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How Does Parenthood Moderate Paths Between Personal and Community Resources and Distress following Collective Trauma?

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Abstract

This study examines the moderating role of parenthood in associations between personal and community resources and psychological distress and somatization following collective exposure to security threats. The research questions were guided by Terror Management Theory that posits that parenthood involves heightened anxiety when children are in danger yet may also provide an existential resource that can reduce the individuals' distress. The study was conducted following the 2014 Israel-Gaza conflict and included 1014 Israelis. The participants completed a questionnaire assessing levels of trauma exposure (the predictors), sense of mastery (personal resource), engagement in community activities and trust in leaders (community resources), and psychological distress and somatization (the outcomes). Results indicated that parenthood moderated several associations between trauma exposure and personal and community resources as well as paths between these resources and psychological distress. In almost all these cases, these paths were statistically significant only among parents in two different directions. Parenthood was associated with more psychological distress through lower sense of mastery and greater engagement in community activities. On the other hand, parenthood was related to lower psychological distress through greater trust in local leaders. In addition, only among parents, lower levels of mastery mediated the association between trauma exposure and somatization. These results offer significant implications for practitioners. Although parents and non-parents can be similarly affected by trauma exposure with respect to trauma-related outcomes, the way to assist them to reduce these negative outcomes should be conducted through different paths involving their personal and community resources.

Keywords Collective trauma · Parenthood · Psychological distress · Somatization · Personal and community resources

Highlights
- Parents and non-parents showed similar levels of trauma-related outcomes, but they arrived at them through different pathways.
- Only among parents, trauma exposure was associated with lower mastery, which in turn, was associated with higher trauma-related outcomes.
- Only among parents, long-term exposure to trauma was associated with greater levels of engagement in community activities.
- Only among parents, higher engagement in community activities was associated with higher psychological distress.
- Only among parents, trust in local leaders was associated with lower levels of psychological distress.

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Parenting is both a source of life happiness and meaning as well as it is replete with stressors. Results of numerous studies indicate that the jury is still out as far as the question of whether parenting increases or decreases one's well-being, particularly under the circumstances of stressful situations unrelated to parenthood (Nelson et al., 2014a, b). The aim of the current study was to assess the pathways of trauma-related outcomes of parents and non-parents in a

situation of collective security threat in Israel. Particularly, the study examined whether and how parenthood moderates the associations between exposure to trauma, personal and community resources, and the outcomes of psychological distress and somatization. Investigations of these relationships are of utmost importance, as they can aid development of therapeutic interventions in times of collective traumatic events such as security threats, natural disasters, and pandemics, such as the COVID-19 virus challenges and losses.

The Context of the Study

The present study was conducted in the context of the 2014 Israel-Gaza conflict, known in Israel as Operation Tzuk Eitan ("Protective Edge"). An enormous sense of threat to life and actual danger on both sides of the border lingered throughout 50 days of armed exchanges and hostilities (Gil et al., 2015). During the operation, about 4,500 rockets and mortar shells were launched in directions of residential areas (Israel Ministry of Foreign Affairs, 2014). Residents of numerous areas of the country were continuously exposed to trauma attacks a long time before (and after) the operation.

Being a Parent in Times of Traumatic Events

Being a parent engenders worry not only about one's own welfare, but also, and often primarily, worry about one's offspring. Parents of young children feel responsibility for their children's safety and heightened anxiety when their children are in danger (e.g., Kaniasty, 2011). In today's era of indulgent and "helicopter parenting" (i.e., hovering over children), intense concern for children's well-being extends well into their adulthood (Cui et al., 2019). Therefore, being a parent also encourages people to take part in social network and community activities because of the understanding that common concerns and needs relating to raising children and protecting their welfare can be fulfilled by the collective (Bookman, 2004).

These characteristics of parenthood can also impact people's coping with continuous traumatic stressors (Eltanamly et al., 2021). The reality of ongoing exposure to war and terrorism creates a constant state of defensive vigilance as a prerequisite for being able to protect oneself and family against the possibility of harm (Nuttman-Shwartz and Shoval-Zuckerman, 2016). A recent qualitative study of parental experiences among parents living on the Israel-Gaza border explored that parents' self-perceptions related to the most basic tasks of providing both physical and emotional protection for their children. Interviewed parents frequently found themselves deliberating about their internal conflicts regarding the best ways to protect their children, specifically

about which child to care for first during an emergency and about the best way to talk to their children about the ongoing state of emergency (Paryente, 2021). These findings support those of previous studies (Henry et al., 2004; Kaniasty, 2011) that found that parenting may be a stressor following exposure to traumatic events.

Threats and actual exposure to trauma experienced by persons living in situations of political violence have been shown to be associated with trauma-related outcomes such as psychological distress and somatization (e.g., Besser & Priel, 2010; Monfort & Afzali, 2017; Slone and Shoshani, 2014). These may be normative reactions both in cases of short-term exposure, such as to a military operation or a terror attack, and in cases of long-term exposure, such as residing in places that experience ongoing war and terrorism. While for most people these reactions dissipate over time, for a small fraction of them they become more lasting (Finzi-Dottan et al., 2006; Igboegwu, 2020; Prasad, 2011). Whereas psychological distress is most often expressed in depression and/or anxiety (Drapeau et al., 2012), somatization refers to physical symptoms including headaches, back and muscle pain, and feeling tired, and they are usually attributed to a mental state caused by adversity and stressful situations (Kroenke et al., 2002). People who suppress emotional distress may develop physical symptoms since "the body keeps the score" (Van der Kolk, (2000)), i.e., stress is stored in the body and expressed through somatic discomfort and pain (Luxenberg et al., 2001). Together, these reactions of psychological distress and somatization address varied possible responses following exposure to trauma.

There is a limited number of studies that examined whether parenthood itself is associated with trauma-related outcomes. (Kelley et al., 2010) found that child's exposure to Hurricane Katrina was associated with greater levels of parental psychopathology. It has been suggested that following exposure of their child to a traumatic event, parents may become overly vigilant and protective, preoccupied that their child might be traumatized again (Henry et al., 2004; Kaniasty, 2011; Scheering & Zeanah, (2001)). This may explain why some studies found that being a parent adds to the stress of disaster recovery and is a risk factor for experiencing increased psychological burden (Norris et al., 2002). Another possible mechanism that is suggested, is that shared distress symptoms of parent and child inadvertently rub off on each other in a reciprocal or reverse (child to parent) causation process (Kaniasty, 2011). Finally, disasters may incite family distress, disharmony, and animosity which not only result from individual parental distress, but also contribute to parental distress (Kaniasty, 2011). We might expect all of these processes to be exacerbated in situations of recurring war and terrorism and chronic threat of violence.

