Influence of COVID-19 on the Lexical Features of English in Pakistan

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ABSTRACT

The study presents a corpus-based analysis of the influence of COVID-19 on the lexical features of English in Pakistan. News on Web Corpus (NOW), managed by English-Corpora.org, formerly known as BYU Corpora, with a specification of English language used in web news of more than 70 websites form Pakistan, was used for data analysis. The section of the corpus of English in Pakistan news on the web contains approximately more than one billion words. The usage of 58 keywords, including the top 20 collocated words given by Oxford Dictionary (OED, 2020a), following COVID-19, from 2017 to 2019, was compared to 2020 till June 17, 2020. The analysis shows an exponential rise in the use of some new words and acronyms (e.g., self-quarantine, nCoV, and SARS). Many words that existed previously were used in media discourses to a great extent after COVID-19 (e.g., self-isolation, social-distancing, pandemic, and virus). Moreover, the trends in using such words are different in Pakistan from the trends in the other part of the World. The findings of the study may be used to expand the existing knowledge about language change, viewing coronavirus pandemic (and similar events) on the wheels of technology as another possible socio-psychological factor of language change.

Keywords: Linguistic influence, NOW corpus, lexical variations, words' frequency, collocation

Introduction

Recently, the World has faced COVID-19, which has left it battered. Almost every kind of human activity has been affected by a novel coronavirus. Language and communication have also been affected by it. Recently, the Oxford English Dictionary has been updated with some of the new words and phrases whose use suddenly increased because of novel coronavirus (OED, 2020b). A similar thing has happened to the languages used in Pakistan. COVID-19 influenced the linguistic features of English and the local languages of Pakistan. For example, the word virus was very uncommon among Punjabi speakers in remote/rural areas since it is an English word and the literacy rate in these areas is below satisfactory. Moreover, despite having the largest number of speakers in Pakistan, Punjabi's ranking in written languages is very low; as, for example, after

Urdu, Sindhi is the largest written language of Pakistan (Rahman, 2015). Nevertheless, now, after the spread of the coronavirus pandemic, many Punjabi speakers, even in remote areas, commonly use the word, '*varu*s (ویرس)', a variant of the virus. Therefore, it is evident that specific vocabulary has risen in News and public discourse, which has affected the socio-linguistic arena of most of the countries in the World. Observing this rapid change due to COVID-19, we have tried to look at some linguistic changes in the English language used in Pakistani web-based News.

According to Pakistan Telecommunication Authority (PTA), out of 166 million cellular subscribers, only 3 million subscribers are with necessary telephony facilities, and the other 163 million users have broadband or a 3G/4G Internet facility (PTA, 2020), which means that more than 76% Pakistani population has access to a faster Internet. Therefore, communication through the Internet is ubiquitous in Pakistan, and because of such excessive and easy flow of information, many people in Pakistan keep themselves updated with the latest News. Therefore, both print and electronic media have their news websites that regularly upload all recent news updates (see Table 1 in Appendix I). Although several TV news channels and newspapers are in Urdu, they still have their news websites operate in English and Urdu. Conboy (2013) discusses that the language of News plays a vital role in developing 'social construction of reality' (Berger, & Luckman, 2011) and, today, newspapers have become language forming institutions; their language informs and influences broader linguistic trends. Similarly, overall, the Internet has also become a potential environment for language change – not merely for the coining of the new words but also grammaticalization (Crystal, 2006).

Besides, there are some other factors usually involved in language change. For instance, some linguists believe that language change is random and 'fashion in language as unpredictable as in clothes' (Stockwell, 2002: 54). However, the researchers (e.g., Bybee, 2015) believe that language change is not random; it always follows a specific pattern. There is another view that language changes because of the foreign influence (Millward & Hayes, 2011: 14). Language change happens when immigrants go to another country and try to learn a new language. The other possibility is that conquerors occupy a place, and they try to impose their language (Sinha, 2005: 159). In both cases, people learn language imperfectly, and when these newly learned people transfer this language to their children, they do so improperly. Another critical factor in language change is the psycholinguistic factor. These can be called 'inherent causes of language change' (Aitchison, 2013). People avoid intricate sounds and use only those sounds that are easy to articulate. This is not due to laziness but also due to a natural tendency of change in a language. There is a built-in tendency of change in a language 'because of anatomical, physiological, and psychological make-up of human being' (Croft, 2008; Hruschka, *et al.* 2009). For this study, as the source of the text to see the language change was media, we used 'The Mediated Innovation Model' as a conceptual framework proposed by Sayers (2014) to research how media plays its role in the modern era in shaping the language.

