

A Phonological-Pragmatic Analysis of the Saudi Ministry of Health Official Spokesperson's Speech on COVID-19

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Author's contribution

The sole author designed, analyzed, interpreted and prepared the manuscript.

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ABSTRACT

The aim of this study is to investigate the pragmatic functions of the proclaiming and referring information tones employed in COVID-19's speech by the Saudi Ministry of Health (MOH) official spokesperson in relation to termination. Moreover, the study examines if the termination component could relate to dominance-non-dominance factors based on Brazil's model [1]. 13 speech excerpts were selected from The Saudi (MOH) spokesperson's speech based on four information criteria chosen for the study. 127 tone units were analyzed acoustically and intonation contours, mean pitch and intensity values were obtained by using Praat's autocorrelation algorithm with a pitch range of 100-500Hz. Results show that the most frequently used tone by the speaker was the (rise) referring+ tone with high pitch value. The dominance factor was higher than the non-dominance factor, which indicates that the speaker was the controller of the discourse as most of his speech carried additive and contrastive information. High termination pitch level correlates with the dominance factor, while high termination intensity level correlates with the non-dominance factor. This study could highlight the importance of intonation as a communicative tool to carry implicit meanings.

Keywords: COVID-19; discourse intonation; proclaiming/referring tone; pitch; intensity.

1. INTRODUCTION

Coronavirus has spread around the whole world and has fast become a threat that all countries are trying to overcome. This pandemic has urged not only healthcare institutions to intervene and find eradicating vaccines, but also linguists to create and implement new words, acronyms and strategies that relate to the situation of covid-19. Thus, discourse intonation could be an effective tool to reflect and analyze attitudes and opinions of the people in charge. In addition, it could help the public comprehend and interact with the complex events around them. As the Kingdom of Saudi Arabia was one of the first leading countries to provide healthcare at all levels, this study is an attempt to present the responsible role of the Saudi (MOH) in monitoring the performance of Saudi health public and private institutions. Moreover, it intends to help readers understand the relation between language and community with regard to covid-19 pandemic. Intonation is an important aspect of non-verbal language that can affect word meaning through the pragmatic aspect of discourse. Discourse intonation research is mainly concerned with the study of the function of intonation beyond the sentence level [2]. However, not much attention has been given to the pragmatic uses of intonation. Discourse intonation was developed by Brazil [3] in terms of user, its function in context, and its communicative value [4]. Intonation plays a crucial role in conveying the meaning of context, particularly the pragmatic sense of discourse. Studies have shown that not much attention has been given to the language pragmatic uses of intonation. Vilches [5] has studied the form, meaning, and function of intonation which deals with stretches within the level of sentence, in other words, discourse intonation. Brazil [1] focused on discourse intonation in terms of user, its function in context and its communicative value. The importance of this study shows how the meaning and function of the components of Brazil's [1] discourse intonation model could affect the pragmatic functions intended in covid-19's speech by the Saudi MOH spokesperson. The study examines the use of proclaiming and referring tones in relation to the meaning conveyed. Also, it intends to investigate the intonation dominance role of the speaker based on the pitch and intensity of termination. The importance of this study is to investigate how the components of Brazil's [1] discourse intonation model could reveal the

pragmatic functions of the proclaiming and referring tones employed in the speech of the Saudi (MOH) spokesperson on covid-19 pandemic and how information tones could relate to dominance-non-dominance factors [3].

2. RESEARCH QUESTIONS

1. What are the most frequently used information tones in covid-19's speech by the Saudi (MOH) spokesperson?
2. What are the pragmatic functions of the information tones used in covid-19's speech by the Saudi (MOH) spokesperson?
3. Is there a correlation between the proclaiming/referring tones used and the dominance/non-dominance factors?
4. Do pitch and intensity levels of termination suggest pragmatic tone-specific effects in covid-19's speech by the Saudi (MOH) spokesperson?

3. LITERATURE REVIEW

Studies were conducted to discourse intonation in relation to pedagogical aspects such as Goh [5], who described Singaporean intonation features from a communicative perspective. The results show that intonation is affected by the linguistic environment in which English is acquired. Kumaki [6] applied Brazil's [1] discourse intonation model on EFL learners in Japan and discovered that intonation use is based on grammatical approach and not discourse. Hitotuzi [7] found out that teaching intonation to non-native learners of English is challenging because of target language linguistic experience. He investigated the Chinese EFL learner's intonation in interactive context and his findings showed that the application of tone is different compared to English language. Vilches [2] studied teaching English to Spanish speakers within the discourse mode of L2 oral presentation and he found that most learners fail to use the appropriate pragmatic functions to express dominance and control in L2 oral presentation. Other studies investigated discourse intonation in political aspects such as Herczeg-Deli [8] and Selting [9]. Their studies, which focused on political interviews, showed that prominence and tone are vital in communicative role of an utterance and that the function of the referring tones can attract the listener's attention. The problem of intonation for the users of English as

a second language has been accounted for in various ways. For example, Roach [10] has argued that the supra-segmental features, of which intonation is a major component, are generally more elusive than the segmental and are therefore more inherently difficult to learn for foreign learners. As further observed, the supra-segmental features, particularly intonation, are much less researched and are, consequently, much less taught than the segmental aspects of English. Intonation also remains the most neglected in second language acquisition research in general, for, as observed by Beaken [11], it has only recently begun to be seriously and systematically taken into account both in the literature devoted to foreign language learning and in teaching itself. That situation is very true of intonation, as it is of all the other prosodies of English in Nigerian school education [11]. Consequently, Selting [12], after an examination of the form and the frequency of intonation patterns in educated Nigerian spoken English concludes that certain patterns having a high frequency, constitute a system in Nigerian usage differing in important respects from native-speaker systems, though lacking stability. Adejuwon [12] also found that a majority of the radio newscasters in South-western Nigeria neither understood the intonation tunes that were played back to them, nor did they employ such tones in their own newscasts. One of the sources of the difficulty of English intonation for the foreign learner is, no doubt, the undue emphasis placed, in teaching, on its structural analysis rather than on its communicative value in EL2 programs. Thus, the notions of tonality, tonicity and the tone group [5], also variously designated as the intonational phrase, phonological clause or sense group [13] are introduced to the foreign learner in that structuralist analysis expounded by Pike [14], Roach [10], Kingdon [15] and Arnold [16], to mention a few classic examples. Consequently, the description of tone (a misnomer for intonation types or tunes) as rising and falling, with many complex configurations such as 'fall-rise', 'falling to mid', and 'low rising' [17] confuses the EL2 learner, whose primary business, like that of the non-linguist native speaker's, is to use English intonation appropriately in everyday communication. Nor do the notions of tone group, foot and syllable help the non-native user of English to understand the language better [17]. Even more perplexing is the demarcation of the tone group's internal structure into the obligatory nucleus (the tonic or nuclear syllable) and the optional Head, Pre-head and Tail. As reported in an experiment [5], a great

deal of disagreement exists, even amongst trained phoneticians, on the identification of the tonic in sentences recorded from Edinburgh Scottish English speakers. In a nutshell, the adoption of the structuralist framework for teaching intonation to learners of English as a second language, which is in vogue in many a university lecture hall today, may have achieved little success. It is hoped that the present study could give phonological-pragmatic insights that would help ESL learners interact more effectively by understanding the communicative functions of intonation.