In light of the increased worry and vigilance parents experience regarding the safety of their children in

dangerous situations, it is important to explore why parenthood is related to negative consequences of trauma exposure, i.e., psychological distress and/or somatization. One answer to this question could be suggested by Terror Management Theory.

The Theoretical Framework: Terror Management Theory

According to Terror Management Theory (TMT), individuals employ various psychological mechanisms aimed at enhancing feelings of immortality and self-transcendence in order to reduce anxiety aroused by mortality salience, particularly in life-threatening situations (Pyszczynski et al., 1997; Solomon et al., 1997). Among the primary anxiety buffers are increasing self-esteem and strengthening one's affiliation with a shared culture and collective, as a symbolic extension of the mortal self (Castano et al., 2002). Parental self-esteem can be increased by investing in offspring as a biological and symbolic immortality device (Yaakobi et al., 2014). It is important to note that the studies on parenthood and TMT deal primarily with the motivation to produce offspring in the face of life-threatening situations (e.g. Hoppe et al., 2017; Wisman & Goldenberg, 2005). It is possible to surmise, however, that investing in existing children may have an anxiety-buffering effect as well, especially in light of findings that suggest that parenthood confers rewards in terms of life meaning (Hansen, 2012). This function of parenting may be especially salient in Israel which is a very pro-natal society subscribing to a Jewish religious mandate "to be fruitful and multiply" (Raucher, 2017; Remennick, 2000). In addition, there is a national goal of increasing the Jewish population in the state of Israel, established as a homeland for the Jewish people in the wake of the Holocaust. Israel not only encourages childbearing, but also highly prioritizes the parenting role by emphasizing the importance and advantages of raising children. In this way, parenthood in Israel is a collective effort that is actualized in government subsidies for families with children and generous child allowances (Ben-Arieh & Kimchi, 2007; Lavee & Katz, 2003).

In regard to the impact of traumatic events on parents, here are numerous studies which have found a positive association between parents' and children's distress symptoms when either the parent only or both the parent and child have been exposed to a traumatic event (for reviews see e.g., Kaniasty, 2011; Lambert et al., 2014). Studies that investigated families affected by war documented negative and positive changes in parenting practices including, for example, harshness, hostility, overprotection, inconsistency, and fluctuations in warmth (Eltanamly et al., 2021). An Israeli study of fathers exposed to political violence

reported higher levels of parental self-efficacy in times of threatened security than non-exposed fathers (Pagorek-Eshel & Dekel, 2015).

According to TMT, parenthood may also have a buffering effect, providing one with a sense of meaning and reducing the anxiety that results from mortality salience brought about by trauma exposure, i.e., the trauma-related outcomes that follow exposure to traumatic events (Hansen, 2012; Yaakobi et al., 2014). Therefore, the moderating effect of parenthood may operate in the opposite direction, reducing the levels of the psychological distress and the somatization. In other words, parenthood may provide the individuals with as essential resource and source of strength that can protect them and reduce their deleterious reactions. Concurrently, however, the anxiety concerning the safety of their offspring may offset the benefits of parenthood. It might be that the effect of parenthood on the outcomes of psychological distress and somatization following traumatic events depends on the way parenthood interacts with other personal resources (e.g., self-esteem, mastery) and community resources (e.g., social support, community belonging).

The Research Model

In order to examine the link between parenthood and trauma-related outcomes, as well as the moderating effect of parenthood on the associations that other factors have with these outcomes, we turned to the research literature that demonstrates the contribution of personal and community resources to the mediation of the associations between exposure to trauma and its psychological consequences (e.g., Bayer-Topilsky et al., 2013; Bebanic et al., 2017; Maercker, & Horn, 2013).

Guided by these theoretical frameworks, we constructed a similar model and sought to investigate the differences between parents and non-parents in respect to the relationships between the research variables: the trauma exposure indicators (short-term and long-term exposure), the personal and the community resources (personal mastery, engagement in community activities, and trust in local leaders), and the trauma-related outcomes of psychological distress and somatization (see Fig. 1).

The Moderating effect of Parenthood on the Associations between Personal and Community Resources and Trauma Related Outcomes

Personal mastery reflects the belief that one can exert control over life events enabling individuals to cope successfully with significant challenges and/or losses (Benight
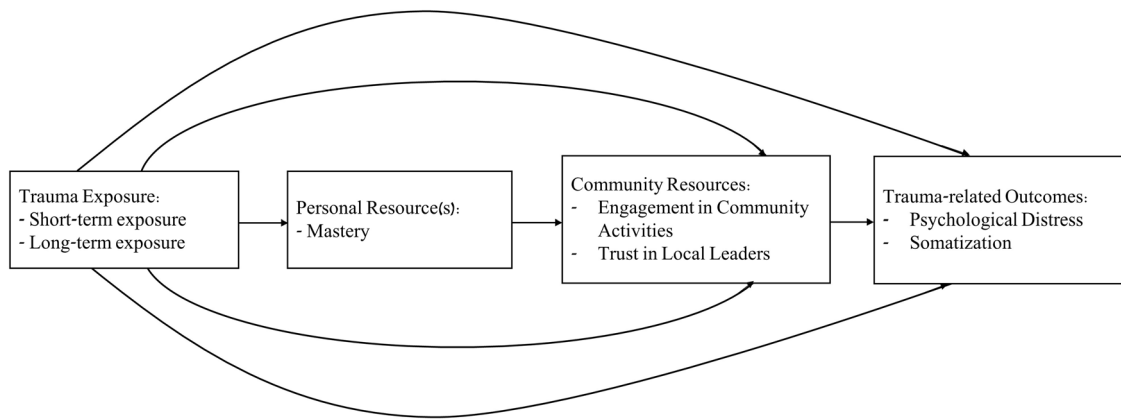
Fig. 1 The research model

and Bandura, 2004; Hobfoll, 2011). People under constant threat of terror attacks face an uncertainty that may undermine their sense of mastery (Bayer-Topilsky et al., 2013). People high in sense of mastery tend to perceive threatening and harmful situations as challenges that can be dealt with, thus protecting them from higher levels of distress (Benight & Bandura, 2004; Hobfoll, 1998). Indeed, higher levels of mastery were found to be associated with lower levels of distress symptoms (e.g., Gil & Weinberg, 2015; Gilbar et al., 2010), particularly in cases of exposure to terrorism and political violence (Ben-Zur et al., 2012; Thompson et al., 2006).

