Dean&Francis
ISSN 2959-6122

AL004552

Comparative Study on Language Transfer of English Soundless Plosives Perception among EFL Learners with different L1: Cantonese, Mandarin, and Changsha Dialect

Yiran Hao[1],

Zhuoran Li[2],

Xinpeng Zhang[3]

School of Foreign Languages, Beijing University of Technology, Beijing,100124, China, haoyiran0402@gmail.com
College of International Studies, Shenzhen University, Shenzhen, 518000, China, 3229780265@qq.com
School of Foreign Languages, Central South University, Changsha,410083, China, 3087383729@qq.com

Abstract:

This paper investigates the perception of English voiceless plosives (/p/, /t/, /k/) by EFL learners from Cantonese, Mandarin, and Changsha dialect backgrounds, addressing gaps in existing research. We employed a rigorous experimental design involving 60 participants who underwent perception tests using audio materials generated by both native speakers and artificial intelligence. The results revealed significant differences in perception patterns among the three groups, with Cantonese speakers exhibiting the most pronounced transfer effects. Mandarin and Changsha dialect speakers showed relatively similar perception patterns, suggesting the absence of final consonants may lead to uniform transfer effects. This study highlights the importance of considering phonetic transfer in language teaching, offering insights for developing targeted teaching strategies to improve English education quality in China. Our findings contribute to the theoretical understanding of language transfer and have practical implications for second language acquisition, suggesting future research should include broader linguistic contexts and longitudinal studies.

Keywords: Language Transfer, Voiceless Plosive Perception, EFL, Cantonese, Mandarin, Changsha Dialect

1. Introduction

Language transfer refers to the influence of a learner's native language on the acquisition of a second language (L2). This influence can be either positive or negative. Language transfer plays a crucial role in the language learning process, especially in phonetic perception, directly affecting the learner's ability to accurately understand and produce sounds in the target language. For learners whose native languages are different Chinese dialects, the complex phonetic system of English presents unique challenges, particularly for tonal languages like Cantonese, Mandarin, and the Changsha dialect.

Previous research on language transfer has seen significant development. Early studies mainly focused on theoretical frameworks and qualitative analyses. Researchers such as Dai Weidong and Wang Dong (2002) emphasized the importance of understanding the language transfer experienced by Chinese English learners, noting the unique challenges these learners face [1]. In recent years, some studies have attempted to quantify these effects, exploring how specific phonetic features of Chinese dialects influence the acquisition of English. For example, Chen Xiaoxiang et al. (2021) investigated the prosodic features of Cantonese and the Changsha dialect and their impact on English, providing valuable insights into positive and negative transfer [2].

However, despite the progress made, there remain many gaps in our understanding of this field. Existing studies often limit themselves to comparing one Chinese dialect with English, which may lead to attribution errors. Furthermore, many studies are predictive in nature and lack empirical validation through experimental methods. In English, the transfer effects are particularly evident in the phonetic category of voiceless plosives (/p/, /t/, /k/), as there are significant differences between English and Chinese dialects in this aspect.

This study aims to fill these gaps by conducting a comparative analysis of EFL (English as a Foreign Language) learners from Cantonese, Mandarin, and Changsha dialect backgrounds. By including multiple Chinese dialects, our study provides a more comprehensive understanding of how different phonetic systems influence the perception of English sounds. This approach enhances the accuracy and reliability of our findings, making a valuable contribution to the field of language transfer research.

Our study employs a rigorous experimental design, using a set of carefully prepared audio materials. These materials include sounds generated by both native speakers and artificial intelligence, ensuring the consistency and clarity of the stimuli presented to participants. Participants are divided into three groups based on their native language background and will undergo a series of perception tests. By analyzing their responses, we aim to identify transfer patterns and their impact on EFL learning.

The significance of our study lies not only in its methodological rigor but also in its potential applications. Understanding how learners from different Chinese dialect backgrounds perceive English sounds can inform the development of targeted teaching strategies, thereby improving the quality of English education in China. Additionally, our findings may have broader implications for second language acquisition theories, particularly concerning phonetic transfer and its impact on language learning outcomes.

In this study, we systematically examine the perception of English voiceless plosives by EFL learners from Cantonese, Mandarin, and Changsha dialect backgrounds. We aim to provide new insights into the complex interplay between native language phonetics and second language acquisition by supporting or refuting existing theoretical predictions with experimental evidence.

