

Research Article

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Persuasion Strategies in Facebook Health Communication: A Comparative Study between Egypt and the United Kingdom

<https://doi.org/10.1515/culture-2024-0043>

received October 25, 2024; accepted January 4, 2025

Abstract: The current study aims to examine the persuasive strategies used in Facebook posts by the Egyptian Ministry of Health and Population and the British Department of Health and Social Care. A total of 400 Facebook posts, 200 by each department of health, were analyzed for persuasion strategies using a recent persuasion model by Dontcheva-Navratilova et al. (2020). The findings showed that both departments primarily relied on ethos-based strategies, followed by logo-based strategies, while their use of pathos-based strategies was minimal. The findings also showed that the Egyptian posts included more direct appeals to the audience, logical reasoning, and emphasis on care and responsibility than the British posts. In contrast, the British posts employed the strategies of reference to expert opinion, creating a sense of community, reference to facts and statistics, and provision of exemplification and evidence significantly more frequently than the Egyptian posts. The results are interpreted in terms of the existing literature and relevant cultural models.

Keywords: persuasion, health communication, Facebook, culture, social media

1 Introduction

Social media is widely used in health communication by individuals, health professionals, disease centres, and other health regulatory bodies (Afful-Dadzie et al., 2023). Research has shown that social media is used by health-care providers for several purposes, including dissemination of health information, monitoring of disease pandemics, health promotion, recruitment of clinical study participants, and social media-based health interventions (Huo et al., 2019). With this wide use of social media for health purposes, governmental departments of health have recently started to communicate with the public via their social media accounts, particularly in the wake of the COVID-19 pandemic (e.g., Abunadi & Kumar, 2021; Park, 2022). Governmental departments of health make use of popular social media networks in this regard, particularly Facebook because it is the most widely used social media platform (Statista, 2023). Facebook has been extensively used by public health organizations and departments of health for health promotion and behaviour change campaigns and activities (Kite et al., 2016; Sharif et al., 2021). This extensive use of Facebook in health communication has recently attracted the attention of several scholars (e.g., Balogun et al., 2023; Jung & Sundar, 2022; Lovari et al., 2021). However, limited information is still available on the effective and efficient use of Facebook.

The current study aims to contribute to this line of research by examining the persuasive strategies used by departments of health to promote their health services to the public. In particular, the study compares the

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use of persuasive strategies in health communication on Facebook by the Egyptian Ministry of Health and Population versus the British Department of Health and Social Care. The focus on these two departments was motivated by the fact that the Egyptian and the British societies represent two distinctly different cultures as they represent the East versus the West. Hence, the current study is multidisciplinary in nature since it falls under the field of Health Communication, a sub-field of Science Communication that is concerned with how communication strategies are used to inform and influence individuals and communities with respect to health messages (Thomas, 2006), and the field of Cross-cultural Pragmatics, which examines how language is used across different cultures (House & Kádár, 2021).

The current study gains special significance for three reasons. First, the study fills a gap in the literature which needs further research on using Facebook in health communication. As noted earlier, although Facebook is widely used for the communication of health messages, relatively limited information is available on its efficient and effective use for this purpose. Second, the present study explores the types of persuasive strategies used on Facebook to convince the public to use the health services provided by the departments of health and to change their behaviour with respect to health practices. Although persuasion has been studied extensively in other domains (e.g., Fanani et al., 2020; Hill, 2020; Krishnan et al., 2020), relatively little is known about its use in online health communication. Third, the findings of the current study will shed light on the potential influence of cultural differences on the use of persuasion strategies in online health communication. The intriguing question will be: Will the differences in cultural values, beliefs, and principles between the Egyptian and British societies influence their use of persuasion in Facebook posts?

Since the current study draws upon models of persuasion and cross-cultural differences, the following section will briefly report on the model of persuasion used in the current study which was developed by Dontcheva-Navratilova et al. (2020) and other cross-cultural models. This will be followed by a survey of the relevant literature and a list of our research questions. Then, the methods will be detailed, the results will be reported and interpreted, and pertinent conclusions will be drawn.

2 Theoretical Framework

The current study employs a typology of rhetorical strategies to examine how departments of health persuade the public to make use of the departments' services and adopt healthy behaviours. This typology, which was proposed by Dontcheva-Navratilova et al. (2020) based on corpus research, has its origins in Aristotle's three appeals of persuasion, namely, *ethos*, *logos*, and *pathos*. According to Aristotle, *ethos* refers to the communicator's credibility, *logos* refers to the use of facts, logic, and arguments, and *pathos* refers to appeals to emotion. These appeals are fundamental to persuasion and are found in different forms of communication (Perloff, 2010). The typology used in the current study elaborates on these three appeals by attaching specific strategies and relevant linguistic resources to each persuasive appeal. In fact, Dontcheva-Navratilova et al. (2020) proposed four models of persuasion in relation to academia, business communication, religion, and technical English. The academic model relates to academic discourse, such as research articles, while the business model relates to communication among business entities, such as companies and corporations, and the religious model is relevant to religious discourse, including religious sermons. The fourth model, which is adopted in the present study, is related to technical discourse. Since this study explores the persuasive patterns in health communication, the technical model proved the most relevant because technical discourse comprises the use of language for science communication. Further details on this technical model can be found in the methodology section below.

