



MPs and Audiences on Social Media during Emergencies: Automatic and Manual Content Analyses of Facebook Posts

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Abstract: Members of parliament's (MPs) social media channels are significant arenas for communication between the public and national leaders. To the best of our knowledge, this is the first paper to explore how these channels function during emergencies. We present findings from a mixed-method study of automatic and manual content analysis of a unique dataset composed of all posts on Israeli MPs' Facebook pages during the entire 19th Israeli parliament. We compare scope of posting, engagement with posts, and the content in MPs' Facebook pages during "ordinary" periods and an "emergency" period, focusing on the 2014 Israel/Gaza war. Findings present MPs' social media pages as hubs of interaction between MPs and audiences in emergencies, even more so than during ordinary periods. MPs' social media pages involve significantly more posts (and engagement with posts) during emergencies. In addition, the content in them becomes more emotional, less personal, and focused on the emergency situation and the national leaders responding to it.

Keywords: Emergencies, Facebook, MPs Facebook Pages, New Media, Social Media.

Acknowledgement: The study was supported by the Institute for the Study of New Media, Politics and Society at Ariel University. We thank Michael Barmatz, Yinon Sarusi, Nadav Gelbert, Elnatan Grinwold, Reut Dodeles, Tehila Gelman, and Salih Sawaed for their assistance in collecting and processing the data, and for Nomy Bitman and Candice Kotzen for their assistance with preparing the manuscript.

1. Introduction

The contemporary media ecology is highly dynamic. New media channels (including major news websites, online social media, and mobile applications) have become established means for generating and consuming content alongside the traditional mass media.

The significance of media usage may be of particular importance during emergencies and crises; when needs are intensified and become more acute on one hand, and on the other hand, the scope of information generation and circulation becomes more rapid compared to ordinary times (Lev-

On, 2012; Lev-On & Uziel, 2018). Hence, people may find it increasingly difficult to make sense of the situation in its entirety and generate a clear picture of the state of affairs. Uncertainty and risks may cause anxiety, stress, anger, and even depression stemming from a diminished sense of security and stability resulting from people's lack of information or control. Indubitably, studies demonstrate that the perceived importance of the media (and the enhanced scope of needs) which media are expected to fulfill, increase during times of emergency (Lev-On & Uziel, 2018).

As social media takes a more prominent place in the media environment in general and during emergencies in particular, it is conceivable that social media plays a prominent role in the contact between MPs and the public during emergencies, as well. Since MPs' social media channels are significant arenas through which communication between the public and national leaders takes place in ordinary times and arguably during emergencies as well, this study makes a unique contribution to understanding the scope and character of public activity during times of emergency.

In this paper, we examine the use of Facebook by members of parliament (MPs) and citizens during national emergency periods and during ordinary periods, by analyzing posts and engagement on the formal pages of all MPs during an entire service of the Israeli parliament. We use a mixed-method approach, combining automatic and manual analysis of posts, engagement, and correlates with various background variables. We also identify differences in usage and in content between emergency and ordinary periods. Using automatic, digital methods, and tools we collected all posts published on all the formal Facebook pages of MPs, and analyze publication and engagement behaviors of users and MPs during ordinary and emergency periods (Research Question 1). We then extract and compare prominent terms in the texts generated in each of the distinct periods (Research Question 4). Manual analysis is performed of a sample of the popular posts compared between the content (Research Question 2) and sentiment (Research Question 3) of posts published during ordinary and emergency periods. The current paper extends a previous publication of the research findings (Steinfeld & Lev-On, 2018) with additional relevant findings regarding differences between members of the coalition and members of the opposition with respect to their Facebook activity during emergency and ordinary periods, differences in MPs' reports of parliamentary activity and statement of opinion during the distinct periods, additional differences in frequent terms in the two periods' discourses, and some extended discussion of the results.

The findings, indeed, portray MPs' social media arenas in emergencies as hubs of information and discussion, used for and by citizens as important sources of critical information, on-topic discussions, as well as a patriotic and in-group collectivist arena. Chapter 2 reviews the relevant literature for the study. We present the study's research questions and aims in Chapter 3, followed by a description of the study methods and tools used for data collection and analysis in Chapter 4. Chapter 5 presents the findings, and Chapter 6 discusses their implications and presents the study's conclusions.

2. Literature Review

2.1. Online Social Media in Emergencies

The contemporary media ecology is highly dynamic. New media channels, including major news websites, online social media, and mobile applications, have become established means for generating and consuming content alongside the traditional mass media.

These vicissitudes are evident in Israel, in which data for the current study were collected. Israel has been the world leader with regards to the percentage of the population who uses Facebook and with regard to the average amount of time users spend on Facebook (ComScore, 2011). Furthermore, Israel was ranked 15th in the World Economic Forums Networked Readiness Index of 2013 (Bilbao-Osorio, Dutta & Lanvin, 2013). Between 65%–85% of mobile phone owners have smartphones; 54% of Israelis access the Internet through their smartphones (Mann & Lev-On, 2015).

These transformations are evident during emergencies, as well. Studies on the use of new media in emergencies point to the centrality of such channels (Houston et al., 2015; Lev-On, 2012). Lev-On & Uziel (2018), who studied media usage during the Israel/Gaza war (2014), found that mass media channels remain dominant with respect to “top-down” information dissemination; nevertheless, when it comes to “bottom-up” requests and provision of assistance, self-expression and keeping in touch, and social and mobile tools (especially WhatsApp) are dominant.

