

Age-Related Variation in Computer-Mediated Communication: A Comparative Analysis of Facebook Status Updates among Female Users in Pakistan

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Abstract

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The introduction of Computer-Mediated Communication (CMC) has created new ways of communicating daily, and has resulted in the advent of some novel linguistic practices in online situations. Though previous studies have established linguistic variations in digital communication from various contexts, comparatively little is known about how age varies in online language use among Pakistani Facebook users. It focuses on the apparent-time perspective on two age groups of female Facebook status writers (ages 18-20 and 30-35) to explore the distribution of certain linguistic features in their status updates. In this study, the qualitative comparative content-analysis design was used. The status updates that were reviewed were purposively selected, with 200 being reviewed and analyzed from each one of the participants. Analyses carried out in the study were on the basis of the following five linguistic categories – shortened lexical forms, acronyms, omission of vowels, emoticons/emoji and substitutions of numeric forms. These features were subsequently compared descriptively in terms of their frequency and distribution between the age groups included. The analysis shows that the younger participants generally preferred more innovative linguistic forms than the adult participants, while the adult participants generally preferred a more traditional lexical and orthographic form. These observations suggest variation in the linguistic practice of the selected dataset with respect to age rather than evidence for ongoing language change. The study aids the Computer-Mediated Communication research in Pakistan by reporting the language variations of Facebook users and can serve as the basis for future studies that use longitudinal or larger and more varied data sets to investigate the changes in language throughout time.

Keywords: Computer-Mediated Communication, Facebook, language variation, apparent-time analysis, digital discourse, sociolinguistics



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1. INTRODUCTION

The emergence of Computer-Mediated Communication (CMC) has created new forms of everyday interaction and generated novel linguistic practices in online contexts. Although previous studies have documented linguistic variation in digital communication across several settings, comparatively little is known about age-related variation in online language use among Pakistani Facebook users. This study adopts an apparent-time perspective to compare the Facebook status updates of two groups of female users aged 18-20 and 30-35 years and to examine the distribution of selected linguistic features.

Digital communication has been leading to an explosion in the generation, transmission and understanding of language. Crystal (2006) and Baron (2008) suggest that social networking services have become a normal part of daily communication, impacting intralingua, interpersonal, and interpersonal communications in ways that involve the use of abbreviations, acronyms, consonant or vowel omission, emoticons, emojis, and numeric substitutions. These are characteristics that online users, who have adapted themselves to the speed of CMC (Computer-Mediated Communication) and the informality and interaction of this discourse, have shifted over the years from normal written text.

The emergence of Computer-Mediated Communication is considered one of the best areas for sociolinguistic research as it offers a great deal of insight into how language is used and used with variation between more and less privileged social groups and contexts of communication. The lack of in-depth knowledge of the specific variables of sociolinguistic use of the web prompted the use of previous studies that identified a series of variables such as age, gender, education level, familiarity with technology, and communicative purposes of web users. The terms younger user and older user may be correlated with linguistic creativity/experimentation and conventionality, respectively, although both these sets of characteristics are not universally applicable. But there are different patterns in different cultural and linguistic settings, and these patterns must be understood within the social context(s) within which digital communication is taking place.

It has long been realized that age is an important variable in sociolinguistic patterns. The apparent-time hypothesis suggests that the discrepancy in language use between different age groups may give some clues to language variation in a speech community. While this method can be used to demonstrate linguistic differences across age groups, it does not constitute linguistic change over time. Instead it provides a blueprint in which to analyze the use of linguistic features by various generations at a given period of time. This type of analysis is of special value in an analysis of language use in online settings, where innovativeness and convention may coexist.

While computer-mediated communication has been widely examined in the Western context, there have been few studies focused on the issues of language variation in social media communication in Pakistan and the South Asian region. Most of the studies conducted until now generally focus on the use of social media or multilingual communication. However, the studies analyzing the linguistic peculiarities of Facebook discourse in Pakistan have not been conducted yet. Given that Pakistan is known for its multicultural and multilingual environment, language analysis in Facebook contexts is highly promising since it reveals the peculiarities of the use of digital communication in all its aspects on the local level.

