Understanding English Pronunciation Self-Concept Among Chinese University Engineering Students: A Theoretical Framework

Luo Hui (Corresponding author)

Faculty of Technical and Vocational Education, Uniyersiti Tun Hussein Onn Malaysia, Johor, Malaysia

E-mail: gb210123@student.uthm.edu.my

Mohamad Hisyam

Faculty of Technical and Vocational Education, Uniyersiti Tun Hussein Onn Malaysia, Johor, Malaysia

E-mail: mhisyam@uthm.edu.my

Abstract

English pronunciation plays a critical role in second language communication; however, learners' subjective perceptions of their own pronunciation ability remain under-theorized. While pronunciation research has traditionally emphasized intelligibility, accuracy, and instructional effectiveness, comparatively little attention has been given to how learners perceive, evaluate, and emotionally experience their pronunciation performance. Addressing this gap, this paper proposes a theoretical framework for understanding English pronunciation self-concept among Chinese university engineering students. The framework integrates multidimensional self-concept theory, symbolic interactionism, and motivational self-theory to conceptualize pronunciation self-concept as a micro-level learner construct that is socially constructed, motivationally influenced, and contextually embedded. By synthesizing research on language self-concept, pronunciation learning, and sociocultural influences in Chinese higher education, the paper advances a context-sensitive conceptual model. The proposed framework offers a foundation for future empirical research examining pronunciation-related affect and engagement, and it provides pedagogical insight for designing feedback and instructional practices that support positive pronunciation self-concept development

alongside technical accuracy.

1. Introduction

Pronunciation is widely recognized as one of the most salient and emotionally charged aspects of second language (L2) learning. Unlike other language skills, pronunciation is immediately audible, socially evaluable, and closely tied to identity and perceived legitimacy as a language user (Jenkins, 2007; Moje & Luke, 2009). Learners' pronunciation performance often carries symbolic meaning beyond linguistic accuracy, shaping how speakers believe they are judged by others and influencing their sense of belonging in academic and professional communities (Baran-Lucarz, 2013; Shao & Lin, 2022).

Despite its importance, pronunciation research has traditionally been dominated by technical orientations, emphasizing segmental and suprasegmental features, instructional interventions, and listener comprehensibility (Saito, 2021; Wang, 2004). While these approaches have advanced understanding of phonetic accuracy and pedagogical strategies, they have paid comparatively limited attention to learners' subjective evaluations of their own pronunciation ability. This omission is significant, as research in educational psychology demonstrates that self-related beliefs strongly influence engagement, participation, and achievement (Marsh, 2020; Möller et al., 2020). Within L2 research, however, self-concept has most often been examined at a general or skill-aggregated level, leaving pronunciation self-concept conceptually underdeveloped and insufficiently theorized (Mercer, 2011; Fishkova, 2022).

This gap is particularly salient in the context of Chinese university engineering students. English serves as a critical academic and professional resource for this group, underpinning global communication, employability, and professional identity development (Ng & Wong, 2020; Rao, Chen, & Zhang, 2020; Zhao, 2024). At the same time, engineering education emphasizes precision, correctness, and error minimization (Claussen, Osborn, & Ma, 2021; Tonso, 2006). Such disciplinary values may heighten learners' sensitivity to pronunciation deviations and amplify concerns about negative evaluation, especially in high-stakes academic and professional settings (Liu & Dai, 2019; Gao & Chen, 2023). These pressures contribute to anxiety, avoidance, and diminished willingness to communicate, reinforcing the need to examine pronunciation self-concept as a distinct psychological construct.

Against this background, the present paper aims to formulate a theoretical framework for understanding English pronunciation self-concept among Chinese university engineering students. Rather than reporting empirical findings, it makes a conceptual contribution by integrating structural self-concept theory, social constructionist perspectives, and motivational approaches into a coherent, context-sensitive framework. By situating pronunciation self-concept within the intersection of learner psychology, disciplinary identity, and sociocultural values, the paper seeks to illuminate how this construct develops, why it emerges, and how it shapes learners' academic trajectories and professional growth.

2. Literature Review

To construct a robust theoretical framework for pronunciation self-concept, it is essential to synthesize scholarship across three distinct but intersecting domains. This review first establishes the foundational structure of self-concept in educational psychology, moving from

general definitions to the specific hierarchical nature of academic self-beliefs. It then critically examines the evolution of L2 pronunciation research, highlighting the shift from phonetic accuracy to learner-internal perceptions. Finally, the review integrates social constructionist and motivational perspectives to account for the interpersonal dynamics of speech. Collectively, these sections map the theoretical landscape and identify the specific gaps regarding Chinese engineering students that the proposed framework aims to address.

