Conflict will Harden your Heart: Exposure to Violence, Psychological Distress, and Peace Barriers in Israel and Palestine

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Abstract

Does exposure to political violence prompt civilians to support peace? We investigate the determinants of civilian attitudes towards peace during ongoing conflict using two original panel datasets representing Israelis (n=996) and Palestinians in East Jerusalem, the West Bank, and Gaza (n=631) (149 communities in total). A multi-group estimation analysis shows that individual-level exposure to terrorism and political violence makes the subject populations less likely to support peace efforts. The findings also confirm psychological distress and threat perceptions as the mechanism bridging exposure to violence and greater militancy over time. The study breaks ground in showing that individual-level exposure— necessarily accompanied by psychological distress and threat perceptions—is key to understanding civilians' refusal to compromise in prolonged conflict.

Ending longstanding conflicts is a first-order global goal, with dozens of countries having been affected by ongoing armed civil conflict over the past decade.[1] Given the growing proportion of civilian victims in political conflicts, there has been a concomitant increase in the number of people exposed to stressful events associated with political conflict. However, debate over the psychological effects of war and terrorism, and their political ramifications, remains in its nascence. One question in particular demands attention: how and to what extent does individual-level exposure to political violence (EPV) impact civilians' willingness to compromise for peace—i.e., to negotiate the core issues underlying a given prolonged conflict? We argue that (a) not all civilians amid conflict are in fact exposed to the same degree, and (b) variations in exposure may be associated with variations in attitudes towards peace. Civilians who are highly distressed and threatened as a result of exposure to war and terrorism are less likely to support diplomatic negotiation and peace.

We disaggregate data from Israel and Palestine to analyze the micro-foundations of prolonged conflict by examining EPV and its political effects. First, we discuss the association between EPV and attitudes towards peace, and the psychological stress-threat mechanisms that characterize this process. Next, we present two-wave panels conducted in Israel and Palestine (the West Bank, Gaza Strip, and East Jerusalem) in tandem. Our findings demonstrate that prolonged exposure to political violence has consequences beyond the harmful effects of such exposure on the individual. Specifically, the concomitant psychological distress and sense of threat play an important role in modifying attitudes of Israelis and Palestinians towards peace.

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[1] Milton Leitenberg, *Death in Wars and Conflict between 1945 and 2000* (Maryland: Cornell University Peace Studies Program, 2006).

Exposure to Violence and Attitudes towards Peace

Over recent years, a growing body of work in political science has examined the effects of ongoing terrorism and political violence in the Middle East, Africa, and in Europe on political attitudes. Some studies, drawing on insights from economics, show that higher levels of terrorism translate into higher levels of right-wing voting and risk-seeking behaviors.[2] Social psychologists have sought to uncover the mechanisms underlying such effects by drawing on the study of emotions,[3] societal norms,[4] racial prejudice,[5] terror management theory,[6] or contact interventions.[7] However, most studies that have examined these effects at the individual level have questioned respondents about their sentiments and perceptions of threat, but not about their direct exposure to violence.[8] For instance, surveys of Americans following 9/11 point to heightened feelings of threat and anxiety, but do not

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[2] Claude Berrebi and Esteban F. Klor, 'Are Voters Sensitive to Terrorism? Direct Evidence from the Israeli Electorate', *American Political Science Review,* 102 (2008), 279-301; Maarten J. Voors , Nillesen E. M. Eleonora , Verwimp Philip, Bulte H. Erwin , Lensink Robert and Van Soest P. Daan , 'Violent Conflict and Behavior: A Field Experiment in Burundi', *American Economic Review*, 102 (2012), 941-64; Jose´ G. Montalvo, 'Voting after the bombings: A natural experiment on the effect of terrorist attacks on democratic elections', *Review of Economics and Statistics*, 93 (2011), 1146-1154; Eric D. Gould and Esteban F. Klor, 'Does Terrorism Work?', *The Quarterly Journal of Economics*, 125 (2010), 1459-1510; David A. Jaeger and M. Daniele Paserman, 'The cycle of violence? An empirical analysis of fatalities in the Palestinian-Israeli conflict', *American Economic Review,* 98 (2008), 1591-1604.

[3] Jennifer S. Lerner, Roxana M. Gonzalez, Deborah A. Small and Baruch Fischhoff, 'Effects of Fear and Anger on Perceived Risks of Terrorism: A National Field Experiment', *Psychological Science,* 14 (2003), 144-150; Smadar Cohen-Chen, Eran Halperin, Richard J. Crisp and James J. Gross, 'Hope in the Middle East: Malleability beliefs, hope, and the willingness to compromise for peace', *Social Psychological and Personality Science,* 5 (2014), 67-75; Eran Halperin, 'Group-based hatred in intractable conflict in Israel', *Journal of Conflict Resolution,* 52 (2008), 713-736.

[4] Daniel Bar-Tal, Keren Sharvit, Eran Halperin and Anat Zafran, 'Ethos of conflict: The concept and its measurement', *Peace and Conflict: Journal of Peace Psychology,* 18 (2012), 40-61.

[5] Agustin Echebarria-Echabe and Emilia Fernández-Guede, 'Effects of terrorism on attitudes and ideological orientation', *European Journal of Social Psychology*, 36 (2006), 259-265.

[6] Jeff Greenberg, Tom Pyszczynski and Sheldon Solomon, 'The causes and consequences of the need for self-esteem: A terror management theory', In Roy F. Baumeister, ed, *Public self and private self* (New York: Springer-Verlag, 1986), pp. 189-212.

[7] Ifat Maoz, 'Does Contact Work in Protracted Asymmetrical Conflict? Appraising 20 Years of Reconciliation-Aimed Encounters between Israeli Jews and Palestinians', *Journal of Peace Research*, 48 (2011), 115-125.

[8] Niklas Jakobsson and Blom Svein, 'Did the 2011 Terror Attacks in Norway Change Citizens' Attitudes Toward Immigrants?', *International Journal of Public Opinion Research,* 25 (2014) Forthcoming; Ronald Inglehart, Mansoor Moaddel and Mark Tessler, 'Xenophobia and in-group solidarity in Iraq: A natural experiment on the impact of insecurity', *Perspectives on Politics,* 4 (2006), 495-505; Darren W. Davis and Brian D. Silver, 'Civil liberties vs. security: Public opinion in the context of the terrorist attacks on America', *American Journal of Political Science*, 48 (2004), 28-46; Jennifer L. Merolla and Elizabeth J. Zechmeister , *Democracy at Risk: How Terrorist Threats Affect the Public* (University of Chicago Press, 2009).

differentiate between respondents who were exposed to the attacks through news reports and those who witnessed them in person, or who lost a family member or friend. To the best of our knowledge, no study has accounted for the effect of prolonged individual-level exposure to political violence on attitudes towards peace.