Facebook played a unique role in communications during the war. On the one hand, Facebook was used to promote collaborative initiatives, such as campaigns to participate in funerals of soldiers who had no immediate family in the country (lone-soldiers), visit wounded soldiers in hospitals, and/or organize and send packages to soldiers at the front, among others. On the other hand, Facebook became a prominent platform of violent discourse. For case in point, boycotts (for example, of artists who protested against the war) and many “unfriendings” between people who disagreed with each other (John & Dvir-Gvirsman, 2015).

2.2. Patriotism and Rallying around the Flag during Emergencies

An additional phenomenon that typically occurs in the mainstream media during emergencies is patriotic enthusiasm, and increased focus on national symbols and national leaders (Waisbord, 2002). Indeed, academic literatures that study communication patterns in wars and significant security crises (such as the first and second Palestinian uprisings) in the Israeli context (Dor, 2001; Elbaz & Bar-Tal, 2016; Neiger & Rimmer-Tsory, 2013; Neiger & Zandberg, 2004) demonstrate a consistent pattern in which the mainstream media changes from a critical tone to a tone which emphasizes the in-groups at the expense of the out-groups, and visually places more focus on national symbols and leaders in comparison to ordinary times. The enhanced and more positive exposure of the public to its leaders in emergency times is typically followed by an increase of public trust in its leaders (i.e. the “rallying around the flag” effect; Hetherington & Nelson, 2003).

However, the media as well as politicians are expected to rally around the flag during times of emergency, in order to temporarily silence or decrease criticism (Chowanietz, 2010, 2016). This expectation is presumably in contrast to politicians' ordinary discourse, especially that of members of opposition parties that are usually more critical on social media compared to members of the coalition or ruling party (Ross, Fountaine & Comrie, 2015; Van Kessel & Castelein, 2016).

Note that the enhanced and positive coverage of the leaders tends to dissolve following a period of time. If the war lasts for an extended period of time, then typically voices that are critical of the causes of fighting, strategies, and length of fight will emerge. Whilst this phenomenon occurred prior to the rise of new media, some argue (Weimann, 2007) that its magnitude and visibility have now increased due to the sheer quantity of contemporary media channels, their availability to the public, and the rising ability of the public to participate in conversations about conflicts (for example, through online forums, user comments, and contemporarily social media platforms such as Facebook and WhatsApp).

2.3. Contact between Politicians and Audiences through Social Media

As social media takes a more prominent place in the media environment in general (and during emergencies in particular), it is conceivable that contact between MPs and the public during emergencies may shift more and more towards social media.

Many regard the Internet in general and social media specifically as useful tools for assisting parliamentarians to maintain a continuing dialogue with their constituents and the general public (Blumler & Coleman, 2009; Grossman, 1995). Whereas in the past, MPs relied on the mainstream media for coverage and exposure, contemporarily they can use their social media pages to interact with audiences directly, cutting out traditional intermediaries (such as parties) and the mass media (Bernhard & Dohle, 2015). Indeed, over the past few years, it has become evident that having a presence in key social media arenas such as Facebook, becomes mandatory for politicians. In this current study, we found that 106 out of 120 MPs from the Israeli parliament maintain a Facebook page, sometimes with extensive activity.

MPs' social media channels have, thus, become central information and conversation media tools for various agents, including MPs themselves, journalists, as well as the general public. While studies demonstrate that this assertion may hold during ordinary times, it can arguably also hold in emergencies. Nevertheless, the literature about new and social media usage in emergencies focuses almost exclusively on how bureaucracies make use of these channels in order to advance and implement their policies, and how citizens use these in order to realize their needs. There are almost no studies characterizing the public discourse in central social media arenas in emergencies in general (for one exception see Murai & Suzuki, 2014), and in MPs' social media channels vis-à-vis the public in particular.

A small number of studies have looked at the content of posts by politicians, which become more popular compared to others (Steinfeld & Lev-On, 2018). It appears that generally, emotion acts as a predictor of the social media contents potential popularity. Studies examining the virality of Twitter tweets suggest that emotion, whether positive or negative, affects tweets' virality with

the most retweeted ones being tweets expressing some sentiment or another (Lin & Peña, 2011; Stieglitz & Dang-Xuan, 2013). More specifically, news content was found to be more viral when it was negative, and social content was most viral when drafted positively (Hansen et al., 2011).

Since MPs' social media channels are significant arenas through which communication between the public and national leaders takes place in ordinary times and seemingly during emergencies as well, this study makes a unique contribution to understanding the scope and character of public activity during times of emergency.

2.4. The Israel/Gaza War, 2014

The Israel-Gaza War of 2014 has been the longest military operation ever waged by the State of Israel. The immediate background to the operation was the kidnapping (on June 11th) and murder of three Israeli teenagers by members of the Palestinian organization Hamas. The victims' bodies were found nearly three weeks later. This period was characterized by an increasing frequency of rockets fired from Gaza at civilian populations in southern Israel in June 2014.

The military response quickly escalated into a full-scale military operation that commenced on July 7th, 2014 and lasted 50 days. During this period, rocket firing was frequently carried out towards civilian populations in the communities surrounding the Gaza strip, the Southern parts of Israel, and beyond. A total of 3,600 rockets and mortars landed in Israel, 224 of which landed in urban areas (Ynet, 2014). During the operation, 67 Israeli soldiers and five civilians were killed, and some 1,620 soldiers and 837 civilians were injured. On the Palestinian side, 2,203 Palestinians were killed, and over 11,000 Palestinians were injured.