2. Literature review

2.1 theory framework

Language transfer is a cross-linguistic influence that stems from the similarities or differences between the target language and the languages the learner has already acquired (not limited to the first language (L1) but includes other learned languages as well [3] (Odlin et al. 2001)). The influences can be either positive or negative. The former is called positive transfer, while the latter is called negative transfer. The phonetic similarities between language learners' mother tone and the target language can result in both kinds of language transfer, and specific research and analysis are needed to determine which language transfer will occur.

2.2 Overview of Previous Research

The field of language transfer has made significant progress, and since the last century, a large amount of research has been conducted around language transfer. Dai and Wang (2002) discussed the development process of understanding the phenomenon of language transfer and believed that special attention should be paid to the language transfer that occurs during the learning process of Chinese foreign language learners [1]. Chen et al. (2021) predicted the impact of the prosodic features of the Changsha dialect and Cantonese on the English language production of speakers of these dialects [2]. They confirmed their predictions through quantitative research, providing references and standards for studying Chinese English language transfer.

In the broader context, there is also a certain degree of theoretical inference on the influence of Chinese dialects as mother tongues on English voiceless plosive acquisition. Mai and Quan summarized the linguistic features of English and Cantonese, arguing that the three checked tones in Cantonese [-t] [-k] [-p] provide favorable conditions for the production of English plosives [4]. On the

ISSN 2959-6122

other hand, native speakers of some northern dialects may neglect or overemphasize the plosive sounds at the end of English words due to the absence of checked tones. However, the presence of checked tones can also lead to negative transfer, such as pronouncing English-voiced plosives as unaspirated voiceless plosives. Chen Qixuan's article published in 2023 supports and develops this view [5]. The pity lies in neither of these essays presented quantitative research results, instead making predictions based on linguistic features and the theory of language transfer. In addition, the above studies only compared two languages, so there may be errors in attribution like the resumptive pronouns issue [3] addressed in Odlin's 2001 work. Thus, our research will verify the credibility of previous inferences through experimental methods. To avoid misattribution, we take two Chinese variants without syllable-final plosives (Changsha dialect and Mandarin) and Cantonese, which has syllable-final plosives (p, t, k) into account, rather than comparing merely one of these languages with English. This enhances the accuracy of our research results.

3. Methodology

3.1 Experiment material

18 English syllables follow the pattern /CV/, /VCV/, /VC/ shown as bellow:

CV	pae	tae	kae	bae	dae	gae
VCV	api	ati	aki	abi	adi	agi
VC	eip	eit	eik	eib	eid	eig

The syllables follow the pattern /CV/ test the perception of voiceless consonants at the beginning of the syllable; The syllables follow the pattern /VCV/ test the perception of voiceless consonants at the middle of the syllable; The syllables follow the pattern /VC/ test the perception of voiceless consonants at the end of the syllable.

Each syllable is pronounced by 2 speakers. Speaker 1 is an Australian child (male) who is 11 years old. The audios are acquired by high-quality recording equipment.

Speaker 2 is the speech output module of artificial intelligence ChatGPT (female audio source).We acquired the audios by providing the language audio with the syllables mentioned above and input the prompts "Read each group of words according to the phonetic alphabet, with a 2-second interval between each word, and read six groups".

3.2 Subjects

3 groups of candidates with different mother tones (Cantonese, Mandarin, Changsha dialect), and 20 candidates in each group, totaling 60 participants.

The basic requirements of the candidates are first to fourth-year undergraduate students, right-handed, with normal (corrected) vision and hearing. Their English proficiency should be intermediate. Non-English major students are selected, ensuring participants have a certain level of familiarity with English phonemes but not much interference from English.

3.3 The main experiment

In the experiment, the candidates will be required to listen to 36 audio clips of the syllables in chapter 3.1. After hearing each audio, the candidates have 5 seconds to choose the correct answer from the 6 alternatives provided on the digital answer sheet.

The experiment consists of 6 parts, each containing 6 audio. There is a long pause between each audio to indicate the end of that section, enabling the candidates to respond. The choices candidates made embody their perception of the voiceless consonants p,t, and k.

4 Results and Discussion

4.1 Data Processing

All data is downloaded from Question Star, with a total of 64 cases, all of which are valid.

The original variables include: total score, gender, grade, age, mother tone. The numbers represented the number of the choice chosen by participants. Therefore values was assigned to all selected answers based on the correct answer for each question. If the chosen answer is correct, "1" is assigned and if it's incorrect, "0" is assigned. Then all the answers in the table became into scores.

