

The Research on the Communication Mechanism of Western Popular Music and the Construction of Youth Cultural Identity in the Internet Era

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Abstract: This study explores how the dissemination mechanisms of Western pop music in the internet context influence the cultural identity construction of China's Gen Z listeners. Algorithmic recommendations, community interactions, and cross-media narratives on digital platforms are reshaping the musical aesthetics and cultural cognition of young groups, but their specific mechanisms remain unexamined in systematic research. The study randomly selected sixteen China's Gen Z youth (aged 18-25) and divided them into 2 groups: control group exposed only to traditional music platforms, and experimental group exposed to algorithmic recommendations and social media interaction features. Researchers measured differences in musical preferences, cultural identity, and value orientations among users with varying exposure frequencies and interaction depths through content analysis, questionnaires, and in-depth interviews.

The results demonstrated that the experimental group exposed to algorithmic recommendations and social interaction features showed significant improvements in interpreting cultural symbols, emotional resonance, and identity formation within Western pop music ($p < 0.05$). These findings indicate that digital platforms' algorithmic recommendations and community interactions effectively facilitate cross-cultural communication, enhancing cultural engagement and identity construction among youth populations. However, this phenomenon may also lead to fragmented and superficial cultural consumption. Although the study was constrained by limited sample size and regional representativeness, it validates the substantial potential of digital platforms as cross-cultural communication channels, providing empirical evidence for

understanding youth cultural identity in a globalized context.

Keywords: The Internet Era; Pop Music; Platform Interaction; Cultural Identity; Generation Z

1. Introduction

Music consumption is a core component of modern cultural life. In the digital era, the way music is disseminated has undergone fundamental changes, with streaming platforms and social media becoming the primary channels (Morris, 2015)^[7]. China's Generation Z (born between 1995 and 2009) grew up in the internet age, and their musical aesthetics and cultural identity are deeply influenced by the digital environment (Cheng, 2025)^[1]. According to relevant studies, Generation Z are "digital natives," who "discover music through algorithmic recommendations, share experiences via social media, and construct identities through cross-platform interactions"(Liu, 2025)^[6]. However, how Western pop music influences the cultural identity of China's youth through digital platforms remains a topic that lacks in-depth exploration.

This study explores how algorithmic recommendations, community interactions, and cross-media narratives on digital platforms shape Generation Z's aesthetic cognition and cultural identity of Western pop music in China. The core research question is: Can the technical architecture and social functions of digital platforms facilitate cross-cultural communication and help young groups construct multicultural identities? This study hypothesize that the combination of algorithmic recommendations and social interactions can enhance cultural participation and identity among young groups without diminishing cultural depth.

2. Literature Review

Through literature review, identified relevant academic works pertaining to this study. Sinnreich (2007) demonstrated how cross-media narratives reshape audience engagement^[8]. Kask and Öberg (2019) revealed how digital platforms transform audiences from passive consumers into active participants^[4]. This theoretical framework provides a foundation for understanding user-generated content in music dissemination.

Secondly, Geurts and Cepa (2023) examined how streaming platforms reshape users' music consumption habits through personalized recommendations^[3]. Li (2025) either broaden musical horizons or reinforce existing preferences, a paradoxical phenomenon that significantly impacts cross-cultural communication^[5].

Our research synthesizes these perspectives by examining the combined effects of algorithmic recommendations and social interactions. Unlike single-platform analyses or macro-cultural studies, our design focuses on specific technology-culture interaction mechanisms, evaluating measurable cultural cognitive variables (depth of symbolic interpretation, degree of emotional engagement, strength of identity recognition) (Elberse, 2008; Wang & Chen, 2023)^{[2][9]}. This focus enables us to isolate critical moments of platform effects, where minor changes in technical architecture may disproportionately impact cultural identity.

3. Methodology

This study conducted a controlled experiment involving 16 volunteers (8 males and 8 females) aged 18-25. Participants were randomly selected and exhibited diverse educational backgrounds, musical experiences, and digital platform usage habits. The primary objective was to explore how digital platform functionalities enhance cross-cultural communication effects and cultural identity construction.

The volunteers were randomly divided into two groups, each consisting of 8 members (4 males and 4 females).

Control group: These groups listened to Western pop music playlists on traditional music platforms (e.g., local music players) without algorithmic recommendations or social features. Participants recorded their listening experiences and musical perceptions, and completed a cultural identity scale. This task aimed to reflect the level of cultural cognition under traditional music consumption patterns.

Experimental group: These groups used fully functional digital platforms (e.g., Spotify, TikTok) and were exposed to algorithmic recommendations, user reviews, user-generated content, and community interactions. Before the main listening task, they experienced the platform's social features, including reviewing comments, sharing songs, and watching user-generated videos. This design aimed to encourage platform interaction and cultural exploration.

