



CATHARSIS 14 (1) 2025
52-64

p-ISSN 2252-6900 I e-ISSN 2502-4531

Catharsis: Journal of Arts Education



<http://journal.unnes.ac.id/sju/index.php/chatarsis>

Personalized Arts Learning Through Musical Preferences and Personality Traits: A Conceptual Study Using the 16PF Model

Bayu Aji Wicaksono^{1✉}, Warih Handayani², Eko Wahyuni Rahayu³, Umi Anugerah Izzati⁴

Email: 24021666001@mhs.unesa.ac.id

^{1,2,3} Art Education, Pascasarjana, Universitas Negeri Surabaya, Surabaya, Indonesia

Received 26 January 2025, Accepted 16 March 2025, Published 30 June 2025

Abstract

This conceptual study examines how musical preferences reflect personality traits, using Raymond Cattell's 16 Personality Factors (16PF) as a theoretical lens to inform personalized strategies in arts education. Through an integrative qualitative literature review, it synthesizes insights from music psychology, personality theory, and affective pedagogy to develop a framework for emotionally resonant and cognitively responsive learning environments. Findings indicate that preferences for genres such as classical, jazz, pop, or hip-hop are closely linked to psychological traits like sensitivity, liveliness, openness to change, rule-consciousness, and social boldness. These associations enable educators to identify students' affective orientations and adapt arts instruction to their individual learning styles and emotional needs. The proposed framework addresses key educational challenges such as emotional disengagement and cognitive fatigue by positioning music as both a reflective medium and a pedagogical tool for fostering self-awareness and personal expression. It further advocates the use of informal assessments and personality profiling to support differentiated instruction and culturally relevant curriculum design. The study contributes a theoretically grounded pedagogical model that integrates personality-informed strategies with student-centered approaches, enhancing learner engagement, authenticity, and inclusion. Ultimately, this research offers a conceptual foundation for arts education that is more personalized, emotionally intelligent, and psychologically responsive.

Keywords: musical preference, personality traits, 16PF, art education.

INTRODUCTION

Music is not merely an art form but also an affective system rich in emotional expression and psychological meaning. It has the power to evoke memories, regulate mood, and reflect personal identity. In the context of education particularly arts education music should be understood not only as an aesthetic object but also as a bridge toward deeper insight into students' personalities and affective experiences. In this regard, musical preference functions as a potential psychological indicator revealing who a person is, not merely what they like.

Contemporary research in music psychology demonstrates a consistent relationship between musical preferences and personality traits. For instance, individuals who are open to new experiences often favor complex genres such as jazz or classical music, whereas extroverted individuals tend to prefer energetic genres like pop or hip-hop (Swaminathan & Schellenberg, 2015). In support of this, Zhao (2023) found that music significantly enhances psychological well-being (PWB), reduces anxiety, and promotes life satisfaction. Yet, these benefits are contingent upon the alignment between the emotional tone of the music and the listener's internal state and preferences.

Deshmukh and Gupta (2022), employing the PANAS scale, affirmed that music only enhances positive emotional states when it aligns with personal taste. Even music widely considered "good" may lack therapeutic effect if it does not resonate with the listener's psychological makeup or current mood. This highlights the importance of recognizing individual musical preferences especially when music is intentionally integrated into educational settings.

In formal arts education, where both emotional resonance and authentic self-expression are critical, most instructional strategies remain overly standardized. They rarely account for learners' emotional profiles or affective dispositions. This reveals an urgent

need for a new pedagogical perspective: What if musical preference could be harnessed as a diagnostic tool for identifying personality and customizing arts learning?

Empirical studies support this direction. For instance, Afwa, Utomo, and Cahyono (2021) demonstrated that musical performance activities such as composing, arranging, and rehearsing not only foster creativity but also cultivate values such as discipline, cooperation, and responsibility among students. Their findings validate the potential of musical engagement to serve as both an expressive outlet and a medium for character formation in formal education settings. Likewise, Giranti, Lestari, and Hartono (2019) observed that traditional performance arts like the *Retno Tanjung* dance integrate character education values such as spirituality, environmental awareness, and creativity suggesting that music and traditional art forms can function as affective mirrors of students' socio-cultural identity. These insights further support the integration of culturally rooted genres in music-based pedagogical design, aligned with students' psychological dispositions.

Raymond Cattell's 16 Personality Factors (16PF) model offers a theoretically robust framework for addressing this need. Developed through factor analysis, the 16PF identifies sixteen primary traits such as warmth, sensitivity, liveliness, and openness to change that influence behavior, emotion, and cognition. Cattell himself experimented with music as a medium to distinguish personality patterns, suggesting a strong historical link between music and personality (Cattell & Saunders, 1954).

