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Short communication

The associations between media use, peritraumatic distress, anxiety and resilience during the COVID-19 pandemic

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ABSTRACT

This study examined the relationship between media use, experiences of media use as having a negative and/or positive impact on coping, peritraumatic distress, anxiety symptoms and resilience during the COVID-19 pandemic.

A convenience sample of 902 Israeli adults (mean age = 46.21) completed measures of peritraumatic distress, anxiety symptoms and resilience, and reported on their media use experiences one month following the initial outbreak of the disease in Israel (April 2020).

After controlling for COVID-19 related events and demographic covariates, experiencing media use as having a negative impact on coping was related to higher levels of peritraumatic distress and anxiety symptoms and lower levels of resilience. In contrast, experiencing media as having a positive impact was not related to peritraumatic distress, anxiety symptoms or resilience.

The findings suggest that those reporting that media use had a negative impact on coping are at greater risk of experiencing higher levels of peritraumatic distress and anxiety symptoms as well as lower resilience. In addition, traditional media use was related to higher resiliency. Developing understanding of how media could be used to optimally support emergency responses is crucial in order to minimize psychopathology. Unified, clear, trustworthy and informative messaging has a special importance during a mass public health crisis. Further research will contribute to guidance of potential risk and resilience aspects of media use during emergencies.

1. Introduction

As the COVID-19 pandemic evolves rapidly and creates multiple stressors, it affects both physical and mental health. During such emergencies, people use the media to seek information regarding risk assessments and behavior recommendations (Yates and Paquette, 2011). However, findings from previous public health crises suggest that news media coverage on various platforms can have unintended negative consequences for people with relatively low risk for direct exposure (Garfin et al., 2020). This raises the question of how media use during the COVID-19 pandemic is related to anxiety, traumatic distress, and resilience, and whether different types of media may have differential impact.

During times of crisis, various forms of media can be utilized to mobilize the community, provide authoritative communication, manage public expectations over available resources and connect people to needed resources and support (Panagiotopoulos et al., 2016). Providing

effective communications during a mass public health crisis such as COVID-19 is of special importance, as billions of people around the world are confined to their homes and their dependency upon the media may increase.

Some studies, however, have found that media use can be associated with distress (Garfin et al., 2020) and the relationship between disaster media coverage and various psychological outcomes, especially PTSD are well established (Pfefferbaum et al., 2014). Media use during previous pandemics was shown to contribute to elevated panic, stress and anxiety responses (Kilgo et al., 2019).

Different types of media may have a differential impact on coping. In previous studies, social media platforms were specifically associated with elevated PTSD symptoms in comparison to other types of media platforms following disaster exposure to the Typhoon Hato (Hall et al., 2019) and to Hurricane Sandy (Goodwin et al., 2013). While traditional media provides formal information about threats, social media has a more direct, personal impact on assessments of risk (Lemyre et al.,

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2010), and as it becomes increasingly used following disasters (Goodwin, 2013), it may increase the likelihood of stress responses through the sharing and viewing of uncensored content and videos (Hall, 2019). Social media use might also provide greater opportunity for the emotional contagion of risk appraisal and stress responses (Ferrara and Yang, 2015). Recently, studies showed that social media usage was related to both depression and secondary trauma (Zhong et al., 2021). Mental health problems, especially anxiety, were positively associated with the frequency of social media use, during the COVID-19 outbreak (Gao et al., 2020); and COVID-19 pandemic related stress was higher among those with prolonged social media use (Al-Qahtani et al., 2020).

Resilience is a multidisciplinary theoretical construct. Although there is no universal definition of resilience, it is often viewed as a mechanism which enables individuals to adapt to the challenges of life and maintain mental health despite adversity (Kalisch, 2017). Resilience is related to perceived social support (Silva et al., 2019) which in turn has been associated with social media use (Houston, 2015). Recently, in the context of the COVID-19 pandemic, social media messaging, posting and commenting were associated with more perceived social support, which contributed to better subjective well-being (Yang et al., 2020), and a qualitative analysis showed that social media use was important for coping through the dissemination of positive information while avoiding false news (Pahayahay and Khalili-Mahani, 2020).