3. Research Questions

This study investigates the interaction between citizens and MPs on Facebook, by analyzing posts' content and engagement. The following research questions focus on a comparison between ordinary times and times of emergency, with the aim to illustrate how direct communications between MPs and citizens are influenced by crisis and whether they conform to previous observations on media in times of emergency.

3.1. Publication and Engagement during Emergency and Ordinary Times

RQ1. Are there differences in the scopes of publication and user engagement with posts in MPs' pages during emergency and ordinary times?

H1. We expect to find an increase in post publication rate and user engagement with politicians' posts during times of emergency. Users may be inclined to use MPs' social media platforms with increasing intensity and focus more attention to political messages compared to ordinary times, aiming at satisfying their increasing needs (Lev-On, 2012; Lev-On & Uziel, 2018).

3.2. Content of Posts Published during Emergency and Ordinary Times

RQ2. Are there differences between posts published by politicians during emergency and ordinary periods in terms of discussing emergency issues?

H2. We expect that posts published during times of emergency would be significantly more oriented towards discussions regarding the national emergency, on-topic, and related to the current state of affairs.

RQ3. Are there differences in the proportion of personal posts published by politicians during times of emergency and ordinary periods?

H3. As emergency periods are characterized by a greater sense of patriotism and emphasis of national symbols, we expect to see less personal stories in politicians' posts during times of emergency.

RQ4: Are there differences in the proportion of posts reporting on MPs' parliamentary activities during times of emergency and ordinary periods?

H4. As MPs' posts are expected to focus more on the crisis, while other more routine topics are temporarily set aside during emergency periods, we expect to find less reports of MPs' parliamentary activities during national emergency as compared to ordinary times.

3.3. Sentiment and Tone of Posts Published during Emergency and Ordinary Times

RQ5. Are there differences in the sentiments of posts published by politicians during emergency and ordinary periods?

H5. We expect posts to be more negative and less positive during times of emergency when compared to ordinary periods.

RQ6. Are there differences in the level of criticism and support expressed in posts published by politicians during national emergency periods compared to ordinary periods?

H6. We expect to find posts published by politicians during times of emergency to express more support, foremost towards groups most affected by the emergency situation. However, as extended periods of emergency may be characterized by controversy among politicians regarding goals and operations conducted and not conducted by the state, we also expect to find an increase in criticism.

3.4. Coalition and Opposition discourse in times of national emergencies and during ordinary periods

RQ7. Are there differences between posts published by members of the coalition and posts published by members of the opposition during emergency and ordinary periods?

H7a. We expect members of the opposition to be more critical during ordinary times than members of the coalition; however, they will be less critical and more supportive during emergency times, as part of a rallying around the flag phenomenon.

H7b. Additionally, posts published by members of the opposition would be less opinionated, i.e. include statement of the MPs' opinions during emergency times, but posts by members of the coalition (some of which are members of the cabinet or holding ministerial positions) would express more opinion during times of national emergency compared to ordinary times.

3.5. Textual Differences between Posts Published during Emergency and Ordinary Times

RQ8. What are the prominent terms in the texts of politicians' posts, and are there terms that specifically dominate posts published during emergency periods?

H8. We expect to find that the discourse during emergency tends to revolve around issues relevant to the crisis, while the discourse during ordinary periods is more diverse and includes more civil and social issues.

4. Methodology

A list of all 120 members of the 19th Israeli parliament (beginning February 5th, 2013, until December 9th, 2014) was composed based on data from the parliament's website. To locate the official Facebook page of each MP, every MP's page in the parliament website was scanned for a link to the MP's formal Facebook page. This was followed by a search with Google's search engine, and finally within Facebook, entering the name of each MP in Hebrew, Arabic, and English, Israel's three official languages. 106 MPs' formal Facebook pages were found and included in the study.

All 106 pages were scraped using Netvizz, a Facebook app developed by Digital Methods Initiative Labs¹. We used the application to extract and archive all of the posts published by either the pages or users during the entire 21-month period of the 19th parliament. In total, our dataset included 441,974 posts. Netvizz automatically attaches the following information to every post: publication date, post origin (page or a user, anonymized), post text, and various engagement measures, i.e. number of likes, comments, and shares that the post received. It should be noted that during the period examined, Facebook had not yet introduced the reactions feature, therefore the above engagement indices are the only ones relevant for the posts extracted for this study. As the aim of the study is to examine the Facebook activity of all Israeli MPs throughout an entire service of the parliament, the period of the 19th parliament was chosen for the extraction of the data (the 20th parliament is still at service at the time of writing).

¹ We thank Digital Methods Initiative and the developer, Bernhard Rieder, for the use of this tool.

To analyze the posts, we used a combination of automatic and manual content analyses. The automatic analysis is based on information retrieved by Netvizz, while the manual coding was conducted on a sample of each MP's bimonthly, most popular post. In order to generate the sample, we divided the entire period of analysis into periods of two months. Then, for each of the periods, and for each MP, we sampled the leading post/s in terms of number of likes. The decision to look at number of likes rather than number of comments or shares was made on account of "likes" being the preferred and most common type of user engagement with posts in the dataset, engaging more users than other types of engagement. The most-liked post sample, which consisted of 994 posts, included posts authored by MPs only, as the focus of this study surrounds content posted by MPs, which are most favorable by users. The sampling method described above enabled the equal representation of each MP throughout the entire period examined.