In addition to the persuasive appeals, three models of cultural differences are relevant to the current study which compares the use of persuasive appeals in two different cultures. First, Hofstede's (2001) individualism–collectivism index classifies cultures based on the degree to which people in a society are integrated into groups. According to the model, individualistic cultures, including Western cultures, encourage everyone to look after themselves and, thus, are characterized by loose ties among individuals. On the contrary, collectivistic cultures, including the Arab countries, prioritize forming strong and cohesive in-groups. Second, Hall (1976) distinguishes between low-context cultures, including Western cultures, which prefer the use of explicit verbal messages and

tend to be confrontational, and high-context cultures, including the Arab World, which prefer using indirect and implicit messages. Third, Brown and Levinson (1978, 1987) proposed a politeness theory that considers certain speech acts, such as advising and requesting, as face-threatening acts. Individuals avoid using these acts or try to mitigate their effect when they have to use them because these acts constitute a form of imposition on individuals. This perspective towards the so-called face-threatening acts may be specific to Western cultures that highly value individualism and independence (Mao, 1993). Other cultures may not share the same face concerns as Western cultures (Spencer-Oatey, 2008). These cultural models will be relevant to the interpretation of our results.

3 Literature Review

Several researchers have used Aristotle's appeals to investigate the realization of persuasion in different genres, including advertisements (e.g., Talaue, 2022; Yaseen et al., 2022), religious sermons (e.g., Adam, 2017), political speeches (e.g., Boginskaya, 2023; Putri et al., 2024), reports (e.g., Alkaraan et al., 2023; Higgins & Walker, 2012), research abstracts (e.g., Mohamad, 2022), tourist guidebooks (e.g., Skendo, 2024), and students' writing (e.g., Al-Momani, 2014; Farnia et al., 2019; Krishnan et al., 2020). However, the current survey of literature will focus on the studies that employed these appeals in examining the realization of persuasion in online communication only due to their relevance to the current study which focuses on the use of persuasion in Facebook posts. In this regard, a number of studies have examined the use of persuasive appeals in different types of videos. A case in point is Rabab'ah et al. (2020) who examined the use of persuasive appeals by telecommunication companies in Jordanian and Algerian television commercials. The study included an analysis of 12 television commercials extracted from YouTube. The results showed that almost all appeals were found in the commercials of both countries but to varying degrees. The results also showed that the commercials exhibited some degrees of sensitivity to the unique culture of the target community.

Other video studies focused on the investigation of digital political persuasion. For example, English et al. (2011) examined the effect of YouTube clips on consumers of political information. To this end, a total of 233 undergraduates took part in a three-cell post-test-only experimental design study. The participants watched three YouTube clips about health care, each clip containing a different persuasive appeal (source or ethos, logic or logos, and emotion or pathos). The results showed that the participants were most influenced by the ethos appeal as it ranked as the most credible appeal, followed by logos and pathos. This result indicated that the participants resisted being swayed by emotion (pathos) or hard numbers (logos). In the same vein, Zamora-Medina et al. (2023) examined the use of persuasive appeals in 372 videos posted on the official TikTok profiles of political parties and leaders in Spain and Poland. The results showed a stronger reliance on rational resources (logos) in the case of political parties, whereas political leaders exhibited a stronger tendency to use emotional resources (pathos) for persuasion. Notably, the personality of the political actors (ethos) was rarely emphasized, which indicated that ethos is not commonly used as a digital persuasion strategy on TikTok in the concerned countries.

In addition to videos, scholars have investigated the use of persuasive appeals in different forms of online communication. For example, Hill (2020) analyzed the webpages of British undergraduate fashion marketing degrees to explore any potential distinctions in the use of persuasive appeals between types of universities. The results revealed clear distinctions among different types of universities. While the Russell Group and Specialist universities relied more on appeals to ethos (credibility) and logos (fact/date) to market their courses, 92 institutions relied more heavily on appeals to emotion (pathos) and giving more focus to "value for money." Another case in point is Fahmy and Ibrahim (2021) who examined the use of persuasive appeals in 1,000 viral Twitter memes with the hashtag #MeToo. The results showed a significantly higher number of pro-MeToo memes than anti-MeToo members on Twitter. Additionally, the results showed that the anti-MeToo members employed the emotional appeal significantly more frequently than the pro-MeToo memes which relied more heavily on the logos and ethos appeals.

Some studies on persuasive appeals have also examined online reviews and responses to these reviews. For example, Amos et al. (2022) examined the consumers' trustworthiness and usefulness perceptions of the persuasive appeals in online restaurant reviews. They employed a full-factorial between-subjects design to evaluate 14

restaurant reviews on trustworthiness and usefulness perceptions. Overall, the results indicated that the participants exhibited greater perceptions of trustworthiness and usefulness in the reviews featuring logos, rather than ethos or pathos. Another relevant study is by Bonfanti et al. (2016) who explored how hotel managers preferred to respond to their guests' online reviews. The study included an analysis of 447 responses provided by hotel managers belonging to an international chain. The findings showed that the hotel managers tended to employ a company-focused or a customer-focused style in their responses. The findings also showed that hotel managers handled the logos dimension of the response more effectively than the ethos and pathos dimensions.