Previous studies showed that exposure to media during emergency was related to psychopathology only if media experiences were perceived as negative. A previous study examined whether media was perceived as stressful vs. helpful and showed that experiencing media as stressful was significantly related to PTSD symptoms (Palgi et al., 2017). One study showed that perceived low media control (inability to stop media consuming) is a factor that amplifies PTSD symptoms (Hoffman et al., 2016), and recent findings in the context of COVID-19, showed that the perceived trustworthiness of information is central in framing responses to a novel threat (Goodwin et al., 2020).

Thus, it is crucial to understand the potential impact of media in general, and social media use in particular, on anxiety symptoms and on peritraumatic distress reactions, which are cognitive and emotional distressing experiences during and immediately after a traumatic event (McCaslin et al., 2009). Given the need for a better understanding of the psychological impacts of media use during COVID-19 and other disasters, and related risk and protective media factors for a lifespan population, the current study examined the relationship between media use on different platforms (social media, traditional media and internet news sites), peritraumatic distress, anxiety symptoms, and resilience during the COVID-19 outbreak. We hypothesized that: 1) Experiencing media as having a negative impact on coping with COVID-19, would be related to a higher level of anxiety symptoms and peritraumatic distress and a lower level of resilience; 2) Experiencing media as having a positive impact on coping with COVID-19 would be related to a lower level of anxiety symptoms and peritraumatic distress and a higher level of resilience; and 3) Social media use would be more strongly related to a higher level of anxiety symptoms and peritraumatic distress and a lower level of resilience than traditional media.

2. Methods

2.1. Participants and procedure

COVID-19 emerged in Israel in mid-February 2020. Data were collected from a convenience sample of individuals in Israel via the Qualtrics platform between 15–25 March 2020. By the last day of data collection, 1930 people had been infected in Israel with COVID-19, 53 had recovered and three had died. During this period, Israel had implemented emergency public health measures, including implementing quarantining rules for international travelers, those who had contact with a confirmed patient and people with fever or respiratory symptoms. Beginning on 11 March, Israel began enforcing social

distancing, and restricted group gatherings to limit the spread of infection. On 19 March, Israel declared a national state of emergency and Israelis were not allowed to leave their homes unless necessary (<https://govextra.gov.il/ministry-of-health/corona/corona-virus/>). Official updates and guidance were available on a variety of media platforms including TV, radio and official websites.

Participants were recruited via online notice boards, social media sites and applications (such as WhatsApp and Facebook), and with the use of snowballing methods. The participants provided informed consent. Ethical approval was received from the Institutional Review Board at Bar Ilan University.

The sample comprised 902 individuals aged 18–92 ($M = 46.21$ $SD = 15.77$) who completed an online survey in Hebrew. A majority of the participants were female (76.4%; $n = 689$), more than two thirds were married (72.6%; $n = 655$) and most of the participants had tertiary education (75.5%; $n = 681$).

2.2. Measures

Participants completed the following measures while referring directly to symptoms and feelings they had experienced since the coronavirus outbreak.

Peritraumatic distress symptoms were assessed with a Hebrew language version (Palgi et al., 2020) of the 13-item Peritraumatic Distress Inventory (PDI; Brunet et al., 2001). Participants rated each symptom experienced due to the COVID-19 crisis and during the past two weeks on a 5-point scale ranging from 0 (*not at all true*) to 4 (*extremely true*). For example; I felt helpless to do more, I thought I might die, I was horrified by what happened. The peritraumatic distress score was the sum of ratings, with higher score reflecting increased distress. Reliability was good (Cronbach's $\alpha = 0.878$).

Anxiety symptoms were assessed with a Hebrew language version of the 7-item Generalized Anxiety Disorder (GAD-7) scale (Spitzer et al., 2006). Participants rated their symptoms following the COVID-19 and during the past two weeks on a 4-point scale ranging from 0 (*not at all*) to 3 (*almost every day*). The anxiety score was the sum of ratings with higher score reflecting increased anxiety. Reliability was excellent (Cronbach's $\alpha = 0.932$).

