The Lighthouse Journal of Social Sciences, Vol. 03, Issue 2, Winter 2024, pp. 52-72

A Psycholinguistic Investigation into the Morphosyntactic ability of Gender Marking among Sequential and Simultaneous Bilinguals: A Comparative Study

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ABSTRACT

With multilingualism on the rise, people in countries like Pakistan are faced with challenges pertaining to management of these languages at the same time (Rahman, 2022). Parents to the new generation are taking to inoculate early bilingualism in their children in an attempt to prepare their children for schools and to ensure maximum language-dependent academic outcome in future, since English is the modern medium of Pakistani elite education system. In this respect, the present study sought to explore an important aspect related to multilingualism i-e the co-development of morphosyntactic development of Urdu and English in such early bilinguals of Pakistan in order to analyze the correlation of a child's age and the sequence of language acquisition with the bilingual proficiency he develops in both languages. To this end, a sample of 48 bilinguals from local schools at Islamabad comprising 24 simultaneous and 24 sequential bilinguals was constructed. Findings revealed that children with a largely gender-neutral language like English as their first language face difficulties trying to put their passive language (Urdu) into use later, since the latter is a largely morphosyntactically gendered language, whereas the case with bilinguals with Urdu as their first language is quite the opposite; it tends not to interfere with English which they learn later over the years. The reason for this is that Urdu is a heavily gendered language in terms of morphosyntax. This study may be insightful for parents who encourage the use English over Urdu among their children for better academic or social outcomes in future.

Keywords: *bilingualism, sequential bilinguals, simultaneous bilinguals, morphosyntax*

INTRODUCTION

Language acquisition is among the most important aspects of an individual's social, and mental development. Growing up, a child's brain establishes connections between his cognitive and social life through words and learns to structure languages properly (Hickmann, 1986). Depending on where he is raised, the child may be monolingual or bilingual. Monolingualism is a linguistic phenomenon whereby the speaker speaks or understands only one language at a time; the one they acquired as their mother tongue or as their first language. Bilingualism is the term for

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Manuscript Submitted: September 10, 2024
Manuscript Accepted: December 25, 2024

the speaker's ability who use two languages at a time. Normally the speakers' primary language or first language is one of the two languages that make them bilinguals. Being bilingual, according to Myers-Scotton (2006) does not mean that an individual has total command over both the languages. In fact, very few bilinguals can speak both his languages fluently.

Sequential and Simultaneous Language Acquisition

Bilingualism is the term for people who speak two languages. Normally the speakers' primary language or first language is one of the two languages that make them bilinguals. Pakistan, being a multilingual country harbors people who know multiple languages at a time. English is usually spoken in academic spheres and in some institutions. Mother tongue or local language is spoken at home and national language Urdu in the official setups.

Statement of the Problem

Pakistan being a multilingual country, exposes children to Urdu language from an early age and later when they start their school, they start learning English. The Urdu language has an entirely different grammatical gender system than the English language which gives rise to the questions pertaining to whether or not Urdu has an impact on English in a child's bilingual system if the former is learnt earlier and the latter is learnt later on, and whether or not English, being the active language of simultaneous bilinguals has an impact on the passive language Urdu among these bilinguals. The current study aims to find out that how children mark the grammatical gender system in both languages and how their 1st language (Urdu) effects their 2nd language (English) and vice versa.

The present research has attempted to answer the following questions:

Q1: How do Urdu-English bilingual children mark gender in the both languages?

Q2: What is the difference between the influence of first language on second and vice versa for simultaneous and sequential bilinguals?

To look into these questions, the study posits the following null hypothesis derived from Separate Development Hypothesis (SDH) and consequently holds the same views on language interference as Cross Linguistic Influence Hypothesis (CLIH) of language acquisition, which basically contradicts the former in its perception of language interference and development among young bilinguals. The null hypothesis for the current inquiry is as follows;

L1 has no impact on/relation with the development of L2 among both sequential and/or simultaneous bilingual children.

The current study has used intensive data analysis techniques to reach the truth of the above statement. The above hypothesis may also be disproved in the process.

Delimitation of the Study

This analysis of morphosyntactic ability of the bilinguals in the study is delimited to morphosyntactic features corresponding to grammatical gender of Urdu and English only.

LITERATURE REVIEW

Bilingualism in Childhood

The nature type of bilingual profile of a child is determined by the age of onset and exposure of languages. A child is usually first exposed to only one language early his life which is called the primary language and the one he is exposed to later on, is called his secondary language (Garaffa, 2018).

Bilingualism is usually broken down into two types; simultaneous and sequential bilingualism. According to Goldstein (2015), simultaneous Bilingualism is when learners learn both languages at parallel to each other in the early stages of life, for example a Pakistani child who is brought up in England is exposed to both Urdu and English at the very same time will qualify for a simultaneous bilingual. On the other hand, when an individual acquires a second language, say English in the given scenario, after having fully acquired their first language, say Urdu, would qualify as a sequential bilingual.

