**Between the homefront and the battleground; between the TV and the smartphone:**

**evaluating the use of a second screen during Operation Guardian of the Walls**

**Introduction**

During May 2021, Israel and Gaza engaged in 12 days of violent military conflict known as Operation Guardian of the Walls, which included—as in previous operations in the conflict area—rockets fired on cities and towns as well as injuries and harm to civilians on both sides.

The media’s role in wars and other violent conflicts has long been the focus of research attention (Althaus, 2003; Bennett et al., 2007; Blondheim and Shifman, 2009; Kalb, 2007; Liebes and Kampf, 2009; Nobrstedt et al., 2000; Peled and Katz, 1974; Tenenboim, 2017; Wolfsfeld, 1997; Yarchi, 2016). More recently, especially in the last two decades, studies have moved on to examine the role that new media—particularly social media—plays in these harsh situations (Bennett, 2013; Evans, 2016; Knüpfer & Entman, 2018; Livio and Cohen-Yechezkely, 2019; Malka et al., 2015; Melki and Kozman, 2021; Merrin and Hoskins, 2020; Schafer et al., 2019; Wolfsfeld, 2018; Wolfsfeld et al., 2013).

The phenomenon of second-screen use—that is, use of smartphones and other portable devices while watching television—has attracted much attention over the last decade. Scholars have examined usage patterns and gratifications, as well as the social, professional, economic, and political aspects of using second screens. Most studies in this field have focused on live sport and political broadcasts (Gil de Zúñiga et al., 2015; Gil de Zúñiga and Liu, 2017; Kim and Kim, 2020; Marín-Montín; 2020; Segijn et al., 2017; Weimann-Saks et al., 2019). Although the understanding that media usage during critical times is a major, meaningful part of any situation (at both the individual and the national level), and despite research having already recognized second-screen usage as a notable phenomenon, no study has examined second-screen usage in times of war, especially during a war that directly involved civilians.

The current study examines the role that second-screen usage played in the lives of Israeli citizens during the conflict days of Operation Guardian of the Walls. Particular focus is given to the correlations between users’ level of concern (due to the war) and their immediate degree of actual threat (based on their relative proximity to the war zone), and their second-screen usage patterns.

*The media in times of war*

The critical role of the media in our lives is particularly emphasized during events such as natural disasters, mass terror attacks, and assassination attempts on national leaders, together with wars and other national emergencies (Katz and Liebes, 2007; Leibes, 1998; Wolfsfeld, 1997). During such emergency events, both the scope and level of the media–government–public interaction is disproportionate. Such disproportionality is intensified even further when this tripartite relationship is expanded by the addition of other players, such as the military, as well as negative factors involved in the crisis (Bennett et al., 2007; Wolfsfeld, 1997; Yarchi, 2016).

Research surrounding the role of the media during wartime has addressed a vast range of topics, including the characteristics of event coverage and the representation patterns of the players involved (Kalb, 2007; Liebes and Kampf, 2009; Nobrstedt et al., 2000; White, 2020), the ways in which war coverage affects decision-makers and both local and international public opinion (Hammond, 2018; Miller and Bokemper, 2016; Sobel et al., 2020; Wolfsfeld, 2004), and institutional aspects—such as the reciprocal relationships among representatives of the military–government–media triangle, and how governments and other political players enlist the media to promote their policies (Ahmad, 2019; Bennett et al., 2007; Blondheim and Shifman, 2009; Livio and Cohen-Yechezkely, 2019; Yarchi, 2016). Another fertile field of research in this context (not addressed in this study) includes various aspects of war journalism, including professional dilemmas and challenges (Livio and Cohen-Yechezkely, 2019; Stuart and Zelizer, 2004) and the influence of the evolving media landscape on journalism work (Tenenboim, 2017), from a normative perspective (Althaus, 2003; Neiger et al., 2010) to a cultural one (Liebes, 1997).

*War and crisis in the age of new media*

The emergence of new media has evoked broad scholarly interest with regard to the coverage of wars and other crises (Bennett, 2013; Evans, 2016; Knüpfer and Entman, 2018; Melki and Kozman, 2021; Merrin and Hoskins, 2020; Wolfsfeld, 2018; Wolfsfeld et al., 2013). It has generally been proposed that, given the unique features of new media, the balance of power in the political communication arena must be reassessed. Moreover, this reassessment must consider the potential for damage caused by new media versus the possibilities that such media holds from the perspectives of other players in the field (Lev-On, 2012, 2018; Livio and Cohen-Yechezkely, 2019; Weimann, 2006; Wolfsfeld, 2018; Wolfsfeld et al., 2013).