The post-traumatic stress literature has provided numerous insights into the mental health impact of EPV.[9] In political scholarship, EPV was recently used to explain an array of political attitudes—support for combatants in Afghanistan,[10] support for exclusionism[11] or intragroup retaliation in Israel,[12] conservatism in the United States,[13] and voting behavior[14]— but not attitudes towards peace. This study is based on the premise that EPV is key to understanding the relationship between terrorism and political violence, on the one hand, and attitudes towards peace and compromise on the other.

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[9] Avraham Bleich, Marc Gelkopf and Zahava Solomon, 'Exposure to Terrorism, Stress-Related Mental Health Symptoms, and Coping Behaviors Among a Nationally Representative Sample in Israel', *Journal of the American Medical Association,* 290 (2003), 612-620; Sandro Galea, Jennifer Ahern, Heidi Resnick, Dean Kilpatrick, Michael Bucuvalas, Joel Gold and David Vlahov, 'Psychological Sequelae of the September 11 Terrorist Attacks in New York City', *New England Journal of Medicine,* 346 (2002), 982-987; Garfin, D., Poulin, M. J., Blum, S.and Silver, R. C, 'The aftermath of terror: A nationwide longitudinal study of posttraumatic stress across the 9/11 decade'. *Journal of Traumatic Stress* (in press); Stevan E. Hobfoll, Daphna Canetti – Nisim and Robert Johnson,'Exposure to Terrorism, Stress-Related Mental Health Symptoms, and Defensive Coping among Jews and Arabs in Israel', *Journal of Consulting and Clinical Psychology',* 74 (2006), 207-218; Randall D. Marshall, Richard A. Bryant, Lawrence Amsel, Eun Jung Suh, Joan M. Cook and Yuval Neria, 'The psychology of ongoing threat: relative risk appraisal, the September 11 attacks, and terrorism-related fears', *American Psychologist,* 62 (2007), 304; Arieh Y. Shalev, and Sara Freedman, 'PTSD following terrorist attacks: A prospective evaluation', *American Journal of Psychiatry,* 162 (2005), 1188 –1191.
[10] Jason Lyall, Graeme Blair and Kosuke Imai, 'Explaining Support for Combatants During Wartime: A Survey Experiment in Afghanistan', *American Political Science Review,* 107 (2013), 679 – 705.
[11] Daphna Canetti – Nisim, Eran Halperin, Keren Sharvit and Stevan E. Hobfoll, 'A New Stress-Based Model of Political Extremism: Personal Exposure to Terrorism, Psychological Distress, and Exclusionist Political Attitudes', *Journal of Conflict Resolution,* 53 (2009), 363-389.
[12] Thomas Zeitzoff, 'Anger, Exposure to Violence and Intragroup Conflict: A Lab in the Field Experiment in Southern Israel', *Political Psychology* (2013).
[13] George A. Bonanno and John T. Jost, 'Conservative Shift Among High-Exposure Survivors of the September 11th Terrorist Attacks', *Basic and Applied Social Psychology,* 28 (2006), 311-323.
[14] Michael T. Koch, 'Casualties and Incumbents: Do the Casualties from Interstate Conflicts Affect Incumbent Party Vote Share?', *British Journal of Political Science,* 41 (2011), 795-817.

The Distress-Threat Mediation Hypothesis

We posit that prolonged exposure to political violence produces high levels of psychological distress and threat perceptions, which in turn may lead to refusal to support peace. This argument is driven both by a psycho-political explanation that we term the 'stress-based model of political extremism',[15] and by the Shattered Assumptions theory,[16] according to which EPV leads people to feel vulnerable and threatened—feelings which people seek to buffer via defensive coping attitudes aimed to protect the self.[17] These attitudes can include inflexibility, stubbornness, and unwillingness to compromise. In the political sphere, this inflexible attitude toward compromise can become linked to political views extant in the public discourse, as seen, for example in the classic arguments between hawks and doves.

It is well-established in the stress literature that EPV can be psychologically traumatic, with severe mental health consequences—heightened anxiety, depression, subjective sense of insecurity, vulnerability, and post-traumatic stress—which is generally unnoticed in political research.[18] Not surprisingly, people who experience serious loss,

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[15] Canetti – Nisim et al., 'A New Stress-Based Model of Political Extremism: Personal Exposure to Terrorism, Psychological Distress, and Exclusionist Political Attitudes'

[16] Ronnie Janoff-Bulman, *Shattered Assumptions: Towards a New Psychology of Trauma* (New York: The Free Press, 1992).

[17] Hobfoll et al.., 'Exposure to Terrorism, Stress-Related Mental Health Symptoms, and Defensive Coping among Jews and Arabs in Israel'.

[18] Garfin et al., 'The aftermath of terror: A nationwide longitudinal study of posttraumatic stress across the 9/11 decade'; George A. Bonanno, 'Conservative Shift Among High-Exposure Survivors of the September 11th Terrorist Attacks', *Basic and Applied Social Psychology*, 28 (2006), 311-323; Stevan E. Hobfoll, Anthony D. Mancini, Brian J. Hall, Daphna Canetti - Nisim and George A. Bonanno, 'The limits of Resilience: Distress following chronic political violence in the Palestinian Authority', *Social Science and Medicine,* 72 (2011); 1400-1408; Jonathan S. Comer, Jami M. Furr, Rinad S. Beidas, Courtney L. Weiner and Philip C. Kendall, 'Children and Terrorism-Related News: Training parents in Coping and Media Literacy', *Journal of Consulting and Clinical Psychology,* 76 (2008), 568-578; Galea et al., 'Psychological Sequelae of the September 11 Terrorist Attacks in New York City'; Zahava Solomon and Tamar Lavi, 'Israeli Youth in the Second Intifada: PTSD and Future Orientation', *Journal of the American Academy of Child and Adolescent Psychiatry',* 44 (2005), 1167-1175; Orla T. Muldoon and Robert D. Lowe, 'Social identity, Groups and PTSD', *Political Psychology,* 33 (2012), 259-273; Orla T. Muldoon and Karen Trew, 'Children's Experiences and Adjustment to Conflict Related Events in Northern Ireland', *Peace Psychology: Journal of Peace and Conflict,* 6 (2000), 157-176; Orla T. Muldoon and Ciara Downes, 'Social Identity and Prevalence of PTSD in Northern Ireland', *British Journal of Psychiatry,* 191 (2007), 146-149;

disruption, injury, or the death of a loved one tend to show more severe psychological

distress than do those who suffer fewer consequences.[19] According to Rony Berger, a

psychologist and expert in responses to trauma, 'people in societies beset by prolonged

conflict live under a sense of constant threat and, in reaction, develop symptoms of

anxiety'.[20]

