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DOES CONTEXT AFFECT CODE SWITCHING? A CASE STUDY OF SAUDI ARABIC SELF-REPORTED CODE-SWITCHERS

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Abstract
Code-switching is the use of two languages within a conversation. Bilinguals can adjust to social and cultural situations very easily. Socio-linguistic triggers have dominated previous research, but the personality and socio-biographical factors determining code-switching among Arab-English bilinguals in Saudi Arabia are generally less investigated. This is a quantitative study where the impact of age, education, language history, current language use, and personality dimensions of Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism, on code-switching behaviour was analysed. Self-reported questionnaires were used in gathering data from 74 participants that were analysed with SPSS. The sample had balanced gender distribution, and the average age was under 30. Pearson's correlation analysis shows significant positive relations between cultural empathy and the frequency of code-switching ($r = 0.37$, $p < 0.01$), and also between emotional stability and code-switching with a stranger ($r = 0.42$, $p < 0.001$). Principal Component Analysis revealed that Openness and Extraversion were the most salient predictors of code-switching patterns. Contextual factors, including location (home, workplace) and the type of interlocutor (family, friends, colleagues), were found to significantly affect code-switching behaviour. Such results contribute to an understanding of bilingual communication in the dynamic interaction between personality traits, socio-biographical factors, and situational contexts. The research highlights the changing cultural environment in Saudi Arabia and opens up lines of future inquiry, such as class, ethnicity, and how technology influences bilingual practices.

Keywords: Bilingualism, Code-Switching, Pearson Correlation, Personality Traits, Principal Component Analysis, Socio-Biographical Factors

1. INTRODUCTION

Code-switching (CS) is a very interesting window into the dynamics of bilingual and multilingual communication, revealing the interplay of language, identity, and context. It shows how speakers navigate complex linguistic environments to adapt to varying social and interpersonal demands (Alshihry, 2024). Moreover, CS is a significant sociolinguistic phenomenon observed among bilingual and multilingual speakers, characterized by the alternation between two or more languages within a single conversation or utterance (Rayo et al., 2024). It reflects the speaker's adaptability to varying social, cultural, and interpersonal contexts (Lubis et al., 2025).

Despite extensive research on the structural and social motivations behind CS there is limited exploration of how individual psychological factors, such as personality traits, interact with socio-biographical characteristics to influence CS behaviour (Cervone & Pervin, 2022). Such a foray into psychological and biographical dimensions would reveal the inner working of forces driving code-switching, hence linking the individual studies with those in sociolinguistics. A holistic approach has the possibility of revealing new vistas in the communication of bilingualism.

CS study offers insight into the interplay between linguistic behaviour and social dynamics. It provides a lens through which to examine how individuals navigate between languages in response to personal and societal factors. The Saudi Arabian sociolinguistic landscape offers a unique context for studying CS, given its rapidly changing attitudes toward English and increasing levels of bilingualism (al-Rojaie, 2023). While earlier studies have focused on the socio-cultural triggers and grammatical constraints of CS Mohammed and Mohan (2014);Matiso (2023), fewer have investigated the role of personality dimensions, such as Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism (Britwum et al., 2022). In this context, these personality traits e.g. culture, as measured by the MPQ SF (Hofhuis et al., 2020), may deeply impact the frequency and context of code-switching CS among bilinguals. Bilingual dynamics under the Saudi context highlight how language use gets adapted under the influence of personal interactions with cultural factors. It brings light to how the choice between two languages is navigated by a bilingual between two different linguistic norms. Furthermore, the sociocultural elements have become interwoven as well, making it more helpful for the field of sociolinguistics. In these interactions, it is possible to understand better the broader implications of bilingualism in multicultural societies concerning identity, language preservation, and the effects of globalization.

The choice of language among bilinguals is determined by several elements that illustrate both individual variations and more collective social factors. Such factors interact to shape how and when there is a change in language usage among bilingual users, especially in diverse culturally and linguistically diverse environments. Bilingual code-switching behaviour is further dependent on socio-biographical factors such as age, gender, and history of language acquisition and language usage (Liu et al., 2023). Some studies show that younger bilinguals in informal contexts are more likely to do code switching than older adults, and those with more education are more likely to show linguistic flexibility (Halpin & Melzi, 2018). Nevertheless, the intricate relationship of these variables particularly in relation to personality and code-switching has not been sufficiently researched especially in the case of Saudi Arabians (Zaghlool & Altamimi, 2023). Understanding these subtle relationships can provide a more comprehensive view of bilingual communication patterns. This can also open the way for targeted research and practical applications in multilingual education and cultural integration.

This study aims to fill the existing research gap by seeking a combined effect of socio-biographical characteristics and personality traits on CS patterns among Arab-English bilinguals in Saudi Arabia,

building on the theoretical frameworks of sociolinguistics and personality psychology. The current study delves deeper by focusing on personality-driven analysis, examining how differences in language-switching behaviour are influenced by settings such as home, public spaces, and workplaces, as well as the type of interlocutors, including family members, friends, and strangers. Moreover, this research sheds lighter on bilingual communication by looking at the relation between language switches and a person's trait, the background they come from, and the context in which they are. It provides a better understanding of the complex speech behaviour of modern Saudi Arabian bilinguals and shows how individual differences can affect code-switching. In this way the research builds on what is already known and enriches the split with information about further factors, such as ethnicity, class and coping strategies, for further investigation.

2. LITERATURE REVIEW

Myers-Scotton describes code-switching as the change of language that bilinguals do to converse with others using one language and with themselves in another. She divides them into two types: inter-sentential, or between sentences, and intra-sentential, or within a sentence. She further explains how the use of bilinguals' language is culturally and situationally appropriate, reflecting social structures, relationships, and settings. This portrays the role that bilinguals play in their communities. Historical sociolinguistics has been underemphasized in most of the previous research. The earlier studies, like those of Jan-Petter and Gumperz (1972), have discussed how language alternation acted as an interactional strategy by taking a sociolinguistic or structural approach to code-switching. More recently, this perspective has been incorporated into broader models by merging linguistic elements with bilinguals' social paradigms (Ivanova et al., 2025). From this perspective, language is a reflection of socio-cultural preferences and associations. Bilingual individuals deliberately switch languages to influence intergroup perceptions and support in-group integration strategies.

2.1 Individual Differences and Personality Traits

We come across an area where the style of language is determined by individual characteristics, and the wish to switch to a different language from the primary language is due to the desire to further explain the pure socio-linguistic theory, which interests in this regard. And at the same time, the personality study is becoming more and more rich with the so called 'Big Five' which include: openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism as new opportunities to look into the essentials of each person as to how he or she linguistically operates (Zohoorian, 2022). Understanding how these traits or factors impact one's switching tendencies explains why certain bilinguals are more susceptible or likely to be code switchers than the others.

In fact, these rival characteristics or factors in this case the level of Emotional Stability, Openness and Extraversion among others seem to affect the code-switching tendencies. It is because this makes them naturally curious and adventurous which in turn makes them more susceptible to language switching. As most coded language comprises the social interactionists' approach and the extraversion trait seems inherent in them, the tendency to be making frequent use of marginal switching appears possible. On the other hand, people who are categorized as low in Emotional Stability and are changed by anxiety and stress factors may experience more language switching or alternation and use marginal switching for defence purposes or protection. These notions serve to emphasize the consideration of personality traits in the bidimensional and situational perspectives of code switching in bi-linguistic individuals.

2.2 Societal And Biographical Factors That Influence Code Switching

Factors dealing with age, education experience and gender like societal factors are known to influence an individual's code-switching behaviour. As it seems, code-switching is more common among younger bilinguals, especially when informal settings are at host but literate people seem to code switch more (Albahoth et al., 2024). On the other hand, women tend to be more gendered and this affects their primary language and other languages they use including code switching variation in frequency and other aspects of context (Aljasir, 2020; Mugableh & Alruwaili, 2024). However, less is understood regarding how such factors and bilingualism personality traits are related to patterns of code switching. This is one gap that needs to be filled because such understanding is elementary in dealing with differences between people's usage of languages in a bilingual context.

2.3 Situational Variables and Participants' Effect

Situational variables and the participants involved play a significant role in code-switching, as the decision to switch languages is often influenced by the context and the people involved in the conversation. In informal settings, such as at home, bilinguals may feel comfortable switching between languages, using their native language or a combination of both. However, in a formal setting such as the workplace, speakers will use the dominant or official language for communication purposes especially when interacting with colleagues or bosses who are unlikely to be speaking the same lingua. It is thus for social reasons and professional requirements where clarity and understanding are desired. Therefore, the choice of language varies with the setting, the roles of the participants, and the appropriateness of each language for the situation (Autoethnography, 2025). In some situations, such as conversation with family or friends, work colleagues, or even a stranger, the speaker's use of a language other than the alternate language is likely to be determined by the nature of the interaction, considering social dependencies and norms of the conversation. Khaliq and Ahmed (2025) observed that code switching is common in casual or informal language and in turn, structured and other formal settings have less code-switching, meaning that bilingualism is flexible in relation to the different societies.

2.4 Research Gap and Study Rationale

So far, there is considerable literature on code-switching; however, several studies have only investigated the combined sociobiographical factors, personality influences, and contexts which are specific to Arab-English bilinguals in the particular case of Saudi Arabia. Literature available rarely blends these factors as many often tend to discuss them singly which overlooks a more complicated integration. This study is important to understand how these aspects are related and how these constructs inform the phenomenon of code-switching on Arabic Saudi bilinguals providing a more sophisticated comprehension of language use in comprehensively bilingual settings as well as plugging in knowledge on bilingual communicative practices. In order to deal with this gap, the research questions, and hypothesis were constructed based on the codes, biographical profiles, personality factors, and contexts to be significant in examining the patterns of switching languages so as to provide a working framework for analysis.