2.1 Self-Concept in Educational and L2 Research

Self-concept has long been recognized in educational psychology as a multidimensional and hierarchical construct (Shavelson, Hubner, & Stanton, 1976; Marsh & Shavelson, 1985). Rather than being a single, undifferentiated belief, self-concept is organized across domains and levels of specificity, allowing learners to hold differentiated perceptions of competence. For example, a student may feel confident in reading comprehension while simultaneously perceiving weakness in oral communication. This structural complexity has been empirically validated across decades of research, with meta-analyses confirming strong links between academic self-concept and educational attainment (Guay, Larose, & Boivin, 2004; Möller et al., 2020). Methodological reviews further emphasize the robustness of this construct, highlighting its predictive power for achievement and motivation across diverse educational contexts (Arens & Schmidt, 2018; Marsh, 2020).

Within second language (L2) learning, language self-concept has been shown to exert reciprocal influence on achievement, willingness to communicate (WTC), and affective variables such as anxiety and confidence (Zheng, 2009; MacIntyre et al., 1998; Marsh & Martin, 2011). Learners who perceive themselves as competent language users are more likely to engage actively in communication, while those with negative self-concepts may avoid interaction, reinforcing cycles of limited practice and reduced proficiency (Marsh & Craven, 2006). Importantly, these reciprocal effects demonstrate that self-concept is both a cause and a consequence of learning experiences, evolving dynamically as learners encounter successes, failures, and social evaluations in their language journey (Harter, 2001; Fishkova, 2022).

However, a persistent limitation in L2 research is that language self-concept is often treated as a broad, aggregated construct, encompassing general perceptions of language ability without sufficient attention to specific sub-skills (Lau, Yeung, & Chow, 1999; Mercer, 2011; Papi & Teimouri, 2014). This aggregation obscures the distinct psychological dynamics associated with skills such as pronunciation, listening, or writing. For instance, a learner may feel confident in vocabulary acquisition yet experience persistent anxiety about pronunciation accuracy, leading to avoidance of oral communication despite overall positive language self-concept (Chen, 2020; Talebzadeh & Gholami, 2015).

Pronunciation represents a domain where self-concept warrants closer examination. Unlike grammar or vocabulary, pronunciation is immediately audible, socially evaluable, and closely tied to identity and perceived legitimacy as a language user (Jenkins, 2007; Baran-Lucarz, 2013). Learners' beliefs about their pronunciation ability can exert disproportionate influence on their willingness to speak, their emotional responses to feedback, and their persistence in

oral practice (Chen, 2020; Suriyah & Adisti, 2024). When learners perceive their pronunciation negatively, they may avoid communication altogether, even if they feel competent in other language skills (Ahmad, 2021; Liu & Dai, 2019; Yan, 2024). This highlights the need to conceptualize pronunciation self-concept as a distinct construct within the broader hierarchy of language self-concept which one that captures the unique psychological, social, and affective dimensions of spoken language learning (Zhao, 2024).

2.2 Pronunciation in Second Language Learning

Pronunciation research in second language (L2) learning has traditionally been technical in orientation, focusing on segmental and suprasegmental features, instructional approaches, and outcomes related to intelligibility and comprehensibility (Saito, 2021; Wang, 2004). This emphasis has generated valuable insights into the phonetic and pedagogical dimensions of pronunciation, yet it has often treated pronunciation as a purely linguistic skill, divorced from the psychological and social realities of learners.

More recently, scholars have begun to highlight the broader social consequences of pronunciation, particularly in professional and academic contexts where spoken English functions as a marker of credibility and competence. For instance, research demonstrates that pronunciation influences perceptions of professional image and communicative legitimacy among engineers and other non-native professionals (Migallos & Parina, 2023; Tian & Pan, 2022). These findings underscore that pronunciation is not merely a technical matter of producing sounds correctly, but a socially evaluable skill that shapes learners' identity, employability, and participation in global communities.

Despite this shift, learners' own perceptions of their pronunciation ability remain comparatively underexplored. Emerging evidence suggests that pronunciation is a significant source of anxiety, avoidance, and reduced willingness to communicate in L2 learning (Baran-Lucarz, 2013; Okyar, 2023; Yan, 2024). Learners who perceive their pronunciation negatively often withdraw from oral practice, reinforcing cycles of limited exposure and diminished confidence. This dynamic illustrates how pronunciation difficulties extend beyond intelligibility to affect learners' emotional well-being and communicative behaviour.