A key factor connecting EPV to attitudes towards peace is perceptions of threat—

that is, the appraisal of danger that the "other," or out-group, poses to the life or well-being

of the individual or to the security or self-concept of the group (the latter is also known as

sociotropic threat).[21] Threat perceptions are heightened in situations of prolonged conflict,

with seemingly unrelated events liable to be seen as threats. This is true for both relatively

circumscribed and acute incidents of political violence, such as NYC 9/11, Madrid 3/11,

London 7/7, or Oslo 7/22,[22] as well as violence over prolonged periods.[23]

Bleich et al., 'Exposure to Terrorism, Stress-Related Mental Health Symptoms, and Coping Behaviors Among a Nationally Representative Sample in Israel'.

[19] Hobfoll et al., 'Exposure to Terrorism, Stress-Related Mental Health Symptoms, and Defensive Coping among Jews and Arabs in Israel'..

[20] Authors' interview with Rony Berger, former director of community services at Natal Trauma Center, Herzliya, Israel, 2013.

[21] Blake M. Riek, Eric W. Mania and Samuel L. Gaertner, 'Intergroup Threat and Outgroup Attitudes: A Meta-Analytic Review', *Personality and Social Psychology Review,* 10. no. 04 (2006), 336-353; Daphna Canetti - Nisim, Gal Ariely and Eran Halperin, 'Life, Pocketbook, or Culture: The Role of Perceived Security Threats in Promoting Exclusionist Political Attitudes towards Minorities in Israel', *Political Research Quarterly,* 61 (2008), 90-103; Leonie Huddy, Stanley Feldman, Theresa Capelos and Colin Provost, 'The Consequences of Terrorism: Disentangling the Effects of Personal and National Threat', *Political Psychology,* 23 (2002), 485-509.

[22] Leonie Huddy and Stanley Feldman, 'Americans Respond Politically to 9/11: Understanding the Impact of the Terrorist Attacks and their Aftermath', *American Psychologist,* 66 (2011), 455-467; Lerner et al., 'Effects of fear and anger on perceived risks of terrorism: A national field experiment'; Agustin Echebarria-Echabe and Emilia Fernández-Guede, 'Effects of terrorism on attitudes and ideological orientation'; James G. Rubin, Chris R. Brewin, Neil Greenberg, Jamie H. Hughes, John Simpson, and Simon Wessely, 'Enduring consequences of terrorism: Seven-month follow-up survey of reactions to the bombings in London on 7 July 2005', *The British Journal of Psychiatry,* 190 (2007), 350–6; Niklas Jakobsson and svein blom, 'Did the 2011 Terror Attacks in Norway Change Citizens' Attitudes Toward Immigrants?', *International Journal of Public Opinion Research,* 25 (2014) Forthcoming.

[23] Ed Cairns, *Children and Political Violence* (Oxford: Blackwell, 1996). Despite claims of systematic desensitization, large representative samples that are powered to detect the effects of cumulative trauma exposure on mental health suggest that greater past traumas increase the risk of developing PTSD from a subsequent traumatic event (see Breslau et al., 'Previous exposure to trauma and PTSD effects of subsequent trauma', *American Journal of Psychiatry*, 156 (1999), 902-907). Thus, findings are not clearly suggestive of a

Indeed, since 9/11, a growing number of researchers have begun to examine the impact of terrorism and violence.[24] The current study joins others in examining the impact of threat perceptions as drivers of harsh counter-terrorism policies and increased intransigence,[25] while adding the new elements of individual-level EPV and psychological distress. We hypothesize that psychological distress and threat perceptions will mediate the relationship between EPV and negative attitudes towards peace. The research model is presented in Figure 1.
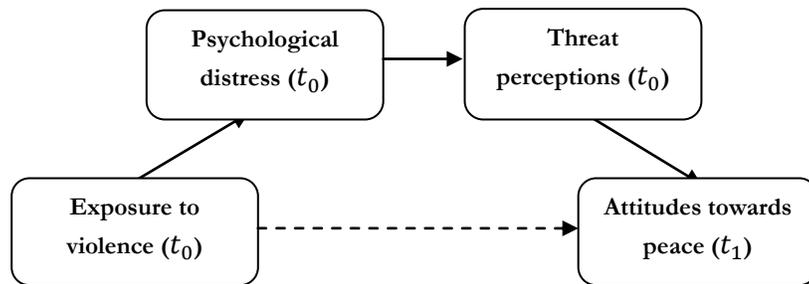
Figure 1: Hypothesized model explaining changes in attitudes towards peace as a result of exposure to ongoing conflict

desensitization hypothesis. Although some may become desensitized, studies on Israeli-Palestinian affected civilians have shown that the more an individual was exposed, the more likely he or she was to fall into a group with a worse trajectory (i.e., chronic poor mental health) (see Hobfoll et al., 'Trajectories of Resilience, Resistance and Distress during Ongoing Terrorism: The Case of Jews and Arabs in Israel').

[24] George A. Bonanno and John T. Jost, 'Conservative Shift Among High-Exposure Survivors of the September 11th Terrorist Attacks', *Basic and Applied Social Psychology*, 28 (2006), 311-323; Canetti – Nisim et al, 'A New Stress-Based Model of Political Extremism: Personal Exposure to Terrorism, Psychological Distress, and Exclusionist Political Attitudes'; Nathaniel Laor, Alma Yanay – Shani, Leo Wolmer and Oula Khoury, 'A Trauma-Like Model of Political Extremism: Psycho-political Fault Lines in Israel', *Annals of the New York Academy of Sciences,* 1208 (2010), 24–31; Rubin et al., 'Enduring consequences of terrorism: Seven-month follow-up survey of reactions to the bombings in London on 7 July 2005'.