2.5 Research Questions and Hypotheses

RQ1: Does CS behaviour vary according to Arab-English bilinguals' socio-biographical profile?

H1: CS behaviour varies according to the socio-biographical profile of the Arab-English bilinguals.

RQ2: Does CS behaviour vary according to the Arab-English bilinguals' personality traits?

H2: CS behaviour varies according to the Arab-English bilinguals' personality traits.

RQ3: How much CS behaviour between Arab-English bilinguals depends on the setting (home, place of employment, school, and public areas)?

H3: The location context has a major impact on CS patterns among Arab-English bilinguals, particularly some situations encouraging particular CS practices.

RQ4: How can positive, negative, and neutral emotional expressions affect CS behaviours among Arab-English bilinguals?

H4: Emotional expression—such as good or negative emotional states—will have a major impact on CS patterns among Arab-English bilinguals, with increased emotional expression being associated with diversity in CS adoption.

3. METHODOLOGY

Given the focus on examining the combined effects of socio-biographical factors, personality traits, and contextual influences on code-switching among Arab-English bilinguals in Saudi Arabia, a robust and systematic approach was adopted. The methodology was designed to ensure reliability and validity while capturing comprehensive data that reflects the diverse linguistic practices of the target population. The following subsections provide a detailed account of each aspect of the research process. This study involved 74 Arab-English bilingual participants residing in Saudi Arabia. The sample included individuals from diverse age groups (ranging from 18 to above 50 years), educational backgrounds (ranging from high school to postgraduate levels), and varying levels of English proficiency. Participants were selected based on their self-reported high proficiency in both Arabic and English, verified through an initial screening question. The age distribution of the participants in this investigation is shown in Table 1.

Table 1: Age Distribution of the Participants of the Study

Age Group	Percentage
Below 18	29.7
Below 23	33.8
Below 30	23
Below 50	10.8
Above 50	2.7

The recruitment aimed to capture a balanced representation of gender (50% male, 50% female) and different socio-biographical profiles, ensuring a comprehensive analysis of factors influencing code-switching behaviour. The balance representation of the gender is shown in Figure 1. A snowball sampling technique was utilized for this study, manipulating both formal educational networks and informal social connections. Initial participants were recruited through university mailing lists and professional contacts, and they were encouraged to share the survey link with other bilinguals in their networks. This non-probability sampling method was chosen for its practicality in reaching specific bilingual communities, particularly in a sociolinguistic context where direct access to a broad population may be challenging. However, it is acknowledged that snowball sampling may introduce sampling bias and limit the generalizability of the findings. Future studies should consider employing random or stratified sampling techniques to enhance the sample's representativeness.

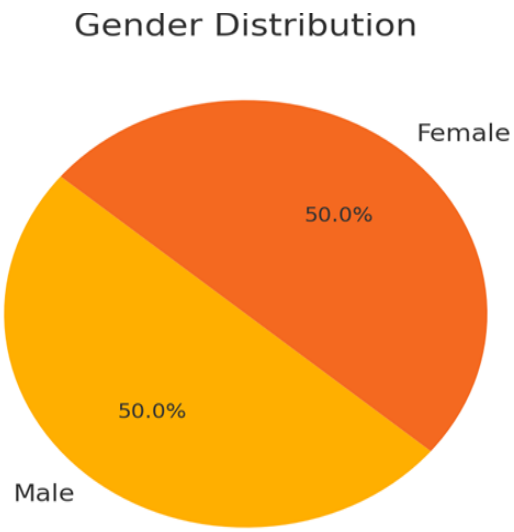

Figure 1: Gender Distribution of the Study Participants

4. DATA COLLECTION AND ANALYSIS

The data was collected through a structured online questionnaire to gather comprehensive information on participants' socio-biographical factors, personality traits, and code-switching behaviour. The questionnaire consisted of three main sections:

1. Socio-Biographical Factors: This section collected demographic information, including age, gender, level of education, language history, and current language use. These variables are crucial for examining how personal background influences code-switching behaviour.
2. Personality Traits: The study employed the Multicultural Personality Questionnaire-Short Form (MPQ SF), developed by Hofhuis et al. (2023) to assess the Big Five personality dimensions: Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism. The MPQ SF is a validated tool for measuring multicultural personality traits, making it well-suited for this bilingual population. It consists of 40 items rated on a 5-point Likert scale, ranging from "strongly disagree" to "strongly agree."
3. Code-Switching Behaviour: This segment included closed-ended questions about participants' language-switching practices in different contexts (e.g., with family, friends, colleagues, and strangers) and settings (e.g., home, workplace, public places). Responses were measured on a 5-point Likert scale (Never, Rarely, Sometimes, Frequently, Always), providing a quantitative assessment of code-switching frequency across various social situations.

In order to qualify the research instrument as being reliable and valid it was necessary to undertake the following actions:

1. Reliability: Cronbach's alpha was used to estimate the internal consistency of the compiled questionnaire. Both the self-report MPQ SF and the scale measuring code-switching behaviour were reported to be highly reliable ($\alpha > 0.80$). The stability and reliability of the members of the questionnaire were also validated by a pilot study of 10 participants, all of which confirmed that

answers would be the same regardless of the surrounding circumstances.

2. Validity: Since the questionnaire contained a broad-range of specific objectives content pre-test first of all was related to content validity with endorsement of experts' views on bilingualism and sociolinguistics. This input assisted in modifying the items so that the capturing of the constructs' essence was more desirable. Construct validity was pertinent in that the widely used and well established MPQ SF was deployed in determining personality traits as been indicated earlier in the literature (Hofhuis et al., 2023). Criterion validity improved as a result of relating the code-switching scale to the bilingual language self-reported levels of use provided by the participants triggering anticipated associations.

The process of collecting data took around a month and was accomplished using online survey software. The link to the survey was also shared with respondents through educational institutions, professional networks, and social media sites. Before participants filled out the questionnaire, they were given the aim of the research and thus accepted informed consent prior to this process. Because the survey was built to be completed without disclosing the identity of the participants, precepts of privacy and confidentiality of the respondents were maintained. A total of eighty cases were opened, from which seventy-four completed questionnaires were declared as valid and thus used for analysis. The data collected was analysed using the latest edition of SPSS V.26. The analysis was conducted in a step-wise manner starting with simple description to cover frequencies, percentages, means, and standard deviations so as to describe the socio-biographical features of the given sample. This step offered the sociolinguistic profile and language patterns of the respondents to the survey. The study thereafter used PCA by direct rotations but not oblique rotations to scrutinize the deeper structures of personality traits construct for the MPQ-SF. As a well-known and appropriate statistical method, PCA is used usually for purposes of data reduction and determination of the variables that dominate the data. During this analysis, components with eigenvalues exceeding one were included while factor loadings with a value above 0.30 were considered important. This aided in determining which personality constructs were most likely to influence code-switching behaviour, particularly the constructs of Openness, Extraversion, and Emotional Stability.

With regard to the first objective, Pearson correlation coefficient was used to determine the relationships that existed between the ten independent variables (socio-biographical factors and personality traits) and code-switching behaviour. The Pearson correlation coefficient (r) was used to measure the strength and direction of the linear relationship between variables, with significance levels set at $p < 0.05$ and $p < 0.01$. This analysis enabled the identification of significant predictors of code-switching frequency across different contexts and interlocutors.

The responses equally represent the male and female gender. The average age of the respondents is below 30 [26.45]. The highest number of respondents are postgraduate. 37.8% of the respondents reported doing 'CS' sometimes in everyday conversation. 33.8% of the participants have been studying English for more than 12 years. 39.2% of the respondents have marked their language proficiency level as being very good. However, the majority 54.1% of them have undergone special English education. The primary correlation patterns among personality traits and social biographical characteristics and 'CS' frequency in various social contexts, including encounters with relatives, close friends, and strangers. The importance of self-regulation in new situations is highlighted by this graphic depiction, which makes it easier to spot notable trends like the large positive link between psychological stability as well as 'CS' in dealings with strangers. According to the demographic statistics shown in Table 2, the greatest age group is under 30 years old, and there is equal representation of both genders (50% male, 50% female). These features offer a well-rounded sample for examining 'CS' patterns in various participants.

Table 2: The Descriptive Statistics of Socio-biographical Factors of the Population

Variable	Value	Frequency	Percentage
Gender	Male	37	50
	Female	37	50
Age	Above 50	5	6.8
	Below 50	22	29.7
	Below 30	25	33.8
	Below 23	17	23
	Below 18	5	6.8
Education	PhD	15	20.3
	Postgraduate	33	44.6
	Graduate	17	23
	Intermediate	4	5.4
	Below Intermediate	4	5.4
	Missing Data	1	1.4
Language Use	Always	12	16.2
	Frequently	21	28.4
	Never	4	5.4
	Rarely	9	12.2
	Sometimes	28	37.8
Language History	More than 12 Years	25	33.8
	Less than 12 Years	2	2.7
	Less than 10 Years	24	32.4
	Less than 5 Years	15	20.3
	Less than 3 Years	7	9.5
	Missing Data	1	1.4
Language Proficiency Level	Excellent	24	32.4
	Very Good	29	39.2
	Average	20	27
	Below Average	1	1.4
Special English Education	Yes	40	54.1
	No	34	45.9

N = 74

Younger participants, for instance, who are frequently more involved in mixed-language settings, may represent changes in language usage between generations. Another factor is education; most individuals have postgraduate degrees, which is consistent with studies showing that greater education is linked to more linguistic flexibility in multilingual settings. Personality trait is one of the major concerns of the study. The 40 items of 'MPQ-SF' have been analysed in Table 3. Besides the principal component analysis, mean, standard deviation, skewness, and communality estimates are performed to identify correlation, central tendency, spread deviations from normality, and proportion of variance in the data.