The development of bilingual language acquisition has been seen as divided into three stages by Wojcik (2017): beginning with development of child's language or speech sound systems, acting as one unit, followed by child's ability to differentiate words by applying syntactic rules of his dominant language which is usually by the age of three. In the third stage and final stage, Leung (2021) that the two language systems are almost completely separated in the child's system.

Gender as Morphosyntactic feature and its Acquisition

The have been many studies that inquired into the acquisition of grammatical gender of synthetic languages like most of Western Indo-European such as the branches of Germanic, Slavic, Romance, and some have looked into the morphosyntax of Indo-Iranian families (Rodina & Westergaard, 2015). However, the Indo-Iranic languages are multiple and there is not a substantial bulk of research on bilingualism and morphosyntax where one of these languages is the second language which leaves a research gap that requires being investigated into.

Savickiene & Kaledaite (2007) posit that how morphologically complex a language is, can determine the level of difficulty in the acquisition of its grammatical gender system. This is because when children encounter a language in which several grammatical categories influence a single morphological marker at a time, the child will have tremendous difficulty acquiring the gender differences are acquired grammatical morphosyntax pertaining to gender in that language.

Many studies have look into anomalous morphosyntactic gender systems like those of some of the European language such as German. The morphological marking of gender and sex

in German is in most cases unrelated to the actual gender of referent being referred to, for example a naturally masculine referent may be morphosyntactically a feminine in German, which is what is seen from its morphosyntax. (Abbasova, 2024)

Various studies have explored the inflectional morphology of English in terms of gender marking. One study saw only a few nouns in English are gendered (e.g., actor/ actress, waiter/waitress, lion/ lioness, tiger/ tigress and host/ hostess and prince/ princess etc). The gender markings of many such nouns are determined by the natural sex of the noun being referred to, as is the case with third person pronouns like he and she (Scheutz & Eberhard, 2004).

The Urdu language employs a dual genders system of grammatical and natural genders (Ranjan, 2013) and uses binary opposition relationship in its gender agreement i.e. masculine and feminine; masculine for boy لڑکا and feminine for girl لڑکی. Because of this, only one value can be assigned to nouns at a time, thus affecting other linguistic items (Voeikova & Savickiene, 2001). Among other features of gender in Urdu nouns are the markedness or unmarkedness aspects. Marked nouns take gender suffixes. Noun in Urdu can thus be unmarked masculine, unmarked feminine, marked masculine and marked feminine (Schmidt, 1999). In another study, it was seen that Urdu and Punjabi have a lot in common including the gender of common nouns (Cummings & Bailey, 2005).

The SDH and CLIH debate

The debate between the validity of the contrasting hypotheses have continued for a long time, with regards to the interplay between two languages among bilingual individuals, with regards to morphosyntactic features like gender marking.

Cross-Linguistic Influence Hypothesis (CLIH) holds that two linguistic systems in bilingual individuals are interdependent, which leads to mutual influence of one language on the other. Many recent studies provide empirical support for this hypothesis. Van Dijk et al. (2022) analyzed morphosyntactic abilities in simultaneous and early sequential bilingual children across 17 different bilingual combinations and found a significant effect size for cross-linguistic influence in the linguistic systems commanding morphosyntax, consequently indicating that such influence is inevitable in bilingual development, strengthening the claims of CLIH.

The nature of the first acquired language among sequential bilinguals also play a key role in their later acquisition of another language. Kim (2024) explored the influence of L1 on Chinese and Japanese-speaking learners processing ability of Korean numeral quantifiers. Japanese learners were seen to show less sensitivity to grammatical errors due to greater cross-linguistic conflict between Japanese and Chinese as compared to conflict between Korean and Chinese quantifying systems, underscoring the impact of L1 structures on L2 morphosyntactic processing.

In contrast to CLIH, the Separate Development Hypothesis (SDH) asserts that bilingual individuals develop their two languages independently of each other, with to no cross-linguistic influence. The findings of several other studies align with this belief. Döpke (1998) observed that bilingual children acquiring German and English displayed language-specific morphosyntactic

development without notable transfer between languages, suggesting independent development of linguistic systems. Among numerous other studies, one identified lead-lag patterns in morphosyntactic development among Latvian-English bilinguals, with each of the two languages progressing independently, a finding that reinforces the notion of separate developmental pathways for each of the two languages (Sinka & Schelleter, 1998).