Among Chinese learners in particular, pronunciation anxiety is closely tied to cultural-psychological constructs such as face and collectivism. The fear of losing social standing in front of peers or teachers (Hu, 1944; Fang, 2018) often manifests as avoidance of oral communication, especially when learners anticipate negative evaluation. Heightened error sensitivity, or hyper-awareness of mistakes, further exacerbates anxiety, as learners internalize the disciplinary emphasis on precision and correctness characteristic of engineering education (Claussen, Osborn, & Ma, 2021; Liu & Dai, 2019). In addition, peer comparison plays a critical role, with learners evaluating their pronunciation against classmates and experiencing anxiety when they perceive themselves as falling short (Festinger, 1954; Fang, Wang, & Zhang, 2018; Gao & Chen, 2023). These cultural and social dynamics illustrate that pronunciation difficulties among Chinese engineering students cannot be fully understood without considering the interplay of identity, social evaluation, and disciplinary values.

Hence, these findings underscore that pronunciation should not be conceptualized solely as a technical skill or motor ability. Instead, it must be recognized as a complex, psychologically and socially mediated experience, intimately connected to learners' self-perceptions, emotions, and social interactions (Chen, 2020; Shao & Lin, 2022; Zhao, 2024). This perspective highlights the importance of examining pronunciation self-concept as a distinct construct which one that captures how learners internalize judgments about their pronunciation, how these beliefs shape their communicative behaviour, and how they ultimately influence academic and professional development.

2.3 Social and Motivational Perspectives

To fully understand pronunciation self-concept, it is necessary to move beyond the individual learner and examine the broader social environment in which self-concept develops. Symbolic interactionist theory emphasizes that self-concept evolves through social interaction and interpretation (Blumer, 1969; Mead, 1934). Within this perspective, learners construct their sense of self not in isolation but through continuous engagement with others. Cooley's (1902) notion of the looking-glass self is particularly relevant: individuals evaluate themselves based on how they imagine they are perceived by others. In the context of L2 learning, this means that learners' pronunciation self-concept is shaped not only by direct feedback but also by anticipated or imagined judgments from teachers, peers, and potential employers. Such imagined evaluations can be as influential as explicit feedback, reinforcing cycles of confidence or anxiety depending on whether learners perceive themselves as positively or negatively judged (Li, 2017; Yan & Long, 2020).

Feedback itself plays a critical role in this process. Research shows that teacher feedback can significantly shape learners' self-concept, either strengthen their confidence or amplify their insecurities (Hattie & Timperley, 2007; Puddister, 2015). For Chinese engineering students, whose educational culture emphasizes precision and correctness, feedback on pronunciation may be interpreted through the lens of face and social standing (Hu, 1944; Fang, 2018). Negative evaluations or peer comparisons can therefore heighten pronunciation anxiety, leading to avoidance behaviours that undermine oral proficiency (Fang, Wang, & Zhang, 2018; Gao & Chen, 2023). These dynamics illustrate how social interaction and cultural values converge to shape pronunciation self-concept in ways that extend beyond technical skill acquisition.

Motivational perspectives further underscore the importance of future-oriented self-images in shaping pronunciation self-concept. Dörnyei's (2009) L2 Motivational Self System conceptualizes motivation as arising from the discrepancy between a learner's current self and their ideal L2 self. This framework highlights how learners' aspirations for global competence and professional credibility drive their engagement with pronunciation practice. Empirical studies confirm that discrepancies between current and ideal selves influence both engagement and anxiety, with learners striving to reduce the gap through effort and persistence (Taguchi, Magid, & Papi, 2009; Fathi & Mohammaddokht, 2021). For engineering students, whose professional identity is closely tied to precision and credibility (Claussen, Osborn, & Ma, 2021; Tonso, 2006), the ideal L2 self often includes clear and

intelligible pronunciation as a marker of competence in international collaboration.

These perspectives suggest that pronunciation self-concept is not a simple reflection of linguistic ability but a composite construct shaped by cognitive evaluation, emotional experience, social interaction, and future orientation. Learners' beliefs about their pronunciation are influenced by feedback, cultural values such as face and collectivism, peer comparison, and aspirations for professional legitimacy. However, an integrated framework that unifies these dimensions particularly in the context of Chinese engineering students navigating the dual demands of linguistic competence and disciplinary precision that remains to be established. Addressing this gap is essential for advancing theoretical understanding and for designing pedagogical approaches that support learners' psychological and communicative development.