3.1 Discourse Intonation Approach DI

Brazil's [1] model arose from the British school and was based on Halliday's work [17]. According to this model, intonation has a discourse function. Speakers make intonation selections based on an understanding between the speaker and their interlocutors. This approach considers intonation as a system of choices whereby speakers develop meaning for the recipients in the interaction process. Mainly, the DI model divides any speech into tone units, with each unit having one or two prominent syllables. The first syllable is called "onset," and the second is called a tonic syllable. Prominent syllables are often longer and louder, and can be heard clearer than other parts of the spoken discourse. All tone units together make what Brazil calls a pitch sequence. When speakers start a new tone unit, they make a choice from one of the four systems by which meaning can be produced: prominence, tone, key and termination. The tone is the pitch movement that appears on the last prominent word in a tone unit and over the tonic syllable. Speakers indicate this system by choosing between five tones: falling, fall-rise, rise-fall, rising, and level. On the speaker's evaluation, tone carries significant communicative value due to the association between the message and the audience. According to the DI model, fall-rise and rise tones are considered referring tones. They frequently indicate that what is being said is already shared information. Rise-fall and fall are considered proclaiming tones, indicating that the information given is new. Finally, the level tone shows that the speaker is directing the exact words, leaving any interactional activity for the moment. Brazil [3] distinguishes the speaker's role when using the tones according to whether speakers are dominant and non-dominant. The dominant speaker is the speaker who plays the governing role in the discourse. The speaker may use the

referring tone (rise-fall, rise) to control the discourse. In contrast, the non-dominant speaker can use the proclaiming tone (fall-rise, fall), and the speaker will not play the controlling role. Prominence is the important word in context. Speakers produce prominence to show that certain words are more important than others. Speakers indicate prominence by making the word longer, louder, or lower or higher in pitch than the surrounding words. According to Beaken [11], the first prominent syllable in the tone unit is the onset, called the key, whereas the final prominent syllable in the tone unit is the tonic syllable, the termination. Key is the relative pitch of onset syllables. Speakers choose a low key to indicate that "what I will say is equal to what I have just said". In contrast, high key indicates surprise, disagreement with expectations, or minimal connection to what has just been said. Mid key implies that the tone unit is adding information to what has already been said and Pressure for the audience to agree with it. Termination is the pitch of the last tonic syllables relative to the onset syllable in the same tone unit. In monologue discourse, it tells the speaker's expectations concerning the audience's reaction. Generally, high termination implies that the audience is expected to have an active role. In the case of questions, a high termination displays that the listener is expected to judge the speaker. Mid termination, instead,

shows that the audience is expected to have a passive role, which is a sign of speaker dominance. It indicates that the audience is expected to agree with the speaker without further argument. Low termination implies no expectations at all.

In this study, the speech of the Saudi (MOH) spokesperson's on covid-19 was analyzed based on Brazil's discourse intonation model [1]. It focused mainly on showing the type and function of information by examining the proclaiming, referring tones in relation the termination. In addition, it explored the role of the speaker as dominant or non-dominant in his given speech. Simple quantitative data are added o the qualitative analysis to highlight the frequencies of the most important components of Brazil's model used in the study. Tone units are selected from the excerpts of the speech to be analyzed acoustically by Praat software to show the pitch and intensity values of the tonic syllables (terminations). The study focused on identifying the termination rather than the key as it shows the kind of tone in the tone unit and its function in relation to the role of the speaker in the discourse. This was stated by (Roach, 2009) as he mentioned that the termination is the most important component in TU as it represents the tonic syllable and it is the only obligatory component in the TU.

Table 1. Meanings of key termination based on Brazil's model

Pitch level of key	Meaning	Pitch level of termination	Meaning
High key ↑	Contrast	High termination↑	Invitation to adjudicate
Mid-key →	Agreement	Mid-termination→	Pressure to agree
Low key ↓	Equivalence	Low termination↓	Equivalence

Source: Brazil [1]

Table 2. The meanings of tone types based on the Brazil model

Type of Tone	Symbol	Meaning
Proclaiming (p)	fall ↘	Unshared information (divergence between participants)
Proclaiming plus tone (p+)	rise-fall ↗↘	Unshared information (divergence between participants) and dominance
Referring (r)	fall-rise ↘↗	Shared information(convergence between participants)
Referring plus tone (r+)	rise ↗	Shared information (convergence between participants) and dominance
Level tone	(o) →	Formulaic(routine)

Source: Brazil [1]

4. RESEARCH METHODOLOGY

The study used a qualitative methodology. The data included a covid-19 interview that took place in 2020 and lasted for about 20 minutes which was collected via online YouTube video [18]. The interview covered covid-19 pandemic updates and how Saudi Arabia has started multiple and series of interventions to protect its community. Thirteen speech excerpts were selected from Dr. Alabdualai's speech. The excerpts were analyzed into 127 tone units based on Shitwi, Ali, and Kalil's criteria [19] for data selection after modifying it to match the topic issue under study. These criteria are as follows:

1. The data includes challenging issues: covid-19, corona virus vaccine, government policies, ministry regulations
2. The selected excerpts show the Saudi (MOH) official spokesperson's covid-19 updates of the ministry's interventions and recommendations to protect the community
3. The selected excerpts contain variations in pitch movement (high, mid, low, level) to determine the pitch level in relation to the type of information in the discourse
4. The selected excerpts contain different kinds of utterances (short and long) to obtain variations in the results

Intonation contours, mean pitch and intensity values were obtained using Praat's autocorrelation algorithm with a pitch range of 100-500Hz, with manual correction to remove spurious F0 values caused by doubling or halving the first harmonic. To ensure the reliability and validity of this study, the researcher consulted two of her colleagues who are native speakers of English and have doctoral degrees in linguistics, particularly phonetics and phonology. There are multiples functions that can

be obtained by using this program but, for the purpose of this study, the use of pitch and intensity will be focused on, because in the case of pitch it will show intonation contours, and the intensity will indicate the place and force where the stress is put in the sentences. Following Brazil's [1] discourse intonation model, the prominent syllables are capitalized, and tonic syllables are capitalized and underlined. Arrows indicate the tones (proclaiming, referring, and level) immediately after the initial boundary sign. The pitch level of termination (the final tonic syllable in the tone unit) will be analyzed and arrows are placed before the tonic syllables.

5. RESULTS AND DISCUSSION

For the purpose of this study, 13 excerpts were collected from the Saudi (MOH) spokesperson's speech on covid-19. These excerpts were analyzed acoustically in accordance with Brazil's [1] model of discourse intonation rendering the current study as mainly qualitative. Under the light of Brazil's model [1], the study aims to analyze the data acoustically to identify informational function of tones in regard to the status of information, new or given, and in relation to termination and its associative meanings. For this purpose, a qualitative mixed approach is used. First, the data were analyzed acoustically using the Praat software to obtain the pitch and intensity value of the termination at the final prominent syllable, that is the tonic syllable, within each tone unit of each excerpt. Next, each tone unit was analyzed according to Brazil's [1] model of discourse intonation to identify the tone types of each tonic syllable to show whether it is classified as a proclaiming or a referring tone. Below is an example of two tone units selected from an excerpt in the Saudi (MOH) spokesperson's speech that illustrates pitch and intensity: "all the time we remain".