In addition to the aforementioned studies, some scholars examined the use of Aristotle's appeals in Facebook posts and tweets. Regarding Facebook, a relevant study was conducted by Samuel-Azran et al. (2015). In their study, the researchers examined Israeli politicians' Aristotelian rhetoric on Facebook and how the public responded to this rhetoric during the 2013 election campaign. The results showed that ethos-based appeals were the most frequently used on the politicians' Facebook walls, while the public seemed to respond most positively through "likes" to pathos-based appeals. As for the examination of tweets, a most relevant study to our current work is El-Dakhs (2022) which examined the persuasive strategies employed by the Saudi and Australian departments of health to encourage the public to take the COVID-19 vaccines. El-Dakhs (2022) analyzed 200 tweets using an adaptation of Dontcheva-Navratilova et al.'s (2020) model of technical persuasion. The results showed that Australians employed logo-based appeals more frequently than Saudis, while the latter were the only ones who employed pathos strategies. The results also showed that both departments of health employed a similar number of ethos-based appeals although their use of relevant strategies varied. In addition, the findings included some qualitative observations such as the more frequent use of questions by Australians and the notable inclusion of religious discourse by Saudis.

The current study extends the work of El-Dakhs (2022) to a new context. We focus on the persuasive strategies employed by the Egyptian Ministry of Health and Population versus the ones used by the British Department of Health and Social Care to explore if similar findings will emerge when the two departments of health are functioning in normal times, not at a time of crisis as was the case in El-Dakhs (2022) which focused on health communication at the time of the COVID-19 pandemic. In addition, while the earlier study examined the tweets of the Australian and the Saudi departments of health, the current study examines the Facebook posts of the British and the Egyptian departments of health. Thus, findings of the current study will allow us to discover if the findings of El-Dakhs (2022) extends to a new social media platform and other collectivistic (i.e., Egypt and Saudi Arabia) versus individualistic (i.e., the United Kingdom and Australia) cultures. Our findings will also greatly contribute to our understanding of the use of persuasion strategies in online health communication.

4 Research Questions

The current study addresses the following research questions:

1. What persuasive strategies does the Ministry of Health and Population in Egypt use to promote its services?
2. What persuasive strategies does the Department of Health and Social Care in the United Kingdom use to promote its services?
3. Are there significant differences in the persuasive strategies employed by the Egyptian Ministry of Health and Population and the British Department of Health and Social Care?

5 Methodology

5.1 Data Collection

The data consisted of 400 Facebook posts, 200 extracted from the Facebook walls of the Egyptian Ministry of Health and Population and 200 from the walls of the British Department of Health and Social Care. The number

of 400 posts was suitable for the study based on previous research on social media posts (e.g., El-Dakhs, 2021, 2022; Gabrielova & Maksimenko, 2021). The posts were selected randomly from the Facebook walls of the concerned departments. The Egyptian posts were extracted during the months of July to August 2023, while the British posts were published during the period of April to August 2023. The posts were copied and pasted in Word documents to facilitate data coding. Since the current study focused on a linguistic, rather than a multimodal, analysis of persuasion, any posts that relied on posters or flyers were excluded from the data. It must be noted that the selected posts were always directed from the departments of health to the public. Hence, variables of social distance, social dominance, and gender remained constant. It must also be noted that the authors could not control the influence of Facebook algorithms on post visibility or any other special impact of the timing of post publications on the data.

5.2 Data Coding

Data coding relied on an adaptation of Dontcheva-Navratilova et al.'s (2020) persuasion typology of technical discourse. The model classifies 12 persuasive strategies under Aristotle's three appeals to persuasion: ethos, logos, and pathos. The model includes a list of persuasive strategies (e.g., direct appeal to the audience, reference to expert opinion, logical reasoning, proof by exemplification, creating an atmosphere of caring and responsibility, and creating an atmosphere of collegiality) along with relevant linguistic resources (e.g., self-mentions, directives, reader pronouns, hedges, boosters, and evaluative lexis). The original model by Dontcheva-Navratilova et al. (2020) listed the 12 strategies as shown in Table A1, while the adapted version in Table A2, which was used in an earlier study by the first author in 2022, included additional definitions of the strategies to ensure the clarity and consistency of data coding. In the typology, the ethos appeal was realized through the strategies of direct appeal to the audience, reference to expert opinion, modulating commitment to claims, supporting credibility and competitiveness, claiming common grounds, and goals and sense of community. The logos appeal was realized through the strategies of logical reasoning, reference to statistics and facts, proof by exemplification, and providing evidence. The pathos appeal was realized through the strategies of creating an atmosphere of caring and responsibility and creating an atmosphere of collegiality. Illustrative examples of data coding are as follows:

UK Facebook posts

- (1) All secondary school pupils in years 7–11 in England will be eligible for a free flu vaccine for the 2023/24 season [*reference to statistics and facts*]. This will be offered as a nasal spray through their school's vaccination programme from September [*reference to statistics and facts*]. Find out more in our blog [*direct appeal to the audience*].
- (2) Need medical help? [*direct appeal to the audience*] Use 111 online to get assessed and directed to the right place for you [*direct appeal to the audience*], like an urgent treatment centre [*proof by exemplification*].
- (3) We have launched a call for evidence to help shape our strategy on tackling groups of major conditions [*reference to statistics and facts*], such as dementia and cardiovascular diseases [*proof by exemplification*]. We want to hear your ideas on how to best prevent, diagnose, and treat people with major conditions [*sense of community*]. We want input from a wide range of people [*sense of community*], including:

- Patients
- Carers and families
- Scientists
- Researchers
- Campaigners
- Health professionals [*proof by exemplification*]

Have your say: <https://www.gov.uk/major-conditions-strategy-call> [*direct appeal to the audience*]. Save to fill in later or share with those who may want to respond [*direct appeal to the audience*].

