

Transitivity analysis of news texts on the Saudi ministry of health website: An investigation of health guidelines during COVID-19



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ABSTRACT

The aim of this study is to investigate the awareness-raising activities and the health guidelines for protection from new coronavirus during this pandemic reported on the Ministry of Health website in Saudi Arabia. To achieve this aim, the study employs critical discourse analysis (CDA) of Halliday's theory of transitivity process types adopted as a framework of news text. Literature showed that discourse analysis is an interdisciplinary area of investigation and an increasingly popular domain strategy for scholars in different fields. However, such a strategy has been little adopted by healthcare researchers. To analyze the transitivity process types (namely material, mental, verbal, relational, behavioral, and existential), quantitative and qualitative approaches were employed to get a better understanding of transitivity process types related to the news texts. Like other studies, the findings revealed that the material process type (60%) highly dominated the discourse in the two news texts. This implies the powerful role of events and actions to be undertaken. Unlike the first news text, the second news text however contains the behavioral process to meticulously highlight public awareness and action. Investigating participants' roles as well as circumstances components may offer more data appropriate for further research.

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1. Introduction

The coronavirus disease (COVID-19) is a respiratory infection first discovered in the city of Wuhan, China in December 2019 (World Health Organization (WHO, 2021)). Since that time, the disease has spread rapidly across the world in mid-March. The WHO declared COVID-19 a pandemic and urged all countries to exert effective preventive actions (WHO, 2020). By January 2022, the virus infected nearly 300 million individuals and caused more than 5 million deaths worldwide (WHO, 2021). The rapid progression of the pandemic has challenged the world by unprecedented circumstances becoming a substantial concern for governments and their populations due to its significant economic, social, and psychological ramifications exerted on people from all

backgrounds (Yang and Wang, 2020). To tackle such challenges, governments around the world have applied widespread protective measures such as social distancing, quarantine, isolation, travel restrictions, and enforced personal protective measures (Anderson et al., 2020; Jabeen et al., 2022). Such policies and interventions have targeted different levels of intervention including organizational, social, and individual levels (Cheng et al., 2020).

In Saudi Arabia, the government reacted rapidly with strict actions to control the spread of the disease by mandating policies to wear face masks, adhering to social distancing, and implementing quarantine for the infected and who were in contact with a confirmed case, and closing airports and schools. Saudi Arabia was one of the few countries that responded quickly to prevent the widespread pandemic among its residents. The country meticulously started formulating its strategy to prevent the spread of the disease even before any cases were detected in the country and before the WHO declared COVID-19 as a pandemic (Alshammari et al., 2020). The precautionary strategy adopted by the Saudi government can be categorized into four components: a wide mass

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media campaign to raise awareness about the disease and educate the public about ways to mitigate its impact; a cooperative effort between 19 governmental and non-governmental agencies to plan, assess, and implement preventive measures; restrict travel even for Umrah; and impose restriction on the social gathering (Al-Tawfiq and Memish, 2020).

Before the first case was identified in Saudi Arabia, the Saudi Ministry of Health (MOH) started a comprehensive campaign to raise awareness about COVID-19. Such messages included guidelines of preventive measures and updates about the spread of the disease have been disseminated throughout all types of media via the MOH website. Despite the importance of such news and guidelines, no studies have been conducted to analyze the content of such messages.

This study evaluates and analyzes the texts related to COVID-19 on the MOH website. Tian (2018) pointed out that studies showed a need to deploy critical discourse analysis on news texts is required so that the hidden concerns in language can be highlighted. By employing the transitivity theory contained in Halliday's Systemic Functional Linguistics, the researchers, therefore, aim to analyze news texts on the MOH website published during the coronavirus pandemic. In addition, this study attempts to gain a better understanding of transitivity process types related to news texts during this critical pandemic. The outcome of this research will be useful to public health officials, policymakers, and research scholars. To the researchers' best knowledge, there is no study tackling the effects of MOH health guidelines news during the coronavirus pandemic by using transitivity analysis on news texts.

The research question for this study is as follows: what are the types of processes that are more frequently utilized in the Saudi Ministry of health news texts published before and during the pandemic of coronavirus?