Manual coding was conducted by five coders that were trained by the researchers. Repeated training sessions were conducted for categories that achieved less than 90% reliability, until inter-coder reliability of 90% was achieved in all categories. The content and tone of posts were coded according to the following categories:

- Discussing emergency issues.
- Personal Story (e.g. "Joyful times: A new granddaughter was born to our family").
- Opinion stating (e.g. "I object to...", "The party supports this legislation", "We have to defeat terror").
- Report of parliamentary activity (e.g. report of participation in a committee, submitting a bill, giving a speech at the parliament, etc.).
- Criticism or support of a person or entity. A post could be critical (e.g. "The haughty government led by Netanyahu, Bennet, and Lapid"), supportive (e.g. "PM Netanyahu's decision is a brave one"), or neutral (does not include criticism, support, or includes both equally).
- Object of criticism/support (e.g. another politician by name, a formal entity in the parliament, citizens, publics, non-parliamentary public figures, public figures outside of Israel, media organizations).
- Positive tone (e.g. "We have finally and successfully passed the legislation").
- Negative tone (e.g. "Terrorists belong behind bars and not at the parliament").

For the analysis of prominent terms, we created two corpuses: The "ordinary" corpus included the texts of all posts published during the ordinary period, and the "emergency" corpus included the texts of all posts published during the emergency period (between June 11th and August 26th, 2014). For each corpus, we used n-gram extraction tools to extract co-occurring words frequencies in the texts.² The tool implements an algorithm by Nagao and Mori (1994) to extract number of occurrences of words in the text. We configured the tool to extract terms containing between two and five words, which appear at least 50 times in the texts. For a comparison of shared and differ-

² <https://homepages.inf.ed.ac.uk/lzhang10/ngram.html>. We thank the developer, Zhang Le, for the use of the tool.

ent n-grams between the two corpuses, we used the online tool Compare Lists³ developed by the Digital Methods Initiative Labs which compares two lists of keywords for common and different words in each list.

5. Findings

5.1. Publication and Engagement during Emergency and Ordinary Times

Table 1: Posts and Engagement with Posts during Emergency and Ordinary Periods

	Entire period	Ordinary (88.7%)	Emergency (11.3%)
Posts (users and MPs)	441974	370108 (83.7%)	71847 (16.3%)
Posts (MPs only)	38242	33892 (88.6%)	4350 (11.4%)
Likes (all posts)	M=83.85 SD=970.53	M=72.26 SD=774.22***	M=143.53 SD=1643.81***
Likes (MPs posts)	M=928.4 SD=3164.8	M=748.53 SD=2439.48 ***	M=2329.83 SD=6283.19***
Comments (all posts)	M=8.81 SD=95.7	M=8.11 SD=82.96***	M=12.43 SD=144.45***
Comments (MPs posts)	M=89.18 SD=312.79	M=75.35 SD=263.1***	M=196.94 SD=554.78***
Shares (all posts)	M=6.73 SD=193.76	M=5.1 SD=76.43***	M=15.09 SD=448.07***
Shares (MPs posts)	M=75.94 SD=652.3	M=53.99 SD=240.55***	M=246.94 SD=1804.86***

*** $p < .001$

³ <https://tools.digitalmethods.net/beta/analyse/>

As Table 1 demonstrates, 16.3% of the posts in the dataset (71847 out of 441974 posts) were published during the emergency period. This proportion is slightly larger than the proportion of this period in the dataset (76 days out of a total of 673 which are 11.3%), suggesting that this period has been slightly more active in terms of Facebook posting. But when looking at posts published by politicians only (excluding user-authored posts), it appears that politicians are not more active during times of emergency. In fact, the proportion of posts published by politicians matches exactly the proportion of the period in the dataset: 11.4% (4350 out of 38242) of politicians' posts were published during the period of the kidnapping and the military operation.

Due to the highly skewed distribution of these measures, a series of Mann-Whitney tests were conducted to test for significant differences in engagement between the two time periods. The tests confirmed the differences between posts *published by MPs only* during emergency and ordinary times, with emergency posts receiving significantly *more likes* ($U=53835203$, $p<.001$), *more comments* ($U=58073772.5$, $p<.001$), and *more shares* (55801516.5 , $p<.001$) than posts published by MPs during ordinary times. The differences are also significant for *all of the posts* published by users and by MPs (For likes: $U=10973979370$, $p<.001$; For comments: $U=10977161638.5$, $p<.001$; and for shares: 13038566507.5 , $p<.001$). These findings support H1.

5.2. Differences in Content of Posts Published during Emergency and Ordinary Times

Turning to analysis of the 944 most-liked posts sample demonstrates significant and dramatic differences in content relating to emergency situations during the emergency period (50%) compared to ordinary times (3.4%), i.e. half of the preferred posts were related to the emergency situation. This supports H2. However, users also preferred posts which did not discuss the events half of the time, suggesting that politicians and users alike saw an importance in addressing other issues during that period.

Only 9.2% of politicians' posts published during the time of national emergency included a personal angle of story (unrelated to politics), compared to 18.7% during ordinary times ($\chi^2=7.62$, $p<.01$). This finding supports H3.

A significant difference also exists in the proportion of posts reporting of MPs' parliamentary activities, with 26.5% of MPs' posts published during ordinary times including reports of parliamentary activity, while only 14.1% of posts published during the period of national emergency mentioning such activities ($\chi^2=9.93$, $p<.01$). This finding supports H4.

Table 2 summarizes the significant differences in content of politicians' posts published during ordinary and emergency periods.

5.3. Differences in Sentiment and Tone of Posts Published during Emergency and Ordinary Periods

Posts in the most-liked sample published during the emergency period are less positive (47.9% vs. 62.5%) and more negative (65.5% compared to 44.2%) compared to posts published during ordinary periods. These findings support H5.

