

INFLUENCE MECHANISMS OF NON-VERBAL COMMUNICATION AND CHOIR EFFECT OF ACTING ON THE PERFORMANCE *

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Abstract

The purpose of this paper is to explore the mechanism of the influence of non-verbal communication and movement on the performance of university choirs. As an art group, the performance of college choir not only depends on vocal performance, but also needs the coordination of movement performance and non-verbal communication. This paper discusses the effects of social identity and self-efficacy as mediating factors on the non-verbal communication and action performance of college choir members, and then affects the performance effect. Research has shown that increased nonverbal communication and action performance improves self-efficacy and social identity, which in turn increases performance effectiveness. To enhance data validity, the study expanded the interviewee group and increased the number of interviewees, allowing for a more comprehensive understanding of the phenomena. The research results of this paper have certain enlightenment

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to the construction of chorus team and the development of college students' mental health.

Keywords: Non-verbal Communication, College Choir, Social Identity, Self-Efficacy

Introduction

The current situation of university students worldwide varies across nations and regions, but they commonly face a range of pressures such as academic stress, economic uncertainty, employment challenges, technological integration, social engagement, environmental awareness, and mental health concerns. College life is a critical developmental stage characterized by heightened psychological vulnerability, especially due to limited coping skills and identity formation needs. In recent years, mental health issues among college students have gained increased attention, particularly in relation to their impact on academic performance, social adjustment, and emotional well-being.

In China, rapid economic development has improved material conditions and elevated public awareness of psychological health. College students today tend to have broader perspectives and active thinking, but also encounter new psychological challenges in adapting to fast-changing educational and social environments. As reported by the Ministry of Education, the number of higher education institutions in China was projected to reach 2,820 by 2023, with notable growth in most regions except for Liaoning, Heilongjiang, and Shanghai. The expansion of universities has led to a corresponding rise in university choirs, which play an increasingly important role in cultural life on campus. However, this growth has also brought new challenges related to diversity, artistic professionalism, internal competition, group collaboration, and extracurricular participation (Figure 1).

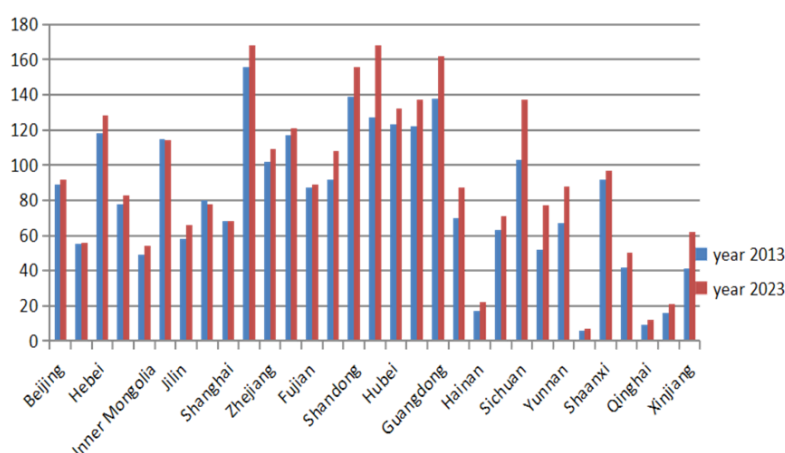


Figure 1 Number of Higher Education Institutions in China, 2013-2023 data chart (Constructed by the researcher)

Choral performance in higher education settings has evolved from being purely auditory to becoming a multimodal artistic expression. Increasingly, elements such as non-verbal communication and action performance are integrated into ensemble singing to enhance visual aesthetics and emotional depth. Gestures, facial expressions, and stage movement now serve as critical tools for conveying mood and fostering interaction between performers and the audience. While previous research emphasized vocal ability and musical training, recent studies have shifted attention toward physical expressiveness and group coordination in performance contexts (Bonshor, 2014; Hendry, Lynam, & Lafarge, 2022). However, more empirical investigation is needed to understand how non-verbal communication and physical movement influence college choir members' self-efficacy, social identity, and overall performance effectiveness.

Objectives

This study aims to explore the psychological and social mechanisms through which non-verbal communication and action performance influence the effectiveness of college choir participation. The specific objectives are:

1. To examine how non-verbal communication and coordinated movement enhance choir members' self-efficacy through expressive freedom, feedback interaction, and embodied performance confidence.
2. To investigate how participation in expressive behaviors contributes to the formation, reinforcement, and maintenance of social identity within the choir group, particularly through emotional resonance, team cohesion, and symbolic bodily practices.

