Language Maintenance and Shift in Multilingual Ecologies: A Case Study of Ethnic Minorities in Yunnan

Jianbin Yu[1], Ng Boon Sim[1], Roslina Mamat[1]

[1] Faculty of Modern Languages and Communication, Universiti Putra Malaysia, Serdang, 43400, Selangor, Malaysia

Correspondence: Ng Boon Sim, Faculty of Modern Languages and Communication, Universiti Putra Malaysia, Serdang, 43400, Selangor, Malaysia. E-mail: ngboon@upm.edu.my

Abstract

This study aims to address the phenomenon of language maintenance and shift in multilingual ecologies, specifically the ethnic minority communities of Yunnan province in China. The case study focuses on language ecological issues, i.e., language use, language shift, and language preservation, which resulted from language contact and cultural contact between the dominant Chinese communities and the inferior minorities across the region of Yunnan. The smaller language groups have been overlooked in favour of the larger competing languages in previous research concerning linguistic dynamics in Yunnan. By analyzing and evaluating at language competency levels, usage patterns, and skill sets among speakers from the Chinese communities, this paper seeks to restate this omission. Through the integration of language ecology approaches, the survey on everyday use of language, attitudes and transition from questionnaires were analyzed quantitatively pertaining to the impact of evolving sociodemographic factors on language retention and change in the context of Chinese communities. In this study, data regarding linguistic habits were gathered by a questionnaire survey, skill levels, and repertoires within these communities. As part of the research approach, sociolinguistic background data, language repertoires, language usage patterns, and attitudes toward various languages were all examined. The study utilized qualitative data that was collected through semi-structured interviews through the Zoom online platform and direct observations. The research illustrated the dynamic relationship between individual agency and social cause that shapes language attitudes and behaviors of different actors. It is hoped that the research findings contribute to the understanding of linguistic diversity in China, particularly in contemporary multilingual settings which may serve as concrete evidence for policymakers to revitalize ehnic minority languages. The research implies that language change on the formation of individual, group and collective identity, social cohesion within a community, and cultural heritage preservation.

Keywords: Language Maintenance and Shift, Multilingual Ecologies, Yunnan Region, Chinese Communities

1. Introduction

1.1 Introduce the Problem

The study of language maintenance and shift in multilingual ecologies is crucial to modern civilization, as it directly impacts the preservation of linguistic diversity and cultural history. This paper examines the ramifications of language maintenance and shift in the particular multilingual environment of Yunnan, China's ethnic minority. This study explores the linguistic, psychological, and sociolinguistic facets with the goal of identifying the multifaceted causes causing language shift and suggesting language maintenance techniques to protect indigenous languages, knowledge, and culture.

Furthermore, this study intends to investigate the possibilities of language revitalization and halting linguistic genocide, especially in areas where language degradation and assimilation have a history. This research will contribute to our understanding of language preservation and shift in these ecologies by looking at the experiences of ethnic minority communities in Yunnan. It will do this by providing insightful information about the underlying mechanisms of language choices and attitudes within multilingual situations.

The study of language maintenance and shift is an area of linguistics with a convoluted past. Scholars have been more interested in recording linguistic patterns in immigrant families and communities, especially in the United States, since the mid-1960s. Several prominent figures have contributed to this trend including Fishman (1966), Lopez (1978), Clyne (1968), and Skrabanek (1970). The Germanic study tradition on Sprachinseln language enclaves that have refused for generations to adopt the prevailing language of the surrounding society has had an impact on this trend (cited in Pauwels, 2016). Simultaneously, there was a boom in studies pertaining to aboriginal populations, delving into concerns of language preservation and revival (Pauwels, 2016, provides a thorough summary of this facet).

Since language maintenance and change in multilingual ecologies directly affect the preservation of linguistic diversity and cultural heritage, this is an important field of study. Developing solutions to stop the loss and maintain indigenous languages requires an understanding of the factors that contribute to language shift in ethnic minority populations. Research on this problem is being done through a case study on the ethnic minorities in Yunnan, China.

This study aims to determine the factors influencing language shift in these communities and suggests strategies for language maintenance to preserve the indigenous languages, knowledge, and culture through a thorough analysis of the linguistic, psychological, and sociolinguistic implications of language maintenance and shift. It contends that a number of variables interact in complex ways to speed up language transition in these settings, including the perceived lower status of indigenous languages, the economic importance and international renown of dominant languages, historical legacies of language policies, and the linguistic practices of language policy makers.

In addition, this study intends to investigate the possibility of halting linguistic genocide and reviving languages, especially in a nation like China where language assimilation and erosion have a well-documented past.