2. Literature review

2.1. Discourse analysis

Walliman (2010) stated that discourse analysis is a method that employs words and texts to study the manner people communicate in a particular social context. The term Discourse Analysis is derived from the meaning of its word components. Discourse focuses not only on the sentences but on considering the use of language as well (Yule, 2014). Thus, in conducting discourse analysis studies, researchers use texts in their context according to the text reception and production. A more advanced method in the realm of discourse analysis is critical discourse analysis (CDA) in which the researcher identifies how and why a definite discourse has been presented (van Dijk, 1993). The aim of CDA is to highlight the connection between language, values, power, ideology, society, and opinions (van Dijk,

2011). One tool that is commonly used to analyze the discourse of texts is transitivity analysis; it studies and examines texts at the clause level (Banks, 2002).

2.2. Transitivity system

Transitivity is characterized as a network of systems that originates from the 'major' clause, which contains a prediction (Halliday, 1967). This system evaluates the process presented in the clause and attempts to identify the process types. Halliday, (1967) suggested three functions to scrutinize lexico-grammar: Ideational, textual, and interpersonal. The ideational function expresses various features of the languages presented in the context of clauses. As for the textual function, it assesses the attitude of the speaker in forming the text and language. The interpersonal function is concerned with interactions among people using a language (Halliday et al., 2014). The three aforementioned functions are established by transitivity, which is applied using several processes (Halliday, 2000) involving three parts: "the process itself; participants of the process; and circumstances associated with the process" (Halliday, 2000). Thus, transitivity is comprised of six process types; material process, mental process, relational process, verbal process, existential process, and behavioral process (Halliday, 1967; Halliday et al., 2014).

These six process types are combined into two major processes; the main processes contain material, mental and relational types, whereas the minor processes comprise behavioral process, verbal, and existential types.

2.3. Related studies on transitivity system

Due to the capacity of the transitivity system to investigate hidden meanings, transitivity analysis has been employed by researchers in different fields to dissect literary texts. In the health field, transitivity analysis can be an invaluable tool to explore health-related news discourse. For example, in an attempt to understand the ideological representation of fear and hope in online newspaper reports on COVID-19 in Saudi Arabia, Al-Ghamdi (2021) used transitivity analysis to examine the news reports from two major newspapers in Saudi Arabia. The findings of the analysis indicated that there are three strategies that have been regularly used to correspond to the ideology of fear: Authority, evidentiality, and categorization. These three strategies complement each other to efficiently represent fear. However, the analysis indicated that categorization is seldom used to represent hope (Al-Ghamdi, 2021).

Other researchers employed transitivity analysis to measure the impact of certain precaution measures during the COVID-19 pandemic. For instance, Sasot et al. (2020) employed discourse analysis to discover the meaning constructed by college students based on the discourse about the cancellation of online classes. The researchers

analyzed comments of college students obtained from Facebook posts on universities' official pages and media outlets. The analyses were guided by the framework of Foucauldian Discourse Analysis by Willig (2008). The findings indicated that the reasons for online class cancellation are predicated on the absence of access to technology and weak internet services due to technical and financial barriers (Sasot et al., 2020).

One study that adopted transitivity analysis has been associated with the American president Donald Trump. In this study, Zhao and Zhang (2017) investigated the functions and distribution of the six process types existing in the inaugural address offered by Trump in 2017. Their findings revealed that material process type gained a high percentage (68.6%); this indicated that such process type dominated the discourse. President Trump employed this process type "to paint a bleak picture of America and to describe new actions the government will take." It is interesting to mention that the relational process type occupied the second rank. Moreover, Alhumsi et al. (2021) conducted a study to analyze the transitivity processes by comparing news texts published on the Saudi Electronic University website before and during the Coronavirus pandemic. Their study adopted a critical discourse analysis tool in the analysis of process types. Their results showed that the material process has been the most repeated process in the two news articles found on the university website.

The previous review of the literature concerned with transitivity analysis showed the importance of such a tool in matters related to health, especially public health, and health promotion. However, despite its significance, little research is conducted to examine the news and guidelines of official health agencies Yazdannik et al. (2017), especially during the COVID-19 pandemic. Thus, the aim of this study is to adopt the systemic functional grammar theory offered by Halliday (1978) to examine the transitivity process types in news texts presented by the Saudi Ministry of Health on its official website before and during the COVID-19 pandemic.

3. Methodology

This paper adopted both quantitative and qualitative methods. Bartley (2018) pointed out that the qualitative method aims at achieving deep inquiry in a way that the intended meaning and language structural forms used in texts are initiated. The other method tackles the recurrence of specific clause types in sentences (Bartley, 2018).