Similarly, according to TMT, reduced mastery or sense of control may lead to increased somatization (e.g., Aan de Stegge et al. (2018)) that serves as an unconscious defense mechanism, in which the body reacts when emotional psychological reactions are being blocked (Kroenke et al., 2002). This is evidenced in studies indicating the association between mastery or sense of control and somatization (e.g., Doerfler et al., 2005). Moreover, mastery was shown to moderate the association between trauma exposure and the trauma-related outcomes (Frazier et al., 2001), or alternatively, to mediate the exposure-to-distress relationship (Bebanic et al., 2017).

Parenthood constitutes a valued social role accompanied by respect of the community, pride from grandparents and other relatives, and a sense of personal accomplishment. Parental status has a significant impact on life satisfaction, self-esteem and control, particularly among women. For example, both mothers with children at home and empty nest mothers report significantly higher satisfaction and self-esteem than women without children (Hansen et al., 2009). Therefore, parenthood, despite its attendant stressors, may also contribute to a person's sense of mastery (Tyndall, 2016). This may be especially true in countries such as Israel where there is great existential significance ascribed to raising children that is reinforced by social pressures to

bear children, financial awards by the State, and appreciation and support by the extended family and community (Ben-Arieh & Kimchi, 2007; Lavee & Katz, 2003). On the other hand, parenting experience in situations of long-term threat and actual missile attacks in Israel, may lead to a sense of loss of control, a prime indicator of decreased mastery (e.g., Paryente, 2021). We sought to examine whether parenthood would have a moderating effect on the associations between exposure to trauma and mastery and between mastery and the trauma-related outcomes – psychological distress and somatization.

Engagement in community activities is expressed by joining formal voluntary groups or by undertaking individual acts on behalf of people in the community (Chaskin et al., 2001; Cnaan & Park, 2016), in order to affect change and influence local programs and policies. Engagement in community activities enables the residents to gain a feeling of control in that they have an impact on their own lives and the quality of their community (Boehm & Cnaan, 2012; Chavis & Wandersman, 2012; Mizrahi, 2005). These activities are performed by citizens who represent their community, promote community interests and needs, and contribute to the welfare of the community. As examples, these activities may include: promoting educational services (e.g., Rouse, 2012); actions aimed at protecting the health of the community members, such as the prevention of abuse of alcohol (e.g., Laverack, 2006); assisting immigrants in the process of absorption and integration (e.g., Itzhaky & Levy, 2011); supporting community members in coping with mental health issues (e.g., Nelson et al., 2014a, b); and protesting against instances of injustice (Butterfield & Chisanga, 2013; Itzhaky & Bustin, 2018). Engagement in community activities may include participating in all various stages of designing, planning, and implementing services (Butterfield & Chisanga, 2013; Itzhaky & Bustin, 2018; Ile & Boadu, 2018). Studies suggest that individuals who are actively engaged in their communities may be

protected from deleterious consequences of traumatic events (Lowe et al., 2015; Ursano et al., 2014; Wind & Komproe, 2012), as well as that community engagement may be perceived as a source of empowerment and a 'social cure' in times of collective traumas (e.g., Landi & Limongelli, 2020; Muldoon et al., 2017). Parents, particularly mothers, exhibit high rates of civic engagement and participation in community life (Kroll, 2011). Thus, in light of the association between engagement in community activities and trauma-related outcomes, as well as the association between parenthood and engagement in community activities, we sought to examine whether parenthood would have a moderating effect on the association between engagement in community activities and the trauma-related outcomes – psychological distress and somatization. Moreover, the difference between parents and non-parents may also interact with trauma exposure, resulting in moderating the association between trauma exposure and engagement in community activities. This moderating effect could take on opposite directions. On one hand, in times of collective traumatic events, parents may be less inclined and less available to invest time and effort for the benefit of their communities. On the other hand, during threatening times, parents may actually be more motivated to engage in functioning of their communities, in order to promote issues that concern the safety of their families and to strengthen community affiliation.

Trust in local leaders refers to the degree to which citizens feel they can rely on their leaders (e.g., the mayor or head of the local governing board). Among other things, local leaders are expected to reduce uncertainties and social complexities by anticipating future problems and doing their best to prepare for them in advance (Luhmann, 1998; Sztompka, 1999). Confidence in authorities was associated with lower psychological distress among residents of communities exposed to military attacks in Israel (e.g., Gelkopf et al., 2012). In contrast, a sense of alienation from institutions and authorities following a collective trauma of forced relocation in Israel directly related to higher levels of posttraumatic symptoms and lower well-being (e.g., Dekel & Tuval-Mashiach, 2012). To the best of our knowledge, there is no research investigating associations between parenthood and trust in leaders with respect to well-being, particularly in the context of exposure to ongoing collecting trauma. We, therefore, wish to explore whether being a parent contributes to trusting the local leaders to protect his/ her family, or to being more critical or skeptical regarding the ability of local authorities to do so. We further sought to examine whether parenthood would have a moderating effect on the association between trust in local leaders and psychological distress and somatization. Influenced by the terror management theory, we surmised that sharing the parental role of protection with higher authorities might instill in parents a sense of greater collective parenthood that expands beyond their own nuclear family.

This may contribute to a sense of self-transcendence which buffers mortality salience.

The Current Study: Research Questions

In previous publications, we examined effects of various personal and community resources on trauma-related outcomes following Operation Tzuk Eitan (Zanbar, 2018; Ben-Tzur, 2021; Zanbar, 2021). However, based on available literature it is reasonable to assume that protective functions of one's sense of mastery and involvement in the community in the context of collective traumatic events, might depend on the personal status of having (or not having) children. Therefore, in the present study, we expanded our previous investigations, and examined a complex model of the mediation of personal and community resources in the associations between trauma exposure and psychological distress and somatization, with the emphasis on the moderating role of parenthood on these associations.

In light of the literature review, we formulated the following research questions:

1. Are there significant differences between parents and non-parents in regard to the levels of the personal and community resources, as well as in regard to the levels of psychological distress and somatization?
2. Does parenthood moderate the associations between the personal and the community resources and the outcomes? That is – would there be significant differences between parents and non-parents in regard to the associations between the personal and the community resources and the outcomes of psychological distress and somatization?
3. Are there significant differences between parents and non-parents in regard to the mediated relationships between the variables predicting the outcomes? That is – would parenthood have a moderating effect in regard to the mediated model predicting the trauma-related outcomes of psychological distress and somatization?