Research Gap

While many studies have looked into individual languages in a largely vague linguistic setting of another language, little attention has been paid to co-acquisition of two languages among simultaneous bilinguals, specifically in terms of morphosyntactic gender marking ability and specifically in the context of comparison between sequential and simultaneous bilinguals, with the special case of one of the two languages being an active language co-existing alongside a passive language in the system of a simultaneous bilingual. The second factor that qualifies as the niche for the present study is its delimitation to Urdu-English bilingualism and the specific linguistic context of Pakistan.

RESEARCH METHODOLOGY

Research Design

The present study employs a mixed method using qualitative as well as quantitative analyses for examining the morphosyntax of the linguistic data from the bilinguals and quantifying the results to make inferences about the morphosyntactic ability with regards to various grammatical aspects. To provide a theoretical basis for the analysis, the separate development hypothesis has been used. The study has used two tasks for data collection from the bilinguals, namely the grammatical judgment task and picture naming task. The expressions and sentences used by the bilinguals on these tasks have been analyzed to explore the ability of the bilinguals for gender marking.

Population and Sampling

The target population relevant to the present investigation was Urdu-English bilingual children in Pakistan. For this, the sample was constructed from among students at Beaconhouse School, Islamabad. A sample comprising 48 children between ages 4 to 10 years of age who were Urdu-English bilinguals since a very early age, was constructed using the purposive sampling method, selected with the aim of achievement of the study's objectives in view, that is, to rule out all the potential confounds like discrepancies in socio-economic and linguistic exposure. It was ensured that the sample selected had roughly the same socio-economic background (which was deduced from their common educational institution). To ensure maximum validity of results for the current study, it was also ensured that the sample had an equal number of boys and girls in each category of bilinguals (24 each) and was sub-divided into three age-groups to further fine-tune the analysis based on how age within the critical period of language acquisition affects language acquisition characteristics such as the gender marking ability as in the present study. The help of class teachers was acquired to identify such students from classes corresponding to the

relevant age group who fulfilled the criteria of qualifying as sequential and simultaneous bilinguals.

Table 1

Breakdown of Sample Construction in terms of Age and Bilingual groups

S #	Age group	Age	Class	Simultaneous		Sequential	
				boys	Girls	boys	girls
1	4-5 yrs	4	Playgroup	4	4	4	4
		5	Montessori				
2	6-8 yrs	6	Kindergarten	4	4	4	4
		7	Grade 1				
		8	Grade 2				
3	9-10 yrs	9	Grade 3	4	4	4	4
		10	Grade 4				

The sample comprises sequential bilinguals who learnt Urdu alone, for first 3 years and English later on in preschool or play group. The simultaneous bilinguals selected for the study were such that they had acquired Urdu and English simultaneously at home and they spoke English almost equal to Urdu, if not more. The number of participants was kept at a minimum for the sake of convenience in analysis of the subjective data, hence a total of 48 participants in the study.

Data Collection

The participants of the research were subjected to two tasks namely grammatical judgment task and picture naming task for data collection.

Grammatical Judgment Task

This task is designed to look into the bilingual's knowledge of grammatical gender of referents and agreement between nouns and their antecedents in terms of gender.

This task included a total of 10 sentences 5 each from English and Urdu. A mix of grammatical, and ungrammatical sentences was included deliberately to effectively assess bilinguals' gender marking ability and their knowledge of gender agreement. The participants were instructed to mark the sentences as right or wrong by the respondents (see Appendix A).

Picture Naming Task

The second task to which the participants were subjected was the picture naming task, the purpose of which was also to analyze the extent of awareness of grammatical gender and the agreement of referents and their various antecedents among the participating bilinguals. This task was fully productive task, which is what makes it different from the first task. The participants were given 10 pictures depicting both the natural genders. The participants were required to comment on or describe these pictures.

Pilot Testing of Research tools

A pilot study was performed on random students from each grade to confirm that the participants would be able to accomplish the tasks set in the questionnaires, before proceeding with actual data collection.

Item Construction of Research Tools

In the first questionnaire the participants are asked to translate sentences for English to Urdu and vice versa. Keeping in view the objectives of this study, each item on the questionnaire contains at least one gendered noun, which affects the gender of most of the grammatical categories like verbs, adjective, auxiliary verb across the entire sentence. The aim is to see how a gendered noun is translated from a heavily gendered language to a largely gender-neutral one and vice versa, i.e., whether or not the child translates the gender from the source language of translation to the target language in its exact form. An animal, humans, furniture, fruits and vegetable are thus incorporated into the items in the questionnaire.

Scoring Protocols

The evaluation of the participants' responses on the questionnaires relies simply on the correct and incorrect identification of gender in case of the Picture Naming Task and on correct/incorrect translation in the translation task. So a correct identification of an adjective by, say, a sequential bilingual boy out of a total of 4 sequential bilingual boys, is shown as a 25% score for the sequential boys group in the identification of adjectives.

