The Impact of Generative Artificial Intelligence on the Sociocultural Well-Being of Chinese College Students in Communicative Oral English Learning

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Abstract. From the perspective of positive psychology, research on second language (L2) learner well-being has gradually expanded from the individual psychological level to the sociocultural dimension. However, empirical investigation into sociocultural well-being in the context of generative artificial intelligence (GenAI)-assisted communicative oral language learning remains relatively limited. Drawing on Keyes's (1998) theory of social well-being and Xu Jinfen's (2025) model of foreign language learner well-being, this study surveyed 50 Chinese college students using a combination of questionnaire survey and semi-structured interviews. The study explored the impact of GenAI-assisted communicative oral English learning on learners' sociocultural well-being and its underlying mechanisms. The results indicate that, with GenAI support, learners' overall sociocultural well-being was moderate to high, with scores on the cultural well-being dimensions consistently higher than those on the social well-being dimensions. Furthermore, GenAI primarily enhanced learners' willingness to communicate (WTC) and preliminary sense of social participation by reducing communicative risks, providing linguistic scaffolding, and strengthening their sense of expressive control. Finally, its promotion of cultural identity was more evident at the levels of expressive style and thinking patterns rather than constituting a shift in deeper cultural belonging. The study indicates that GenAI holds advantages in enhancing learners' cultural well-being, yet its capacity to facilitate genuine social integration remains limited. The findings provide a socioculturally oriented theoretical basis and practical implications for integrating GenAI into oral English instruction.

Keywords: generative artificial intelligence, communicative oral English, sociocultural well-being, social integration, cultural identity.

1. Introduction

In recent years, the perspective of positive psychology has increasingly permeated the field of second language acquisition (SLA) research, making learner well-being one of the central topics of inquiry. Existing studies, however, have predominantly focused on internal psychological variables—such as self-efficacy, enjoyment, and anxiety—while paying comparatively limited attention to learners' identity construction and value experiences within social structures and cultural contexts. With the rapid advancement of generative artificial intelligence (GenAI) technology, its application in communicative oral language training has become increasingly widespread. Research consistently finds that GenAI can reduce foreign language anxiety, enhance expressive fluency, and increase willingness to communicate (WTC). Nevertheless, whether GenAI can facilitate learners' experiences of social integration and cultural identity at a more macro level remains underexplored in systematic empirical analyses.

In the Chinese context, foreign language learning is not merely a process of enhancing linguistic skills; it also carries functions of cultural dissemination and identity construction. The emphasis on cultural confidence and cross-cultural expressive competence renders the exploration of L2 learners' sociocultural well-being practically significant. Accordingly, grounded in Keyes's theory of social well-being and Xu Jinfen's model of foreign language learner well-being, this study situates its research lens within the specific context of "GenAI-assisted communicative oral English learning" and seeks to address the following research questions: (1) Under GenAI support, what are the overall characteristics of Chinese college students' sociocultural well-being and the features of its individual

dimensions? (2) Through what mechanisms does GenAI influence learners' experiences of social integration and cultural identity?

By combining questionnaire survey with interview methods, this study aims to address the empirical gap at the intersection of GenAI and sociocultural well-being, and to provide both theoretical grounding and practical guidance for the appropriate positioning of GenAI in oral English instruction.

2. Literature Review

2.1. Well-Being Research in Second Language Acquisition

Research on the well-being of L2 learners has a substantial history within linguistics. Positive psychology (PP) in second language acquisition (SLA) has been characterized as "young in age but old in spirit" (MacIntyre & Mercer, 2014). Although early SLA research did not necessarily take well-being as a direct object of inquiry, within the traditions of humanistic orientations, motivational and sociocultural frameworks, the affective filter hypothesis (Krashen, 1985), and studies of the good language learner and the self-system, a wealth of variables, mechanisms, and research resources closely related to well-being had already accumulated. MacIntyre and Mercer (2014) noted that these research traditions are highly compatible with positive psychology in theoretical orientation, thereby laying the foundation for the introduction of a positive psychology perspective into L2 research. Positive psychology subsequently brought the concept of "positive functioning" into L2 learning research (MacIntyre & Mercer, 2014). Concurrently, some scholars incorporated positive psychology variables into empirical studies of foreign language learning: Lake (2013) introduced constructs such as positive self, positive L2 self, self-efficacy, and effortful investment among Japanese learners, finding significant positive correlations between learners' positive psychological levels and effort, self-efficacy, and TOEIC Bridge scores.