With respect to criticism and support, posts are more supportive during emergency (28.9%) than during ordinary periods (18.4%). In ordinary periods, support is targeted toward certain groups (25%) followed by citizens (20.7%) and non-parliamentary public figures (18.6%). In emergency, support is first and foremost directed at citizens (46.3%) followed by certain groups (24.4%, such as, for example, “the soldiers”, or “residents of the south” living in areas suffering most from missile launches).

Criticism is also more prominent during emergency periods (38%) compared to during ordinary periods (30.1%), with criticism during ordinary periods directed mostly at other politicians by name (19.2%), followed by non-parliamentary public figures (17.9%); and during emergency periods criticism was directed at other politicians (33.3%) followed by, quite surprisingly, citizens (16.7%). These findings support H6.

Table 2 summarizes the significant differences in tone and sentiment of politicians' posts published during ordinary and emergency periods.

Table 2. Differences between content of ordinary and emergency posts

Category	% of Posts Published During Times of national emergency	% of Posts Published During Ordinary Times	Differences
Emergency	50%	3.4%	$\chi^2=271.59, p<.001$
Personal Story	9.2%	18.7%	$\chi^2=7.62, p<.01$
Parliamentary Activity	14.1%	26.5%	$\chi^2=9.93, p<.01$
Positive Sentiment	47.9%	62.5%	$\chi^2=10.62, p<.01$
Negative Sentiment	65.5%	44.2%	$\chi^2=21.83, p<.001$
Support	28.9%	18.4%	} $\chi^2=17.42, p<.001$
Criticism	38%	30.1%	
Neutral (No Criticism, No	33.1%	51.6%	

Support)			
Coalition MPs: Statement of opinion	37.9%	26.1%	$\chi^2=5.5, p<.05$
Opposition MPs: Statement of opinion	38.3%	40.7%	
Coalition MPs: Criticism	33.7%	24.4%	} $\chi^2=17.42, p<.001$
Coalition MPs: Support	29.5%	18.7%	
Opposition MPs: Criticism	46.8%	41.5%	N.S
Opposition MPs: Support	27.7%	17.8%	

5.4. Differences between posts published by members of coalition and opposition in ordinary period and during national emergency

A comparison of opposition and coalition members’ posts reveals that in general, opposition MPs’ posts are significantly more critical than coalition MPs’ posts: Almost half of opposition MPs’ most-liked posts (42.3%) were critical, while only 19.3% were supportive, and 38.3% were neutral. In contrast, 25.8% of the most-liked coalition MPs’ posts were critical, 53.8% neutral, and 20.4% supportive ($\chi^2=27.41, p<.001$). During the emergency period of the teens kidnapping and operation Protective Edge, and contrary to what was hypothesized, opposition MPs’ most-liked posts tended to be slightly more critical (46.8% compared to 41.5% during routine), but also much more supportive (27.7% compared to 17.8% during routine). These differences, however, are not significant in the case of opposition MPs’ posts. Coalition MPs’ posts are significantly more critical during the emergency period (33.7% compared to 24.4% during routine), but also significantly more supportive (29.5% compared to 18.7% during routine) ($\chi^2=13.32, p<.01$).

Table 2 summarizes the differences between members of coalition and members of opposition with respect to posts published during ordinary and emergency periods.

Interestingly, while opposition MPs’ popular posts tend to be slightly less opinionated during emergency periods (38.3% compared to 40.7% during routine), coalition MPs’ popular posts in-

clude significantly more personal opinions (37.9% compared to routine's 26.1%) ($\chi^2=5.5$, $p<.05$). This increase in users' preference for opinion stating in coalition members' posts may be related to the roles some of the members of coalition play during times of crisis (as members of the cabinet and representatives of the executive branch). As such, they have greater responsibility and capability to influence the course of the conflict; therefore, they may be perceived by the public as required to state their own opinion on the matter in real time. This finding supports H7b.

5.5. Textual Differences between Emergency Period Posts and Ordinary Posts

Moving to an analysis of the prominent terms in each of the corpuses: the "ordinary" corpus, composed of the texts of all posts published during ordinary periods, and the "emergency" corpus, composed of texts of all posts published during the emergency period. We used the n-gram tool described above to extract prominent terms and compared ordinary and emergency prominent terms using the compare lists tool.

Ordinary Discourse. The list of frequent terms in the posts published during ordinary periods is led by two main figures: The Minister of Finance, Yair Lapid, a former popular news anchor, recently entered into politics and the center of public attention throughout the study period, and the Prime Minister, Benjamin Netanyahu. Lapid's name is mentioned 22159 times and is first in the prominent terms list in the routine corpus, the phrase "Minister of Finance" is number seven on the list with 14317 mentions. "Prime Minister" is number nine with 13342 mentions, and Benjamin Netanyahu at the 33rd place with 5708 mentions. The discourse is also dominated by direct applications to ministers ("Mr. Secretary" is 15 on the list with 7737 occurrences) and expressions of demands ("I want" –7606 times, number 16; "It's about time" –7564 times, number 17).

Emergency Discourse. The list of terms in the emergency corpus is led by a variety of terms supporting the Palestinians (e.g. "free Palästina" is first on the list with 12164 occurrences, and "syrien" is second, repeats 6338 times. The combination: "Free Palästina & Syrien" appears 5263 times). These are presumably the work of pro-Palestinian hacktivists who engaged in online attacks on officials' Facebook pages to "color" the pages in pro-Palestine messages during the military operation in Gaza. The first terms unrelated to these messages are "Prime Minister" with 4641 occurrences, "the state of Israel" with 4435 occurrences, and "the Israeli People" with 3041 occurrences. Alike, "cease fire" is also prominent and appears 2678 times in the texts.