Naveh (2008) and Lev-On (2010) described the extensive activity conducted via the Web over a broad range of platforms during the Second Lebanese War (2006). This activity included local and private initiatives to disseminate up-to-date information on websites, forums, and dedicated blogs using email and social networks, civilian volunteer recruitment ventures, messages of a humorous–satiric nature, updates on the welfare of relatives, and criticism toward decision-makers. These activities occurred alongside expressions of support for the army and the government. Diverse uses of new media were intended to fill the void left by the authorities’ impaired functioning during wartime, particularly in matters related to the home front (Lev-On, 2010; Naveh, 2008). Bracken et al. (2005) highlighted the importance of cell phones during times of crisis, contending, for example, that cell phone–based interpersonal communication networks, combined with television, constituted the primary source of information during the terrorist attacks of September 11, 2001, in the US. Katz and Rice (2002) proposed that the cell phone was utilized extensively during September 11th because it enabled the immediate transfer of information and enabled individuals to connect with important others (family and close friends). Other studies have focused on natural disasters such as the 2004 Indian Ocean tsunami and Hurricane Katrina, during which new media also became a highly effective tool for managing the crises, operating in the service of authorities, citizens, and small organizations (Macias et al., 2009; Procopio and Procopio, 2007).

*Individual media usage under threat*

Numerous studies have focused on the individual perspective when examining the role of media in times of war, as well as in other disasters and crises, as the levels of threat—both actual and perceived—during such times increase (Lev-On, 2010; Malka et al., 2015; Naveh, 2008; Shejter and Cohen, 2013; Singh et al., 2020). Two classic communication theories can be utilized to understand the correlation between people’s reactions to threatening situations and their media use patterns: uses and gratifications theory and media systems dependency theory.

Media scholars have considered the uses and gratifications approach to be an efficient, user-centered framework for reviewing and examining users’ interactions with and within media (Katz et al., 1974; Rubin, 2002; Ruggerio, 2000). According to this theory, the audiences or users of various media-related activities are mediated, and depend on the active selection and usage of different media choices. Therefore, efforts have been made to identify the sources of social and psychological needs that create media expectations, including cognitive and affective needs (Katz et al., 1974). From a more current perspective, uses and gratifications theory has been used to examine the primary needs of prospective audiences that are fulfilled by new media (Gan and Li, 2018; Rafaeli and Ariel, 2008; Rathnayake and Winter; 2018).

Uses and gratifications studies have also employed the approach to explore the general uses of smartphones (Joo and Sang, 2013), or specific application usage such as smartphone-enabled social networking by adolescents (Gan and Li, 2018; Sanz-Blas et al. 2013). Sundar and Limperos (2013) positioned smartphones as exemplary of the current uses and gratifications theory challenges, raising theoretical and empirical questions concerning its definition as a medium and its content, process, and affordance.

Inspired by the uses and gratifications approach, Malka et al. (2015) examined civilian uses of WhatsApp during another military operation that involved direct attacks on civilians, heavy casualties, and damages—Gaza’s Operation Protective Edge (July 2014). The authors found that the highly popular social network was used in several surprising ways, including as a news source (gratifying people’s growing cognitive needs). The researchers also pointed out the close correlation between people’s proximity to the war zone (actual threat level) and the amount of WhatsApp use in various ways for multiple gratifications—a finding that can be explained as people’s reaction to their perceived threat and concern level (Malka et al., 2015). Kozman and Melki (2016) studied the uses and gratifications of media among displaced Syrian nationals in the Syrian conflict. The authors showed how the Internet and social media played a significant role in these people’s lives, especially regarding their need to stay informed. Finally, Shejter and Cohen (2013) evaluated the use of cell phones among Israelis during the 2006 Second Lebanese War and the 2009 Operation Pillar of Defense in the Gaza District. The researchers observed that, during these periods, the use of cell phones increased because of their most fundamental characteristic—portability—which makes them constantly and consistently available.