While broader personality models such as the Big Five have gained widespread acceptance for their empirical simplicity and integrative power (Widiger, 2017), they are often critiqued for being overly general when applied to specific domains like education or musical response. The Big Five organizes personality into five broad traits Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism offering a

macro-level lens that is useful for large-scale assessments across cultures and contexts. However, for educational strategies that seek to personalize instruction based on nuanced affective profiles, this model may lack the necessary granularity.

For example, Openness to Experience, a core trait in the Big Five, is strongly associated with preferences for reflective and complex musical genres (such as jazz or blues), while Extraversion is more predictive of rhythmic and upbeat genre preferences like rap or pop (Vella & Mills, 2016). Yet, these associations are typically moderate in strength and often mediated by emotional or cognitive uses of music, making them less actionable in pedagogical design. In contrast, the 16PF model provides more differentiated constructs such as rule-consciousness, sensitivity, or abstractedness which are especially relevant for mapping personality traits to emotional learning needs.

Several studies support the pedagogical relevance of this finer-grained model. Swaminathan and Schellenberg (2015) showed that traits such as openness, extraversion, and neuroticism significantly influence musical-emotional responses. Similarly, Popova (2021) found that distinct music genres elicit different psychological outcomes: classical music enhances concentration, jazz fosters relaxation and improvisation, while popular music facilitates immediate emotional activation. When these genres align with students' personality-driven preferences, instructional design can be adapted to support affective engagement more effectively.

The potential for music to support both psychological reflection and cultural identity is also evident in community-based arts learning. Studies such as Wahyu (2019) reveal that traditional dance practices in local communities internalize character values creativity, discipline, and cultural pride especially in younger learners. This supports the idea that integrating culturally meaningful music genres into arts education not only

affirms students' identity but enhances emotional relevance and motivation.

In today's learning environments, an additional challenge has emerged: the phenomenon of cognitive overload or "digital brain rot," characterized by diminished attention span due to constant digital stimulation. This phenomenon, increasingly prevalent among youth, disrupts sustained focus and reduces emotional engagement. In this context, music-based, emotionally resonant learning strategies may offer an antidote restoring attention, fostering emotional regulation, and re-establishing human connection in the classroom.

Given these considerations, this article identifies a clear gap in arts education: the underutilization of music as a psychological interpretive tool. To address this, the study repositions musical preference not as a passive cultural trait, but as an active pedagogical lens supported by Cattell's 16PF model for developing personalized learning strategies in the arts.

This article extends prior research with the following objectives:

1. To explain the relationship between musical preferences and personality based on Raymond Cattell's 16PF model;
2. To analyze how musical preference can serve as a foundation for personalized arts education strategies;
3. To offer a conceptual framework integrating music, personality psychology, and arts pedagogy within the context of affective education.

Employing a qualitative literature review approach, this study aims to expand the scope of arts education by placing the student defined by unique taste, character, and expression at the center of instructional design. It advocates for a human-centered model that treats music not only as content but as a reflective medium for meaningful, inclusive, and psychologically grounded learning.

METHOD

This study adopts a qualitative literature review method, which is suitable for exploring theoretical interconnections between musical preferences, personality traits particularly those defined in Raymond Cattell's 16 Personality Factors (16PF) and the personalization of arts education. A literature review method enables researchers not only to summarize previous findings, but also to synthesize them critically in order to generate new theoretical perspectives (Ridley, 2012; Torraco, 2005).

The modification applied in this study lies in the integrative approach used to connect three distinct domains: music psychology, personality theory, and pedagogical design into a single conceptual framework. This approach follows the guidelines of an *integrative literature review*, which permits the construction of novel models and educational insights through the critical analysis of multidisciplinary sources (Boote & Beile, 2005).

The procedures of this research consist of four detailed stages:

1. Identification and Selection of Literature: Academic databases such as Scopus, Google Scholar, and DOAJ were searched using keywords including "musical preference and personality," "16PF and music," "personalized learning," and "music in arts education." Inclusion criteria were based on publication quality (peer-reviewed), relevance to the topic, and recency (published within the last 10 years).
2. Thematic Categorization: Selected literature was grouped into three main categories: (a) personality psychology with an emphasis on 16PF, (b) empirical studies linking music preferences and personality traits, and (c) affective strategies in arts education. This categorization helped in structuring the analysis thematically.
3. Data Analysis Technique: A thematic content analysis was employed to

identify, code, and synthesize recurring patterns and relationships across studies. This technique, as outlined by Nowell et al. (2017), ensures rigor in qualitative research by enabling researchers to trace conceptual connections and highlight areas of theoretical convergence and divergence.