After the experiment, the researchers recorded the number of music discoveries, platform interaction frequency, and cultural identity scores. The data were analyzed through content analysis and questionnaire scales to determine whether the digital platform features had a positive impact on cultural cognition and identity.

4. Results

This study collected data and calculated the mean scores of the experimental group and control group in terms of cultural symbol interpretation, emotional engagement, and identity recognition. Descriptive and inferential statistical methods were employed to analyze and understand cultural cognitive patterns and observed phenomena.

4.1 Descriptive Analysis

The descriptive analysis of the selected indicators, as shown in Table 1, reveals that the experimental group scored higher than the control group on all cultural cognition and platform interaction behaviour indicators.

Table 1. Descriptive Analysis of the Indicators

Indicator	Control Group Mean	Experimental Group Mean	Absolute Difference
Cultural Cognition Indicators			
Symbolic Interpretation Depth(1-10)	4.563	7.225	2.662
Emotional Engagement Level(1-10)	3.888	6.813	2.925
Identity Recognition Strength(1-10)	4.1	6.525	2.425
Platform Interaction Indicators			
Number of Music Discoveries	6.25	15.38	9.13

Number of Comments Viewed	0.88	12.5	11.62
Number of Shares	0.25	6.37	6.12
Video Viewing Duration(Minute)	2.13	25.25	23.12
Platform Stay Duration(Minute)	27.25	55	27.75

Specifically, the absolute differences between the two groups in terms of platform stay duration and video viewing duration were as high as 27.25 and 23.12 minutes, respectively, indicating that the experimental group held an absolute advantage in this regard.

4.2 Difference Analysis

A T-test was applied to compare the mean values of the two groups for each indicator. The test was used to determine whether the observed differences were statistically significant, with the significance level (alpha, α) set at 0.05.

As shown in Table 2, the T-test results for the cultural cognition dimensions revealed statistically significant differences in all measured cultural cognition indicators, with all

p-values being less than 0.05.

As shown in Table 3, this is the analysis of the differences in the platform interaction dimension. From the table, it can be seen that the significance is also within the range of 0.05. Therefore, there are also differences in this dimension among different groups.

4.3 Correlation Analysis

A detailed analysis of the correlations among the variables is presented, as shown in Table 4. From the table, it can be observed that there is a certain correlation between the various dimensions of cultural cognition and the various dimensions of platform interaction, as it is statistically significant at the 0.01 level.

Table 2. Independent Samples T-test Results for Cultural Cognition Indicators

Indicator	t	df	Sig.	Ave	Result
Symbolic Interpretation Depth	-11.672	14	p<0.001	-2.6625	Remarkable
Emotional Engagement Level	-12.165	8.982	p<0.001	-2.925	Remarkable
Identity Recognition Strength	-9.937	14	p<0.001	-2.425	Remarkable

Table 3. Analysis of Differences in Platform Interaction Dimensions

Indicator	t	df	Sig.	Ave	Result
Number of Music Discoveries	-8.319	14	p<0.001	-9.125	Remarkable
Number of Comments Viewed	-10.971	8.168	p<0.001	-11.625	Remarkable
Number of Shares	-8.76	7.809	p<0.001	-6.125	Remarkable
Video Viewing Duration	-11.07	8.704	p<0.001	-23.125	Remarkable
Platform Stay Duration	-8.186	14	p<0.001	-27.75	Remarkable

Table 4. Correlation Analysis

Variable	Symbolic Interpretation Depth	Emotional Engagement Level	Identity Recognition Strength	Total Score	Number of Music Discoveries	Number of Comments Viewed	Number of Shares	Video Viewing Duration	Platform Stay Duration
Symbolic Interpretation Depth									
Emotional Engagement Level	0.987**	1							
Identity Recognition Strength	0.985**	0.992**	1						
Total Score	0.994**	0.997**	0.996**	1					
Number of Music Discoveries	0.976**	0.962**	0.962**	0.970**	1				
Number of Comments Viewed	0.977**	0.980**	0.975**	0.981**	0.987**	1			
Number of Shares	0.955**	0.954**	0.951**	0.957**	0.983**	0.989**	1		
Video Viewing Duration	0.977**	0.981**	0.975**	0.982**	0.986**	0.998**	0.985**	1	
Platform Stay Duration	0.978**	0.970**	0.975**	0.978**	0.993**	0.988**	0.976**	0.989**	1

** At the 0.01 level (two-tailed), the correlation is significant.

4.4 Regression Analysis

To further verify the extent to which platform

interaction affects cultural cognition, two representative sets of data were selected for regression analysis, as shown in Table 5. From the perspective of the impact of the total score on the platform stay time, since the P-value is

less than 0.01, it can be concluded that the platform stay time has a significant impact on the total score. As for position B with a value of 0.27, which is greater than 0, it indicates a positive impact.

