MODAL AUXILIARY VERBS FOUND IN COVID-19 ARTICLES

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Abstract

The two groups of auxiliary verbs—also known as assisting verbs—are main auxiliary verbs and modal auxiliary verbs. Knowing the modal auxiliary verbs used in COVID-19 articles is the goal of this study. The current writers employ a descriptive analysis as their research methodology, describing each piece of information pertinent to their roles in each clause. The outcome demonstrates that modal auxiliary verbs are followed by the highest frequency. The most often used verb, may, is found in 206 articles, accounting for 1.763 of the 6.762 concordance hits. It is followed in frequency by the verbs can (1.623 hits), should (1.133 hits), could (811 dots), will (569 hits), may (400 hits), would (274 hits), must (183 hits), and will (6 hits). The structure of each modal auxiliary verb identified in the COVID-19 articles has also been disclosed by this investigation. The modal auxiliary verb may has the highest frequency, according to the data analysis.

Keywords: Modal auxiliary verb, corpus, Covid-19 articles, antconc application

Abstrak

Dua kelompok kata kerja bantu—juga dikenal sebagai kata kerja bantu—adalah kata kerja bantu utama dan kata kerja bantu modal. Mengetahui kata kerja bantu modal yang digunakan dalam artikel COVID-19 adalah tujuan dari penelitian ini. Penulis saat ini menggunakan analisis deskriptif sebagai metodologi penelitian mereka, menggambarkan setiap informasi yang berkaitan dengan peran mereka di setiap klausa. Hasilnya menunjukkan bahwa kata kerja bantu modal diikuti oleh frekuensi tertinggi. Kata kerja yang paling sering digunakan, may, ditemukan di 206 artikel, terhitung 1.763 dari 6.762 konkordansi yang masuk. Frekuensinya diikuti oleh kata kerja can (1.623 hits), should (1.133 hits), could (811 dots), will (569 hits), may (400 hits), would (274 hits), must (183 hits), dan akan (6 pukulan). Struktur setiap kata kerja bantu modal yang diidentifikasi dalam artikel COVID-19 juga telah diungkapkan oleh investigasi ini. Kata kerja bantu modal mungkin memiliki frekuensi tertinggi, menurut analisis data.

Kata kunci: Modal auxiliary verb, korpus, artikel Covid-19, aplikasi antconc

I. INTRODUCTION

According to Sujatna et al., auxiliary verbs (also known as helping verbs) can be categorised into two groups: primary auxiliary verbs and modal auxiliary verbs (2019). Having, being, and doing are the main auxiliary verbs. Unlike the main auxiliary verb "do," which is always in the middle with limited invariables and generally does not occur with other auxiliary verbs, the primary auxiliary verbs "have" and "be" have a boundary in that their form can be placed either at the beginning or the middle of the verb phrase (Flor & Jan, 1982).

According to Haq and Mahdi (2020), a modal verb typically conveys the speaker's attitude or mood. Modals can be used to express the speaker's opinion, whether it be that something is required, encouraged, permitted, perhaps warmed, willing, able, advised, certain, or repeated, as well as the intensity of that opinion. Words and phrases like "be able to," "ought to," "shall," "will," "will," "should," and "would." On the basis of their usage rates, modal verbs have been separated into two categories. Ability, permission, and possibility are expressed by the first set of words in this list, which includes the modal verb can and its past form could. Other modal auxiliary verbs are employed to express authorization or potential (may, may), purpose, forecast, or likelihood (must, have to, should, need to, ought to), and so on (would).

