, Qin Jiangmei (2008) argued that music literacy is "a synthesis of knowledge, skills, attitudes, and values demonstrated by individuals in musical activities". Yin Aiqing et al. (2016) adopted the Delphi method to establish a four-dimensional evaluation indicator system consisting of musical knowledge, skills, aesthetics, and cultural understanding. Since this study employs a self-report scale, the core construct is explicitly formulated as Perceived Music Literacy (PML) to distinguish it from objective musical abilities measured through standardized tests (Shibin Zhou, 2014).

The Socialist Core Values were formally proposed at the 18th National Congress of the Communist Party of China in 2012, establishing a basic content framework from the national, social, and individual levels (Qiantao Wu, Junling Yang, 2013). Value identification refers to "the psychological process in which a subject recognizes, approves of, and internalizes a certain value concept, and takes it as a code of conduct" (Yongting Zhang, 2010). The academic community generally adopts the three-dimensional framework of cognition-affect-behavior (Rosenberg & Hovland, 1960). Specifically, cognitive identification refers to rational recognition of the connotation of values; affective identification refers to emotional resonance and psychological belonging; behavioral identification refers to the willingness to practice values in daily life (Huiqin Hou, 2015). Numerous empirical studies have revealed a decreasing pattern of "cognition > affect > behavior". Sun Qi'ang (2016) found that the average scores of the three dimensions were 4.12, 3.78, and 3.45 respectively (on a 5-point scale). Based on a survey of 15,680 college students from 56 universities nationwide, Qiantao Wu and Weiguo Wang(2018) found that the average score of core value identification was 3.82. The structural equation modeling (SEM) study by Feng Gang and Jingyi Gao (2019) verified the pattern of "high cognition, medium affect, and low behavior", and found that educational factors had the

strongest correlation with cognitive identification ( $\gamma = 0.41$ ). This "discrepancy between knowledge and action" indicates that traditional ideological and political education has structural deficiencies in emotional stimulation and behavioral guidance, necessitating the exploration of new approaches such as music education. Notably, value identification scales face a prominent challenge of social desirability bias. In the context of Chinese universities, students are almost unlikely to give low scores, so introducing social desirability control is a necessary design consideration.

## 2.2 Theoretical Foundation

This study integrates three major theoretical pillars. Aesthetic Education Theory provides the basis for the PML→AE pathway: Reimer (2003) pointed out that individuals with higher music literacy can obtain deeper aesthetic experiences, which contain the value perception of the unity of truth, goodness and beauty. It should be noted that there exists a profound tension in underlying value presuppositions between Schiller's "aesthetic freedom" (achieving morality through free play) and the moral discipline of Chinese "music education" (music serving enlightenment). This study regards this tension as a productive resource for cross-cultural dialogue rather than a contradiction to be resolved.

Cultural Capital Theory underpins the PML→CC pathway: Bourdieu (1984) argued that music literacy, as embodied cultural capital, shapes individuals' perceptual modes. In the Chinese context, the deepening of musical cultural understanding is positively correlated with the generation of cultural confidence (Yaohua Wang, 2018). However, its critical core must be acknowledged: musical taste may act as an instrument of class distinction and participate in the reproduction of social inequality. This study partially mitigates this threat by including urban-rural origin and family cultural background as control variables.

Affective Education Theory supports the AE→SCVI pathway: The five-level internalization model ("receiving → responding → valuing → organization → characterization") proposed by Krathwohl et al. (1964) precisely corresponds to the transformation process of values from external exposure to behavioral consciousness. Juslin's (2013) BRECVEMA model systematically elaborates eight mechanisms through which music evokes emotions, among which "emotional contagion" and "aesthetic judgment" are most closely related to value identification. Constructivism, in turn, provides the epistemological foundation for the overall framework. Elliott & Silverman (2015) proposed that meaning and value are naturally constructed in the process of "doing music", offering a middle path for music education to undertake value functions between "aesthetic autonomism" and "moral heteronomism".