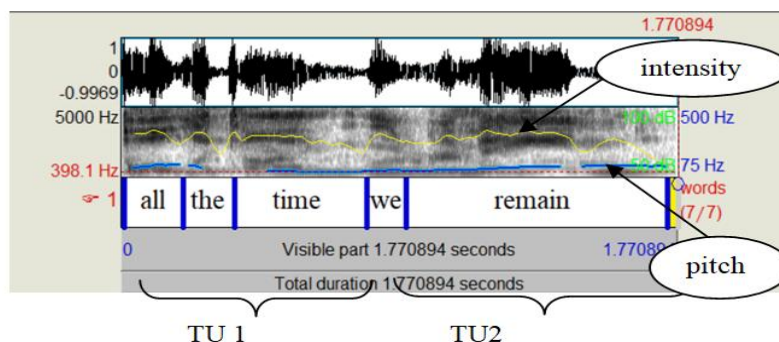


Fig. 1. a selected sample of praat analysis of the tone unit boundaries, pitch and intensity in Dr. Alabdulaail's speech

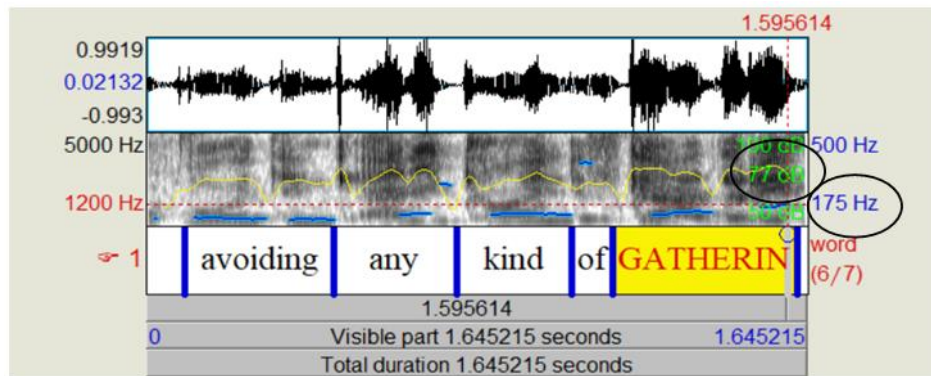


Fig. 2. Pitch and intensity value of termination

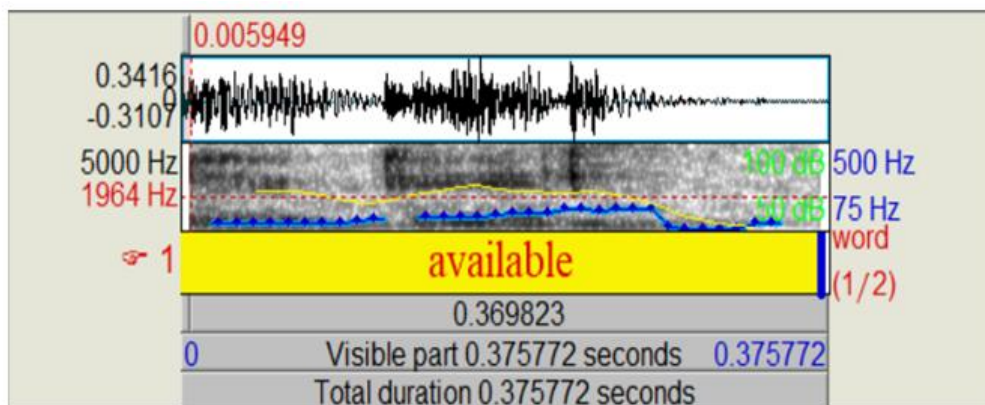


Fig. 3. A sample of a (fall-rise) referring pitch contour

The study focused on identifying the termination rather than the key as it has an essential part in identifying the tone used in the tone unit by which the type and function of the used tone together with the role of the speaker are determined in the discourse [10]. The termination is claimed to be the most important component in a TU because it represents the tonic syllable and it is the only obligatory component in a TU [10]. Tone height can be defined as the pitch height of the vowel in a prominent syllable measured in (Hz) [20].

As the analysis indicated, in his covid-19's speech, the Saudi (MOH) spokesperson, had the tendency to use both referring proclaiming tones with different percentages. In this manner, his speech appeared to predominantly deliver both new and additional as well as shared information to the audience. The following figure shows an example of a (fall-rise) referring (r) tone that has been frequently used in the speech. This tone indicated shared information most of the time with meanings of indefiniteness as the analysis of excerpts illustrated.

Excerpt 1:

All the time. we'll remain hoping for vaccines to eradicate any kind of disease and to protect the humanity from illness and sicknesses that germs are causing.

In the context of excerpt (1), Dr. Alabdulaali described the state of the (MOH) as it remained hopeful that a vaccine will soon be available to end the suffering of covid-19 pandemic. In TUs (1-3), the words "time, remain, eradicate " ended with a (rise) referring plus (r+) tone indicating continuity of shared information and length of time in the process of waiting of a cure. In the TUs (4-6), even though the idea of the disease was not new, but the assumption that the vaccine was hoped to cure any kind of upcoming disease to protect humanity from illness was unshared and new. By doing so, the speaker used a (fall) proclaiming (p) tone to move from exclusion of disease to inclusion of other kinds of disease. However, a (r+) tone was used in the last tone unit (7) ,"causing" , to indicate the shared idea of continuity of the spreading of disease caused by germs until a vaccine is to be found.

Excerpt 2:

However, we don't expect till months to come that a vaccine will be available

The speaker stressed on the first tonic syllable "however" with a (rise) referring plus (r+) tone to illuminate to continuous hope that was given in the first excerpt, finding a vaccine, as most people knew from the news that this vaccine would not come instantly. The words "expect, come" ended with a (fall-rise) referring (r) tones as the expectations of the cure were continuous, yet not definite. By using a (fall-rise) referring tone (r) on the tonic syllable "available", the speaker expressed a shared doubt of the availability of finding the right vaccine.

Excerpt 3:

Hopefully that they will fast track the usual stages and procedures that are required to approve a vaccine. But you will..we will .we are anticipating

The speaker used a (fall) proclaiming (p) tone as he started with unshared information of the fact that although the (MOH) doubts the availability of the vaccine, "fast tracking" the procedures to find it is something that people might not have known. The citizens might have thought that the government was just waiting without taking action. On the contrary, they were doing every possible thing to find a solution. The (fall-rise) referring (r) tones in the following tonic syllables "stages, vaccine, but, will", expressed the shared continuous anticipation and fear. However, the repetition of the word "will" in different tones reveals mixed feelings. In (TUs16-17), "will" was used with a (rise) referring plus (r+) and (rise-fall) proclaiming plus (p+) tones to express shared and unshared expectations as nothing is taken for granted. Everybody was hoping yet not positive about the future situation. Consequently, it was more appropriate to use the (rise) referring plus (r+) tone at the end of the excerpt's TU (18) "anticipating" to reflect the shared confusion of both, the speaker and his audience.

Excerpt 4:

In fact lots of announcements and news and releases that a vaccine is on the way. A trial is currently conducted. A company announcing a trial or a medication that's used on group of patients , These are all expected in this period. Yet, nothing at the moment is officially approved.

This part shows a sustained use of (rise-fall) proclaiming plus (p+) tones preceded and

followed by (rise) referring plus (r+) tones and finally ending the excerpt with a (fall) proclaiming (p). As the speaker started with a shared fact of the contiguous covid-19 virus, a (rise-fall) proclaiming plus (p+) was used to reflect the divergence of ideas among both parties (speaker and audience). The speaker released unshared information of what was happening behind the scene "announcements, releases, way, conducted, trial, used, patients" by using a (rise-fall) proclaiming plus (p+) tones. This was followed by (rise) referring plus (r+) tones to express the continuity of the critical "period" and the contradiction of positive action procedures versus negative and disapproved "results" , which ended in a (fall) proclaiming (p) tone to emphasize the unshared new information of not finding a cure.