According to Hoye (1997), the key modal auxiliary verbs will, would, can, could, may, could, must, should, and must are essential in English. Coates supports this list (1983). The majority of the items on this list reflect "deontic" fundamental meanings like "duty," "intention," or "permission," as well as "epistemic" meanings connected with truth conditions and assessments of degrees of certainty (for example, "You must be our new neighbor"). An L2 speaker may find it difficult to distinguish between the "deontic" and "epistemic" uses of the same modal auxiliary verb because of this semantic ambiguity (Kennedy, 2002). The unique semantic nature of modals, which lacks a complete language definition, is a problem for ESL students seeking to understand the system. Beyond the nine major modals, there is a tiny subset of "marginal modals," which can serve as both modals and main verbs. Examples include ought to, need to, used to, and need (Quirk, 1985). Semi-modals with modal-like functions include "(had) better," "(have) got to," "(be) about to," "(be) going to," and "(be) supposed to." Fitzgerald (2002). (2002). The focus of this study does not extend to these modals, which are not part of the core collection of nine words.

According to Quirk, an auxiliary verb can be a modal, an auxiliary verb, a primary verb, or a semi-auxiliary verb (1985). that category of words includes verbs. There are three broad classes into which the verbs can be placed based on their respective functions. Full verbs, also called lexical verbs, are one category, primary verbs are another, and modal auxiliary verbs round out the set. The three most frequent verbs in English are "to be," "to have," and "to do," although "to buy," "to make," and "to go" are instances of complete verbs, sometimes known as "lexical verbs"(The three verbs might also be whole verbs like be in They sing, have in They drive, and do in They do it.) The major focus of this study is on the modal auxiliary verbs "will," "would," "should," "can," "could," "may," "might," and "must." Since they are not just auxiliaries in the prescriptive grammatical sense but also appear to contribute to the communication semantics, modal auxiliary verbs have historically been important in the grammar and semantics of many languages, including English."(Leong & Ahmadi, 2017)" Modal sentences with modal verbs have a special place in grammar, as argued by Gueron & Lecarme (2008).

According to the literature, Hsieh (2005) has studied modal auxiliary verbs. The study by Verstraete analysed the English Modal Auxiliary system. He was thinking about how modal auxiliaries in English can be both subjective and objective. Hsieh looked into Chinese modal verbs and modal adverbs from a semantic perspective in his study. However, (Kennedy, 2002) studied modal verbs using the British National Corpus (BNC) as his data source.

He examined the data to find out how frequently modal verbs appeared. He argued that the nine patterns discovered in the British National Corpus were linked to 14 different modal verbs by presenting nine different modal verb-based patterns. Additionally, he discovered that the modal word will makes up roughly 23% of all modal tokens, followed by the modal verbs would, can, and could.

However, this study revealed the opposite. According to this survey, the most frequent modal auxiliary verbs are may, can, and should.

For this study, data were only gathered on modal auxiliary verbs such "can," "could," "will," "would," "may," "might," "shall," "should," and "must.". Several authors, including Quirk (1985), Fitzmaurice & Biber (2006), and Kennedy (2002), have noted that the "central" Auxiliary modals include the words will, would, can, could, may, might, shall, should, and must. Similar to what was found by Quirk et al. (1992), Kennedy (2002) identified a subset of "marginal modals" in addition to the nine "central modals."

Because this paper is a preliminary analysis, the primary goal was to determine whether or not modal auxiliary verbs were used in some articles about COVID-19, and if so, how often they were used and what purpose they served. The present authors gathered and labelled data using AntConc version 3.5.8 in order to achieve the aforementioned two research goals.

II. METHOD

Helping verbs, or auxiliary verbs, are classified into two groups by linguists Sujatna et al (2019). Have, be, and do are the most common auxiliary verbs. There is a boundary between the primary auxiliary verbs (have and be) and the main auxiliary verb (do), with the former always placed in the middle of the verb phrase and the latter rarely occuring by itself (Flor & Jan, 1982).

According to Haq & Mahdi (2020), a modal verb typically conveys the speaker's attitude or mood. Modals allow speakers to convey not only the existence and intensity of an opinion—such as whether something is required, advised, permitted, perhaps warmed, willing, able, advised, certain, or repeated—but also the nature of that opinion. These include expressions like "can," "could," "had better," "may," "might," "must," "ought to," "shall," "will," and "would." Depending on how often they are used, modal verbs have been divided into two categories. The first group includes the modal verbs can and its past tense, could, which in written and spoken English denote capability, permission, and possibility. The second category contains auxiliary verbs like must, have to, should, need to, and ought to, as well as permission, possibility, intention, prediction, and probability words like may and might (would).