4. Synthesis and Conceptual Framework Development: Based on the thematic analysis, a conceptual model was constructed to demonstrate how musical preferences mediated by personality characteristics can serve as a foundation for affective and personalized learning strategies in arts education. This framework is aimed at addressing emotional engagement and learner individuality in formal education settings.

The reliability of the findings was enhanced through source triangulation, by comparing literature from different disciplines (psychology, music, education) and methodologies (theoretical, empirical, and meta-analytic studies). The selected sources were predominantly peer-reviewed journal articles and academic books, ensuring academic rigor and credibility.

By emphasizing both procedure and analytical depth, this method contributes not only to a theoretical understanding of music-personality relationships but also to practical implications in educational design. The result is a multidimensional framework that repositions music preference as a psychological and pedagogical tool within the domain of arts education.

RESULTS AND DISCUSSION

Personality Traits in the 16PF Model and Their Relevance to Musical Preferences

Raymond Cattell's 16 Personality Factors (16PF) model stands as one of the most detailed and empirically grounded frameworks for understanding human personality. Unlike

models that offer broader categorizations, such as the Big Five, the 16PF dives deeper into nuanced aspects of individual behavior, motivation, and emotional patterns. In the context of music psychology, this model offers valuable insights into how musical preferences might reflect or correspond to underlying personality traits. This sub-section will elaborate on the characteristics of the 16PF model, explore empirical studies connecting personality with music preferences, and analyze the pedagogical implications in the context of arts education.

The 16PF model identifies sixteen primary factors that constitute an individual's personality structure. These include: Warmth (A), Reasoning (B), Emotional Stability (C), Dominance (E), Liveliness (F), Rule-Consciousness (G), Social Boldness (H), Sensitivity (I), Vigilance (L), Abstractedness (M), Privateness (N), Apprehension (O), Openness to Change (Q1), Self-Reliance (Q2), Perfectionism (Q3), and Tension (Q4). Each of these traits represents a continuum, wherein individuals may score high or low, influencing their behaviors, attitudes, and affective responses (Rosenthal et al., 1973).

In the domain of music, preferences are far from arbitrary. Swaminathan and Schellenberg (2015) found that individuals with high levels of openness to experience can attribute correlated with traits such as Abstractedness and Sensitivity in the 16PF tend to enjoy complex and unconventional genres, such as classical music, jazz, or world music. These genres are often rich in structural variation, emotional nuance, and interpretive depth, aligning with the cognitive and emotional styles of individuals who score high in these traits.

Conversely, individuals with high scores in Social Boldness and Liveliness may be more inclined toward energetic and extroverted genres like pop, dance, or hip-hop. These genres often serve as social soundtracks, reflecting the externalized, sociable, and spontaneous nature of the listeners. This finding aligns with North, Hargreaves, and

O'Neill (2000), who argue that music serves as a tool for social identity expression, particularly among adolescents and young adults.

Meanwhile, high scores in traits such as Rule-Consciousness and Perfectionism may correlate with preferences for music that is orderly, structured, and technically precise such as baroque or classical compositions. These individuals may appreciate not only the aesthetic beauty of the music but also its alignment with cognitive preferences for order and predictability.

The 16PF also includes traits that relate to emotional sensitivity and psychological tension, such as Apprehension and Tension. Individuals with higher levels of these traits may gravitate toward melancholic or emotionally intense genres like indie, blues, or ballads. Music, in this context, becomes a medium of emotional resonance or catharsis. Deshmukh and Gupta (2022), utilizing the PANAS scale, found that emotional alignment between musical content and listener affect is a significant predictor of emotional impact.

Notably, studies such as Rosenthal et al. (1973) confirm the 16PF's validity across clinical and non-clinical populations, supporting its reliability in predicting affective patterns. The tool's capacity to distinguish psychological traits such as anxiety, emotional stability, and sensitivity makes it especially relevant for applications involving emotionally expressive media such as music.

Despite criticisms about factor overlap and structural ambiguity (Selimović et al., 2012; Byravan & Ramanaiah, 1996), the 16PF continues to serve as a robust instrument in both clinical and educational domains. Selimović et al. (2012) affirm its broad utility, noting that its revised edition retains considerable cross-cultural validity and applicability in assessing general personality traits across populations.