In this backdrop, this paper focuses on the lexical influence of COVID-19 on English in Pakistan. We have tried to find out the rise in the usage of some words and acronyms recently added to the dictionary during the coronavirus pandemic spread, and we have also attempted to

explore the influence of the COVID-19 on the frequency of the words which were already in use, before and after COVID-19, from 2017 till June 17, 2020. Lastly, we have also tried to compare the trends in using some keywords influenced most due to COVID-19 in Pakistan and the other part of the World (e.g., UK, USA, Australia, and New Zealand).

Significance of the Study

Through a corpus-based analysis of lexical variations in English in Pakistan due to COVID-19, this study attempts to contribute to the existing theories of language change, highlighting 'a pandemic on the wheels of technology' as a cause of the sudden changes in the language use and public discourse. Through the exploration of a sudden rise of coronavirus collocates in news items, the study finds out how an extraordinary pandemic/event in the contemporary World of technology, where Facebook users, only in Pakistan, are 37 million (Statista, 2020), becomes the reason for a noticeable language change. Although such ideas were mentioned roughly in the standard language change theories, they failed to get any significant space in scholarly discussions because they lacked enough evidence (Aitchison, 2013). At present, language change happens so fast, but the data and tools to analyze this change are also readily available. For example, as this study takes the help of a web-based news corpus of more than 70 websites only from Pakistan, which contains more than one billion word data, and when the majority of the population of the country is using a fast Internet, language changes happen rapidly, and the analyses of such changes can be done more accurately than that of in the past. Therefore, the study proposes further research for language change due to the coronavirus pandemic, setting some ground for it.

Another significance of the study is related to teaching and public awareness campaigns. The findings of the study may be used for the development of material for English language teaching in the era of COVID-19. As the study highlights the use of some words, abbreviations, and compound words whose use has suddenly increased in the period of pandemic, the English language course developers can add these words in their courses. Similarly, as these words have been taken from the news discourse, the people who design public awareness campaigns may translate and explain these words into Urdu to educate the public of Pakistan.

Research Question

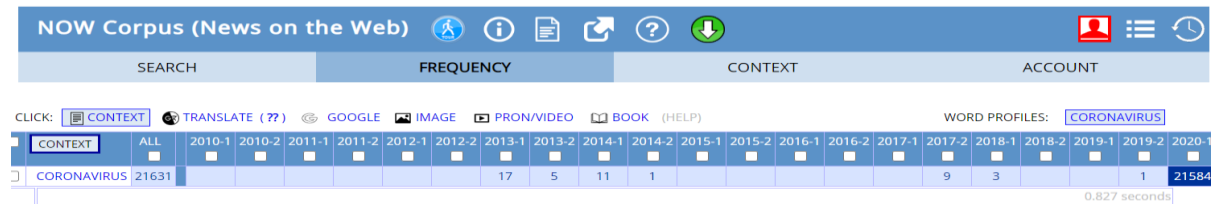The study is primarily based on the following research question:
- What are the changes in English's lexical features in Pakistan that emerged after the outbreak of COVID -19?
    a. What are various new terms which became prominent in English in Pakistan after the outbreak of COVID -19?
    b. What are the already existing terms whose use increased rapidly in English in Pakistan after the outbreak of COVID -19?

Methodology

Since the study was descriptive, a corpus-based quantitative design was used to analyze the data. We have used NOW (News on the Web) corpus to analyze COVID-19 linguistic influence on English in Pakistan. This corpus has been managed by English-Corpora.org, a website with almost 19 corpora of various English (English-Corpora.org, n.d.). The number of words in NOW is 10.3 billion from 2010 to the present time (the most recent day for this study is June 17, 2020), and it is being updated every month with around 180-200 million new words (English-Corpora.org, n.d.). NOW corpus is one of the corpora of English-Corpora, developed by Professor Mark Davies at Brigham Young University, United States, and, formerly, the corpora were known as BYU corpora. The website claims that these are probably the most widely used currently available corpora of English language in the World (English-Corpora.org, n.d.). Based on google trends in international News, NOW covers the News on the web from 20 different countries. However, for the present study, we selected Pakistan in the list of 20 countries. It also covers almost all major news websites in Pakistan for the corpus data of more than a billion words (for a detailed list of the names of news websites, see Appendix I).