Excerpt 5:

The kingdom, among few other countries were the first in.. mmmm.. making this test. These tests very sophisticated tests related to testing the genom and the genetics of the virus available. So, we have it at the kingdom and we are doing it according to a guideline that will not only cover the highly suspected cases even wider so we can screen good number of cases and this will give us you know high rate of detection.

The speaker tried to draw the interviewer's and the audience's attention to the forthcoming shared information about the "kingdom" of Saudi Arabia's effort regarding covid-19's procedures by using the (rise) referring plus (r+) tone. The new and unshared information that followed was that the kingdom was the "first" to make "tests". Both tonic syllables ended in a (fall) proclaiming (p) tone to express finality and definiteness. in (UTs 33-34), "tests" were further specified and described and assumed to be known by the audience by the use of the (rise) referring plus (r+) tones after the unshared idea of introducing tests (TU32). In (TU 35). A (fall-rise) referring (r) tone was used to build a common ground with the listeners as they were informed that the tests were related to the virus "genom" available". The probability of finding a successful vaccine was expressed by the fall-rise referring (r) tone. The speaker then gave a new idea about how these tests were done according to a guide "line" by using a (rise-fall) proclaiming plus (p+) tone. In the second use of the word "kingdom" in (TU37) with a (rise-fall) proclaiming plus (p+) tone, unlike the previous one in (TU 30) with a (fall-rise) referring plus (r+) tone, the rise-fall proclaiming

plus (p+) tone indicated unshared information that the vaccine tests were available in the kingdom, covering "highly" suspected cases. The word "cases" was introduced with two tones. The first one in (TU40) with a (rise) referring plus (r+) tone as everybody shared the fact of the existence of suspected cases of covid-19, while the second one was used with (rise-fall) proclaiming plus (p+) to indicate emphasis and unshared information, which was the "wide" ability of the kingdom to "detect" high rates of cases.

Excerpt 6:

And early rate of detection of cases. The capacity of health care services is monitored all the time to match any expected raise in the cases. We are not alone in this world. We are surrounded by multiple countries in the region or around the whole world globally.

The (rise) referring plus (r+) tones were used in the first introductory part (TUs 45-46) to indicate the shared information of detecting the virus in its early stages by Saudi healthcare. What was unknown was that this detection of virus was done all the time [(rise-fall) proclaiming plus (p+) tone]. This was done on purpose to trace the increase in number of cases, which everybody is aware of (r+). In addition, it is well known that this pandemic is worldwide, as every country and region was affected by it "globally" and continuously. Thus the (rise) referring plus (r+) tone was used to express the ongoing catastrophe.

Excerpt 7:

And the number of cases is increasing by day by hours in fact and ..and minutes and this increment we are not expecting that it will pass without stressing a little bet the health care services. However, managing the capacity making all the preparedness required will keep us inshallah in safe zone.

The speaker started and ended his speech with a (fall) proclaiming (p) tone as he introduced new and definite information to his audience. The number of cases is increasing "daily", however, the only way to be safe is to prepare ourselves for the consequences. Regardless of the fact that the fast spread of disease was expressed by the use of (rise) referring plus (r+) tones in (TUs 56-58), it was still doubtful that the "increment" with the use of (fall-rise) referring (r) would "pass" without "stressing" a little "bet", even though

people were quite aware of the effort made by the Saudi healthcare as shown in (TUs 63-65) by the use of rise referring plus (r+) tones.

Excerpt 8:

Around the whole world globally now we are passing through a pandemic the pandemia in this world is already announced by WHO in response not to this pandemic status, very early since the beginning of announcement of few cases that were detected in the beginning in China. The kingdom of Saudi Arabia started multiple and series of interventions to protect this community.

Most of the tones used were fall-rise referring (r) tones. This could be an indication of the shared feeling and information of doubt and hesitation that this covid-19 pandemic will end soon. Nevertheless, the unshared information was given a (fall) proclaiming (p) and (rise-fall) proclaiming plus (p+) tones in (TUs 68,71,7576,82,84) to indicate the "status" of "pandemia" that was announced by "WHO" very "early" and how "interventions" were made to protect this "country". (Rise) referring plus (r+) tones were used to add continuity to the news that was shared with the speaker's audience as the "pandemic" was still going on as it was "announced", and how the "response" of the world to "announcements" has been continuously strong to detect infections. As the disease was firstly announced in "China", Saudi "Arabia" was still waiting for news that could explain the cause of it. The (rise) referring plus r+ tones expressed the shared suspicion about the source of the "disease," "China".

Excerpt 9:

These protective measures for the whole community aiming to protect its public health are gaining so far multiple benefits a producing to us.

The (fall) proclaiming (p) tones were used to give unshared news, and how the Saudi people "us" would gain "benefits" from the protective "measures" set by healthcare during the pandemic. However, the fall-rise referring plus (r+) tones used in (TUs 85-87, 90) expressed uncertainty and hesitation of the credibility of the shared news.

Excerpt 10:

And we are monitoring and witnessing lots of good things at the moment hopefully inshallah that this would continue however.

The (fall) proclaiming (p) tones were used mostly in excerpt 10 (UTS 94-98) following the introductory use of the (rise) referring plus (r+) tone in (TU 93) in the preceding excerpt, was to indicate emphasis on the fact that the (MOH) was "monitoring" things that were not shared or announced. The (rise) referring plus tones expressed the hope of "witnessing" good "things" that would likely "continue", "however", the (fall) proclaiming (p) tone used at the end, indicated the definite unshared information of the improbability of finding a cure in the near future.

Excerpt 11:

All this efforts that the government is implementing similar only to few other countries in the world gonna be totally dependent on the responses in individuals and the compliance of individuals to the recommendation that ministry of health are announcing and outreaching all the community with

The (rise) referring plus (r+) tone was used at the beginning to draw the audience's attention to the "efforts" (TU99) made by the government. What was not known was how the public "health's" efforts were "totally" [with a (fall) proclaiming (p) tone (unshared information)] "dependent" [with a (rise-fall) proclaiming plus (p+) tone (emphatic unshared information)] on the response of "individuals" [with a (rise) referring + (r+) tone (convergence between participants)] to these efforts. The word "individuals" was repeated twice with different tones. In the first time in (TU105), it was used with a (rise) referring plus (r+) tone to signal the importance of the consistent response of individuals which was announced and known earlier. The second time "individuals" was used with a (fall-rise) referring (r) tone in (TU106) to express doubtfulness, because not everyone would comply to the rules given by the public health. Uncertainty was also expressed in (TUs101, 109), by the use of (fall-rise) referring (r) tones, as the speaker was not sure whether other "countries have made similar efforts regarding covid-19 precautions, or whether the "recommendations" announced by (WOH) were "outreaching the whole "community".

Excerpt 12:

And these recommendations are very strictly related to etiquette that are.. you know.. aaaaaa... related to health behaviors

Uncertainty and hesitation was clearly expressed in excerpt (12), as the speaker was still not sure

about the people's compliance to the recommendations announced by the (WOH). This doubt was shown not only by the use of the (fall-rise) referring (r) tones in (TUs112, 114,115), but also by the intervening words "you know" used in (YU115) and "aaaaa.." in (TU116). Also, the speaker added the unshared idea of having "etiquette" as a protocol used to prevent infection of disease by using a (fall) proclaiming (p) tone. This was done to encourage people to have a positive response. The people's "behaviors" were expected to continue as long as this disease existed, therefore, a (rise) referring plus (r+) tone was suitable in alliance with this context in (TU116).