Resilience was assessed with a Hebrew language version of the 10-item scale of the CD-RISC-10 scale (Campbell-Sills and Stein, 2007) which was translated and back-translated. Participants rated items on a 5-point Likert scale, ranging from 0 (*not true at all*) to 4 (*true nearly all the time*). The scale was scored by using the average rating across items. A higher score indicates higher resilience. Reliability was good (Cronbach's $\alpha = 0.878$).

Media experiences with regard to COVID-19 were assessed using two separate questions. Participants were asked to rate whether general media use: 1) had a negative impact on coping with the COVID-19 crisis and 2) had a positive impact on coping with the COVID-19 crisis, on a 5-point Likert scale including (0) not at all; (1) to a small extent; (2) moderately (3); to a large extent (4); to a very large extent. Participants also reported on each type of media platform that they used with regard to the COVID-19 pandemic; 1) Traditional media (TV, print and/or radio), 2) Internet news sites, 3) Social media.

Covariates included the following demographics: age, gender, marital status (married or living with a partner/single, divorced, or widowed) and education. In addition, participants indicated exposure to different levels of COVID-19 related events (1) being or having been in self-isolation (2) knowing someone in self-isolation; (3) being tested positive for the COVID-19; (4) knowing someone who had tested positive. Exposure score was the number of endorsed exposures.

Analyses were conducted using SPSS vs 23 software. Linear regression analyses were performed to investigate all three hypotheses and MANOVA was carried out to compare different age groups.

3. Results

Participants indicated their media use with regard to COVID-19 updates on different platforms: 87.1% indicated using traditional media; TV, radio or newspaper (n = 786); 85.9% indicated using internet news sites (n = 775) and 72.7% indicated using social media (n = 656). 64.8% of the participants (n = 585) used all three media platforms. Age was significantly related to type of media platform with older adults (60 and above) using more traditional media than younger adults ($t(897) = -4.399, p = .004$) and younger adults (up to 40) using more social media than older adults ($t(897) = 6.243, p = .003$).

Of the participants, 22.2% reported that media use had a negative impact on coping to a large or very large extent, 55.2% reported experiencing media as having a negative impact on coping to a small or medium extent, and 22.6% reported experiencing media as not having a negative impact on coping at all. In contrast, 36.4% reported experiencing media as having a positive impact on coping to a large or very large extent, 54.3% reported experiencing media as having a positive impact on coping to a small or medium extent, and only 9.3% reported that media use experience was not positive at all for their coping. Age was related to reporting media use as positive for coping, with older adults (60 and above) reporting finding media use to be more positive compared with younger adults (up to 40) ($t(897) = -1.252, p = .031$). A MANOVA test compared older adults to younger adults on peritraumatic distress, anxiety symptoms and resilience. Older adults who used social media showed higher anxiety symptoms level than younger adults ($F(897) = 3.863, p = .021$; Wilk's $\Lambda = 0.977$, partial $\eta^2 = 0.011$). However, older adults who used social media were not different from younger adults on peritraumatic distress or resilience (partial $\eta^2 = 0.000$).

There was a significant correlation between experiencing media as having a negative impact on coping, higher peritraumatic distress, anxiety symptom levels and lower resilience scores. Experiencing media to be negative for coping was also correlated with the use of social media. Experiencing media as positive for coping was correlated with lower anxiety symptoms but there was no significant correlation, however, with peritraumatic distress, resilience or media platforms. Social media use was correlated with peritraumatic distress while traditional media or internet news sites were not.

Table 1 presents means, standard deviations and correlations for study variables.