Comparing between the corpuses. Some issues that are common in the discourse on politicians' pages in ordinary times, are set aside during emergencies. A clear example is the word "equality", an often-used word in various terms in the discourse: "Equal rights", "Inequality", "Equal opportunities", "Gender equality", and the like. Altogether, the word "equal" appears in 73 phrases, all of them were extracted from the ordinary corpus. None of the prominent phrases of posts published during the emergency period included a reference to the notion of equality.

Another topic only raised in ordinary periods is minimum wage: All 34 phrases mentioning minimum wage ("(The) Minimum Wage", "Raising the Minimum Wage", "Minimum Salary", and similar) were extracted from the ordinary corpus, while none came up in the emergency corpus analysis. Similarly, phrases related to taxes are also only prominent during ordinary times: "The

Income Tax", "Tax(es) on", "Corporate Tax", "Purchase Tax", "Health Tax", "Rate of Tax", "Tax Benefit", and many more versions of these phrases appear as frequent terms only in the routine period, with one exception being the mention of the IRS (In Hebrew: "Income Tax") which appeared in this form in the two corpuses. "Politics"—as in phrases such as "New Politics" (the slogan of the new popular party, "Yesh Atid"), "Old Politics", "Different Politics", "Israeli Politics", "This is Politics", "Not Politics", etc.—also appear frequently only in ordinary period posts.

On the contrary, the emergency discourse revolves, first and foremost, around issues relevant to the crisis. The word “*Hamas*” is included in 98 phrases, six of which (“*Hamas*”, “*With Hamas*”, etc.) were extracted from both corpuses, while the rest were extracted from the emergency corpus only. "Cease Fire" exists in both corpuses, but all other versions of the phrase ("The Cease Fire", "To Cease Fire", "Of Cease Fire", "No to Cease Fire", "Want Cease Fire", etc.) were all extracted from the emergency corpus only. Naturally, the three abducted and murdered teenagers are mentioned very often in various phrases ("The Three Teenagers", "Of the Teenagers", "The Abducted Teenagers", "The Death of the Teenagers", etc.)—all within the emergency corpus.

Figures 1 and 2 below display word clouds of the 100 most prominent terms in each of the corpuses (very common phrases were removed from list, terms are translated from Hebrew to English by the authors).

Figure 3 displays a network graph of all of the terms (ngrams of two to five words), which appeared at least 50 times in each of the corpuses.

Figure 1: Word cloud of 100 most frequent terms in the emergency corpus. Size represents scale (frequency).



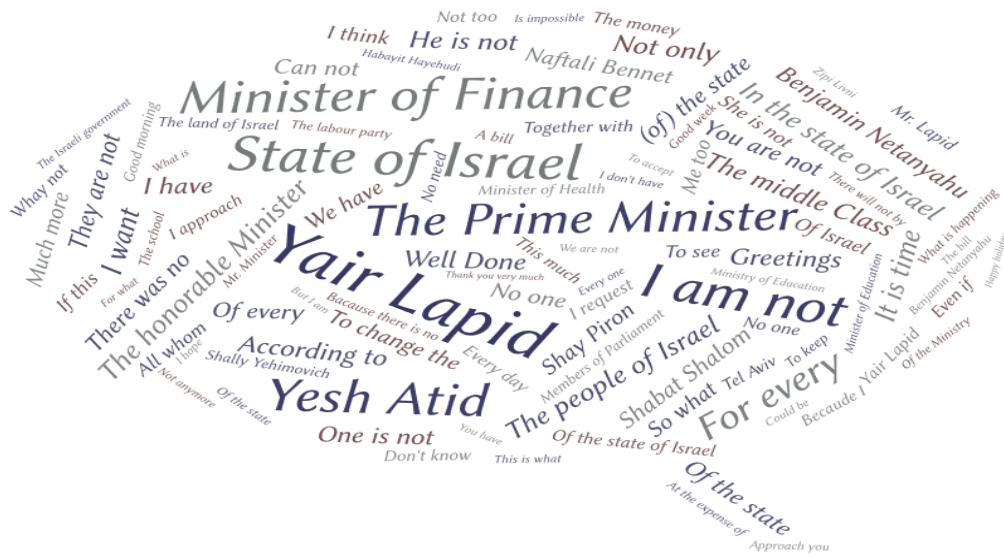
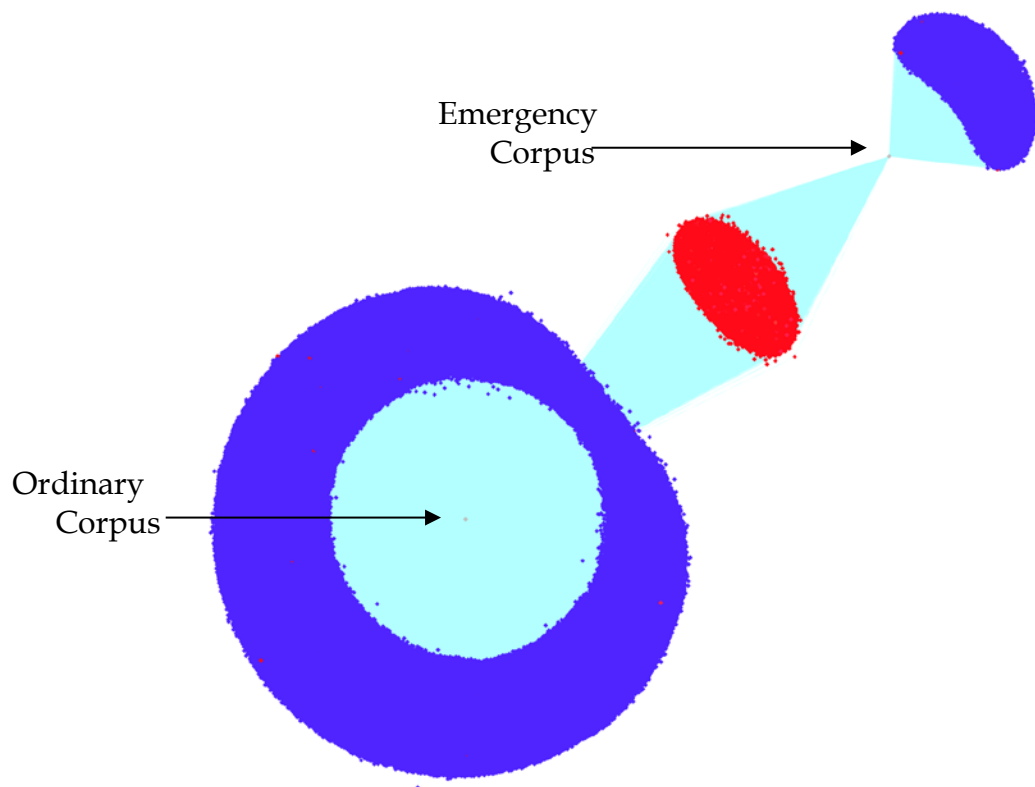