Halliday et al. (2014) confirmed that the text is regarded as one shape of data adopted for the analysis of linguistic characteristics. Such features focus on the awareness of grammar; it provides remarkable support in interpretation as well as the analysis of texts. The data were obtained from two news texts taken from the official website of the Saudi Ministry of Health at two separate times. Data

analysis was conducted in order to compare the verb process types (transitivity) before and during the pandemic of coronavirus. The 1st news text entitled "MOH: Awareness-Raising Activities at the Boulevard Riyadh" has been published before the pandemic of coronavirus, on December 4th, 2019. The second news text entitled "MOH Issues Health Guidelines for Protection from New Coronavirus" has been published during the pandemic of coronavirus, on January 28th, 2020, on the same Saudi MOH website. It is important that the two news texts chosen for the analysis of verb process types are matched for the following reasons: both are news texts that existed on the Saudi MOH website, and they are concerned with offering activities and guidelines for protection in the form of urgent instructions such as precautions, preventive measures, and tips issued before and during the coronavirus pandemic.

In order to measure the number of transitivity patterns used, the two texts were segmented into clauses for the sake of data analysis. It is interesting to note that Halliday and Webster's (2014) transitivity system was utilized in order to classify the clauses into categories. Table 1 lists the types of processes, participants' roles, and circumstances as expressed by the transitivity system. The transitivity process types include material, mental, relational, verbal, behavioral, and existential process types.

4. Findings

4.1. Text 1: "MOH: Awareness-raising activities at the boulevard Riyadh"

The first news text entitled "MOH: Awareness-Raising Activities at the Boulevard Riyadh" was posted on December 4th, 2019. It has been found that three transitivity process types identified in the first news text existed. These patterns involve material, verbal, and relational processes. The distribution of three process types in this section is shown in Table 2. As shown in Table 2, the material process type has been used more compared to the other process types (79%). The relational process has come in second place (14%) and the verbal process has obtained the least percentage (7%). It should be noted that the 1st news text lacks the mental, behavioral, and existential process types.

As for transitivity analysis of process types used in the 1st news text, Table 3 describes these process types. Table 3 shows that the material process type has been identified as the most frequent process deployed in the first news text. Moreover, the findings show that the verbal process is the least frequent process type. It should be also noted that there is only one verb 'mentioning' in this specific process type. As for the relational process, it has obtained the second rank. The analysis has indicated that there are two verbs, namely 'is' and 'include' in this specific process.

Table 1: Types of processes, participants' roles, and circumstances

Process Types	Participants' Roles	Circumstances
Material	Actor+Goal	Extent
Mental	Senser+Phenomenon	Location (time, place)
Relational	Carrier+Attribute	Manner
Verbal	Sayer+Target	Cause
Behavioral	Behaver	Accompaniment
Existential	Existent	Matter

Table 2: Distribution of the process types in the 1st news text

Process types	Frequencies	Percentage
Material	11	79 %
Verbal	1	7 %
Relational	2	14 %
Total	14	100%

Table 3: Transitivity analysis of process types used in the 1st news text

Participant	Process	Participant	Circumstance	Clause
Actor (The Ministry of Health)	Material (continued)	Goal (organizing awareness-raising activities)	in collaboration with the General Entertainment Authority	The Ministry of Health (MOH), in collaboration with the General Entertainment Authority, has continued organizing awareness-raising activities for visitors of the Boulevard Riyadh
Actor (awareness-raising activities)	Material (come)		in continuation of MOH's efforts	Such awareness-raising activities come in continuation of MOH's efforts
	Material (maintain)	Goal (the health and safety of all community members)		to maintain the health and safety of all community members
	Material (promote)	Goal (health awareness)		to promote health awareness
	Material (urge)	Goal (individuals)		and to urge individuals
	Material (adopt)	Goal (healthy behaviors)		to adopt healthy behaviors
Actor (They)	Material (providing)	Goal (awareness)		They also include providing awareness tips and correct ways to healthy eating
	Material (taking)	Goal (antibiotics)		taking antibiotics
	Material (maintaining)	Goal (heart health)		maintaining heart health
	Material (promoting)	Goal (oral and dental health)		and promoting oral and dental health.
Actor (MOH's awareness-raising activities)	Material (come)		for visitors	MOH's awareness-raising activities for visitors come through the first health cluster in Riyadh.
It is	Relational (is)			It is worth
	Relational (include)			The activities include training visitors on first aid and life-saving
	Verbal (mentioning)			It is worth mentioning that

