
Word Association of the COVID-19 Terms: Case Study on Indonesian Gen-Z

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ABSTRACT

Nowadays, society needs to understand the COVID-19 virus and improve appropriate attitudes and actions, especially in Generation Z. The present study aimed to investigate adolescents' knowledge, responses, and attitudes. This research method was a descriptive case study. Data were collected using a free word association test and semi-structured interviews. Respondents amounted to 400 people with an age range of 17-24 years. Simple descriptive statistics with Ms. Excel analyzed the data; then, the data was coded with the Atlas6.ti 9 application. The results showed that most Generation Z produced more common words than idiosyncratic ones. Based on the lexico-syntactic pattern, nouns were responded to by paradigmatic relation, while adjectives and verbs responded by syntagmatic. Based on the collocation, responded words were dominated by lexical collocations, while grammatical collocation responses were minimal. The association of the COVID-19 term represented knowledge of Generation Z about the definition, symptoms, origin, impacts, efforts to deal with the virus, and the current condition of COVID-19. Generation Z tried to accept the pandemic by interpreting wisdom and hoping that conditions would be better soon. However, a few Generations Z responded negatively, suspected a conspiracy, and thought the COVID-19 virus did not exist.

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1. Introduction

The COVID-19 pandemic has been going on for almost two years. The COVID-19 outbreak is a global health crisis with the most significant challenges since World War II (Karatas & Tagay, 2021). However, the spread of this disease has created an environment of threat, risk, and uncertainty among populations globally (Rajput et al., 2020). The emergence of COVID-19 has exacerbated fear worldwide to form a certain stigma (Guan et al., 2020; Huang et al., 2020; Lin, 2020).

Thus, knowledge and understanding of the impact of COVID-19 are essential for everyone (Melo et al., 2021). In addition, compliance with health protocols could resolve the spread of the virus globally (Karatas & Tagay, 2021). This phenomenon produced various terms about COVID-19 that explained the information in various mass media. The new term labels new phenomena in society, such as the COVID-19 pandemic (Lapasau, 2020).

These new terms made it easier for people to communicate and socialize information about the COVID-19 pandemic. In addition, the community understood information from various sources (Utami et al., 2021). This complete information constructs knowledge and shapes attitudes in society, especially in Generation Z. This is due to Generation Z being active on social media and surfing information on the internet. These activities are very influential on the meaning association of the COVID-19 term.

Based on the results of the 2020 Population Survey by the Indonesian Central Statistics Agency, the total population in Indonesia is 270.203.917 people. According to their generation, the largest population is Gen Z,

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namely 27.94% born from 1997-to 2012. According to the distribution area, the highest population is in Java (56.10%), then Sumatra (21.68%), Sulawesi (7.36%), Kalimantan (6.15%), Bali and Nusa Tenggara (5.54 %), and Maluku and Papua (3.17%). Furthermore, it is crucial to identify the knowledge and attitude to the COVID-19 of Generation Z the largest population in Indonesia.

The association of meaning is the relationship between one word and another caused by the semantic network of these words. Word association tests found the association of meaning. The word association test assessed students' preconceptions about a particular topic (Bucklin & Daniel, 2017). As delivered (Yun & Park, 2018), language reflects individual thoughts. The thoughts represented by language can be in the form of knowledge or a point of view of something.

The word association test is held by showing one stimulus word, and then someone is asked to mention another word after hearing/reading the stimulus word (İstifci, 2005; Playfoot et al., 2018; Rapp, 2014). In this regard, Sukartiningsih (2010) conveys that word/meaning association is a symptom of the semantic construction of a word. Therefore, Van Rensbergen et al. (2015) emphasize that word association can identify several factors that indicate some properties related to concepts of the individual.

Nowadays, several studies focus on the new vocabulary of the COVID-19 terms in Indonesian (Lapasau, 2020; Sari, 2020). Various theories were conducted to analyse the COVID-19 terms: morphosemantic (Abdul, 2021; Oktavia & Hayati, 2020), and morphological processes (Utami et al., 2021). The research could describe COVID-19 terms in the micro linguistic aspects that focused on the structure of the terms. Thus, the mental aspect of the community cannot be described through the research.