Statistical Analysis

Data was analyzed by SPSS used for deriving p-values, chi-square values and standard deviation of responses obtained from the participants.

Theoretical Framework

The theoretical framework for this study is built upon the Separate Development Hypothesis (De Houwer, 2005). The Separate Development Hypothesis posits that early bilinguals are capable of separating two linguistic frameworks, one for each of his languages, in use. Since children are exposed to two or more language from the very onset of their lives, and unlike popular belief that languages interfere in the child's system, this hypothesis proposes that "the

morphosyntactic development of one language does not have any fundamental effect on the morphosyntactic development of the other" (De Houwer, 1990). This hypothesis has been put to test in the present study to see if Urdu-English simultaneous and sequential bilinguals develop both languages separately or if there is any interference of one language on the development of the other.

FINDINGS AND RESULTS

The data analysis is divided into two parts dealing with analyses of data from the two tasks employed for the present research.

a. Bilinguals' Grammatical Judgment

b. English Sentences

In order to get a wholesome view into the grammatical judgment ability of the bilinguals, the task included animals, male and female humans and inanimate objects which were compared for sequential and simultaneous bilinguals.

a) Amna is eating her snacks.
b) This is my chair and I like her.
c) He is going to school because she is a student.
d) It is a good girl.
e) Ali is a good boy. He does his homework on time.
f) I had a dream. He was scary

It was seen that simultaneous bilinguals identified the gendered proper nouns correctly in the sentences involving a female human Amna (a girl) and a male human Ali (a boy). It can however be seen that the smaller age groups from among simultaneous bilinguals mistreated the neutral object 'table', which is more the case in the youngest participants of the group. Similarly half of youngest participants of the simultaneous bilingual group misjudged the sentence 'it is a good girl' by marking it correct. The older simultaneous bilinguals did not misjudge this sentence.

Table 2.

Grammatical Judgment of Gendered proper nouns (English)

Parameter	Simultaneous			Sequential		
Age group	4-6 yrs	7-8 yrs	9-10 yrs	4-6 yrs	7-8 yrs	9-10 yrs

Sentence: 1. Amna is eating her snacks.	100 %	100 %	100 %	100 %	100 %	100 %
2. Ali is a good boy. He does his homework.	100 %	100 %	100 %	100 %	100 %	100 %
Standard deviation	0.0	0.0	0.0	0.0	0.0	0.0
Chi-Square	nil					
P-value	nil					

For English sentences involving neutral objects, it was seen that simultaneous bilinguals performed better than the sequential bilinguals. Within the simultaneous bilinguals the older age groups performed better than the lower age groups. Same was the case for the sequential bilingual group within which, the older age groups performed better than the younger ones.

Table 3

Parameter	Simultaneous			Sequential		
Age group	4-6 yrs	7-8 Yrs	9-10 Yrs	4-6 yrs	7-8 yrs	9-10 yrs
Sentence: This is my chair and I like her.	75 %	100 %	100 %	0 %	37 %	75 %
Standard deviation	1.22	0.0	0.0	0.0	1.36	1.22
Chi square	X2=26.69					
P value	0.0000656 (highly significant)					

Next neutral pronouns used against the common nouns of English were compared for both types of bilinguals. It was seen that simultaneous bilinguals can judge this feature better than the sequential bilinguals can, as evident in the table below.

Table 4

Neutral Pronouns used against Common Noun (English)

Parameter	Simultaneous			Sequential		
Age group	4-6 yrs	7-8 yrs	9-10 Yrs	4-6 yrs	7-8 yrs	9-10 yrs
Sentence: It is a good girl.	75%	87 %	100 %	0 %	37%	75 %
Standard deviation	1.22		0.0		1.36	1.22
Chi-Square	23.47					
P-value	0.00027					

In addition to neutral pronouns of English, gendered pronouns were also subjected to bilinguals' judgment. For the grammatically wrong sentence that stated 'He is going to school because she is a student' (non-concordance of the two pronouns), the simultaneous bilinguals showed a better understanding of the non-concordance of the pronouns than the sequential bilinguals did, with the lowest age group showing the least understanding of such anomalies.

Table 5

Grammatical Judgment of Gendered pronouns (English)

parameter	Simultaneous			Sequential		
Age group	4-6 Yrs	7-8 yrs	9-10 yrs	4-6 yrs	7-8 yrs	9-10 yrs
Sentence: He is going to school because she is a student.	100 %	100 %	100 %	0 %	50 %	75 %
Standard deviation	0.0	0.0	0.0	-	1.2	1.2
Chi-Square	22.48					
P-value	0.00032					

For the above construction the simultaneous bilinguals understanding of the non-concordance was seen to be better than that of the sequential bilinguals. Both boys and the girls in this group scored hundred percent, whereas among the sequential bilinguals, the lowest age group (4-6 years) showed the lowest score.