The second theory that contributes to our understanding of media usage in dangerous times is media dependency theory. Media dependency is theorized as “the dependency of audiences on media information sources—a dependency that leads to modifications in personal and social processes” (Ball-Rokeach and DeFleur, 1976: 5). Thus, in conditions of ambiguity—as in a disaster or war—the mass media becomes the undisputed public information source. However, significant changes in media production resources and consumption suggest the need to reassess the theory when moving from more traditional media outlets (TV, radio, newspapers) to a multi-channel, multi-platform digital environment. In this new context, theoretically, everyone can reach multiple sources of information anytime, anywhere.

Lowrey (2004) found that a strong effect of external threat on the degree of media dependence. Lowrey claimed that for most citizens threat is a stronger predictor of dependency on communication than are education, income, or community ties. This indicates that people are more dependent on television and newspapers than on interpersonal communication. However, people have been found to rely more on interpersonal communication than on the radio or the Internet. Just like the uses and gratifications approach, media dependency theory has been reviewed for the Internet and social media era and found to still be highly relevant (Kim and Jung, 2017; Li and Lin, 2016; Lin and Lagoe, 2013; Lyu, 2019; Maxian, 2014; Riffe et al., 2008). Nevertheless, no study to date has examined media usage under threat contexts in terms of usage of a second screen.

Media dependency theory implies that an increase in people’s actual—as well as perceived—threat will lead to an increase in their media dependency at both the micro and macro levels (Ball-Rokeach, 1985; Ball-Rokeach and DeFleur, 1976; Loges, 1994; Lyu, 2019). In such contexts, people will tend to make greater efforts to reach reliable, current sources of information concerning their current threat. This makes the second-screen phenomenon applicable to many cultures today.

*Second-screen usage*

Gil de Zúñiga et al. (2015) defined the second-screen phenomenon as usage of an electronic device or screen to obtain more information or to participate in real-time discussion while simultaneously watching television, accessing the Internet or social networking sites, watching an event, etc. Klein-Shagrir (2017) noted that the immediateness of a television program could be enhanced via the use of digital platforms and social networks, which function as a second screen. Similarly, Hayat and Samuel-Azran (2017) argued that second-screen usage involves looking up information and interacting with others by logging into social networking sites. Blake (2016) defined the second-screen experience as engaging with related media content on two screens simultaneously. Finally, in a study by Segijn et al. (2017), 60% of participants indicated having simultaneously used multiple screens at least once, with the TV–smartphone combination being the most prevalent. Marín-Montín (2020) found that social networking sites are a vital element of second-screen usage related to television consumption.

Kim and Kim (2020) found that usage of social live-streaming services can be linked to psychological factors such as social well-being and loneliness. In this sense, use of a second screen may be considered a form of media multitasking. Wang and Tchernev (2012) examined the reciprocal relationship between media multitasking patterns and viewers’ needs and gratifications. They found that viewers’ emotional needs and media multitasking determine emotional gratification. Multitasking increases emotional gratification when emotional needs are low and decreases emotional gratification when emotional needs are high. As Park et al. (2019) demonstrated, tweeting while watching television reduces viewers’ sense of transportation—defined as an integrative mingling of attention, imagery, and feelings—resulting in a reduction in their overall enjoyment of the program. Using a second screen during a live broadcast allows viewers to communicate with each other even when they cannot view the event in a shared physical space (Weimann-Saks et al., 2019). According to Gil de Zúñiga and Liu (2017), using second screens while viewing political media events increases engagement. Based on the referenced literature, the motivation for using a second screen in such circumstances is twofold: searching for relevant information, and taking part in discussions and debates about the current broadcast. Our hypotheses are therefore as follows:

H1a: There is a positive correlation between actual threat level and amount of second-screen use.

H1b: There is a positive correlation between concern level and amount of second-screen use.

H1c: There is a positive correlation between users’ cognitive needs and the amount of second-screen use.

H2: Cognitive needs and concerns mediate the correlation between actual threat level and the amount of second-screen use.

**Method**

*Participants*

Data for this study came from a total of 411 participants (**51**% women, 49% men), ranging in age from 18 to 74 years (*M* = 42.96, *SD* = 15.75). Most participants were native Hebrew speakers, non-religious (71.5%), and married (56.2%). Based on the Central Bureau of Statistics, we obtained the sample from an online panel representing the distribution of the Jewish-Israeli population. The sample size was estimated using G\*Power (Faul et al., 2009), based on a medium-sized effect, which demonstrated a 90% power to detect significant differences.