In addition, some research focused on the responses to the COVID-19 terms, such as word-related emotional responses during the COVID-19 lockdown in Italy (Montefinese et al., 2021), Turkey's response to COVID-19 in terms of mental health (Ögütli, 2020), the relationship between the individual's response and nature to the pandemic (Haasova et al., 2020), and student response to the COVID-19 pandemic based on their social media (Viet Duong et al., 2020). The research found that people had various responses to the COVID-19 pandemic through their points of view and actions. However, there has been no research on Generation Z's response to the term COVID-19 in the context of Indonesia.

Furthermore, previous studies described the student understanding of the new COVID term in Malaysia (Saimon et al., 2021) and knowledge, attitudes, anxiety, and student coping strategies in the Philippines (Baloran, 2020). They found that students had sufficient knowledge of the COVID-19 terms. In the context of Indonesia, Saefi et al. (2020) and Rahmi & Yulianti (2020) defined knowledge, attitudes, and practices about COVID-19 among Indonesian students in their social environment during the pandemic. Saefi et al. used a survey for data collection, whereas descriptive and inferential statistics for data analysis. Hence, their research focused on the survey data, not the relationship between the COVID-19 terms and students' knowledge and practices.

Word associations can describe both physical and psychological knowledge, actions, and responses. Word association research is generally used to discuss the mental lexicon of a second language (Hui, 2011; Prihatini, 2019). Only a few researchers have studied COVID-19 terms with word associations based on the diversity of contemporary study disciplines. Based on the COVID-19 terms, Melo et al. (2021) used word association to analyze the meanings attributed to the new coronavirus by Brazilians. Melo found that Brazilian gave meaning to COVID-19 based on three aspects: (1) characterization of the disease, (2) negative repercussions, and (3) positive repercussions.

Therefore, there are still research gaps that discuss the association of the meaning of the term COVID-19, especially for Generation Z in Indonesia. It is essential to do this research to obtain information about Generation Z's insights, views, responses, and attitudes toward the COVID-19 pandemic. Therefore, this study aimed to describe the word association of the COVID-19 term in generation Z. This study provides an overview of Generation Z's knowledge and actions against the COVID-19 pandemic. Furthermore, the findings of this study can be used in the preparation of communication strategies for conveying information about COVID-19.

2. Methods

This research is a descriptive case study because it describes the word association of COVID-19 terms in Generation Z in Indonesia. Data collection was carried out utilizing a test, namely the free word association test, by presenting terms related to COVID-19. Then, respondents were asked to write down the first word that came to mind about the stimulus word presented. There were 16 stimulus words chosen in the word association test based on two considerations, namely relevance to COVID-19 and word-class variations.

Table 1. List of Stimulus Words for the Association of Meanings of the Terms COVID-19

No	Stimulus word	Word Class
1	Positif (Positive)	Adjective
2	Negatif (Negative)	Adjective
3	Pandemi (Pandemic)	Noun
4	Korona (Corona)	Noun
5	Masker (Mask)	Noun
6	Face Shield	Noun
7	Hand Sanitizer	Noun
8	Disinfektan	Noun
9	Dokter (Doctor)	Noun
10	Perawat (Nurse)	Noun
11	Rumah sakit (Hospital)	Noun
12	Isolasi (Isolation)	Noun
13	Mencuci (Wash)	Verb
14	Menyemprot (Spray)	Verb
15	Bersalaman (Shake Hands)	Verb
16	Bergerombol (Swarm)	Verb

All stimulus words in Table 1 are presented using Google Forms. The respondents accessed Google Forms via email and social media. In addition, data was also collected by using a semi-structured interview technique. Questions and answers were conducted using open-ended questions to explore more in-depth information to confirm the findings of the given meaning association.

Furthermore, the respondents in this study were 400 people aged 17-24 years belonging to Gen Z. The respondents were determined because Gen Z is the largest population in Indonesia. In addition, at that age, it is assumed that they have the ability and experience of information literacy and digital literacy to access information about the COVID-19 pandemic.