Egyptian Facebook posts



احرص على زيارة طبيب الأسنان مرة كل ستة أشهر، للاطمئنان على صحة فمك وأسنانك
Make sure to visit the dentist once every 6 months [direct appeal to the audience] to check on the safety of your mouth and teeth [logical reasoning].

إزاي تحمي نفسك من الإصابة بالأورام السرطانية؟

◆ انزل أكشف واظمن على صحتك بالمجان ضمن حملة #100_يوم_صحة

◆ في انتظارك كل يوم من ٩ صباحًا لـ ٩ مساءً

◆ الحملة متواجدة في كل محافظات الجمهورية، للاستفسار يرجى الاتصال على الرقم ١٥٣٣٥

How can you protect yourself from cancer? [direct appeal to the audience]

Go [direct appeal to the audience], get examined [direct appeal to the audience], and feel safe [direct appeal to the audience] about your health without any expenses as part of the 100-day health campaign.

We are waiting for you daily from 9.00 a.m. to 9.00 p.m. [creating an atmosphere of caring and responsibility].

The campaign is available in all governorates [reference to statistics and facts]. For queries, please contact 15335 [direct appeal to the audience].



لتحمي نفسك من الإصابة بالإجهاد الحراري، اشرب الكثير من السوائل مثل الماء وتناول الفواكه الصيفية كالبطيخ
To protect yourself from heat stress [logical reasoning], drink a lot of liquid [direct appeal to the audience], such as water [proof by exemplification], and eat fruits [direct appeal to the audience], such as watermelon [proof by exemplification].

It is important to note that the analysis of Facebook posts in this study relied on the semantic interpretation of the posts, not on any specific linguistic structure. That is, the persuasive strategies were found at all linguistic levels, such as words, phrases, and sentences, based on their meaning. For example, the strategy of modulating commitment to claims could be realized by individual words that represent hedges and boosters, such as *may*, *could*, *absolutely*, and *extremely*, while other persuasive strategies could be realized at the phrase or sentence levels, such as the strategy of reference to statistics and facts (e.g., *NHS England plans to treat up to 3,000 patients a year across a total of 15 clinics*) and the strategy of direct appeal to the audience (e.g., *Download your NHS app now*). It must be noted that the data were coded by the two authors independently using the same framework. A comparison of the independent coding was made, and the agreement rate reached 85%. The instances of disagreement were jointly discussed until an agreement was reached. The final coding, which was approved by the two authors, was used as the basis for statistical analysis and reporting.

6 Results

This section is divided as per our research questions.

6.1 What Persuasive Strategies Does the Ministry of Health and Population in Egypt Use to Promote Its Services?

Table 1 shows the number and percentages of persuasive strategies that were used in the Egyptian Facebook posts. The figures show that the Egyptian posts relied heavily on the use of ethos-based appeals which accounted for almost half of the total number of strategies. This was followed by the logos-based appeals which accounted for more than one-third of the strategies. As for the pathos-based appeals, they accounted for less than a tenth of the total number of strategies.

Table 1 also shows the most prevalent strategies under each persuasive appeal. Regarding ethos, direct appeals to the audience dominated the scene with almost two-thirds of the total number of persuasive strategies. This was followed by the strategy of a sense of community which stood for almost a tenth of the total number of strategies. The other ethos-based strategies were minimally used. As for the logos-based

Table 1: The persuasive strategies in the Egyptian Facebook posts

	No. (%)
Ethos	912/1857 (49.1%)
Direct appeal to the audience	693/1857 (37.3%)
Refer to expert opinion	1/1857 (0.1%)
Modulating commitment to claims	17/1857 (0.9%)
Supporting credibility	24/1857 (1.3%)
Claiming common grounds	0/1857 (0.0%)
Sense of community	177/1857 (9.5%)
Logos	793/1857 (42.7%)
Logical reasoning	503/1857 (27.1%)
Reference to facts and stats	280/1857 (15.1%)
Proof by exemplification	9/1857 (0.5%)
Providing evidence	1/1857 (0.1%)
Pathos	152/1857 (8.2%)
Sense of care and responsibility	146/1857 (7.9%)
Sense of collegiality	6/1857 (0.3%)

strategies, the two most frequently employed were the logical reasoning, which accounted for almost a quarter of the total number of strategies, and the reference to facts and statistics, which accounted for almost a fifth of the total number of strategies. With respect to the pathos-based appeal, it was generally rarely used in the data, but the strategy of creating sense of care and responsibility accounted for less than a tenth of the total number of strategies.

6.2 What Persuasive Strategies Does the Department of Health and Social Care in the United Kingdom Use to Promote Its Services?

Table 2 shows the number and percentages of persuasive strategies in the British Facebook posts. It is noted that the most frequently used type of strategies is the ethos-based appeal which accounted for more than half the total number of strategies. This was followed by the logos-based appeal which represented a little less than half the strategies. As for the pathos-based appeal, it rarely emerged in the data.