Table 3: Personality Traits Analysis

Trait	Mean	Standard Deviation	Skewness	Communality Estimate
Cultural Empathy (CE)	4.2	0.5	0.2	0.85
Flexibility (FX)	3.8	0.6	-0.1	0.78
Social Initiative (SI)	4	0.4	0	0.82
Emotional Stability (ES)	3.6	0.7	-0.3	0.8
Open-Mindedness (OP)	4.1	0.5	0.1	0.83

Note: Factor loadings > .25 are shown in bold. CE = cultural empathy; FX = flexibility; SI = social initiative; ES = emotional stability; OP = open-mindedness; M = Mean, SD = Standard Deviation, Skew = Skewness, Comm = communality estimate. Communality estimate >.80 are shown in bold. Mean > 4.0 is shown in bold.

The use of PCA with direct oblimin rotation was used to analyse personality traits, which is the essence of this study. Factors with loadings above .25, which indicates moderate relationships, are bolded for clarity. The analysis, based on the Multicultural Personality Questionnaire-Short Form (MPQ SF), explores personality traits such as cultural empathy, adaptability, social responsibility, mental health, and open-mindedness. Relationship between these personality traits and the occurrence of CS behaviour is discussed with findings such as positive correlations for CE and ES in which individuals exhibit higher empathy with controlled emotions tend to frequently engage in more CS in the social context. Major personality traits influencing 'CS' are identified by the component analysis result in Table 3, which includes communalities, skewness of overall pattern coefficients. In friendships and family situations, there is a moderate correlation between 'CS' including traits related to cultural empathy, adaptability, and social innovation. Emotional stability (ES) as well as cultural empathy (CE) especially have substantial correlations, particularly when interacting with strangers, suggesting that these qualities aid CS in adjusting to new social situations. A radar chart comparing traits like CE, ES, & Openness (OP) throughout various encounters (e.g., family, strangers) could be helpful, as each component affects the personality profile linked to CS. According to Figure 2, those who are more open tend to play computer more frequently alongside friends and classmates, helps them be more flexible in casual situations.

4.1 Code Switching Context Frequency

Code-switching is the most common kind of switching reported by respondents (table 4) where 36.5 percent have gone through this with their frequent switching and 28.4 percent marked consistent switching. It happens mostly with friends where 44.6 percent reported frequent switching. At work, 33.8 percent claimed regular code-switching, while an equal percentage marked general switching. Interaction with strangers also showed high levels of code-switching where 32.9 percent marked frequent switching and 24.7 percent marked consistent switching-higher than with friends or colleagues. Code-switching, in public, is less likely, with only 21.9% respondents saying they make the switch more frequently and merely 6.9% often switching, however, 39.7% claimed to use it mostly.

Table 4: Code Switching Frequency

Context	Never	Rarely	Sometimes	Frequently	Always
With Family	13.5	12.2	9.5	36.5	28.4
With Friends	13.5	18.9	18.9	44.6	4.1
With Colleagues	9.5	20.3	33.8	33.8	2.7
With Strangers	11	11	20.5	32.9	24.7
At Home	16.2	17.6	13.5	31.1	21.6
In Public	12.3	19.2	39.7	21.9	6.9

Factor loadings > .25 indicate moderate association. The mean of the factor loadings reveals that the factors are moderately associated. However, the latent factors CE5, FX3, and ES8 are weakly associated. Notably, the factors (ES1 to ES8) related to 'Emotional Stability' are negatively associated. A visual summary regarding how each component contributes to the general personality profile determining 'CS' behaviour, which visually displays the impact of the factors of the personality traits found in PCA. Figure 2, shows the code-switching context frequency.

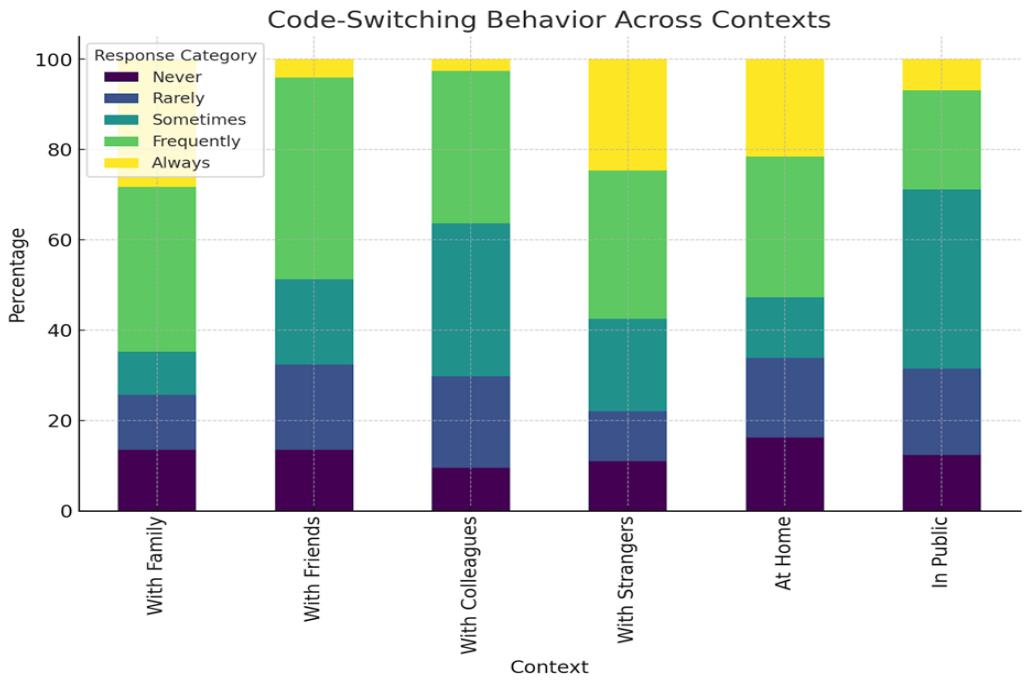

Figure 2: Code Switching Context Frequency

4.2 Correlation Analysis

To investigate the connections between 'CS' behaviour as well as the independent variables related to 'personality traits', 'emotional expressiveness', and socio geographical variables, the research uses PCA. The results are interpreted in light of theoretical frameworks as earlier research on bilingualism and social linguistics to prevent overconfidence on basic correlation values. Weak correlations, for instance, between 'CS' performance along with socio-biographical factors like 'age' and 'gender' suggest that, although they have little bearing, these variables do contribute to subtle linguistic preferences in particular social contexts.

The study examines the association between CS behaviour, personality traits, and emotional expressiveness using Pearson correlation analysis. These associations could be easier to read with the help of visualizations like a heatmap. To provide a rapid reference over the attributes that are most influential in a variety of social circumstances, a heatmap may, for instance, show the importance of correlations with personality traits (such as 'CE' and 'SI') and CS with various interlocutors.

The data reveals the correlation of the dependent variables, i.e., CS with certain people, CS with family, CS with friends, CS with classmates/colleagues, and CS with strangers, with the independent variables comprising socio-biographical factors, personality traits, and expression of emotion. Lastly, a series of multiple regression analyses were performed to further explore the combined effects of socio-biographical factors and personality traits on code-switching patterns. This step allowed for a comprehensive understanding of how individual differences, including age, education, and personality dimensions, jointly influence language-switching behaviour in diverse social settings.

4.3 Ethical Considerations

The study adhered to ethical guidelines for research involving human participants. Informed consent was obtained from all participants before data collection, ensuring their voluntary participation. The anonymity and confidentiality of respondents were maintained throughout the process, with data securely stored and used solely for research purposes.

4.4 Key Findings of Pearson Correlation Coefficient

4.4.1 Certain People

Participants who exhibit empathy with a desire to succeed are more likely to participate in computer science with people they know, according to positive associations with openness (OP2) and cultural empathy (e.g., CE2, CE3). The connection between CE2 (a good listener) and these interactions is considerable (0.28), highlighting the importance of listening abilities.

4.4.2 Family

There is a substantial correlation between empathy or CS within family settings, as observed by the positive correlations between social awareness traits such as listening ('CE2', 0.15) as well as social initiative ('SI1', 0.23).

4.4.3 Friends

There is a negative correlation (-0.22) between flexibility traits (FX3) and informal friendships, suggesting that less rigid personalities switch codes more frequently.

4.4.4 Strangers

According to theories of multilingual adaptability in novel situations, individuals appear to maintain emotional regulation when 'CS' around strangers, as evidenced by the substantial positive association (0.37) between Emotional Stability ('ES5') and strangers.

4.4.5 Socio-biographical Factors

There are weak correlations during CS with certain people. Age has a slightly negative correlation (-0.06). Gender and education show minimal correlations. Language use has a positive correlation (0.15). Family shows a positive correlation with age (0.09) and language history (0.05). Gender and education have a negligible correlation. Friends have a positive correlation with age (0.09) and language use (0.05). Gender and education show minimal correlation. Classmates/colleagues have a negative correlation with age (-0.03) and gender (-0.15). Education and language use have a negligible correlation. Strangers have a strong positive correlation with language proficiency level (0.24). Age and gender show minimal correlation. Language history has a negligible correlation with all groups. Language proficiency level has a strong positive correlation with strangers (0.24) and a negative correlation with certain people (-0.11). Special English education has a positive correlation with friends (0.22) and strangers (-0.13).