Literature Review

Research in music education and performance psychology has increasingly recognized the importance of non-verbal communication and embodied expression in enhancing group performance and individual engagement. Non-verbal elements—such as body language, facial expression, and gestural synchrony—have been shown to improve emotional expressiveness and foster stronger performer-audience connections (Birdwhistell, 2010; Martikainen, 2020). In the context of choral performance, these forms of communication contribute not only to the aesthetic quality of the presentation but also to internal group cohesion and mutual understanding.

The role of self-efficacy in musical performance has also been widely studied. Bonshor (2014) notes that choir configuration, peer collaboration, and clear conductor feedback can significantly boost singers' confidence. Similarly, Hendry, Lynam, and Lafarge (2022) emphasize how group singing interventions enhance psychological well-being by promoting a sense of competence and

emotional regulation. These findings align with Apfelstadt's (1997) view that leadership in choral instruction must go beyond musical direction to include the emotional and motivational needs of ensemble members.

Social identity theory provides an additional lens for understanding how choral singers relate to their group. Dingle et al. (2017) found that communal music-making activities, such as choir singing, reinforce group belonging and foster emotional resilience in participants facing mental health challenges. The development of a shared musical identity can positively influence individual motivation and collaborative behavior, particularly in amateur or non-major ensembles.

While previous studies have focused primarily on vocal proficiency or therapeutic outcomes, few have examined the interaction between non-verbal expression, self-efficacy, and social identity in shaping ensemble performance. This gap underscores the need for research that integrates performance psychology, expressive behavior, and social group dynamics—particularly in collegiate choir settings where members often come from diverse educational and musical backgrounds.

Methodology

This study employed a qualitative research design to explore how non-verbal communication and action performance influence self-efficacy and social identity among college choir members. To achieve this, a multi-step methodology was adopted, combining data collection through semi-structured interviews and on-site observations with thematic and coding analysis techniques.

1. Data Collection

The primary data were collected through semi-structured interviews with university choir members, focusing on their performance experiences,

emotional responses, and perceptions of group belonging. To improve data diversity and reliability, the interviewee group was expanded to include participants of different ages, musical backgrounds, and performance experience levels, and the number of interviewees was significantly increased. Interviews were both audio- and video-recorded to capture verbal responses as well as non-verbal behaviors, such as gestures, facial expressions, and posture. Additionally, on-site observations during rehearsals and performances were conducted to supplement interview data and contextualize non-verbal interactions within natural choir settings.

2. Data Analysis

A three-level coding process was conducted using NVivo 20.0 software. First, open coding was used to extract initial concepts from the transcripts, resulting in 584 preliminary codes, which were refined to 464 and grouped into 26 subcategories. In the axial coding phase, these were synthesized into six overarching categories: self-expression and role identity, reinforcement of self-efficacy, effectiveness of interaction and feedback, enhancement of social identity, facilitation of emotional expression, and externalization of collective belonging. Finally, selective (tertiary) coding identified two core themes: (1) the enhancement of self-efficacy through non-verbal communication and action performance, and (2) the construction and maintenance of social identity within the choir group.

This methodology allowed for the identification of mechanisms through which embodied performance contributes to psychological outcomes in choir participation. It also facilitated the construction of a visual model of influence mechanisms, grounded in the participants' lived experiences and triangulated across interviews and observed behavior.

Results

This section presents the findings of an extensive coding analysis of interview data and dialogue transcripts, aiming to explore how non-verbal communication and action performance influence college choir members' psychological and social experiences. The analysis yielded two core themes: the enhancement of self-efficacy, and the construction and maintenance of social identity. These two theoretical codes support the proposition that non-verbal elements such as gesture, movement, posture, and facial expression serve not only as artistic tools but also as mechanisms for individual empowerment and group integration. Specifically, the study finds that non-verbal communication and action performance enhance members' self-confidence and performance engagement, while also fostering a sense of belonging and shared purpose within the choir. Efforts to maintain group identification—such as creating collective meaning and making positive in-group/out-group distinctions—emerged as crucial strategies for sustaining membership cohesion. To uncover these mechanisms, a three-level coding approach was employed. Open coding generated 584 initial codes, later refined to 464 and grouped into 26 descriptive categories, including emotional resonance, team cohesion, movement coordination, and balance between individual and group performance. These were further synthesized in the axial coding stage into six overarching themes: self-expression and role identity, reinforcement of self-efficacy, effectiveness of interaction and feedback, enhancement of social identity, facilitation of emotional expression, and externalization of collective belonging. These themes were confirmed in the selective (tertiary) coding stage, which defined two integrated models of influence—self-efficacy enhancement and social identity formation—as the foundation for understanding how non-verbal and action-based expression affects performance. The corresponding relationships among codes and themes are outlined in Table 1 and Table 2, and are visualized in the NVivo-generated diagram shown in Figure 2.