Next in the analysis was the grammatical judgment of abstract nouns. The following table sums up the finding.

Table 6.

Grammatical Judgment of Abstract Noun

Parameter	Simultaneous			Sequential		
Age group	4-6 yrs	7-8 yrs	9-10 yrs	4-6 yrs	7-8 yrs	9-10 Yrs
Sentence: I saw a dream. He was scary.	100 %	100 %	100 %	63%	100 %	100 %
Standard deviation	0.0	0.0	0.0	1.3	0.0	0.0
Chi-Square	23.47					
P-value	0.00027					

4.1.2. Urdu Sentences

Having compared participants' grammatical judgment of English sentences, the Urdu constructions followed next on the task. These also involved objects, an abstract noun and gendered common nouns 'girl' and 'boy'. The following is the list of the Urdu items on the Grammatical Judgment Task.

1ہے۔رہا جاگ پھر لڑکی

2ہے۔رہا کھیل کر کٹ لڑکا

3ہے۔بہ چہ اچھا علی

4ہے۔لی کھا سیب نے میں

5ہے۔گ یا ڈوٹ کر سی

6ہے۔ہوتا اچھا سبزی

7ہے۔رہا آ ند یند مجھے

8ہے۔دیتا دودھ گائے

9ہے بیٹھی اوپر مکڑی

On the Urdu sentences, the sequential Bilinguals showed better performance than they did on English structures. Merely a single Urdu sentence, i.e., the one involving the gendered noun cow 'گائے' was misjudged by the younger sequential bilinguals only. But at the same time, they correctly judged the second proper nouns referring to another animate entity on the Urdu task including the proper noun (مکڑی).

Table 7

Parameter	Simultaneous			Sequential		
Age group	4-6 Yrs	7-8 yrs	9-10 yrs	4-6 yrs	7-8 yrs	9-10 yrs
Sentence:	3/8	6/8	8/8	8/8	8/8	8/8
ہے بیٹھی اوپر مکڑی	37%	75 %	100 %	100 %	100%	100 %
Standard deviation	1.3	1.2	0.0	0.0	0.0	0.0
Chi-square	X2=22.34					
p-value	0.0035					
ہے دیتا دودھ گائے	3/8	4/8	6/8	6/8	7/8	8/8
	37%	50%	75%	75%	87%	100 %
Standard deviation	1.3	1.4	1.2	1.2	1.2	0.0
Chi-square	23.47					
p-value	0.00025					

Interestingly, the same goes for their judgment of the abstract noun (ذہانت) as seen in the table below.

Table 8

Abstract Nouns

Sentence	Simultaneous			Sequential		
Age Group	4-6 Yrs	7-8 yrs	9-10 Yrs	4-6 yrs	7-8 yrs	9-10 yrs

ہے رہا آ ند یند مجھے	4/8	5/8	6/8	8/8	8/8	8/8
	50 %	50 %	75 %	100 %	100 %	100 %
Standard deviation	1.3	1.3	1.3	0.0	0.0	0.0
Chi-square	23.47					
p-value	0.00027					

In grammatical judgment of animate nouns, the younger sequential bilinguals correctly judged all nouns referring to animate entities on the task in Urdu including the common nouns لڑکی and لڑکا,. As for the simultaneous bilinguals, is was seen that they also had no difficulty judging Urdu common nouns like, لڑکا لڑکی, and the proper noun علی, in sum, all the nouns., common or proper, pertaining to humans as seen below.

Table 9

Gendered Common Noun (Urdu)

Parameter	Simultaneous			Sequential		
Age group	4-6 Yrs	7-8 yrs	9-10 yrs	4-6 Yrs	7-8 yrs	9-10 yrs
ہے۔رہا کھیل کر کٹ لڑکا	100%	100%	100%	100%	100%	100%
ہے رہا جاگ پھر لڑکی	100%	100%	100%	100%	100%	100%
ہے بچہ اچھا علی.	100%	100%	100%	100%	100%	100%
Standard deviation	0.0					
Chi-square	Nil					
P-value	Nil					

Most of the simultaneous bilinguals also mostly incorrectly judged the neutral objects like کرسی , سیب and سبزی , which was seen more among the lowest age groups than the older ones.