4.2. Text 2: “MOH issues health guidelines for protection from new Coronavirus”

The second news text entitled “MOH Issues Health Guidelines for Protection from New Coronavirus” was posted on January 28th, 2020. Unlike the transitivity analysis conducted in the 1st news text, there are five transitivity processes recognized in the 2nd news text. The distribution of five process types in the 2nd news text is described in Table 4. These patterns encompass material, mental,

verbal, relational, and behavioral processes. As illustrated in Table 4, it has been found that the material process type (55%) has been frequently utilized compared to the other process types. The verbal process comes in the second rank with the percentage (18%). Finally, the mental, relational, and behavioral processes share the same percentage (9%). It should be noted that the existential process type has not been deployed.

Table 4: Distribution of process types in the 2nd news text

Process types	Frequencies	Percentage
Material	24	55%
Mental	4	9%
Verbal	8	18%
Relational	4	9%
Behavioral	4	9%
Total	44	100%

Table 5 describes the transitivity analysis of process types used in the 2nd news text. From Table 5, it has been found that the material process types have been identified as the most frequent ones used in the 2nd news text compared with the other processes. It is interesting to note that the material process type in the 2nd news text is akin to the result found in the 1st news text. As for the mental process, the analysis reveals that this process lies in the third place. It should be noted that four verbs describe the mental process type, namely 'known,' 'experiences

(2),' and 'observing.' In addition, the results of the verbal process analysis show that this process ranks second. In this specific process, eight verbs represent this process type, namely, 'explained,' 'reiterated' 'touched on,' 'called on (2),' 'pointed out,' 'stressed,' and 'recommended.' The relational process type occupies the third position akin to mental and behavioral processes. In this process, the verbs deployed involve 'are,' 'be,' and 'remain (2).' Like the early two process types (mental and relational processes), the behavioral process type has the same

rank. It is interesting to indicate that the verbs used are as follows: ‘Suffering (2),’ ‘coughing,’ and ‘sneezing.’