In order to investigate our hypotheses – that reporting experiencing media as having a negative impact on coping would be related to higher levels of peritraumatic distress and anxiety symptoms and lower resilience, while experiencing media as positive for coping, would be related to a lower level of peritraumatic distress and anxiety symptoms and higher resilience, we carried out three separate sets of linear regression analyses, one for each outcome variable (peritraumatic distress, anxiety and resilience). Covariates (age, gender, marital status and education) and exposure to COVID-19 related risk events were entered in Step 1 and

perceptions of media use as both negative and positive for coping were entered in Step 2. To examine our third hypotheses that social media use would be more strongly related to a higher level of anxiety symptoms and peritraumatic distress and a lower level of resilience than traditional media, media platforms were entered in step 3. Finally, the interactions of social media with media perceptions were entered in step 4.

Results showed that in line with our first hypothesis, experiencing media as negative for coping was a significant predictor of higher levels of peritraumatic distress; higher levels of anxiety, and lower levels of resilience. However, contrary to our second hypothesis, reporting experiencing media as positive for coping was not significantly related to peritraumatic distress, anxiety symptoms or resilience. Examination of our third hypothesis revealed that the association of social media with higher peritraumatic distress, anxiety symptoms and lower level of resilience was non-significant. Interestingly, traditional media use was a significant predictor of higher resilience. Finally, interactions of social media use and both positive and negative impact on coping experiences were not related to outcome variables.

For further information, see Table 2.

4. Discussion

This study examined the relationship between negative and positive experiences of media use with peritraumatic distress, anxiety symptoms and resilience during the COVID-19 pandemic in Israel. As hypothesized, our results show that reporting that media use had a negative impact on coping was strongly related to elevated levels of peritraumatic distress, and anxiety symptoms, and moderately related to lower levels of resilience. However, although more participants reported media use as having a positive impact on coping, there was no association between experiencing media as positive and lower levels of peritraumatic distress and anxiety symptoms or higher resilience.

These findings add to a previous study that suggest that negative, but not positive, perceptions of the media relates to PTSD symptoms among adults (Palgi et al., 2017). According to the selective exposure hypothesis (Hart et al., 2009), it is possible that participants who had a previous negative experience were more likely to prefer information that supports pre-existing perspectives, avoid contradictory information and actively seek negative information about the COVID-19 pandemic.

The data for this study were collected during the early stages of the COVID-19 outbreak in Israel. At this stage, participants reported low levels of COVID-19 related events direct exposure (only 0.6% of the participants reported testing positive for the COVID-19 and 10.2% reported being in self-isolation). Therefore, it is also possible that the gap between “real life” direct exposure and the exposure to the COVID-19 media from around the world strengthened the associations between the experience of media as having a negative impact on coping and psychological responses. This might also explain why although using media has been suggested to be a common effective coping strategy

Table 1
Descriptive statistics for the study variables.

	M/%	SD	1	2	3	4	5	6	7	8	9	10
1. Media- negative impact on coping	2.54	1.157	–									
2. Media- positive impact on coping	3.05	1.04	-.242**	–								
3. Age	46.21	15.77	-.206**	.097**	–							
4. Gender ^a	76.4	–	.093*	-.025	-.091*	–						
5. Relationship status ^b	72.6	–	-.089*	.117**	.469**	.032	–					
6. Higher education	75.5	–	.019	.073*	.149**	.052	.123**	–				
7. Exposure to COVID-19 related events	1.32	1.02	.033	.012	-.085	.014	-.048	-.006	–			
8. Peritraumatic distress	11.40	7.85	.403**	-.071	-.189**	.146**	-.120**	-.075*	.012	–		
9. Anxiety symptoms	5.30	5.39	.474**	-.109**	-.239**	.113**	-.126**	-.030	.003	.712**	–	
10. Resilience	3.80	.66	-.198**	.049	.113**	-.098**	.105**	.080*	.051	-.340**	-.284**	–
11. Traditional media			.018	.008	.145**	-.011	.059	.080	-.053	-.005	.003	.122**
12. Internet news sites			.038	-.034	-.200**	.023	-.128*	.023	.042	.056	-.075	0.26
13. Social media use			.124**	-.072	-.204**	.093*	-.112*	.038	.018	.069*	.112**	.046

Note. Total N = 902. a = woman. b = currently married or living with a partner. * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 2
Linear Regression for Variables Predicting Peritraumatic distress, Anxiety symptoms and Resilience (N = 902).