The body of literature surrounding Computer-Mediated Communication has grown significantly in Europe, North America and in other international settings. These studies have focused on the linguistic features of digital discourse in different forums of the Internet such as chat rooms, social networking sites, blogs and text messaging. However, there are relatively few studies examining age-related linguistic variation in the context of Facebook communication in

Pakistan, and specifically an examination of naturally occurring data from Facebook where it is analyzed in a systematic way. The present study is in the line of existing Pakistani studies, which were mostly on social media use, language choice or code-switching with little attention on distribution of the specific language features by the different age groups. Previous studies have shown that social media and IM don't necessarily affect language as a whole, but actually allows for the systematic process of language innovation among the users (Tagliamante & Denis 2008).

The study employed a qualitative comparative content-analysis design. A total of 200 status updates from each age group were purposively selected and analysed. The analysis focused on five linguistic categories: shortened lexical forms, acronyms, vowel omission, emoticons/emojis, and numeric substitutions. The frequency and distribution of these features were then compared descriptively across the two age groups.

This research paper explores the linguistic characteristics of Facebook posts by female Facebook members in Pakistan and tries to determine the implications of these linguistic characteristics on the language variation in CMC. In a more precise manner, this research tries to study the usage of abbreviation, acronyms, code-switching, non-standard spelling, emojis and some other features in the field of linguistics of Facebook statuses. Additionally, it looks at the variation of these linguistic features in relation to different age groups of female users, keeping in mind that the observed differences can be due to age-specific communication practices and specific conventions used on the social media instead of language changes. The research on the example of female Facebook users in Pakistan contributes significantly to the existing body of knowledge on the digital discourse and language variation issues in South Asia.

2. LITERATURE REVIEW

2.1 Computer-Mediated Communication as a Sociolinguistic Phenomenon

The use of digital means fundamentally changed communication patterns of human beings, and Computer-Mediated Communication (CMC) is one of the most vibrant fields of modern sociolinguistic research. Written communication on social networking sites like Facebook has changed, including facilitating multimodal, interactive, and 'quick' communication, and the linguistic creativity that often supplants more traditional forms of written communication. In contrast to the written nature of traditional discourse, a digital environment also includes abbreviations, acronyms, orthographic reduction, emojis, use of numbers instead of words, and other novel linguistic strategies for efficient communication and expression of identity, emotion and group affiliation (Crystal, 2006; Baron, 2008; Herring, 2004).

Instead of being interpreted as a sign of language decay, these linguistic variants are now commonly recognized as intelligent responses to technological affordances and shift in communicative needs as a result of them in contemporary studies of language and technology. The ability to negotiate meaning in combinations of textual, visual and symbolic resources is now recognized as a legitimate field of discourse in which language is changing in a digital environment. More recently, research has held that online and offline forms of communication have already ceased to be separate; in fact, linguistic practices are constantly shifting from the online to the offline and vice versa, and online discourse is therefore a valuable context for studying modern periods of language in daily life.

The analysis indicates that younger participants generally preferred more innovative linguistic forms, whereas older participants tended to use more conventional lexical and orthographic forms. These findings suggest age-related variation in the selected dataset rather than evidence of ongoing language change. The study contributes to research on Computer-Mediated

Communication in Pakistan and provides a basis for future longitudinal studies using larger and more diverse datasets to investigate language change over time.

2.2 Linguistic Features of Digital Communication

Some of the traits of CMC are the characteristics that are not found in traditional written communication. Lexical shortening, acronyms, vowel omission, emoticons, emojis and numeric substitutions have all been found in previous studies to be effective communicative devices which are not random variations in L2 usage. They help people to not only get their point across quicker and with less typing, but also to show humor, emotion, solidarity, or identity more effectively in communicating between individuals (Herring, 2004; Bieswanger, 2007; Crystal, 2006).

Emojis and emoticons are especially important as they do not have a face, gestures or prosodic cues to make up for, in interaction during writing. Likewise, Abbreviation and acronyms help users to discuss quickly with an acceptable level of understanding. These linguistic developments are thus adaptive rather than signals of low linguistic quality. Shorts Scribes, also called abbreviations, acronyms, emojis, and imaginative word forms, have become easy to use in online communication because they allow for quick exchange of information, they can be used to express identity and group membership (Crystal 2006; Baron 2008; Bieswanger 2007).

2.3 Age and Linguistic Variation in Online Communication

One of the main variables that has long been acknowledged as some effecting sociolinguistic variation is age. Uneventful changes between age groups are valuable for understanding developmental age-group variation in a speech community within a period of apparent time. apparent-time, however, should be used with caution, as it reflects age-related differences, not actual language change.