## 2.3 Existing Empirical Studies

Regarding the direct association, a survey of 1,500 liberal arts students from 6 universities by Chen Bin (2021) found a moderate positive correlation between PML and SCVI ( $r = 0.38$ ). Wang Anguo (2018) revealed a significant positive correlation between the frequency of red classic song appreciation and patriotic sentiment ( $r = 0.42$ ). A quasi-experimental study by Ma Da (2019) showed that the experimental group scored significantly higher than the control group in patriotic behavioral

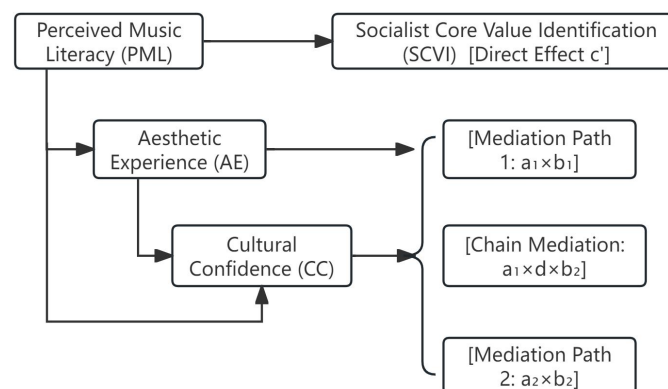
intention ( $d = 0.58$ ). In terms of mediating mechanisms, Zhang Yi and Xiang Kai (2020) employed structural equation modeling (SEM,  $N = 3,000$ ) and identified a full mediating effect of aesthetic literacy (indirect effect = 0.23, 95% CI [0.17, 0.30]). Wang Zhijun (2019) found that the mediating effect of aesthetic experience accounted for 35.2% of the total effect. A longitudinal study by Liu Jia (2022) demonstrated that cultural confidence had a significant predictive effect on value identification ( $\beta = 0.32$ ). Overall, the positive association between PML and SCVI has received moderately strong empirical support. However, all existing studies have adopted single-mediation designs, and no integrated dual-mediation model has been established. In particular, direct empirical evidence for the "AE→CC" path segment remains limited, making the chain mediation hypothesis exploratory in nature. Furthermore, existing studies have paid insufficient attention to the differential effects of music genres. Different music genres (red classics, traditional music, popular music) exhibit significant differences in value conveyance. Although this study covers multiple music genres in the scale, it does not include music genre preference as an independent variable. This limitation needs to be addressed in future research.

### 3. Research Hypotheses

Based on the above theoretical integration, the following hypotheses are proposed:

**H1a:** There is a significant positive association between PML and SCVI. **H1b:** The associations between the dimensions of musical aesthetics and musical cultural understanding and affective identification are stronger than those between the dimensions of musical knowledge and skills and affective identification. **H2a:** AE exerts a mediating effect between PML and SCVI. **H2b:** The mediating effect of AE is most significant in the affective identification dimension. **H3a:** CC exerts a mediating effect between PML and SCVI. **H3b:** The mediating effect of CC is relatively significant in the cognitive and behavioral identification dimensions. **H4 (Exploratory):** There exists a chain mediating path of PML→AE→CC→SCVI. **H5a/H5b:** Gender and grade exert moderating effects on the aforementioned association paths.

The core path structure is as follows: Plaintext



## 4. Research Methods

### 4.1 Research Design

This paper adopts the writing framework of Registered Report (Nosek et al., 2018), fully presenting the research design, theoretical framework, hypothesis system and analysis plan prior to data collection. This approach aims to reduce data-driven Hypothesizing After the Results are Known (HARKing) and selective reporting bias, ensuring that the study retains publication value regardless of whether the results support the proposed hypotheses. A cross-sectional survey design under the post-positivist paradigm is employed, which aims to reveal the covariation relationships rather than causal relationships among variables. The path directions in structural equation modeling (SEM) are derived from theoretical deduction rather than causal evidence provided by the research design itself (Kline, 2016). Empirical results will be supplemented on the basis of this research protocol after the completion of subsequent data collection.

### 4.2 Participants and Sampling

The target population consists of full-time undergraduate students majoring in liberal arts (excluding music majors) from Chinese universities, covering freshmen to seniors. A multi-stage stratified random sampling method is adopted: the first stage is stratified by region (eastern/central/western China); the second stage by university tier (30% Double First-Class universities, 50% general undergraduate universities, 20% private universities); the third stage by grade with equal proportion. Three complementary methods are employed for sample size justification: the rule of thumb ( $59 \text{ observed indicators} \times 15 = 885$ ), RMSEA power analysis by MacCallum et al. (1996) (statistical power = 0.80,  $\alpha = 0.05$ ,  $N \geq 650$ ), and multi-group analysis requirement ( $N \geq 800$ ). Taking the maximum value and considering the design effect ( $DEFF \approx 1.5$ ), the target number of valid questionnaires is no less than 800, and 1,200 questionnaires are planned to be distributed.