Through an analysis of Yunnan's ethnic minority communities' experiences, this study aims to illuminate the mechanisms that underlie language choices and attitudes in these multilingual environments. The results will improve our knowledge of language shift and maintenance in multilingual ecologies and provide guidance for future research aimed at safeguarding cultural heritage and linguistic diversity in related contexts.

Additionally, current social psychological models of second language learning in cross-ethnic contexts will be compared and critically assessed in this study. This will improve our comprehension of the variables influencing the successful acquisition of a second language in multilingual communities and aid in identifying the shortcomings in the current models. This research emphasizes the potential of translanguaging as a pedagogical strategy in heritage language teaching through the use of ethnographic field notes, interviews.

1.2 Reasons of Multilanguage Dynamics

Studying language dynamics in multilingual contexts is significant for several reasons:

1）Cultural Understanding**:** Culture and language are closely related. Through examining language dynamics in multilingual environments, scholars can acquire a deeper understanding of the subtle cultural differences, beliefs, and actions of various groups. This comprehension promotes intercultural harmony and discussion as well as cultural appreciation.

2) Social Integration and Cohesiveness**:** Social integration and cohesiveness are issues that multilingual societies frequently deal with. Comprehending language dynamics aids policymakers in formulating tactics to promote inclusion and ease communication amongst heterogeneous linguistic communities. Stronger social links and a decrease in hostilities between various communities may result from this.

3) Education and Literacy: Language is essential to education and literacy in multilingual settings. Teachers can create effective language teaching strategies that accommodate the linguistic variety of their students by researching language dynamics. Additionally, it supports the creation of multilingual education policies that guarantee all language groups equitable access to high-quality education.

4) Economic Opportunities: Being multilingual might help one in the international marketplace. Businesses may more easily spot market possibilities, customize goods and services for linguistically diverse markets, and interact with clients in their chosen language when they have a solid understanding of language dynamics. Additionally, it makes it possible for people to learn languages, which improves their employability and job possibilities.

5) Language Policy and Planning: Language policies affect public services, media, education, government, and other facets of society. Researching language dynamics helps to develop new language policies that cater to the demands and rights of linguistic minorities and provide light on how effective currently implemented language policies are. This can encourage attempts to revitalize languages, protect endangered languages, and foster linguistic diversity.

6) Psycholinguistics and Cognitive Development: Knowledge of how people learn, use, and transition between different languages in multilingual environments provides insight into the cognitive mechanisms that underlie language acquisition and communication. Theories of language acquisition, bilingualism, and cognitive development are all affected by this information.

In conclusion, research on language dynamics in multilingual settings is critical to improving our knowledge of language and cognition as well as fostering social cohesion, educational justice, economic progress, and cultural understanding.

When two languages are first getting to know one another, they could exhibit distinct patterns of distribution across distinct domains. It is possible to assign more informal and personal domains to the minority language and public and formal realms to the majority language. The last strongholds of the dominant language's survival are typically the family, religion, folktales, and music.

2. Literature Review

The language ecology theoretical framework is employed to examine language usage patterns in Chinese populations residing in Yunnan. This aids in our comprehension of language change and maintenance in a multilingual environment. By drawing an analogy between language ecology and the ecosystem, the importance of the environment in which several languages coexist is emphasized by language ecology. Languages are seen of as dynamically coexisting in a certain geographic or social location, and language ecology is conceptualized as a metaphor that may be applied to them (Blackledge, 2009; Haugen, 1988; Steffensen & Fill, 2014). Language use creates fundamental relative power relations within any particular collection of languages, much like real creatures in the natural world experience touch and competition with one another (Haugen, 2001; Mackey, 2001). Similar struggles to maintain use in the face of pressure from dominant languages are faced by entities at the bottom of the linguistic hierarchy, such as minority HLs (Mühlhäusler, 2000).

Thus, one of the main objectives of language-ecological research is to comprehend how distinct languages negotiate positions to live in many environments and under diverse circumstances. The goal of the ecological approach is to shift the focus of linguistics study from

static and decontextualized structuralism to language activities as an essential component of social human activity, with an emphasis on "the complex web of connections among speakers of different languages, their surroundings, and their environments (Wendel, 2005, p. 51).

Researchers have proposed, for example, Haugen (2001, p. 57), that a language's ecology is partly psychological in terms of its speakers and partly sociological in terms of the language's social attribution. This indicates that each speaker's decision to acquire, use, and transmit a specific language determines the language's use, maintenance, and development within a given environment.; however, the broader social environment, in which languages assume various social roles and values that would the linguistic actions of individual speakers, also has an impact on them. Thus, "how languages are shaped and changed by their environment and reciprocally, how the environment is shaped by languages" is of special importance to the study of language ecology (Wendel, 2005, p. 51). There is close interaction between the languages used, their speaker bases, and the linguistic and social context (Garner, 2005, p. 97).