Table 2: The persuasive strategies in the British Facebook posts

	No. (%)
Ethos	527/1015 (51.9%)
Direct appeal to the audience	270/1015 (26.6%)
Refer to expert opinion	14/1015 (1.4%)
Modulating commitment to claims	13/1015 (1.3%)
Supporting credibility	17/1015 (1.7%)
Claiming common grounds	0/1015 (0.0%)
Sense of community	213/1015 (21.0%)
Logos	467/1015 (46.0%)
Logical reasoning	100/1015 (9.9%)
Reference to facts and stats	296/1015 (29.2%)
Proof by exemplification	65/1015 (6.4%)
Providing evidence	6/1015 (0.6%)
Pathos	21/1015 (2.1%)
Sense of care and responsibility	18/1015 (1.8%)
Sense of collegiality	3/1015 (0.3%)

Table 2 also shows the frequency of occurrence of the individual strategies. The ethos appeal is mostly represented by direct appeals to the audience and reference to the sense of community, which each represented almost a quarter of the total number of strategies. The logos appeal was mostly dominated by reference to facts and statistics which accounted for a little less than a third of the total number of strategies. This was followed by logical reasoning, which accounted for almost a tenth of the strategies, and proof by exemplification, which represented less than one-tenth of the strategies. Regarding the pathos appeal, it was rarely represented in the data.

6.3 Are there Significant Differences in the Persuasive Strategies Employed by the Egyptian Ministry of Health and Population and the British Department of Health and Social Care?

Table 3 shows the results of a chi-square test to explore the differences in the use of persuasive strategies between the Egyptian and the British departments of health. Regarding the major persuasive appeals, no significant differences were found between the two types of posts with respect to the ethos and the logos appeals. The only statistically significant difference was in terms of the pathos appeal which was more frequently used in the Egyptian posts. In addition to these overall comparisons for the three main appeals, the test compared the use of the individual strategies by the two departments of health. In terms of ethos, Egyptians significantly appealed directly to the audience more frequently than the British, whereas the British used the strategies of reference to expert opinion and sense of community more frequently than the Egyptians. As for logos, the Egyptian posts included a significantly higher number of the strategy of logical reasoning than the British posts, while the British posts exhibited a significantly higher use of reference to statistics and facts, proof by exemplification, and provision of evidence. Regarding pathos, Egyptians significantly created a stronger sense of care and responsibility.

In addition to the aforementioned quantitative findings, we have made the following qualitative observations while coding the data:

Similarities between the two types of posts

1. All the messages (100%) of both departments of health provided several means of communication with the public, including hotlines, websites, and apps.

Table 3: Chi-square test results of the persuasive strategies in the Egyptian and the UK posts

	Egypt (<i>n</i> = 1,857) No. (%)	UK (<i>n</i> = 1,015) No. (%)	χ^2	<i>p</i>
Ethos	912 (49.1%)	527 (51.9%)	2.072	0.150
Direct appeal to the audience	693 (37.3%)	270 (26.6%)	33.822*	<0.001*
Refer to expert opinion	1 (0.1%)	14 (1.4%)	22.192*	<0.001*
Modulating commitment to claims	17 (0.9%)	13 (1.3%)	0.847	0.357
Supporting credibility	24 (1.3%)	17 (1.7%)	0.682	0.409
Claiming common grounds	0 (0.0%)	0 (0.0%)	—	—
Sense of community	177 (9.5%)	213 (21.0%)	73.365*	<0.001*
Logos	793 (42.7%)	467 (46.0%)	2.914	0.088
Logical reasoning	503 (27.1%)	100 (9.9%)	117.519*	<0.001*
Reference to facts and stats	280 (15.1%)	296 (29.2%)	81.199*	<0.001*
Proof by exemplification	9 (0.5%)	65 (6.4%)	91.606*	<0.001*
Providing evidence	1 (0.1%)	6 (0.6%)	7.792*	^{FE} <i>p</i> = 0.009*
Pathos	152 (8.2%)	21 (2.1%)	43.370*	<0.001*
Sense of care and responsibility	146 (7.9%)	18 (1.8%)	45.188*	<0.001*
Sense of collegiality	6 (0.3%)	3 (0.3%)	0.016	^{FE} <i>p</i> = 1.000

Example from the Egyptian posts

www.100millionseha.eg للاستفسار، يرجى الاتصال على الرقم 15335 أو زيارة الموقع الإلكتروني

For queries, please call 15335 or visit our website www.100millionseha.eg

Example from the British posts

More info: <https://www.nhs.uk/conditions/endometriosis/>

2. Use of emojis

Both posts included a variety of emojis in 64% of Egyptian posts and in 33% of British posts.

Example from the Egyptian posts

الكشف المبكر على الأورام السرطانية يحميك من مضاعفاتها ويزيد من نسبة الشفاء 🙌

Early detection of cancerous tumours protects from complications and increases the rate of recovery



Example from the British posts

🔥 From three operations a week to an amazing 24 in one weekend 🙌

3. Both posts often included justifications before requesting the public to do certain actions (45% of British posts and 60% of Egyptian posts).

Example from the Egyptian posts

لتحمي نفسك من الإصابة بالإجهاد الحراري، اشرب الكثير من السوائل مثل الماء وتناول الفواكه الصيفية كالبطيخ 🍉

To protect yourself from heat exhaustion, drink a lot of liquid, such as water, and eat fruits, such as watermelons 🍉.

Example from the British posts

Measles cases are rising in England. Make sure your child is up to date with their MMR vaccinations.