Moreover, Peter Saville and Steve Blinkhorn (1981) argue that the strength of 16PF lies not merely in scale homogeneity but in factorial validity. They contend that Cattell's emphasis on heterogeneous item construction,

supported by suppressor effects, enhances the construct validity of personality scales. This factor-analytic strength justifies its continued use in research linking personality with complex affective experiences such as music.

In modern contexts, even computational models such as those by Oliseenko & Abramov (2023) support the predictive relevance of 16PF dimensions using AI-based analysis of online behavior. Their work validates the assessment of several 16PF factors, including Warmth (A), Reasoning (B), Liveliness (F), Sensitivity (I), Privateness (N), and Openness to Change (Q1), through patterns in social media texts, reinforcing the psychological interpretability of these traits.

Pedagogically, this understanding can be transformative. By recognizing how different personality traits correspond with musical preferences, educators can design more personalized, emotionally resonant, and psychologically supportive learning environments. For example, students high in Sensitivity and Openness to Change may benefit from assignments that encourage musical exploration and emotional expression, whereas those high in Dominance and Perfectionism might excel in performance-focused tasks that reward technical mastery and structure.

Moreover, educators can use informal assessments or questionnaires based on the 16PF model to gain insight into students' personality profiles. This approach echoes the practice of differentiated instruction, which aims to tailor teaching strategies to students' individual needs and dispositions. In arts education, where affective engagement is as crucial as cognitive understanding, such personalization becomes even more critical.

The potential for using music as a psychological diagnostic tool also emerges from this discussion. As Cattell himself explored in early experiments (Cattell & Saunders, 1954), musical response can serve as an indirect yet powerful indicator of personality. While ethical and methodological

considerations must guide such applications, the theoretical potential remains significant.

Furthermore, the growing integration of music streaming analytics and personality prediction algorithms (e.g., Spotify's listening profiles) presents opportunities for data-informed educational personalization. By analyzing students' listening habits and aligning them with personality frameworks like the 16PF, educators could generate more accurate affective profiles and create emotionally intelligent curricula.

In conclusion, the 16PF model provides a richly textured map of personality that can meaningfully inform the understanding of musical preferences. These preferences, in turn, offer a valuable window into students' inner worlds—their emotions, motivations, and ways of engaging with the world. By leveraging this knowledge, arts educators can move beyond one-size-fits-all instruction and toward a pedagogy that honors individual identity, expression, and psychological depth. The integration of personality psychology and music preference thus opens a compelling pathway for the personalization of arts education in ways that are both evidence-based and human-centered.

The Interconnection Between Musical Preferences and Personality: Implications for Arts Education

Musical preferences are deeply embedded in the psychological and emotional fabric of an individual, often mirroring core aspects of personality. Building on the theoretical framework of the 16PF model, the interplay between music and personality becomes more than an aesthetic or recreational concern—it becomes a pedagogical resource with transformative potential. This sub-section explores how these interconnections manifest in the learning environment, and how educators can strategically respond through differentiated, emotionally resonant arts instruction.

Several studies indicate that musical preference can be used as a lens to understand

personality structures. For instance, Swaminathan and Schellenberg (2015) demonstrated that musical taste is systematically associated with openness to experience, a trait linked to creativity, imagination, and emotional responsiveness. Similarly, Rentfrow and Gosling (2003) found consistent correlations between preferences for reflective and complex music with higher scores in Openness and lower scores in Extraversion. These findings suggest that musical taste can function as an affective profile, revealing insights into how a learner processes emotion, structure, novelty, and meaning.

The interaction between music and personality has also been empirically examined through the lens of psychometric tools such as the 16PF. As detailed by Byravan and Ramanaiah (1996), the structural overlap between the 16PF dimensions and the Big Five personality traits reveals meaningful interpretive parallels. Traits such as Abstractedness (M) and Sensitivity (I) align with introspective and emotionally nuanced musical preferences, while Social Boldness (H) and Liveliness (F) are often expressed through preferences for socially active, rhythmically driven music. This mapping enables educators to translate psychometric profiles into pedagogical strategies that are both affectively and cognitively responsive.

To operationalize these connections within a classroom setting, Table 1 presents an integrated framework linking specific genres of music with key 16PF traits and their corresponding pedagogical implications. The mapping draws from psychological theories, empirical studies on musical preference, and affective learning models. It offers educators a tool to design instruction that resonates with students' emotional and personality-driven orientations..