Figure 2: Word cloud of 100 most frequent terms in the ordinary corpus. Size represents scale (frequency).

Figure 3: Network graph of all terms (ngrams of two to five words) which appeared at least 50 times in each of the corpuses, edges represent the link between term and corpus. The Grey nodes represent the two corpuses. Red nodes are common terms to both corpuses. Blue nodes appear in one corpus only. The network was visualized using ForceAtlas2 algorithm on Gephi.



6. Discussion and Conclusions

MPs' social media arenas are significant channels through which communication between the public and national leaders occurs. Many studies analyzed the content, and engagement with it, occurring in such arenas during ordinary times. To the best of our knowledge, the current study is the first to analyze them also in emergency times, focusing on the 2014 Israel/Gaza war.

Studying content and engagement pertaining to MPs' social media arenas *during emergencies* is important, as needs are intensified and become more acute on one hand, and on the other hand the scope of information generation and circulation becomes faster compared to ordinary times. Sites that function as information hubs in "ordinary times" (as MPs' social media channels seem to) can thus function in emergencies as hubs of information and discussion, and possibly even drivers of patriotism and in-group collectivism, just as the mainstream media tend to function in emergencies. This also functions in addition to serving as platforms for critical updates related to the situation, used by citizens to be informed in real-time and also report on events.

With more than 20,000 monthly posts and hundreds of thousands of comments, MPs' social media pages are definably a hub for information circulation and discussion. While MPs themselves do not post more often during emergencies, there was certainly an increased number of posts on their pages during emergencies (i.e. users make many more posts to MPs pages during a time of emergency, nonetheless MPs themselves do not). There is also significantly more engagement with these posts; posts made during emergencies gain significantly more likes, comments, and shares than "ordinary times" posts. These findings suggest that users turn to the formal Facebook pages of their representatives at times of emergencies even more than in ordinary times.

Analysis of the content posted on MPs' pages during ordinary times and emergencies sheds some light on the reasons these spheres are busier during emergency periods, by highlighting the topics which are more and less prevalent during such times compared to ordinary times. The analysis demonstrates that topics that lead the social media in "ordinary times" such as the discourse on equal rights, gender equality, minimum wage, and more, are neglected during emergencies, with focus becoming on the emergency situation itself and the national leaders attending to it. MPs publish significantly less personal posts during emergencies, which further demonstrates how the collectivist spirit during national emergencies triumphs over MPs' intention to present their "personal angle" online. MPs additionally relate less to their own parliamentary work, setting aside discussions and issues of ordinary parliamentary matters. Members of coalition and opposition differ in statement of opinions, with opposition members stating slightly less opinions in emergency period posts, and coalition members stating significantly more opinions in the emergency period than during ordinary periods. Both opposition and coalition MPs' posts are more critical, as well as more supportive, and thus generally less neutral during national emergencies compared to ordinary times. However, this difference is only significant in the case of coalition MPs' posts, as opposition MPs are also very critical during ordinary times. Discourse seems to become more emotional, expressing more support (especially towards citizens, groups directly affected from the war and soldiers) and criticism (especially of politicians), demonstrating a more negative and less positive sentiment.

These findings indeed portray MPs' social media arenas in emergencies as hubs of information and discussion, used for and by citizens as important sources of critical information, on-topic discussions, as well as a patriotic and in-group collectivist arena.

The main limitation of this study lies in the specific case study used as a marker for the emergency period. It is possible that another type of emergency, such as a natural disaster, civil uprising, another military operation, or war with different characteristics would promote different types of discussions and engagement on MPs' social media pages. Future studies can compare these findings with findings from online social media arenas of public figures and entities in future emergencies in Israel and elsewhere. Additionally, the choice to manually analyze a sample of the leading posts on each MP's page was made due to these posts' increased visibility and user-liking arguably being a measure of what content interests users the most. A study based on a more general, random sample may shed light on the sort of information created by users during ordinary and emergency periods that may encompass less central or favorable topics but additional, perhaps more marginal topics which may be interesting to observe, as well.