More recently, with the systematic advancement of positive psychology research in the domain of language learning, research on L2 learner well-being has progressed from conceptual introduction (e.g., the PERMA model) to integrative frameworks tailored to language learners (e.g., the EMPATHICS model), gradually taking shape as a scalable research framework and moving toward operationalizability. Oxford (2016) proposed the EMPATHICS model, using the acronym to represent multiple key psychological forces that may both enhance learner well-being and facilitate language learning progress and proficiency, emphasizing that the model can be understood as a complex dynamic system evolving over time. Subsequently, the study by Alrabai and Dewaele conducted a critical analysis of EMPATHICS, noting substantial overlap among its internal dimensions, and proposed the more parsimonious, operationalizable, and scale-development-friendly E4MC approach (Alrabai & Dewaele, 2023). Furthermore, Alrabai and Dewaele's work also reflected critically on the PERMA/EMPATHICS/E4MC lineage, arguing that these models still characterize well-being predominantly from the learner's internal psychological dimensions; while sociocultural, socioeconomic, and political contextual factors are acknowledged as important, they are more commonly treated as external background variables rather than as core constructs of the models themselves (Alrabai & Dewaele, 2023).

Therefore, future research needs to incorporate specific contexts, working conditions, linguistic and cultural diversity, and domain specificity into analyses (Mercer & Murillo-Miranda, 2025), rendering the conceptualization and methodological approach to well-being more explicit and concrete.

Existing empirical examinations of social well-being have rarely focused on the foreign language learning context, resulting in relatively limited understanding of L2 learners' social well-being in the field (Yang & Xu, 2025). Keyes (1998) noted that psychological well-being places greater emphasis on the individual's internal subjective experience, whereas social well-being foregrounds the identity and functional capacities that individuals perceive within social structures and social relations. Keyes (1998) was among the first to propose a five-dimensional structure of social well-being: social

integration, social contribution, social acceptance, social coherence, and social actualization, providing an important theoretical foundation for subsequent research. Although the Relationships dimension of the PERMA model (Seligman, 2011) touches on the influence of social relationships on well-being, and the Emotion & Empathy component of the EMPATHICS model (Oxford, 2016) suggests a connection between well-being and emotional bonds with others, and Shao et al.'s L2EEP model incorporates "institutional factors" that include classroom atmosphere, teacher affect, and peer support as social-environmental components (Shao et al., 2020), these models—led by the three described above—largely remain oriented toward individual psychological well-being. Social well-being and psychological well-being are frequently discussed in tandem, without clear differentiation.

Simultaneously, within the broader context, increasing attention has been given to strengthening cultural confidence, developing discourse systems and narrative frameworks, promoting the effective dissemination of local narratives, and enhancing cultural soft power. Foreign language learners are important agents of cultural dissemination; exploring L2 learners' cultural well-being can facilitate cross-cultural communication and reinforce cultural identity. Xu Jinfen (2024) constructed a well-being model for English learners and incorporated sociocultural well-being as a component, distinguishing it into two sub-dimensions: social well-being and cultural well-being. In subsequent work, the conceptual content of this dimension was further elaborated, and a proposal for the development of a sociocultural well-being scale was put forward (Yang & Xu, 2025).

2.2. The Impact of Generative Artificial Intelligence on College Students' Oral English Acquisition

With the rapid development of generative artificial intelligence (GenAI) technology in recent years, GenAI-assisted foreign language learning has become a prevailing trend and is increasingly embedded in foreign language teaching practice. Research on the application of GenAI in language learning has taken on a global distribution, with research activity particularly concentrated in Asia and North America (Li et al., 2024). In the context of personalized foreign language education, large language models (LLMs) are regarded as important interactive hubs, with related research advocating for the organic coordination of "teacher-student-machine" interactions in instructional design (Xu, 2025), and advancing the paradigm of human-machine symbiosis in foreign language learning (Qin, 2023). At the same time, the application of GenAI may also give rise to risks related to content authenticity and safety, stereotyping and cultural bias, reduced diversity of perspectives and originality, as well as the digital divide and social inequity (Zheng, 2024); it is therefore necessary to strengthen the cultivation of critical thinking during the process of use (Zhang & Hong, 2023).