According to Hoye (1997), there are nine crucial modal auxiliary verbs in English. "Will," "would," "can," "could," "may," "could," "shall," "should," and "must" are some of them. Coates concurs with the statements made in this list (1983). You must be home by 10 p.m., for example, expresses both the fundamental "deontic" meanings of "duty," "intention," and "permission" as well as the subsidiary "epistemic" meanings of "truth condition" and "degree of certainty" (e.g., "You must be our new neighbour"). Because of this semantic complexity, L2 speakers may find it difficult to distinguish between the "deontic" and "epistemic" meanings of the same modal auxiliary verb (Kennedy, 2002). The challenges that ESL students encounter when learning the modal system, whose distinctive semantic properties set them different, are made worse by the absence of a thorough language description. The last four modals, known as "marginal modals," are should, must, must, and require (Quirk, 1985). They have modal and ordinary verb functions. Also included are a handful of phrases known as "semi-modals," which include the words "(had) better," "(had) got to," "(be) about to," "(be) going to," and "(be) expected to" and all of which behave like modals. Kennedy (2002). (2002). (2002). Beyond the basic set of nine words, these auxiliary modal groupings fall outside the purview of the current study.

According to Quirk, auxiliary verbs can be divided into three categories: modals, auxiliary verbs, and primary verbs (1985). verbs belong to this category of words. The verbs could be divided into three groups, each representing a distinct set of functions. There are three types of verbs: full verbs (also called lexical verbs), primary verbs, and modal auxiliary verbs. Lexical verbs, like "buy," "make," and "go," are examples of full verbs in English, while "be," "have," and "do" are examples of primary verbs (The three verbs might also be whole verbs like be in They sing, have in They drive, and do in They do it.) In this research, the modal auxiliary verbs will, would, shall, should, can, could, may, might, and must are the main subjects. Modal auxiliary verbs are strictly speaking auxiliaries, but they also seem to contribute to communication semantics, making them an essential aspect of the grammar and semantics of most languages, including English. Leong and Ahmadi (2017) According to Gueron & Lecarme (2008), modal verbs and sentences with them occupy a special place in the grammatical space devoted to modality.

Hsieh (2005) reportedly studied modal auxiliary verbs in the past. The English auxiliary modality system was covered in detail in Verstraete's work. He was pondering the dual subjectivity and objectivity of English modal auxiliaries. Hsieh researched Chinese modal verbs and modal adverbs using semantic sources. The British National Corpus (BNC) was examined by Kennedy (2002) to establish how modal verbs should be categorized. He looked closely to see how frequently modal verbs were employed there. The nine patterns observed in the British National Corpus were associated to 14 different modal verb classes, according to the nine separate modal verb pattern types he described. Additionally, he discovered that would, can, and could are followed by the modal verbs will and account for roughly 23% of all modal tokens; nevertheless, these findings are inconsistent with the results of the current study. The results show that "may," "can," and "should" are the most frequent modal auxiliary verbs.

Data collection was restricted to modal auxiliary verbs (can, could, will, would, may, might, shall, should, and must). For example, Quirk (1985), then Fitzmaurice & Biber (2006), and finally Kennedy (2002) all agree that the „central You can think of the words "will," "would," "can," "could," "may," "might," "shall," "should," and "must" as modals. Similar to the nine "central modals" identified by Quirk et al. (1992), Kennedy (2002) identified a smaller set of "marginal modals."

For this reason, the primary goal of this exploratory study was to characterise the frequency and function of modal auxiliary verbs found in 206 articles about COVID-19. The current authors gathered and labelled the data using AntConc version 3.5.8 based on the aforementioned two research goals.

interferon and steroid medications together **can** speed up lung healing and in-crease oxygen survival levels.
a method for organised triage that includes flexible admission standards for triagescale of crisis
PCR findings **can** support clinical diagnosis and assessment, thus.
The RBD-based subunit vaccination **can** prevent ADE.