Table 1. Genre-Based Mapping of Musical Preferences, 16PF Traits, and Pedagogical Implications

Music	Relevant	Theoretic	Implication
G en re	16P F Per son alit y Tra its	al Bas is	s for Arts Educ ation
Classica l / S y m p h o n y	Sensitivity , Abs trac ted nes s, Op enn ess to Ch ang e	Swaminat han & Sch elle nbe rg (20 15); Pop ova (20 21); Cat tell & Sau nde rs (19 54)	Facilitates deep reflec tion; suita ble for conce ptual and conte mplat ive artisti c instru ction.
Jazz Bl ue s	Liveliness, Ima gin ativ ene ss, Op enn ess	Vella & Mil ls (20 16); Pop ova (20 21); Wi dig er (20 17)	Encourages impr ovisa tion and freed om; ideal for creati ve expre ssion and

			emotional flexibility.	Electronic	ness, Communication	(1954); Swaminathan & Schelle (2015)	s and structure; suitable for character and moral education.
Pop / K-Pop	Warmth, Social Bonds, Entusiasms	Swaminathan & Schelle (2015); Vella & Mills (2016); Deshmukh & Gupta (2022)	Supports group activities and socio-emotional learning; resonates with collaborative and engaging environment.	Electronic / EDM	Tension, Excitability, Liveliness	Vella & Mills (2016); Popova (2021)	Offers sensory stimulation; applicable for dynamic activities but requires affective regulation.
Hip-hop / Rap	Dominance, Self-Reliance, Vigilance	Deshmukh & Gupta (2022); Widdiger (2017); Catlett (1957)	Effective for identity exploration, ratio, social critique, and assertive emotional themes.				
Traditional	Rule-based	Cattell & Saunders	Reinforces cultural value				

This genre-personality mapping is intended not as a rigid formula but as a pedagogical orientation, guiding teachers toward emotionally intelligent design. It also responds to the evidence that emotional engagement with music is a multifaceted phenomenon. Juslin and Västfjäll (2008) proposed a model outlining six psychological mechanisms that explain how music induces emotions: brain stem reflexes, evaluative conditioning, emotional contagion, visual imagery, episodic memory, and musical expectancy. These mechanisms suggest that

musical responses are rooted both in affective tendencies and in learned emotional cues.

Integrating these emotional mechanisms with personality traits enables educators to create learning environments that are emotionally intelligent. For instance, a student prone to emotional contagion or evaluative conditioning may find greater meaning in autobiographical or expressive music-making activities. Recognizing and incorporating these emotional processes aligns with the personalized teaching practices advocated by Goleman (1995), who emphasized emotional intelligence as foundational to educational success.

Schellenberg (2006) underscores the cognitive implications of music exposure, noting that although claims such as the "Mozart effect" have limited replicability, structured musical training is linked to broader cognitive functions, including linguistic and spatial abilities. He emphasizes that personality traits such as openness to experience may influence both the decision to pursue musical training and the resulting cognitive benefits, suggesting a selection bias rooted in personality profiles. Schellenberg (2015) further challenges the causal assumptions in the relationship between music training and cognitive enhancement. He argues that the apparent benefits of music lessons often reflect pre-existing personality traits such as openness to experience or conscientiousness that predispose individuals toward musical engagement. In fact, musically trained individuals tend to differ systematically from untrained peers in traits that align with musical aptitude and academic success, including higher general intelligence and socio-emotional awareness.

In light of these perspectives, the arts classroom becomes a space where both emotional and cognitive dimensions are addressed. Through informal assessments of musical preferences, educators can make inferences about students' affective profiles. These insights can be translated into personalized lesson plans, inclusive groupings,

and differentiated assessments that resonate with the learner's psychological orientation.

For example, a student high in Apprehension (O) and Sensitivity (I) may prefer emotionally rich or melancholic music and benefit from solo reflective assignments. In contrast, a student high in Liveliness (F) and Social Boldness (H) might thrive in ensemble-based, upbeat musical environments. Incorporating such knowledge helps reduce affective friction and supports more inclusive, empathetic instruction.

To visually summarize this relationship, Figure 1 illustrates the core framework proposed in this study. Personality traits, as identified by Cattell's 16PF, influence individual musical preferences, which in turn inform the design of arts pedagogy. This framework provides educators with a dynamic structure to personalize learning based on psychological insight.

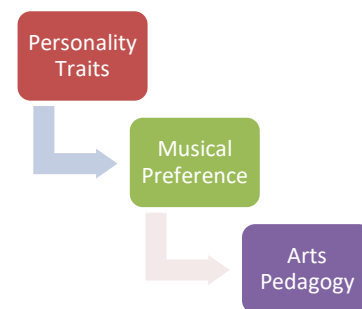


Figure 1. Proposed Framework for Arts Education Based on Personality-Driven Musical Preferences.