### 4.3 Measurement Instruments

The Perceived Music Literacy Scale (PMLS) is developed with reference to the four-dimensional framework of NAFME (2014) and the evaluation system by Yin Aiqing et al. (2016). It consists of 20 items across four dimensions: musical knowledge, musical skills, musical aesthetics, and musical cultural understanding, using a 5-point Likert scale. The Socialist Core Value Identification Scale (SCVI) is adapted from She Shuanghao and Jiang Chaoli (2016), comprising 15 items in three dimensions: cognitive identification, affective identification, and behavioral identification. The Aesthetic Experience Scale (AE) is constructed based on Pelowski and Akiba's (2011) transformative model of aesthetic experience. It includes 8 items covering three aspects: immersive resonance, meaning construction, and value sublimation. This scale focuses on the value transformation function of general aesthetic experience rather than musical aesthetic judgment itself, to ensure discriminant validity from the "musical aesthetics" dimension of the independent variable. The Cultural Confidence Scale (CC) contains 6 items, including 1 reverse-scored item. The MC-10 Social Desirability Scale (10 items) is included as a core control variable. Additional control variables include gender, grade,

major category, political status, urban-rural origin, family cultural background (parental education level), whether the student has taken public music courses, and participation degree in extracurricular music activities.

Two conceptual distinction issues require special clarification. First, "Musical Aesthetics (MA)", as a dimension of the independent variable, measures aesthetic judgment ability within the musical domain, while "Aesthetic Experience (AE)", as a mediating variable, measures the meaning construction and value reflection process triggered by general aesthetic activities. Their discriminant validity must be verified through the AVE square root test in the pilot study. Second, items related to the value cognition of red classic songs in "Musical Cultural Understanding (MCU)" may have content overlap with the patriotism dimension of SCVI. This issue will be mitigated through expert review, EFA discriminant validity test, and sensitivity analysis.

Given the potential ceiling effect of SCVI in the context of Chinese universities, quantitative judgment criteria are established: the MLR (Maximum Likelihood with Robust Standard Errors) estimator will be used when skewness  $> |1.5|$  or kurtosis  $> |3.0|$ , and the WLSMV (Weighted Least Squares Mean and Variance Adjusted) estimator will be supplemented as a robustness test when skewness  $> |2.0|$ . Behavioral frequency items will be appropriately added to the behavioral identification dimension to partially bypass the ceiling effect of attitude scales.

#### **4.4 Data Analysis Strategy**

Data analysis will be conducted using SPSS 26.0 and Mplus 8.3. The specific procedures are as follows:

- (1) Data preparation: Including missing data handling (multiple imputation), outlier detection (Mahalanobis distance), and normality test. Attrition analysis will be performed to assess systematic bias resulting from sample exclusion.
- (2) Common method bias test: The unconstrained latent method factor (ULMF) method will be used as the primary approach, supplemented by Harman's single-factor test.
- (3) Confirmatory factor analysis (CFA) for reliability and validity: Following the two-step approach proposed by Anderson & Gerbing (1988). The acceptance criteria include standardized factor loadings  $> 0.5$ , average variance extracted (AVE)  $> 0.5$ , and composite reliability (CR)  $> 0.7$ . Particular attention will be paid to the discriminant validity between MA and AE using the Fornell-Larcker criterion.
- (4) Structural equation modeling (SEM) path analysis: Model comparison will be performed sequentially from the baseline model  $\rightarrow$  single-mediation model  $\rightarrow$  dual-mediation model  $\rightarrow$  full model, with model selection based on Akaike Information Criterion (AIC) and Bayesian Information Criterion (BIC). Alternative model testing will include the reverse causality model (SCVI $\rightarrow$ PML) and the common cause model. If the intraclass correlation coefficient (ICC)  $> 0.05$ , multilevel SEM will be adopted.

(5) Bias-corrected Bootstrap mediation effect test: With 5000 bootstrap samples (Preacher & Hayes, 2008), to separately test the three indirect paths.

(6) Multi-group SEM: For gender and grade groups, measurement invariance will be tested sequentially for configural, metric, scalar, and structural invariance (Cheung & Rensvold, 2002). An additional cross-regional (eastern/central/western China) measurement invariance test will also be conducted.

## 5. Expected Results and Discussion

Note: This study is currently at the protocol stage. The following are directional expectations, all of which are subject to refutation by empirical data.

It is expected that scores on all dimensions of PML will be at a moderate level, and SCVI will reproduce the decreasing pattern of "cognition > affect > behavior". The full dual-mediation model is expected to outperform single-mediation models in terms of AIC and BIC. The mediating effect of AE is expected to be most prominent in the affective identification dimension, while the mediating effect of CC is expected to be relatively significant in the cognitive and behavioral identification dimensions. Even if the chain mediation (H4) is significant, its effect size is expected to be small. If H1a is not supported, it may be due to insufficient variance caused by ceiling effects; if the mediating effects are not significant, it indicates that the association between PML and SCVI is primarily a direct effect.