In online communication situations, research findings regularly conclude that new language forms will be used more quickly by younger than by older users. In general, younger users are more likely to use abbreviations and acronyms, emojis, creative spellings, and orthographic reduction, while older users tend to stick to more conventional linguistic habits (Baron, 2008; Tagliamonte & Denis, 2008). However, one should not treat these differences as evolutionary, generational separation. Ongoing online communication also happens to be carried out by adult users, who are also actively involved in adopting new linguistic resources based on communicative contexts, technological familiarity and interactional objectives. Then the linguistic differences between age groups is a result of different communicative preferences, not linguistic divisions. Young people are often the early adopters of new linguistic forms and as such play a crucial role in the process of language change, both offline and online (Eckert, 1997, Androutsopoulos, 1999).

2.4 Computer-Mediated communication in Pakistan

The issue of computer-mediated communication in Pakistan is discussed. While the volume of research on Computer-Mediated Communication (CMC) has grown significantly in the last 20 years around the world, there is still limited empirical research on digital discourse in Pakistan. The previous research conducted in Pakistan has focused mostly on the bilingual communication, code-switching between Urdu and English language, Roman Urdu, identity building and the overall social media behavior without systematic analysis of the distribution of individual linguistic features by age categories. Recent research indicates that users of the internet tend to use English, Urdu, and Roman Urdu, emoji, hashtags and other multimodal resources together to assert their identity and negotiate cultural belonging in settings engaged by the internet

Digital communication has transformed the production, transmission, and interpretation of language. Crystal (2006) and Baron (2008) argue that social-networking services have become an integral part of everyday communication and have influenced intrapersonal and interpersonal interaction through abbreviations, acronyms, vowel omission, emoticons, emojis, and numeric substitutions. One of the things that sets computer-mediated discourse (CMD) apart from human communication with people is the combination of facial language and written language, which produces different norms of communication—both linguistic and non-linguistic—for use on the diverse communication infrastructures that are digital (Herring, 2004).

2.5 Research Gap

According to the literature, Computer-Mediated Communication is one of the major fields of sociolinguistic research and age and the acceptance of innovative linguistic practices in digital environments are of importance. However, most previous research has focused on mainstream studies in western intercultural settings or on general topic of code-switching, multilingualism and digital identity in Pakistan. Scant quantitative evidence exists that compares the occurrence of specific CMC linguistic features among the age groups based on Pakistanis' naturally occurring Facebook status posts.

To fulfil this gap the present study conducts a comparative content analysis of the Facebook status updates of two age groups of female users in Pakistan. Learnings from this study offer context-specific evidence to the emerging discipline of digital sociolinguistics, may give a more nuanced understanding of age-related variation in communicative practices of Pakistanis on the internet, and examining shortened lexical forms, acronyms, vowel omission, emoticons/emojis, and numeric substitutions within an apparent-time framework.

3. METHODOLOGY

Online users have adopted these features in response to the speed, informality, and interactive nature of Computer-Mediated Communication, thereby moving away from some conventions of traditional written language. This study changed to qualitative comparative content analysis design to check the age-related variation in the Container-linguistic practices of Computer-Mediated Communication (CMC). The study followed the apparent-time hypothesis that helps to compare the linguistic characteristics of the different age groups at a specific time. The study was a no normative one designed to produce the results of differences between the linguistic features that were chosen by younger and adults' Facebook users rather than the establishment of language change.

3.1 Research participants and sampling.

A total of 200 female Facebook users in two age groups were recruited for the study. The first group comprised the participants aged between 18 – 20 years and the second group comprised the participants aged between 30 – 35 years. Purposive sampling was used to select participants because they did not have to satisfy the pre-formulated criteria of being an active Facebook user with regular postings in English. Older individuals were not part of a specific educational institution just Facebook users in general.

The chosen age categories were used to reflect the stages of adulthood and social media usage. This made it possible to compare language use among different users even when they have different social online practices and accounts for the fact that these differences may be due to the preferences in communication related to age and the specific features of particular social media.