Table 1 Examples of partial coding

Original Dialogue	Open coding		Axial coding
	Native Code	Revision Code	
I put everything I had into the chorus and got it right. I should have played pretty well too.	Utilizing all abilities	Confidence in performance	Reinforcement of self-efficacy
We had to learn to sing each voice part on its own. Before the performance, our conductor had put together a detailed training program where she took each of us through our voice parts one by one. I remember the day when she asked each of us to present our parts individually during the training while the others waited. It was a bit nerve-racking at first, but the conductor's encouragement and careful guidance made it worthwhile. She listened to each of us carefully, helping us to get our pitch and pronunciation right, and gave us some great advice.	Rehearsing vocal skills according to the training plan has improved	Individual performance enhancements	Reinforcement of self-efficacy
The best way to know you've done a good job is if people listen to it and think, 'Wow, this is really wonderful'.	Being praised for singing beautifully	Interaction between emotional expression and audience feedback	Effectiveness of interaction and feedback

Our choir has this thing where we call ourselves 'the loveliest people' at every practice and event. It might sound a bit silly, but it's also a reflection of the unique bond and closeness we share. When we talk or play, we see each other's faces and movements, and it's like we're all working together as a team.	Identifying with the choir as a team and working together for it	Team cohesion	Strengthening of social identity
I was a bit unsure once when I was singing the soprano part, but the conductor came up, listened, and gave me a nod. That made me feel like I was singing pretty well, and that kind of feedback gives you a lot of confidence.	Being directed to nod and encourage	Body and language	Promotion of emotional expression

Table 2 Tertiary coding of mechanisms influencing non-verbal communication and action performance

Core coding	Axial coding	Open coding	Quorum	Frequency
Self-efficacy enhancement in choir members	Self-expression and role identity	Freedom of self-expression	3	5
		Character immersion	5	9
		Emotional resonance	6	15
	Reinforcement of self-efficacy	Fluidity of movement	9	20
		Confidence in performance	10	39
		Movement to music fit	7	12
	Effectiveness of interaction	Individual performance enhancements	10	31
		Pacing of interactions	8	24
		Interaction between emotional expression and audience feedback	10	23

Social Identity and Maintenance of Choir Membership	and	Coordination of movements	6	14
	feedback	Rhythmic synchronisation	7	19
	Strengthening	Resonance of team goals	8	14
	of	Team cohesion	10	37
	social	Perceived social support	9	22
	identity	Collective honour	8	14
		Body language	10	29
		Interpretation of facial expressions	9	23
	Promotion	Use of gestures	9	14
	of	Eye contact	10	26
	emotional	Emotional outgrowths	6	9
	expression	Transmission of emotions	9	16
		Breathing and Body Response	4	7
		Body contact	4	6
	Externalisation	Changes in posture	9	14
	of	Phonetic paralanguage	5	5
	collective belonging	Balancing individual and team performance	8	17