The previously mentioned viewpoint is especially relevant to our main argument in this work, which is that as the researchers discuss in the paper the changing sociodemographic profiles of Chinese immigrants who came to the city at different points in time have a big influence on the language maintenance and shift processes of the Chinese communities. This supports the way the researchers research language change and maintenance as a community-level process rather than focusing on specific generational shifts in language use within families (Hulsen, 2000; Li, 1994). Rather, our goal is to show how Chinese HL speakers' collectively vast language repertoires, as observed now, are linked to long-term, macro-level changes in the urban environments in which they live and work as well as the communities in which they do so.

Thus, our findings indicate that the ethnolinguistic group's attitudes and linguistic preferences, the linguistic environment of the city, which extends beyond their immediate community, has a considerable impact on the language repertoires and domain-based language usage of individuals within Chinese groups in Yunnan. The researchers classified participant language habit data using Fishman's domain analysis (1972) in order to examine these patterns of language use. This method aids in our understanding of how people with varied sociodemographic backgrounds use language proficiency in a variety of situations and with different people. Through an analysis of the interactions between Chinese language practices, the demographics of Chinese community members, and the larger multilingual context of the city, our methodology of choice offers important new perspectives on the dynamics of language maintenance and change within smaller immigrant minority groups in a complex multilingual environment with lots of opportunities for interaction.

3. Methodology

This section explores the selection criteria for participants as well as the conceptual foundations that guide the study techniques. The research utilizes a quantitative methodology to guarantee the validity and consistency of its conclusions, in keeping with its stated objectives and design.

Through a pilot study, researchers identified crucial investigation areas and refined the study's conceptual framework. Furthermore, a preliminary survey helped uncover potential flaws in the technique, facilitating improvements in the survey design.

Utilizing a quantitative methodology, the study utilizes a survey tool to gather essential data. It investigates the anticipated transformations resulting from the full integration of modern technology into classrooms and the process of digitization. Specifically, it explores the dynamics of language maintenance and shift in multilingual environments. A rigorous measurement framework forms the basis for collecting quantitative data, employing questionnaires as the primary means.

The research questions undergo refinement following a review of methodologies in applied linguistics research, culminating in the selection of an appropriate strategy for this study. Subsequently, the researchers elucidate and justify the chosen data analysis techniques and processes, alongside detailing the sample population. Additionally, the design and components of the research instruments are comprehensively elucidated and illustrated.

3.1 Research Questions
1) How are language shift and maintenance perceived by ethnic minorities in Yunnan?
2) What effects does language preservation or language change have on ethnic minorities' cultural identities in Yunnan?
3) What tactics can be used to encourage Yunnan's ethnic minority to maintain their language?

3.2 Instruments

To collect information on language behaviours, proficiency levels, and repertoires within Chinese communities, the researcher constructed questionnaire survey based on earlier studies by Marian et al. (2007), Tsai (2010), and Xiao (1998). It was divided into the subsequent sections:

1) Sociolinguistic background data, including gender, education level, nationality, occupation, and length of time living in Yunnan.
2) Language repertoires, which use self-reported competency tests in many languages and dialects.
3) Usage patterns of language with diverse interlocutors, including friends, neighbours, parents, spouses, and kids, as well as in a variety of sectors.
4) A brief section addressing perspectives on the relative value of various languages and the preservation of heritage languages (HL) in general.

Open-ended questions made up Section 1, whereas Likert scales with 11 points were used in Sections 2 and 3. Participants were asked to rate their agreement with statements on language and multilingualism on an 11-point Likert scale. For example, they were asked to rate whether

they thought that "the proficiency in multiple languages enhances a person's abilities."

Respondents might choose their preferred language from four available languages: Mandarin, English, French, and Dutch. Participants also got an informed consent form that included more information about the study and how their anonymized data would be used in research.

3.3 Process

In order to verify the legitimacy of the responses, a survey was carried out in the Yunnan Region between October 2023 and February 2024 using social media strategies via Zoom. Based on availability, convenience sampling was used, understanding the difficulties in creating a representative sample because Chinese communities are dispersed and there is a dearth of population data. In her capacity as the interviewer, the first author made contact with the participants by phoning a variety of Chinese-owned businesses, including cafes, retail stores, supermarkets, churches, and educational institutions. Engagement was also promoted by taking part in ethnically themed events and activities run by the local Chinese organizations.

When it came to participant selection, ethnic self-identification was the main criterion. This included people who identified as at least partially Chinese or Chinese heritage. This method was chosen over formal requirements like nationality, place of birth, or native tongue because it acknowledged that these measurements might not accurately reflect the diversity of the community and might be impacted by "intergenerational erosion," as highlighted by Extra and Mur (2006, p. 51). Rather, the self-categorization method recognizes that a strong ethnic identification is not limited to first- and second-generation immigrants alone.