Method

Procedures and Participants

The study's sample was recruited in October and November of 2014, two to three months after the Tzuk Eitan Operation was officially over and included 1014 Israeli residents from

all across the country. Participants were recruited by an Israeli online survey company ("I Panel") that distributed a questionnaire designed by the researchers to people across the country. People from all sectors were made aware of the study through extensive advertising, which drew attention to the specific features of the survey. Completing the survey took approximately 20 minutes, on average. Voluntary informed consent was obtained from all participants (older than 18 years of age) with assurances of anonymity of responses. IRB approval was obtained for the study from the Ethics Committee of the Faculty of Social Sciences, Ariel University. The study complied with the ethical criteria for social research and American Psychological Association ethical principles. It was conducted in accordance with the international ethical guidelines for treatment of human participants engaged in psychological research.

Four hundred and ninety participants were men (48.3%) and five hundred and twenty-four participants were women (51.7%). Sixty-six percent of respondents ($n = 671$) were parents, and thirty-four percent of the respondents ($n = 343$) had no children. Sixty-five percent of respondents ($n = 656$) were married or had a lasting relationship with a partner and thirty-five percent ($n = 358$) were never widowed, separated or divorced. The percentages of the research groups in respect to the characteristics of marital status and parenthood were as follows: a) married participant having children – 56.21% ($n = 570$); b) married participants not having children – 8.48% ($n = 86$); c) unmarried participants having children – 9.96% ($n = 101$); and- d) unmarried participants not having children – 25.34% ($n = 257$). Among the parents, the average number of children was 2.77 ($SD = 1.49$). The average age of all respondents was approximately 41 years ($SD = 14 0.85$, range: 18–70). Among the parents, the average age was approximately 41 years ($SD = 12.70$, range: 20–70), and among the non-parents, the average age was approximately 29 years ($SD = 10.22$, range: 18–67). Age was therefore controlled in the subsequent analyses. The average number of years of formal schooling was 14.5 ($SD = 2.57$).

Measures

Outcome Variables

Psychological Distress was assessed using the Kessler Psychological Distress Scale (K6; Kessler et al., 2003). It consists of six questions asking how often, in the last month, an individual felt the following emotional states: nervous, hopeless, restless or fidgety, so sad that nothing could cheer up, everything was an effort, or worthless ($0 = none$ *of the time*; $4 = all$ *of the time*). Scores were calculated as the sum of responses to all items, with higher scores indicating greater psychological distress. Cronbach's alpha was 0.88.

The *Somatic Symptom Severity Scale (PHQ-15;* Kroenke et al., 2002) was used to assess somatization. The original instrument consists of 15 items relating to various somatic symptoms that account for more than 90% of the physical complaints reported by patients visiting primary care settings and the most prevalent somatization disorder symptoms according to DSM-5 (e.g., *stomach pain, dizziness*). Two items not relevant for males (menstrual cramps and problems during sexual intercourse) were omitted (e.g., Palgi et al., 2017). Participants were asked how often they had been bothered by each of the symptoms during the last four weeks, indicating their answers on a 3-point Likert scale ranging from 1 (*not bothered at all*) to 3 (*bothered a lot*). Each participant was assigned a score equal to the sum of their responses in all of the items, with higher scores indicating more symptoms of somatization. Cronbach's alpha was 0.78.

Predictor Variables

Trauma exposure indices. The index assessing the focal short-term trauma exposure variable, *perceived life-threatening events during Tzuk Eitan operation*, was an ordinal measure based on answers to 2 questions asking whether the respondents experienced feelings of being in danger during the operation and whether they believed that their relatives were in danger during the rocket attacks. The answers were recoded as "0" (*No*) and "1" (*Yes*), and the Tzuk Eitan trauma exposure index scores ranged from 0 to 2. Sixty-one percent of respondents had a score of 0, that is, while they were exposed to the continuous threat of armed exchanges and hostilities, they did not experience an actual attack; 27% of respondents reported that either them or their relatives experienced actual danger; and the remaining 12% of the sample reported that both them and their relatives experienced actual danger.

Perceived life-threatening events during past 5 years was used to assess long-term trauma exposure with one item referring to the number of life-threatening events experienced in the previous 5 years. The answers were recoded with a range from 0 to 4 (44% of respondents had a score of 0, 26%=1, 15%=2, 10%=3, and 5%=4).

As means of distinguishing between parents and non-parents we used a dichotomous variable recoded as 0=*not having children at all*, and 1=*having one or more children*. Four additional sociodemographic factors were included in the analyses: respondents' sex (*1 = male, 2 = female*), marital status (0 = *never married, widowed, separated/ divorced*, 1=*married/having a lasting relationship with a partner*), age and education, both coded as years.

Personal and Community Resources

Personal Mastery Scale (Pearlin & Schooler, 1978), consisting of 7 items (e.g., "What happens to me in the future

mostly depends on me"), was used. Responses were indicated on a 5-point Likert scale ranging from 1 ("*strongly disagree*") to 5 ("*strongly agree*"). Scores were calculated as the mean of the responses to all items, with higher scores indicating a greater sense of mastery. Cronbach's alpha reliability coefficient of the mastery score was 0.82.

Engagement in community activities was assessed by the shortened version of Community Activity Checklist (Zimmerman et al., 1992). The instrument included 11 items relating to activities in which the participants might had been involved (coded $0 = No$, $1 = Yes$, for each activity). The various activities ranged from low level of involvement (e.g., "I wrote a letter to a government official") to high level of involvement (e.g., "I have established a new volunteer organization"). The respondents were given a score equal to the sum of the items marked, with higher scores indicating a higher level of engagement in community activities. The sum of activities the respondents reported as being engaged in had in previous study (Zanbar & Ellison, 2019) a Cronbach α of .78 and in the current study as well.

The measure of *trust in local leaders*, composed of four items, tapped the respondents' level of trust in capabilities of their mayor and local council members of in preparing communities for crises and during times of security threats. The answers were scored as an average on a 5-point scale ($1 = do\ not\ trust\ at\ all$ to $5 = trust\ to\ a\ great\ degree$), with higher scores indicating greater trust in local authorities. The internal reliability coefficient of the score on this scale was 0.96. The two measures of community resources were independent of each other (see Table 1).

Data Analysis

In the first stage of analyses, Pearson correlations were conducted, to rule out multicollinearity issues (using the statistical package of SPSS v.25 in all presented analyses).

The first research question in regard to mean differences between parents and non-parents was examined by using Univariate Analysis of Variance. Due to the high correlation between parenthood and marital status, marital status was controlled in this analysis as a covariate.

In the next stage of the analyses, we used group comparison of SEM by AMOS (v. 25), in order to examine the second research question: Does parenthood moderate the associations between the personal and the community resources and the outcomes of psychological distress and somatization?