Differences between the two types of posts

1. Use of directives

While 60% of the Egyptian posts used directives to urge the public to join the campaign, 40% of the British posts used directives to encourage the public to learn more about the concerned diseases through various media.

Example from the Egyptian posts

إنزل، إكشف، وإطمئن على صحتك بالمجان ضمن الحملة.

Go, diagnose, and check on your health free of charge as part of the campaign.

Example from the British posts

Find reliable information on hundreds of health conditions and more. Download your NHS App now nhs.uk/app.

2. Almost 39% of Egyptian posts emphasized that the services are offered free of charge.

Example from the Egyptian posts

مانفوتش الفرصة وإنزل دلوقتى إكشف وإطمئن على صحتك بالمجان.

Don't miss this opportunity. Go now and get a diagnosis and check on your health free of charge.

3. Unlike the Egyptian posts, 5% of the British posts included surveys for the readers to fill out and share their views.

Example from the British posts

Have your say on how we can prevent, diagnose and treat conditions that affect heart health, to help shape our major conditions strategy.

If you have experience with conditions that affect your heart or blood vessels, share your views:

<https://www.gov.uk/major-conditions-strategy-call-form>

4. Almost 20% of the British posts used bullet points to list examples for the public.

Example from the British posts

We want input from a wide range of people, including:

- ✓ Patients
- ✓ Carers and families
- ✓ Scientists

- ✓ Researchers
- ✓ Campaigners
- ✓ Health professionals

5. While 11% of the Egyptian posts focused on the services the Ministry offers, 11% of the British posts provided more information about the target diseases.

Example from the Egyptian posts

الأمراض المزمنة من المشاكل الصحية التي لازم متابعتها بشكل مستمر لتجنب مضاعفاتها، وفي حملة #100_يوم_صحة بنقدم خدمات علاجية مختلفة عشان تقدروا تعيشوا بصحة وتطمئنا على أنفسكو

Chronic diseases are a health condition that must be frequently followed up on to avoid its complications. In the 100-day-health campaign, we offer various medical services to help you live with good health and feel safe about yourselves.

Example from the British posts

In signs of a sickle cell crisis, acting quickly can save lives.

Common symptoms include:

- ▶ Pain
- ▶ Signs of infection
- ▶ One-sided paralysis in the face, arms or legs
- ▶ Confusion
- ▶ Unexplained numbness

6. Unlike the British posts, almost 7% of the Egyptian posts requested that family members take care of the elders and follow up on their health condition.

Example from the Egyptian posts

لتقديم رعاية جيدة لكبار السن، حافظ على صحتهم واختار الأغذية المناسبة لهم واحرص على الانتظام في الزيارات والمتابعات الدورية مع الطبيب، واهتم بمواعيد أدويتهم 🙏

To provide good care for the elderly, take care of their health, choose the right food for them, make sure to visit the doctor regularly, and follow up on the medication times.

7 Discussion

The current study examined the persuasive strategies used in 400 Facebook posts by the Egyptian Ministry of Health and Population versus the British Department of Health and Social Care. Overall, the two departments of health employed a similar pattern of persuasive strategies as they employed ethos the most frequently, followed by logos and then pathos. This reflects prioritizing a focus on the credibility of the source of the messages in online health communication before the use of logical arguments and emotional appeals. This finding comes in line with El-Dakhs (2022) which examined online health communication on Twitter as represented by the tweets of the Australian and the Saudi departments of health. Similar to the current study, El-Dakhs (2022) found that Australians and Saudis prioritized the use of the ethos appeal before the use of logos and pathos. This finding is also aligned with the findings of English et al. (2011) who found that the participants are most influenced by the ethos messages in healthcare clips on YouTube, and the findings of Samuel-Azran et al. (2015) who found that politicians primarily rely on the use of the ethos appeal in their Facebook posts. However, it must be noted that other platforms and domains prioritized other appeals. For example, online restaurant reviews (Amos et al., 2022) and responses to hotel reviews (Bonfanti et al., 2016) tended to use the logos appeal more often, and the pathos appeal was more highly emphasized in the Twitter memes in relation to the #MeToo movement.

Regarding the use of individual persuasive strategies, both departments of health preferred similar strategies. Under the ethos appeal, the two departments used the strategies of direct appeal to the audience and appeal to the sense of community most often. As for the logos appeal, the two departments prioritized the

use of logical reasoning and the use of facts and statistics, although to varying degrees. The British posts also included several instances of the proof by exemplification strategy. Regarding the pathos appeal, the Egyptians preferred exhibiting care and responsibility to the readers, while the British rarely used the appeal. These findings are aligned with the results of El-Dakhs (2022) which similarly found that the Saudi and Australian departments of health prioritized the use of direct appeal to the audience and creating a sense of community under the ethos appeal and the use of logical reasoning and facts/statistics under the logos appeal. Our findings are also similar to El-Dakhs (2022) regarding the use of pathos since the Saudis, who were the only ones to employ pathos-based strategies, tended to create a sense of care and responsibility more than any other strategies under the pathos appeal. Thus, it seems that certain persuasive strategies are preferred in the domain of online health communication although additional research is still needed to further confirm these results.