The data was analyzed comparatively. The emergence and use of words were seen in the last three years, 2017, 2018, 2019, and then were compared with that of 2020. The corpus gives data in two halves of a year, i.e., 2017-1 and 2017-2 (1 for the first six months and 2 for the next six months; see Figure 1 & Appendix II). Therefore, the data of two halves were combined to get a single data for a whole year.

Figure 1. Year-wise search result for the word 'coronavirus' in NOW Corpus

	ALL	2010-1	2010-2	2011-1	2011-2	2012-1	2012-2	2013-1	2013-2	2014-1	2014-2	2015-1	2015-2	2016-1	2016-2	2017-1	2017-2	2018-1	2018-2	2019-1	2019-2	2020-1
CORONAVIRUS	21631							17	5	11	1						9	3			1	21584

0.827 seconds

The word selection for the analysis was made in two ways. First, we borrowed a list of words collocated mostly with '*coronavirus*' or '*COVID*-19' from the Oxford English Dictionary website (OED, 2020a). According to the list provided by Oxford English Dictionary, the following are the keywords (see Table 1) in term of collocates of "coronavirus" in the Oxford Corpus for the first three months of 2020:

Table 1. Top 20 collocates of carnivorous in the Oxford Corpus

corona	coronavirus	disinfect	distancing	epicenter/ epicentre
flu-like	human-to-human	isolation	lockdown	nCoV
non-essential	outbreak	pandemic	postpone	PPE
quarantine	respiratory	sanitiser/sanitizer	SARS	self-isolate
self-isolating	self-isolation	self-quarantine	ventilator	virus
Infected				

Source: Oxford English Dictionary

The second list was of the words related to COVID-19, especially in the Pakistani context, but were not in OED's list. As the study's primary focus was to see the influence of COVID-19 on the words' frequency compared to that of the last three years, the selection of COVID-19 related words was random and based on researchers' observation. Table 2 shows the list of other selected words/phrases.

Table 2. Keywords in term of 'coronavirus' collocation

2019-nCoV	confirmed cases	contagious	carnivorous disease
corona test	coronavirus pandemic	coronavirus patients	Coughing
COVID	COVID patients	COVID-19 pandemic	COVID-19 patients
death	dry cough	epidemic	flatten the curve
hotspots	infectious disease	Mask	novel coronavirus
panic	shortness of breath	smart lockdown	Sneezing
social distancing	social gatherings	SOPs	Spread
spreading	World Health Organization	Wuhan	

Later, the data was divided into three categories. One category was the words that emerged with novel carnivorous, such as *COVID, nCoV, etc.* This category contained the terms which were used to address carnivorous as a disease in media discourse. The second category was of the words which were not directly related to coronavirus or COVID-19, but they were formed because of coronavirus, and the last category was of the words which already existed, but their usage suddenly increased with coronavirus.

Findings

The analysis shows that some of the words, although they emerged with COVID-19, but, surprisingly, very soon, they grew so popular that they became the part of most of the media discourses. Table 3 shows the list of some words and compound words used to address '*coronavirus'* in Pakistani mainstream media websites.

Table 3. Words/Compound words for COVID-19

Words	2017	2018	2019	2020
coronavirus	9	3	1	21584
COVID-19	0	0	0	13985
coronavirus pandemic	0	0	0	2880
COVID -19 pandemic	0	0	0	1660
novel coronavirus	4	0	0	1479
COVID	0	0	0	611
coronavirus disease	0	0	0	128
2019-nCoV	0	0	0	32
nCoV	0	0	0	13