Table 2. Respondents Age Data

No	Age	Amount
1	17	6
2	18	112
3	19	182
4	20	71
5	21	20
6	22	4
7	23	3
8	24	2
Total		400

Based on the regional distribution, this study consisted of respondents from all islands in Indonesia. According to the language acquisition, all respondents mastered Indonesian, either as a first or second language. Thus, it is assumed that respondents can understand information from various sources regarding the COVID-19 pandemic.

Table 3. Data on Languages Mastered by Respondents

No	Language	Percentage
1	Indonesia	34.1%
2	Java	23.3%
3	English	14.8%
4	Madura	2.3%
5	Arab	1.8%
6	Banjar	1.4%
7	Malay	1.2%
8	Sunda	1.0%
9	Etc	20.1%
Total		100%

The data were analyzed by considering several indicators. The data are lemmatized because several associative responses have the same basic meaning. There are several criteria in the lemmatization process as developed (Zareva & Wolter, 2012), but with adjustments in Indonesian. First, the root word and some of its derivative forms are combined and considered the same item, such as the plural form of the noun, aspects of the verb (were, will, and have), and suggested intensity markers of the word traits. Second, phrases were analyzed at the head of the phrase, such as sedatives, almost cured. Third, verb phrases and their variations are still distinguished if they have different meanings. Fourth, variations of word writing are considered as one lemma, such as lab and laboratory. Fifth, all derivations are treated as separate items, for example, immoral, disagree, and agreement.

The data were analysed using simple descriptive statistics with Ms. Excel. After that, the response words were analysed based on the word cloud to portray word frequency. The response words were coded with the Atlas.ti 9 application to interpret the word association and analyze the relationship between the response words generated by all respondents. The interpretation was carried out based on three aspects, namely (1) general and idiosyncratic associations, (2) lexico-syntactic response patterns, and (3) collocation associations. Based on the general and idiosyncratic association patterns, each response word association is a general response word (if generated by at least two respondents) or an idiosyncratic response word (generated by only one respondent). Then, the proportion of common and idiosyncratic response words was calculated for each participant, indicating the commonality of word association in Generation Z.

There are two relationships between the response and stimulus words based on the lexico-syntactic pattern: paradigmatic and syntagmatic. A paradigmatic relationship occurs when the response word can substitute the stimulus word in the same syntactic function, such as synonyms, antonyms, meronyms, or hyponyms. A syntagmatic relationship occurs if the responded word collocated well with the stimulus word. The response word was acceptable in a syntactic function. The syntagmatic relationship has a semantic relationship that shows how general or idiosyncratic association patterns are unique to each respondent and the group (Kittay & Lehrer, 1992; Zareva & Wolter, 2012). In addition, collocation is an association between words with other words that are side by side in a sentence, for example, the word book and bold or the word hard with head (Kridalaksana, 2011).

3. Results and Discussion

3.1. Results

The research results are described in three aspects, namely (1) common and idiosyncratic associations, (2) lexico-syntactic patterns, and (3) the following collocation associations.

3.1.1. Common and Idiosyncratic Association

The results showed that the word intensity appeared as follows.



Figure 1. Word Cloud Association Meaning of the Terms COVID-19

Figure 1 is a word cloud of response words generated by respondents. The size of the written word indicated the frequency of the response word. Furthermore, the more extensive writing in the word cloud depicted the greater frequency of its occurrence. The response words with a high frequency are virus, disease, hand, person, sick, covid, corona, and protector. These findings indicated that these words are common

associations. On the contrary, the idiosyncratic ones included some words: staying away, rapid, silent, general, and social.

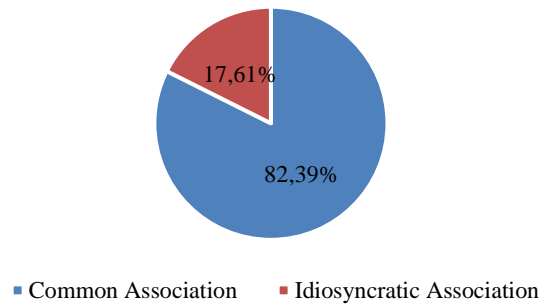


Figure 2. Findings of Common and Idiosyncratic Association Meaning of COVID-19 Terms

Based on Chart 2, most respondents produced common response words, namely 82.39%. So, at least two respondents generated most of the response words. On the other hand, the idiosyncratic response words are only 17.61%.