After the AMOS program for assessment of structural models (see Byrne, 2016) assured a good fit between the model and the data, the differences between parents and non-parents in regard to the associations between the research variables were examined by group comparison.

Table 1 Intercorrelations among the study's variables

Measures	1	2	3	4	5	6	7	8	9	10	11	12
1. Age	–											
2. Gender	-0.17***	–										
3. Marital status	0.34***	-0.13***	–									
4. Parenting status	0.59***	-0.07*	0.59***	–								
5. Education	0.19***	0.00	0.23***	0.24***	–							
6. Trauma during last 5 years	-0.06	0.04	-0.05	-0.02	0.01	–						
7. Trauma during Tzuk-Eitan	-0.16***	0.03	-0.06	0.11***	0.00	0.42***	–					
8. Mastery	0.10**	0.07*	0.11**	0.09***	0.16***	-0.12***	-0.02	–				
9. Community activities	0.15***	-0.04	0.09**	0.15***	0.12***	0.18***	0.18***	0.09**	–			
10. Trust in local leaders	-0.01	0.09**	-0.02	0.00	0.02	-0.02	0.04	0.16***	0.03	–		
11. Psychological distress	-0.21***	0.05	-0.15***	-0.15***	-0.14***	0.24***	0.07*	-0.41***	0.02	0.17***	–	
12. Somatization	-0.10**	0.16***	-0.05	-0.05	-0.08*	0.25***	0.10**	-0.29***	0.10**	-0.07*	0.47***	–
Mean	40.84	–	–	–	14.48	1.07	0.52	3.77	3.35	3.16	5.57	5.11
Standard Deviation	14.85	–	–	–	2.57	1.22	0.70	0.75	2.69	1.05	4.69	4.28
VIF	1.65	1.06	1.59	2.16	1.11	1.27	1.28	1.09	1.11	1.04	–	–

$N = 1014$. Values of the variable of gender were: 1=men; 2=women

Means and standard deviations for dichotomous variables were omitted; their frequencies are presented in the text

$^{*}p < 0.05$. $^{**}p < 0.01$. $^{***}p < 0.001$

This group comparison of AMOS enables estimation of whether the path model is statistically valid for both of the two research groups to the same extent, or whether the groups significantly differ from one another. In case the path models for both groups are significantly different, this examination also enables establishing the sources of the differences, that is, identifying the specific paths of associations which the research groups significantly differ from one another (Gaskin & Lim, 2018). Since marital status and parenthood were correlated, this examination included monitoring the effect of marital status on the results as will be elaborated below.

Finally, mediation relationships observed in the path analysis were subsequently tested using "indirect" analysis (Preacher & Hayes, 2008) to reveal which of the mediated relationships were statistically significant among parents as well as among non-parents. The first two mediated relationships related to the prediction of psychological distress, and the other two, to the prediction of somatization. The predictors were either the trauma exposure indices or mastery, and the mediators were the personal and the community resources: mastery, engagement in community activities, and trust in leaders.

Results

Pearson correlations indicated that no particularly high correlations between the independent variables were observed, as can be seen in Table 1, thus ruling out multicollinearity issues. This was also assured by computing the VIF (variance inflation factor) values for each one of the independent variables.

Next, Univariate Analyses of Variance were conducted in order to explore the first research question whether there are differences between the groups in respect to the personal and community resources and the outcomes of psychological distress and somatization. The results indicated that significant differences were found between parents and non-parents only in respect to the community resource – engagement in community activities ($F(1,1010) = 3.24^*$, $\eta^2_p = 0.003$). Parents demonstrated higher levels of engagement in community activities ($M = 3.63$, $SD = 2.80$) than non-parents ($M = 2.79$, $SD = 2.37$). No significant differences were found between the groups in regard to the mastery and trust in local leaders resources, and in regard to the outcomes of psychological distress and somatization.

In the next stage, we examined the second research question in regard to differences between the groups in respect to the associations between the personal and the community resources and the outcomes of psychological distress and somatization. Path analysis by structural equation modeling (SEM) of AMOS included the three

categories of the variables: predictor variables, mediating variables (personal and community resources), and trauma-related outcomes (psychological distress and somatization). In addition, the sociodemographic variables were controlled. A good fit between the model and the data ($N = 1014$) was registered: $\chi^2 = 14.50$, $df = 9$, $p = 0.11$. The NFI and CFI values were 0.985 and 0.994, respectively, and the RMSEA value was 0.02. These statistics were all in ranges indicating a good fit (Byrne, 2016). Figure 2 presents the path analysis model with significant effects and correlations (i.e., standardized path coefficients) that were found between the research variables.

After assuring the fit between the model and the data, we conducted parent vs non-parent group comparison of the path model. The comparison included all paths of the research model and revealed significant differences between the models of both groups: $\chi^2 = 26.931$, $df = 16$, $p < 0.05$ (Gaskin & Lim, 2018). Table 2 presents the paths in which there were significant differences between the groups, that contributed to the significant difference between the models of both groups at large. Note that these paths are also indicated in the above Fig. 2.

As Table 2 indicates, the differences between the models of parents and non-parents at large, derived from six (out of a total of 12) paths. In regard to five of these paths, they were significant only among parents, and in regard to one of them (the fourth path), it was significant for both groups. It was significantly stronger among non-parents, however. Accordingly, in regard to each one of these paths, different coefficients are presented in Fig. 2 for both research groups. (The first one relates to parents, and the second [in parentheses] to non-parents.) In regard to all other six paths, there were no significant differences between parents and non-parents, and accordingly, only one value of coefficient (that relates to both groups) appears in the figure. The six paths indicating differences between the research groups were as follows: Only among parents, long-term trauma exposure (during last five years) was associated with lower levels of mastery (path #1) and increased levels of engagement in community activities (path #2). Also, only among parents, higher levels of mastery were associated with higher levels of engagement in community activities (path #3) whereas higher levels of engagement in community activities (path #5; approaching statistical significance), as well as lower levels of trust in leaders (path #6), were associated with more psychological distress. The association between lower mastery and higher levels of psychological distress was significant for both groups, but this relation was stronger among non-parents (path #4).