4.4.6 Personality Traits

Certain People - There are both positive and weak correlations during 'CS' with certain people. Items related to cultural empathy (e.g., listening [0.28], sensing others getting irritated [0.26]) tend to have positive correlations. Items related to 'emotional stability' (e.g., worries [0.17], getting upset [0.19], getting nervous [0.18]) also show positive correlations. In the case of Specific Items, 'CE2' (Are you a good listener?) shows Strong positive correlation (0.28). It indicates that the participants are good

listeners when they talk to certain people. 'CE3' (Do you sense when others get irritated?) has a Positive correlation (0.26). Sensing emotions is relevant to interactions with certain people. CE4 (Do you try to know others profoundly?) has a Weak negative correlation (-0.03). Profound understanding doesn't strongly correlate with certain people. SI2 (Do you leave the initiative to others to make contacts?) has a Strong positive correlation (0.33). Initiating contacts matters for certain people. 'ES1' (Do you have worries?) has a Positive correlation (0.17). Worries are relevant in interactions with certain people. 'OP2' (Are you looking for new ways to attain your goals?) has a Strong positive correlation (0.38). Seeking new ways relates to certain people. The positive correlations suggest that certain people play a role in social interactions, empathy, and openness. The weak negative correlations indicate that some characteristics (e.g., profound understanding) are less relevant to certain people.

5. RESULTS AND DISCUSSION

The research finds that 'CS' behaviour varies according to the socio-biographical profile of Arab-English bilinguals. Gender, age, education, language use, language history, language proficiency level, and special English education are observed to be significantly affecting 'CS' behaviour with certain people, family, friends, classmates/colleagues, and strangers. This research could give much needed insights about which socio-biographical features and personality characteristics trigger code-switching among Arabic English bilinguals living in Saudi Arabia. In its context, a high impact occurs because contextual influence on code switching patterns will prevail with place to the most intimate ones of one's life at work, public sphere, or others.

As indicated by Figure 3, with aging, the Saudi participants made more frequent uses of 'CS' while communicating with strangers. In contrast to studies conducted by Aljasir (2020), this research provides evidence because those studies ignored age as an important factor affecting CS behaviour. Also, this paper indicates that old participants can employ CS more strategically in order to fill a communication gap of any kind or to fill linguistic ones. It then underlines that demographic factors like age are taken into account for the understanding of the dynamics of CS in diversified social contexts.

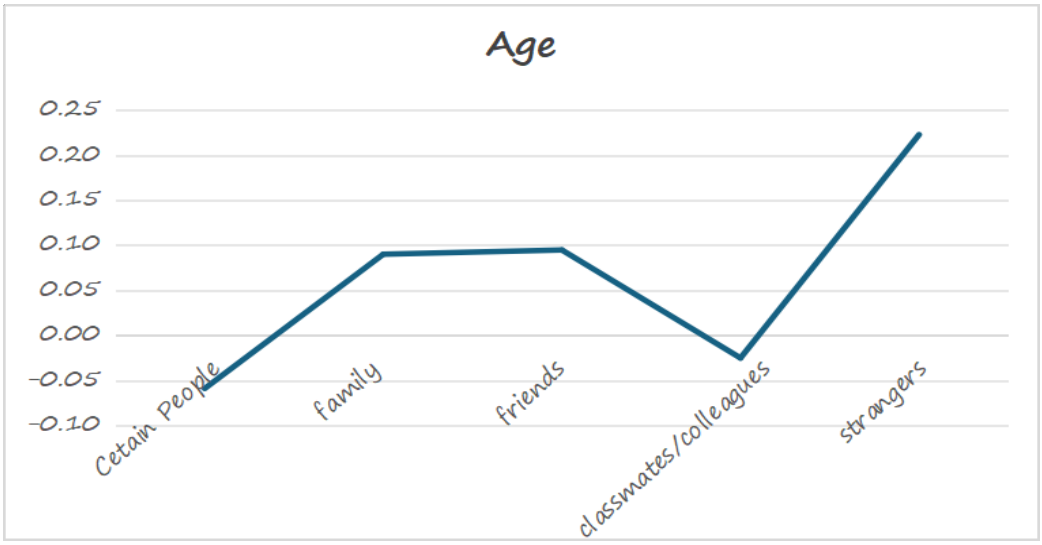

Figure 3: Age [Independent Variable]

Whereas concerning gender, a difference in terms of code-switching frequency is perceived since participants say they use more 'CS' with friends, as shown in Figure 4. Regarding the CS use with family member and strangers shows the same percentage, which, in turn denies what Aljasir (2020) claimed since he stated both male and females Saudis are found likely to code switch with family. The findings from the current study suggest a more subtle pattern where there is social context and relationship type that shapes the CS behaviour for both genders.

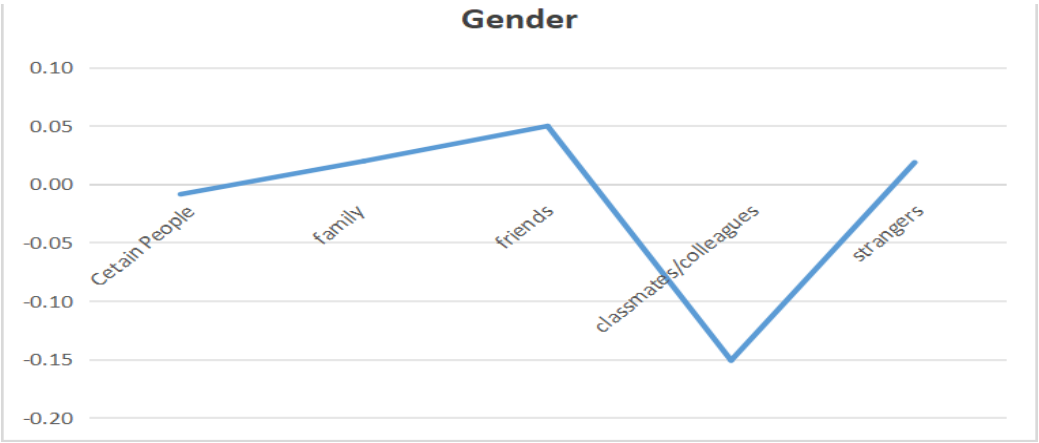

Figure 4: Gender [Independent Variable]

Education has a different impact on Saudi 'CS' behaviour. Education promotes the flexibility of using languages, facilitating the switching process across social and professional spheres of life. Finally, gender factors show that females tend to engage in more frequent code-switching in emotional/relational circumstances, whereas male participants tend to do the same in professional scenarios. This study confirms the dynamic and context-sensitive nature of bilingual communication, in which the relationships of interlocutors and social norms are central. From Figure 5, we observed that Saudis use CS with certain people (0.21) and especially with classmates/colleagues (0.14). When it comes to family, friends, and strangers they do not discriminate.

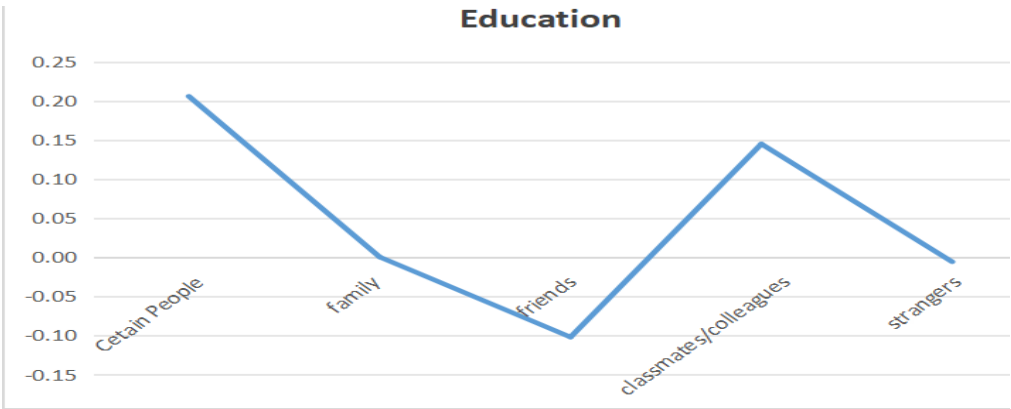

Figure 5: Education [Independent Variable]

Language use has a definite role in motivating the Saudis to use 'CS' most with certain people. The findings in Figure 6, suggest that interlocutors engage in 'CS' during conversation as they often make conscious or subconscious decisions about how to include or exclude the hearer. Moreover, Fallatah (2020) observed that the Saudi community uses CS to maintain prestige, importance, sophistication, and seriousness in conversation. In the present study, 'CS' with certain people justifies the participants' highest use of CS to mark their awareness of social identity and distinctiveness.

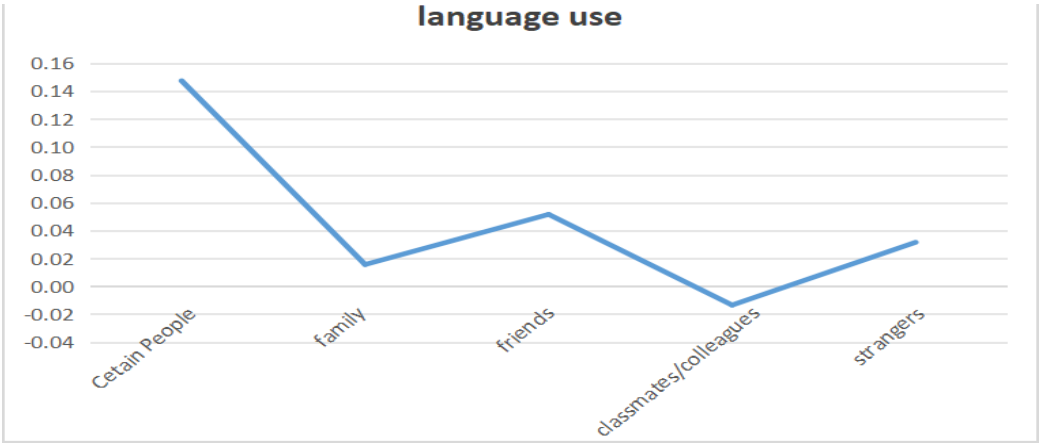

Figure 6: Language use [Independent Variable]

Language history as an independent variable is shown in Figure 7. The results show that the participants code-switch more with family and strangers than with other groups. This might indicate that language history plays a significant role in the participants' linguistic behaviour, perhaps because there is a deeper connection to cultural and linguistic roots when interacting with family. The more frequent code-switching with a stranger might also serve as an adaptive strategy to help communicate or establish rapport within unfamiliar social settings. In general, these studies point to how language history intersects with social processes in the functioning of code-switching.