3.2 Data Collection

Data were obtained from a total of 200 (one for each participant) status updates posted on Facebook from 2015 to 2017. The most recent status recorded in English for the time frame of data collection was used for analysis to make the data comparable across sample. The study only included public Facebook status updates. Before the status updates were analyzed informed consent was obtained from all participants. The study is based on previously research practice of computer mediated discourse analysis that treats naturally occurring online interactions as a formal language (Herring, 2004).

3.3 Analytical Framework

The analytical framework used in the study was the apparent-time hypothesis employed to analyze the linguistic variation in relation to age groups. While apparent-time analysis allows gradual changes or differences between generations to be investigated, it should be interpreted as differences in age here – not as evidence for historical change in language over time. Based on earlier research in Computer-Mediated Communication (Baron, 2008; Crystal, 2006; Herring, 2004), five categories of language were studied:

- shortened lexical form;
- acronyms;
- vowel omission;
- emoticons/emojis; and
- Numeric substitutions.

The categories have been chosen as they are often used in Internet communication and offer a framework for making linguistic comparisons between age groups.

3.4 Coding Procedure

All the Facebook statuses were reviewed and manually coded to meet the analysis categories. The coding process was carried out by the researcher by applying the coding framework which is developed from previous research related to Computer-Mediated Communication. The linguistic features of each occurrence were identified, classified and documented prior to descriptive comparisons between the two age groups.

3.5 Data Analysis

Data obtained were analyzed descriptively by comparing each of the five language categories in terms of frequency and distribution across the two age groups. This analysis was not expectation of statistically significant differences but of patterns that can be observed. As a result the results are reported in a descriptive manner and the differences in the use of languages between the younger and adult population in the chosen dataset is explained.

3.6 Ethical Considerations

Ethical principles, essential in research of online communication were followed in the study. The information included in the analysis was limited to publicly posted Facebook status updates and informed consent was granted to all participants before their data were employed in the study. Anonymizing and breaking down individual participants' personal identifiers allowed the removal of such identifiers from the dataset and the results were presented in aggregated form to safeguard participants' privacy.

4. RESULTS

4.1 Shortened Lexical Forms

The analysis revealed one linguistic factor among the status updates on Facebook, which was found to be the shortened lexical forms. Table 1 shows that nine occurrences of shortened

lexical forms were found in the status updates of the younger age group only. The results suggest that lexical shortening occurred only with young participants, with reference to the present participant data.

The following forms were observed in the corpus: u (you), ur (your), plz (please) and bcz (because). These forms used to decrease the number of characters used without changing the meaning of the message. The descriptive data as a whole show that the shortened forms of the selected sample were used more often by the younger Facebook users.

4.2 Acronyms

The second linguistic feature of the dataset analyzed were acronyms. The descriptive analysis showed that 17 of the younger group used acronyms while 2 of the adult group used acronyms. Acronyms were used by both age groups, but in significantly higher numbers amongst the younger group.

Common abbreviations were LOL (Laughing Out Loud), OMG (Oh My God), IMOG (I Must Go), BRB (Be Right Back), or BTW (By the Way) and IDK (I Don't Know). Such abbreviations helped people communicate efficiently and without altering the intended message content. Thus, generally speaking, the descriptive comparison suggests that, use of acronyms is more frequent for younger Facebook users. The findings of the present study agree with Tagliamonte and Denis (2008) who stated that language deterioration is not the reality of abridged forms, and that they are in fact expressions of language creativity.

4.3 Vowel Omission

Another language feature obvious was the omission of vowels from the Facebook status updates. Twenty-three examples of vowel omissions emerged in the analysis for the younger group but there were no examples of vowel omissions among the adults. This pattern suggests that only younger cohort experienced orthographic reduction by the loss of vowels.

Here are the forms they found in the dataset: frnd (friend), Gd (good), hv (have), and wlcm (welcome). These forms left the recognizable form of the original word, and dropped vowels. In summary, it can be said that, overall, in the online communication, vowel omission was a specific fact associated with the younger participants.

4.4 Emoticons and Emojis

In the analysis the most frequently occurring linguistic feature was emoticons. There were sixty examples of the younger participants using emoticon, but none of the adult participant's emoticons were identified. This is the greatest interage difference found for all linguistic groups analyzed.