Secondly, we match the same questions in test papers A and B and organize them into a table. All the data has been gathered. Next, we classified different test objectives of the questions and marked them. Thus, we can either calculate the total score of every dimensions of every participants, or average scores of participants with different mother tongues.

4.2 Descriptive statistics

After data processing, we divided the total score into variables of different dimensions to reflect the different results of the participants under different testing objectives, including the total performence of the perception of “p”, “t”, and “k” respectively. Full details are given in table 1.

Table 1: Descriptive statistics

description					95% Confidence Interval for the Mean			
		average	SD	SE	Lower	Upper	Minimum	Maximum
total score	Cantonese	30.50	3.461	0.738	28.97	32.03	22	34
	Mandarin	30.90	3.208	0.700	29.44	32.36	23	35
	Changsha Dial	32.00	2.588	0.565	30.82	33.18	24	35
	total	31.13	3.129	0.391	30.34	31.91	22	35
p-total	Cantonese	9.00	1.718	0.366	8.24	9.76	6	11
	Mandarin	9.33	1.111	0.242	8.83	9.84	7	11
	Changsha Dial	9.71	1.231	0.269	9.15	10.27	6	11
	total	9.34	1.394	0.174	9.00	9.69	6	11
t-total	Cantonese	11.23	0.869	0.185	10.84	11.61	9	12
	Mandarin	10.76	1.446	0.316	10.10	11.42	7	12
	Changsha Dial	11.05	1.244	0.271	10.48	11.61	7	12
	total	11.02	1.202	0.150	10.72	11.32	7	12
k-total	Cantonese	10.27	1.723	0.367	9.51	11.04	6	12
	Mandarin	10.81	1.209	0.264	10.26	11.36	8	12
	Changsha Dial	11.24	0.944	0.206	10.81	11.67	9	12
	total	10.77	1.377	0.172	10.42	11.11	6	12

According to the table 1, Changsha Dialect speaker has the highest total score, the highest score on “p” and “k” perception, while Cantonese speaker has the lowest on those dimensions. The perception of “t” is the only exception, which Mandarin speaker gets the lowest and Cantonese speaker is the highest.

4.3 Total Scores of Participants

This test consists of 36 questions, with 1 point for each question, out of a total of 36 points. Figure 1 reflects the distribution of the total scores of the participants, which ranging from 22 to 35 points.

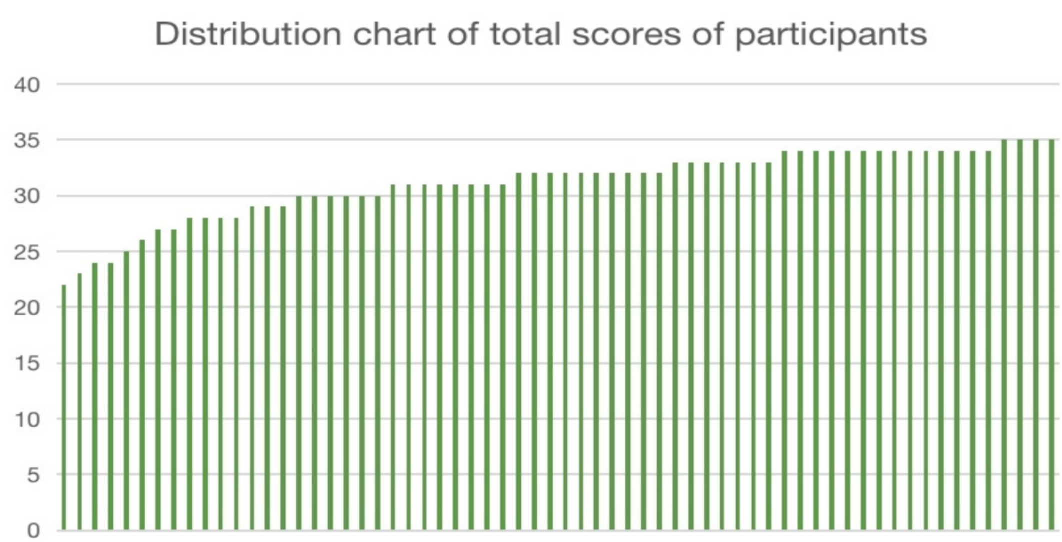

Figure 1 Distribution of the total score of participants

ISSN 2959-6122

4.4 Perception of Different Word Types

By marking the questions with different test objects and adding it up, we get the total score of different types of words of each participant. By classifying the data according to different mother tongues, the average of it can be calculated.