[25] Huddy et al., 'The Consequences of Terrorism: Disentangling the Effects of Personal and National Threat'; Leonie Huddy and Stanley Feldman, 'Americans Respond Politically to 9/11: Understanding the Impact of the Terrorist Attacks and their Aftermath', *American Psychologist,* 66 (2011), 455; Shana Kushner Gadarian, 'The Politics of Threat: How Terrorism News Shapes Foreign Policy Attitudes', *Journal of Politics,* 72 (2010), 469-483; Paul M. Sniderman, Louk Hagendoorn and Markus Prior, 'Predispositional Factors and Situational Triggers: Exclusionary Reactions to Immigrant Minorities', *American Political Science Review,* 98 (2004), 35-50; Richard K. Herrmann, Philip E. Tetlock and Penny S. Visser, 'Mass Public Decisions to Go to War: A Cognitive-Interactionist Framework', *The American Political Science Review,* 93 (1999), 553-573; Eva GT Green, Nicole Fasel and Oriane Sarrasin, 'The more the merrier? The effects of type of cultural diversity on exclusionary immigration attitudes in Switzerland', *International Journal of Conflict and Violence,* 4 (2010), 177-190.

The research model can be expressed in the following equation, where exp_i stands for individual-level exposure to political violence, ps for psychological distress, tp for threat perceptions, Y for attitudes towards peace, and t for the time lag between 2007 (t_0) and 2008 (t_1):

$$Y= -(exp_{i+}ps+tp)*t$$

Israelis and Palestinians in the Range of Fire

Asymmetric in nature,[26] marked by a large power imbalance[27] and a reality of structured inequalities,[28] the Israeli-Palestinian conflict is one of the deepest and most prolonged conflicts in modern history.[29] Even in times of relative peace, the daily stress of enduring occupation[30] for the Palestinians, or maintaining vigilance against terrorist attacks or rocket fire for Israelis, takes its toll on the mental, cognitive,[31] and physical[32] functioning of those

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[26] Michael L. Gross, *Moral dilemmas of modern war: torture, assassination, and blackmail in an age of asymmetric conflict* (Cambridge University Press, 2010).

[27] Gil Friedman, 'Commercial Pacifism and Protracted Conflict: Models from the Palestinian-Israeli Case', *Journal of Conflict Resolution,* 49 (2005), 360-382.

[28] Nadim N. Rouhana, 'Group identity and power asymmetry in reconciliation processes: The Israeli-Palestinian case', *Peace and Conflict: Journal of Peace Psychology,* 10 (2004), 33; Ifat Maoz, 'Does Contact Work in Protracted Asymmetrical Conflict? Appraising 20 Years of Reconciliation-Aimed Encounters between Israeli Jews and Palestinians', *Journal of Peace Research*, 48 (2011), 115-125.

[29] The outbreak of the Al Aqsa Intifada signaled a surge in terrorist attacks against Israeli civilians, with over 8,000 rockets having been launched into Israel. Since 2000 alone, 6,580 Palestinians have been killed by Israeli security forces (http://old.btselem.org/statistics/english/Casualties.asp). During Operation Cast Lead, the three-week armed conflict that took place in the Gaza Strip during the winter of 2008-2009, some 1,387 Palestinians were killed by 2,572 Israeli strikes (Goldstone et al. 2009, 10-11). In the overcrowded and populous Strip, thousands of other civilians were exposed to these attacks.

[30] Eitan Y. Alimi and Sivan Hirsch-Hoefler, 'Structure of Political Opportunities and Threats, and Movement-Countermovement Interaction in Segmented Composite Regimes', *Comparative Politics*, 44 (2012), 331-349; Matthew Longo, Daphna Canetti – Nisim and Nancy Hite. 'A Checkpoint Effect? Evidence from a Natural Experiment on Travel Restrictions in the West Bank', *American Political Science Association*, (2011).

[31] Hobfoll et al., 'Exposure to Terrorism, Stress-Related Mental Health Symptoms, and Defensive Coping among Jews and Arabs in Israel'; Nicole M. Heath, Brian J. Hall, Daphna Canetti –Nisim, 'Exposure to Political Violence, Psychological Distress, Resource Loss, and Benefit Finding as Predictors of Domestic Violence among Palestinians', *Psychological Trauma : Theory, Research, Practice, and Policy,* 5 (2013), 366.

living under the shadow of this conflict. Of specific relevance to the underlying mechanisms in our study are far-reaching indications that prolonged exposure has led to heightened levels of psychological distress and threat perceptions in both populations.[33] For example, more than a third of the subjects in some Israeli studies[34] reported some form of impairment caused by post-traumatic stress. Similarly, a study in the Palestinian territories[35] shows extremely high prevalence of conflict-related PTSD and depression among Palestinians. These and other statistics underscore the tremendous level of stress and threat engendered by the high levels of violence endemic to the Israeli-Palestinian conflict.

Research Design and Method

The study uses two original two-wave panels representing adult Israeli Jews (N=996) and Palestinians (N=631) from low- and high-risk areas.[36] The longitudinal design enables careful causal analysis, allowing us to draw inferences about the impact of EPV on attitudes towards peace over time. Large N panels enable a unique between-subjects design to determine how 'like' populations responded to the conflict.

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[32] Daphna Canetti - Nisim, Eric Russ, Judith Luborsky and Stevan Hobfoll, 'Inflamed by the Flames? The Impact of Terrorism and War on Immune Dysregulation', *Journal of Traumatic Stress.*

[33] Alean Al-Krenawi, John R. Graham and Yaniv Kanat-Maymon, 'Analysis of Trauma Exposure, Symptomatology and Functioning in Jewish Israeli and Palestinian Adolescents', *The British Journal of Psychiatry,* 195 (2009), 427-432; Canetti – Nisim et al, 'A New Stress-Based Model of Political Extremism: Personal Exposure to Terrorism, Psychological Distress, and Exclusionist Political Attitudes';9;Zahava Solomon and Tamar Lavi, 'Israeli Youth in the Second Intifada: PTSD and Future Orientation'.

[34] Katie J. Chipman, Patrick A. Palmieri, Daphna Canetti – Nisim Robert J. Johnson and Stevan E. Hobfoll, 'Predictors of posttraumatic stress-related impairment in victims of terrorism and ongoing conflict in Israel', *Anxiety, Stress and Coping,* (2011), 255-271; Rony Berger, Marc Gelkopf and Yotam Heineberg, 'A teacher-delivered intervention for adolescents exposed to ongoing and intense traumatic war-related stress: A quasi-randomized controlled study', *Journal of Adolescent Health,* 51 (2012), 453-461.

[35] Daphna Canetti - Nisim, Sandro Galea, Brian J. Hall, Robert J. Johnson, Patrick A. Palmieri and Stevan E. Hobfoll, 'Exposure to Prolonged Socio-Political Conflict and the Risk of PTSD and Depression Among Palestinians', *Psychiatry - Interpersonal and Biological Processes,* 73 (2010), 219-232.