It should be noted that parallel examinations comparing differences among married and unmarried participants ruled out the possibility that differences between parents and non-parents derive from differences in marital status. In fact,
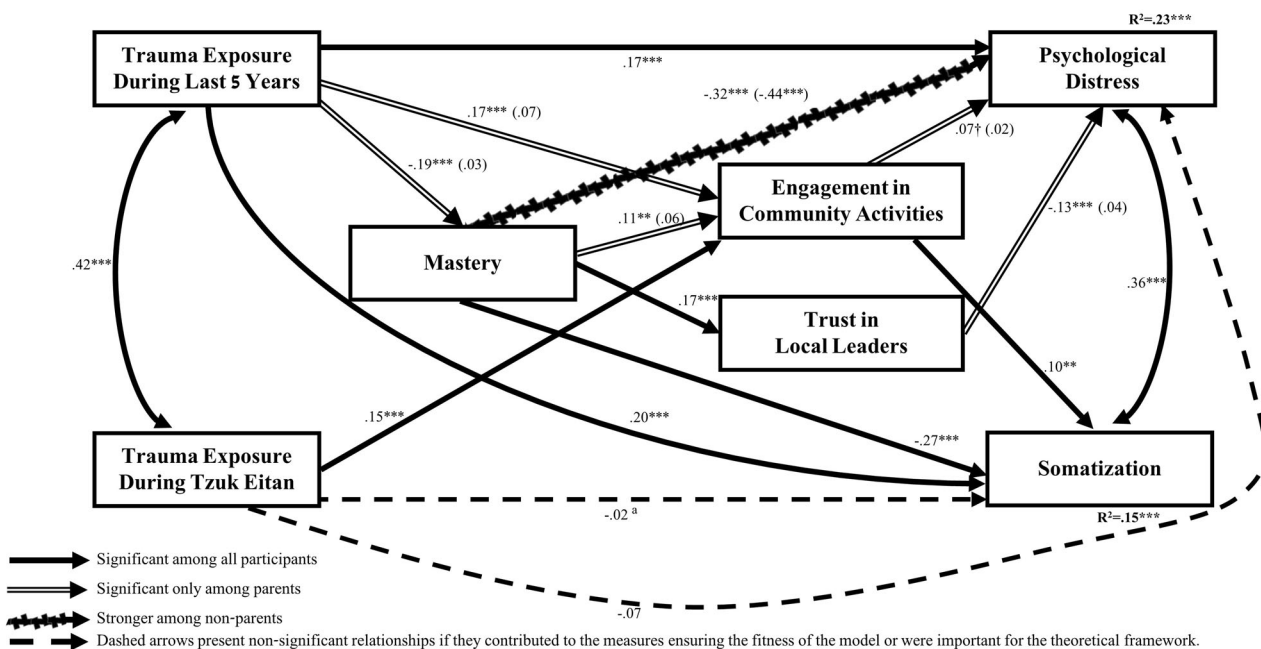
Fig. 2 Path model for explaining the variance of psychological distress and somatization. β values and R^2 of outcome variables. Note. In case of significant differences between the research groups in respect to the coefficients, two βs are presented; whereas the first one relates to parents and the second (in parentheses) to non-parents. [a]Table 3 indicates that the association between trauma exposure during Tzuk Eitan and somatization exists among parents, though it is fully mediated by engagement in community activities

they confirmed the differences between parents and non-parents to a greater extent.

The last stage of the analyses included a closer investigation of mediated relationships by means of "indirect" analysis (Preacher & Hayes, 2008) for each one of the research groups. Only mediation relationships that could be statistically significant according to the path analysis were reexamined in the indirect effects analyses. Significant mediated relationships were indicated by CI (confidence interval) values that their lower and upper bounds were not crossed by the value of zero (see Cumming, 2012). Table 3 presents the results of the examination of the four mediated relationships.

As is indicated in Table 3, in most of the cases (3), the mediation was significant only among the parents, and in one case, the results indicated full mediation for both of the research groups.

As mentioned, the first two paths related to the prediction of psychological distress. The first one (Table 3, path #1) included the increased total effect of the association of exposure to trauma during last five years with psychological distress, throughout the mediation of mastery. However, this mediated path was significant only among parents. In their case, higher exposure to trauma was related to lower sense of mastery, and the reduced mastery in turn increased the psychological distress even more (beyond the direct effect of exposure of trauma on psychological distress).

It should be noted that the SEM results indicated similar potential mediations between long-term exposure to trauma

during last five years and/or short-term trauma exposure during Tzuk Eitan operation and psychological distress via engagement in community activities, however, the CI bounds indicated that these mediations were not significant for either of the groups.

The second path (Table 3, path #2) indicated that the direct effect of mastery on psychological distress was increased due to the mediation of trust in the local leaders, only among parents. In their case, higher mastery was associated with increased levels of trust in leaders, that in turn, contributed to reduced levels of psychological distress. Here again, SEM analysis indicated that engagement in community activities could also potentially mediate the association between mastery and psychological distress, but the CI bounds indicated that the mediation was not significant for either of the groups.

The next two paths were related to the prediction of somatization that were also indicated by SEM. This was actually the first (two) time(s) that we revealed significant differences between parents and non-parents in respect to the research factors and the associations between them, and their prediction of somatization. The first path related to the association between exposure to trauma during Tzuk Eitan and somatization (Table 3, path #3). This association was actually not found to be significant at first (in the SEM analysis), that is, the direct effect was not significant, but the mediated effect through engagement in community activities was found to be significant in the indirect analysis

Paths	β for parents	β for non-parents	Interpretation
1. Trauma during last 5 years → Mastery	−0.19***	0.03	The negative association between trauma during last 5 years and mastery is significant only among parents
2. Trauma during last 5 years → Community activities	0.17***	0.07	The positive association between trauma during last 5 years and community activities is significant only among parents
3. Mastery → Community activities	0.11**	0.06	The positive association between mastery and community activities is significant only among parents
4. Mastery → Psychological distress	−0.32***	−0.44***	The negative association between mastery and psychological distress is significantly stronger among non-parents
5. Community activities → Psychological distress	0.07†	0.02	The positive association between community activities and psychological distress is significant only among parents
6. Trust in local leaders → Psychological distress	−0.13***	0.04	The negative association between trust in local leaders and psychological distress is significant only among parents

Table 2 Comparison between parents and non-parents

†$p < 0.10$, **$p < 0.01$, ***$p < 0.001$

among parents, thereby indicating a full mediation among this group. Exposure to trauma during the operation increased people's involvement in their community, which in turn, increased their somatic reactions. This mediation was significant only for parents. Among the non-parents, although the values of the confidence interval indicated possible mediation, the values of the total effect of the association between Tzuk Eitan and somatization were found to be not significant.

Finally, the last path indicated that mastery mediated the association between exposure to trauma during last five years and somatization, only among parents (Table 3, path #4). In their case, higher exposure to trauma was related to lower sense of mastery, and the reduced mastery in turn increased the somatization even more (beyond the direct effect of exposure of trauma on somatization).