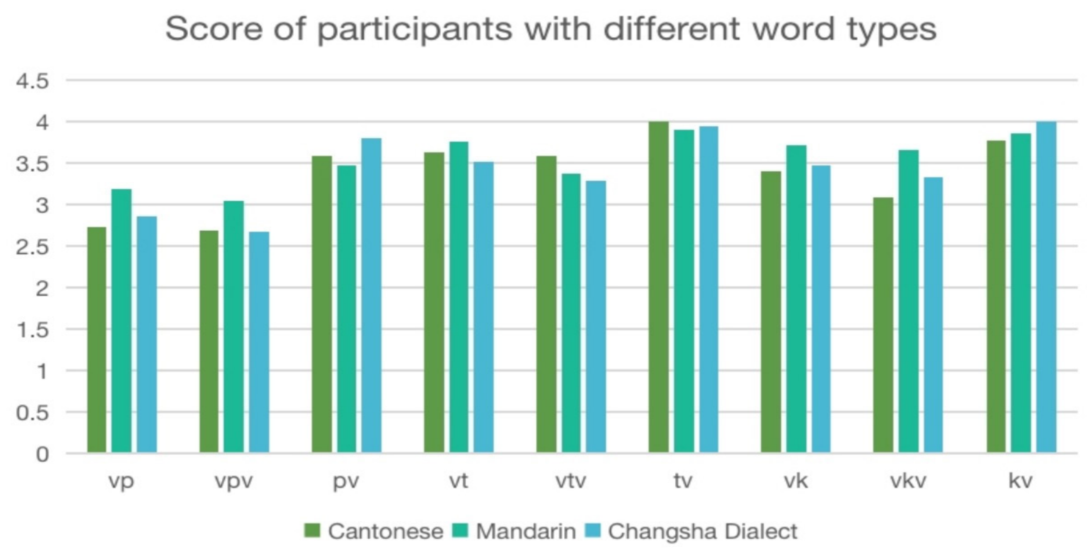

Figure 2 Score of different word types

Every type of word consist 4 questions, so the full score is 4. According to Figure 2, the word type "soundless plosive+vowel" is higher than "vowel+soundless plosive + vowel" and " vowel+soundless plosive" types, from the perspective of the position of soundless plosive in word. From the perspective of the kinds of soundless plosive, the perception of "p" shows a bit lower than it of "t"and "k". From the perspective of the mother language of the participants, there is no significant difference can tell by this figure.