To further verify the stability of the model, it can be seen from the residual plot in Figure 1 and the

Table 5. Regression Analysis of the Impact of Platform Stay Time on the Overall Score

Variable	Non-standardized Coefficient		Standardization Coefficient	t	p	R ²	Adjustment R ²	F
	B	Standard error	Beta					
(Constant)	5.467	0.677		8.077	0.000	0.956	0.953	305.361
Platform Stay Duration	0.27	0.015	0.978	17.475	0.000			

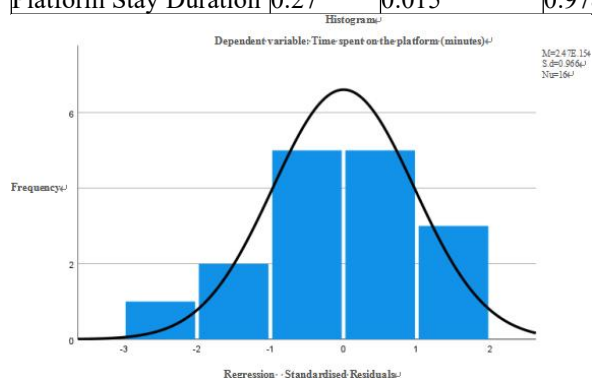


Figure 1. Residual Plot

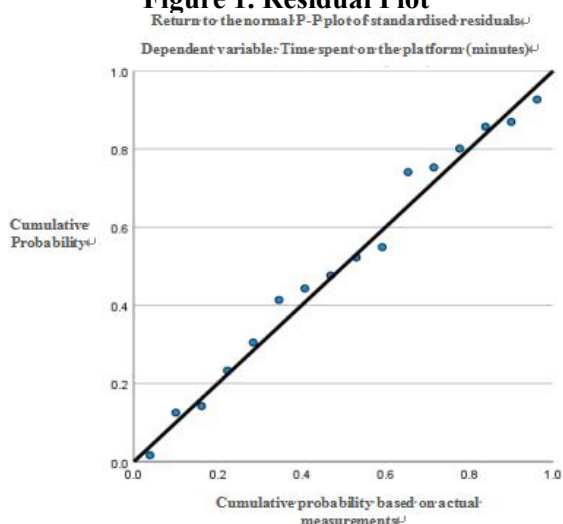


Figure 2. Normal Distribution P-P Plot

5. Discussion

The results clearly demonstrate that algorithmic recommendations and social interaction features significantly enhance cultural cognitive depth and identity strength. The experimental group appears more inclined to explore the cultural significance behind music and connect with global youth culture, which may help them build a more open cultural identity. Platform features may function by breaking down information barriers and creating opportunities for participation.

normal P-P plot in Figure 2 that this model follows a normal distribution and there is no significant systematic deviation. This result provides important support for the validity of the previous T-test, correlation analysis, and regression analysis.

5.1 Impact of Digital Platform Functions

The cultural awareness enhancement observed in the experimental group can be attributed to algorithmic recommendations and social interaction features, which served as catalysts for cultural exploration. By engaging with personalized recommendations and participating in community discussions, participants were able to transcend their existing musical preferences and discover new cultural symbols. This created a more open and diverse cultural environment, stimulating deeper cultural reflection and identity exploration.

5.2 Risks of Cultural Consumption Fragmentation

While the experimental group demonstrated stronger cultural engagement, platform usage may also lead to distraction and superficial consumption. This suggests that algorithmic curation can help focus cultural exploration, but over-reliance on recommendations might limit cultural horizons. It reminds us of the importance of balancing technological convenience with cultural depth, offering valuable insights for building long-term cultural identity.

5.3 Limitations of the Study

The study has several limitations, including a small sample size (only 16 participants) and its focus on young people in first-tier cities. Therefore, the results may not be generalizable to broader geographical and age groups. Future research exploring the effects of different platform types (e.g., short videos vs. long audio) or testing whether positive effects persist across cultural contexts would be valuable. Nevertheless, this study provides evidence that digital platforms can serve as effective channels for cross-cultural communication, particularly for digital natives.

6. Future Work

While this study has yielded encouraging findings on digital platforms and cross-cultural communication, several avenues warrant further exploration. Firstly, the study's sample size and survey population (Generation Z in first-tier cities) may limit the external validity of the results. Future research could incorporate larger, more diverse samples—such as those from different regions, educational backgrounds, or age groups—to determine whether the observed effects hold true across varying contexts.

Furthermore, expanded research into diverse platform types (with varying algorithmic logic or social features) could more precisely identify which technical characteristics enhance cultural awareness and identity. Such studies would also examine the long-term impacts of digital platform usage, as this research only quantified short-term effects. Finally, investigating how these platforms interact with other cultural practices (e.g., offline music events, face-to-face interactions) could provide deeper insights for optimizing cross-cultural experiences in the digital age. By adopting broader perspectives and research domains, future studies could develop more advanced recommendations for cross-cultural communication strategies on digital platforms.

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