Table 10

Inanimate Gendered Objects

Sentence	Simultaneous			Sequential		
Age Group	4-6 Yrs	7-8 yrs	9-10 yrs	4-6 yrs	7-8 yrs	9-10 yrs
ہے۔ گ یا ڈ وٹ ک ر سی	6/8	7/8	8/8	7/8	8/8	8/8
	75 %	87 %	100 %	87 %	100 %	100 %
Standard deviation	1.2	1.2	0.0	1.2	0.0	0.0
Chi-square	21.47					
p-value	0.00027					
ہے ہوت ا اچھا س بزی	6/8	6/8	8/8	8/8	8/8	8/8
	75 %	75 %	100 %	100 %	100 %	100 %
Standard deviation	1.3	1.3	0.0	0.0	0.0	0.0
Chi-square	23.47					
p-value	0.00024					
ہے۔ل ی ک ھا س یب ن ے م یں	4/8	6/8	7/8	7/8	8/8	8/8
	50 %	75 %	87 %	87 %	100 %	100 %
Standard deviation		1.3			0.0	0.0
Chi-square	22.47					
p-value	0.00025					

This may show that they tend to have difficulty in judging inanimate objects but can judge animate objects easily.

Bilinguals' Morphosyntactic Productive Ability

The second task designed for analyzing bilinguals morphosyntactic ability was a picture naming task. This task is based on five pictures, some static while others dynamic (showing action). The details are as follows

- A girl running fast and falling over
- An orange
- A boy working his homework
- A chair

- A monkey eating a banana.

Adjective in English is neutral and hence English descriptions involve all neutral adjectives like 'good, tasty, delicious, healthy and neutral pronouns like 'it' in case of orange, the first item on the task. The same is the case for other objects like chair which takes neutral auxiliaries like 'is, are'. It was seen that the sequential bilinguals faced difficulty in producing the right pronouns to refer to the orange which again was more the case among the younger participants of this group. The sequential bilinguals, it seems, imparted gender to the neutral pronouns referring to the neutral objects like chair and orange using of he, she, him and her instead of it or they.

The second item on the task featured a broken black chair. In this case simultaneous bilinguals demonstrated correct use of pronouns, auxiliary verbs and adjectives when referring to and describing the chair in English. The sequential bilinguals however seemed to have a hard time describing chair correctly in terms of pronouns, adjectives and auxiliary verbs which again was seem more among the younger participants of the group who used she/he as pronouns for chair instead of 'it'. However while describing objects in Urdu, the sequential bilinguals showed no difficulty at all and it was seen that they correctly used all three grammatical elements correctly while describing the same pictures like an orange in Urdu. On the other hand, the simultaneous bilinguals produced wrong constructions while describing the objects in Urdu, the sentences they produced were wrong w.r.t their use of auxiliaries and adjectives, which was seen more among the younger participants than the older ones. Their use of pronouns however was largely correct.

Boy and girl are naturally gendered entities but all the grammatical categories that modify these in English expect for pronoun are neutral. The case is different in Urdu, where all the categories that modify these are gendered. It case of boy and girl, both sequential and simultaneous bilinguals showed a 100% accuracy in the use of English pronouns, adjectives and auxiliaries pertaining to the gendered entity boy in English. For Urdu description of the girl, it was seen that apart from Urdu pronoun, which was correctly used for Urdu version of girl by both sequential and simultaneous bilinguals, the Urdu auxiliary and Urdu adjectives for 'girl' were used incorrectly by half of the simultaneous bilinguals.

Comparing Urdu and English grammatical modifiers for the gendered animate entity 'monkey', sequential bilinguals correctly used all the Urdu grammatical modifiers such as pronouns, auxiliary verbs and adjectives for monkey whereas the simultaneous bilinguals made error constructing sentences in the case.

DISCUSSION AND ANALYSIS

Grammatical Judgment: Strengths and Weaknesses of Bilinguals

As far as the bilinguals' ability to grammatically judge English constructions is concerned, the findings showed that sequential bilinguals show mix performance which improves going from smaller age groups towards older age groups which indicated that age plays significant in distinguishing the right morphological syntax from wrong, among sequential bilinguals. Among

the grammatical categories, proper nouns are the only uncontested strongest area which is never grammatically misjudgment even by the youngest participants among the sequential bilinguals in neither Urdu nor English. However neutral objects are the biggest the problematic area for sequential bilinguals. For the present study, the sequential bilinguals chosen were the ones who learnt Urdu earlier growing up, and then learnt English later at their schools. This might have a significant influence of their misjudgment of neutral objects of English as they mistake such objects as gendered ones. Age also appears to improve the problem of grammatical misjudgment among the sequential bilinguals.

Findings from simultaneous bilinguals when compared with those of the sequential ones, reveal and stark contrast. Simultaneous bilinguals very imprecisely identify Urdu gendered common nouns for inanimate objects, whereas in English they make no mistake for the same. This can be explained as an overbearing influence of English on the lesser used language of the two, i.e., Urdu in case of simultaneous bilinguals. The fact that proper nouns like names of boys or girls are identified conveniently by both sequential and simultaneous bilinguals of all ages might be due to the fact that everyone, irrespective of their bilingual profile have a sound understanding and consciousness of biological gender of things like humans, animals etc., but lack the same for artificially gendered ones.