[36] For more information on this project, see: http://www.daphnacanetti.com/Exposure-to-Political-Violence-War-and-Terrorism-Surveys.html

Sample

   The Israeli sample. Respondents at t_0 were recruited between 30 May and 18 July 2007, using a random telephone survey based on stratified samples to ensure that the sample would be representative of Israeli Jews. The respondents' localities were defined as representing either high- or low-risk areas (Figure 2a). Those who agreed were surveyed again (t_1) six months later (18 November 2007 to 31 January 2008), with a final sample of 996 respondents.[37]

   The Palestinian sample. We employed a stratified cluster random sampling strategy for Palestinian adults living in the West Bank, Gaza Strip, and East Jerusalem.[38] As with the Israeli sample, the respondents' localities were defined as representing either high or low risk (Figure 2b). At t_0, face-to-face interviews were conducted between 16 September and 16 October 2007. The six-month follow-up interviews (t_1) took place between 24 April and 17 May 2008,[39] resulting in a final sample of 631 respondents.

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[37] Of eligible candidates contacted at t_0, 1,365 agreed to participate in the study, 68% response rate. This response rate compares favourably with response rates for other phone surveys in Israel and in the US (Galea et al. 2002). Eighty per cent of the first-wave respondents, or 1,103 participants, agreed to be re-interviewed at t_1—an excellent rate for panels, particularly in conflict zones (e.g., Romano, 2006; at the time of the study, Israeli communities bordering Gaza were the target of frequent rocket fire from Palestinian militants). 107 respondents did not provide answers to some or all of the sensitive questions on EPV, and so were excluded from the analysis. This led to a final sample of 996 respondents. The final sample was largely representative of the adult Jewish Israeli population (Central Bureau of Statistics, 2007). Logistic regression indicated no significant differences between the respondents who participated in both waves and those who dropped out, across the major variables and socio-demographic indicators.

[38] A probability-proportional-to-size design was applied to 60 clusters with populations of 1,000 or more, after stratification by district and type of community—urban, rural, and refugee camp. Second, 20 households were selected in each of the chosen clusters. In the third stage, one individual in each household was selected, using Kish tables to ensure within-household randomization.