Excerpt 13:

Staying as much as possible at homes avoiding any kind of gatherings plus those who are coming from outside the country they need to remain at home isolated or in the appropriate health isolation areas for at least 14 days.

The speaker introduced and concluded excerpt 13 with unshared information in (TUs117,127) by the use of (fall) proclaiming (p) tones. The pandemic would not end unless people continue "staying" [with a (fall) proclaiming (p) tone] in quarantine for "14 days" [with a (fall) proclaiming (p) tone]. This, however, was doubtful. The (fall-rise) referring (r) tones in (TUs 118, 122, 126), reflect uncertainty of people's compliance to "isolation" [with a (fall-rise) referring (r) tone] as much as (fall-rise)"possible", to the (MOH)'s regulations, especially by those who were coming from outside the (fall-rise)"country". The word "home" was repeated twice in (TUs 119,123) with (rise) referring plus tones (r+) to emphasize the importance of the consistence of action. (Rise) referring plus (r+) was also used with the word "gatherings" as emphasis of warning, even though the speaker had doubts as he used a (fall-rise) referring (r) tone with the word "possible" in (TU118).

To understand the relation between intonation patterns and their functions in The Saudi (MOH) spokesperson's speech's in relation to pitch and intensity levels within the system of termination, a percentage of the types of intonation used in correlation with termination level and their associative meanings has been calculated. It is noted that the pitch level was determined as only high or low, according to the average frequencies of pitch values, as mid termination level was not found in the analyzed data.

The following Tables (3) and (4) show the percentages and frequencies of the (rise) referring (r+), (fall) proclaiming (p), (rise-fall) proclaiming plus (p+), and (fall-rise) referring (r) tones in relation to dominance and non-dominance components. The results showed that mean pitch is higher in (rise) referring plus (r+) and (fall-rise) referring (r) tones than (fall) proclaiming (p) and (rise-fall) proclaiming plus (p+) tones. As far as dominance and non-dominance components are concerned, it was found that within the dominance group, (rise) referring (r+) tones were higher in frequency and in mean pitch and intensity than (rise-fall) proclaiming plus (p+) tones. On the other hand, in the non-dominance group, (fall-rise) referring (r) tones were higher in frequency and in mean pitch but lower in intensity than (fall) proclaiming (p) tones. Generally, the results showed that the dominance component is higher (62.58%) than non-dominance component (37.4%). The total higher termination mean pitch with the dominance factor (178.4%) compared to the non-dominance factor (167.72%) indicates that the spokesperson of (MOH) was the controller of the discourse while talking with the interviewer, and most of his speech carried contrastive information, which could be contrary to the interviewer's and the audience's expectations. This could be shown in excerpt (14), as the speaker emphasized on the idea of quarantine by using the (rise) proclaiming plus (r+) and (fall-rise) referring (r) tones to announce what was surprising and inconveniently expected by the audience. The use of high termination in all the (TUs 117-127), showed the urgency of obligation required, which was to stay home and keep away from gatherings, contrary to what people were used to do. The speaker took the dominant role in the discourse in all the tone units' excerpts in order to reinforce this idea. High termination was also used to add information as shown in (TUs 63-65). The word "however" was used with a (rise) referring plus (r+) tone, that changed its meaning from contrast to addition as the speaker added the kind of procedures that should be followed by people to avoid the disease such as, managing the capacity and the required preparedness. In addition, high termination was used to mark equivalence in the discourse. This could be illustrated in excerpt (6) in (TUs 50-56), as the whole world shared the increase in covid-19 cases. The high pitch as well as the (fall-rise) referring (r) and (fall-rise) referring plus (r+) tones indicate the equality of this fact. Also in excerpt (8), in (TUs 68-73), the idea of equality of passing through the pandemic, as was

announced by the WHO, was expressed by the use of (rise) referring plus (r+) tones and high pitch. In excerpt (11), the (fall-rise) referring (r) tones and high pitch levels of tones were used to express the equality of the efforts implemented in Saudi Arabia and few other countries.

As far as low termination is concerned, the analysis showed that it was used to imply contrast, addition and equation. In excerpt (1), for example, the (fall) proclaiming (p) tone was used with low termination to express contrast in (TU 4), as the vaccine was expected to cure only covid-19, yet the spokesperson declared that it was hoped to eradicate any kind of disease. Similarly, low termination was found with the (fall) proclaiming (p) tone to express addition in (TUs 5-6), by adding the conjunction "and" in the list of the results expected from the vaccine. In excerpts (5) and (6), low termination was found with the use of (fall) proclaiming tones in (TUs 34,36,45) to express addition. In (TU 35), the word "tests" was repeated and added for the purpose of emphasis and detailed description of the kind of tests made in relation to covid-19, and how they were related in addition to the genetics of the virus "available" by the use of the conjunction "and". Also, the word "detection" was repeated twice in (TUs 44-45) and the meaning of addition was reinforced by the conjunction "and" and low pitch (fall) proclaiming (p) tone. The idea of equivalence was emphasized in excerpt (8) by the use of the term "early" in (TU 76) which was equivalent to the word "beginning" in (TU77) to highlight the start of covid-19. This restates what has been declared by Garcia Romero [21], as low termination invites equivalence. Also the use of the conjunction "and" with the low pitch (fall) proclaiming (p) tone reflects the meaning of addition of unshared information in (TU 82) in relation to the interventions made by the Saudi (MOH) "and" how they were "witnessing" good things (excerpt 10-TU94). Low termination was used in excerpts (11,12) with (fall) proclaiming (p) and (rise-fall) proclaiming plus (p+) tones to indicate addition and contrast. The word "recommendation" was repeated twice in (TUs 107,111) to reinforce the additional precautions that should be made in order to decrease infection. The former use was given a (rise-fall) proclaiming plus (p+) tone with low termination, while the latter was given a (rise) referring plus (r+) tone with high termination. These two contrasting tones could reflect the contrastive implied meaning, as all the efforts implemented by the government were useless, unless they were taken seriously by the

individuals. The results showed that mid termination was not employed in the speech, nor level tones. This could be justified by the possibility that the speaker was mostly either sharing new information or emphasizing already given information in the discourse.

As shown in Table (5) below, the use of (fall-rise) referring tones prevails in correlation with the contrastive meaning of high termination level. The contrastive meaning implicates an opposition to what has been said in the preceding discourse. The fact that the majority of the contrastive meaning occurred with the choice of (fall-rise) referring (r) tones could be attributable to Halliday's [17] elaboration of what the function of given information could be. As Halliday [17] mentioned, a shared information could be a matter of contrast with what has been said before or what might be expected. This falls in line with Brazil's [3] stated function of (fall-rise) referring (r) tones, i.e., to indicate shared incomplete information. Moreover, the majority of the addition meaning occurred with the choice (fall-rise) referring (r) tones as well. It is worth mentioning that this indicates the nature of the meaning that is signaled by a high-termination. As Garcia Romero [21] mentioned, high keys signal that the tone-unit has an additional relation with what has been said before. While additional information is mostly rendered as new due to its additive value to the shared knowledge. The speaker could manipulate its additive value in compliance with the discourse message. Level tone was not contributing in the speech under analysis, which could suggest that it may not be part of direct discourse and that the speaker is not a listener-sensitive as declared by Brazil [3].