References

- Bernhard, U., Dohle, M. (2015). Local politics online: The influence of presumed influence on local politicians' online communication activities in Germany. *Local Government Studies* 41(5), 755-773.
- Bilbao-Osorio, B., Dutta, S., X Lanvin, B. (2013). *The global information technology report 2013: Growth and jobs in a hyperconnected world*. Retrieved March 17, 2016 from http://www3.weforum.org/docs/WEF_GITR_Report_2013.pdf
- Blumler, J. G., Coleman, S. (2009). *The Internet and democratic citizenship*. New York: Cambridge University Press.
- Chowanietz, C. (2016). *Bombs, bullets, and politicians. France's response to terrorism*. Montréal: McGill Queen's University Press.
- Chowanietz, C. (2010). Rallying around the flag or railing against the government? Political parties' reactions to terrorist acts. *Party Politics*, 17 (5), 673-698.
- ComScore: It's a social world: Top 10 need-to-knows about social networking and where it's headed. Retrieved March 17, 2016 from www.comscore.com/it_is_a_social_world
- Dor, D. (2011). *Newspapers under influence*. Tel Aviv: Babel.
- Elbaz, S., Bar-Tal, D. (2016). Dissemination of culture of conflict in the Israeli mass media: The wars in Lebanon as a case study. *The Communication Review* 19(1),1-34.
- Grossman, L.K. (1995). *The electronic republic: Reshaping democracy in the information age*. New York: Viking Penguin.
- Hansen, L.K., Arvidsson, A., Nielsen, F. Å., Colleoni, E., Etter, M. (2011). Good friends, bad news-affect and virality in twitter. In: *Future information technology*, pp. 34-43. Heidelberg: Springer.
- Hetherington, M. J., Nelson, M. (2003). Anatomy of a rally effect: George W. Bush and the war on terrorism. *PS: Political Science & Politics* 36(1), 37-42.
- Houston, J. B., Hawthorne, J., Perreault, M. F., Park, E. H., Goldstein Hode, M., Halliwell, M. R., ... Griffith, S. A. (2015). Social media and disasters: A functional framework for social media use in disaster planning, response, and research. *Disasters* 39(1), 1-22.
- John, N.A., Dvir-Gvirsman, S. (2015). 'I don't Like you any more': Facebook unfriending by Israelis during the Israel-Gaza conflict of 2014. *Journal of Communication* 65(6), 953-974.
- Lev-On, A. (2012) Communication, community, crisis: Mapping uses and gratifications in the contemporary media environment. *New Media and Society* 14(1), 98-116.
- Lev-On, A., Uziel, V. (2018). Live, visual, social, and mobile: Media ecology in emergencies and ordinary times. *Online Information Review*, 42.
- Lin, J. S., Peña, J. (2011). Are you following me? A content analysis of TV networks' brand communication on Twitter. *Journal of Interactive Advertising* 12(1), 17-29.
- Mann, R., Lev-On, A. (2015). *Annual report: The media in Israel 2014: Agendas, uses and trends*. Ariel: Institute for the Study of New Media, Politics and Society.

- Murai, S., Suzuki, T. (2014). How the Japanese social media users discussed the Senkaku controversy. In: *The dispute over the Diaoyu/Senkaku islands*, pp. 169-199. New York: Palgrave Macmillan.
- Nagao, M., Mori, S. (2014), A new method of N-gram statistics for large number of n and automatic extraction of words and phrases from large text data of Japanese. In: *Proceedings of the 15th conference on Computational linguistics*, vol. 1, pp. 611-615. Association for Computational Linguistics.
- Neiger, M., Rimmer-Tsory, K. (2013). The war that wasn't on the news: 'In-group nationalism' and 'out-group nationalism' in newspaper supplements. *Journalism* 14(6), 721-736.
- Neiger, M. Zandberg, E. (2004). Days of awe: The praxis of news coverage of violent conflict. *The European Journal of Mass Communication* 29, 429-446.
- Ross, K., Fountaine, S., & Comrie, M. (2015). Facing up to Facebook: Politicians, publics and the social media(ted) turn in New Zealand. *Media, Culture & Society* 37 (2), 251-269.
- Steinfeld, N., Lev-On, A. (2018). Writing on the city wall: An analysis of popular municipal Facebook page posts. In Carlos Nunes Silva (ed.), *New Approaches, Methods and Tools in Urban E-Planning*, pp. 33-59. Hershey, PA: IGI Global.
- Steinfeld, N., & Lev-On, A. (2018). MPs and Audiences on Social Media During Emergencies: Automatic and Manual Content Analyses of Facebook Posts. In *International Conference on Electronic Participation* (pp. 39-50). Springer, Cham.
- Stieglitz, S., Dang-Xuan, L. (2013). Emotions and information diffusion in social media: Sentiment of microblogs and sharing behavior. *Journal of Management Information Systems* 29(4), 217-248.
- Van Kessel, S., & Castelein, R. (2016). Shifting the blame. Populist politicians' use of Twitter as a tool of opposition. *Journal of Contemporary European Research*, 12 (2), 594-614.
- Waisbord, S. (2002). Journalism, risk and patriotism. In: Zelizer, B., Allan, B. (eds.) *Journalism after September 11*, pp. 201-219. New York: Routledge.
- Weimann, G. (2007). *The Israeli public's criticism of the media during the Lebanon War of 2006*. Tel Aviv: Tel Aviv University Press.
- Ynet. August 27, 2014 Operation Protective Edge in numbers. Retrieved May 17, 2018 from <https://www.ynetnews.com/articles/0,7340,L-4564678,00.html>.

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