Although many words and compound words have been used to address coronavirus disease, the above data shows that the most commonly used words are '*coronavirus'* and '*COVID-19'*. The name '*COVID-19*' for coronavirus was first time used on February 11, 2020 by WHO (2020), and it is so commonly used that, within a short span, its frequency has reached round 14000 till June 17, 2020. However, in contrast to the international news websites, Pakistani news sites have not used '*nCoV'*, one of the top 20 words that collocate with coronavirus in Oxford Corpus and has been used frequently to address the coronavirus disease. It is also interesting to note that nine different expressions have been used to address a single disease, '*coronavirus'*. Figure 2 gives a more precise presentation of terms used for coronavirus.
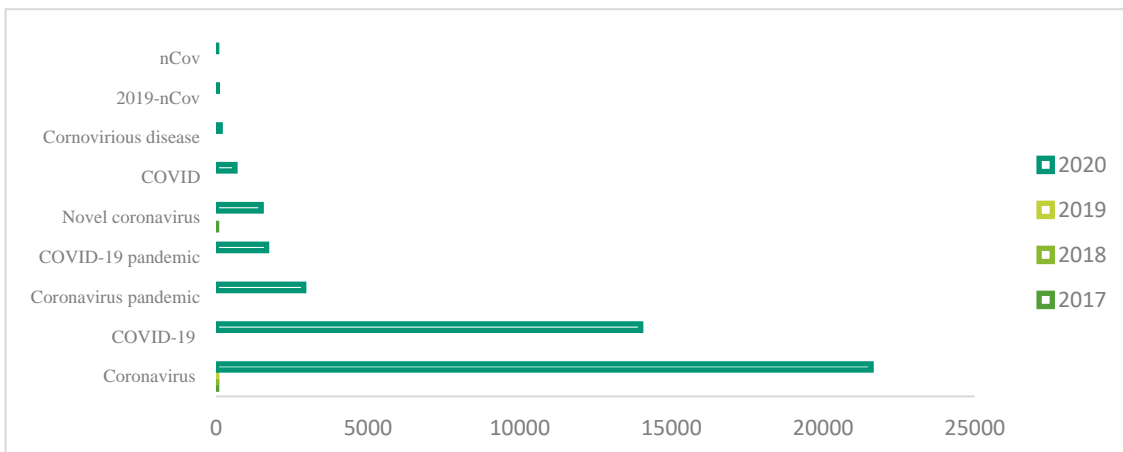
Figure 2. Terms used for carnivorous

Table 4 shows the frequency of the words of the second category. Some of the words in this category appeared with COVID-19, and some of them already exist, but, in both cases, their use, in the last three years, were sporadic.

Table 4. Words/compound words whose use suddenly increased with COVID-19

Words	2017	2018	2019	2020
social distancing	1	2	1	1640
COVID-19 patients	0	0	0	685
coronavirus patients	0	0	0	629
PPE	14	5	10	561
smart lockdown	0	0	0	275
sanitiser/sanitizer	7	7	8	230
self-isolation	0	2	2	229
SARS	10	24	7	186
self-quarantine	0	0	0	109
disinfect	9	7	12	88
self-isolate	0	0	0	50
flu-like	11	11	6	46

self-isolating	0	0	0	44
flatten the curve	0	0	0	38
dry cough	1	2	3	25
corona test	0	0	0	23
COVID patients	0	0	0	20
human-to-human	5	4	7	17

The coinage of phrases containing COVID or carnivorous started after the emergence of COVID-19 in January 2020. Therefore, logically they have not been used till January 2020. However, surprisingly, there are expressions, such as *flatten the curve, self-isolate*, *self-isolating*, *self-quarantine*, and *smart lockdown*, which were added to the dictionaries in the past, have never been used by web news websites in Pakistan. Similarly, words such as *human to human, dry cough, and social distancing,* have also rarely been used in English in Pakistan. It is interesting to note that PPE has mostly been used as an abbreviation for Philosophy, Politics, and Economics (a degree course at Oxford University) in English in Pakistan and even in English across the World. However, after the coronavirus pandemic, people have started using this abbreviation, PPE, for Personal Protective Equipment.
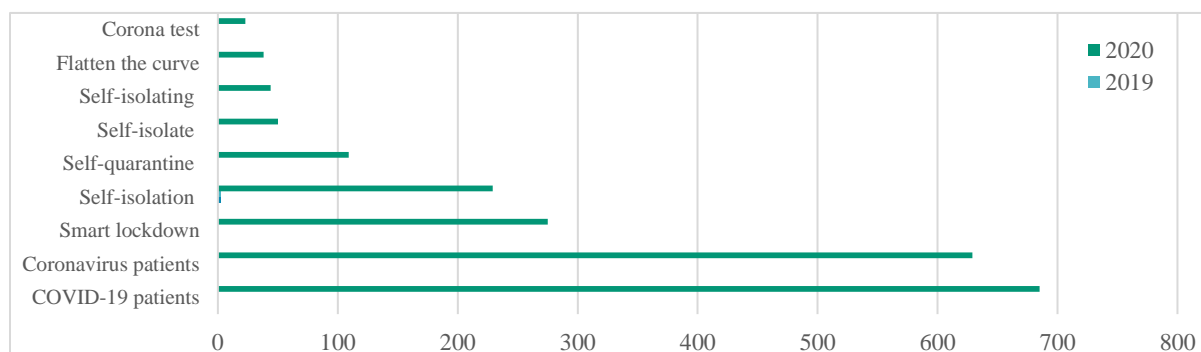
Figure 3. Comparison of word usage from 2017 to 2020