The flowing Fig. (4) shows the difference between mean pitch and intensity in relation to dominance and non-dominance components. Mean pitch is shown to be higher in both components. However, it is higher in the

dominance components than the non-dominance components. On the other hand, mean intensity is shown to be higher in non-dominance components than dominance competence. There is a one-to-one relationship between dominance and pitch. The higher the pitch level is, the more dominant the speaker is. While on the contrary, the higher the intensity level is the lower dominant the speakers is.

The above Table (5) shows the difference between mean pitch and intensity in relation to dominance and non-dominance components. Mean pitch is shown to be higher in both components. However, it is higher in the dominance components (178.4Hz) than the non-dominance components (167.72Hz). On the other hand, mean intensity is shown to be higher in non-dominance components (108.08db) than dominance competence (69.17db). There is a one-to-one relationship between dominance and pitch. The higher the pitch level is, the more dominant the speaker is. While on the contrary, the higher the intensity level is the lower dominant the speakers is. Examining the forms of intonation used in the discourse, it was found that the most frequently used tone was the (rise) referring (r+) tone 42.74%, (fall-rise) referring (r) tone 20.61%, followed by (rise-fall) proclaiming plus (p+) tone 19.84%, and finally followed by (the fall) proclaiming (p) tone 16.79%. According to Roach [10], a rise tone is use do express questions, continuity, encouragement and listing. While a fall tone expresses finality and certainty. Rise-fall expresses strong feelings and excitement, while fall-rise expresses hesitation and uncertainty. All the aforementioned functions were reflected in the Saudi (MOH) spokesperson in the analyzed excerpts. Nevertheless, The rise tone was mostly used as an indication of the continuous thoughts and challenging conflicts raised by the spread of covid-19 and the anxiety caused by the quarantine worldwide.

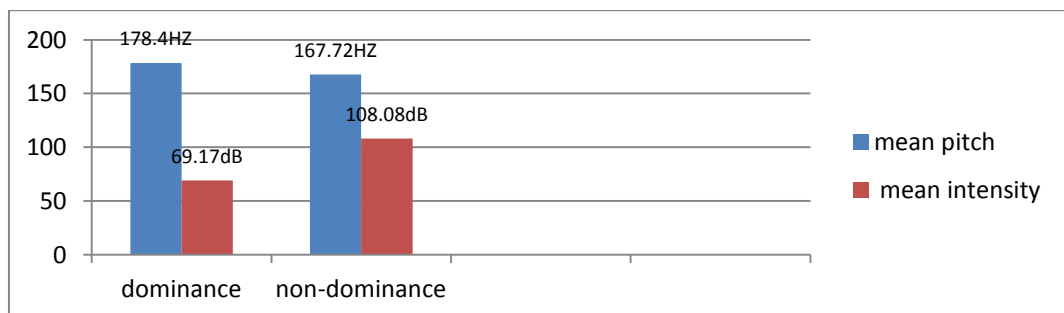


Fig. 4. Dominance and non-dominance Mean pitch and intensity comparison

Table 3. Analysis of rise (referring+) and fall (proclaiming) tones selected from covid-19's speech of the Saudi (MOH)

Rise (r+) : shared information (convergence between participants)-dominance				Fall (p): Unshared information (divergence between participants)-non-dominance			
Tone Unit	DI Analysis	Pitch value of TS	Intensity of TS	Tone Unit	DI Analysis	Pitch value of TS	Intensity of TS
TU1	//ʔall the <u>TIME</u> //	113.5 Hz	69.57 db	TU4	//ʔany kind of DISEASE//	93.60 Hz	53.4 db
TU2	//ʔwe'll <u>REMAIN</u> //	140.9 Hz	59.18 db	TU5	//ʔand to protect the HUMANITY//	111.4 Hz	76.12 db
TU3	//ʔaa..hoping for vaccines to <u>ERADICATE</u> //	112.8 Hz	65.92 db	TU6	//ʔfrom illness and SICKNESS//	108.6 Hz	60.1 db
TU7	//ʔthat germs are <u>CAUSING</u> //	156.7 Hz	63.58 db	TU12	//ʔhopefully that they will fast <u>TRACK</u> //	117.6 Hz	76.04 db
TU8	//ʔ <u>HOWEVER</u> //	92.7 Hz	66.82 db	TU29	//ʔnothing at the moment is officially <u>APPROVED</u> //	102.2 Hz	66.46 db
TU9	//ʔwe don't <u>EXPECT</u> //	132.42 Hz	68.51 db	TU31	//ʔamong few other counties were the <u>FIRST</u> //	126.9 Hz	78.25 db
TU10	//ʔaa. till months to <u>COME</u> //	133.3 Hz	66.77 db	TU32	//ʔin making this <u>TEST</u> //	130.2 Hz	79.67 db
TU13	//ʔthe usual <u>STAGES</u> //	113.9 Hz	60.58 db	TU44	//ʔhigh rate of <u>DETECTION</u> //	155.6 Hz	71.47 db
TU14	//ʔand procedures that are required to approve a <u>VACCINE</u> //	324.2 Hz	77.79 db	TU55	//ʔand the number of cases is increasing by <u>DAY</u> //	184.4 Hz	64.56 db
TU15	//ʔaa. <u>BUT</u> //	213.7 Hz	67.15 db	TU67	//ʔwill keep us insallah in the safe <u>ZONE</u> //	319 Hz	63.86 db
TU16	//ʔyou <u>WILL</u> //	123 Hz	67.6 db	TU82	//ʔand <u>SERIES</u> //	96.84 Hz	74.5 db
TU18	//ʔwe are <u>ANTICIPATING</u> //	174.7 Hz	61.83 db	TU84	//ʔto protect this <u>COMUNITY</u> //	356 Hz	61.68 db
TU19	//ʔin <u>FACT</u> //	103.5 Hz	63.21 db	TU92	//ʔa.... producing to <u>US</u> //	112.5 Hz	70.6 db
TU27	//ʔthese are all expected in this <u>PERIOD</u> //	149.8 Hz	65.44 db	TU94	//ʔand <u>WITNESSING</u> //	104.8 Hz	67.02 db
TU28	//ʔ <u>YET</u> //	155.8 Hz	63.36 db	TU95	//ʔlots of good <u>THINGS</u> //	268.3 Hz	70.88 db
TU30	//ʔthe <u>KINGDOM</u> //	147.5 Hz	66.5 db	TU96	//ʔat <u>MOMENT</u> //	92 Hz	68.09 db
TU33	//ʔthese <u>TESTS</u> //	130.3 Hz	79.58 db	TU97	//ʔhopefully inshallah that this would <u>CONTIUE</u> //	105.5 Hz	70.16 db
TU34	//ʔvery sophisticated <u>TESTS</u> //	110.2 Hz	71 db	TU98	//ʔ <u>HOWEVER</u> //	112.8 Hz	71.31 db
TU40	//ʔsuspected <u>CASES</u> //	236.5 Hz	68.76 db	TU103	//ʔgonna be <u>TOTALLY</u> //	99.54 Hz	69.32 db
TU41	//ʔven <u>WIDER</u> //	240.5 Hz	70.54 db	TU110	//ʔ <u>WITH</u> //	106.9 Hz	70.30 db
TU43	//ʔand this will give us you <u>KNOW</u> //	112.9 Hz	64.2 db	TU113	//ʔto <u>ETIQUETTE</u> //	107 Hz	66.23 db
TU45	//ʔand early rate of <u>DETECTION</u> //	105.9 Hz	63.31 db	TU117	//ʔ <u>STAYING</u> //	132.5 Hz	65.67 db
TU46	//ʔof <u>CASES</u> //	213.3 Hz	77.3 db	TU127	//ʔ for at least 14 <u>DAYS</u> //	249.4 Hz	65.65 db