Some of the emoticons featured smiling faces, hearts, laughing expressions and emoticons that added emotional significance or strengthens interpersonal interactions. The descriptive findings show that for the younger group, visual symbols were an integral part of the way they communicated, as they were not in the status updates analyzed for the adult group. The more people use emojis, the more recent studies have shown that visual symbols can be used in lines of text to enhance significance, and that its use can help make interaction easier in an online setting (Herring & Dainas, 2020; Logi & Zappavigna, 2023).

4.5 Numeric Insertion

The least common linguistic feature in the dataset was numeric insertion. Four cases were documented for participants less than 18 years old and zero cases were documented for adult

participants. Some of this behavior was noted, but not observed in older age groups. For instance, in "2day" (meaning today), "4u" (meaning for you), "b4" (meaning before), and "gr8" (meaning great), the numbers took the place of the letter or the whole word. In conclusion, the descriptive analysis suggests that numeric insertion was a relatively small, yet unique area of communication on Facebook used by the younger group.

Taken together, these findings are comparable in the study of Facebook Messenger, where stickers and emojis play a role in the processes of creation of meaning and interpersonal communication (Konrad et al., 2020).

This study examines the linguistic characteristics of Facebook status updates produced by female users in Pakistan and considers their implications for language variation in Computer-Mediated Communication. More specifically, it investigates abbreviations, acronyms, code-switching, non-standard spelling, emojis, and related features and compares their use across two age groups. The observed differences are interpreted as age-related communicative preferences and social-media conventions rather than direct evidence of language change. By focusing on female Facebook users in Pakistan, the study contributes to research on digital discourse and language variation in South Asia.

The analysis revealed that Facebook communication features the widespread use of abbreviations, acronyms, non-standard spellings, and other innovative ways of communication all designed to allow faster and more efficient communication. These are not linguistic problems, but rather an improvement of the language used to adapt to communication requirements, such as computer-mediated communication. Crystal (2006) suggests that online communication will advance the linguistic creativity for people to recalibrate the conventional language, which forms part of everyday life, for use in the digital world. Likewise, Tagliamonte and Denis (2008) argue that shortened icons and odd spellings are not a sign of cultural decline or linguistic innovation, but of language change. The present results confirm these, and indicate that Facebook users' language use is aimed both at enhancing the communicative efficiency of their messaging and at conveying social identity and group membership.

The results also show that facial communication in Facebook incorporates both textual and visual resources that contribute to linguistic flexibility. Emojis, symbols and abbreviations, and creative spellings are used more than just to show how to convey a message, but also to show attitudes, emotion, and interpersonal relationships. Herring and Dainas' (2020) research showed that emojis serve certain pragmatic functions such as the ability to improve the understanding of the emotional context of messages and ambiguity in online communication. Similarly, Logi and Zappavigna (2023) suggest that emojis are now relevant semiotic tools to support written communication rather than being a substitute. This seems to confirm the observations made here, as the present study shows how Facebook users strategically integrate various communicative resources to effectively interact digitally.

What was observed is also a general process of language variation and change, as lexical innovations are common in the writings of Facebook statuses. Labov (1972) maintains that the linguistic variation is a natural phenomenon of a language community, and sometimes precedes change. The negotiation of new conventions of language in digital environments is an ongoing process in which users negotiate and establish new conventions that gradually become accepted among online communities. The conclusions then corroborate the idea that Facebook is a natural language environment, dynamic in the sense that innovative forms are invented, diffused and accrued shared communicative value among its users.

Another study has emerged as significant regarding the link involving online correspondence and social id. Users often use their speech in unique ways to build self-identity, bolster bonds, and assert identity to certain online communities. Barron (2008) posits that digital communication allows for flexible identities through language use, whereas Herring (2004) points out that online communication is a reflection of the technology as well as its users' social practices. The present results further support these claims by showing that Facebook language can also fulfil informative and interpersonal and identity functions.

In general, the study results indicate that the use of Facebook in communication does not pose a risk to language standards but shows that it is an adaptation to changing technological contexts. Brevity and creativity in digital communication are promoted, but users still take care to use language systemically in pursuance of communicative purposes. This means that, overall, the data corroborate previous studies that found that the use of Computer-Mediated Communication offers an increase in linguistic resources rather than a decrease. The significance of exploring these communication styles as the language in use by digital platforms keeps changing over the course of everyday society is growing more relevant to language variation and change research. Researchers studying language variation and change in the present-day society are increasingly interested in understanding the new communication styles.