		Peritraumatic Distress			Anxiety symptoms			Resilience		
		B	SE	β	B	SE	β	B	SE	β
Step1	(Constant)	14.610	2.474		7.005	1.640		3.408	.200	
	Gender	2.567	.699	.136*	1.419	.463	.112**	-.148	.057	-.097*
	Age	-.050	.021	-.099*	-.062	.014	-.183***	.002	.002	.039
	Relationship Status	-.799	.568	-.059	-.473	.377	-.052	.092	.046	.084*
	Higher Education	-.669	.355	-.070	-.026	.235	-.004	.058	.029	.075*
	Exposure COVID-19 related events	-.215	.290	-.027	-.135	.192	-.026	.064	.023	.100**
	R2	.038			.054			.036		
Step 2	Media-negative impact on coping	2.770	.249	.398***	2.097	.160	.451***	-.109	.021	-.194***
	Media-positive impact on coping	.358	.271	.046	.090	.174	.017	.011	.023	.018
	R2	.180			.242			.070		
Step 3	Traditional media use	.304	.877	.012	.395	.564	.024	.204	.075	.102**
	Internet news sites	.875	.959	.06	.995	.613	.061	.051	.082	.026
	Social media use	.284	.667	.015	.219	.428	.018	.091	.057	.061
	R2	.178			.250			.086		
Step 4	Social-media X negative impact on coping	.161	.561	.020	.617	.360	-.001	.048	-.001	
	Social-media X positive impact on coping	-.1002	.606	-.111	-.508	.388	-.084	.012	.052	.017
	R2	.180			.256			.086		

Note: Results of the final adjusted regression model. *p < .05, **p < .01, ***p < .001.

following exposure (Ahmed et al., 2011), our findings did not show a significant association between experiencing media as having a positive impact on coping and peritraumatic distress, anxiety symptoms or resilience.

Additionally, in our data, social media use was not significantly related to the experience of media as having a negative impact on coping, nor to outcome variables. These findings extend the need to continue investigate the associations of different media platforms with different media experiences, the length of time use on these platforms and psychopathology in order to draw definitive conclusions. However, traditional media use was related to higher resilience. It is possible that traditional media may appear to provide more ‘objective’ information about the threat in comparison to new media (Goodwin et al., 2013) and that the amount of exposure via traditional media is smaller than the amount being consumed via social media, which contribute to a sense of coping and resilience.

The issue of age is noteworthy as it was significantly associated with all central study variables; peritraumatic distress, anxiety symptoms and resilience. Our analysis showed that social media use was related more strongly to anxiety symptoms in older adults than in younger adults. It is possible that this reflects a difference in the general experience of social media use, which may be perceived as less controllable and more overwhelming for older adults compared with younger adults and may therefore serve as a risk factor for this population.

Despite the current study’s strengths, it has some limitations. Our study had a cross-sectional design, meaning that no causal relation between variables could be established, nor could we assess whether individuals with pre-existing symptoms used media differently. In addition, we did not measure the actual content or quantity of media use, especially with regard to time spending on social media that might highlight additional risk factors. Furthermore, the central predictor variables were based on single-items which may be more susceptible to random measurement errors and result in unknown biases in meaning and interpretation (Hoeppner et al., 2011).

Understanding the effect of media experiences on psychopathology during pandemic is essential. This study highlights that negative experience of media use may be associated with greater peritraumatic distress and anxiety symptoms, and lower resilience. Furthermore, traditional media may be associated with greater resilience. Public

health officials should be aware of these associations when making media communications. Unified and informative messaging is of particular importance during a mass public health crisis. Additional research from countries with different levels of COVID-19 related exposures will allow optimal support to the emergency response by contributing to the development of guidance of potential media use risks during a mass public health crisis.

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