[39] Of the 1,902 individuals contacted at t_0, 1,196 completed the first interviews (a response rate of 63 per cent). Nine hundred and ninety-nine members of the original sample agreed to be re-contacted. Of these, 111 could not be reached, leaving 888 in the final sample—a 66.3 per cent re-interview rate. We excluded those who reported exposure only to violence among Palestinian factions (not Israeli violence). Our goal is to discuss intergroup violence across societies. Hence, exposure to inter-factional violence in Palestine was not part of this analysis. Finally, logistic regression found no significant predictors of drop-out.
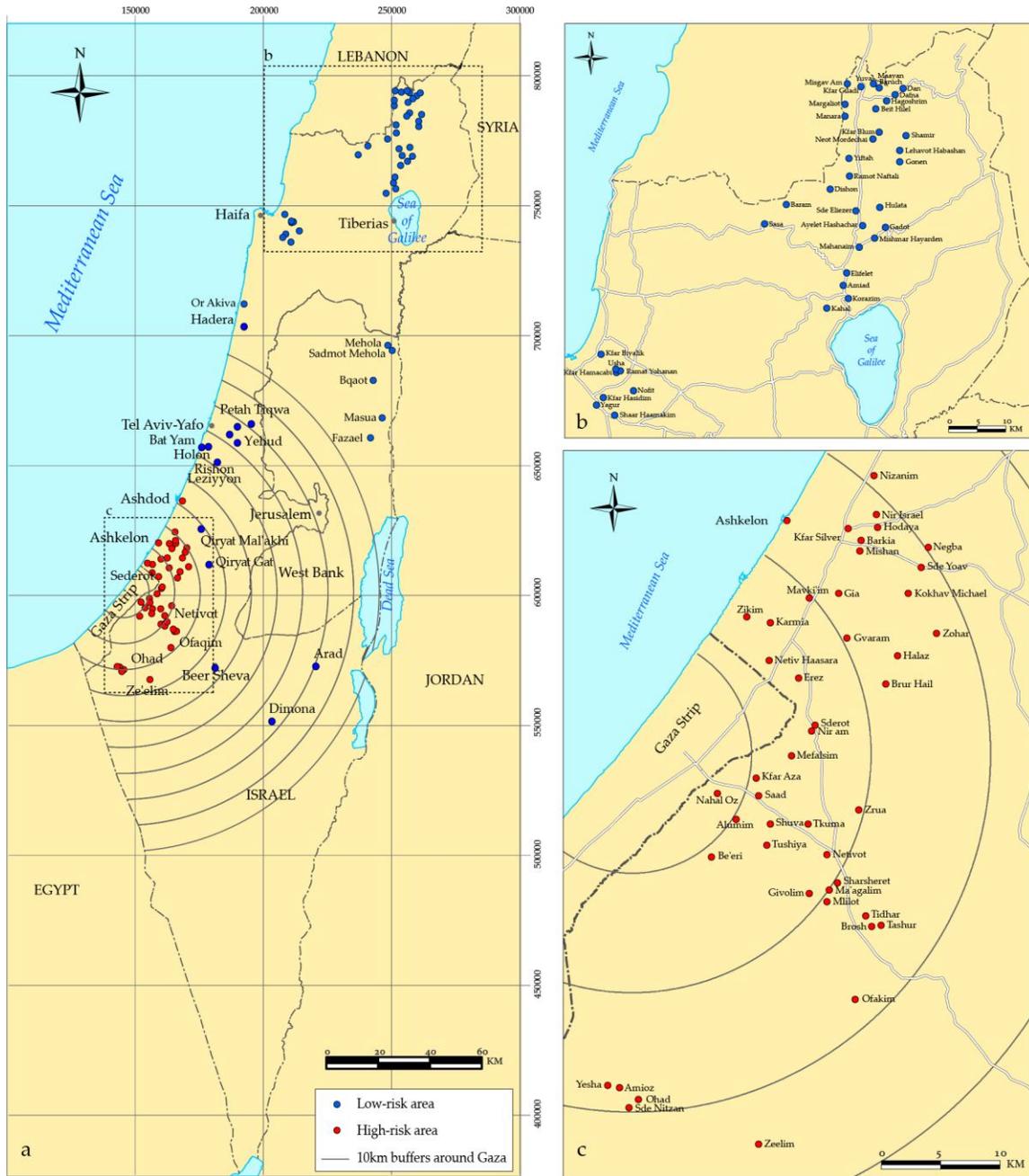
Figure 2a: Arc GIS generated map for the Israeli sample showing communities that were highly affected and less affected by Palestinian violence.
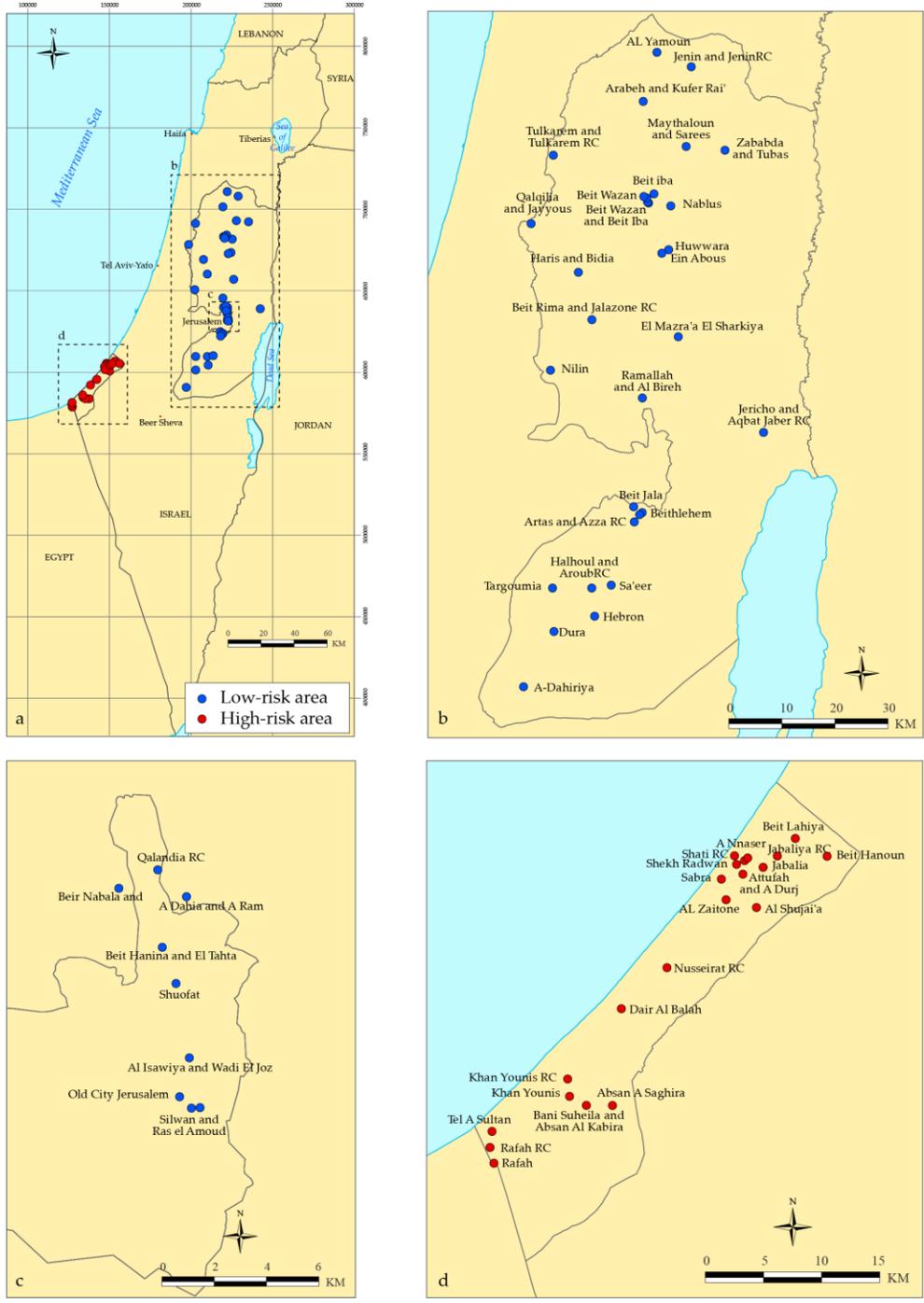
Figure 2b: Arc GIS generated map for the Palestinian sample showing communities that were highly affected and less affected by Israeli violence.

Measures

We designed a closed-ended questionnaire incorporating four measures: EPV, psychological distress, threat perceptions, and attitudes towards peace.

Individual-level exposure to violence was assessed using three items, in line with the approach proposed by Lyall and colleagues.[40] Respondents were asked whether they had experienced any of the following as a result of Palestinian rocket fire or terrorist attacks (for Israelis) or Israeli attacks or violence (for Palestinians): (1) the death of a family member or friend; (2) witnessing an attack or being present at a site where there were injuries or fatalities; and/or (3) injury to oneself, a family member, or a friend. Responses were coded as 0 ('Not exposed to any of these events') or 1 ('Exposed to at least one event').

Psychological distress was assessed using a 17-item scale of posttraumatic stress symptoms.[41] Respondents were asked to report on the frequency of symptoms over the preceding month on a scale from 1 ('Not at all') to 4 ('Extremely frequent'). Total scores were calculated as the average of all 17 responses. Cronbach's alpha for the scale was 0.89 for the Israeli sample and 0.84 for the Palestinian sample.

Threat perceptions were assessed using a two-item scale based on studies conducted in the US[42] and in the Israeli-Palestinian context.[43] We asked respondents how concerned they were about the possibility of an actual threat to their security from the other side (for

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[40] Lyall et al., 'Explaining Support for Combatants During Wartime: A Survey Experiment in Afghanistan', *American Political Science Review,* 107 (2013), 679 – 705.

[41] Edna B. Foa, David S. Riggs, Constance V. Dancu and Barbara O. Rothbaum, 'Reliability and Validity of a Brief Instrument for Assessing Post-Traumatic Stress Disorder', *Journal of Traumatic Stress,* 6 (1993), 459–473.

[42] Huddy et al.., 'The Consequences of Terrorism: Disentangling the Effects of Personal and National Threat', *Political Psychology*; Cindy D. Kam and Donald R. Kinder, 'Terror and Ethnocentrism: Foundations of American Support for the War on Terrorism', *Journal of Politics,* 69 (2007), 17-29.