Existing research indicates that, under certain conditions, the intervention of GenAI can enhance learners' self-efficacy (Jin & Sun, 2025) and produce positive effects on communication-related variables, primarily manifested as increased willingness to communicate (WTC), reduced foreign language speaking anxiety (FLSA), and enhanced self-perceived communicative competence (Wang et al., 2024). For instance, chatbots can provide a more open, learner-directed conversational space, thereby promoting learning autonomy and authentic interaction, and improving learners' affective experience (Wang et al., 2024); research has also found that GenAI is closely associated with the development of EFL learners' L2 oral proficiency (Zhang, 2026). Lyu et al.'s research further indicates that GenAI may exhibit significant positive effects on both the affective dimension (e.g., motivation, interest, anxiety) and the learning performance dimension (e.g., language skills and knowledge tests) (Lyu et al., 2025). In terms of the affective dimension, research grounded in positive psychology has found that GenAI oral assistants can enhance foreign language enjoyment and WTC while alleviating foreign language anxiety (Zhang et al., 2024). Other scholars, drawing on the affective filter hypothesis, have proposed that learners can use chatbots for "pre-conversation practice" before engaging in offline face-to-face (F2F) communication with native English speakers, in order to lower affective filters (e.g., anxiety) and thereby improve WTC and interactional performance in authentic communicative contexts (Deng et al., 2024). In terms of learning performance, GenAI-assisted oral English instruction has demonstrated positive effects on indicators such as lexical

complexity, syntactic complexity, and fluency (Wu et al., 2024). In summary, existing research has concentrated more heavily on individual psychological and emotional variables (e.g., self-efficacy, enjoyment, anxiety, WTC) and their relationship with performance indicators, while devoting comparatively limited attention to sociocultural dimensions of well-being such as community integration, social value, and cultural identity. In this regard, several directions for future research have been identified: first, the socio-emotional support available in human-machine interaction remains insufficient (Lyu et al., 2025); second, technological development and instructional application need to respond more adequately to diverse cultural contexts (Zhang, 2026); third, chatbots are more suitable for high-frequency, low-pressure, targeted training tasks (e.g., pronunciation, fluency, functional dialogue), while feedback on cultural pragmatics still requires more effective delivery by human instructors (Ayedoun et al., 2019). These discussions collectively point to the necessity of extending the research lens to encompass learners' sociocultural well-being.

Previous research has continued to focus predominantly on self-efficacy-related well-being—for example, Ding and Yusof (2025) demonstrated that using GenAI to practice oral English can improve speaking ability and reduce speaking anxiety—while comparatively little exploration of sociocultural well-being has been undertaken. Building on the existing research base and the current research gaps, this study focuses on the communicative speaking module to conduct further investigation into sociocultural well-being.

This study adopts the five-dimensional structure of social well-being proposed by Keyes (1998) and the "sociocultural well-being" component of Xu Jinfen's (2025) foreign language learner well-being model as its theoretical framework. Situated within the authentic learning context of Chinese college students using GenAI for communicative oral English training, this study employs a cross-sectional questionnaire survey. It aims to address the current empirical gap regarding the relationship between GenAI-assisted oral language learning and sociocultural well-being, and to provide practical recommendations for integrating GenAI into oral English instruction, particularly in fostering learning communities and cultural identity. The specific research objectives are as follows:

1. In the context of GenAI-assisted communicative oral English learning, what are the overall level and dimensional characteristics of Chinese college students' sociocultural well-being?

2. What are the mechanisms through which GenAI intervention in communicative oral English learning influences learners' social integration and cultural identity?

3. Research Methodology

3.1. Participants

The participants in this study were primarily EFL learners from various universities across China, spanning undergraduate, master's, and doctoral levels of education, with academic majors covering science, engineering, liberal arts, medicine, management, economics, and law. Four students participated in the semi-structured interviews. Additionally, a total of 50 students completed the questionnaire survey, from which all 50 questionnaires were returned as valid, yielding an effective response rate of 100%. Among the 50 participants, there were 12 males and 38 females; 5 were first-year undergraduates, 9 were second-year undergraduates, 28 were third-year undergraduates, 3 were fourth-year undergraduates, 4 were master's students, and 1 was a doctoral student. Their mean age was 20.7 years, and their duration of English study ranged from 6 to 18 years.