The various categories for the grammatical judgment in the present study included subjects like gendered proper nouns and common nouns, gendered pronouns, neutral objects and neutral pronouns. Simultaneous bilinguals appear to be more capable in identifying neutral objects in English as neutral and then using modifiers accordingly, than the sequential bilinguals. The higher age groups within both types of bilinguals are better in general at grammatical judgment of English sentences than the lower age groups.

A similar study investigating gender marking abilities among Pashto-Balochi bilinguals found that the lack of extensive gender marking in L1 Balochi/Pashto natives dispensed speakers to gender agreement violations in their L2 Urdu, indicating potential L1 influence on L2 gender marking (Ghilzai, 2023). Also, while there is abundant research supporting this theory, there is much literature refuting it as well. For instance, a study performed on young French-German bilinguals showed that they were capable of acquiring the gender systems of both languages almost exactly like monolinguals, which indicated minimal crosslinguistic influence (Eichler, 2012). Interestingly, this was despite the fact that French and German belong to two very different branches of the language family.

For the Urdu sentences in the current study, the sequential bilinguals were more capable of performing on these than they were on English sentences. The lower age groups among sequential bilinguals however mostly misjudge cow (gendered entity) as a feminine object in the English sentence which may be because cow is a feminine entity in Urdu. Similarly, the youngest simultaneous bilingual participants tend to sometimes misjudge gendered objects in Urdu like fruits and furniture etc. This gives rise to two major implications. First, that the grammatical judgment of English structures among sequential bilinguals correlates with age, the greater the child's age the better his grammatical judgment of English. Second, that sequential bilinguals sequence of language acquisition for the two of his languages has a great impact over what his

second acquired language would look like. If he acquired Urdu, a largely gendered language first, then his next acquired language English, will suffer because of Urdu's impact. Third, that simultaneous bilinguals tend to mix up Urdu-English grammatical gender because of the co-existence and very early co-exposure of the two languages in his childhood formative years.

In this respect, abundant literature has also indicated a positive correlation between the age of the child and their grammatical gender marking ability within the critical period of language acquisition. In their study on Spanish-English bilingual children between 6 and 11 years, Montrul and Potowski (2007) saw that older children among the 6-11 year age group demonstrated fewer gender agreement errors compared to the younger children in the group. These findings indicate that the length of children's linguistic exposure and cognitive maturity positively correlates to their proficiency in gender marking. The reason for sequential bilinguals' better comparative performance on Urdu than on English, in the present study, also might be that sequential bilinguals learnt Urdu first and internalized it completely before moving on to acquire a second language, but then, Urdu has a huge projection on the judgment of their English structures. They tend to incorporate grammatical gender from Urdu into English sentences which are essentially neutral. As for the simultaneous bilinguals' grammatical judgment of Urdu sentences, the oldest children appear to sometimes be capable of correct identification of even the gendered Urdu objects like furniture, fruit and vegetables and of the animate objects like insects but had difficulties with abstract nouns (like 'ڈیزائن') in Urdu. One ability common to both sequential and simultaneous bilinguals is the accurate identification of nouns (both common and proper) referring to human beings.

The last of the comparative analyses is that of the comparative performance of both sets of bilinguals on Urdu and English sentences. In case of the comparison of Urdu common noun and English common noun for human entities, both sets of bilinguals are able to correctly judge this variable, which shows that they can identify the natural gender for humans, this has been seen from their use of pronouns, adjectives and auxiliaries used for them. Among nouns usage, Urdu abstract nouns are a challenge for simultaneous bilinguals, whereas the same is a challenge for sequential bilinguals in English. This is because like other Urdu grammatical elements, the Urdu abstract noun is also gendered, which is not the case with the English abstract noun, as it is neutral. The sequential bilinguals can correctly identify the Urdu abstract noun which is more the case with the older participants in this groups than the lower age group. The case appeared to be quite the opposite for simultaneous bilinguals who instead conveniently detected the anomaly that was deliberately included in the English sentence (the neutral abstract noun 'dream' written as masculine) but they failed to identify or detect the anomaly in the Urdu abstract noun ڈیزائن (mentioned deliberately and wrongly as masculine). This indicates that inanimate nouns such as objects and abstract nouns are usually mistreated by bilinguals in their passive language, which was English for sequential bilinguals and was Urdu for simultaneous bilinguals.

Morphosyntactic Production: An Area for Improvement

An individual's grammatical judgment capability of a language and the actual production of the morphosyntactic structures in the language are two very different language-related abilities. After the comparative evaluation of sequential and simultaneous bilinguals' grammatical

judgment abilities, we move on to grammatical production ability of the bilinguals. Comparing English gender-neutral objects to Urdu gendered objects, it can be seen that the sequential bilinguals face challenge producing the grammatically right pronouns to refer to inanimate things in English, which again is more the case among the lower age groups of the sequential bilinguals. They can, however, produce all of the grammatical elements correctly in Urdu. On the contrary, simultaneous bilinguals tend to make mistakes while referring to Urdu gendered objects, which is seen though their use of auxiliaries and adjectives.