Table 5 shows the list of the words and their usage yearly from the third category. In this category, some more common words have been analyzed; the influence of COVID-19 has increased the use of many such words.

Table 5. Comparison of the usage of words/compound words in 2017, 2018, 2019, 2020

Words	2017	2018	2019	2020
virus	1834	1472	1809	9803
pandemic	28	45	43	9797
lockdown	228	97	642	8548
spread	4477	5454	4674	6246
outbreak	835	624	932	4158
deaths	2747	2837	2285	3176
quarantine	62	155	68	2268
infected	649	555	604	2249

SOPs	377	291	254	1845
distancing	83	60	60	1798
isolation	861	603	648	1513
Wuhan	41	50	61	1354
epidemic	497	473	477	1349
spreading	1614	1493	1376	1156
death	772	743	708	847
panic	849	832	760	811
mask	279	219	197	733
confirmed cases	38	42	39	652
respiratory	383	329	276	525
WHO	335	401	389	498
epicenter/epicentre	178	162	154	343
ventilator	80	245	155	287
contagious	130	154	119	198
non-essential	112	109	117	154
hotspots	128	84	77	153
postpone	236	297	297	136
infectious disease	46	100	91	122
coughing	77	78	44	112
sneezing	40	32	15	83
shortness of breath	26	33	26	37
social gatherings	16	9	10	17

Data shows that almost all the words have already been the part of media language, but a sudden rise in their use after COVID-19 can be observed. An important factor in this analysis is words' frequency in the last three years, 2017, 2018, 2019 has been observed in the whole year; however, for 2020, the word usage frequency has been included in almost five and half months. Therefore, we suppose that the frequency of these words may be doubled up at the end of this year.
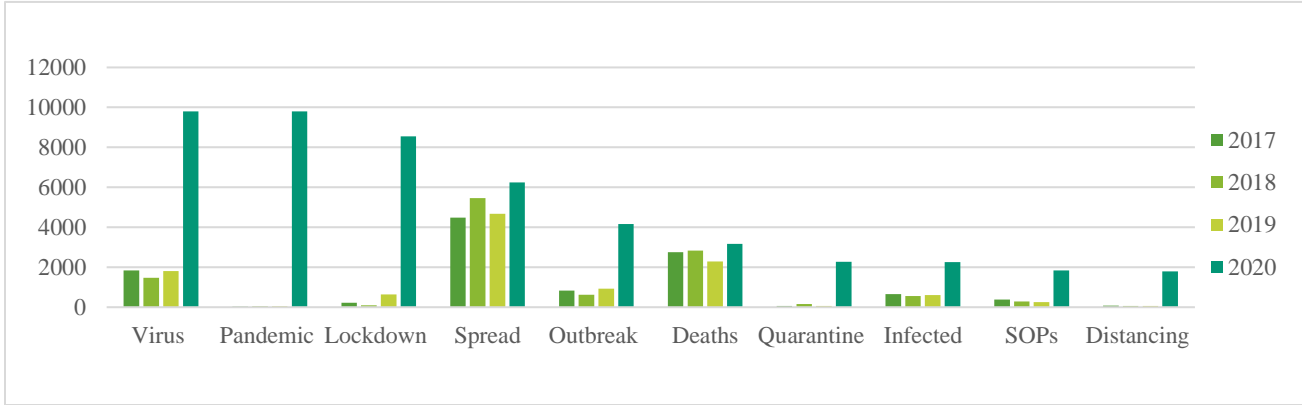
Figure 4. Top 10 most-influential words