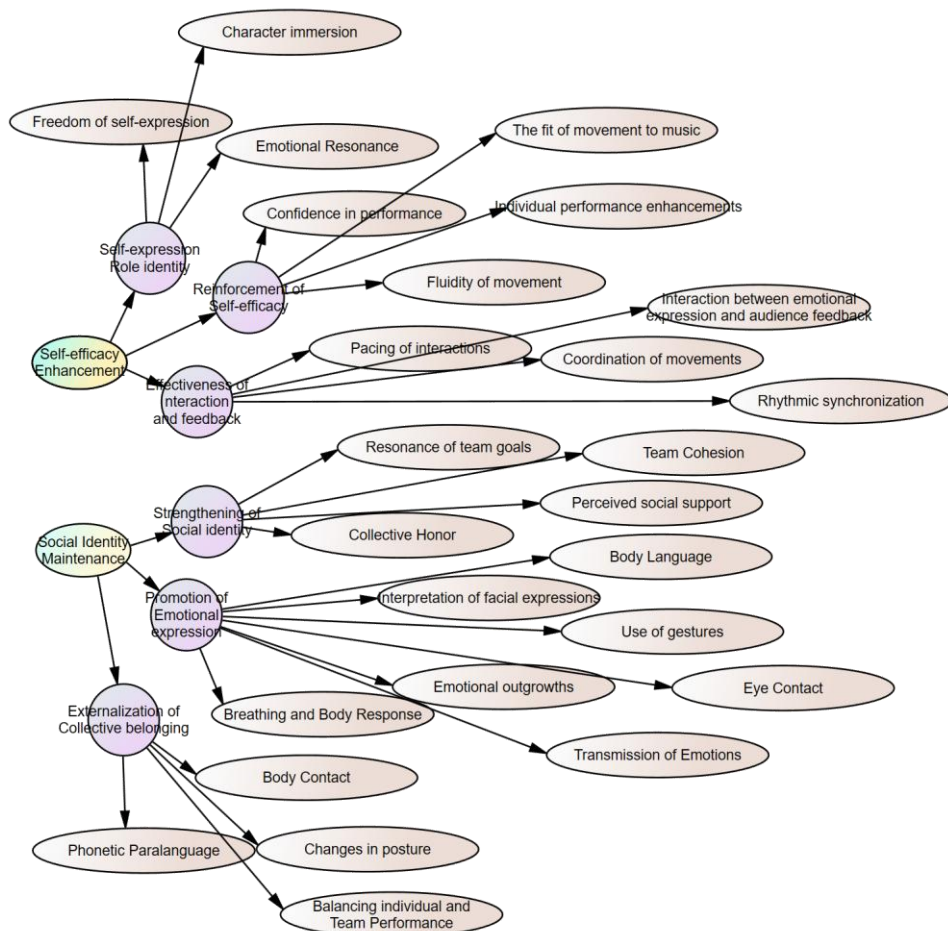


Figure 2 Tertiary coding tree node relationship diagram for non-verbal communication and action performance influence mechanism (Constructed by the researcher)

1. Enhancement of Self-efficacy through Non-verbal Communication and Action Performance

The first core mechanism identified in this study is the enhancement of self-efficacy, which refers to choir members' increased belief in their own competence and expressive ability during performance. This process was strongly associated with embodied participation, including movement coordination, physical alignment with musical phrasing, and the reception of verbal and non-verbal feedback. Participants frequently referenced the importance of “freedom of expression,” “emotional resonance,” and

“confidence in performance,” which were coded under axial themes such as self-expression and role identity, and reinforcement of self-efficacy. Interviewees described moments when immersive rehearsal practices, conductor guidance, or audience reactions helped them build a stronger sense of musical capability. For instance, one member stated that receiving a nod from the conductor mid-rehearsal gave them a clear emotional boost, affirming their correctness and role clarity. Another emphasized how the physical act of “putting everything into the chorus” helped internalize a sense of vocal success. The performance of movement and gesture was not viewed as separate from musical skill, but rather as a critical component of self-assurance. Axial categories such as “fluidity of movement,” “interaction pacing,” and “movement-to-music fit” further indicated how embodied activity enhanced focus and emotional connection, reinforcing members’ belief in their ability to contribute meaningfully to the performance. As shown in Table 2, the most frequently referenced codes—such as “confidence in performance” (39 times) and “individual performance enhancements” (31 times)—suggest that these expressive behaviors played a consistent and measurable role in strengthening self-efficacy.

2. Strengthening and Maintenance of Social Identity within the Choir Group

The second core mechanism concerns the ways in which choir members construct, experience, and maintain a sense of social identity through expressive participation. This process was marked by mutual recognition, symbolic language, team rituals, and synchronized behavior, which together created a strong in-group identity. Participants described their choir as a space of emotional safety and collective meaning, often referring to shared expressions like “we are the loveliest people,” which symbolized a bond that extended beyond rehearsal. These were coded as “team cohesion,” “resonance of team goals,” and “collective honour,” falling under the axial theme of enhancement of social identity. Non-verbal cues—such as eye contact, gesture mirroring, and facial expressions—also played an essential role in emotional communication and interpersonal coordination, contributing to codes like “transmission of emotions” and “interpretation of facial