[43] Daphna Canetti - Nisim, Carmit Rapaport, Carly Wayne, Brian J. Hall and Stevan Hobfoll, 'An Exposure Effect? Evidence From a Rigorous Study on the Psychopolitical Outcomes of Terrorism', *The Political Psychology of Terrorism Fears* (2013).

example, for Israeli Jews: massive missile attacks; for Palestinians: a large-scale military attack). Answers ranged from 1 ('Not at all') to 4 ('To a very great degree'). The ratings on the two items were averaged to create a single score (Cronbach's alpha was not calculated for two items).

Attitudes towards peace were assessed using items tapping a likely framework for compromise in peace negotiations. Israeli respondents were asked: 'What is your opinion about a peace settlement with the Palestinians in return for restoring the 1967 borders with some border adjustments?' Palestinian respondents were asked: 'What is your opinion about signing a peace agreement with Israel based on a two-state formula while (1) forgoing return of the refugees into the state of Israel and (2) forgoing Palestinian sovereignty over parts of Jerusalem?' In all cases, respondents rated their agreement on a scale from 1 ('Strongly object') to 6 ('Strongly support'). The ratings on the two items for the Palestinian sample were averaged to create a single score (Cronbach's alpha was not calculated for two items).

Covariates included gender (male = 0, female = 1) and age (years), as well as attitudes towards peace at t_0 (same measure as at t_1 above).

Data Analysis

We used AMOS 6 to perform Multigroup Structural Equation Modeling (MGSEM), which allows simultaneous testing for regression weights, variances, and errors across groups on the basis of analysis of covariance (ANCOVA) structures.[44] It allows validation of important aspects of the suggested model by comparing them to their possible alternatives (i.e., inverse causality or a direct relationship instead of the proposed mediation). To examine

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[44]Karl G. Joreskogand and Dag Sorbom, *LISREL 8 : User's Reference Guide* (Chicago: Scientific Software International, 1996); Rex B. Kline, *Principles and Practice of Structural Equation Modeling* (New York: The Guilford Press, 2005).

the invariance or variance of peace outcomes between the two subject populations, we calculated maximum likelihood estimates for both models, evaluated by 1) fit measures, namely χ^2 and degrees of freedom, NFI, TLI, and CFI in combination with RMSEA[45]; and 2) comparisons of nested models[46] based on χ^2 differences for restricted and unrestricted models.

Results

EPV was high overall, with 49 per cent of all respondents having experienced at least one violent event (as described in the measures). As Table 1 shows, Palestinians had higher levels of both EPV (M =.64, SD =.48) and psychological distress (M = 2.28, SD =.52). Israeli Jews reported lower levels of EPV (M =.39, SD =.48), and more positive attitudes towards peace (i.e., greater willingness to compromise) (M = 2.82, SD = 1.76). Interestingly, Israeli Jews and Palestinians reported similar threat perceptions (M = 2.96, M = 2.93, respectively).

Entire sample	*Israeli Jews* (N=996)		*Palestinians* (N=631)			
Variables	*M*	*SD*	*M*	*SD*	*T*	*P*
Exposure to violence (t_0)	.39	.48	.64	.48	10.16	<.001
Psychological distress (t_0)	.39	.46	2.28	.52	77.22	<.001
Threat perceptions (t_0)	2.96	.88	2.93	.89	-.65	ns
Attitudes towards peace (t_1)	2.82	1.76	1.62	.88	-15.92	<.001

Table 1: Descriptive statistics of research variables, and comparison between Israeli Jews and Palestinian samples

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[45] Anne Boomsma, 'Reporting Analyses of Covariance Structures', *Structural Equation Modeling*, 7 (2000), 461-483.

[46] Kenneth A. Bollen, *Structural Equations with Latent Variables* (Canada: John Wiley and Sons Inc, 1989).

Exposed vs. Not Exposed

Table 2 presents means and standard deviations of the research variables by EPV. As expected, individuals exposed to at least one violent event scored significantly higher on psychological distress and threat perceptions than those who were not exposed. Conversely, exposed individuals were less likely to report positive attitudes towards peace.

Variables	Exposed to Violence (N=797)		Not exposed to Violence (N=830)			
	M	*SD*	*M*	*SD*	*T*	*P*
Psychological distress (t_0)	1.41	1.06	.84	.94	-11.26	<.001
Threat perceptions (t_0)	3.06	.86	2.83	.89	-5.20	<.001
Attitudes towards peace (t_1)	2.12	1.51	2.58	1.63	5.89	<.001

Table 2: Comparison between exposed and non-exposed participants, entire sample (Israeli Jews and Palestinians)

Multigroup Model

We examined the role played by psychological distress and threat perceptions as mediators between EPV and attitudes towards peace across the two samples.[47] We constrained the regression weights for both groups to be equal. This model was compared to a 'fully free' model (allowing for variance across the two groups). As seen in Table 3, the findings reveal no significant difference between the two models and an excellent fit to the data ($\chi^2(7)$=11.06, *P*>0.05, CFI=.99, NFI=.99, TLI=.96). This supports the parsimonious model, whereby the hypothesis holds for both Israelis and Palestinians.

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[47] To examine causality, we also tested for an alternative model in which EPV leads to increased threat perceptions, which in turn increase levels of psychological distress, leading to negative attitudes towards peace. This model yielded poor adequacy to the data ($\chi^2(2)$=15.17, P<0.00, CFI=.92, NFI=89, TLI=.79, RMSEA=.06).

	CFI	NFI	RMSEA	TLI	χ²	*Df*	Δχ²	Δ*df*	**P**
Fully free	0.99	0.99	0.02	0.95	7.27	4			
Regression coefficients only constrained for two groups	0.99	0.99	0.03	0.96	11.06	7	3.78	3	ns

Table 3. Goodness-of-fit indices and comparison

Figure 3 presents the standardized path coefficients[48] for both groups in the constrained model. The results rule out a direct relationship between EPV and attitudes towards peace. Instead, they support our hypothesis of a mediated path between EPV and civilians' refusal to compromise in prolonged conflict through psychological distress coupled with threat perceptions. Three findings are crucial: (1) EPV has a positive and statistically significant effect on psychological distress; (2) higher levels of psychological distress are associated with higher levels of threat perceptions; and (3) threat perceptions have a negative and statistically significant effect on support for peace. Given the mediation process, the overall effect of exposure on attitudes towards peace is small, yet the novelty of the findings is our ability to rule out a direct effect in favor of the mediation model.
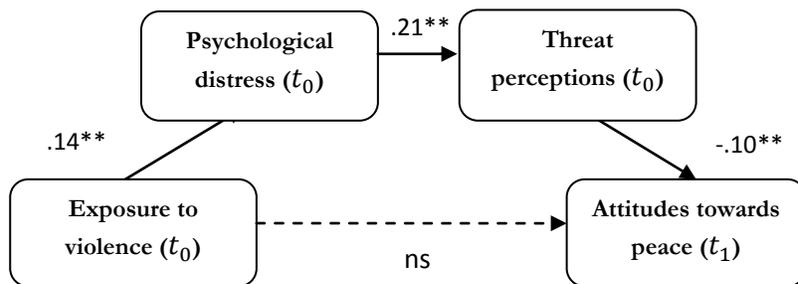
Figure 3: Psychological distress leading to threat perceptions leading to more negative attitudes towards peace among Israelis and Palestinians

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[48] Structural models display standardized path coefficients and correlations among constructs and error variances for structural equations, facilitating interpretation and comparison of the relative effects of the measures. This is especially useful when combining variables that are on very different scales.