Discussion

Parenthood might serve as a protecting factor against anxiety aroused by mortality salience in life-threatening situations, on the one hand, and as a source of major anxiety for the safety of one's offspring, on the other hand. Hence, guided by the TMT theoretical framework (Pyszczynski et al., 1997; Solomon et al., 1997), the present study explored the moderating role of parenthood in the associations between personal and community resources and psychological distress and somatization following a collective security threat.

Parents and non-parents demonstrated similar levels of trauma exposure, personal and community resources, and trauma-related outcomes. Perhaps the two parental tendencies implied by the TMT offset one another. That is, parenting could be associated with lower mortality salience because of the existential meaning that having children provides. On the other hand, parenting may also increase mortality salience because of the fear for children's safety. Interestingly, the paths linking all the variables were different for each of the groups. That is, the way to reduce the trauma-related outcomes, or alternatively, prevent their increase, involves different processes of enhancing various personal and community resources. This was expressed in the direct associations between the research variables, and the prediction of the outcome of psychological distress (only). In regard to the indirect mediated associations between the variables, there were different paths operating for parents and non-parents in predicting both trauma-related outcomes: psychological distress and somatization. These results indicate that different therapeutic work with each of these groups is necessary in context of experiencing collective trauma.

Accordingly, while exploring the first research question – whether there are significant differences between parents

Table 3 Mediated relationships predicting psychological distress and somatization

Predicting Measures	Direct effect	Total effect	Mediating Variable	Bootstrapping						Interpretation
				Percentile 95% CI		BC 95% CI		BCa 95% CI		
				Lower Bound	Upper Bound	Lower Bound	Upper Bound	Lower Bound	Upper Bound	
Prediction of Psychological Distress										
1) Trauma five years										
Parents	b = 0.82, se = 0.13, p < 0.001	b = 1.07, se = 0.14, p < 0.001	Mastery	0.1402	0.3638	0.1446	0.3707	0.1443	0.3701	The partial mediation effect is significant only among parents
Non-parents	b = 0.56, se = 0.18, p < 0.01	b = 0.51, se = 0.20, p < 0.05		−0.2336	0.1331	−0.2345	0.1314	−0.2343	0.1326	
2) Mastery										
Parents	b = −2.15, se = 0.22, p < 0.001	b = −2.31, se = 0.22, p < 0.001	Trust in Leaders	−0.2746	−0.0612	−0.2875	−0.0686	−0.2866	−0.0682	The partial mediation effect is significant only among parents
Non-parents	b = −2.75, se = 0.31, p < 0.001	b = −2.79, se = 0.31, p < 0.001		−0.1587	0.0871	−0.1757	0.0721	−0.1733	0.0737	
Prediction of Somatization										
3) Trauma Tzuk Eitan										
Parents	b = 0.54, se = 0.25, p < 0.05	b = 0.64, se = 0.24, p < 0.01	Community Activities	0.0011	0.2235	0.0085	0.2324	0.0088	0.2324	The full mediation effect is significant only among parents
Non-parents	b = 0.13, se = 0.32, p > 0.05	b = 0.34, se = 0.31, p > 0.05		0.0403	0.4078	0.0547	0.4323	0.0539	0.4319	
4) Trauma five years										
Parents	b = 0.82, se = 0.13, p < 0.001	b = 0.98, se = 0.13, p < 0.001	Mastery	0.0895	0.2647	0.0968	0.2755	0.0968	0.2755	The partial mediation effect is significant only among parents
Non-parents	b = 0.71, se = 0.18, p < 0.001	b = 0.68, se = 0.19, p < 0.001		−0.1260	0.0767	−0.1289	0.0731	−0.1281	0.0736	

CI confidence interval, *BC* bias corrected, *BCa* bias corrected and accelerated, 5000 bootstrap samples

and non-parents in regard to the levels of the personal and community resources, as well as in regard to psychological distress and somatization, the analyses indicated similar results for both groups. In regard to almost all of the research variables, there were no significant differences between parents and non-parents. However, one single factor demonstrated a significant difference between parents and non-parents, engagement in community activities. Generally, parents are involved in more social networks in the community. We can also posit that parents have a greater stake and investment in what will happen in the future in general, and in the future of the community in particular, because this investment may ensure their children's survival and well-being (Bookman, 2004; Kroll, 2011). The investment in the future and the investment in the community dovetail into an attempt to achieve self-transcendence, a central feature of terror management (Pyszczynski et al., 1997; Solomon et al., 1997). These increased investments, however, do not translate into a direct effect of parenthood on reduced distress than that experienced by non-parents in situations of ongoing terror. Nevertheless, such efforts can explain the mediated associations between the research variables that were later revealed, which indicated differences between parents and non-parents. That is, the dynamic that characterizes parents in respect to their engagement in their communities might affect the potential of such engagement to reduce distress, as was indicated while exploring the second and the third research questions.

The examination of the second research question revealed that the paths that predicted the two outcomes of psychological distress and somatization were significantly different between the two groups. Interestingly, the answer to the third research question regarding differences between parents and non-parents in respect to the mediated relationships between the variables predicting the outcomes, contributed to the understanding of the second research question as well. In fact, the results emerging from this third set of presented analyses provided a validation of the interpretations that were suggested in regard to the association between the research variables.

The first path that varied between parents and non-parents included the association between long-term trauma exposure (during last five years) and mastery. Only among parents, long-term trauma exposure was associated with lower mastery. In the mediated relationships between the variables predicting the outcomes, the lower mastery in turn was related to both more psychological distress and somatization, again – only among parents. This supports previous findings (Paryente, 2021) that parenting challenges to ensure the safety of their children in traumatic situations, may lead to feelings of helplessness. In addition, prolonged trauma exposure has been shown to result in higher levels of

children's distress (Khamis, 2015). This may explain parents' lower sense of mastery, as they sense their inability to calm and protect their children. As a result, the lower mastery may be associated with more post-trauma non-adaptive reactions manifested in psychological distress and somatization (Doerfler et al., 2005; Gil and Weinberg, 2015; Gilbar et al., 2010).