4.5 Error Analysis

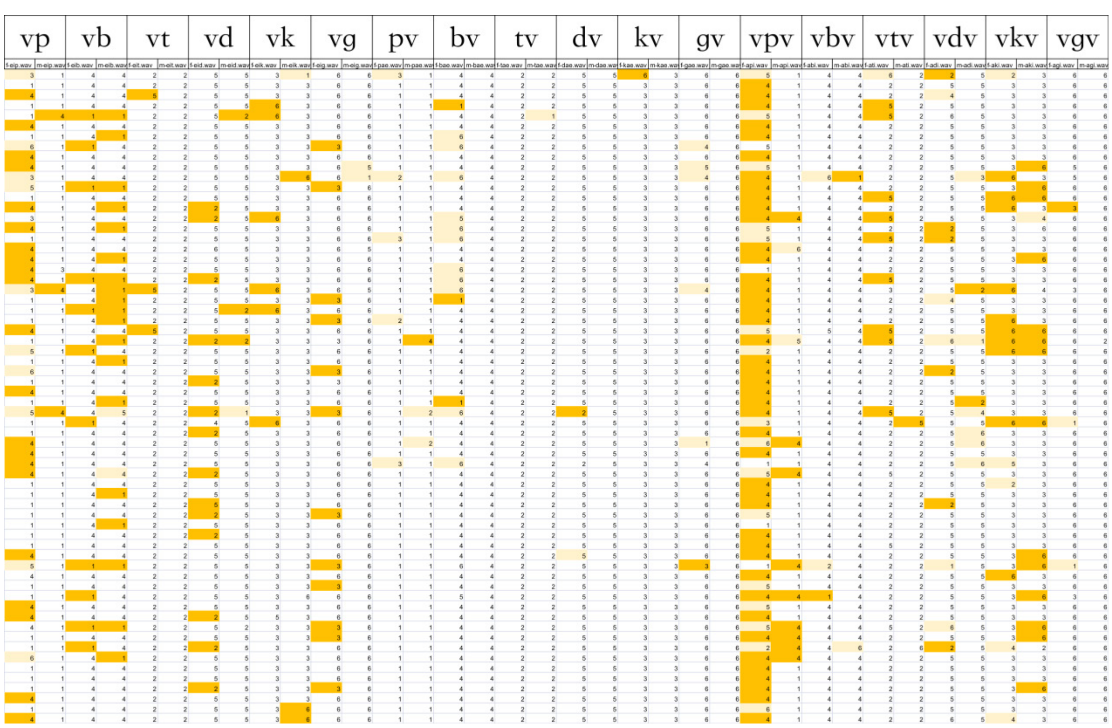

Figure 3 Distribution of Error Types

When analyzing the answer of participant, it is easy to find that there are mainly 2 kinds of errors. One is the participant confuse soundless plosive with the sounded one, which means they confuse “p” with “b”, “t” with “d”, or “k” with “g”. And other errors belongs to the other kind. In Figure 3, all the wrong answers were marked. It was marked by the darker color if it is a soundless-sounded error; and it was marked by the lighter color if it is other errors. Thus, it can be told that in all errors, soundless-sounded error accounting for a large proportion. There is a extremely high error rate in the question “api” pronounced by AI, but there is no significant difference in the same question that pronounced by person. In addition, the participants’ perception of “consonant+vowel” type is significantly better than “vowel+consonant+vowel” and “vowel+consonant” type of word.

4.6 Normal Distribution

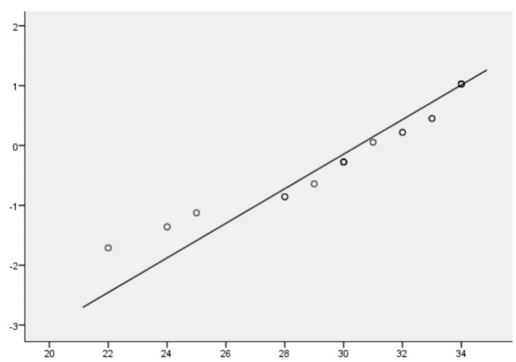

Figure 4 Quantile-Quantile Plot of Cantonese speakers’ total score

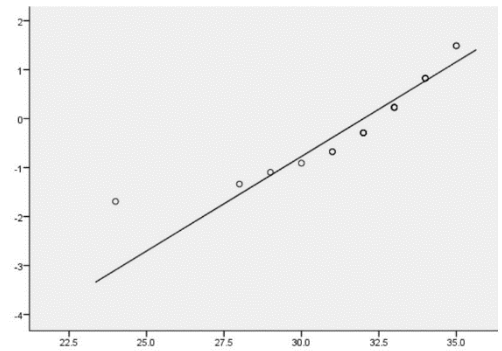

Figure 5 Quantile-Quantile Plot of Mandarin speakers’ total score

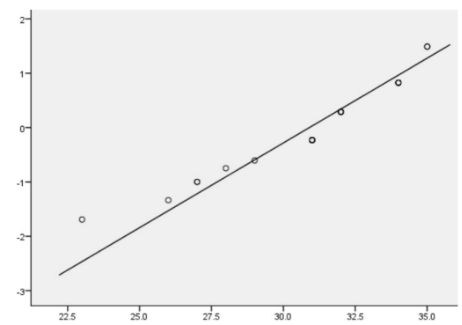

Figure 6 Quantile-Quantile Plot of Changsha Dialect speakers’ total score

According to Figure 4,5 and 6, the total scores of participants from Cantonese, Mandarin and Changsha Dialect all generally follow a normal distribution. Therefore, a t-test can be conducted.