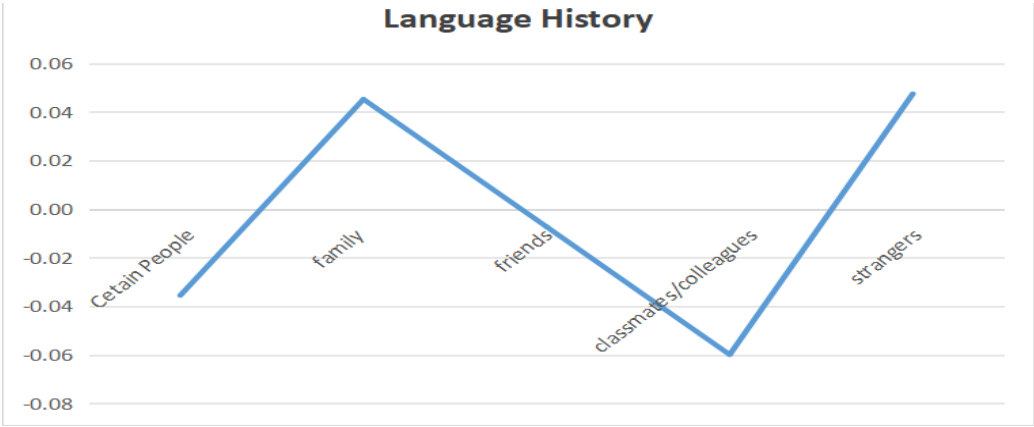

Figure 7: Language History [Independent Variable]

The language proficiency level as an independent variable is shown in Figure 8, which suggest that the Saudis use 'CS' most with classmates/colleagues. It is likely because they are more comfortable with peer groups. This finding is aligned with Villanueva and Gamiao (2022) study where they observed that students use 'CS' in the class when they seek clarification on particular points and their English proficiency is weak. Such behaviour further betrays CS as a straightforward tool that bridges linguistic gaps and fosters effective communication in academic and professional settings.

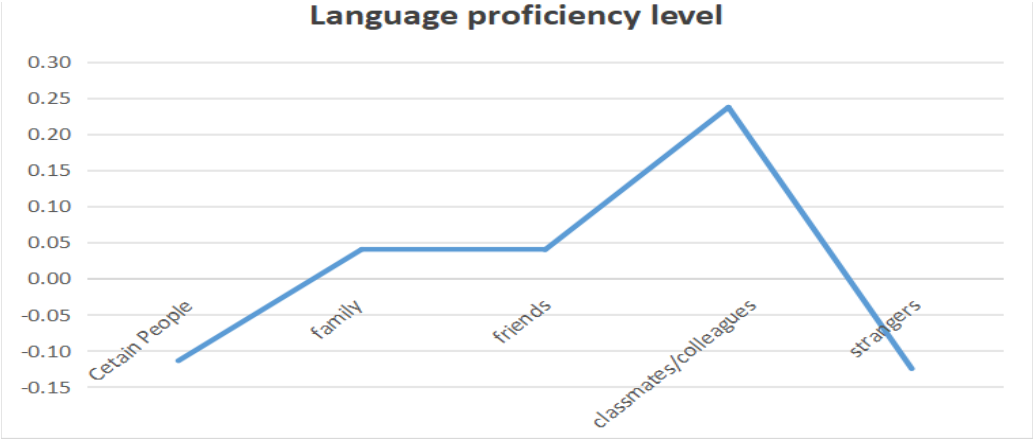

Figure 8: Language Proficiency Level [Independent Variable]

Like English proficiency level, 'Special English Education' also encourages Saudis to use CS more with the peer group. This finding is depicted in Figure 9, which is aligned with the study of Mekheimr (2023) on code-switching in Saudi Arabia's academia. They postulated that students and faculty do code-switch to fit in the bilingual situations of academia. This role of special language education reflects how such education moulds linguistic behaviour within the academic contexts of practical communication and social integration. Such practices do not only bridge the gaps of linguistic variations but also bring cooperation and mutual understanding within the diversity of educational settings.

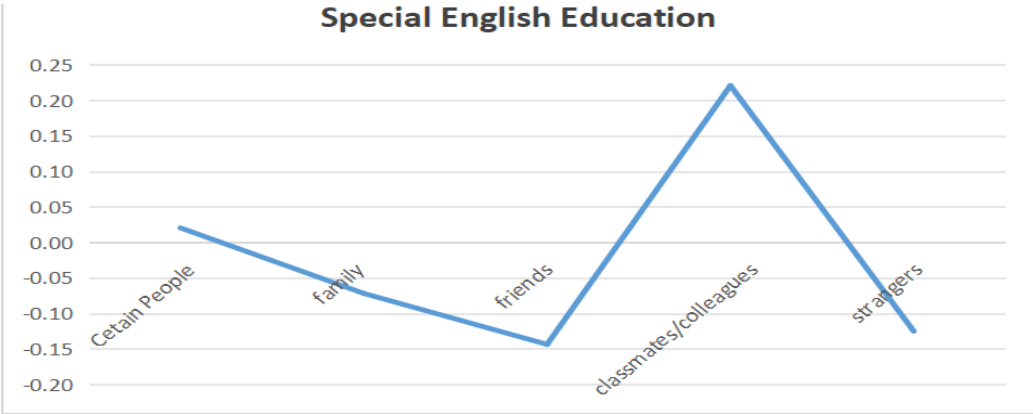

Figure 9: Special English Education [Independent Variable]

Additionally, personality traits such as openness and emotional stability appear to be strong predictors of the frequency of code-switching. Open people, who are curious and adaptable, tend to switch languages in order to interact with different interlocutors (Bickel et al., 2024). The findings of the personality traits for this work is shown in Figure 10, which suggest that the Arab-English bilinguals' CS behaviour varies according to their personality traits.

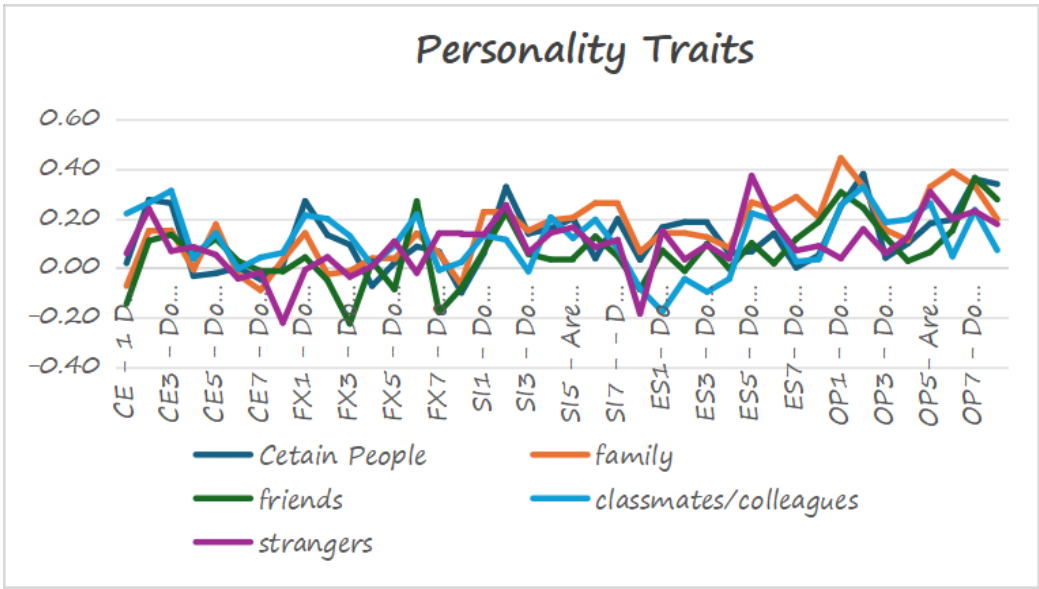

Figure 10: 40 items in the MPQ SF form [Independent Variables]

The cultural empathy as an independent variable is investigated in this work, as shown in Figure 11. The Saudi participants use 'CS' less when they pay attention to the emotions of family members and friends. However, they use 'CS' slightly more when they pay attention to classmates/colleagues and even more to strangers. But they are generally good listeners when they use 'CS'. However, this rating is slightly higher when they use CS with friends and classmates/colleagues. The participants have reported to have used 'CS' more to express irritation in others, especially among classmates/colleagues. Family members and friends fall in the middle range. There is a slight inclination to try to use CS more to know others more profoundly, particularly among classmates/colleagues and strangers. This finding is aligned with Ismail (2015) study on Arabic speakers in America who code-switch to Arabic for comprehensibility, friendliness, and intimacy. Family members and friends receive less effort in this regard. The participants reported using more 'CS' who enjoy hearing others' stories, especially from friends and classmates/colleagues. They use CS to avoid significant trouble across all groups. But this tendency is slightly lower with Friends and classmates/colleagues. They use CS to sympathize more with classmates/colleagues and strangers than family members and friends. They also comfort strangers more than anyone else with CS.