Most of the rest of the paths that indicated differences between parents and non-parents were connected with the community variables (engagement in community activities and trust in leaders). Higher levels of mastery were associated with higher levels of community activities only among parents. Thus, if parents believe that they can be effective in improving their children's well-being they focus their activities toward bettering their community to ensure an advantageous future for their children. In this way, contributing to the community may serve as a way of managing the terror engendered by increased mortality salience (Castano et al., 2002). Although long-term exposure to trauma was associated with increased levels of engagement in community activities only among parents, somewhat paradoxically, among parents, higher levels of engagement in community activities were also correlated with higher levels of distress. In addition, only among parents, the fully mediated association between exposure to trauma during Tzuk Eitan operation and somatization throughout engagement in community activities was significant. The meaning of the full mediation is that unlike the other mediated paths, the short-term exposure alone was not enough to increase parents' somatic reactions. It did not lead to this outcome unless it was accompanied by engagement in community activities. Perhaps on the one hand, parents become more involved in the community out of concern for the safety and welfare of their family; yet, at the same time, their involvement in the community may expose them to additional information about, and awareness of, the severity of the collective threat and trauma, and this may increase their worry for their children's safety. In addition, community involvement can lead to stress contagion as community members share their fears with each other (e.g., Hobfoll & London, 1986; Riley & Eckenrode, 1986). This might also explain why the association between mastery and lower levels of psychological distress was weaker among parents compared to non-parents. It might be that the fact that their community involvement increases their psychological distress, reduces to some extent the ability of their mastery to decrease it.

In contrast to the effect of engagement in community activities, the other community resource of trust in local leaders was associated with reduced levels of psychological distress, here again – only among parents. Furthermore, the mediation relationships analysis demonstrated that among parents, the direct effect of mastery on psychological

distress was increased due to the mediation of trust in the local leaders. In their case, higher mastery was associated with greater levels of trust in leaders that in turn, contributed to reduced levels of psychological distress. These findings are consistent with earlier findings among forcibly relocated Israeli parents from Gaza, that indicated that a sense of alienation, i.e., lack of trust in the institutions of the country, mediated the associations between the sense of belonging to the country and post traumatic symptoms and well-being (Dekel & Tuval-Mashiach, 2012).

Perhaps the greater sense of responsibility for others that parents possess as compared to non-parents serves as a buffer to mortality salience, as this responsibility is a form of self-transcendence. However, it could leave them more vulnerable to feeling helplessness in the face of prolonged exposure to security threats and in need of a "higher parental figure" who would be in charge and assume overall responsibility. In this case, their local leaders can be perceived as meta-parental figures, taking responsibility for the welfare of the community (Ciulla, 2020), thus, reducing distress of residents.

The findings of the current study present a complex picture in regard to the possible association between community resources and people's trauma-related reactions. Nevertheless, this picture is compatible with previous literature, indicating that community connections and engagements may have their "downsides" and produce poorer mental health outcomes (e.g., Bryant et al. 2017; Gallagher et al., 2019). As mentioned, coping in collectives may subject people to stress contagion (i.e., "pressure cooker") phenomena whereby, paradoxically, social interactions and sharing of feelings and fears may exacerbate trauma-related outcomes (e.g., Hobfoll & London, 1986; Riley & Eckenrode, 1986). Taken together, an individual's connections to their community serve a double-edged role, and depending on circumstances, contexts, and person-level characteristics, these factors may be related to vulnerability, resilience, or both (Villalonga-Olives, & Kawachi, 2017). However, our findings suggest that this complex picture, and examined model of personal and community resources mediating the associations between the trauma exposure factors and the trauma-related outcomes, are mostly relevant for parents. It should be noted again that these insights are suggested uniquely in regard to the status of being a parent vs. non-parent because a possibility that these differences were due to the characteristic of having a lasting couple relationship vs. not having such relationship (i.e., being single, divorced/separated, or widow), was ruled out.

Limitations of the Study and Recommendations for Further Research

The first limitation of this study is that no data were collected about the children of the participants. Thus, we compared parents with non-parents but did not control for the age of the children. We did, however control for the age of the participants themselves which is associated with the age of their children to some extent. In addition, recent literature indicates that parents' concern for and attention to children's well-being extends well into adulthood (e.g., Cui et al. (2019)). Clearly, the effect of the children's age should be examined in future studies.

Second, the cross-sectional design of the research requires caution in causal interpretations despite their theoretical foundations. We therefore recommend further studies to employ longitudinal research methods of assessing the moderating effect of parenthood on the associations between trauma predictors and trauma-related outcomes throughout the mediation of personal and community resources.

Finally, the context of the study related to a specific security threat: the Tzuk Eitan military operation. However, in order to be able to generalize the findings beyond this specific context, we took into consideration the contribution of the long-term exposure to terror attacks. Our decision to account for the longer-term exposure to trauma was clearly justified because this variable was more related to the study outcome variables than the exposure to the hostilities of the Tzuk Eitan. Further studies should also reflect the outcomes of continuous exposure to terror and take into consideration various types of terror exposure.

Conclusions and Implications

The current study made both theoretical and practical contributions. On the theoretical level, the findings here indicate that parenthood has both advantages and disadvantages in times of increased mortality salience. This adds an important facet to the TMT, that mostly, to the best of our knowledge, examined parenthood in terms of fertility intentions or thoughts of parenting.

On the practical level, the study has significant implications for practitioners, drawing their attention to the understanding that although parents and non-parents can be similarly affected by trauma exposure, in terms of psychological distress and somatic symptoms, the development of these outcomes goes through different paths in relation to the personal and community resources available in their lives. This indicates that different interventions may be needed for parents in order to prevent or reduce negative outcomes of exposure to collective trauma. This is relevant for professionals engaged in helping communities remain resilient in the face of both acute and prolonged traumatic events.

Specifically, the results indicate that in the case of parent intervention, it might be useful to help them to maintain a sense of mastery when faced with continuous traumatic

threats by focusing on the things in both their and in children's lives that are within their control. This is in line with Paryente's (2021) proposal that in ongoing life-threatening situations, psycho-educational support groups targeting parents should be offered. The aim of the groups is to help parents change their perception of the situation to give them a sense of greater control.

In addition, community leaders need to share accurate information about the crisis with the public and gain their trust to reduce distress particularly among people with children. Finally, practitioners might consider keeping in mind that collective action empowers parents in their coping as long as the obligations do not outweigh the benefits. It seems to be important that professionals monitor and support those citizens engaged in community activities by creating space for group discussions of their own and their families' coping in challenging circumstances. The findings of this study indicate, that during times of crisis, parents who are community activists should consider making sure that their efforts to strengthen the community and to protect their children, do not come at the expense of their own well-being.

Data availability

Data are available upon request of the corresponding author.

Materials availability

Materials of the study are available upon request of the corresponding author.

Compliance with Ethical Standards

Conflict of Interest The authors declare no competing interests.

Ethical Approval Our study received the approval of the Institutional Review Board (in Ariel University). In conducting our study, we have complied with the international ethical guidelines for treatment of human participants engaged in psychological research.

Informed Consent All participants signed informed consent.

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