Table 5 shows a rapid increase in the use of words closer to COVID-19 and have been used directly with it, such as *outbreak, pandemic, spread,* and *virus.* Thus, these words are at the top of the list. Another interesting finding is about the word *death,* which is one of the high-frequency words and has different frequency in singular and plural use, but in both cases, it has its value higher in 2020. The words which have a dramatic rise in their usage during COVID-19 are *pandemic*, *Wuhan, quarantine, distancing, lockdown, SOPs, epidemic, infected, outbreak, and virus.* Some compound words, e.g., *shortness of breath, social gatherings, infectious disease, non-essential, conformed cases, and the World Health Organization,* also experience increased use after the pandemic. Overall, the analysis reveals that coronavirus has influenced the use of many words and phrases at a larger scale.

Discussion

Similar to approximately all other things in the World, language is in the process of constant change (Aitchison, 2013; Mufwene, 2001). Therefore, English, an international language, is also no exception (McMahon, 1994; Trask, 2013: 1). Overall, this leads us to ponder various (e.g., socio-political, cultural, and economic) that may cause language changes. The ongoing rapid spread of coronavirus and its noticeable effects on English and its use in Pakistani news media, as shown in the findings of this study, has also added a new dimension to this debate that a language change may also be triggered by a catastrophic event similar to the outbreak of COVID-19. So far, some common factors of language change discussed by linguists are: for example, random deviation (Hockett, 1958, as cited in Aitchison, 2013), which is also considered very unpredictable in the language (Stockwell, 2002); foreign influence (Millward & Hayes, 2011) either in the form of immigrants or in the form of conquerors (Sinha, 2005); and psycholinguistic factors also known as 'inherent causes of language change' (Aitchison, 2013). Some researchers (e.g., Croft, 2008; Hruschka, *et al.*, 2009) even argue that there is a built-in tendency of change in a language because of the anatomical, physiological, and psychological make-up of human being. In the past, people believed that all aspects of human life, such as physical, mental, and environmental aspects are involved in a language change (Aitchison, 2013). However, considering the case of COVID-19, which has drastically changed the way we work, communicate, and socialize (Li, Ghosh, & Nachmias, 2020), the ideas about language change may need to be reviewed. As Rafi (2020a) discusses, millions of readers were involved in the novel coronavirus reporting, overwhelming with many new linguistics forms, e.g., social-distancing, social-isolation, and physical distancing. This study also confirms an abrupt and extensive use of some specific vocabulary related to COVID-19. Therefore, it may be concluded that any such exceptional event can become the cause of language change in the modern era of technology.

Paton (2020) also argues that COVID-19 has exerted an extraordinary influence on almost every human activity, including social and linguistic behavior. Similarly, this study shows that, with the spread of disease, many new words to express social restrictions, terminologies from medicine and epidemiology, and new acronyms encompassed experts to the common populace of all areas in the World, including Pakistan. According to Merriam-Webster, a leading American English dictionary, it has to update many new words unscheduled because of the COVID-19 crisis,

which accentuated the use of many words, including naming the disease, important abbreviations, diagnosis, and prevention in an unusually rapid pace (Merriam-Webster, 2020). All this reveals that COVID-19 has a huge influence on the language and society. Mertens et al., (2020) argue that coronavirus is causing a growing fear and anxiety among people about their loved ones, and they are eager to learn more coronavirus information. Adding to the same idea, Rafi (2020a) discusses that the discourse of fear in the language of COVID-19 has given the space to many bizarre linguistic forms. Many words are now not mere words; they have become an attitude. For example, the word '*coronavirus'* is not simply a disease; rather, it has become a fear. In the same way, the word '*social distancing*' was first used in 1957 (Mannheim, 1997), in the meaning of intentionally keeping oneself aloof, it has been associated with coronavirus these days. '*Social distancing*' is now a strategy or a ready to save oneself from coronavirus infection. The similar has happened to the other words such as '*self-isolation*', and '*quarantine*'. Such abbreviations in language use have also become the cause of many misinformation (Rafi, 2020b), which leads to change the lives of people in many ways. Similarly, even though some of them were already in use, many abbreviations have also been added to the public discourse at a larger scale (Paton, 2020). For example, the initial *WHF* (working from home), was first added to the Oxford English Dictionary in 1995 (OED, 2020b), but its use has rapidly risen with coronavirus emergence. Even the abbreviation, *PPE*, previously was more popular for another expression, *Philosophy, Politics, and Economics*, a degree at Oxford University; presently, it is more common for '*Personal Protective Equipment'*. In line with these changes due to COVID-19, some slogans and orders have become common among people. For example, a recent study by Wang (2020), in the American context, shows that the order '*Stay-at-Home*' has reduced the number of infections. WHO and governments have spread slogans such as '*stay (at) home, stay safe*', and sometimes with an addition of '*stay lives*', known to many people during COVID-19. All this triggers the argument to evaluate the influence of COVID-19 on language and society critically.