ISSN 2959-6122

4.7 T-Test

4.7.1 Cantonese & Changsha Dialect

Table 2 T-test result of Cantonese & Changsha Dialect

Independent Samples T-test										
		Levene Test		Test for Equality of Means						
									95% Confidence Interval for the Difference	
		F	Sig.	t	DF	p	Mean Difference	Standard Error	Lower	Upper
p-total	Equal Variances Assumed	5.625	0.022	-0.752	41	0.457	-0.333	0.444	-1.229	0.562
	Equal Variances Not			-0.759	36.136	0.453	-0.333	0.439	-1.224	0.557
t-total	Equal Variances Assumed	3.300	0.077	1.286	41	0.206	0.465	0.362	-0.265	1.196
	Equal Variances Not			1.272	32.495	0.212	0.465	0.366	-0.280	1.210
k-total	Equal Variances Assumed	2.242	0.142	-1.177	41	0.246	-0.537	0.456	-1.458	0.384
	Equal Variances Not			-1.187	37.713	0.243	-0.537	0.452	-1.453	0.379
vp	Equal Variances Assumed	2.741	0.105	-0.437	41	0.665	-0.12987	0.29730	-0.73028	0.47054
	Equal Variances Not			-0.439	39.685	0.663	-0.12987	0.29568	-0.72762	0.46788
vpv	Equal Variances Assumed	0.020	0.889	0.081	41	0.936	0.01515	0.18721	-0.36293	0.39324
	Equal Variances Not			0.081	40.828	0.936	0.01515	0.18671	-0.36197	0.39227
pv	Equal Variances Assumed	7.649	0.008	-1.412	41	0.165	-0.21861	0.15480	-0.53124	0.09401
	Equal Variances Not			-1.425	37.171	0.163	-0.21861	0.15346	-0.52951	0.09228
vt	Equal Variances Assumed	2.090	0.156	0.673	41	0.505	0.11255	0.16730	-0.22531	0.45042
	Equal Variances Not			0.670	38.689	0.507	0.11255	0.16809	-0.22752	0.45263
vtv	Equal Variances Assumed	3.881	0.056	1.318	41	0.195	0.30519	0.23148	-0.16229	0.77268
	Equal Variances Not			1.306	34.237	0.200	0.30519	0.23370	-0.16962	0.78001
tv	Equal Variances Assumed	4.649	0.037	1.024	41	0.312	0.04762	0.04650	-0.04628	0.14152
	Equal Variances Not			1.000	20.000	0.329	0.04762	0.04762	-0.05171	0.14695
vk	Equal Variances Assumed	2.264	0.140	-0.369	41	0.714	-0.06710	0.18178	-0.43421	0.30001
	Equal Variances Not			-0.371	39.245	0.712	-0.06710	0.18067	-0.43246	0.29826
vkv	Equal Variances Assumed	0.791	0.379	-0.800	41	0.429	-0.24242	0.30316	-0.85466	0.36981
	Equal Variances Not			-0.797	39.559	0.430	-0.24242	0.30420	-0.85744	0.37259
kv	Equal Variances Assumed	47.277	0.000	-2.427	41	0.020	-0.22727	0.09365	-0.41641	-0.03814
	Equal Variances Not			-2.485	21.000	0.021	-0.22727	0.09145	-0.41745	-0.03709

According to Table 2, between Cantonese & Changsha Dialect, there are significant differences in the perception of words of type “k+vowel”.

4.7.2 Cantonese & Mandarin

Table 3 T-test result of Cantonese & Mandarin

Independent Samples T-test										
		Levene Test		Test for Equality of Means						
									the Difference	
		F	Sig.	t	DF	p	Mean Difference	Standard Error	Lower	Upper
p-total	Equal Variances Assumed	4.446	0.041	-1.561	41	0.126	-0.714	0.458	-1.639	0.210
	Equal Variances Not			-1.573	38.085	0.124	-0.714	0.454	-1.634	0.205
t-total	Equal Variances Assumed	0.987	0.326	0.551	41	0.585	0.180	0.326	-0.479	0.838
	Equal Variances Not			0.547	35.615	0.588	0.180	0.329	-0.487	0.847
k-total	Equal Variances Assumed	4.707	0.036	-2.263	41	0.029	-0.965	0.427	-1.827	-0.104
	Equal Variances Not			-2.292	32.861	0.028	-0.965	0.421	-1.822	-0.108
vp	Equal Variances Assumed	4.587	0.038	-1.629	41	0.111	-0.46320	0.28429	-1.03733	0.11093
	Equal Variances Not			-1.643	37.563	0.109	-0.46320	0.28194	-1.03419	0.10778
vpv	Equal Variances Assumed	3.102	0.086	-2.072	41	0.045	-0.36580	0.17651	-0.72228	-0.00932
	Equal Variances Not			-2.085	39.276	0.044	-0.36580	0.17544	-0.72059	-0.01102
pv	Equal Variances Assumed	1.915	0.174	0.559	41	0.579	0.11472	0.20524	-0.29978	0.52921
	Equal Variances Not			0.556	38.004	0.582	0.11472	0.20639	-0.30310	0.53254
vt	Equal Variances Assumed	0.859	0.360	-0.798	41	0.429	-0.12554	0.15731	-0.44323	0.19214
	Equal Variances Not			-0.796	40.238	0.430	-0.12554	0.15764	-0.44409	0.19301
vtv	Equal Variances Assumed	2.073	0.158	1.031	41	0.309	0.20996	0.20366	-0.20133	0.62125
	Equal Variances Not			1.025	38.239	0.312	0.20996	0.20474	-0.20443	0.62434
tv	Equal Variances Assumed	11.033	0.002	1.486	41	0.145	0.09524	0.06409	-0.03420	0.22467
	Equal Variances Not			1.451	20.000	0.162	0.09524	0.06564	-0.04168	0.23216
vk	Equal Variances Assumed	6.070	0.018	-1.737	41	0.090	-0.30519	0.17573	-0.66009	0.04970
	Equal Variances Not			-1.751	37.536	0.088	-0.30519	0.17428	-0.65815	0.04776
vkv	Equal Variances Assumed	4.178	0.047	-2.442	41	0.019	-0.57576	0.23576	-1.05188	-0.09963
	Equal Variances Not			-2.468	35.525	0.019	-0.57576	0.23332	-1.04918	-0.10233
kv	Equal Variances Assumed	2.024	0.162	-0.698	41	0.489	-0.08442	0.12086	-0.32851	0.15967
	Equal Variances Not			-0.701	40.315	0.487	-0.08442	0.12035	-0.32760	0.15877