The following table provides a detailed description of the nine modal auxiliary verbs used in COVID-19 Articles, based on the total number of occurrences mentioned.

Diagram the frequency of the nine modal auxiliary verbs

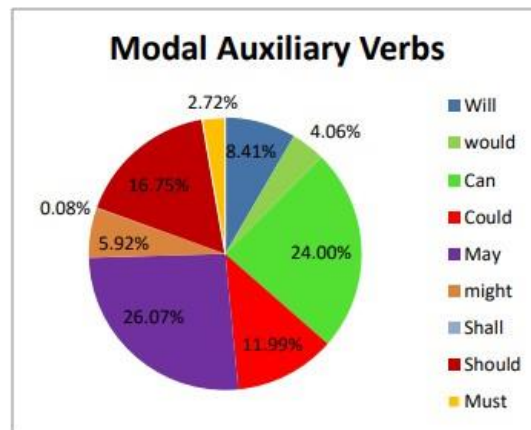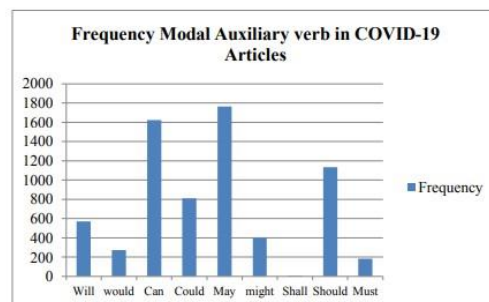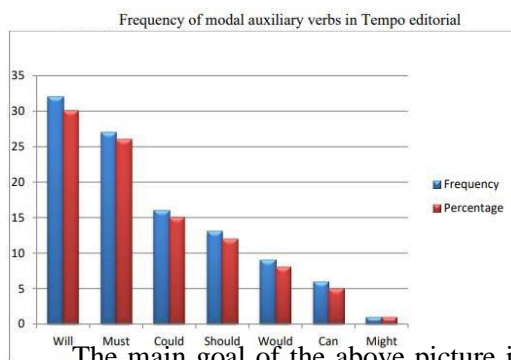| No	Modal Auxiliary Verbs	Concordance Hits	Plot Hits	% CH
1	Will	569	140	8.41 %
2	would	274	95	4.06 %
3	Can	1623	164	24.00 %
4	Could	811	163	11.99 %
5	May	1763	177	26.07 %
6	might	400	94	5.92 %
7	Shall	6	2	0.08 %
8	Should	1133	131	16.75 %
9	Must	183	73	2.72 %
	Total	6762	1039	100 %

Diagram above is mainly intended to frequency of the nine modal auxiliary verb that found in 206 articles regarding COVID-19. The most frequently used is verb "may" with percentage 26.07% or 1763 concordance hits, a few hits difference with verb "can" is obtain 1623 hits with percentage 24.00%. Furthermore, the verb "should" was obtaining 1.133 hits with percentage 16.75% as third ranked and verb "could" as fourth ranked with percentage 11.99 % or 811 hits. Then, verb "will" was obtaining 569 hits with percentage 8.41% as fifth ranked and the sixth ranked was verb "might" with percentage 5.92% or 400 hits. The seventh ranked was "would" with percentage 4.06% or 274 hits and verb "must" was obtaining 183 hits with percentage 2.72 %. While, the least used of modal auxiliary verbs is "shall" with percentage 0.08% or only 6 concordance hits.