Table 4. Analysis of rise (referring+) and fall (proclaiming) tones selected from covid-19's speech of the Saudi (MOH)

Rise-fall (p+): Unshared information (divergence between participants) -dominance				Fall-rise (r): shared information (convergence between participants)-non-dominance			
Tone Unit	DI Analysis	Pitch value of TS	Intensity of TS	Tone Unit	DI Analysis	Pitch value of TS	Intensity of TS
TU17	//↗↘we <u>WILL</u> //	116.5 Hz	79.29 db	TU11	//↘↗that a vaccine will be AVAILABLE //	185.9 Hz	61.1 db
TU20	//↗↘lots of <u>ANNOUNCEMENTS</u> //	115 Hz	75.54 db	TU35	//↘↗related to testing the GENOM//	226.7 Hz	53.11 db
TU21	//↗↘and news and <u>RELEASES</u> //	117.7 Hz	72.79 db	TU36	//↘↗and the genetics of the virus AVAILABLE//	109.6 Hz	63.8 db
TU22	//↗↘that vaccine is on the <u>WAY</u> //	146.1 Hz	71.82 db	TU59	//↘↗and this INCREMENT//	226.4 Hz	64.83 db
TU23	//↗↘a trial is currently <u>CONDUCTED</u> //	134.5 Hz	61.21 db	TU60	//↘↗we are not expecting that it will PASS //	133 Hz	77.42 db
TU24	//↗↘a company announcing a <u>TRIAL</u> //	123.2 Hz	73.1 db	TU61	//↘↗without <u>STRESSING</u> //	205.3 Hz	65.93 db
TU25	//↗↘or a medication that is <u>USED</u> //	115.5 Hz	61.74 db	TU68	//↘↗around the whole <u>WORLD</u> //	369 Hz	68.26 db
TU26	//↗↘on a group of <u>PATIENTS</u> //	147.5 Hz	63.31 db	TU71	//↘↗the <u>PANDEMIA</u> //	108 Hz	80.67 db
TU37	//↗↘so we have it at the <u>KINGDOM</u> //	280.4 Hz	60.58 db	TU73	//↘↗by WHO//	125.5 Hz	65.86 db
TU38	//↗↘and we are doing it according to a guide <u>LINE</u> //	136.8 Hz	62.88 db	TU75	//↘↗not this pandemic <u>STATUS</u> //	369 Hz	65.98 db
TU39	//↗↘that will not only cover the <u>HIGHLY</u> //	173.8 Hz	82.13 db	TU76	//↘↗very <u>EARLY</u> //	109.1 Hz	77.34 db
TU42	//↗↘so we can screen good number of <u>CASES</u> //	163.4 Hz	78.11 db	TU85	//↘↗these protective <u>MEASURES</u> //	130.6 Hz	67.75 db
TU48	//↗↘all the <u>TIME</u> //	127.7 Hz	67.64 db	TU86	//↘↗for the whole <u>COMMUNITY</u> //	140.5 Hz	60 db
TU62	//↗↘a little <u>BET</u> //	346.7 Hz	63.12 db	TU87	//↘↗aiming to protect <u>ITS</u> //	112.2 Hz	60.28 db
TU66	//↗↘making all the preparedness <u>REQUIRED</u> //	194.4 Hz	50.67 db	TU90	//↘↗gaining so <u>FAR</u> //	114.3 Hz	69.57 db
TU69	//↗↘ <u>GLOBALLY</u> //	106.7 Hz	72.22 db	TU101	//↘↗similar only to few other <u>COUNTRIES</u> //	100.2 Hz	74.3 db
TU78	//↗↘of few cases that were <u>DETECTED</u> //	111.7 Hz	69.85 db	TU106	//↘↗and the compliance of <u>IDIVIDUALS</u> //	125.6 Hz	75.37 db
TU81	//↗↘started <u>MULTIPLE</u> //	91.63 Hz	62.16 db	TU109	//↘↗and outreaching all the <u>COMMUNITY</u> //	354.3 Hz	63.41 db
TU88	//↗↘public <u>HEALTH</u> //	84.8 Hz	69.85 db	TU112	//↘↗are very strictly <u>RELATED</u> //	110.5 Hz	67.7 db
TU88	//↗↘public <u>HEALTH</u> //	84.8 Hz	69.85 db	TU114	//↘↗that <u>ARE</u> //	107.4 Hz	68.93 db
TU104	//↗↘ <u>DEPENDENT</u> //	265.7 Hz	63.49 db	TU115	//↘↗you <u>KNOW</u> //	447.2 Hz	59.26 db
TU107	//↗↘to the <u>RECOMMENDATIONS</u> //	105.2 Hz	71.88 db	TU118	//↘↗as much as <u>POSSIBLE</u> //	112.1 Hz	69.3 db
TU108	//↗↘that ministry of healthcare <u>ANNOUNCING</u> //	118.8 Hz	60.44 db	TU122	//↘↗those who are coming from outside the <u>COUNTRY</u> //	398.6 Hz	60.70 db
TU124	//↗↘ <u>ISOLATED</u> //	121.4 Hz	73.17 db	TU26	//↘↗isolation <u>AREAS</u> //	137.8 Hz	77.75 db

Table 5. Frequencies of the proclaiming and referring tones of dominance and non-dominance components and their mean pitch and intensity

	Type of tone	Total no. of occurrence	Total % of occurrence	Mean Pitch	Total dominance mean pitch	mean intensity	total non-dominance intensity
dominance	(r+)	56	42.74%	209.98Hz	178.4Hz	69.53db	69.17db
	(p+)	26	19.84%	146.82Hz		68.62db	
Total%		82	62.58%				
Non-dominance	(p)	22	16.79%	147.36Hz	167.72Hz	147.54db	108.08db
	(r)	27	20.61%	188.08Hz		68.62db	
Total		49/131	37.4%				



Fig. 5. Total % of information tone types

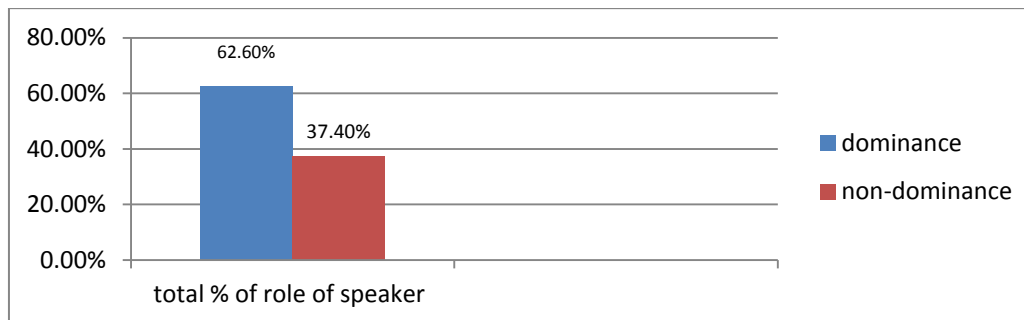


Fig. 6. Total % speaker role dominance

The following Fig. (5) shows how the dominance factor was higher than non-dominance factor, which indicates that the spokesperson of the Saudi (MOH) was the controller of the discourse with the interviewer. This control of discourse was made by the enforcement of the speaker's shared information and the imposing of regulations that the speaker expected to be followed by the audience, which might be contrastive to what they expected to hear. In the intonation discourse under study, prominence, tones, and termination systems presented in the DI model [1] can be used for informative and persuasive purposes, e.g. (excerpt13). This view was supported by