With respect to the quantitative comparisons between the two departments of health, some interesting differences were found. Under the ethos appeal, the Egyptians directly appealed to the audience more often than the British, while the British referred to expert opinion and employed the sense of community more often than the Egyptians. These differences can be explained in terms of cultural differences between the two communities. As a collectivistic community (Hofstede, 2001), the Egyptians expect the health authority to perform its duty through providing the public with relevant directions and guidelines, so the Egyptian Ministry of Health and Population found it normal to use a great deal of imperatives (El-Dakhs, 2022). The British, however, may have preferred to minimize the use of imperatives because individualistic communities prefer freedom of imposition (Brown and Levinson, 1978, 1987; Hofstede, 2001). In addition, the British employed the strategies of reference to expert opinion and creating a sense of community more often than the Egyptians because the British attempted to persuade the public through reliance on the credibility of important individuals in the society and acknowledging the presence of individual readers, which is again aligned with the individualistic nature of the British society (Hofstede, 2001).

Under the logos appeal, it was found that the Egyptians employed more logical reasoning than the British, while the latter referred to statistics and facts, employed exemplification, and provided evidence more often than the Egyptians. The more frequent use of logical reasoning by Egyptians can be explained in terms of the tendency of the Arabic language to make intersentential relations more explicit through the use of logical connectives (e.g., “wa” = and “fa-” = and/so). It is widely acknowledged that the Arabic language exhibits a more dense use of interclausal and intersentential connectors than the English language (Dickins, 2017). In contrast, the British preferred to persuade the public through providing them with diverse sources of information, including statistics and facts, examples, and different types of evidence, to encourage them to take the right decision. Again, the British focused on the individualistic nature of the British community (Hofstede, 2001) which emphasized the value of taking individual decisions based on logic and facts. Additionally, as a low-context culture, the British made a more extensive use of exemplification to be more explicit in their messages (Hall, 1976).

Under the pathos appeal, the Egyptians employed more pathos-based strategies than the British. This is particularly the case with the strategy of creating a sense of care and responsibility. This finding again comes in line with El-Dakhs (2022) in which the Saudis, a similar collectivistic community to the Egyptians, used more pathos-based strategies than the Australians, an individualistic community which is similar to the British. Thus, it seems that the appeal to the public's emotions is more common in collectivistic communities in which in-group relations and caring about family members are more strongly emphasized (Hofstede, 2001). It must be noted though that the pathos-based strategies were the least frequently used by the Egyptians among other strategies, which reflects an influence of the health communication domain with its strong emphasis on the use of ethos-based strategies as explained earlier (e.g., El-Dakhs, 2022; English et al., 2011; Fahmy & Ibrahim, 2021).

In addition to the quantitative findings, we also made some qualitative observations. It is obvious that the posts of both departments employed several means of communication with the public, including hotlines, websites, and social media. The posts also conformed to the nature of social media through the use of several emojis. Both departments also attempted to mitigate imposition through justifying their directives to the public. However, some differences were noted. The individualistic nature of the British society (Hofstede, 2001) was exhibited through a frequent use of surveys to examine the public's opinion, the provision of

information about the diseases to help the public take the right health decisions, and the explicit use of examples to clarify the provided information. The collectivistic nature of the Egyptian society was exhibited in the frequent emphasis on the importance of taking care of the elderly by their family members and by the repeated directives to make best use of the health services. The Egyptian posts also repeatedly emphasized that the health services offered were free of charge, which reflects the difficult economic situation in Egypt in which the public struggles to receive good health services that do not incur huge fees.

The results of the current study highlight that online health communication has its own distinctive characteristics while also being amenable to cultural variation (e.g., El-Dakhs, 2022; Rabab'ah et al., 2020). Based on the results of the present study and earlier research (e.g., El-Dakhs, 2022; English et al., 2011), it seems that online health communication heavily relies on the appeals of ethos, followed by logos. Health communication also seems to prefer certain individual strategies, such as the use of statistics and facts, direct appeals to the audience, and logical reasoning. However, the influence of cultural variation is also apparent. Clear differences in the persuasion strategies were noted due to cultural differences between the Egyptian and British societies. For example, Egypt as a collectivistic society used more pathos-based strategies than the British and exhibited clear collectivistic behaviour (Hofstede, 2001), such as emphasizing taking care of the elderly by family members and giving directives to fulfil the duty of the health authority towards its people. In contrast, the British posts showed several individualistic tendencies (Hofstede, 2001), including the use of surveys, the fewer uses of directives, and the emphasis on the importance of seeking further information by the public themselves. Similarly, the British were more sensitive to imposition than the Egyptians (Brown & Levinson, 1978, 1987) as reflected in the British preference to use fewer directives. However, it must be noted that the two departments of health tried to mitigate imposition through the provision of justifications.

8 Conclusion

The current study compared the use of persuasive strategies by the Egyptian Ministry of Health and Population and the British Department of Health and Social Care in Facebook health communication. The results have highlighted that the two departments of health preferred the use of the ethos appeal, followed by the logos appeal. The results also showed that health communication is influenced by cross-cultural differences. These findings provide important implications for online health communication. First, it is important to ensure the credibility of the source of messages in health communication. The ethos of the messages should be emphasized to build the audience's trust. Second, it is recommended to use the logos strategies to enhance the impact of the messages on the audience. This can be achieved through the use of relevant strategies, such as the use of facts and statistics, exemplification, and evidence. Third, online health communication must be sensitive to the culture of the target audience. For example, individualized cultures will not welcome too much imposition in the messages. Instead, they welcome individual success stories and role models and the provision of sources of information to learn more about diseases and explore medical options. On the contrary, collectivistic societies are highly likely to welcome emotional appeals to the audience and focus on group solidarity.