3.2. Research Instruments

The sociocultural well-being scale used in this research was adapted from the "Chinese EFL Learner Sociocultural Well-Being Scale" developed by Yang and Xu (2025), with contextual modifications to fit the setting of "GenAI-supported communicative oral English learning." Without altering the original scale's construct definitions or dimensional framework, the current investigation made minor wording adjustments to all items, orienting them explicitly toward learners' experiences and perceptions during the process of using GenAI for oral interaction and completing communicative

oral English tasks. Drawing on the original scale's reliability and validity data, 35 items were retained after screening. No new items were added; however, based on principles of semantic overlap reduction and expression conciseness, item CC1 and item CC4 within the cultural confidence dimension were merged into a single item, yielding an adapted scale comprising 34 items in total. The scale uses a seven-point Likert scoring system (1 = strongly disagree, 7 = strongly agree).

The final questionnaire consisted of two parts. The first part collected participants' basic background information, including name, gender, age, major, and duration of English study. The second part comprised the sociocultural well-being scale for EFL learners using GenAI to train communicative oral English, encompassing six dimensions and their corresponding items: Social Integration (7 items: SI1–SI7), Social Acceptance (6 items: SA1–SA6), Social Contribution (7 items: SC1–SC7), Cultural Awareness (6 items: CA1–CA6), Cultural Confidence (2 items: CC1–CC2), and Cultural Acceptance (6 items: CR1–CR6). All items were measured on a seven-point Likert scale, with scores ranging from 1 to 7 indicating "strongly disagree" to "strongly agree."

Following the collection of questionnaires, four students were selected for semi-structured interviews to investigate the mechanisms through which GenAI-assisted oral language training influences learners' sociocultural well-being.

3.3. Data Collection and Analysis

In addressing Research Question 1, once questionnaire data collection was complete, we calculated the mean, variance, standard deviation, and coefficient of variation (CV) for each dimension and conducted a comparative analysis to derive the basic descriptive statistics for the six dimensions of sociocultural well-being. The specific results are presented in Table 1 below:

Table 1. Descriptive Statistics of Sociocultural Well-Being Dimensions in the Context of GenAI-Assisted Communicative Oral English Learning (N = 50)

Dimension	Mean	SD	Variance	CV
Total Scale	5.3	0.89	/	0.17
Social Integration (SI)	4.8	1.19	1.42	0.25
Social Acceptance (SA)	5.03	1.06	1.13	0.21
Social Contribution (SC)	5.3	0.96	0.93	0.18
Cultural Awareness (CA)	5.38	1.01	1.02	0.19
Cultural Confidence (CC)	5.62	1.13	1.27	0.20
Cultural Acceptance (CR)	5.67	1.05	1.11	0.19

Note: CV = Coefficient of Variation; SD = Standard Deviation

In addressing Research Question 2, after conducting interviews with the four students, the interview data were transcribed, organized, and synthesized, then analyzed in conjunction with the quantitative data.

4. Results

4.1. Overall Level and Dimensional Characteristics of Chinese College Students' Sociocultural Well-Being Under GenAI-Assisted Communicative Oral English Learning

The results indicate that, in the context of GenAI-assisted communicative oral English learning, Chinese college students' sociocultural well-being across all dimensions—including social integration, social acceptance, social contribution, cultural awareness, cultural confidence, and cultural acceptance—was above the scale midpoint (4). The overall mean score per item on the total

scale was 5.3 (SD = 0.89), with the the mean total score reaching 178.44, demonstrating a moderate-to-high level of positive engagement.

When the sociocultural well-being construct is divided into two sub-modules—social well-being and cultural well-being—the following patterns emerge. Within the Social Well-Being dimensions, Social Contribution (SC) recorded the highest mean score and the lowest standard deviation, while Social Integration (SI) recorded the lowest mean score and the largest standard deviation.