4. Results and Discussion

The researchers received 200 valid answers to our survey. Though there is very little demographic information available on the communities under investigation, based on official statistics from 2018, the researchers are sure that our sample accurately captures the demographic makeup of the Chinese communities under study, including important social traits that reflect the diversity of these communities.

Table 1 displays numerous noteworthy demographic factors for our sample. Only 20% of other citizens are of Chinese heritage, and the participants' gender distribution is generally balanced. Chinese nationals make up the majority of responders. The majority of the Chinese nationals in our sample (20%) are from Zhejiang province, but they are from all around mainland China, Hong Kong, Taiwan, and countries in Southeast Asia.

Thus, composition of Chinese communities is often similar to this. Fifty percent of the participants are newer residents, with the remaining fifty percent having resided in the city for five years or more. With almost half of the participants under 40, the sample is rather youthful (M = 31.8, SD = 12.9). While less than 40% of respondents in our sample only have a secondary or less education, most respondents have a bachelor's degree or beyond. When it comes to occupation, about one-third are students, made up of both foreign-born students (74%) and region-born students (18.1%). The residual cohorts comprise unskilled labourers (24.0%), independent contractors (24.0%), and professionals (16.5%).

Table 1. Respondents' Demographics (N=200)

Answer	%
16–30	38.0%
31–39	27.0%
40–49	19.5%
% 50+	15.5%
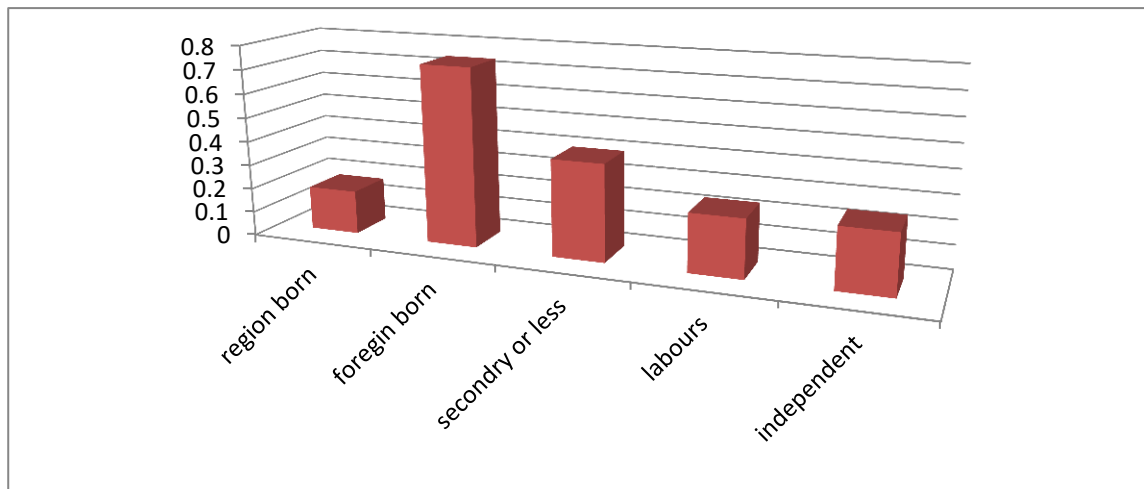
Figure 1. Respondents Age Cohorts
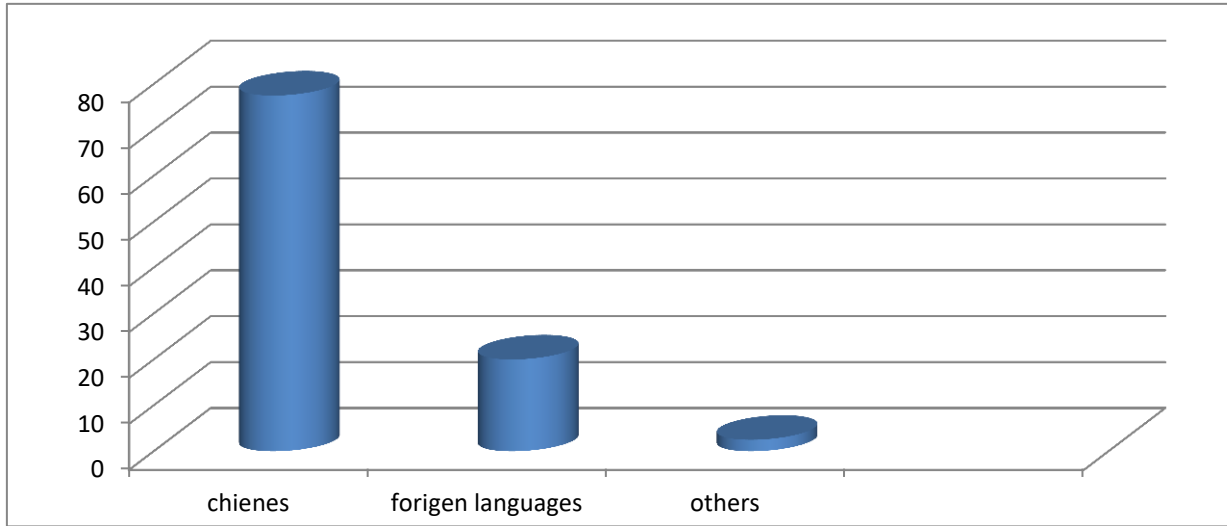
Figure 2. Respondents Nationality

