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Algorithmic Recommendation and Cultural Identity: How Chinese Social Media Shapes International Students' Cultural Experiences

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Abstract. This study examines how algorithmic recommendation systems on Chinese social media platforms shape the cultural identity of international students in China. Through in-depth qualitative interviews with 20 students from different countries, the research explored how algorithmically curated content on Douyin, WeChat, and Xiaohongshu mediates daily cross-cultural encounters. The findings show that algorithmic recommendations, through repeated exposure and personalized content push, have a profound impact on the way participants engage with, participate in, and interpret Chinese cultural narratives. Participants do not passively receive platform content. Instead, they engage in selective participation, active negotiation, and meaning-making within algorithmically structured information environments. Although most participants reported an increase in familiarity with Chinese culture and the development of positive perceptions, some participants also expressed conflicting moments in their identity, highlighting the complexity and non-linear characteristics of the process of cultural identity formation. This study focuses on the structural role of algorithmic recommendations in constructing cultural experiences, providing empirical supplements from the Chinese social media ecosystem for existing discussions on topics such as digital media, cultural identity, and the mediated experiences of international students.

Keywords: algorithmic recommendation, cultural identity, international students, Chinese social media, identity negotiation

1. Introduction

In the current era of deep digital penetration, social media platforms have increasingly become an important field for the production, dissemination, and negotiation of cross-cultural meaning. For international students in China, encounters with the host culture no longer occur only through offline experience, but are increasingly filtered and shaped by the algorithmic mechanisms of platforms such as Douyin, WeChat, and Xiaohongshu. Driven by their unique technological affordances, these platforms have moved beyond the simple transmission of information and have begun to shape how users perceive and interpret cultural narratives.

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Existing research has examined the relationship between digital media and cross-cultural adaptation, but it often treats social media as a neutral communication tool. However, these studies pay insufficient attention to how algorithmic curation structures cultural contact, which leaves a certain theoretical gap. In response to this oversight, the present study investigates the subtle yet profound influence of algorithmic recommendation systems on the cultural identity of international students within the specific urban context of Chengdu. By synthesizing qualitative insights, the research interrogates how the triad of repeated exposure, personalized engagement, and interpretive agency operates within platform-mediated environments to shape the fluid and ongoing process of identity negotiation. Drawing on semi-structured interviews with 20 international students recruited via purposive and snowball sampling and representing diverse regional backgrounds, the study employs thematic analysis to examine these dynamics empirically.

2. Literature review

2.1. Social media and cultural identity

The interaction between social media environments and cultural identity has become one of the core issues in media and communication research. In this context, cultural identity is no longer seen as a static attribute, but a fluid, open, and continuously negotiated process. In Hall's foundational theoretical framework, identity is understood as a construction that is continuously produced through representation and discourse, fundamentally transcending traditional assumption about stability and pre-discursive essence [1]. Extending this logic to the digital realm, identity in the "network society" is increasingly recognized as a primary source of meaning, inextricably shaped within mediated environments [2]. However, a critical oversight persists: much of the extant scholarship continues to operate under the assumption of platform neutrality, thereby overlooking the structural underpinnings of algorithmic systems in governing and filtering cultural exposure.

2.2. International students and digital cultural experience

Existing research on the international student community has long focused on two core issues: cross-cultural adaptation and identity negotiation. Within this tradition, John W. Berry's acculturation framework delineates four adaptive strategies—integration, assimilation, separation, and marginalization—through which individuals negotiate encounters with cultural difference [3].

With the deep penetration of digital technology into daily life, the role of social media in shaping cross-cultural experiences for international students is increasingly attracting widespread attention from academia. Empirical research has shown that digital platforms play a dual resource role in cross-cultural adaptation, enabling individuals to maintain connections and interactions with both their home country culture and the host country culture simultaneously. Sawyer and Chen, for instance, demonstrate that social media platforms sustain transnational social ties and enable continuous cross-cultural interaction, while Forbush and Foucault-Welles reveal that differential patterns of platform engagement not only shape acculturation strategies but also mediate the ways in which students negotiate a sense of belonging [4, 5].

However, there is still a relative lack of systematic attention to the specific mechanisms by which digital platforms construct cultural experiences. Especially, the issue of how algorithmic recommendation systems organize cultural contact patterns and mediate identity negotiation in this process still needs to be further elaborated at the theoretical level-and this research gap is

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particularly urgent in the unique regulatory framework and infrastructure context of China's digital ecosystem.

2.3. Algorithmic mediation and platform power

Numerous academic studies have examined the ways in which algorithmic systems shape the users' experience of digital platforms. Platform algorithms are not neutral channels for information transmission, but actively organize content visibility and construct structures for information flow in highly non-arbitrary ways. Tarleton Gillespie points out that algorithms embed specific assumptions about relevance and importance, which shape what users encounter and how they subsequently interpret it [6]. Taina Bucher further suggests that algorithmic power operates not only through explicit filtering, but also through repeated processes of selection and prioritization that shape user expectations and attention [7].