expressions.” The coding data revealed that expressive interaction not only enabled performers to communicate their inner states but also allowed them to perceive the emotional atmosphere of the group, thereby reinforcing a sense of unity. Additionally, axial categories such as “externalization of collective belonging” highlighted how physical responses—like changes in posture, use of body contact, or shared breathing patterns—served as embodied affirmations of being part of a coordinated whole. Codes such as “eye contact” (26 mentions), “team cohesion” (37), and “perceived social support” (22) further demonstrated the strength of social ties formed through these non-verbal practices. In sum, the maintenance of choir membership was not merely functional or role-based but deeply emotional and symbolic, supported by the physicality of shared performance and reinforced through ongoing expressive alignment.

Discussion

The findings of this study reveal that non-verbal communication and action performance are not merely supplementary elements of college choir participation but core mechanisms that shape individual psychological development and group social dynamics. Through a multi-level coding process, it was demonstrated that expressive behaviors—such as gesture, body movement, facial expression, and coordinated action—significantly contribute to the enhancement of self-efficacy and the consolidation of social identity among choir members. This is consistent with existing theories in performance psychology and social identity research, but offers new empirical depth by examining these mechanisms specifically within the context of university-level amateur choir ensembles.

From the perspective of self-efficacy, the study confirms that embodied participation plays a direct role in building confidence and performance competence. Interviewees consistently described how the integration of physical movement with vocal rehearsal allowed them to feel

more connected, expressive, and capable. Feedback from conductors and audiences, as well as interaction with peers, further reinforced these feelings. The high frequency of codes such as “confidence in performance” and “fluidity of movement” suggests that non-verbal engagement is deeply tied to perceived musical and personal success. These findings support and extend Bonshor’s (2014) view that confidence in choral settings is not solely derived from vocal skill but also from expressive alignment and embodied contribution.

Social identity emerged as an equally vital construct, as non-verbal elements fostered a sense of unity, belonging, and symbolic in-group distinction. Choir members referenced shared rituals, internal naming practices, and synchronized movement as signs of strong emotional cohesion. The performative body became a medium through which emotional states, group values, and mutual recognition were communicated and confirmed. This is consistent with Dingle et al. (2017), who emphasized the role of collective music-making in promoting psychological resilience and group-based support. In this study, embodied expression was shown to externalize internal affiliation, allowing group identity to be seen, felt, and reinforced through movement and interaction.

These findings carry several implications. First, they highlight the pedagogical importance of integrating movement and expressive training into choral education—not merely as a performance enhancement, but as a means of cultivating psychological well-being and social connection. Second, they suggest that conductor gestures, rehearsal structure, and peer interaction should be designed to optimize emotional feedback and non-verbal fluency. Third, in the context of student mental health and campus culture, choirs offer a valuable framework for emotional regulation, identity development, and social inclusion through embodied practice.

In conclusion, non-verbal communication and action performance serve as powerful tools for both individual transformation and group cohesion in college choir contexts. They enhance self-efficacy by enabling expressive confidence and performance clarity, and they construct social identity by fostering symbolic meaning, emotional resonance, and collective embodiment. These mechanisms are mutually reinforcing, and their integration into university choir practice may enhance not only musical outcomes but also the educational and psychological value of choral participation. Future research could extend this framework to explore cross-cultural variations, longitudinal effects, or digital adaptations of these mechanisms in hybrid or virtual choir settings.

Recommendation

Based on study findings, several recommendations are proposed to enhance understanding and application in this field: 1. Expand sample diversity by including a heterogeneous group of choristers across various age demographics, cultural backgrounds, and experience levels to better understand the impact of non-verbal communication and action performance. 2. Initiate longitudinal studies to reveal long-term effects on choir member performance through self-efficacy and social identity enhancement. 3. Explore the reverse effect by examining if enhanced self-efficacy and social identity lead to improved non-verbal communication and action performance. Results suggest confident members with high social identity demonstrate better performance. 4. Adapt to cultural diversity by training choir members to adjust their non-verbal communication and movements to different cultural settings and audience expectations, and expose them to diverse performance styles. 5. Combine AI technology, such as motion capture and facial recognition, to analyze movement intricacies and emotional expression. AI can simulate

choral performance scenarios using VR and AR, enabling real-time feedback and optimizing performance, fostering a dynamic and interactive cooperative atmosphere.

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