Table 2. Respondents Work Title

Answer	%
Scholars	31.0%
Independent contractor	24.0%
Untrained labourers	24.0%
Experts	16.5%
Jobless	4.0%
No longer employed	0.5%

Table 3. Respondents Proficiency in Education

Answer	%
Initially	9.0%
Secondary level	7.5%
Upper secondary	22.5%
Bachelor's degree or an appropriate level	30.0%
Master's degree or above	25.0%
Doctorate or a similar degree	6.0%

The demographic makeup of communities closely mirrors broader society. Over 91.8% of self-employed individuals and 65.2% of unskilled workers have resided in other countries for over five years. Conversely, a significant portion of professionals (58.1%) and students (88.9%) are recent arrivals. While the majority of professionals opt to remain in other countries (83.9%), about a 3% of students plan to return to China upon completing their studies.

Language Vocabularies

Our results cast doubt on the widely held belief that Chinese groups are exclusive and centered around a single language. Figure 2 illustrates that a substantial proportion of participants in Yunnan stated that they regularly use three (38%), four (24%), or even five (7.5%) languages. The percentage of people who are monolingual is incredibly low (2.5%), whereas the percentage of people who are bilingual is slightly higher (28%). Regardless of age groups, occupational classes, or educational levels, the median number of languages used on a daily basis stays at 3. The fact that multilingualism is so commonplace highlights how normal it is and points to a very positive language environment.

Table 4. Language Vocabularies

Terminology	Participants	%
Mandarin	199	99.5%
French	142	71.0%
English	138	69.0%
Chinese dialects (grouped)	78	39.0%

In terms of languages spoken, self-reported lists show that Mandarin is the most often spoken language, arranged in decreasing order of usage frequency. The tremendous positivity that people have for Mandarin serves as more evidence of its supremacy. Mandarin received the highest relevance score (Mdn = 10) from 61.5 percent of respondents were asked to rate the importance of different languages on a scale from 0 (not important at all) to 10 (very important). As a result, Mandarin is firmly entrenched among a heterogeneous and diversified collection of community members who are from different parts of China as the primary intra-community language.
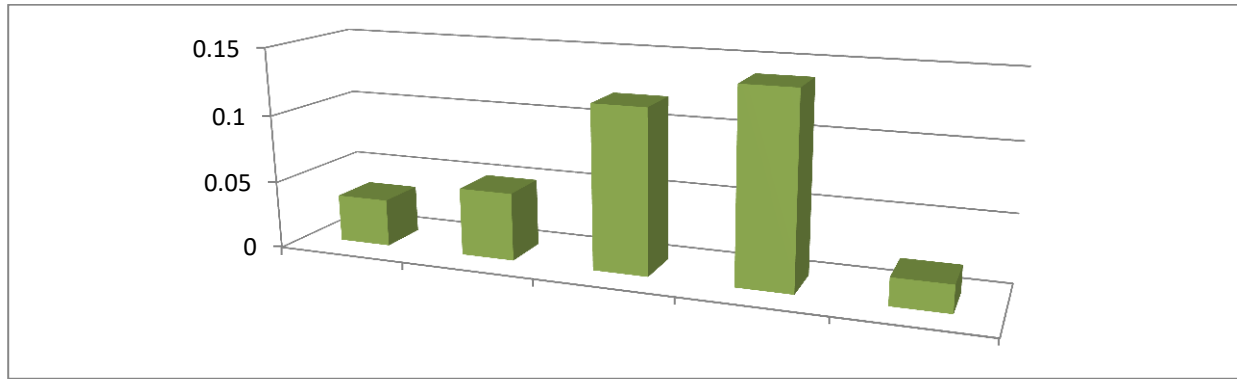
Figure 3. Spoken Languages

Although Mandarin is the language of choice for everyday communication, almost 60% of respondents said that they speak both English and French on a daily basis and that they both have equal importance (Mdn = 8 for both languages). This is indicative of the multilingual environment of yunnan, where multiple major majority or dominant languages coexist, despite Yunnan's lack of English's co-official status.The motivation behind sticking to French and English is obviously utilitarian, as evidenced by the extremely high agreement ratings for the attitudinal statements "speaking the majority language offers doors for the future (67 percent of respondents in maximal agreement, or an 11/11 score) and "speaking the majority language makes my daily life easier" (70.5 percent in maximal agreement).