Based on the coding results of the response words, the meaning associations are obtained in the following figure.

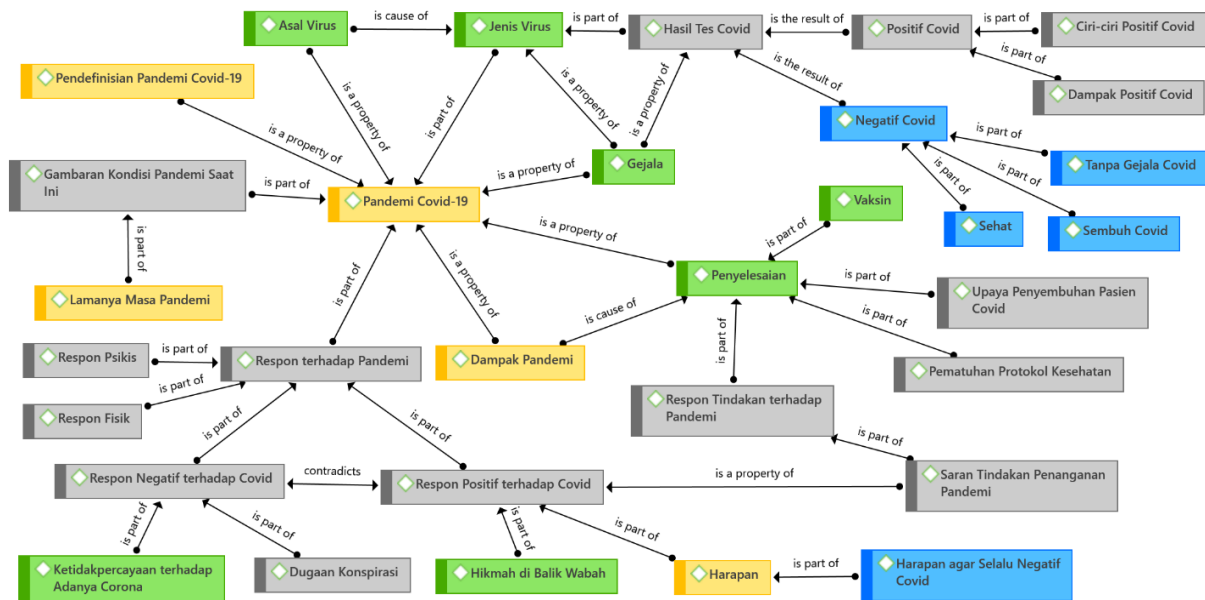


Figure 3. Association of The Meaning of The COVID-19 Term

Figure 3 shows the association of meanings that describe insights and responses to COVID-19. Insights about COVID-19 are related to the origin of the virus, its definition, types, and symptoms. Furthermore, knowledge about COVID-19 is related to the description of the current state of the pandemic, its impact, and its resolution. Meanwhile, the response words to the pandemic consisted of two types, namely positive and negative responses. Positive responses focused on the wisdom behind the current outbreak and hoped not to catch the virus. On the other hand, the negative response can be seen from the suspicion of a conspiracy in the pandemic because they think that COVID-19 does not exist. In addition, the response words manifested both physically and psychologically.

3.1.2 Lexico-Syntactic Patterns of Meaning Association Response

The lexico-syntactic pattern was identified based on stimulus word categories: nouns, adjectives, and verbs. In each word class, word responses are classified based on the paradigmatic and syntagmatic relationships. The results of the study are in Figure 4 as follows.