Table 5: Transitivity analysis of process types used in the 2nd news text

Participant	Process	Participant	Circumstance	Clause
Actor (The Ministry of Health (MOH))	Material (has intensified)	Goal (its health awareness efforts)		The Ministry of Health (MOH) has intensified its health awareness efforts
	Material (meant)	Goal (health awareness efforts)		meant to
	Material (address)	Goal (the new coronavirus)		address the new coronavirus (known as 2019-nCoV)
	Material (posted)	Goal (an infographic)	at its Twitter account	In an infographic recently posted on its Twitter account
	Material (protect)	Goal (oneself)	from the 2019-nCoV infection	the Ministry explained how to protect oneself from the 2019-nCoV infection
	Material (posted)	Goal (a video)	at the same account	In a video posted at the same account
Actor (MOH)	Material (provided)	Goal (an overview of the 2019-nCoV)		MOH provided an overview of the 2019-nCoV
Actor (the 2019-nCoV)	Material (emerged)		in China	the 2019-nCoV, which has recently emerged in China
	Material (causes)	Goal (varying degrees of respiratory infection)		and which causes varying degrees of respiratory infection
	Material (associated)	Goal (the symptoms)		The video touched on the symptoms associated with virus
Actor (it)	Material (develops)	Goal (pneumonia)	In some cases	In some cases, it develops pneumonia
Actor (The virus)	Material (develop)	Goal (serious complications)		The virus may also develop serious complications
	Material (seek)	Goal (medical attention)		to seek medical attention
	Material (heading)		to the nearest healthcare center	by heading to the nearest healthcare center.
	Material (is transmitted)	Goal (2019-nCoV infection)		According to MOH, 2019-nCoV infection is transmitted from one infected person to another through close, unprotected contact.
Actor (no specific medication or vaccine for the virus)	Material (has been developed)			To date, MOH pointed out that no specific medication or vaccine for the virus has been developed
Actor (MOH)	Material (has issued)	Goal (guidelines for the passengers)		Noteworthy, MOH has issued guidelines for the passengers
Actor (passengers)	Material (heading)		to the regions stricken by 2019-nCoV	for the passengers heading to the regions stricken by 2019-nCoV
Actor (the Ministry)	Material (discouraged)	Goal (against contact with animals)		As part of those guidelines, the Ministry discouraged contact with animals (alive or dead), animal products
Actor (anyone)	Material (stay)		At home	anyone who experiences respiratory symptoms to stay at home
	Material (avoid)	Goal (contact)		avoid contact with others
	Material (refrain)			and refrain from traveling
	Material (covering)	Goal (the mouth and nose)	with napkins	As well as covering the mouth and nose
	Material (washing)	Goal (the hands with water and soap)	for at least 20 seconds	washing the hands with water and soap for at least 20 seconds, or with alcohol disinfectants
Senser (anybody)	Mental (known)	Phenomenon (the onset of those symptoms)		known as: 2019-nCoV
	Mental (experiences)	Phenomenon (the onset of those symptoms)		anybody who experiences the onset of those symptoms
	Mental (observing)	Phenomenon (the recommended preventive measures)		though, by observing the recommended preventive measures.
Senser (anyone)	Mental(experiences)	Phenomenon (respiratory symptoms)		anyone who experiences respiratory symptoms
Sayer (the Ministry)	Verbal (explained)	Verbiage (how to protect oneself from the 2019-nCoV infection)		the Ministry explained how to protect oneself from the 2019-nCoV infection
Sayer (It)	Verbal (reiterated)	Verbiage (the importance of taking precautions and preventive measures)		It reiterated the importance of taking the precautions and preventive measures against respiratory infections in general
Sayer (The video)	Verbal (touched on)	Verbiage (the symptoms associated with virus)		The video touched on the symptoms associated with virus, most notably: fever, cough, and shortness of breath
Sayer (MOH)	Verbal (called on)	Verbiage (anybody)	In the video	In the video, MOH called on anybody
Sayer (MOH)	Verbal (pointed out)		To date	To date, MOH pointed out, no specific medication or vaccine for the virus
Sayer (MOH)	Verbal (stressed)	Verbiage (Intensive medical healthcare and treatment of the symptoms remain the best way to address infection)		Intensive medical healthcare and treatment of the symptoms remain the best way to address infection, MOH stressed
Sayer (MOH)	Verbal (called on)	Verbiage (anybody)		MOH called on anyone
Sayer (It)	Verbal (recommended)			It also recommended washing the hands with water and soap
Carrier (Washing hands with water and soap and covering the mouth and nose)	Relational (are)	Attribute (among the most fundamental of those preventive measures)		Washing hands with water and soap and covering the mouth and nose when coughing or sneezing are among the most fundamental of those preventive measures
Carrier (It)	Relational (be)			It can be avoided, though, by observing the recommended preventive measures
Carrier (Intensive medical healthcare, and treatment of the symptoms)	Relational (remain)	Attribute (the best way to address infection)		Intensive medical healthcare and treatment of the symptoms remain the best way to address infection
Carrier (the symptoms)	Relational (remain)			for as long as the symptoms remain
Behaver (those)	Behavioral (suffering)			for those suffering from immunodeficiency or chronic diseases
Behaver (persons)	Behavioral (suffering)			or contact with the person suffering respiratory symptoms
Behaver (anyone)	Behavioral (coughing)			as well as covering the mouth and nose with napkins
Behaver (anyone)	Behavioral (sneezing)			when coughing or sneezing

5. Discussion

The current paper adopted the systemic functional grammar theory offered by Halliday (1978) in order to examine the transitivity process types in news texts presented by the Saudi Ministry of Health on its official website before and during the COVID-19 pandemic. The purpose of this paper was to examine how this situation influenced the communication discourse pertaining to news texts

published on the website of the Saudi Ministry of Health. To evaluate the influence of the coronavirus pandemic on the communicational discourse, this paper made a comparison of the transitivity process types (verbs in the clauses) between the news text introduced before the coronavirus outbreak (COVID-19) in December 2019 and the news text introduced during the pandemic. Interestingly, the analysis process focused on highlighting the transitivity process types as described by the verbs provided in

both news texts. Renkema (2004) confirmed that verbs are critical components of a clause according to transitivity theory; they express the roles of participants as well as the act of the situation in which discourse can be tackled and constructed. Hence, the influence of this unusual situation on communication discourse on the website of the Saudi Ministry of Health has been accentuated. For instance, both news texts adopt relational processes; this indicates that the descriptive theme proposed by both texts provided on the website of the Saudi Ministry of Health has been emphasized. Utilizing relation processes, the function of descriptive text is rendering meanings to highlight the precautionary safety measures. Unlike the first news text, it is important that the second news text contains the behavioral process. Halliday et al. (2014) claimed that behavioral processes "represent outer manifestations of inner workings, the acting out of processes of consciousness and physiological states." This implies that awareness and action should be significantly pinpointed.