Except for non-Chinese languages, several respondents also pointed out the usage of minority languages and Chinese dialects in China, most notably Tibetan, which was noted by 3.5 percent of the respondents.

Combining Chinese dialects makes them the fourth most popular linguistic category among our respondents, following Mandarin, French, and English. However, it is probable that the use of dialects is still not widely acknowledged. The most usually mentioned dialects are Cantonese (16%), Wenzhounese (12%), Hokkien (3.5%), and Shanghainese (2%). The majority of non-speakers, who are younger speakers, do not see dialects as being very important, whereas speaking persons do (Mdn = 10).

Expertise and Significance

With a few notable exceptions, respondents' self-reported language proficiencies, especially those who indicate some degree of skill in the target language, generally correspond with the language usage patterns previously addressed. Most of the participants demonstrate fluency in Mandarin and Chinese dialects. The Mandarin speaking and writing skills of the participants were reported as extremely responsive and proficient (reading: median = 10, mean = 8.9; speaking: median = 9, mean = 10; listening: median = 9, mean = 10; writing: median = 9, mean = 9.1; overall proficiency: median = 11, mean = 8.9). The high Mandarin scores even further highlight this extraordinary ability. On the other hand, self-reported proficiency in non-Chinese languages is minimal, even with the widespread usage and favourable opinions of English and French as previously mentioned. However, both English and French had very high significance scores (median = 8 and mean = 6.3 for French, and median = 8 and mean = 6.6 for English).

Respondents generally show a greater overall command of English (median = 7) compared to French (median = 5). While older respondents tend to suggest slightly stronger French competence, English proficiency tends to grow with age groups. Interestingly, respondents' familiarity with Dutch is even lower (median = 3), which may be related to their belief that the language is unimportant, in contrast to their generally positive attitudes towards Mandarin, which is viewed as essential for economic and career opportunities. Additionally, Dutch is rated as having very little importance (median = 0, mean = 2.6), indicating little desire to learn the language. Only 6% of respondents said they were interested in studying this language.

Multilingual Approaches in Various Fields

The given Table shows that monolingualism is most prevalent in the family domain, with the exception of interactions with children. Most people exclusively speak one language with their parents (70%) and spouse (69.5%). Notably, because our focus was on language dynamics within Chinese communities in Yunnan, we did not include the parents of many of the first-generation migrant respondents who currently live in China. It is noteworthy, therefore, that a larger percentage of respondents (53.0%) reported having grown up bilingual or multilingual, which is more common than having grown up monolingual (47.0%). When examining interactions between generations with parents, spouses, and children, there is a noticeable change in language usage patterns that points to a trend towards more varied language repertoires in the family domain.

Instead, of only switching from one language to another, this tendency points to a change in family life from monolingual to multilingual practices. Contrary to the monolingual trend seen in families, interactions with friends display extensive multilingual repertoires, but conversations with neighbours typically follow a monolingual pattern. The fact that 84% of respondents said they had used two or more languages in social situations shows how multilingual Chinese communities are, especially when it comes to public areas. Furthermore, colleagues frequently speak other languages, defying the myth that Chinese immigrants work largely in ethnically specific family companies like catering or wholesaling. In general, these results support the idea that Chinese communities, particularly in public settings,

have highly multilingual attitudes.

Table 5. Neighbourhood, Work and Friendship

The quantity of languages used	guardians (n=49)	partner (n=130)	kids (n=88)	coworkers (n=169)	mates (n=200)	adjacent residents (n=155)
1	70%	69.5%	46.6%	52.0%	16.0%	71.1%
2	24%	23.7%	42.0%	40.1%	57.0%	22.0%
3+	6%	6.8%	11.4%	7.9%	27.0%	6.9%

As the researchers previously mentioned, speaking multiple languages is commonplace when interacting with friends and coworkers for pleasure. Given the relatively large communication space of these domains, this might not come as a surprise and could also account for the increased usage of monolingual language with neighbors.

However, among friends in every age group, Mandarin and Chinese dialects continue to predominate, highlighting the significance of interethnic relations in Chinese communities.

For the older respondents, French serves as the primary language of exchange when interacting with friends and neighbors who do not understand Chinese, but English is gradually replacing French in this regard among younger individuals. This is consistent with our previous finding that younger respondents self-rate their English ability higher than older respondents do so.