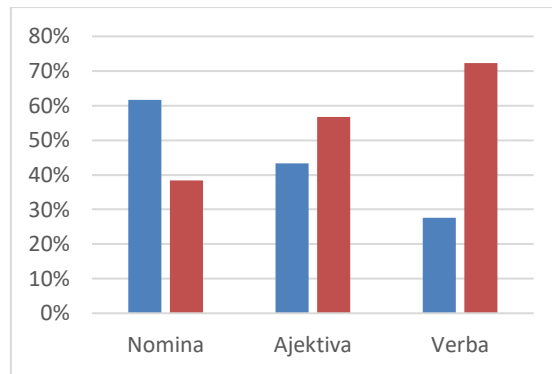


Figure 4. Lexico-Syntactic Pattern of Association Meaning of COVID-19 Terms

Figure 4 showed that the nouns' response word was paradigmatic, while adjectives and verbs produce syntagmatic response words. The stimulus word in a noun has a strong meaning associated with a noun. On the contrary, adjectives and verbs had associations syntagmatically because the response words were other word classes.

3.1.3 Meaning Association Response Collocation Association

There were two types of collocations found: lexical and grammatical collocations.

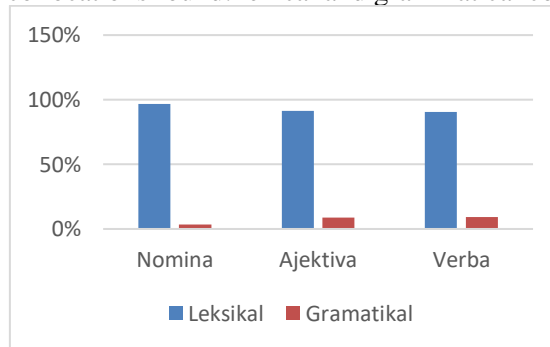


Figure 5. Collocations in the Association for the Meaning of the Term COVID

Figure 5 indicated that the response word and the stimulus word had a lexical collocation association relationship. Meanwhile, a grammatical collocation was minimal in each class of stimulus words. It can be argued that response words are content words, such as nouns, verbs, and adjectives. In contrast to grammatical collocations, the response is in word classes other than nouns, verbs, and adjectives.

3.2 Discussion

The discussion is described based on three aspects: (1) common and idiosyncratic associations, (2) lexico-syntactic patterns, and (3) collocation based on the word association of the COVID-19 terms as follows.

3.2.1 Common and Idiosyncratic Association

The results showed that the majority of meaning associations were common words. The common words included general information about the COVID-19 pandemic, such as the origin of the virus, its definition, and its symptoms. In other words, Generation Z in Indonesia has sufficient knowledge about the characteristics of people infected by the virus COVID-19. Based on the frequency of the word association in COVID-19 terms, the word *virus* had the highest frequency of occurrence. This result was related to the characteristics of the word *virus*, which contained an emotive value that is more frightening than the word *bacteria* or *parasite*. The word *virus* meant something unexpected and could not be detected clearly. The words *bacteria* and *parasites* could be traced to the causes and reasons for their emergence because the source of the cause was recognized or could be identified (Rahmi & Yulianti, 2020). A previous study also found that the pandemic was understood as a condition when an infectious disease could threaten many people in the world at one time (Oktavia & Hayati, 2020).

Previous research found that native speakers responded with common words in word association (Zareva

& Wolter, 2012). In this study, Generation Z acquired Indonesian as a first language or second language. All of them were bilingual or multilingual speakers. The result could be concluded that in Indonesia, as native speakers, Generation Z responded with the common word associated with COVID-19 terms, both first and second language speakers.

In addition, common associations represented specific information, such as the impact and description of the current pandemic condition. Generation Z in Indonesia has good insight into how the COVID-19 virus infected them. The virus would affect their sense of smell, body endurance, and social interaction. Therefore, they keep updating information about the spread of the covid-19 virus. To avoid the virus, they adhere to health protocols. Previous research in the Philippines has also shown that students were aware of the COVID-19 pandemic and had sufficient knowledge about its symptoms, forms of transmission, and efforts to prevent the spread of the virus that every individual and the general public must do. In addition, the importance of tests to detect COVID-19 and quarantine in every local community is crucial for students (Baloran, 2020). Students in Malaysia also have sufficient knowledge of the COVID-19 term (Saimon et al., 2021). In Indonesia, vocabulary in the mental lexicon of the people was modified by terms related to COVID-19 (Sari, 2020).