*Procedure*

Participants were asked to complete a short, anonymous survey that included demographic questions (response time ≈ 10 minutes). An institutional ethics committee approved the study.

***Measured variables***

*Independent variable:* *actual threat level*

We created a scale with three levels of actual threat based on the area of residence and possible danger: (1) far from the war zone without tangible danger; (2) secondary danger area with reasonable possibility of tangible danger; and (3) relative proximity to the danger zone with tangible danger***.***

*Mediators*

Cognitive needs

To assesscognitive needs,we used a 3-item scale (α = .83) rated from 1 (“very much”) to 5 (“not at all”). The items included statements relating to the contribution of information consumption to fulfilling a cognitive need, based on Malka et al. (2015) (e.g*.,* “Consuming information helps me better understand the events.”).

Concern

To assess concern level,we used a 3-item scale (α = .65) rated from 1 (“very much”) to 5 (“not at all”). The items included statements relating to the sense of concern evoked by the security situation following the operation (e.g., “I am worried about friends/relatives in the security threat zone.”) Two items were omitted due to low internal reliability.

*Dependent variable:* *second-screen use*

To assesssecond-screen use,we used a 3-item scale (α = .97) rated from 1 (“several times an hour or more”) to 7 (“not at all”). The items included statements relating to the extent to which the participant used their smartphone while watching TV, based on Weimann-Saks et al.’s (2020) questionnaire, with minor adaptations to the context of a military operation (e.g., *“*I use a smartphone while watching TV to be updated on security events simultaneously on both platforms.”)

**Results**

To examine news consumption habits, we asked participants how often they used various media platforms to obtain updates on events related to the military operation. In the new media arena, participants reported getting updates at least once per day via the following: 74% from online news sites, 51% from WhatsApp, 46% from Facebook, 34% from applications designed for security updates on smartphones, and 15% from Twitter. With regard to traditional media, 67% reported that they tended to keep up to date via TV news broadcasts and 41% via radio, both at least once per day (Figure 1).

Figure 1: Sources of daily news updates according to old and new media platforms

Results show that, overall, the level of concern decreased depending on the level of the actual threat. The differences among the mean levels of concern are not significant. However, the trend is worth mentioning: the highest level of concern was in the south of Lebanon, where many missiles fell every day (M = 3.72, SD = .79); followed by Tel Aviv, where several missiles fell daily (M = 3.69, SD = .77); and the lowest was in Jerusalem, which, except for the first day of conflict, was not a danger zone (M = 3.57, SD = .79). Surprisingly, in northern Israel (which was under additional, unrelated threat), where no missiles fell during this operation, results revealed a slight increase in the level of concern (M = 3.61, SD = .97).

 To evaluate H1a, we computed Spearman correlations between actual threat level and second-screen use. As expected, a significant positive correlation was found (*r* =, *p* < .05) To evaluate H1b and H1c, we computed Pearson correlations among the research variables. Again as expected, a significant positive correlation was found (*r* = .22, *p* < .001) between concern and second-screen use (H1b). A positive correlation (*r* = .24, *p* < .001) was also found between cognitive needs and second-screen use (Table 1).

*Table 1: Correlations between research variables (n = 411)*

|  |  |  |  |
| --- | --- | --- | --- |
| **Variable** | **Cognitive needs** | **Concern** | **Second-screen use** |
| Actual threat level | .12\* | .06 | .21\*\* |
| Cognitive needs |  | .16\*\* | .24\*\* |
| Concern |  |  | .22\*\* |

*\*p < .05, \*\*p < .001*

To examine the mediating role of cognitive needs and concern in the relation between actual threat levels and second-screen use (H2), we used Hayes’ (2018) PROCESS bootstrapping command with 5,000 iterations (Model 4). The analysis treated actual threat level as the predictor variable, cognitive needs and concern level as mediators, and second-screen usage as the dependent variable. The 95% confidence interval (CI) for the direct effect of actual threat level on second-screen usage did not include 0 (95% CI [.196, .598]) with 5,000 resamples, *F* (3, 401) = 18.36, *p* < .001. The indirect effects of actual threat level on second-screen usage through (a) cognitive needs did not include 0 (95% CI [.049, .062]); and through (b) concern did include 0 (95% CI [–.015,.068]) with 5,000 resamples. In other words, the model indicated only an indirect effect of actual threat level on second-screen usage through cognitive needs and not through concern (Figure 2).