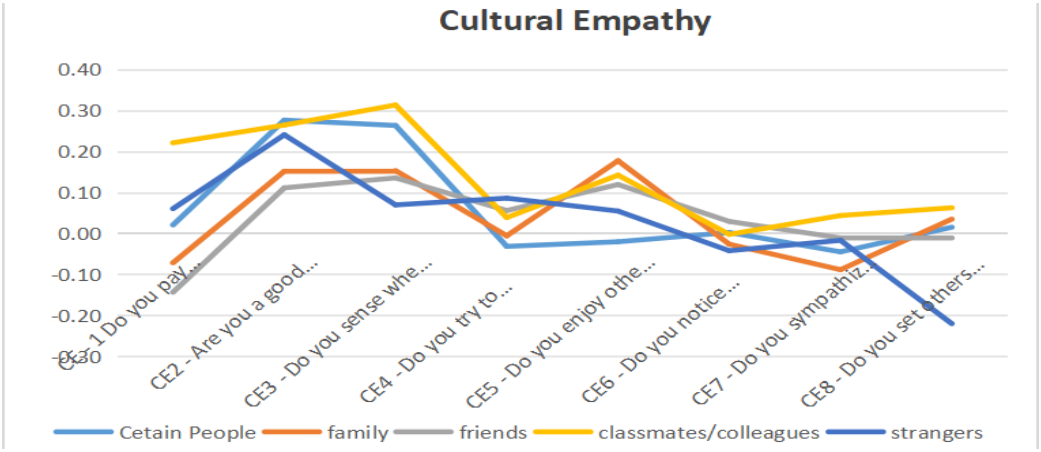

Figure 11: Cultural Empathy CE1-CE8 in the MPQ SF form [Independent Variables]

The participants tend to follow strict rules to some extent when they use 'CS' more with certain people and friends than with family members or strangers. The targeted data and its examination is shown in Figure 12. It is the same with classmates/colleagues and friends when they work according to plans and strict schemes. However, when they follow regular and routine affairs, they use more 'CS' with family members and friends. However, in predictable situations, they use 'CS' more with friends and classmates/colleagues. This is in contrast to the familiar setting and fixed habits where they use 'CS' most with strangers.

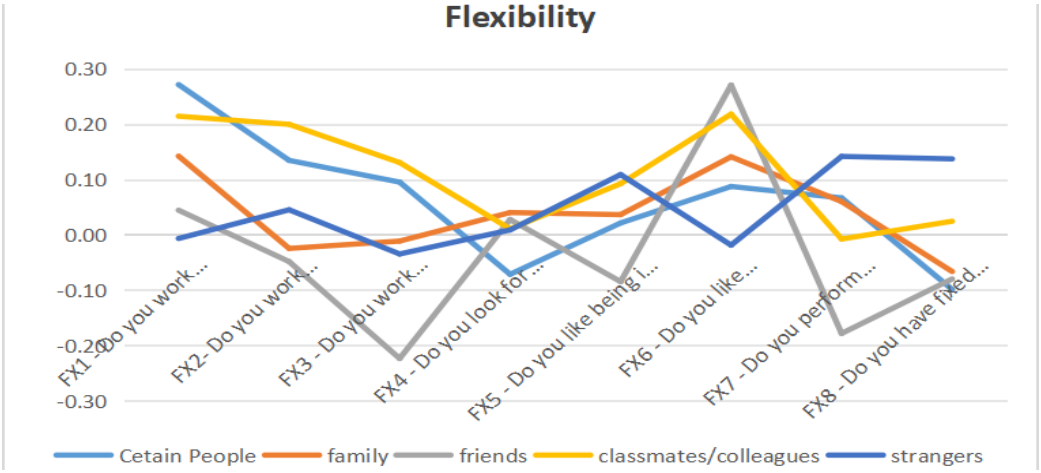

Figure 12: Flexibility FX1-FX8 in the MPQ SF form [Independent Variables]

The participants use 'CS' more when they take the lead with their family. After family, they lead strangers and classmates/colleagues. However, the 'CS' is used more with classmates/colleagues when they take the initiative to make contacts. It is noticeable in Figure 13, that 'SI2' (0.11) & 'SI3' (-0.01) are negatively associated with 'SI4' (0.21) in classmates/colleagues. However, the frequency is greater when they are inclined to speak out, act as a driving force, and make contact easily when they

are with family. But, they use 'CS' more with family when they are reserved and most with strangers when they are not reserved [(-0.18) refers to the negative value.

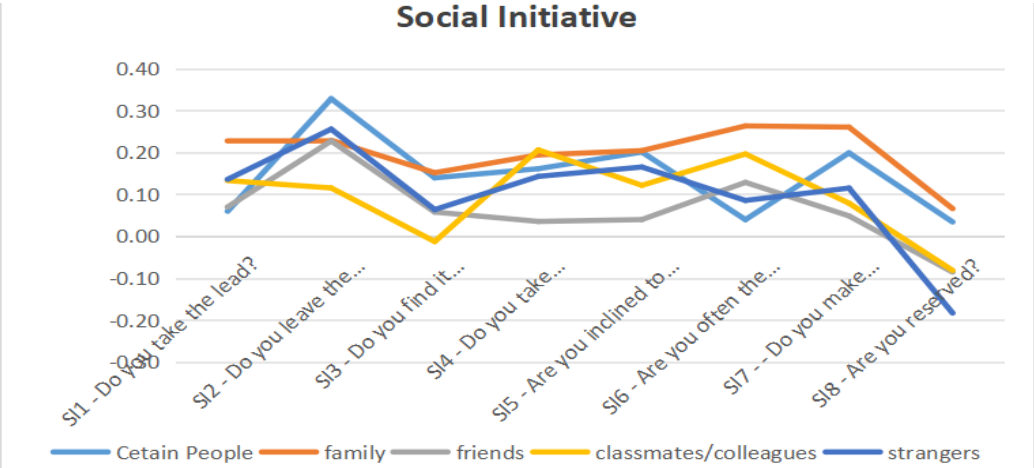

Figure 13: Social Initiative SI1-SI8 in the MPQ SF form [Independent Variables]

The emotional stability as an independent variable is shown in Figure 14. On the other hand, emotionally stable individuals tend to code-switch less in stressful situations, and thus, language-switching could be a coping mechanism for less emotionally stable individuals. Socio-biographical variables also show different influences: younger individuals have higher levels of code-switching, particularly in informal environments, which relates to their generally higher linguistic malleability (Dayal, 2022). The factors of 'Emotional Stability' are negatively associated with other personality traits. So, the participants use more 'CS' with classmates/colleagues when they have worries, get upset easily, get nervous, and feel lonely. However, they use 'CS' with certain people more when they want to keep calm and feel under pressure, with friends more when they feel insecure, and with classmates/colleagues more when they are not easily hurt.

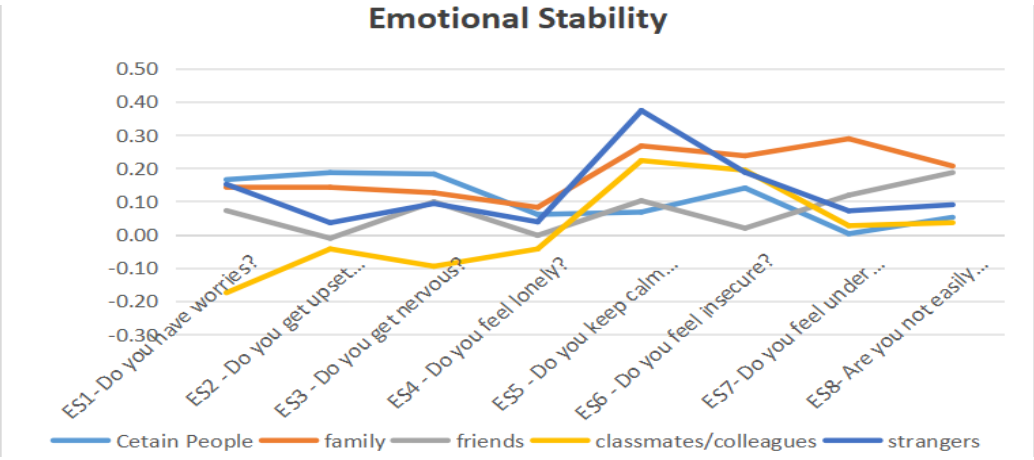

Figure 14: Emotional Stability ES1-ES8 in the MPQ SF form [Independent Variables]

The open mindedness for OP1-OP8 as an independent variable is shown in Figure 15. The participants reported that they use more 'CS' when they try out various approaches in conversation with family. After family, the conversations with friends induce greater 'CS' use than that with certain people and classmates/colleagues. In conversations with certain people regarding new ways to attain goals, the participants use more 'CS', and it is slightly higher than that with friends and classmates/colleagues. With classmates/colleagues, the participants use 'CS' more to start a new life quickly and imagine solutions to problems. As a trendsetter in societal developments, the participants tend to use 'CS' more with family and strangers. With friends, it is relatively lower than classmates/colleagues. Family becomes the most important factor in higher 'CS' use when the participants try to appropriate their feelings with culture. However, they have moderate CS use with certain people and strangers. Their tendency to use CS with friends and certain people is greater when they befriend people from different backgrounds. However, when they have a broad range of interests in conversation, they use more CS with certain people than other groups. Remarkably, they use less CS with classmates/colleagues in this regard.