The understanding of the term was reviewed for its relevance to the COVID-19 concept. However, there was still a limited understanding of the media for spreading the virus, namely whether it could be transmitted through the air and stuck to masks or clothes. Most of the students have implemented health protocols and other efforts to prevent the transmission of the COVID-19 virus. However, a previous study found that few students exercised regularly and took vitamins (Saefi et al., 2020). On the contrary, (Fauzi et al., 2020) found that most students had heard the news about COVID-19 before the virus entered Indonesia, but still, few had a high level of understanding. Most students misunderstood COVID-19, such as the vaccine benefits, the symptoms, and COVID-19 virus transmission. So, it can be concluded that Generation Z in Indonesia still needs to improve their understanding of specific information about the transmission media for the COVID-19 virus. Thus, they can take preventive measures to avoid contracting the virus.

Previous research has found potential differences in the meaning and expression of words based on the variations in the sociocultural and linguistic contexts (Augustyn & Prażmo, 2020). The response to meaning associations was quite diverse because of various factors. More specifically, there were several factors in the difference in public response: country area, employment status, approval and adherence to the self-isolation policy, approval of the policy of the president, the experience of being infected with the COVID-19 virus, and stress levels (Melo et al., 2021), age, gender, education level, employment status, income level, routine drug consumption, and ownership of other chronic diseases (Özmen et al., 2021). Likewise, in this study, the difference in word associations was caused by the level of understanding, anxiety, environmental conditions, socio-economic conditions, and sensitivity to access to information about COVID-19.

Generation Z as adults feels stressed due to the pandemic because the situation has changed very significantly. They cannot interact with other people freely because they have to keep their distance. They are bored with online learning. They must face this uncertain condition. Not only in Indonesia, but other countries also experienced the same thing. There were strong reactions among Philippines students because they experienced anxiety (Baloran, 2020) because of uncertain conditions during the pandemic. Uncertainty heightened the fear of uncertainty during the COVID-19 pandemic (Garfin et al., 2020). Moreover, intolerance to uncertainty, life satisfaction, the meaning of life, hope, gender, history of psychological trauma, and the presence of people infected with COVID-19 in the surrounding environment can affect the level of resilience in adults (Karatas & Tagay, 2021).

Therefore, Generation Z, aware of the pandemic, will try to adhere to health protocols. On the other hand, those who do not believe in a pandemic will be indifferent. They are also intolerant of the spread of the COVID-19 virus. A previous study also found a significant negative relationship between intolerance to uncertainty and fear of the COVID-19 pandemic and its resilience. These variables can predict the resilience of the person negatively. Resilience depicts people experiencing more stress in situations that they cannot control and predict (Karatas & Tagay, 2021). In other words, the uncertainty of an event can affect the stress level so expectations become an essential factor in dealing with the process (Kirmani et al., 2015). This phenomenon depicted the association between personality traits and social distancing during this pandemic, especially those related to cultural, language, socio-economic status, and other multidimensional characteristics (Montefinese et al., 2021).

Many negative things have emerged due to the COVID-19 pandemic. The alleged pandemic conspiracy suggests that COVID-19 does not exist, so a negative reaction is apparent. Therefore, they do not comply with health protocols because they think the COVID-19 virus does not exist. However, most of the Z generation in Indonesia have responded wisely to focus on the wisdom behind the current pandemic. They are trying not to

get infected with the virus, complying with health protocols. A previous study also found that there are still positive responses in terms of togetherness between society and health workers to deal with the COVID-19 pandemic (Ögütli, 2020). This phenomenon is evident from the public response on social media (such as Twitter), in which the majority tend to be positive because only 15% are negative (Rajput et al., 2020).

Furthermore, there is a positive relationship between self-nature and the tendency of society to view the pandemic as an indication of a higher entity (Haasova et al., 2020). This self-nature leads people to take wisdom from what happened during this pandemic. Thus, hope and meaning in life can strengthen individuals to overcome difficult situations (Wu, 2011). For example, society responded positively to the concept of WFH (Work from Home). Most of the emotional responses are in the form of trust and anticipation, which indicates that society has accepted the concept of WFH (Dubey & Tripathi, 2020).