The above dynamics have particular analytical significance in the Chinese digital context. Plantin and de Seta conceptualize WeChat as an infrastructure form shaped by the logic of technological nationalism, highlighting the structural uniqueness of China's platform ecosystem [8]. Keane and Yu focus on the global influence of the continuous expansion of Chinese digital platforms and their constitutive role in cultural experiences, leading to the core issue of how algorithm recommendations mediate cross-cultural encounters [9].

The above research indicates that algorithmic systems play an important role in shaping digital experiences and influencing the visibility of cultural content. However, existing research still has shortcomings: although the academic community has paid attention to the social media use of international students and the organization of algorithms in online environments, there is relatively little in-depth exploration of how algorithm recommendations can intervene in the process of cultural identity formation in the Chinese digital context. In other words, further analysis is needed on how the content pushed by algorithms affects the daily cultural contact, cultural understanding, and identity recognition of international students, how international students interpret and reflexively respond to such content, and how these processes accumulate to facilitate identity negotiation, all of which require further exploration, and relevant qualitative evidence is still lacking. In view of this, this study examines how algorithmic recommendation systems on Chinese social media platforms shape the cultural identity negotiation process of international students living in Chengdu.

3. Findings

3.1. Repeated exposure and cultural familiarity

The interviews show that international students are constantly exposed to Chinese content in their daily media use, which is mainly achieved through the algorithm recommendation mechanism of Douyin, WeChat, Xiaohongshu and other platforms. The cultural content pushed by the platform not only constitutes an important part of their daily digital experience, but also to some extent affects their understanding and perception of Chinese culture. Rather than being actively sought, such content is continuously surfaced through recommendation systems, gradually shaping cultural perception in ways that may operate below the threshold of conscious awareness.

Content related to technological infrastructure is one of the more prominent types of recommendations in this category. Respondents generally mentioned that they often see short videos about China's high-speed rail networks, mobile payment systems, and food delivery services in the

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information flow. This type of content appears frequently and shapes their initial imagination and expectations of the functioning of Chinese society before they have fully developed an offline experience. As one participant noted:

"Before coming to China, I kept seeing videos about mobile payments and QR codes. Honestly, I thought it might be a bit exaggerated. But when I got here, I realized, no, it's really like that." *(Male student, Nigeria, 24)*

This statement indicates that the repeated presentation of algorithm recommendations is an important mechanism affecting cultural cognition before coming to China. By continuously pushing specific types of Chinese content, the platform has to some extent shaped respondents' initial understanding and imagination of Chinese society before they have gained on-site experience [10].

The reactions triggered by food-related content are quite complex. Some respondents initially felt a sense of distance due to differences in dietary habits and religious taboos, but through continuous and personalized content exposure, they gradually developed an understanding and adaptation to Chinese food culture:

"At first, I was worried about food because I'm Muslim and I don't eat pork. I often saw pork dishes on Douyin, so I was not sure what I could eat or what I needed to avoid. Later on, I started following accounts that introduced Chengdu Halal cuisine, and the situation gradually improved. After a while, the algorithm also started recommending more of this kind of content to me." (*Male student, Pakistan, 23)*

In this process, algorithm recommendations not only affect the way respondents initially come into contact with Chinese culture, but also continue to influence their cultural participation path in subsequent use. Some content may cause emotional detachment in the early stages, but sustained personalized exposure can gradually promote the establishment of a sense of familiarity and drive positive cultural reevaluation under specific conditions. However, the reactions of participants showed a considerable degree of variability - which suggests that exposure mediated by algorithms does not necessarily point to a unified cultural outcome, and its actual effect largely depends on the combined effects of individual background, pre-existing tendencies, and identity positions.

3.2. Personalized recommendation and selective engagement

In addition to influencing the way respondents are exposed to cultural content, algorithmic recommendations also further shape their interactive behavior and usage habits on the platform. Participants reported a series of active participation practices such as content publishing, sharing, and interaction, indicating that their platform behavior is not only consumer oriented, but also structurally embedded in platform specific visibility and ranking mechanisms.

The platform migration from TikTok to Douyin can better reflect this. In the interview, most respondents described this transformation as relatively smooth and believed that platform algorithms could quickly capture their interests and preferences, thereby reducing the difficulty of adapting to the new platform:

"After switching to Douyin, the algorithm soon found out my preference…It felt very natural." *(Male student, USA, 28)*

This case illustrates that recommendation systems not only affect content exposure within a single platform, but may also continue to provide users with familiar content environments in cross-platform use. In this way, algorithm recommendations have to some extent reduced the unfamiliarity and adaptation pressure of respondents when entering a new cultural context.