Accoring to Table 3, between Cantonese & Mandarin, there are significant differences in the perception of words of type “vowel+p+vowel” and “vowel+k+vowel”. There is also a significant difference in the overall perception of the plosive “k” between them.

4.7.3 Mandarin & Changsha Dialect

Table 4 T-test result of Mandarin & Changsha Dialect

Independent Samples T-test										
		Levene Test		Test for Equality of Means						
							Mean		the Difference	
		F	Sig.	t	DF	p	Difference	Standard Error	Lower	Upper
p-total	Equal Variances Assumed	0.000	0.983	1.053	40	0.299	0.381	0.362	-0.350	1.112
	Equal Variances Not			1.053	39.586	0.299	0.381	0.362	-0.350	1.112
t-total	Equal Variances Assumed	0.533	0.470	0.686	40	0.496	0.286	0.416	-0.556	1.127
	Equal Variances Not			0.686	39.129	0.496	0.286	0.416	-0.556	1.128
k-total	Equal Variances Assumed	0.397	0.532	1.280	40	0.208	0.429	0.335	-0.248	1.105
	Equal Variances Not			1.280	37.771	0.208	0.429	0.335	-0.249	1.106
vp	Equal Variances Assumed	0.120	0.731	1.345	40	0.186	0.33333	0.24789	-0.16768	0.83435
	Equal Variances Not			1.345	39.344	0.186	0.33333	0.24789	-0.16794	0.83461
vpv	Equal Variances Assumed	3.299	0.077	2.290	40	0.027	0.38095	0.16633	0.04479	0.71711
	Equal Variances Not			2.290	39.148	0.027	0.38095	0.16633	0.04457	0.71734
pv	Equal Variances Assumed	13.325	0.001	-1.795	40	0.080	-0.33333	0.18565	-0.70855	0.04189
	Equal Variances Not			-1.795	30.642	0.082	-0.33333	0.18565	-0.71216	0.04549
vt	Equal Variances Assumed	2.854	0.099	1.351	40	0.184	0.23810	0.17625	-0.11813	0.59432
	Equal Variances Not			1.351	39.526	0.184	0.23810	0.17625	-0.11826	0.59445
vtv	Equal Variances Assumed	0.629	0.432	0.374	40	0.710	0.09524	0.25466	-0.41945	0.60993
	Equal Variances Not			0.374	38.523	0.710	0.09524	0.25466	-0.42007	0.61054
tv	Equal Variances Assumed	1.424	0.240	-0.587	40	0.560	-0.04762	0.08109	-0.21151	0.11627
	Equal Variances Not			-0.587	36.486	0.561	-0.04762	0.08109	-0.21201	0.11677
vk	Equal Variances Assumed	4.324	0.044	1.581	40	0.122	0.23810	0.15058	-0.06625	0.54244
	Equal Variances Not			1.581	39.604	0.122	0.23810	0.15058	-0.06634	0.54253
vkv	Equal Variances Assumed	8.966	0.005	1.261	40	0.215	0.33333	0.26427	-0.20079	0.86745
	Equal Variances Not			1.261	30.828	0.217	0.33333	0.26427	-0.20578	0.87245
kv	Equal Variances Assumed	19.200	0.000	-1.826	40	0.075	-0.14286	0.07825	-0.30100	0.01528
	Equal Variances Not			-1.826	20.000	0.083	-0.14286	0.07825	-0.30608	0.02036

According to Table 4, between Mandarin & Changsha Dialect, there are significant differences in the perception of words of type “vowel+p+vowel”

4.8 Discussion

Our results partially verified our initial hypotheses, but the difference between different speakers is less significant than we expected. The research may be limited by the scale of participants and the method of recruitment. Increasing the number and the diversity of participants may lead to better results.