The theoretical contributions of this study are as follows: First, to the best of the author's knowledge, this study is the first to construct a dual-mediation model of AE and CC, advancing beyond existing single-mediation studies (Wang Zhijun, 2019; Li Hongmei, 2020). Second, it distinguishes the differential association patterns between the four dimensions of PML and the three dimensions of SCVI, helping to identify the key pathways of "cultivating morality through aesthetic education". Third, it realizes cross-cultural dialogue between Chinese traditional "music education" thought and Western aesthetic education theories.

In terms of practical implications: First, university music courses should focus on in-depth aesthetic experience rather than mere knowledge transmission. A progressive teaching structure of "immersive listening → experience sharing → cultural interpretation → reflective writing → collective dialogue" can be adopted. Second, curriculum-based ideological and political education in music courses should naturally permeate value guidance within aesthetic activities. A "three-tier music repertoire" should be constructed (core tier: red classics; extended tier: Chinese and foreign classics; dialogue tier: contemporary youth music) to avoid rigid indoctrination. Third, full advantage should be taken of liberal arts students' strengths in humanities literacy to design interdisciplinary topics integrating music with literature, history, and philosophy. Fourth, attention should be paid to the behavioral guidance function of collective musical practices such as choral singing (Kirschner & Tomasello, 2010) to bridge the "high cognition-low behavior" gap.

Research Limitations: First, the cross-sectional design can only reveal covariation relationships. A

well-fitting model in SEM usually has statistically equivalent alternative models, and reverse causality is equally plausible. Second, all variables are self-reported data, and there may be systematic bias between self-perceived music literacy and objective musical ability. Third, the ceiling effect of the value identification scale may systematically attenuate the strength of associations. Even if a "significant positive association" is found, its substantive educational significance still requires careful evaluation. Fourth, there is ambiguity in the conceptual boundaries between "musical cultural understanding" and "value identification". Fifth, the findings are limited to the population of full-time liberal arts undergraduate students in Chinese universities. Future research should adopt longitudinal tracking designs (e.g., four-year tracking from enrollment to graduation) to strengthen causal inference, include science and engineering samples for comparison between liberal arts and science students, supplement qualitative methods to understand the micro-level psychological processes of aesthetic experience, and incorporate objective musical ability tests to mitigate self-report bias.

The conclusions of this study only reflect statistical association patterns and do not constitute causal inferences. Associative conclusions should not be used for causal inference, nor should group-level statistical associations be generalized to individual judgments. Music education should respect students' right to choose courses and their aesthetic autonomy.

## References

- Cai, Y. P. (1917). *Replacing Religion with Aesthetic Education [C]//Speech at the Beijing Shenzhou Society*. (in Chinese)
- Chen, B. (2021). A Study on the Relationship Between Music Literacy and Socialist Core Values Identification Among Liberal Arts Undergraduates. *Art Education*, 2021(5), 42-48. (in Chinese)
- Chen, L. (2017). *The Core Values of Chinese Civilization: The Evolution of Sinology and Traditional Values*. Beijing: SDX Joint Publishing Company. (in Chinese)
- Fei, X. T. (1997). Reflection · Dialogue · Cultural Self-Consciousness. *Journal of Peking University (Philosophy and Social Sciences Edition)*, 34(3), 15-22. (in Chinese)
- He, Y. H., & Zheng, Y. T. (2010). On the Value Orientation of Ideological and Political Theory Education in Higher Education Institutions – Also on the Dominance of the Socialist Core Value System. *Research on Ideological Education*, (09), 13-18. (in Chinese)
- Gang, F., & Gao, J. Y. (2019). A Study on the Influencing Factors of College Students' Identification with Socialist Core Values. *University Education Management*, 13(2), 1-12. (in Chinese)
- Gao, D. Y., & Zong, A. D. (2017). Connotation, Concepts and Implementation Paths of "Curriculum Ideology and Politics". *China Higher Education*, 2017(Z3), 28-32. (in Chinese)
- Hou, H. Q. (2015). The Internal Logic and Identification Mechanism of Socialist Core Values. *Studies on Marxism*, 2015(8), 5-14. (in Chinese)
- Ministry of Education. (2020). *Guidelines for the Construction of Curriculum Ideology and Politics in Colleges and Universities*. (in Chinese)