Beyond merely asserting the association between EPV and distress, these data provide additional support for our thesis that Palestinian and Israeli attitudes on war and peace should be understood as pivoting on the personal experiences of individuals and related stress reactions. This finding corroborates our basic argument that the contribution of mental health must be acknowledged in any attempt to explain attitudes of civilians amid violent conflict.

Further mediation (bootstrapping) analysis revealed the following results: for psychological distress (as mediator between EPV and threat perceptions), ß=.03, SE=.007, CI =.019-.042, $P<$ .01 for Israelis, ß=.029, SE=.006, CI =.019-.040, $P<$ .01 for Palestinians; while for threat perceptions (as mediator between psychological distress and willingness to compromise), ß = -.01, SE = -.003, CI = -.015- -.004, $P<$ 0.01 for Israelis, and ß=-.023, SE=.008, CI=-.036- .009 $P<$.01 for Palestinians. Along with the auxiliary testing for the threat model alone,[49] this process again supports our prediction that the effects of exposure to violence play a role in translating EPV into attitudes towards peace, and that – as per our novel finding – these effects are fully mediated by psychological reactions among both parties to the conflict. Hence, the findings affirm that prolonged EPV reduces willingness to compromise to the extent that it triggers psychological distress, and to the extent that this distress intensifies threat perceptions.

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[49] To examine the mediating role played by threat perceptions only, we ran a separate analysis ($X^2(6)$=12.53, $P>$0.05, CFI=.99, NFI=.98, TLI=.95) with full mediation of threat perceptions in both groups (Israeli sample: ß =-.009, SE = 0.003, CI = -0.013- -0.004 $p<$0.01; Palestinian sample: ß = -0.017. SE = 0.006, CI = -0.026-- 0.008 $p<$0.01), and compared this model to the quadratic model of exposure-distress-threat- attitudes towards peace. The results showed (a) variance across groups in the threat-mediation model, (b) a significant mediation effect for psychological distress between exposure and threat perceptions in the full model, and (c) significantly better goodness-of-fit measures for the full model as compared to the threat-only model (X^2 =20.81, df = 9 CFI = 0.98 RMSEA = 0.03).

Discussion and Conclusion

The relationship between terrorism and political violence on the one hand, and political attitudes on the other, has long presented an alluring puzzle. Recently, researchers have begun to articulate the role of psychological mechanisms in this process, but the dynamics of how prolonged exposure to political violence influences attitudes towards peace, and the role of psychological components, have remained unclear. We employed a powerful design with 1,627 subjects from 149 communities across Israel and Palestine (East Jerusalem, the West Bank, and Gaza). Contrary to the view often promulgated by both state and non-state actors—namely, that force promotes political solutions[50]—our findings provide powerful evidence that EPV reduces willingness to compromise. Our analyses reveal that under prolonged EPV, elevated levels of distress influence perceptions of threat, which in turn are associated with more intransigent and militant attitudes.

Despite existing assumptions in political scholarship that the sufferings of individuals exposed to violence play a minor role in larger geo-political decision making, the current study of Israelis and Palestinians—in line with other newly emerging work pursued in the Middle East[51]—points to such individual-level outcomes as key micro-foundations of conflict. At the theoretical level, our work extends previous research on political attitudes among civilians living amidst political violence by connecting individual trauma subsequent to such violence with collective attitudes towards peace and compromise. We propose a mediation model linking individual-level exposure to political violence to reduced support for compromise and peace, with psychological distress and threat perceptions as the

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[50] William I. Zartman, *Ripe for Resolution: Conflict and Intervention in Africa* (Oxford: Oxford UniversityPress, 1989); William I. Zartman and Saadia Touval, 'International Mediation: Conflict Resolution and Power Politics', *Journal of Social Issues,* 41 (1985), 27-45; Richard N. Haass, *Beyond the INF Treaty* (University Press of America, 1988).

[51] Lyall et al., 'Explaining Support for Combatants During Wartime: A Survey Experiment in Afghanistan'.

mechanism bridging the two. More important, we test and validate this model in a large sample of civilians on both sides of the Israeli-Palestinian conflict.

At a practical level, our work provides useful guidance for practitioners seeking to advocate peace. Specifically, the current findings highlight the role played by EPV in acting as a barrier to peace. It thus demonstrates the importance of removing violence, particularly violence directed at civilians, from the political landscape. In addition, our findings emphasize that actions to reduce threat perceptions are crucial to the success of any peace negotiations. As a start in this direction, acknowledging and legitimizing the losses of the other side is imperative for building support in those constituencies that find moving towards peace most challenging.

The Israeli-Palestinian conflict offers ample evidence that notwithstanding peace-building processes aimed at engaging people on both sides of the conflict in changing entrenched and polarizing attitudes, waves of violence will continue to take their psychological and political toll. Civilian casualties in and of themselves constitute impediments to breaking the cycle of violence, as affected civilians and their communities become increasingly resistant to peace. From a defensive coping perspective,[52] hardening their hearts by adopting defensive attitudes aimed to protect the self may be the most effective means for individuals victimized by violence to help themselves. However, only by changing those dynamics can we hope to create a psychological-societal infrastructure[53] capable of sustaining formal political agreements in conflict-ridden regions of the world.

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[52] Hobfoll et al., 'Exposure to Terrorism, Stress-Related Mental Health Symptoms, and Defensive Coping among Jews and Arabs in Israel'.
[53] Bar-Tal et al., 'Ethos of conflict: The concept and its measurement'; William I. Zartman, *Ripe for Resolution: Conflict and Intervention in Africa.*