Valeiras-Jurado [4], who argued that content presented as non-prominent is expected to have been already exchanged between the speaker and audience. On the other hand, prominent content is for presenting new parts preventing potential argument. Also, it can be used to direct attention, emphasize, or repeat some parts of message, which gives the audience an opportunity to be persuaded, as seen in (excerpts 3,5,11). As for tones, the role of the speaker as dominant or the controller of the discourse can be used for persuasive purposes [4]. Using proclaiming and referring plus tones can make the speaker the controller of the discourse, which will lead to avoid arguments

from the audience [5]. Based on the speaker's evaluation, applying rise and fall-rise tones to parts of the discourse indicated that the speaker did not want to be questioned, suggesting that this part has already been negotiated and agreed upon, and that he expected the audience to be convinced of what he stated [21], as seen in (excerpts 5,8). The use of proclaiming tones by the speaker assumed a choice (e.g., refusal or acceptance) by the listeners, as explained (excerpt 7), while referring plus tones indicated a wish to have no expectations related to something that has already been conveyed [8], as illustrated in (excerpts 12,13). High key and termination were indications to accept something without further argument, which could make the listeners convinced of what they perceive [4]. Brazil [3] stated that the use of high termination gives the listener the opportunity to decide on something. In addition, it offers listeners the sense of deciding on something, while, in fact, they are being pressured to agree with it. Brazil's [1] model entailed a pragmatic approach of discourse in regard with intonation which was found applicable in the present analysis. As Halliday's system [17] entailed, the study showed that the status of information was not solely cognitive, but rather a feature of speech. It depended on what the speaker chose to present as unrecoverable, unexpected, or in contrast to the preceding discourse. Similarly, Brazil's [1] model of discourse intonation proved how the (MOH) speaker's assessment of a shared background (the spread of covid-19) was based on what the speaker wished the status of the shared knowledge to be and appear. The choice of intonation was fundamentally dependent on the speaker's choice as stated by [3]. What the speaker wished to portray as additional to the common ground was marked by a pitch that finished with a falling movement i.e., proclaiming tones to present unshared information of covid-19's status. And what the speaker wished to portray as already shared, marked by a pitch that finished with a rising movement i.e., referring tone (detection of covid-19 cases) [14]. As Beaken [11] explained that the tone unit has two prominent syllables (key and termination), the study found the termination (tonic syllable) to be the most effective way to determine the function of discourse intonation. In other words, the choices of tones were particularly associated with the tonic syllable [11]. The (MOH) speaker's choice of pitch level corresponded to three semantic meanings, equivalence, addition and contrast [21]. High terminations indicated an equivalence meaning, i.e., the information is

recoverable from the preceding discourse; as has been previously mentioned in (excerpts 1,8). High keys indicated a contrastive meaning. The contrastive meaning denoted a denial of expectations in contrast to the previous message [21] (excerpts, 10-13). Thus, it rendered the information new, e.g. (excerpts 3,9,11). Lastly, both low and high terminations indicated additive meanings, i.e., what is being said is additional. Yet, they were linked to what have been previously mentioned. Generally speaking, as referred by Garcia Romero [21] low termination signaled discourse finality, whereas high termination invited adjudication.

6. CONCLUSION

The current study examined the role of intonation patterns in relation to the status of information and the corresponding meaning of termination pitch and intensity level. The study applied Brazil's [1] analysis model of discourse intonation to examine the speech of the Saudi (MOH) official spokesperson on covid-19 held in 2020. The study proves how Brazil's [1] model could be an effective way to describe the interactional givenness and newness of information that could be manifested through intonational forms. It shows how the speaker's choice within the intonation system could reflect convergence and divergence in interactional contexts. Findings concluded that the use of (rise) referring plus (r+) tones prevailed over the use of other tone types indicating a higher value of informativeness in relation to two information function, addition and contrast. Moreover, the majority of termination pitch level choices were found to be of high indicating contrastive meanings. This indicates the continuity attribute or function of information as elaborated by Brazil's [1] model and Halliday's [17] system of intonation and the dominance of the speaker to illuminate convergence among his audience. The Saudi (MOH) spokesperson's predominant use or choice of (rise) referring plus (r+) tones in compliance with a high-level termination advocates for the nature of motivational speech to be informative, effective, and enriched with hopeful messages and instructions to overcome the covid-19 pandemic.

All in all, the findings proved the importance of Brazil's [1] model of discourse intonation in examining information tones pragmatically in the Saudi (MOH) official spokesperson's speech on covid-19. Referring and referring+ tones were highly used with high pitch termination to highlight given information to the listener to

expand their shared understanding of covid-19 pandemic. Their use also reflect dominance of speaker over the interviewer and the audience by imposing the regulations set by the Saudi government in relation to the pandemic. Addition, contrast and equivalence functions were associated mostly with high pitch termination more than with low pitch termination. There was a one-to-one relation between dominance and mean pitch. In other words, high pitch triggers high dominance. On the other hand, high intensity triggers low dominance. Results also showed that all information types were used in the Saudi (MOH) official spokesperson's speech, except level tones. The most common tone used was the referring+ tone, followed by the proclaiming+ tone, while the least used tone was the proclaiming tone, followed by the referring tone. High termination was triggered by the use of referring and referring+ tones to emphasize the provided information and to capture the attention of the interviewer and the targeted audience, which was the Saudi community in specific, and the whole world in general. Referring and referring+ tones were also used to mark non-finality, contrast of information, equivalence and continuation. On the other hand, the association of low termination with proclaiming and proclaiming+ tones reflected importance and addition of unshared new information, defiantness and decisiveness of the speaker, which reflects his responsibility as a spokesperson to solve the predicament, that is covid-19. Dominance component was found to be higher than non-dominance component, which reflects the powerful character and role of the speaker as he is the official spokesperson of the Saudi (MOF). This control of discourse was observed in his speech by sustaining his turns and not giving the interviewer a chance to interrupt or comment. It was also shown in the high use of referring tones with high pitch levels throughout the discourse.

RESEARCH IMPLICATION

Saudi ESL learners are unfamiliar with the implications of intonation choices in classroom. Therefore, introducing Brazil's [1] approach to discourse intonation could help students understand the different uses of intonational tones in practice. This is because this model describes intonation choices in the speech contexts in relation to communicative intentions through prosodic variations. Teachers of English should learn and develop intonation skills in the light of an international accepted variety to

assess their English pronunciation. A systematic teaching of intonation could highly improve the ESL learners' spoken English and their understanding of implied communicative meanings effectively.

DISCLAIMER

The products used for this research are commonly and predominantly used products in our area of research and country. There is absolutely no conflict of interest between the authors and producers of the products because we do not intend to use these products as an avenue for any litigation but for the advancement of knowledge. Also, the research was not funded by the producing company rather it was funded by personal efforts of the authors.

CONSENT

It is not applicable

ETHICAL APPROVAL

It is not applicable

COMPETING INTERESTS

Author has declared that no competing interests exist.

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