As for the research question entitled 'what are the types of processes that are more frequently utilized in the Saudi Ministry of health news texts published before and during the pandemic of coronavirus?', the results showed that there are only three types of processes, namely material, verbal, and relational existed in the 1st news text. It is interesting to indicate that the material process gained a more predominant part (79%) compared to verbal (7%) and relational (14%) processes. Thus, the material, verbal, and relational processes occur 11, 1, and 2 times respectively in the 1st news text, while in the 2nd news text the occurrence of material and verbal processes are 24 and 8 times respectively and the same proportion represented by 4 times shared by mental, relational, and behavioral processes.

In other words, the occurrence of material process in the 1st news text is higher (11 examples out of 14 with a percentage of 79%) than in the 2nd news text (24 examples out of 44 with a percentage of 55%). In addition to the material process, it is important to note that more process types—namely mental, verbal, relational, and behavioral processes—have been given critical parts in the 2nd news text to highlight the serious situation, whereas only two processes types—namely verbal and relational—exist in the 1st news text. It should be noted that the behavioral process in the 2nd news text particularly accentuates the psychological and physiological conduct or behavior of humans. Not being included within the 1st news text implies that the 2nd news text actually concerns the way people should behave in such a serious pandemic. In addition, the adoption of mental processes in the 2nd news text emphasized the awareness and consciousness of people on the pandemic.

In brief, the results showed that the most frequent process employed in the two news texts provided by the Saudi Ministry of Health's official website has been the material process. This evidence

is consistent with the results that exist in the studies conducted by Alhumsi et al. (2021), Zhao and Zhang (2017), and Darani (2014). Given that the scale of 35 examples out of the total of 58 in the two news texts representing 60% over the other process types implies the predominant material process. In addition, this means that both news texts have been interested in events and actions, rendering the communication message popular in Saudi Arabia via the website of the Ministry of Health. Hence, the material process has been repeatedly adopted in such critical events. Eggins (2004) contended that actions are needed and have to be taken in certain situations.

Unlike the title of the 1st news text (MOH: Awareness-Raising Activities at the Boulevard Riyadh), the title of the 2nd news text (MOH Issues Health Guidelines for Protection from New Coronavirus) witnessed a radical shift in addressing the seriousness of the coronavirus pandemic. For example, verbs that existed in the 1st news text are employed in normal discourse, expressing the nature of the work of health institutions. Some of the clauses used in the material process include: [has continued organizing awareness-raising activities], [come in continuation of MOH's efforts], [promote health awareness], and [providing awareness tips and correct ways about healthy eating]. The relational process involves the following clause: [The activities include training visitors]. Finally, the verbal process can be described by the following clause: [It is worth mentioning that]. This suggests that the verbs in bold are commonly used in the discourse communication among health providers and their institutions as well.

Concerning the 2nd news text, the process types prove the impact of this extraordinary situation. For instance, some clauses employed in the material process involve [address the new coronavirus], [how to protect oneself from the 2019-nCoV infection], [MOH provided an overview of the 2019-nCoV], [it develops pneumonia], [MOH has issued guidelines for the passengers] and [avoid contact with others]. According to Beare (2019), such verbs in bold are used to refer to health measures. The mental process encompasses verbs such as [known as 2019-nCoV], [anybody who experiences the onset of those symptoms], and [by observing the recommended preventive measures]. Also, some of the verbal processes are represented by the verbs described in bold in clauses involving: [the Ministry explained how to protect oneself from the 2019-nCoV infection], [It reiterated the importance of taking the precautions and preventive measures], [The video touched on the symptoms associated with virus], and [It also recommended washing the hands with water and soap]. This specific process reveals what the Ministry of Health in Saudi Arabia assures how individuals protect themselves by taking precautions and preventive measures.

In terms of behavioral and relational processes, the purpose and function of the 2nd news text try to assist the individuals of the society physiologically

and psychologically in recognizing and identifying the critical pandemic. For example, some of the behavioral processes can be described as the verbs highlighted in bold in clauses including [as well as covering the mouth and nose with napkins when coughing or sneezing]. Another example that represents the relation process described by the verbs in bold is as follows: [Washing hands with water and soap and covering the mouth and nose when coughing or sneezing are among the most fundamental of those preventive measures].