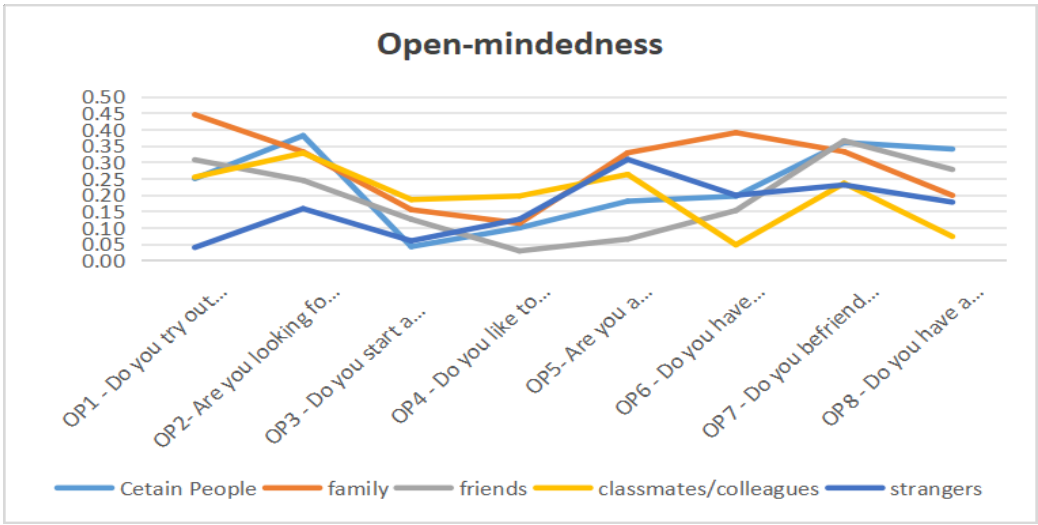

Figure 15: Open-Mindedness OP1-OP8 in the MPQ SF form [Independent Variables].

The research finds that CS behaviour varies among Arab-English bilinguals according to the location of 'CS' use. The place as an independent variable is shown in Figure 16. At home, the participants have reported using more 'CS' with family and friends. In the workplace and school/college, the family dominates the higher CS usage, and it is slightly [by 0.02] higher than classmates/colleagues. This finding extends the contention of Aljasir (2020) that the Saudi participants used most CS in the workplace and college by adding that the frequency of CS is slightly greater with family members. However, in public, it is different as the usage is higher with friends. In the neighbourhood, friends and family motivate more 'CS' use than classmates/colleagues and strangers. These findings are aligned with Kieffer et al. (2021) study of Spanish/English bilinguals whose CS utterances depend upon the contextual factors of participants, settings, and topics. This reason further clarifies the finding that Saudi participants tend to use 'CS' more with family members in the workplace and school/college than with their classmates/colleagues.

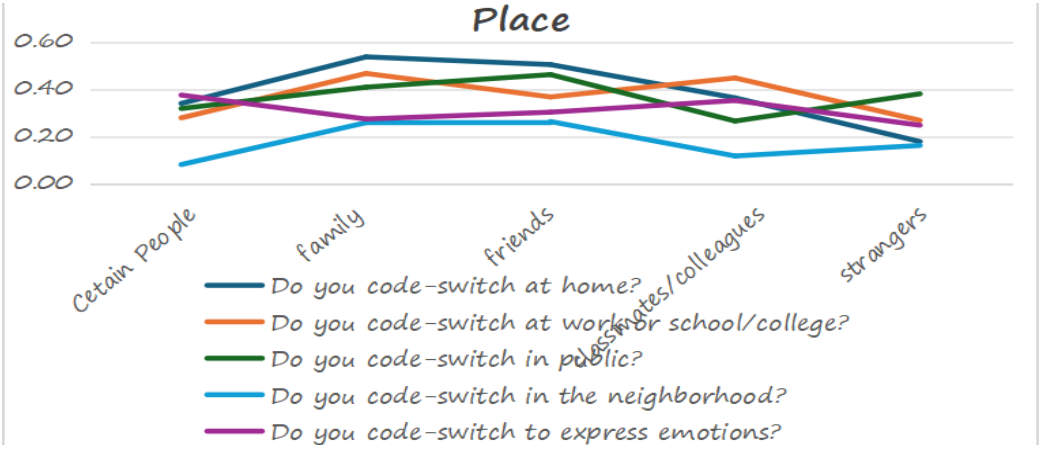

Figure 16: Place, i.e. Home, Work or School/College, Public, Neighbourhood [Independent Variables].

Figure 17 shows emotion as an independent variable. Family interactions often represent a higher frequency of code-switching because of emotional proximity, whereas in the workplace, there are more deliberate switches to the dominant language to preserve professionalism (Kremin et al., 2021). The data also revealed that Arab-English bilinguals have variant 'CS' behaviours when they express emotions. With certain people and classmates/colleagues they use 'CS' more to express emotion. Moreover, interlocutor type also influences the patterns of switching, as informal and intimate contexts lead to higher switch rates (Ali, 2024). While previous studies generally focused on the socio-linguistic trigger or structural code-switching factor, this research contributes to advancing the field with the integration of personality psychology. The use of the MPQ adds depth by revealing nuanced interactions between psychological traits and socio-biographical factors. The implications of the results are practical, in terms of designing bilingual education and fostering cultural understanding. There are also professional implications for environments within Saudi Arabia where code-switching can enhance effectiveness in communication and social cohesion

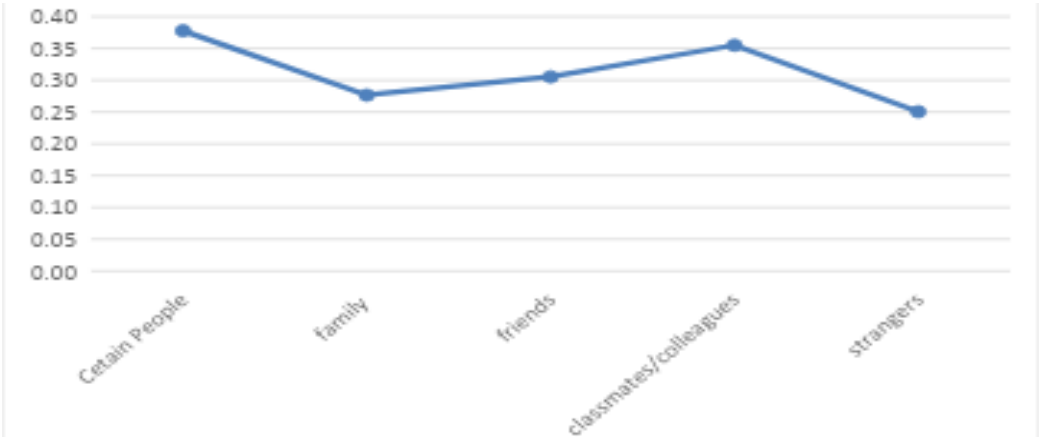

Figure 17: Emotion [Independent Variable]

6. CONCLUSION

CS provides a very interesting perspective on the interplay between bilingual languages, especially in mixed-language communication. This study, by exploring how personality factors such as emotional stability, social initiative, and cultural sensitivity interact within specific sociolinguistic and professional environments, contributes significantly to the field of sociolinguistics. It further develops an understanding of the factors that interlocutor roles and settings (for example, friends, family, co-workers; home, workplace, social spaces) may play in making choices about language. Age, gender, participants' emotional states, and personality factors highlight how, for each use of CS, context factors create their complexity. In this light, the conclusion derived from these results shows how, instead of remaining static and static, dynamic diverse motivations on using language govern all these different elements. This research adds to the body of knowledge regarding Saudi Arabian Arabic-English code-switching by examining linguistic and educational factors, including proficiency and usage in English, and their effects on CS behaviours, attitudes, and practices.

7. STUDY LIMITATIONS

The study also recognises a few limitations. The use of self-reported questionnaires raises the potential biases in that respondents may over- or underestimate their code-switching behaviour. In addition, snowball sampling method limits the generalisability of the findings, as the sample may not be representative of the larger Saudi bilingual population. Also, the study is confined to Arab-English bilinguals and excludes other bilingual communities in Saudi Arabia, thus restricting the cultural and linguistic diversity of the findings. Besides, its cross-sectional design means that the study cannot trace longitudinal trends of code-switching behaviour, like whether individuals or their households change their patterns of switching over time. With a sample size of just 74 respondents, albeit manageable for statistical analyses, the entire range of variability in bilingual behaviour may not be captured.

The exclusion of qualitative data limits the understanding of the motivations and emotional nuances behind code-switching. Interviews or observational studies may provide richer information about participants' lived experience. Moreover, the research fails to include extraneous variables, such as socio-economic class, ethnicity, or technological influences, that may be involved with bilingual communication. Lastly, whereas the study puts emphasis on Pearson correlation and PCA, this is robust without causal relationships, providing room for further research to possibly use experimental or mixed-methods approaches to be able to make causality conclusions.

8. FUTURE RESEARCH DIRECTIONS

Future studies should attempt to address the limitations of this study by expanding into a longitudinal approach to explore whether code-switching behaviour evolves over time. Also, the sample should be extended to include more diverse bilingual communities within Saudi Arabia, which will also improve the generalization of findings. Richer insights into the socio-cultural and emotional drivers of code-switching can be obtained through qualitative methods, such as in-depth interviews or ethnographic studies. There should be further investigations of other variables such as socio-economic class, ethnicity, and digital communication which may give more comprehensive insights on bilingual behaviour. Comparative studies including bilinguals with different cultural and linguistic backgrounds would show universal patterns and culture-specific patterns. More research is expected to explore bilingual education and language policies that can create code-switching behaviour patterns in professional

and academic environments. An experimental approach may then help establish causality between personality traits, socio-biographical factors, and code-switching.