3. Proposing the Framework

This study proposes a theoretically integrated framework to explain English pronunciation self-concept among Chinese university engineering students. The framework is grounded in established self-concept theory and extends it by incorporating social construction processes, motivational–temporal dynamics, and contextual influences. Together, these dimensions provide a comprehensive account of how pronunciation self-concept is formed, sustained, and enacted in specific educational settings.

3.1 Structural Positioning of Pronunciation Self-Concept

The proposed framework is structurally grounded in the multidimensional hierarchical model of self-concept (Shavelson et al., 1976; Marsh & Shavelson, 1985). Within this model, English pronunciation self-concept is conceptualized as a lower-order, micro-level construct nested within broader language self-concept. This positioning is consistent with empirical evidence demonstrating that learners' self-beliefs vary substantially across specific language skills, such as speaking, pronunciation, or grammar (Lau et al., 1999; Mercer, 2011).

Conceptualizing pronunciation self-concept at the micro level enables greater sensitivity to learners' immediate experiences, instructional practices, and situational feedback, while remaining theoretically coherent with established self-concept hierarchies (Arens & Schmidt, 2018; Marsh, 2020). This structural placement provides the foundation upon which the subsequent dimensions of the framework are built.

3.2 English Pronunciation Self-Concept

Building on this structural positioning, English pronunciation self-concept is defined as learners' self-perceived understanding, evaluation, and emotional experience of their own English pronunciation ability. It encompasses cognitive perceptions of competence, affective responses associated with speaking, and evaluative judgments shaped by personal standards and perceived external feedback (Harter, 2001; Marsh, 2020).

Importantly, this definition emphasizes the subjective and interpretive nature of self-concept. Pronunciation self-concept does not directly mirror objective phonological proficiency but reflects learners' internalized interpretations of their performance and communicative

experiences (Chen, 2020; Talebzadeh & Gholami, 2015). This distinction is critical for understanding why learners with comparable pronunciation abilities may hold markedly different self-concepts.

3.3 Social Construction Processes

Within the proposed framework, pronunciation self-concept is understood as socially constructed through ongoing interaction. Learners actively interpret feedback from teachers and peers (Hattie & Timperley, 2007; Li, 2017), engage in social comparison with classmates (Festinger, 1954; Fang et al., 2018), and internalize perceived social norms through role-taking processes (Mead, 1934; Feng, 2017).

Crucially, these processes are mediated by learners' interpretive agency rather than representing passive internalization of external judgments. Individuals selectively attend to, interpret, and integrate social information in ways that align with existing self-views and goals (Swann, 1987; Mercer, 2011). As such, social interaction serves as a dynamic mechanism through which pronunciation self-concept is continuously negotiated and reshaped.

3.4 Motivational and Temporal Dimensions

The framework further incorporates motivational and temporal dimensions by drawing on the L2 Motivational Self System (Dörnyei, 2009; Dörnyei & Ushioda, 2011). Learners' pronunciation self-concept is evaluated in relation to their imagined future selves as competent English users, particularly in academic and professional communication contexts.

Discrepancies between current pronunciation self-concept and ideal or ought-to future selves can generate motivational forces that influence learning engagement, anxiety, and willingness to communicate (MacIntyre et al., 1998; Papi & Teimouri, 2014). In this way, pronunciation self-concept functions not only as a reflection of past experiences but also as a forward-looking construct that shapes learners' motivational trajectories over time.

3.5 Contextual Embeddedness

Building on the social construction processes and motivational–temporal dynamics discussed above, the framework illustrated in Figure 1 is explicitly situated within the context of Chinese university engineering education. The ways in which learners interpret feedback, engage in peer comparison, and envision future pronunciation competence are not neutral or universal processes; rather, they are embedded within specific institutional, disciplinary, and sociocultural conditions. For engineering students in particular, pronunciation learning experiences are shaped by instrumental learning goals (Zeng & Luo, 2010), exam-oriented instructional practices (Xu, 2017), and disciplinary norms that prioritize precision, accuracy, and technical clarity (Claussen et al., 2021). Collectively, these contextual characteristics influence not only how pronunciation performance is assessed but also how it is socially valued within academic settings.

Beyond institutional and disciplinary factors, broader sociocultural values further mediate learners' affective and evaluative responses to pronunciation use. Cultural orientations toward

face, collectivism, and social harmony shape learners' sensitivity to negative evaluation, their willingness to take pronunciation-related risks, and their emotional reactions to feedback (Hu, 1944; Triandis, 1995; Fang, 2018). As a result, pronunciation experiences are filtered through culturally grounded interpretive frames, which in turn influence how such experiences are internalized and integrated into learners' pronunciation self-concept over time (Liu & Dai, 2019; Zhao, 2024).