The other linguistic features were not as common, although, numeric insertion was also restricted to the younger age group. In the example representations, such as 2day, 4u, and gr8, letters can be replaced by numerals, or numerals can form the entirety of a lexical item without meaning to differ from the general rule of the game for significant comprehension loss. These forms are not very frequent in the present dataset, but show another path of adaptation of language by young people to the affordances of digital communication.

The study has also added to other research work on the study of Computer-Mediated Communication in Pakistan. Previous Pakistani research has mainly focused on targeted examples of bilingualism, code-switching, Roman Urdu in the online context, whereas relatively less emphasis has been placed on age-related variation in the use of particular CMC features. Through this comparative study the present study offers context specific evidence of the digital language use of younger paying more attention to communal aspects when using Facebook as compared to that of adult Pakistani users. The findings are useful in terms of understanding the manner in which communication to and within the world turns digital and how it gets adapted to the Pakistani sociolinguistic framework.

Last, the results of the study should be considered relative to the methodological context. Overall, the analysis was descriptive, using the purposively sampled Facebook status updates. Thus, the observed patterns are not viewed as statistically significant differences nor as conclusive evidence of change in language. However, they enable us to draw inferences on the differences among participants in the present study in age with respect to online use of language, and can serve as some basis for further research on larger, more diverse sets of data.

6. CONCLUSION

This study investigated age as a factor in the use of selected Computer-Mediated Communication (CMC) features in Facebook status updates produced by female users in Pakistan. The descriptive analysis showed that younger participants aged 18-20 used shortened lexical forms, emoticons, acronyms, vowel omission, and numeric substitutions more frequently than participants aged 30-35. Emoticons were the most frequently observed feature, whereas numeric substitutions were comparatively rare.

The findings indicate age-related differences in online language use within the present dataset, with younger participants making greater use of economical and innovative linguistic devices. These patterns should not be interpreted as evidence of language change or statistically significant differences; rather, they are descriptive findings based on a limited sample.

This study contributes to research on Computer-Mediated Communication by providing empirical evidence from a Pakistani context in which age-related digital language variation has received limited attention. The analysis of naturally occurring Facebook status updates offers insight into age-related linguistic variation in the online communication of a multilingual society and provides a foundation for future research on digital discourse in comparable contexts. The overall results confirm the previous studies that showed that digital communication is a sign of language adaptation instead of linguistic decline (Baron, 2008; Crystal, 2006).

Digital technologies have fundamentally changed patterns of human communication, and Computer-Mediated Communication (CMC) has become one of the most dynamic fields of contemporary sociolinguistic research. Communication on social-networking sites such as Facebook is multimodal, interactive, and rapid, and often involves linguistic creativity that supplements conventional written forms. Digital discourse commonly includes abbreviations, acronyms, orthographic reduction, emojis, numeric substitutions, and other innovative strategies used to communicate efficiently and express identity, emotion, and group affiliation (Crystal, 2006; Baron, 2008; Herring, 2004).

Several limitations should be considered when interpreting the findings. First, the sample consisted of 200 purposively selected Facebook status updates; therefore, the findings may not be generalizable to other populations or social-media platforms. Second, the study examined only five linguistic features and excluded other aspects of online communication, including code-switching, discourse markers, syntactic variation, and pragmatic strategies. Third, the analysis relied on descriptive comparisons and did not use inferential statistics to test the significance of the observed differences. Finally, one researcher conducted the coding; future studies should involve additional coders and report intercoder agreement.

8. PRACTICAL IMPLICATIONS

The findings have practical implications for researchers and educators interested in digital communication and sociolinguistics. They indicate that age should be treated as an important sociolinguistic variable in the study of online language use. The linguistic practices observed on social media should not automatically be interpreted as evidence of deficient language skills. Understanding these features in context can help educators distinguish informal digital communication from formal academic writing.

9. FUTURE RESEARCH

Future studies should use larger and more representative samples that include participants of different genders, age groups, and regions of Pakistan. Research should also examine multiple platforms, including WhatsApp, Instagram, X, and TikTok, to develop a broader understanding of language practices in digital spaces. Mixed-methods or quantitative designs employing appropriate inferential statistics could determine whether observed differences between age groups are statistically significant. Further research on multilingual digital communication, code-switching, and emerging technologies would also deepen understanding of Computer-Mediated Communication in Pakistan.

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