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3.3. Platform participation and everyday cultural navigation

Beyond cultural familiarity and selective engagement, participants' experiences also revealed moments of uncertainty, adjustment, and ambivalence in their identity negotiation. Compared with Douyin and other entertainment platforms, Xiaohongshu has more functions of practical information integration and local life guidance in respondents' daily use. Respondents often obtain information on dining, travel, consumption, and urban life experiences through this platform to meet their daily cultural navigation needs in Chinese life. Participants are also actively engaged in content production, and the algorithm selectively amplifies the visibility of content based on interactive indicators. This dynamic reveals a deep structural relationship between participation behavior and platform algorithm logic - even if participants subjectively perceive their own behavior as autonomous and spontaneous. The comparison between the two platforms is also of analytical significance: Douyin tends to support the visibility-driven participation oriented to expanding the audience, while Xiaohongshu contributes more to the practical cultural navigation rooted in daily life.

4. Discussion

The findings suggest that algorithmic recommendation systems are more than technical tools for delivering cultural content. They also shape the conditions in which international students come into contact with Chinese culture. By influencing what kinds of content appear, how often they appear, and in what order they are encountered, algorithms affect how students gradually become familiar with certain cultural meanings. At the same time, these meanings are not simply accepted by users. They may be questioned, adjusted, or reinterpreted in everyday platform use. Therefore, platform-mediated cultural experience should be understood as a process shaped by both algorithmic recommendation and users' own interpretation.

In terms of theoretical contributions, this study responds to Hall's theoretical viewpoint on continuous identity generation [1]: Rather than resulting from a single cultural encounter, cultural identity negotiation develops through the repeated accumulation of algorithmically mediated familiarity. The continuous presentation of Chinese society and culture allows participants to form, revise, and sometimes deepen their cultural understanding in everyday media use. This discovery indicates that the repetitive contacts created by algorithm recommendations themselves are one of the important conditions for identity formation. At the level of participation mode, based on Gillespie and Bucher's theoretical insights on algorithm power [6, 7], the research reveals that the recommendation system's construction of cultural visibility and user participation mode often operates in a way that is perceived as natural and intuitive by the participants subjectively - the smooth transition described by users after migrating from TikTok to Douyin is the specific embodiment of this mechanism: the algorithm quickly reconstructs the familiar content environment without the users' awareness.

However, algorithmic recommendations do not entirely determine users' cultural understanding. While being exposed to platform content, respondents will also actively interpret, negotiate, and make choices, and correct initial misunderstandings or one-sided perceptions through offline life experiences. This dynamic reflects the sustained internal tension between structural constraints and interpretive agency [11], positioning digital platforms as pivotal but controversial intermediary fields in cross-cultural encounters [8, 9]. This also extends Berry's acculturation framework by showing that adaptation is increasingly shaped by platform-mediated cultural encounters [3].

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In short, the formation of cultural identity in the platform intermediary environment is not the result of passive acceptance or linear assimilation by users, but a process of continuous negotiation and adjustment between algorithm recommendations, personal experience, and active selection. This process is rooted in the sustained and asymmetric tension between algorithmic structure and individual interpretive agency - the former systematically constructs the conditions and boundaries of cultural contact, while the latter actively negotiates, screens, and reconstructs cultural meaning within this framework.

5. Conclusion

Based on interviews with 20 international students, this study explored how algorithmic recommendations on Chinese social media platforms are involved in cultural identity negotiation. Following Braun and Clarke's thematic analysis approach, which emphasizes identifying patterns of shared meaning across qualitative data [12], the findings were organized into three themes: repeated exposure, personalized recommendations, and selective engagement. These processes often increased cultural familiarity, but participants also interpreted, filtered, and revised the meanings they encountered through their own experiences. In this sense, their identity negotiation was not a simple or linear process of adaptation, but a dynamic process marked by familiarity, distance, adjustment, and occasional ambivalence.

These findings also suggest that platform algorithms should be understood as active mediators of cross-cultural experience. In the context of digital media and cultural identity studies, the role of algorithms goes beyond content filtering. Algorithms participate in the gradual production of cultural familiarity, shape users' patterns of platform engagement, and provide conditions through which cultural misunderstandings may be reinforced, adjusted, or corrected through further experience.

The implications of this study extend beyond the individual experiences of international students. As Chinese social media platforms become increasingly embedded in the everyday digital lives of international users, algorithmically curated content may become an informal but meaningful site of cultural encounter. In this sense, platform-mediated cultural experience also connects with broader discussions of cultural communication and Nye's soft power framework [13]. Future research may combine interview data with digital trace data or adopt longitudinal designs to examine whether platform-mediated cultural identification continues after students leave China.

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