Collectively, these contextual influences do not operate in isolation but interact dynamically with the structural positioning, social interactional processes, and motivational orientations outlined in the preceding sections. Accordingly, Figure 1 presents an integrated theoretical framework for understanding English pronunciation self-concept among Chinese university engineering students, capturing the interplay among structural, social, motivational, and contextual dimensions.
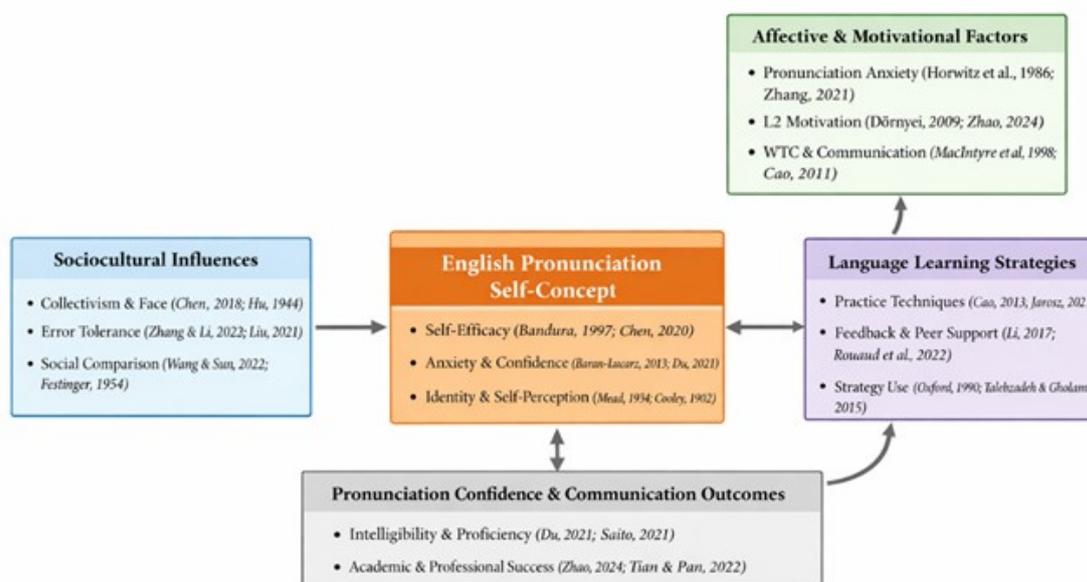

Figure 1. The proposed theoretical framework

Figure 1 presents an integrated theoretical framework that positions English pronunciation self-concept as the central construct influencing and being influenced by multiple interrelated factors among Chinese university engineering students. The framework illustrates how sociocultural influences (such as collectivism, face, and social comparison) shape learners' pronunciation self-concept, which in turn interacts with affective and motivational factors such as pronunciation anxiety, L2 motivation, and willingness to communicate. Pronunciation self-concept also informs the use of language learning strategies, including practice techniques and feedback engagement, and is reciprocally linked to pronunciation confidence and communication outcomes, such as intelligibility, proficiency, and academic or professional success. Overall, the figure highlights the dynamic and reciprocal relationships

among structural, social, motivational, strategic, and outcome-related dimensions.

4. Application of the Framework

Building on the integrated theoretical framework outlined in Figure 1, the proposed model offers a systematic guide for both empirical inquiry and pedagogical practice in the study of English pronunciation self-concept. By conceptualizing pronunciation self-concept as a central construct shaped by sociocultural, affective–motivational, and strategic factors, the framework provides a coherent lens through which researchers and educators can examine learners' pronunciation development in context.

From a research perspective, the framework informs the formulation of research questions, methodological design, and analytical focus. Qualitative studies, for instance, may investigate how learners interpret pronunciation-related feedback, negotiate peer comparison, and construct self-meanings through classroom interaction and broader sociocultural engagement (Creswell & Poth, 2018; Denzin & Lincoln, 2018). Such approaches are particularly well suited to capturing the subjective, interpretive, and socially situated nature of pronunciation self-concept development. Complementarily, quantitative research may operationalize pronunciation self-concept as a multidimensional construct and examine its relationships with variables such as pronunciation anxiety, classroom participation, willingness to communicate, and L2 motivation (Suriyah & Adisti, 2024; Zhao, 2024). Together, these methodological approaches enable a more comprehensive and triangulated understanding of how pronunciation self-concept functions within the proposed framework.