Figure 2: *The mediation model between actual threat level and second-screen usage through cognitive needs and concern*



\*39.

\**p* < .001

**Discussion**

Violent conflicts have always been causes of human suffering. Wars that directly involve civilians, turning the home front into war zones, are the most egregious in this regard. Using media during such events as a means by which to gratify their unique needs is one way in which civilians try to cope with these situations (Kozman and Melki, 2016; Lev-On, 2010; Malka et al., 2015; Naveh, 2008).

The current study examined the usage patterns of second screens by Israeli civilians during Operation Guardian of the Walls between Israel and Gaza, which took place over 12 days during May 2021. The study aimed to understand the conditions that would increase second-screen usage. We investigated the potential effects of cognitive needs, concern level, and degree of actual threat (relative proximity to the fighting areas and the locations under missile attacks) on civilians’ usage of second screens.

According to the study findings, our first hypothesis, which predicted a positive correlation between the actual threat level and the amount of second-screen use, was confirmed. That is, the higher the actual threat level among media users, the more frequently they used their second-screen throughout the war days. Furthermore, our subsequent two hypotheses—regarding the correlation between users’ concern level and cognitive needs and the amount of second-screen usage—were confirmed: as users’ concern level increased, so too did the amount of second-screen usage. Likewise, as users’ cognitive needs increased, the amount of second-screen use increased. In other words, during the operation, people tended to make more intense use of second screens to respond to their situationally driven reactions and needs.

Our last hypothesis concerned mediated correlations between actual threat levels and second-screen usage. Specifically, we assumed that users’ cognitive needs and concerns would mediate their actual threat level and second-screen use patterns. However, findings indicated that an indirect effect of actual threat level on second-screen usage was only connected to cognitive needs, not concern levels. In other words, as the degree of actual threat increased, users’ cognitive needs increased as well, and so too did their second-screen usage. At the same time, although the concern was directly correlated with second-screen usage, it did not fulfill a mediating role between actual threat level and second-screen usage. This finding is especially interesting because people’s motivations to add second screens to their media consumption habits under such circumstances are not limited to the cognitive route. One explanation for this might be that actual threat level and the subjective feeling of concern are not necessarily aligned. For example, some people may feel concerned although they are in a relatively safe zone, while others might not feel concerned even if they experience life under fire. Others may lie about such feelings, finding it inappropriate or undesirable to admit unease. Further research should examine these interesting relationships between actual threat level and concern as reported by the study’s participants.

The current study’s findings also suggest how meaningful the use of second screens was for the Israeli population during a war that directly threatened their lives and the safety and well-being of their loved ones. As the negative emotions associated with such a harsh situation became stronger, and as users’ actual threat level grew, second-screen usage became more intense. A similar trend was revealed regarding users’ cognitive needs. Just as the literature has shown, people’s cognitive needs increase during times of crisis, which subsequently increases their search for relevant information (Malka et al., 2015). According to the current study, people’s search for information does not stop with regard to their regular media consumption habits, but instead spreads to the realm of second screens.

As with other research that focuses on a particular case study, the ability to draw general conclusions based on our research is limited. Future studies should examine the characteristics of second-screen usage under severe circumstances (e.g., war, terrorist attacks, natural disasters) in different situations and countries. In this study, we focused on the potential influence of civilians’ concern level on their second-screen usage during Operation Guardian of the Walls. Future research should investigate the role of related emotions, such as fear and anxiety, in this context.

As previously mentioned, people’s willingness to admit to the very existence of such emotions might be affected by their perception of how legitimate those emotions are during times of national crisis, as in regular times. Thus, research in this field might examine the use of more objective methods to measure actual concern, fear, and anxiety, instead of using participants’ self-reported levels.

Uses and gratifications theory combined with media systems dependency theory could potentially produce intercorrelated explanations for related behavior in times of war. Nevertheless, since both theories were initially used to consider mass media and audiences’ interactions with a relatively small number of media outlets, this research sheds new light by adding second-screen usage to the discussion. Again, the user is the sole party responsible for their own media-related activities, gratifications, and dependencies; thus, it is essential to understand the behavior and perceptions of various audiences and users in such times. In this sense, the current study contributes to our understanding of the media’s role during times of war from the point of view of civilians under threat. Furthermore, it indicates that as technology enables us to stay constantly connected and not limit ourselves to a single platform, people are likely to use the variety of options available.

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