5. Conclusion

5.1 Findings

This study delves into the language repertoires, proficiencies, and specialized linguistic preferences among members of Yunnan's Chinese communities, aiming to comprehend the dynamics of language preservation and transition. By correlating these findings with the evolving socio-demographic profiles of the participants, we've identified shifts in language practices aligning with Yunnan's diverse multilingual and increasingly global environment. By examining the interplay of surroundings, speakers, and languages, we conclude that language maintenance and transition within the Chinese communities are influenced by both the linguistic landscape of Yunnan and the migration patterns of its members. Regarding heritage language (HL) preservation in the area, we posit that the presence of multiple dominant languages likely fosters the retention of Mandarin, particularly supported by its own ethno-linguistic groups. However, it's important to acknowledge the limitations of our study. Firstly, the sample size is relatively small (N = 200), cautioning against broad generalizations. Secondly, our reliance solely on questionnaire surveys could have been supplemented with qualitative methods like in-depth interviews and onsite observations to capture deeper attitudes and ideologies. Despite these constraints, our study presents a compelling case of HL maintenance and transition in Yunnan, offering empirical insights and expanding understanding of language practices within immigrant communities in multilingual contexts. This underscores the potential of linguistic diversity as an asset for fostering genuine multilingualism. Moreover, our results clarify the complex process of HL maintenance and highlight the significance of investigating hybridization, appropriation, co-construction, and adaptation in particular sociolinguistic contexts. Our research should have wider ramifications for comprehending the linguistic dynamics of other minority immigrant communities.

5.2 Recommendations and Suggestions for Future Research

Suggestions and Recommendations for future strategies in language maintenance and shift within multilingual ecologies, particularly regarding ethnic minorities in Yunnan, could encompass the following:

1) Policy Support: It's crucial for government policies to safeguard and promote minority languages, ensuring their presence in public domains like education, media, and official communication.

2) Educational Programs: Implementing bilingual or multilingual education schemes that incorporate native languages can greatly benefit minority students, aiding in language preservation and relevance in contemporary contexts.

3) Community Engagement: Actively involving ethnic communities in designing and managing educational and linguistic initiatives can enhance their effectiveness and cultural resonance.

4) Research and Documentation: Continued research, documentation, and development of written materials for minority languages are essential for their preservation. Digital tools can aid in creating accessible language resource databases.

5) Capacity Building: Providing training for teachers and linguists within minority communities can bolster their capacity and support effective language education.

6) Cultural Initiatives: Hosting cultural events that celebrate linguistic diversity can raise awareness of the value of minority languages and promote their everyday use.

7) Technology Integration: Leveraging modern technology, such as mobile apps and online resources, can facilitate learning and usage of minority languages, particularly among younger generations.

8) Socioeconomic Development: Supporting socioeconomic progress in minority regions can alleviate pressure to shift to dominant languages for practical reasons, thereby contributing to language maintenance.

9) Collaborative Projects: International and interdisciplinary collaborations can bring fresh insights and innovative approaches to language maintenance strategies.

These recommendations advocate for a holistic approach encompassing policy, education, community involvement, technology, and socioeconomic development to support the vitality of minority languages in Yunnan and similar diverse linguistic contexts.

Certainly! Here are some even more specific recommendations tailored to address language maintenance and shift in the context of ethnic minorities in Yunnan:

1) Policy Advocacy: Work towards influencing government policies to recognize and protect minority languages, ensuring their inclusion in education, media, and official communications.

2) Curriculum Development: Collaborate with local communities and education authorities to develop bilingual or multilingual education programs that integrate minority languages into the curriculum.

3) Teacher Training: Establish programs to train teachers proficient in minority languages, equipping them with the necessary skills to teach these languages effectively.

4) Community Empowerment: Empower ethnic minority communities to take ownership of their linguistic heritage by providing resources and support for language revitalization efforts.

5) Language Documentation: Support initiatives for documenting and preserving minority languages through research, digital archiving, and the creation of language resources.

6) Cultural Preservation: Promote cultural events and activities that celebrate linguistic diversity and encourage pride in minority languages and cultures.

7) Media Representation: Advocate for increased representation of minority languages in mainstream media, including newspapers, radio, and television.

8) Technological Innovation: Explore the use of technology, such as mobile apps and social media platforms, to create digital resources and facilitate language learning and communication.

9) Cross-disciplinary Collaboration: Foster collaborations between linguists, educators, community leaders, and policymakers to develop comprehensive strategies for language maintenance and revitalization.

10) Sustainable Development: Address socioeconomic disparities in minority regions to alleviate pressure for language shift, promoting economic opportunities while respecting cultural identities.

11) Public Awareness Campaigns: Launch campaigns to raise awareness about the importance of linguistic diversity and the value of preserving minority languages for future generations.

12) Evaluation and Monitoring: Establish mechanisms for ongoing evaluation and monitoring of language maintenance efforts to assess their effectiveness and make necessary adjustments.