Generation Z in Indonesia has insights, perceptions, judgments, and actions to deal with the pandemic. Positive and negative responses occur in their physical and psychological aspects because they need to adapt to the new normal. Previous studies found that Brazilians have several perceptions of COVID-19, namely (1) characterization of the disease and efforts to handle COVID-19, its risks, prevention strategies, and hope for recovery for those infected with the virus, (2) negative repercussions reflecting the dangers of the virus on mental health, such as fear, uncertainty, and hopelessness, and (3) positive repercussions which are initiation expressions for solidarity, empathy, and collaborative care as a strategy to overcome this pandemic. So, the meaning made by the Brazilian people of the COVID-19 pandemic is essential in formulating an effective intervention strategy to overcome the spread of the COVID-19 virus (Melo et al., 2021). It can be concluded that every country could have positive and negative responses to the pandemic and public knowledge of COVID-19. These responses and knowledge were crucial for policymaking to overcome the COVID-19 pandemic.

3.2.2 Lexico-Syntactic Pattern

In generation Z, responses to nouns tended to have a paradigmatic relationship, especially in the common association. The paradigmatic relationship shows an equivalent position (Zareva & Wolter, 2012). The paradigmatic response takes the form of the same word class as the stimulus word and shows a clear semantic relationship (Prihatini, 2019). There are five types of paradigmatic responses, namely words that have a relationship, (1) synonyms that have similar meanings, (2) antonyms that have contradictory meanings, (3) subordinate words that contain words that are more specific than stimulus words, such as mango-fruits, human-female, (4) superordinate words that contain response words are more general than stimulus words, such as red-colour, jasmine-flower and (5) coordinate words that contain related meanings, such as salt-sugar, yellow-blue (Aitchison, 2003; Hui, 2011). In previous research, on the term COVID-19 pandemic in Arabic, it was found that the meaning relation can be synonyms (Oktavia & Hayati, 2020), antonyms, and idioms (Aina & Imamuddin, 2021). This study found that paradigmatic responses could be synonyms, antonyms, subordinate, superordinate, and coordinate words. Those response words indicated that nouns had a wide range of semantic concepts. Nouns also had strong connections with another noun paradigmatically in the mental lexicon.

Besides, some idiosyncratic responses were metaphors. Metaphors convey a perspective on an event, both positive and negative, and influence its interpretation (Burnes, 2011). The reader/listener must make inferential and associative meanings (Luporini, 2021) to the metaphors. Metaphors represented generation Z responses to COVID-19 terms figuratively and uniquely, but minimal and personal. Metaphors cannot be taken literally but need to be interpreted based on the context and trends in the younger generation. For example, in the virus-mukbang data, *mukbang* is a broadcast of people eating large portions, which is very popular in Korea. The virus-mukbang data appeared in response to the stimulus word *swarm*. Thus, virus-mukbang can be understood as blatantly allowing the virus to enter the body due to swarming and violating health protocols. The rise of *mukbang* broadcasts by content creators on Youtube affects this idiosyncratic response.

On the other hand, the response words to verbs had a syntagmatic relationship to the stimulus word. The response word has a different word class from the stimulus word so it occupies a different position in its syntactic function (Hui, 2011; Prihatini, 2019; Zareva & Wolter, 2012). The result of this study indicated a close relationship between predication (verb) and argument (noun) because the verb determined the accompanying noun (Prihatini, 2019). The verb was the centre of forming a sentence and clause (Fernandez & Cairns, 2011). It can be argued that there were predication (verb) and argument (noun) relationships in the word association of COVID-19 terms.

The response words to adjectives tended to be syntagmatic. Generation Z frequently responded to adjectives with nouns. It is due to adjectives that could modify nouns. For example, the stimulus word *positive*

(adjective) was responded to by *virus* or *COVID* (noun). The word *positive* was associated with the meaning of contracting the virus (Oktavia & Hayati, 2020).

Syntagmatic relationships consist of two types: (1) sequential relations, for example, nervous-very and concentrate-on, and (2) collocation between lexical elements with a high idiomatic level, for example, school and school of fish (Aitchison, 2003; Hui, 2011). This study argued that the syntagmatic relationship was a separate classification. This phenomenon occurred because stimulus words and response words with collocation relationships could have the same syntactic function. They were more suitable to be categorized outside the lexico-syntactic pattern.