Within the Cultural Well-Being dimensions, Cultural Awareness (CA), Cultural Confidence (CC), and Cultural Acceptance (CR) all yielded overall mean scores above 5.30. Cultural Acceptance (CR) recorded the highest mean score, with a standard deviation on the lower end among the three dimensions. In comparison, Cultural Awareness (CA) recorded the lowest mean score among the three cultural well-being dimensions, as well as the lowest standard deviation within this sub-group.

Between the two sub-modules of social well-being and cultural well-being, an overall trend is relatively clear: under conditions where individual differences are generally small (SD were all close to 1.0), cultural well-being-related dimensions scored consistently higher than social well-being dimensions overall. This indicates that participants broadly perceived that using GenAI to assist communicative oral English practice generated more pronounced positive effects at the levels of cultural understanding and cultural identity than at the social level.

Across all six dimensions, the coefficients of variation were comparable, ranging from 0.18 to 0.25, indicating a generally stable, moderate level of variability. Among these, Social Integration, Social Acceptance, and Cultural Confidence exhibited larger CVs, all falling within the 0.21–0.25 range, with Social Integration showing the highest CV (0.25). In contrast, Social Contribution, Cultural Awareness, and Cultural Acceptance demonstrated smaller CVs, all in the 0.18–0.19 range, suggesting lower variability in learner experience. Notably, the mean scores for these three dimensions were also comparatively high.

4.2. Mechanisms Through Which GenAI Intervention in Communicative Oral English Learning Influences Learners' Social Integration and Cultural Identity

This study conducted semi-structured interviews with four college students, focusing on their experiences of using GenAI to assist communicative oral English learning and the influence of such use on their sociocultural well-being. Both questionnaire and interview results jointly indicate that GenAI was primarily perceived by learners as a highly efficient tool for addressing specific oral examination scenarios or international competition contexts, frequently used to simulate the roles of examiner or coach in situational dialogue training. Participants broadly noted that practicing oral English with GenAI was not constrained by time or space and allowed for more targeted topic selection and error correction. It also provided more professionally accurate and idiomatic language input.

All interviewees reported greater willingness to take the initiative and express themselves when engaging in English oral conversations with GenAI. The "low-risk" nature of GenAI-mediated oral training enhanced, to some extent, learners' oral proficiency and expressive confidence in real-world contexts (S1, S3), and strengthened their WTC. However, some interviewees also noted that the simplified interaction mode and the reversibility of human-machine interaction—i.e., the ability to "restart the conversation" (S2)—may weaken learners' capacity to adapt to the complexity of genuine real-world communicative contexts, leading to heightened confusion and pressure in actual communicative situations (S1, S4).

Some interviewees noted that conversing with GenAI in oral English afforded them a greater sense of control, and therefore a higher degree of WTC (S1). Additionally, the extensive data training underlying GenAI endows it with strong inferential capacities; compared to authentic dialogue, GenAI is better able to interpret learners' incomplete or unclear expressions and to guide them toward more accurate and idiomatic formulations, producing a "scaffolding effect" that encourages learners to continue the conversation (S4).

Most interviewees reported that, following GenAI-assisted oral English training, learners were able to integrate more actively into English-related social and academic settings—such as classroom participation, group discussions, and cross-cultural exchanges—experiencing a reduced sense of being an "outsider" and demonstrating greater initiative in joining conversations and expressing themselves. However, for interviewees who had participated in exchange programs in English-speaking countries, the effect was relatively limited due to the substantial proficiency gap between native speakers of English and non-native speakers (S2). One interviewee also noted that achieving more active participation across all dimensions of oral communication requires sustained long-term practice (S4).

Regarding cultural identity, interviewees' responses varied on the question of "whether conversations with GenAI involved English-speaking culture, lifestyles, or ways of thinking." Nevertheless, most interviewees believed that GenAI intervention in communicative oral English training facilitated learners' understanding of communicative styles and expressive conventions in English-speaking cultures—for instance, that legal document drafting in English-speaking cultures places greater emphasis on logical structure (S3). All four interviewees agreed that, after practicing oral English with GenAI, learners are better able to adopt the identity of "an English user" and communicate in the language more naturally. For example, the practice reduced the "mental translation" process (i.e., translating from Chinese to English in one's mind during English communication) and facilitated a deeper understanding of English-speaking culture.

5. Discussion

5.1. GenAI-Assisted Communicative Oral English Learning Significantly Enhances Learners' Overall Sociocultural Well-Being

Using GenAI to assist communicative oral English practice can, in general, enhance learners' sociocultural well-being, with participants demonstrating high consistency in their responses.