Ultimately, the convergence of empirical findings on personality, cognitive science, and music education supports a more holistic, student-centered approach to arts learning. By treating musical preference as a psychologically loaded expression rather than a trivial choice, educators can unlock deeper levels of engagement and growth.

Conceptual Framework for Personalized Arts Education Through Music

Personalization in arts education is a key approach to addressing the diverse

characteristics of students, especially in today's disruptive digital era that demands meaningful, relevant, and humanistic learning experiences. In this context, music functions not only as a means of artistic expression but also as a reflection of personality and a powerful pedagogical tool. Music touches the affective, social, and cognitive domains of students simultaneously and can be used as the basis for designing arts education strategies tailored to individual preferences and unique personalities. By employing Raymond Cattell's 16PF personality theory as a conceptual foundation, music becomes an entry point for identifying students' personality tendencies that impact how they learn and express themselves artistically.

The 16 Personality Factors (16PF) model describes human personality through 16 interacting factors, including dimensions such as liveliness, openness to change, sensitivity, tension, and rule-consciousness. When these factors are linked with musical preferences, teachers can gain a comprehensive understanding of how students process aesthetic experiences and choose forms of artistic expression. For instance, students who prefer classical or jazz music tend to be reflective and abstract thinkers, while those who gravitate toward pop or hip-hop may be more social and energetic. These findings are aligned with the research of Swaminathan and Schellenberg (2015), which highlights a significant correlation between music preferences and personality.

To apply personalization in music-based arts education, a mapping framework is required that integrates musical preferences, personality traits, and teaching strategies. Zhang and Kim (2025) found that individualized teaching methods based on students' preferences and learning styles significantly impact emotional engagement and technical mastery in practical music education. Their study emphasized that personalization must be grounded in students' actual needs rather than assumptions of homogeneity. Learning style differences emerged as the most

influential factor in determining the effectiveness of personalized teaching strategies (Zhang & Kim, 2025).

The compatibility of teaching strategies with students' musical preferences is further supported by the concepts of Musical Futures and Hip-Hop Based Pedagogy as explored by Gage et al. (2019). In their case study on curriculum development in Canadian urban schools, they illustrated how teaching programs based on students' musical cultures, such as hip-hop, significantly increased participation and emotional engagement. This approach positions students as active agents in the learning process, where popular music becomes a bridge toward creative expression and cultural identity.

This framework is rooted in the understanding that music is not just sound but an affective system and social representation. Therefore, arts teachers can design learning environments that resonate with the emotional rhythms and characteristics of their students. Vacarciuc (2023), in her concept of ART-pedagogy, emphasizes the importance of integrating the arts into holistic experiences that combine musical, visual, and linguistic perception. Within this framework, music serves as a link between art forms, fostering students' perceptual, reflective, and creative competencies. ART-pedagogy promotes a form of education that is not only aesthetic but also spiritual and social, advocating that arts education shapes a harmonious personality sensitive to cultural values.

The proposed pedagogical model consists of four integrated stages. First, teachers conduct personality and musical preference profiling through surveys, observations, or reflective journals. This data is then used to build classroom atmospheres that align with students' affective energies. For example, reflective students respond better to ambient or classical music as a backdrop during visual art lessons, while more dynamic and social students thrive in settings energized by fast-tempo music and group collaboration. These adjustments are not superficial; they are

strategic methods for unlocking deeper affective engagement in the artistic process.

The next stage involves differentiated teaching strategies based on students' musical characteristics and personalities. Here, educators design project-based tasks tailored to each student's expressive tendencies. Students drawn to complex music may benefit from creative problem-solving challenges, while socially inclined students are guided toward performative arts projects. Zhang & Zhang (2025) demonstrated that personalized learning systems when supported by dynamic algorithms and real-time feedback greatly enhance student engagement in piano education. Their use of graph convolutional neural networks allowed for personalized content delivery based on individual needs and learning styles, leading to student satisfaction rates exceeding 94.7%.

Evaluation practices must also evolve. Instead of merely assessing final outcomes, educators should evaluate how students respond to music, how it mediates their visual or performance art, and how personal narratives emerge through music-inspired artwork. In this context, Shao and Concina (2025) advocate for multidimensional assessment systems that consider technical skills alongside creativity, emotional expression, and artistic authenticity.