The main goal of the above picture is to establish comparisons between the studies of modal auxiliary verbs in Tempo Editorial and COVID-19. Even while Tempo Editorial lists "will" as the most frequent modal, our analysis discovered that "may" was more frequent. The structure and purpose of each modal auxiliary verb are described in the paragraph that follows.
        The modal auxiliary verb "may" means "may" in the context of a modal.
Verb It has been found that the month of May is the most commonly used modal auxiliary verb in COVID-19 articles. From a total of 6.762 pieces of information, 206 make reference to the adverb "may," a count of 1.763. The following are samples of data that include the modal auxiliary verb may and the elements that normally follow it..

may + V	Consequently, the number of infected people who need hospitalisation may exceed the capacity of a country's healthcare system.
may + N	.....that infection with coronavirus may have an effect on the male reproductive system.
may + PP+ N	The difficulty in the past of synthesising longer peptides without unwanted side effects could be a contributing factor.

Based on the data presented, it seems that the modal auxiliary verb may has only three distinct meanings. All modal auxiliary verbs serve the function of indicating possibility.

Mode auxiliary verb: Can

The modal auxiliary verb "can" has seen increased usage from COVID-17 to COVID-19. The word "can" appears 6.762 times in 206 articles, making up 1.623% of all occurrences of the word. Here are some representations of data that include the modal auxiliary verb "can" and the typical elements that follow it.

can + V	The body's response to a SARS-CoV-2 infection can be both protective and harmful..
can + adv	In this way, the Cas13a protein can bind to it after being accurately recognised by the guide RNA. One of the most intriguing enzymes is called Cas13a.
can + not+V	When a newly synthesised drug isn't ready for human trials just yet, the "conventional drug in new use" approach becomes a practical option.
can + adj	How can the spread of COVID-19 through the air be reduced in enclosed spaces?

The modal auxiliary verb can only have four different sorts of constituents, as shown by the samples of data above that contain it. All examples of modal auxiliary verbs express competence (in the sense of being able to do something or knowing how to do something).

Modal Auxiliary verb: *Should*

The third most common usage of the nine modal auxiliary verbs in COVID-19 articles was the word should. The verb should is used 1.133 times out of 6.762 times, which is found in 206 articles. The data examples that contain the modal auxiliary verb should and the items that follow the word should are as follows.

should + V	Patients experiencing breathing difficulties need to practise good respiratory hygiene, cough protocol, and hand hygiene.
should + not +V	Delaying pushing adds unnecessary time and risk to the labour and delivery process.
should + adv	....in a perfect world, people with suspected or confirmed cases would be quarantined in a special room designed to prevent the spread of airborne infections.

The three sorts of items that follow the verb should are illustrated in the aforementioned instances. Statement and negative form are the two main forms that make up the category. All modal auxiliary verb examples can be used to represent giving advise or making suggestions.

Modal Auxiliary verb: *could*

The fourth most common usage of the nine modal auxiliary verbs in COVID-19 articles was verb, one of them. The verb could is used 7811 times out of 6.762 times, which is found in 206 articles. Following are some examples of data where the elements come after the modal auxiliary verb could.

could + V	It's possible that peptide binding at a different site boosts enzyme activity (and so act as an agonist to viral entry)
could + adv	The camel population may, therefore, harbour anti-MERS-CoV nAbs.
could + not + V	A German shepherd pet dog had passed away (the cause of death was unknown because the owner had declined to perform an autopsy).

The examples given make it abundantly evident that there are three different groups of things that can follow the modal word "could." Statements and negations are the two basic types in this category. The identical meaning of a potential future event is conveyed by all modal auxiliary verbs.

Will as a Modal Associated Verb

The verb will was the seventh most frequent of the nine modal auxiliary verbs in the sample of COVID-19 articles. There are 569 instances of the verb could in 206 articles out of a total of 6.762 data points. Here are several examples of data using the modal auxiliary verb will as well as the components that usually follow it.

will + V	These probably **will hasten** the creation of medications and/or vaccines against SARS-CoV-2.
will + adv + V	...the acquisition time and the test reagents, which will adversely affect a negative impact on the test findings and lower the positive rate.
will + not + V	…..we **will not discuss** the role of vaccines….