Following GenAI intervention in communicative oral English practice, cultural experiences showed more pronounced improvement than social experiences. Within the Social Well-Being sub-module, learners found it more accessible to develop a sense of "value" than a sense of "belonging," suggesting that GenAI's contribution at the social level is more oriented toward meaning-making than toward the establishment of social relationships. Overall, while GenAI possesses the capacity for situational simulation and the naturalization of language expression, it is more adept at immersing learners in specific cultural contexts to acquire culturally authentic linguistic and expressive thinking—as compared to facilitating social communicative contact and interpersonal relational development—than at fostering genuine social relations. In other words, social well-being is more dependent on authentic social relationships, whereas cultural well-being can be realized through high-quality linguistic input from GenAI alone. This enables learners to develop the cultural cognition of "I can also express myself the way they do," making GenAI's impact stronger at the level of cultural well-being. Analysis of the coefficients of variation reveals that learners' positive experiences at the cultural level are more stable and consistent.

These findings suggest that GenAI cannot substitute for authentic social interaction in real-life contexts. Consequently, instructors should reinforce classroom activities involving real human interaction—such as group discussions, peer interaction sessions, and teacher-student interaction—to provide learners with more opportunities for genuine communicative practice, encourage students to offer each other emotional feedback in English-language contexts, strengthen interpersonal connections, and thereby enhance social well-being.

Examining the six sub-dimensions individually, using GenAI to train oral English can more substantially enhance the "Social Contribution" dimension, promoting English learners' sense of social value. Learners showed relatively consistent agreement that, through GenAI's targeted communication skills training, they were better able to proactively help others, serve as bridges for cross-cultural communication, and contribute to social development by facilitating international

exchange and cooperation. However, as GenAI is fundamentally a machine, its high level of technical sophistication conceals a lower degree of affective engagement; the absence of genuine human interaction makes it difficult for GenAI to help learners integrate into specific linguistic communities, resulting in limited effects on the "Social Integration" and "Social Acceptance" dimensions. Comparatively, GenAI-assisted oral English training is less effective at improving learners' social relationships, enhancing their sense of social belonging, and increasing their communicative agency. The high mean score of Cultural Acceptance reflects that using GenAI to practice oral English can notably increase learners' familiarity with the target language culture, thereby strengthening cultural identification. The high mean score of Cultural Confidence stems from learners' increased confidence and naturalness in cultural expression following precise error correction, enabling their expression to approach that of native speakers and thus reinforcing cultural self-confidence. In contrast, Cultural Awareness was comparatively weaker among the three cultural well-being dimensions, because learners predominantly viewed GenAI as a test-preparation tool with emphasis on expressive ability, resulting in insufficient deep cultural reflection during usage; the relatively weak impact on Cultural Awareness was a pattern consistently observed across participants.

Therefore, instructors can guide students to use GenAI tools to improve the quality of their expression and to engage in contextualized communication. In this way, cultural acquisition can extend beyond the classroom into daily communicative practice through the integration of GenAI tools. This process can further enhance students' cultural well-being by promoting more standardized and idiomatic language use.

5.2. Analysis of the Mechanisms Through Which GenAI Intervention in Communicative Oral English Learning Influences Learners' Social Integration and Cultural Identity

Drawing on both the questionnaire and interview results, we find that at the current stage, the use of GenAI for oral English practice is highly contextualized and highly goal-driven. A greater number of English learners regard GenAI as an efficient test-preparation tool with rapid short-term outcomes, prized for its convenience, high targeting precision, and repeatability. By providing communicative methods and expressive support, it enhances learners' communicative confidence to some extent, promotes short-term communicative gains, and advances their willingness to participate and degree of social integration in real-world contexts. Although GenAI possesses a "pre-conversation practice" function (Deng et al., 2024), its reversibility may diminish learners' capacity to adapt to the complexity of authentic social situations. In summary, GenAI is predominantly perceived as a "language practice tool" rather than a substitute for genuine social interaction.