The response words represented the mental lexicon of generation Z. The tendency of paradigmatic relationship indicated the magnitude of the meaning that influenced the COVID-19 term association. Based on the result, most word connections are semantically driven by the mental lexicon. However, there are also associatively driven based on the joint and repeated occurrence of two words that may or may not have a meaningful relationship (Moss et al., 1991) (Zareva & Wolter, 2012).

3.2.3 Collocation Association

Collocations consist of two types, namely lexical and grammatical collocations (Benson et al., 1986). Previous research has found that the COVID term is lexical and grammatical in terms of its meaning (Abdul, 2021). In this study, word association responses tended to be lexical collocations. For example, the word *wash* (verb) was responded to by *hand* (noun). Previous research has shown that pandemics tend to be understood lexically (Augustyn & Prazmo, 2020). There was a significant difference in the grammatical collocation response because the frequency was minimal.

The combination of lexical collocations consists of several types, namely (1) verb + noun phrase, (2) verb + noun, (3) noun + verb, (4) verb + adverb, (5) noun + noun, (6) adverbial + adjective, (7) adjective + noun (Benson et al., 1986; Rahman, 2020). The lexical collocations consisted of content words with meaning, such as nouns, verbs, adjectives, and adverbs. In word association, the content words were more frequent because they could better represent Generation Z knowledge, views, and attitudes towards the COVID-19 term. In other words, the content words were more substantial and more conceptual to describe the mental lexicon of Generation Z in responding to the pandemic.

In addition, the stimulus was a content word, and so did the response word because they were in the same storage set in the brain (Prihatini, 2019). Fernandez & Cairns (2011) also explained that content words could be nouns, verbs, adjectives, and adverbs, while function words were grammatical markers, including prepositions, conjunctions, and determiners. Content words and task words are stored separately and accessed in different ways. The word association shows the related concepts (Van Rensbergen et al., 2015). Therefore, people explore the mapping of word forms to map the meaning of words nonarbitrary (Reilly et al., 2016). It can be claimed that there were strong connections among content words in the mental lexicon, especially in the COVID-19 terms. Besides, the function word had no strong relationship in the mental lexicon because of its dependency on the content word to form complete meaning.

Based on the strength level, collocations consist of three types: strong, fixed, and weak collocations (Shammas, 2013). Strong collocations are related to words that have very close associations, such as mitigating with circumstances. Fixed collocation is concerned with the definite association of one word with another word that another word cannot replace. This collocation type was an idiom because it could not be interpreted separately in each word. In addition, weak collocations were a wider range of possible word pairs, such as reading books, reading situations, and reading characters. This study contained strong and weak collocation associations, but there is no fixed collocation in this research.

4. Conclusions

Based on this research results, the meaning association of the COVID-19 term generally tended to be homogeneous because only 17.61% responded idiosyncratically. Common associations represented the knowledge and attitudes taken by Generation Z in dealing with the COVID-19 pandemic. Therefore, Generation Z has understood the character of COVID-19, the symptoms of its spread, the efforts to handle it, and the latest information. Generation Z showed efforts to comply with health protocols. Based on the lexico-syntactic pattern, nouns had a strong paradigmatic relationship. Verbs and adjectives were associated syntagmatically. The productivity of lexical collocation associations accompanied the tendency of the paradigmatic relationship. This study found that Generation Z in Indonesia has sufficient knowledge about COVID-19. They are trying to adapt to the new normal era by following health protocols. A small part of Generation Z does not believe in the

existence of COVID-19. However, they need to update information about COVID-19 to find out strategies for dealing with various new virus variants and their transmission media. These results were beneficial in policymaking to overcome COVID-19, especially for Generation Z in Indonesia.

However, there were still limitations to this study. Therefore, further research can hold on topics not covered in this study, such as comparing meaning associations from one generation to another to compare knowledge and attitudes towards the COVID-19 pandemic. Therefore, the results will be broader in the impact of policymaking.

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