6. Conclusion, recommendation, and further studies

The current study has applied the transitivity theory to analyze and investigate the impact of COVID-19 on the discourse of text news related to public health. Interestingly, it compared and analyzed the verbs in the clauses appearing in the process types in the two news texts published on the Saudi Ministry of Health website. Halliday and Webster (2014) confirmed that the selection of verbs impacts the process type and participants' function in a clause. In the light of the findings of this paper, it has been found the material process has been frequently used in health discourse aiming to render tangible actions. In both news texts produced by the Saudi Ministry of Health website, the variant percentages of distinct process types propose that the Saudi Ministry of Health comprehensively expressed the extraordinary condition. For example, the clauses in the 2nd news text have been carefully and appropriately selected for this specific situation. Besides, the absence of mental and behavioral processes implies that the 1st news text lacks information on individuals' awareness and the conduct they should apply when confronting a pandemic.

All in all, the findings revealed that the whole process types in both news texts are described in obvious and declarative forms. The procedures and measures are identified, undertaken, and expressed in a real context, addressing Awareness-Raising Activities and Health Guidelines for Protection from New Coronavirus to individuals. Additionally, the percentages of different process types in both news texts are different and this is probably due to the unusual situation caused by the coronavirus disease.

In comparison with other studies, this paper significantly tackles the effects of MOH health guidelines news during the coronavirus pandemic by using transitivity analysis on news texts. In the healthcare system, discourse analysis plays a pivotal role as a qualitative method since the healthcare system requires substantial involvement in communication relating to news texts. To improve the quality of communication in the context of health care, this study provides a better understanding of transitivity process types related to news texts during this pandemic.

This paper has some limitations pertaining to the small size of the sample adopted-only two news texts

on the website of the Saudi Ministry of Health—as well as the methodology of analysis that only tackled process types without taking into account the participants' roles and the circumstances, representing two important elements of the transitivity theory. Nonetheless, this issue probably inspires other researchers to conduct further investigation. Thus, the researchers recommend that both components potentially provide additional enlightenment in the analysis of the transitivity system.

Compliance with ethical standards

Conflict of interest

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

References

- Al-Ghamdi NA (2021). Ideological representation of fear and hope in online newspaper reports on COVID-19 in Saudi Arabia. *Heliyon*, 7(4): e06864. <https://doi.org/10.1016/j.heliyon.2021.e06864> PMID:33997397 PMCID:PMC8102415
- Alhumsi MH, Suliman EA, Sendi KK, and Alshaye RA (2021). Transitivity analysis of university news texts during the coronavirus pandemic: Transitivity analysis of university news texts. *Argentinian Journal of Applied Linguistics*, 9(2): 2314-3576.
- Alshammari TM, Altebainawi AF, and Alenzi KA (2020). Importance of early precautionary actions in avoiding the spread of COVID-19: Saudi Arabia as an example. *Saudi Pharmaceutical Journal*, 28(7): 898-902. <https://doi.org/10.1016/j.jsps.2020.05.005> PMID:32641902 PMCID:PMC7242187
- Al-Tawfiq JA and Memish ZA (2020). COVID-19 in the Eastern Mediterranean region and Saudi Arabia: Prevention and therapeutic strategies. *International Journal of Antimicrobial Agents*, 55(5): 105968. <https://doi.org/10.1016/j.ijantimicag.2020.105968> PMID:32259576 PMCID:PMC7271262
- Anderson RM, Heesterbeek H, Klinkenberg D, and Hollingsworth TD (2020). How will country-based mitigation measures influence the course of the COVID-19 epidemic? *The Lancet*, 395(10228): 931-934. [https://doi.org/10.1016/S0140-6736\(20\)30567-5](https://doi.org/10.1016/S0140-6736(20)30567-5)
- Banks D (2002). Systemic functional linguistics as a model for text analysis. *ASP*, (35-36): 23-34. <https://doi.org/10.4000/asp.1584>
- Bartley LV (2018). Justice demands that you find this man not guilty: A transitivity analysis of the closing arguments of a rape case that resulted in a wrongful conviction. *International Journal of Applied Linguistics*, 28(3): 480-495. <https://doi.org/10.1111/ijal.12227>
- Beare K (2019). Nursing and healthcare English vocabulary. ThoughtCo. Available online at: <https://www.thoughtco.com/nursing-and-healthcare-vocabulary-1210353>
- Cheng C, Barceló J, Hartnett AS, Kubinec R, and Messerschmidt L (2020). COVID-19 government response event dataset (CoronaNet v. 1.0). *Nature Human Behaviour*, 4: 756-768. <https://doi.org/10.1038/s41562-020-0909-7> PMID:32576982