All interviewees consistently reported that using GenAI improved their WTC, primarily attributing this to GenAI's low-evaluative, low-social-pressure, high-tolerance-for-error, and low-burden characteristics, which create a "low-risk communicative environment" that reduces foreign language anxiety and allows learners to communicate with a more relaxed mindset. This finding is consistent with Wang et al.'s (2024) discovery that GenAI can enhance WTC and reduce anxiety. Simultaneously, GenAI allows learners to control the pace of learning, topic selection, and mode of error correction, and provides scaffolded feedback, enabling communication to align with learners' proficiency needs and offering progressive guidance and support—thereby improving learners' communicative confidence. This also corroborates Lyu et al.'s (2025) observation that GenAI exhibits significant positive effects on affective dimensions (motivation, interest, anxiety). However, the scaffolded feedback is primarily concentrated at the linguistic level—that is, how to use language more accurately and idiomatically—rather than at the social level; there is comparatively little social interaction and contextual guidance in English contexts, including social relationships, role expectations, and cultural norms. This also accounts for the limitations of GenAI's intervention in oral language training: the expressive confidence built in a low-risk environment does not necessarily translate into communicative adaptability in authentic social situations. The reversibility of GenAI conversations further exacerbates this limitation.

This also provides guidance for classroom English instruction: rather than emphasizing students' "error-free expression," foreign language instructors should focus more on "encouraging students to express themselves boldly"; rather than practicing the mechanical "question-and-answer" format or text recitation in class, foreign language instructors should focus on "guiding students toward fluid, reciprocal expression," thereby forming a complete communicative mechanism. This can be achieved by emulating GenAI's low-evaluative stance and scaffolded feedback approach, training students' adaptability in authentic social contexts.

Regarding cultural identity, the influence of GenAI on learners is more accurately characterized as a tendency to complete language practice using "English-language thinking," rather than a complete understanding and endorsement of the values and perspectives of English-speaking cultures. Cultural identity can be differentiated between surface-level and deep-level dimensions: surface-level cultural identity focuses on logical expression, communicative styles, and thinking patterns, while deep-level cultural identity encompasses value judgments and cultural belonging. Based on the interview data, GenAI intervention more frequently transforms learners' expressive patterns—making them more familiar with English language use—rather than completely shifting their cultural belonging. For example, the interviewees' reference to "reducing output in the form of Chinese-to-English translation" indicates that learners are able, with the assistance of GenAI, to switch to English-language thinking for direct output; however, this does not signify the completion of deep-level cultural identification.

Therefore, in the process of daily English instruction, foreign language instructors should guide students to use GenAI tools outside of class to cultivate English-language thinking, while simultaneously leveraging cultural contexts to strengthen students' cultural confidence, encouraging them to employ English expressive thinking to convey Chinese culture to the international community and thereby enhancing learners' cross-cultural communicative competence.

Taken together, the questionnaire and interview results demonstrate that, in communicative oral English learning, GenAI primarily facilitates learners' WTC and preliminary social participation indirectly by reducing communicative risks and providing linguistic scaffolding. Nevertheless, its role in promoting social integration and cultural identity remains largely context-dependent and instrumental, and ultimately depends on authentic social interaction.

6. Conclusion

This study finds that, in the context of GenAI-assisted communicative oral English learning, Chinese college students' overall sociocultural well-being was at a moderate-to-high level, with cultural well-being scores consistently higher than social well-being scores. GenAI enhanced learners' sociocultural well-being by creating a low-risk communicative environment, providing linguistic scaffolding, and offering immediate feedback, with particularly notable effects on the dimensions of social contribution, cultural acceptance, and cultural confidence. However, its facilitative role on dimensions involving the construction of genuine interpersonal relationships—such as social integration and social acceptance—was comparatively limited. Cultural identity was more evident as a transformation in expressive style and thinking patterns rather than representing the completion of deep-level cultural belonging.

This study is limited by its relatively small sample size and its one-time cross-sectional design, which precludes the capture of dynamic changes in well-being over time. Furthermore, participants predominantly used GenAI in test-preparation contexts, and this instrumental orientation may influence the interpretation of the findings.

Future research could adopt larger samples and longitudinal designs, as well as incorporate experimental comparisons and behavioral data analysis, to examine the long-term effects of different GenAI usage patterns on sociocultural well-being. In addition, it could further develop models of human–machine collaborative oral English instruction to promote learners' deep social participation and cultural identity development.

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