In pedagogical terms, the framework highlights the need to address learners' self-perceptions alongside technical aspects of pronunciation instruction. Rather than focusing solely on accuracy and error correction, educators are encouraged to attend to the affective and motivational consequences of instructional practices. Creating supportive and dialogic feedback environments (Puddister, 2015; Yan & Long, 2020) can help learners reinterpret errors as part of the learning process, thereby fostering more adaptive pronunciation self-concepts. Moreover, instructional practices that promote positive self-evaluation and confidence may reduce avoidance behaviours and anxiety while enhancing learner engagement and sustained participation in spoken communication (Ahmad, 2021; Nangimah, 2022).

Thus, the framework serves as a bridge between theory, research, and practice. It not only advances conceptual understanding of English pronunciation self-concept but also offers practical guidance for designing research studies and instructional interventions that support learners' communicative development in context.

5. Conclusion

This paper has proposed an integrated theoretical framework for understanding English pronunciation self-concept among Chinese university engineering students. Drawing on multidimensional self-concept theory (Shavelson et al., 1976; Marsh, 2020), symbolic interactionism (Cooley, 1902; Mead, 1934), and motivational self-theory (Dörnyei, 2009), the framework conceptualizes pronunciation self-concept as a multidimensional construct that is

socially constructed, motivationally driven, and deeply embedded within specific educational and sociocultural contexts. By synthesizing these complementary theoretical perspectives, the framework offers a coherent explanation of how learners' pronunciation-related beliefs emerge, evolve, and influence communicative behaviour.

The proposed framework contributes to pronunciation research by foregrounding learners' subjective interpretations, affective responses, and self-evaluative processes, which have often been underrepresented in pronunciation-focused studies. As such, it provides a theoretically grounded lens for future empirical investigations employing both qualitative and quantitative approaches. From a pedagogical perspective, the framework underscores the importance of moving beyond a narrow focus on phonetic accuracy to address learners' self-perceptions, confidence, and emotional experiences associated with pronunciation use. Attending to these dimensions may support more sustainable engagement, reduce avoidance, and ultimately foster more effective and confident spoken communication.

Hence, this framework advances conceptual understanding of pronunciation self-concept and offers a foundation for research and instructional practices that align linguistic development with learners' psychological and sociocultural realities.

6. Limitations and Future Research

While this study advances a conceptual framework for understanding English pronunciation self-concept among Chinese university engineering students, it is important to acknowledge its limitations. The framework is **purely theoretical** and has not yet been subjected to empirical testing. As such, its explanatory power and practical applicability remain provisional until validated through systematic research.

Future studies should therefore focus on empirical validation of the proposed framework. This may include:

- **Quantitative approaches**, such as survey-based instruments designed to operationalize pronunciation self-concept and measure its relationship with variables like pronunciation anxiety, willingness to communicate, and L2 motivation.

- **Qualitative approaches**, such as interviews and classroom observations, to capture learners' subjective experiences, interpretations of feedback, and sociocultural influences on pronunciation self-concept.

- **Mixed-method designs**, which can triangulate findings and provide a more comprehensive understanding of how the framework functions in practice.

Additionally, longitudinal studies are recommended to examine how pronunciation self-concept evolves over time, particularly as learners transition from university to professional contexts. Such empirical work will not only test the robustness of the framework but also refine its dimensions, ensuring greater relevance for both research and pedagogy.

References

Ahmad, I. (2021). Avoidance strategies in English oral communication among Chinese

engineering students. *Journal of Language and Education*, *15*(3), 45–60.

Arens, A. K., & Schmidt, I. (2018). The structure of academic self-concept: A methodological review and empirical verification. *Educational Psychology Review*, *30*(2), 337–358.

Baran-Lucarz, M. (2013). The link between pronunciation anxiety and willingness to communicate in the foreign language classroom. In K. Ciepiela (Ed.), *Language, society, and culture* (pp. 25–38). Peter Lang.

Blumer, H. (1969). *Symbolic interactionism: Perspective and method*. Prentice Hall.

Chen, J. (2018). The influence of collectivism on English learning motivation among Chinese students. *Asian EFL Journal*, *20*(5), 123–145.

Chen, L. (2020). Pronunciation self-concept and communication strategies among Chinese EFL learners. *Language Learning Journal*, *48*(4), 456–470.

Claussen, S., Osborn, D., & Ma, J. (2021). Engineering identity development: A review of the higher education literature. *Journal of Engineering Education*, *110*(3), 581–605.