- Li, C. L. (2018). The Influence of Disciplinary Background on College Students' Value Identification. *Educational Research*, 39(5), 76-84. (in Chinese)
- Li, H. M. (2020). A Study on the Influence of Public Art Education in Colleges and Universities on College Students' Cultural Confidence. *Journal of Aesthetic Education*, 2020(2), 67-75. (in Chinese)
- Liu, J. (2022). The Influence of Public Music Courses on College Students' Cultural Confidence and Value Identification. *China Higher Education Research*, 2022(3), 87-93. (in Chinese)
- Liu, P. (2011). A Comparative Study on Music Literacy of Arts and Science Undergraduates. *Chinese Music*, 2011(2), 182-189. (in Chinese)
- She, S. H., & Jiang, C. L. (2016). Development of the College Students' Socialist Core Values Identification Scale. *Studies in Ideological Education*, 2016(5), 87-93. (in Chinese)
- Sun, Q. A. (2016). Current Situation and Influencing Factors of College Students' Identification with Socialist Core Values. *Jiangsu Higher Education*, 2016(3), 115-120. (in Chinese)
- Wang, Y. H. (2018). Traditional Chinese Music Culture and the Cultivation of College Students' Cultural Confidence. *Music Research*, 2018(5), 5-12. (in Chinese)
- Wang, Z. J. (2019). The Mediating Role of Music Aesthetic Experience Between Music Education and Value Identification. *Journal of Education*, 15(4), 88-96. (in Chinese)
- Xi, J. P. (2016). Speech at the National Conference on Ideological and Political Work in Colleges and Universities. *People's Daily*. (in Chinese)
- Yin, A. Q., Li, C., & Miao, P. Y. (2016). A Study on the Evaluation Index System of Music Literacy for Non-Music Majors. *China Music Education*, 2016(8), 10-17. (in Chinese)
- Yu, D. H. (2014). Characteristics and Cultivation Paths of Music Appreciation Ability of Liberal Arts Students. *Music Art*, 2014(1), 88-95. (in Chinese)
- Zhang, Y., & Kai, X. (2020). The Structural Relationship Between College Students' Participation in Art Education, Aesthetic Literacy and Identification with Socialist Core Values. *Higher Education Research*, 41(7), 82-91. (in Chinese)
- Zhou, S. B. (2014). Development and Validation of the College Students' Self-Rated Music Literacy Scale. *Art Education*, 2014(6), 56-61. (in Chinese)
- Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice. *Psychological Bulletin*, 103(3), 411-423.
- Bourdieu, P. (1984). *Distinction: A social critique of the judgement of taste*. Cambridge: Harvard University Press.
- Cheung, G. W., & Rensvold, R. B. (2002). Evaluating goodness-of-fit indexes for testing measurement invariance. *Structural Equation Modeling*, 9(2), 233-255.
- Dewey, J. (1934). *Art as experience*. New York: Minton, Balch & Company.
- Kirschner, S., & Tomasello, M. (2010). Joint music making promotes prosocial behavior in 4-year-old children. *Evolution and Human Behavior*, 31(5), 354-364.

- Kline, R. B. (2016). *Principles and practice of structural equation modeling* (4th ed.). New York: Guilford Press.
- Krathwohl, D. R., Bloom, B. S., & Masia, B. B. (1964). Taxonomy of educational objectives, handbook II: Affective domain. New York: David McKay.
- MacCallum, R. C., Browne, M. W., & Sugawara, H. M. (1996). Power analysis and determination of sample size for covariance structure modeling. *Psychological Methods, 1*(2), 130-149.
- NAfME. (2014). *National core arts standards for music*. <https://nafme.org/>.
- Nosek, B. A. et al. (2018). The preregistration revolution. *PNAS, 115*(11), 2600-2606.
- Pelowski, M., & Akiba, F. (2011). A model of art perception, evaluation and emotion in transformative aesthetic experience. *New Ideas in Psychology, 29*(2), 80-97.
- Podsakoff, P. M. et al. (2003). Common method biases in behavioral research. *Journal of Applied Psychology, 88*(5), 879-903.
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects. *Behavior Research Methods, 40*(3), 879-891.
- Reimer, B. (2003). *A philosophy of music education* (3rd ed.). Upper Saddle River: Prentice Hall.
- Rosenberg, M. J., & Hovland, C. I. (1960). *Cognitive, affective, and behavioral components of attitudes[M]//Attitude organization and change* (pp. 1-14). Yale University Press.
- Schiller, F. (1795/2004). *On the aesthetic education of man*. Mineola: Dover Publications.