- Darani LH (2014). Persuasive style and its realization through transitivity analysis: A SFL perspective. *Procedia-Social and Behavioral Sciences*, 158: 179-186.
<https://doi.org/10.1016/j.sbspro.2014.12.066>
- Eggins S (2004). *Introduction to systemic functional linguistics*. A&C Black, London, UK.
- Halliday MA (1967). Notes on transitivity and theme in English: Part 2. *Journal of Linguistics*, 3(2): 199-244.
<https://doi.org/10.1017/S0022226700016613>
- Halliday MA (2000). *An introduction to functional grammar*. Foreign Language Teaching and Research Press, Beijing, China.
- Halliday MAK (1978). *Language as social semiotic: The social interpretation of language and meaning*. Hodder Education, London, UK.
- Halliday MAK and Webster JJ (2014). *Text linguistics: The how and why of meaning*. Equinox Publishing Ltd., London, UK.
- Halliday MAK, Matthiessen CM, Halliday M, and Matthiessen C (2014). *An introduction to functional grammar*. 3rd Edition, Routledge, London, UK.
<https://doi.org/10.4324/9780203783771>
- Jabeen D, Rahim I, Iftikhar R, Rafiullah M, and Ansari M (2022). Regression modeling and correlation analysis spread of COVID-19 data for Pakistan. *International Journal of Advanced and Applied Sciences*, 9(3): 71-81.
<https://doi.org/10.21833/ijaas.2022.03.009>
- Renkema J (2004). *Introduction to discourse studies*. John Benjamins Publishing, Amsterdam, Netherland.
<https://doi.org/10.1075/z.124>
- Sasot CF, Nicomedes CJC, Marcos RG, Perez AJD, Aganan JB, and Fernando MMM (2020). A discourse analysis on class cancellations during the COVID-19 pandemic.
<https://doi.org/10.13140/RG.2.2.34571.03364>
- Tian X (2018). Critical discourse analysis of news reports-based on the guardian news report of China's military parade to mark the 70 years of second world war. *Theory and Practice in Language Studies*, 8(4): 433-444.
<https://doi.org/10.17507/tpls.0804.11>
- van Dijk TA (1993). Principles of critical discourse analysis. *Discourse and Society*, 4(2): 249-283.
<https://doi.org/10.1177/0957926593004002006>
- van Dijk TA (2011). Discourse, knowledge, power and politics. In: Hart C (Ed.), *Critical discourse studies in context and cognition*: 27-63. Volume 43, John Benjamins Publishing, Amsterdam, Netherlands.
<https://doi.org/10.1075/dapsac.43.03van>
- Walliman N (2010). *Research methods: The basics*. Routledge, London, UK. <https://doi.org/10.4324/9780203836071>
- WHO (2020). WHO COVID-19 dashboard. World Health Organization, Geneva, Switzerland.
- WHO (2021). Coronavirus disease (COVID-2019) situation reports. World Health Organization, Geneva, Switzerland.
- Willig C (2008). *Introducing qualitative research in psychology*. 2nd Edition, Open University Press (McGraw-Hill), New York, USA.
- Yang P and Wang X (2020). COVID-19: A new challenge for human beings. *Cellular and Molecular Immunology*, 17(5): 555-557.
<https://doi.org/10.1038/s41423-020-0407-x>
PMid:32235915 PMCID:PMC7110263
- Yazdannik A, Yousefy A, and Mohammadi S (2017). Discourse analysis: A useful methodology for health-care system researches. *Journal of Education and Health Promotion*, 6: 111.
https://doi.org/10.4103/jehp.jehp_124_15
PMid:29296612 PMCID:PMC5747223
- Yule C U (2014). *The statistical study of literary vocabulary*. Cambridge University Press, Cambridge, UK.
- Zhao M and Zhang Y (2017). A transitivity analysis of American President Donald J. Trump's inaugural address. *International Journal of Liberal Arts and Social Science*, 5(5): 31-43.