'Boy' and 'girl' are naturally gendered entities but are modified by neutral modifiers (verb, adjective, auxiliaries) in English except when modified by pronouns. In Urdu, however they are modified by gendered modifiers like gendered adjectives, pronouns, adverbs and auxiliaries etc.

Other research has also shown that bilingual children may exhibit more errors in assigning grammatical gender to inanimate objects than to animate entities, such as humans and animals, in their secondary language which may be attributed to the arbitrariness in assignment of grammatical gender to inanimate objects (Boutonnet, 2012).

For animate entities in the present study, both sequential and simultaneous bilinguals irrespective of their age are seen capable of applying morphosyntactically correct versions of English pronouns, auxiliaries and adjectives. And surprisingly, irrespective of other shortcoming that characterize morphosyntax of simultaneous bilinguals, they can use Urdu pronouns correctly for 'girl' as evident among sequential bilinguals. In case of other modifiers of English and Urdu modifying gendered animate entities like animals and insects etc., sequential bilinguals are perfectly capable of using correct grammatical modifiers like pronouns, auxiliary and adjectives etc. for them in Urdu but simultaneous bilinguals cannot. This shortcoming of simultaneous bilinguals in Urdu may be occurring because these objects are neutral in English, which is their dominant language, because their English morphosyntactic framework influences their Urdu constructions when they attempt Urdu morphosyntactic productions. The same way as the simultaneous bilinguals produce English morphosyntax better than Urdu morphosyntax, sequential bilinguals also tend effectively produce Urdu auxiliaries, pronouns and adjectives for all entities, while facing huge challenges in doing the same in English. The reason for this may be that they tend to translate the morphosyntactic framework of Urdu (which they have internalized and has always been their active language of the two) into their English usage, and it must be noted that modifiers such as auxiliaries are neutral in English but gendered in Urdu which is what they project onto their English constructions.

While there are limited studies that compare both language acquisition sequences directly, there is abundant evidence in the existing studies that implies that acquiring a gender-neutral language first and a gendered language next, makes it more challenging for a child to acquire correct morphosyntactic gender distinctions than the reverse sequence. For example, Brown (2020) compared two sequential trilingual groups: one with L1 English (a gender-neutral language) and L2 Spanish (a gendered language), and another with L1 Spanish and L2 English, showing that participants with L1 English and L2 Spanish were far better in identifying gender errors in German than those with L1 Spanish and L2 English. Even though this was an

investigation into trilingualism, this work along with many others still suggests that prior experience with a gendered language (even as an L2) can facilitate the acquisition of grammatical gender in subsequent languages. This underscores the influence of initial linguistic frameworks on subsequent language learning processes, contrary to the null hypothesis based on Separate Development hypothesis (SDH) and the Cross Linguistic Interference Hypothesis (CLIH) posited at the beginning of this study.

Recommendations for Future Studies

To guide the ongoing academic dialogue, future researches can incorporate the sane framework to investigate morphosyntactic abilities for a larger and more demographically diverse population to ensure a greater generalizability across age groups, socio-economic classes and other languages.

CONCLUSION

The present study attempted to look into the mechanism involved in the development of morphosyntax of Urdu and English among early bilinguals of Pakistan into order to explore the correlation of the child's age and the sequence of language acquisition, with their bilingual proficiency and to see if the two languages interfere in the bilingual child's system or not, and how. For this purpose, sequential bilinguals who first learnt Urdu first and then English later in preschool, and a second category of simultaneous bilinguals who learnt English and Urdu simultaneously was chosen. The findings revealed that a child who acquired a largely gender-neutral language like English faces challenges when he later tries to practice his passive language (Urdu), which is largely a morphosyntactically gendered language.

Bilingualism, being on the rise, is undoubtedly an important aspect of the multilingual world of the present day and so an empirical understanding of the technicalities involved in it can be of significant importance in areas like pedagogy, language planning, and in the race of raising linguistically adequate and well-equipped individuals for one's own sake and the society's. In multilingual countries like Pakistan, where we see a diverse lingo-geographical makeup, with the national language Urdu and the official language English, co-occurring and co-operating at many levels, we also see constant struggle in the management of these languages at the same time.

Future researchers can compare the morphosyntactic abilities of gender marking of juvenile bilinguals with adult bilinguals of English and other language to explore or investigate how they are able to separate two languages in their system and if juvenile bilinguals have a leverage in this respect over the adult learners of English as a foreign language or not. Such a study may be of significance for learning of English as a foreign language in third world countries like Pakistan.

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