By implementing these recommendations in a coordinated manner, stakeholders can work towards preserving and revitalizing the rich linguistic heritage of ethnic minorities in Yunnan and ensuring its continued vitality within the broader multilingual ecology of the region.

Authors contributions

Jianbin Yu is a PhD candidate from Universiti Putra Malaysia. She is responsible for the entire fieldwork data collection, data analysis and write- up for the manuscript. Dr. Ng Boon Sim and Assoc. Prof. Dr. Roslina Mamat supervised and guided in research framework and manuscript revisions. All authors read and approved the final manuscript, all authors contributed equally to the study.

Funding

Competing interests

All authors declared that they have no competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Informed consent

Obtained.

Ethics approval

The Publication Ethics Committee of the Sciedu Press.

The journal's policies adhere to the Core Practices established by the Committee on Publication Ethics (COPE).

Provenance and peer review

Not commissioned; externally double-blind peer reviewed.

Data availability statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

Data sharing statement

No additional data are available.

Open access

This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (http://creativecommons.org/licenses/by/4.0/).

Copyrights

Copyright for this article is retained by the author(s), with first publication rights granted to the journal.

References

Blackledge, A. (2009). "As a country we do expect": The further extension of language testing regimes in the United Kingdom. *Language Assessment Quarterly, 6*(1), 6-16. https://doi.org/10.1080/15434300802606465

Clyne, M. (1968). The maintenance of bilingualism. *Australian Journal of Education, 12*(2), 125-130. https://doi.org/10.1177/000494416801200202

Extra, G., & Mur, K. Y. (2006). Immigrant minority languages at home and at school: A case study of the Netherlands. *European Education*, *38*(2), 50-63. https://doi.org/10.2753/EUE1056-4934380204

Fishman, J. A. (1966). Language maintenance in a supra-ethnic age: Summary and conclusions. J. Fishman et al., *Language Loyalty in the United States*. The Hague: Mouton.

Fishman, J. A. (1972). *The sociology of language: An interdisciplinary social science approach to language in society* (p. 4). Rowley: Newbury House Publishers.

Garner, M. (2005). Language ecology as linguistic theory. *Kajian Linguistik dan Sastra*, *17*(33), 91-101. https://doi.org/10.23917/kls.v17i2.4485

Haugen, E. (1988). Language and ethnicity. M. A. Jazayery, E. C.Polomé, & W. Winter, *Languages and cultures: studies in honor of Edgar C. Polomé*, 235-245. https://doi.org/10.1515/9783110864359.235

Haugen, E. (2001). The ecology of language. *The Ecolinguistics Reader: Language, Ecology and Environment*, 57-66.

Hulsen, M. E. H. (2000). *Language loss and language processing: Three Generations of Dutch Migrants in New Zealand*. [Sl: sn].

Li, K. P. (1994, April). Automatic language identification using syllabic spectral features. In *Proceedings of ICASSP'94. IEEE International Conference on Acoustics, Speech and Signal Processing*, *1*, I-297. IEEE.

Lopez, D. E. (1978). Chicano language loyalty in an urban setting. *Sociology and Social Research, 62*(2), 267-78.

Mackey, W. F. (2001). The ecology of language shift. *The Ecolinguistics Reader: LANGUAGE, Ecology, and Environment*, 67-74.

Marian, V., Blumenfeld, H. K., &Kaushanskaya, M. (2007). *The Language Experience and Proficiency Questionnaire (LEAP-Q): Assessing language profiles in bilinguals and multilinguals.* Routledge. https://doi.org/10.1044/1092-4388(2007/067)

Mühlhäusler, P. (2000). Language planning and language ecology. *Current Issues in Language Planning*, *1*(3), 306-367. https://doi.org/10.1080/14664200008668011

Pauwels, A. (2016). *Language maintenance and shift*. Cambridge University Press. https://doi.org/10.1017/CBO9781107338869

Skrabanek, R. L. (1970). Language maintenance among Mexican-Americans. *International Journal of Comparative Sociology, 11*, 272. https://doi.org/10.1177/002071527001100402

Steffensen, S. V., & Fill, A. (2014). Ecolinguistics: the state of the art and future horizons. *Language Sciences*, *41*, 6-25. https://doi.org/10.1016/j.langsci.2013.08.003

Tsai, S. L. (2010). Language skills and status attainment in Taiwan. *Journal of Language, Identity, and Education*, *9*(4), 229-249. https://doi.org/10.1080/15348458.2010.503914

Wendel, J. N. (2005). Notes on the Ecology of Language. *Bunkyo Gakuin University Academic Journal*, *5*, 51-76.

Xiao, H. (1998). Chinese language maintenance in Winnipeg. *Canadian Ethnic Studies Journal*, *30*(1), 86-98.