9. THEORETICAL AND PRACTICAL IMPLICATIONS

Theoretically, the study bridges the gap between sociolinguistics and personality psychology, serving the more nuanced understanding of bilingualism in communication. It validates the relevance of the Big Five personality traits in predicting language-switching behaviour, making it extend the scopes in already existing frameworks that consider both the dynamics between individual and contextual factors. Practically, it guides curricula for bilingual education to capitalize on code-switching when enhancing linguistic competence and cultural empathy. Employers can use these insights to foster inclusive workplace communication, tailoring language policies to accommodate bilingual employees.

10. PRACTICAL APPLICATIONS OF FINDINGS

Applications can be seen in language education. Code-switching can be incorporated strategically to enhance bilingual proficiency and cultural competence. At the professional level, knowledge about code-switching can help increase cross-cultural communication, making way for greater inclusion and collaboration. Digital platforms may also incorporate such insights to create tools that enable bilingual users to navigate complex linguistic landscapes effectively. Moreover, the results should be incorporated into educational endeavours to create bilingual educational materials that promote equal linguistic proficiency and respect for different cultures. Create and disseminate digital tools or platforms that support and mirror the dynamic computer-savvy practices of Arab-English bilinguals, guaranteeing smooth verbal and writing communication. Urge companies to develop inclusive language guidelines that recognize the flexibility of being bilingual and the contribution of computer science to improving communication in personal as well as professional situations.

REFERENCES

al-Rojaie, Y. (2023). Sociolinguistics in Saudi Arabia: Present situation and future directions. *Journal of Arabic Sociolinguistics*, *1*(1), 76-97. https://doi.org/10.3366/arabic.2023.0006

Albahoth, Z. M., Jabar, M. A. b. A., & Jalis, F. M. B. M. (2024). A Systematic Review of the Literature on Code-Switching and a Discussion on Future Directions. *International Journal of Academic Research in Business and Social Sciences*, *14*(2). https://doi.org/10.6007/ijarbss/v14-i2/20452

Ali, F. (2024). A Critical Review of Multilingual and Multidialectal Approaches to Heritage and L2 Arabic Instruction. *Critical Multilingualism Studies*, *11*(1), 8-25. https://cms.arizona.edu/index.php/multilingual/article/view/283/332

Aljasir, N. (2020). " Arabic-English Code-Switching in Saudi Arabia: Exploring Bilinguals' Behavior and the Individual Factors Influencing It. *Arab Journal for Scientific Publishing (AJSP) ISSN*, *2663*, 5798. https://www.ajsp.net/research/Arabic_English_Code_Switching_in_Saudi_Arabia.pdf

Alshihry, M. A. (2024). Dynamic Multilingual Proficiency: Investigating Variation and Development in Language Abilities. *Theory and Practice in Language Studies*, *14*(2), 358-364. https://doi.org/10.17507/tpls.1402.06

Autoethnography, A. P. (2025). 4 Translanguaging Identity as a Decolonization Response. In S. Yang, *Decolonizing EFL Writing Education: An L2 Writing Teacher's Poetic Autoethnography* (1st ed., pp. 49-67). https://doi.org/10.4324/9781003536369-6

Bickel, B., Giraud, A.-L., Zuberbühler, K., & van Schaik, C. P. (2024). Language follows a distinct mode of extra-genomic evolution. *Physics of Life Reviews*, *50*, 211-225. https://doi.org/10.1016/j.plrev.2024.08.003

Britwum, F., Amoah, S. O., Acheampong, H. Y., Sefah, E. A., Djan, E. T., Jill, B. S., & Aidoo, S. (2022). Do Extraversion, Agreeableness, Openness to Experience, Conscientiousness and Neuroticism Relate to Students Academic Achievement: The Approach of Structural Equation Model and PROCESS Macro. *International Journal of Scientific and Management Research*, *05*(02), 64-79. https://doi.org/10.37502/ijsmr.2022.5205

Cervone, D., & Pervin, L. A. (2022). *Personality: Theory and research*. John Wiley & Sons. https://search.worldcat.org/title/1312150179

Dayal, P. (2022). *Psycho-socio and biographical variables: Scientific aptitude and secondary school students* AIP Conference Proceedings, http://dx.doi.org/10.1063/5.0104499

Fallatah, W. O. S. (2020). Bilingual Creativity in Saudi English. In *Cultural Linguistics* (pp. 167-191): Springer Singapore. http://dx.doi.org/10.1007/978-981-15-4696-9_9

Halpin, E., & Melzi, G. (2018). Code-switching in the narratives of dual-language Latino preschoolers. *International Journal of Bilingual Education and Bilingualism*, *24*(9), 1271-1287. https://doi.org/10.1080/13670050.2018.1553928

Hofhuis, J., Jongerling, J., & Jansz, J. (2023). Who benefits from the international classroom? A longitudinal examination of multicultural personality development during one year of international higher education. *Higher Education*, *87*(4), 1043-1059. https://doi.org/10.1007/s10734-023-01052-6

Hofhuis, J., Jongerling, J., Van der Zee, K. I., & Jansz, J. (2020). Validation of the Multicultural Personality Questionnaire Short Form (MPQ-SF) for use in the context of international education. *PloS one*, *15*(12), e0244425-e0244425. https://doi.org/10.1371/journal.pone.0244425

Ismail, M. A. (2015). The Sociolinguistic Dimensions of Code-Switching between Arabic and English by Saudis. *International Journal of English Linguistics*, *5*(5). https://doi.org/10.5539/ijel.v5n5p99

Ivanova, I., Hernandez, D. C., & Atiya, A. (2025). Automatic and strategic components of bilingual lexical alignment. *Cognition*, *256*, 106046. https://doi.org/10.1016/j.cognition.2024.106046

Jan-Petter, B., & Gumperz, J. J. (1972). Social meaning in linguistic structure: code-switching in Norway. In J. J. G. D. Hymes (Ed.), *The Bilingualism Reader* (2nd ed., pp. 75-96). Routledge. https://doi.org/10.4324/9781003060406-12

Khaliq, N., & Ahmed, T. (2025). The Role Of Code-Switching In English Language Teaching At Atertiary Level In Lahore: An Exploratory Study. *Journal of Applied Linguistics and TESOL (JALT)*, *8*(1), 281-290. https://jalt.com.pk/index.php/jalt/article/view/314/255

Kieffer, M. J., Mancilla-Martinez, J., & Logan, J. K. (2021). Executive functions and English reading comprehension growth in Spanish-English bilingual adolescents. *Journal of Applied Developmental Psychology*, *73*, 101238. https://doi.org/10.1016/j.appdev.2021.101238

Kremin, L. V., Alves, J., Orena, A. J., Polka, L., & Byers-Heinlein, K. (2021). Code-switching in parents' everyday speech to bilingual infants. *Journal of Child Language*, *49*(4), 714-740. https://doi.org/10.1017/s0305000921000118

Liu, H., Liu, Z., Yuan, M., & Chen, T. (2023). The effect of cognitive load on code-switching. *International Journal of Bilingualism*, *28*(3), 513-530. https://doi.org/10.1177/13670069231170142

Lubis, R. A., Siregar, D. Y. S., Husni, P. N., Rizky, F. M., & Thomaroh, H. (2025). Pragmatics in Everyday Life: Understanding Unspoken Rules of Interaction. *Sintaksis: Publikasi Para ahli Bahasa dan Sastra Inggris*, *3*(1), 199-211. https://doi.org/10.61132/sintaksis.v3i1.1359

Matiso, N. H. (2023). A Comprehensive Approach to Eliminate English Second Language Learners' Grammatical Difficulties. *International Journal of Learning, Teaching and Educational Research*, *22*(10), 306-323. https://doi.org/10.26803/ijlter.22.10.17

Mekheimr, M. A. (2023). Pedagogical Functions of Code-Switching in EFL College Settings: Perceptions and Perspectives of Students' Attitudes and Motivations. *BSU-Journal of Pedagogy and Curriculum*, *2*(3), 11-42. https://doi.org/10.21608/bsujpc.2023.270979

Mohammed, P., & Mohan, P. (2014). Dynamic Cultural Contextualisation of Educational Content in Intelligent Learning Environments using ICON. *International Journal of Artificial Intelligence in Education*, *25*(2), 249-270. https://doi.org/10.1007/s40593-014-0033-9

Mugableh, A. I., & Alruwaili, T. F. (2024). A longitudinal investigation of the impact of code-switching versus target language only on Saudi EFL students' written receptive vocabulary knowledge development in terms of breadth. *Forum for Linguistic Studies*, *5*(3). https://doi.org/10.59400/fls.v5i3.1719

Rayo, W., Barrita, A. M., Cabrera Martinez, L., & Carbajal, I. (2024). The Complexity in Bilingual Code-Switching Research: A Systematic Review. *Languages*, *9*(6), 217. https://doi.org/10.3390/languages9060217

Villanueva, L., & Gamiao, B. (2022). Effects of Code Switching Among College Instructors and Students In a Philippine Classroom Setting. *American Journal of Multidisciplinary Research and Innovation*, *1*(2), 70-77. https://doi.org/10.54536/ajmri.v1i2.292

Zaghlool, Z. D., & Altamimi, N. M. (2023). Saudi EFL Teachers' and Students' Perceptions Towards Using English-Arabic Code Switching as a Teaching and Learning Strategy. *Journal of Language Teaching and Research*, *14*(4), 1049-1057. https://doi.org/10.17507/jltr.1404.23

Zohoorian, Z., Zeraatpishe, M., & Khorrami, N. (2022). Willingness to Communicate, Big Five Personality Traits, And Empathy: How Are They Related? *Canadian Journal of Educational and Social Studies*, *2*(5), 17-27. https://doi.org/10.53103/cjess.v2i5.69