Despite the promise of this approach, several challenges remain. One significant barrier is the lack of teacher training in understanding the interplay between music, personality psychology, and differentiated pedagogy. Additionally, the rigid structures of formal education often hinder the application of flexible and responsive personalization strategies. In this regard, technological integration offers a potential solution. Adaptive learning systems based on AI such as those developed in the study by Zhang & Kim (2025) demonstrate how personalized content and strategies can be dynamically adjusted in real-time, supporting continuous and individualized learning. Furthermore, this approach opens the possibility for deeper integration into national arts curricula. Curricula can incorporate

multimedia projects linking visual art, music, and personal storytelling. This aligns with the idea that arts education should not be peripheral but central to forming cultural awareness and personal identity. As Li Yunkun (2024) argues, personalization in arts education helps students realize their potential through individualized pathways enhancing creativity, expressiveness, and a comprehensive understanding of art as a way of thinking and living. In this model, music is not merely a subject but a mediator between personality and expression. It enables more inclusive, reflective, and relevant arts education. By integrating music as an affective language within the arts curriculum, educators do not just address pedagogical needs they also anticipate the challenges of the future, where education must become more personalized, interdisciplinary, and learner-centered.

CONCLUSION

This study highlights the significance of musical preferences as psychological indicators and pedagogical tools within the realm of arts education. By drawing on Raymond Cattell's 16 Personality Factors (16PF) model, the research establishes a strong theoretical foundation for understanding how individual personality traits shape and reflect music taste. The integration of personality psychology and music preference offers a compelling basis for developing personalized learning strategies that are emotionally resonant and cognitively aligned with students' inner dispositions.

The conceptual framework presented underscores the pedagogical value of aligning instructional methods with students' affective and psychological profiles. Personalized arts education, grounded in musical preference and personality assessment, not only enhances emotional engagement but also fosters deeper artistic expression and learner autonomy. Furthermore, the model responds to contemporary educational challenges such as digital disengagement and affective disconnection by offering a more human-

centered and responsive approach to learning design.

The impact of this research lies in its potential to redefine the role of music in education not merely as content but as a diagnostic and developmental tool. This approach encourages educators to adopt more empathetic, differentiated, and inclusive teaching practices, ultimately cultivating a generation of learners who are not only artistically competent but also emotionally attuned and self-aware. Future research and teacher training are essential to fully implement this model, ensuring that music-based personalization becomes a sustainable and transformative element of twenty-first-century arts education.

REFERENCES

- Afwa, M. E., Utomo, U., & Cahyono, A. (2021). Musical creativity and character education values in performing arts activities at SMA Negeri 1 Kedungwuni. *Catharsis: Journal of Arts Education*, 10(1), 1–9.
- Boote, D. N., & Beile, P. (2005). Scholars before researchers: On the centrality of the dissertation literature review in research preparation. *Educational Researcher*, 34(6), 3–15.
- Byravan, A., & Ramanaiah, N. V. (1996). Reply to comments on Byravan and Ramanaiah's 1995 study of the structure of the 16PF fifth edition from the perspective of the five-factor model. *Psychological Reports*, 79(1), 123–126.
- Cattell, R. B. (1987). *Intelligence: Its structure, growth and action* (Vol. 35). Elsevier Science.
- Cattell, R. B., Eber, H. W., & Tatsuoka, M. M. (1970). *Handbook for the Sixteen Personality Factor Questionnaire (16PF)*. Champaign, IL: Institute for Personality and Ability Testing.
- Concina, E. (2025). Multidimensional assessment in personalized music instruction: Balancing technical skill and emotional expression. *Journal of Artistic Education Studies*, 9(1), 45–62.
- Deshmukh, A., & Gupta, A. (2022). Impact of musical mood on emotional response: An empirical study using the PANAS scale. *Indian Journal of Psychology and Education*, 12(1), 56–67.
- Deshmukh, R., & Gupta, R. (2022). Effect of music on mood using PANAS scale. *International Journal of Health Sciences*, 6(S1), 7244–7251.
- Gage, S. H., Tripp, D. E., & Stevens, R. (2019). Music, culture, and voice: A case study of hip-hop pedagogy and musical futures in urban classrooms. *Canadian Journal of Music Education*, 61(2), 15–32.
- Giranti, E. D., Lestari, W., & Hartono, B. (2019). Character education values in Retno Tanjung dance performance as an identity dance of the city of Tegal. *Catharsis: Journal of Arts Education*, 8(3), 313–320.
- Juslin, P. N., & Västfjäll, D. (2008). Emotional responses to music: The need to consider underlying mechanisms. *Behavioral and Brain Sciences*, 31(5), 559–621.
- Li, Y. (2024). Personalized development in music education: A theoretical and practical review. *International Journal of Aesthetic Learning*, 12(3), 118–135.
- Nave, G., Minxha, J., Greenberg, D. M., Kosinski, M., Stillwell, D., Rentfrow, P. J., & Weinstein, D. (2018). Musical preferences predict personality: Evidence from active listening and Facebook Likes. *Psychological Science*, 29(8), 1145–1158.
- North, A. C., Hargreaves, D. J., & O'Neill, S. A. (2000). The importance of music to adolescents. *British Journal of Educational Psychology*, 70(2), 255–272.
- Nowell, L. S., Norris, J. M., White, D. E., & Moules, N. J. (2017). Thematic analysis: Striving to meet the trustworthiness criteria. *International Journal of Qualitative Methods*, 16(1), 1–13.