Conclusion

The study concludes that coronavirus has dramatically influenced the linguistic features, especially the lexical features of English used in Pakistani news websites. The use of various socially used terms (*social-distancing, and isolation*), medical terminologies (*epidemic, and SARS*), and some acronyms (*PPE, and COVID*) in web-based News was at a surprisingly higher level in the era of COVID-19. Some words, e.g., *smart lockdown, hotspots, etc.* have different trends in Oxford Corpus and News on Web (in Pakistan) Corpus (NOW), which implies that the influence of COVID-19 on the English language may be different from region to region. Lexical influence of some words – which were hardly used by media during the last three years, 2017, 2018, and 2019 – was so high that they became the part of most of the News. Keeping in view the relationship between society and language, it may be interesting to estimate the influence of coronavirus on people's social behavior. Supporting the same idea, OED (2020a) writes that its lexicographers observed a tremendous rise in the use of coronavirus and its related words, which opened the door to many words, e.g., those related to social distancing and impositions; terminologies from

medicine and epidemiology, and acronyms. This kind of linguistic influence under such a crisis was hard to imagine in the present-day World with many medical advancements. Still, the World had to face it, and this has changed the language and behavior.

Technology helps language and ideas to spread these days very rapidly. If more than half of Pakistan's population (PTA, 2020), an underdeveloped country, has a fast Internet facility, we can easily imagine what is happening in advanced countries. Observing a frequent use of COVID-19 and its related terms in media discourse, and the role of technology in spreading such discourse, the study argues that a theory of language change in the future may consider the coronavirus pandemic and similar disastrous events as another socio-psychological factor for changes in a language and its use. As such exponential events, if last longer, can add new lexical features in a language and develop new uses of already existing features of the language. Simultaneously, this may also possibly affect the ways people use a language.

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https://www.worldometers.info/coronavirus/

List of News Websites for Corpus data

Table 1. List of News Websites for Corpus data

24 News HD	AAJ TV	Aaj News
ARY NEWS	Balochwarna News	Business Recorder
Capital TV News Pakistan	Chitral News	Christians In Pakistan
cutacut.com	Daily Capital TV News Pakistan	Daily Pakistan
Daily Seekers	Daily Times	Dailypunch.pk
DAWN.com	Dental News Pakistan	Dispatch News Desk
Earth Island Journal	ESPNcricinfo.com	Food Science & Technology
Geo News, Pakistan	Geo Super	Great Reporter
Hamariweb.com	IFEX	iharare.com
International News Network	Kashmir Media Service	Khiladi Sports
Mag the Weekly Magazine	MangoBaaz	News Pakistan
Newsline	OyeYeah	Pakistan Christian Post
Pakistan Observer	Pakistan Today	Pakistan Tribe
Pakistan Tribune	Pakistan Herald	Pakistani Politics and Economy
PakTribune.com	Pak Wheel	Phone World Magazine
PKK	PKKH	Profit by Pakistan Today
Radio Pakistan	RS-NEWS	RS-Tech
Samaa Web Desk	Samaa Digital	Samaa News, Pakistan
TechJuice	StreetBuzz	SUCH TV
The Academia Mag	Techlist	Technology Times Pakistan
The Droid Revie	The Baluchistan Point	The Dardistan Times
The News International	The Express Tribune	The Nation
TNS.World	The News International	The News on Sunday
Voice of Journalists	Trending in Pakistan	Triple Pundit
Wisden Pakistan		

Appendix II

Search results for the word 'coronavirus' in NOW Corpus.

Figure. Search results for the word 'coronavirus' in NOW Corpus

Source: *English-Corpora.org*