In terms of research directions, it must be noted that the findings of the present study contribute to a relatively recent line of research that is concerned with online health communication on social media. This research direction is still in need of further studies to explore the use of persuasion strategies across different online platforms, health providers, languages, and cultures. It is particularly recommended to examine how persuasion is realized by comparable health providers/institutions in different cultures in order to explore the specific features that characterize online health communication and identify any potential differences in relation to the cultural backgrounds of the target audience. In the current study, the focus was on Egypt versus the United Kingdom. Comparisons across other cultures will be equally valuable and providing relevant case studies to demonstrate the application and effects of different strategies in practice will constitute important contributions. Additional studies are also needed regarding the effect of persuasion strategies on the public and how the public perceive and respond to these strategies. The public responses can be assessed through different online features, such as likes, reposting, and engagement rates. The responses can also be

measured through other means, including surveys and behavioural experiments. Further research is also needed on how persuasion is realized in different types of discourse, including academic, religious, and business discourse. This direction of research will be supported by the development of new models of persuasion (e.g., Dontcheva-Navratilova et al., 2020) which specify relevant strategies and linguistic resources for the three main appeals to persuasion, i.e., ethos, logos, and pathos.

Acknowledgments: The researchers thank Prince Sultan University for funding this research project through the research lab [Applied Linguistics Research Lab- RL-CH-2019/9/1].

Funding information: This project is funded by Prince Sultan University under grant number [Applied Linguistics Research Lab- RL-CH-2019/9/1].

Author contributions: Dina Abdel Salam El-Dakhs: Conceptualization, Coding, Analysis, Writing; Mervat M. Ahmed, Data collection, Coding, Writing.

Conflict of interest: There are no conflict interests to declare.

Data availability statement: The research data will be made available upon request.

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Appendix

Table A1: Typology of persuasive strategies in technical discourse by Dontcheva-Navratilova et al. (2020)

Ethos
Direct appeal to the audience (directives, rhetorical questions, exclamations)
Reference to expert opinion (textual act directives, evidentials)
Modulating commitment to claims (hedges and boosters)
Supporting credibility and competitiveness (evaluative lexis)
Claiming common ground and goals (appeals to shared knowledge)
Sense of community (self-mentions, appeals to shared knowledge)
Logos
Logical reasoning (markers of logical connections between sentences or longer parts of the text)
Reference to statistics and facts (intratextual reference to data given in tables, graphs and other variables, or reference outside the given text)
Proof by exemplification (listing other similar devices, materials or data, code glosses, evidentials)
Providing evidence (reference to norms and standards)
Pathos
Creating an atmosphere of caring and responsibility (directives with exclamatory sentence structure, rhetorical questions, expression of care for children and handicapped persons)
Creating an atmosphere of collegiality (appeals to shared knowledge, questions, reader reference)

Table A2: Adaptation of the typology of persuasive strategies in technical discourse by Dontcheva-Navratilova et al. (2020)

Strategy	Definition	Linguistic means
Ethos (credibility)		
Direct appeal to the audience	Writers appealing to the readers and giving them instructions on how to behave due to the writers' superior knowledge and role which makes them entitled to give instructions on what to do	E.g., directives (imperatives, modal verbs of obligation, necessity or prohibition, or predicative adjectives)
Reference to expert opinion	Writers refer to the opinion of some experts to enhance the credibility of their argument.	E.g., textual act directives, evidentials
Modulating commitment to claims	Exerting a modifying influence on the writer's claims	E.g., hedges and boosters, such as <i>kind of a bit, extremely, very</i>
Supporting credibility and competitiveness	Enhancing the believability of a source or message using evaluative language (language which expresses the opinion, attitude, or point of view of the writer)	E.g., evaluative adjectives and adverbs, such as <i>splendid, miserable, happily, unfortunately</i>
Claiming common grounds and goals	Referring to areas that the writer and the reader share and/or mutually identify	E.g., linguistic means appealing to shared knowledge, such as <i>as we know, needless to say, obviously, of course</i>
Sense of community	A sense of community and alliance with the audience may be achieved by acknowledging the reader's presence, building shared common ground and proximity of values and goals, which enhances the readers' confidence in the writers' values and goals (credibility)	E.g., self-mentions, reader pronouns, personal asides (different engagement markers)
Logos (logic)		
Logical reasoning	Presenting premises that lead to the drawing of certain conclusions that are entailed by the premises or providing explanation/causes for an action	E.g., markers of logical connections between sentences or longer parts of the text
Reference to statistics and facts	Reference to data provided in the text, in other visual representations or outside the text	E.g., expressions to refer to facts and statistics, such as "please, see table 4" or "read more about the topic at"
Proof by exemplification	Giving examples to support an argument	E.g., listing other similar devices, materials or data, code glosses or evidentials
Providing evidence	Supporting the writer's claims through reference to norms and standards	E.g., industry standards, quality standards, social norms
Pathos (emotions)		
Creating an atmosphere of caring and responsibility	Emphasizing the importance of caring for others and assuming responsibility for relatives, friends, etc.	E.g., directives with exclamatory sentence structure, rhetorical questions, expressions of care for children
Creating an atmosphere of collegiality	Highlighting the need for companionship and cooperation while sharing responsibility	E.g., questions, reader reference, lexis that show shared knowledge such as <i>normally, typically or traditional</i>