- Oliseenko, V. D., & Abramov, M. V. (2023). Predicting the results of the 16-factor R. Cattell test based on the analysis of text posts of social network users. *Scientific and Technical Journal of Information Technologies, Mechanics and Optics*, 23(2), 279–288.
- Popova, N. V. (2021). Influence of musical preferences on the psychological state of university students. *Vestnik of Minin University*, 9(1), 8.
- Rentfrow, P. J., & Gosling, S. D. (2003). The do re mi's of everyday life: The structure and personality correlates of music preferences. *Journal of Personality and Social Psychology*.
- Ridley, D. (2012). *The literature review: A step-by-step guide for students*. SAGE Publications.
- Rosenthal, S. V., Aitken, R. C. B., & Zealley, A. K. (1973). The Cattell 16PF personality profile of asthmatics. *Journal of Psychosomatic Research*, 17(1), 9–14.
- Saville, P., & Blinkhorn, S. (1981). A critique of the 16PF. *Personality and Individual Differences*, 2(3), 303–317.
- Schellenberg, E. G. (2006). Music and nonmusical abilities. *Annals of the New York Academy of Sciences*, 999(1), 356–364.
- Schellenberg, E. G. (2015). Music training and speech perception: A gene–environment interaction. *Annals of the New York Academy of Sciences*, 1337(1), 170–177.
- Selimović, A., Tomić Selimović, L., & Hasković, M. (2012). Validacija egzistencije faktora drugog reda u Cattellovom inventaru ličnosti 16PF. *Primenjena Psihologija*, 5(4), 319–334.
- Shao, J. (2025). Comprehensive evaluation systems in arts education: Integrating affect, skill, and creativity. *Journal of Arts Pedagogy and Performance*, 14(2), 88–104.
- Swaminathan, S., & Schellenberg, E. G. (2015). Current emotion and music preferences: Do personality traits moderate the link? *Psychology of Music*, 43(6), 847–863.
- Swaminathan, S., & Schellenberg, E. G. (2015). Current emotion research in music psychology. *Emotion Review*, 7(2), 189–197.
- Swaminathan, S., & Schellenberg, E. G. (2015). Musical competence, music training, and musical preferences: Effects of cognitive ability and personality. *Journal of Research in Personality*, 58, 17–23.
- Torraco, R. J. (2005). Writing integrative literature reviews: Guidelines and examples. *Human Resource Development Review*, 4(3), 356–367.
- Vacarciuc, M. (2023). Strategies for optimizing the quality of the music educational process by validating specific aspects of art-pedagogy. *Conference Proceedings: UPSC International Conference on Education*, 2(1), 382–385.
- Vella, E. J., & Mills, G. (2016). Personality, uses of music, and music preference: The influence of openness to experience and extraversion. *Psychology of Music*, 45(3), 338–354.
- Wahyu, L. (2019). Internalization of character values of Cèpètan dance performance at Manunggal Putra Budaya Group in Karanggayam District Kebumen Regency. *Catharsis: Journal of Arts Education*, 8(2), 206–212.
- Widiger, T. A. (Ed.). (2017). *The Oxford Handbook of the Five Factor Model*. Oxford University Press.
- Zhang, X., & Zhang, Z. (2025). Research on optimizing personalized teaching models in university piano courses using reinforcement learning algorithms. *Applied Mathematics and Nonlinear Sciences*, 10(1), 1–15.
- Zhang, Y., & Kim, H. (2025). Innovative pathways for practical music teaching: An integrated perspective of grounded theory and analytic hierarchy process. *Asia-Pacific Journal of Convergent Research Interchange*, 11(3), 299–319.