We only investigated college students who have been learning a second language for a long time, and the degree to which they are influenced by their mother tongue may be different from what children are affected by. The negative language transfer on perception of speech sounds has become less pronounced after prolonged language learning, as the college students we surveyed generally have over ten years of English learning experience. In the future, researchers can compare and explore the perception of children who speak different dialects towards certain specific English phonemes.

It is also possible that there still more significant difference on the pronunciation rather than perception, since this experiment only proves that the perception of English soundless plosive is a less worrying issue, but the aspect of oral output of them is still unknown, which is something that future research can focus on.

In addition, the produced outcome might due to the strong promotion of Mandarin in China. At the beginning of the 21st century, relevant laws on language and writing system stipulated that Mandarin is the national common language, with Beijing dialect as the standard pronunciation and Northern dialects as the basic dialects. It has achieved great success in that over 80 percent of the population can speak Mandarin [6] (Lin, C., & Jackson, L., 2021). Young people, especially the college students, as participants of our research, of all mother tongues are likely to speak Mandarin, which may lead to the gap between participants narrowed.

5. Conclusion

This study provides a comprehensive analysis of the perception of English voiceless plosives by EFL learners from Cantonese, Mandarin, and Changsha dialect backgrounds. Our findings reveal significant differences in perception patterns among the three groups, confirming the profound impact of native language phonetic features on the acquisition of English sounds. Cantonese learners, in particular, exhibit the most pronounced transfer effects, likely due to the significant phonetic similarities and dif-

ISSN 2959-6122

ferences between Cantonese and English. In contrast, the perception patterns of Mandarin and Changsha dialect learners are relatively similar, suggesting that the absence of final consonants in these dialects may lead to more uniform transfer effects.

The highlight of this study lies in the empirical validation of theoretical predictions through a rigorous experimental approach. By including multiple Chinese dialects and employing a controlled experimental design, we enhance the reliability and validity of our findings. This approach addresses common attribution errors in previous studies and provides a more nuanced understanding of the language transfer phenomenon.

Our study also underscores the importance of considering phonetic transfer in language teaching, reflecting on the influence of Mandarin promotion and English instruction. Insights gained from our research can inform the development of more effective teaching strategies tailored to the specific phonetic challenges faced by learners from different language backgrounds. For instance, pronunciation training targeted at Cantonese learners could significantly improve their English phonetic perception and pronunciation skills.

In summary, our study contributes to the theoretical understanding of language transfer and offers practical educational implications. Future research should continue to explore phonetic transfer effects in other linguistic contexts, potentially including a broader range of dialects and languages. Longitudinal studies tracking learners' progress could provide deeper insights into the dynamics of language transfer and its long-term impact on second language acquisition. By advancing our knowledge in these areas, we can develop more effective strategies to support language learners and enhance the overall effectiveness of language education programs.

Acknowledgement

Yiran Hao, Zhuoran Li, and Xinpeng Zhang contributed equally to this work andshould be considered co-first authors.

References

[1] Dai Wei, Wang Dong (2002). Language Transfer Research: Issues and Reflections. Foreign Languages (Journal of Shanghai Foreign Studies University) (06), 1-9 (Chinese)

[2] Chen Xiaoxiang, Zhang Xiaoling, and Ma Junzhou (2021). Research on the production of English word stress in Cantonese and Changsha dialect backgrounds. Foreign Languages (Journal of Shanghai Foreign Studies University) (03), 38-48 (Chinese)

[3] Odlin, Terence. Language Transfer — Cross-linguistic Influence in Language Learning[M]. Shanghai: Shanghai Foreign Languages Education Press, 2001.

[4] Ma Shanshan & Quan Kelin (2017). A Brief Analysis of Native Language Transfer of Phonetics by English Learners with Cantonese as Their Mother Tongue. Overseas English (11), 213-215 (Chinese)

[5] Chen Qixuan (2022). Positive and negative transfer of final plosive pronunciation among English learners who are native Cantonese speakers. Overseas English (19), 89-91 (Chinese)

[6] Lin, C., & Jackson, L. (2021). Assimilation over protection: rethinking mandarin language assimilation in China. Multicultural Education Review, 13(4), 338–361. https://doi.org/10.1080/2005615X.2021.2006117