Cooley, C. H. (1902). *Human nature and the social order*. Scribner.

Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches* (5th ed.). Sage.

Denzin, N. K., & Lincoln, Y. S. (Eds.). (2018). *The Sage handbook of qualitative research* (5th ed.). Sage.

Dörnyei, Z. (2009). The L2 motivational self system. In Z. Dörnyei & E. Ushioda (Eds.), *Motivation, language identity and the L2 self* (pp. 9–42). Multilingual Matters. https://doi.org/10.21832/9781847691293-003

Dörnyei, Z., & Ushioda, E. (2011). *Teaching and researching motivation* (2nd ed.). Pearson.

Fang, L. (2018). Face and identity in second language learning. *Journal of Language, Identity & Education*, *17*(4), 215–229.

Fang, Y., Wang, J., & Zhang, L. (2018). Social comparison and English learning anxiety in Chinese university students. *Psychological Reports*, *121*(5), 879–898.

Fathi, J., & Mohammaddokht, F. (2021). Exploring the ideal L2 self and foreign language anxiety among Iranian EFL learners. *Journal of Multilingual and Multicultural Development, 42*(5), 445–460.

Festinger, L. (1954). A theory of social comparison processes. *Human Relations*, *7*(2), 117–140. https://doi.org/10.1177/001872675400700202

Fishkova, T. (2022). Self-concept and language learning: A dynamic perspective. *System*, *104*, 102456.

Gao, X. (2016). *The cultural psychology of Chinese learners*. Educational Science Press.

Gao, Y., & Chen, Y. (2023). Face, collectivism, and error tolerance in Chinese EFL learners' pronunciation anxiety. *Language Awareness*, *32*(1), 45–62.

Guay, F., Larose, S., & Boivin, M. (2004). Academic self-concept and educational attainment level: A meta-analysis. *Journal of Educational Psychology*, *96*(1), 195–204. https://doi.org/10.1080/13576500342000040

Harter, S. (2001). *The construction of the self: A developmental perspective*. Guilford Press. https://doi.org/10.1891/0889-8391.15.4.383

Hattie, J., & Timperley, H. (2007). The power of feedback. *Review of Educational Research*, *77*(1), 81–112. https://doi.org/10.3102/003465430298487

Hu, H. C. (1944). The Chinese concepts of "face." *American Anthropologist*, *46*(1), 45–64. https://doi.org/10.1525/aa.1944.46.1.02a00040

Jenkins, J. (2007). *English as a lingua franca: Attitude and identity*. Oxford University Press.

Lau, I. C., Yeung, A. S., & Chow, B. W. (1999). Toward a hierarchical, multidimensional English self-concept. *Journal of Educational Psychology*, *91*(4), 747–755. https://doi.org/10.1037/0022-0663.91.4.747

Li, C. (2017). Teacher feedback and student self-concept in foreign language learning. *Language Teaching Research*, *21*(5), 623–641.

Liu, M., & Jackson, J. (2008). An exploration of Chinese EFL learners' unwillingness to communicate and foreign language anxiety. *The Modern Language Journal*, *92*(1), 71–86. https://doi.org/10.1111/j.1540-4781.2008.00687.x

Liu, Z., & Dai, J. (2019). Face-saving strategies and English pronunciation avoidance among Chinese engineering students. *Journal of Asian Pacific Communication*, *29*(2), 178–195. https://doi.org/10.1075/japc.00029.liu

MacIntyre, P. D., Dörnyei, Z., Clément, R., & Noels, K. A. (1998). Conceptualizing willingness to communicate in a L2: A situational model of L2 confidence and affiliation. *The Modern Language Journal*, *82*(4), 545–562. https://doi.org/10.1111/j.1540-4781.1998.tb05543.x

Marsh, H. W. (2020). Self-concept theory, measurement and research into practice: The role of self-concept in educational psychology. *British Journal of Educational Psychology*, *90*(S1), 5–24.

Marsh, H. W., & Craven, R. G. (2006). Reciprocal effects of self-concept and performance from a multidimensional perspective. *Perspectives on Psychological Science*, *1*(2), 133–163. https://doi.org/10.1111/j.1745-6916.2006.00010.x

Marsh, H. W., & Martin, A. J. (2011). Academic self-concept and academic achievement: Relations and causal ordering. *British Journal of Educational Psychology*, *81*(1), 59–77. https://doi.org/10.1348/000709910X503501

Marsh, H. W., & Shavelson, R. J. (1985). Self-concept: Its multifaceted, hierarchical structure. *Educational Psychologist*, *20*(3), 107–123. https://doi.org/10.1207/s15326985ep2003_1

Mead, G. H. (1934). *Mind, self and society*. University of Chicago Press.