The three categories of items that follow the verb will are illustrated in the aforementioned instances. Statement and negative form are the two main forms that make up the category. All modal auxiliary verb examples can be used to show willingness.

Modal Auxiliary verb: *Might*

Verb may is the sixth most common of the nine modal auxiliary verbs identified in the COVID-19 articles. There are 400 instances of the verb "should" in 6.762 data points from 206 articles. The following are some examples of data where the elements come after the modal auxiliary verb might.

might + V	… that **might compromise** the gametes' security and storage. As said,
might + adv+ V	after receiving an inactivated SARS-CoV-2 vaccination **might also occur.**...

might + not+ adv	The heart **might not be immediately** harmed by contamination.

The three categories of items that follow the verb might are illustrated in the aforementioned instances. Statement and negative form are the two main forms that make up the category. All modal auxiliary verb examples have a function that may be employed in formal contexts as well as to convey permission in the sense of being permitted to do something.

Modal Auxiliary verb: *Would*

The eighth most common usage of the word would in COVID-19 articles was one of the nine modal auxiliary verbs identified in the data. There are 274 instances of the verb could in 6.762 data points from 206 articles. Following are some examples of data where the elements come after the modal auxiliary verb would.

would +V	….. construct a new prediction model that **would** serve as a benchmark in the future (if a similar scenario arises).
would + adv +V	Additionally, increased testing capability **would make** extensive surveillance and control of
would + not+V	…… used in this case **would not be able** to detect asymptomatic transmission.

The three categories of items that follow the verb would are illustrated in the aforementioned instances. Statement and negative form are the two main forms that make up the category. All modal auxiliary verb examples can also be used to convey willingness.

Modal Auxiliary verb: *Must*

One of the nine modal auxiliary verbs identified in the data as the eight often occurring verbs in COVID-19 articles is the verb must. The verb should is used 183 times out of 6.762 times, which are found in 206 articles. The following are some examples of data where the elements come after the modal auxiliary word must.

must + V	… randomized clinical trials in high-risk populations **must be acknowledged**….
must + adv	we **must also** struggle with human bias
must + not + V	… Transmission via the ocular surface must not be taken into consideration..

The three sorts of components that follow the word must are illustrated in the aforementioned instances. Statement and negative form are the two main forms that make up the category. Each and every example of a modal auxiliary verb must be utilized to indicate obligation or issue commands.

Modal Auxiliary verb: *Shall*

One of the nine modal auxiliary verbs that were identified in the data as the last often occurring in COVID-19 articles was the word shall. The verb should is used 6 times out of 6.762 times, which is found in 206 articles. The data examples that contain the modal auxiliary verb shall and the items that follow the word shall are as follows.

shall + V	Due to the nature of the genomic data, this study has a few significant limitations that shall be acknowledged.

From the aforementioned instances, it is clear that only one element follows the verb shall. The generic statement type is the category. It is possible to use the example of a modal auxiliary verb to explain duties as well as highly formal declarations.

IV. CONCLUSION

After data collection, labelling, and analysis, the researcher could report one of three outcomes. Several important insights have emerged from studies that employ corpus-based research methods. The first finding is the distribution of modal auxiliary verbs among the COVID-19 articles, including their relative abundance and ranking. The data shows the frequency with which COVID-19 articles with varying degrees of modal exposure use these modal auxiliary verbs.

The second discovery is the identification of the basic modal auxiliary verbs and the items that follow them in the COVID-19 articles. The verb "would," according to earlier research on modal auxiliaries, was determined to be the most prevalent element. However, the current study indicated that the modal auxiliary "may" was the most diverse element, followed by the verbs "can" and "must" in that order. Third, although "may" and "can" both refer to possibility, "may" is more usually used in a formal context. This leads us to conclude that the frequent usage of the modal auxiliary verb in the COVID-19 articles points to a higher academic readership. These are the key
findings on the employment of modal auxiliary verbs and their structure in natural language since the data were obtained from corpora using AntConc program version 3.5.8.

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