Mercer, S. (2011). *Towards an understanding of language learner self-concept*. Springer. https://doi.org/10.1007/978-90-481-9569-5

Migallos, C., & Parina, J. (2023). Intelligibility and professional credibility: English pronunciation among non-native engineers. *English for Specific Purposes*, *69*, 1–14.

Möller, J., Zitzmann, S., Helm, F., Machts, N., & Wolff, F. (2020). A meta-analysis of relations between achievement and self-concept. *Review of Educational Research*, *90*(3), 376–419. https://doi.org/10.3102/0034654320919354

Ng, C., & Wong, R. (2020). English as a global language for engineers: A study of perceptions and needs. *Journal of Engineering Education*, *109*(2), 245–263.

Okyar, H. (2023). Pronunciation anxiety and avoidance behavior in Turkish EFL learners. *Eurasian Journal of Applied Linguistics*, *9*(1), 112–125.

Papi, M., & Teimouri, Y. (2014). Dynamicity of language learners' self-concept: A systems approach. *System*, *47*, 98–110.

Puddister, M. (2015). Teacher feedback and student motivation in second language learning. *Canadian Modern Language Review*, *71*(3), 345–367.

Rao, Z., Chen, H., & Zhang, K. (2020). *English communication skills for global engineers: A Chinese perspective*. Springer.

Saito, K. (2021). What characterizes comprehensible and native-like pronunciation among English-as-a-second-language speakers? *TESOL Quarterly*, *55*(3), 866–900. https://doi.org/10.1002/tesq.3027

Shao, Q., & Lin, J. (2022). Pronunciation anxiety and silence in international academic settings: A study of Chinese engineering students. *System*, *110*, 102876.

Shavelson, R. J., Hubner, J. J., & Stanton, G. C. (1976). Self-concept: Validation of construct interpretations. *Review of Educational Research*, *46*(3), 407–441. https://doi.org/10.3102/00346543046003407

Sun, Y. (2015). Face and English learning anxiety in Chinese students. *Journal of Language and Social Psychology*, *34*(5), 567–584.

Suriyah, S., & Adisti, R. (2024). Pronunciation self-concept and oral proficiency gains: A longitudinal study. *Indonesian Journal of Applied Linguistics*, *13*(2), 345–358.

Taguchi, T., Magid, M., & Papi, M. (2009). The L2 motivational self system among Japanese, Chinese and Iranian learners of English. In Z. Dörnyei & E. Ushioda (Eds.), *Motivation, language identity and the L2 self* (pp. 66–97). Multilingual Matters. https://doi.org/10.2307/jj.30945943.7

Talebzadeh, N., & Gholami, M. (2015). English pronunciation self-concept: A study of Iranian EFL learners. *International Journal of Research Studies in Language Learning*, *4*(3), 63–76.

Tian, L., & Pan, M. (2022). English pronunciation and professional image of Chinese engineers in global contexts. *Journal of English for Academic Purposes*, *58*, 101123. https://doi.org/10.1016/j.jeap.2022.101123

Tonso, K. L. (2006). Teams that work: Campus culture, engineer identity, and social interactions. *Journal of Engineering Education*, *95*(1), 25–37. https://doi.org/10.1002/j.2168-9830.2006.tb00875.x

Triandis, H. C. (1995). *Individualism & collectivism*. Westview Press.

Xu, J. (2017). Exam-oriented education and language learning anxiety in China. *Chinese Education & Society*, *50*(3), 234–248.

Yan, J. (2024). Pronunciation anxiety and avoidance behavior among Chinese university students. *Journal of Psycholinguistic Research*, *53*(2), 301–320.

Yan, Z., & Long, H. (2020). Teacher feedback and student motivation in Chinese EFL classrooms. *Language Teaching Research*, *24*(5), 623–642.

Zeng, Y., & Luo, S. (2010). Instrumental motivation and English learning among Chinese engineering students. *Modern Foreign Languages*, *33*(2), 179–187.

Zhang, W., & Li, X. (2022). Cultural-psychological barriers in English pronunciation learning. *System*, *108*, 102831.

Zhao, K. (2024). English pronunciation self-concept and global competence among Chinese engineering students. *Higher Education Research & Development*, *43*(1), 145–161.

Zheng, Y. (2009). Exploring the relationship between language achievement and self-concept. *Foreign Language World*, *4*, 78–85.

Copyrights