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Youth Resilience to Violent Extremism: Development and Validation of the BRAVE Measure

Michele Grossman ^a, Kristin Hadfield ^b, Philip Jefferies ^c, Vivian Gerrand ^a
and Michael Ungar ^c

^aAlfred Deakin Institute for Citizenship and Globalisation, Deakin University, Burwood, VIC, Australia;

^bDepartment of Biological and Experimental Psychology, Queen Mary University of London, London, UK;

^cResilience Research Centre, Dalhousie University, Halifax, Nova Scotia, Canada

ABSTRACT

Building resilience to violent extremism has featured in preventing violent extremism efforts for over a decade. Validated and standardized cross-cultural measures can help identify protective capacities and vulnerabilities toward violent extremism for young people. Because drivers for violent extremism are multi-factorial, a measure of resilience cannot be used to predict who will and will not commit acts of terror. Instead, its purpose is to track the multiple forms of capital available to youth at risk of adopting violence to resolve ideological, religious and political grievances, and to use this data to inform interventions that increase young people's capacity to resist violent extremism's push and pull forces. In this study, we developed such a measure, using data from 200 Australian and 275 Canadian participants aged eighteen to thirty years old. Following exploratory and confirmatory factor analysis, a fourteen-item measure emerged consisting of five factors: cultural identity and connectedness; bridging capital; linking capital; violence-related behaviors, and violence-related beliefs. The Building Resilience against Violent Extremism (BRAVE) measure was found to have good internal reliability ($\alpha = .76$), correlating in expected directions with related measures. The BRAVE shows promise for helping understand young people's resilience to violent extremism.

KEYWORDS

Violent extremism;
resilience; community
resilience; youth; risk

Resilience to violent extremism: conceptual and policy directions

Building resilience to violent extremism has been a significant component of preventing violent extremism efforts in various countries at both the community and policy level for more than a decade.¹ This trend has been reflected in part by the number of international preventing/countering violent extremism (P/CVE) policy frameworks that have explicitly referenced “resilience” as a constitutive element of their approach. These include Public Safety Canada's *Building Resilience Against Terrorism: Canada's Counter-Terrorism Strategy*;² the Council of Australian Governments' (COAG) *Australia's Counter-Terrorism Strategy: Strengthening our Resilience*;³ the USA's *Strategic Implementation Plan for*

CONTACT Michele Grossman  michele.grossman@deakin.edu.au  Alfred Deakin Institute for Citizenship and Globalisation, Deakin University, 221 Burwood Highway, Burwood, VIC 3125, Australia; Kristin Hadfield,  k.hadfield@qmul.ac.uk
 Department of Biological and Experimental Psychology, Queen Mary University of London, Fogg Building, Mile End Road, London E1 4NS, UK

Empowering Local Partners to Prevent Violent Extremism in the United States,⁴ and the UK's focus on resilience as a foundational organizing concept in both the Prepare and Prevent streams of its broader anti-terrorism CONTEST strategy.⁵ Despite all these efforts, however, there have yet to be developed standardized protocols for assessing the resilience of populations that are at risk for violent extremism (determined based on shared experiences and characteristics with those who have committed acts of terror). One of the major challenges in the field of developing resilience-based approaches to preventing and countering violent extremism (P/CVE) lies in complementing rigorous conceptual work on resilience to violent extremism with empirical data that supports operationalizing and applying resilience concepts in meaningful and context-relevant ways.⁶ The development of the present measure is a response to this challenge. Because the phenomenon of violent extremism is extremely rare and multi-factorial,⁷ a measure of resilience cannot be used to predict who will and who will not commit acts of terror. Instead, its purpose is to track the multiple forms of capital available to populations at risk of adopting violent means to resolve ideological, religious and political grievances, and to use this data to inform interventions that increase a population's capacity to resist the push and pull forces that contribute to violence.

The shift in terrorist recruitment and attack trajectories toward domestic or "home-grown" terrorism began with Al Qaeda⁸ and intensified with the emergence of Islamic State social influence in 2014.⁹ extremist movements and attacks. This has generated intensified urgency to develop strategies that can foster enhanced capacity for both individual and community resilience that will help people ignore, resist, or challenge narratives of social division, hatred, and violent action promoted by terrorist influencers across political and ideological spectrums.¹⁰ This focus on resilience to violent extremism signals an important shift in the broader political discourse around preventing violent extremism, insofar as it reorients attention away from a predominantly "deficit" model, in which individuals and communities are scrutinized almost exclusively for vulnerabilities, rather than strengths, in response to the influence of violent extremist propaganda and calls for extremist action.

It is important to emphasize that resilience is not the inverse of risk. The latter focuses on the increased odds of undesirable outcomes, while the former promotes a focus on the process of harnessing key resources to build and sustain the factors associated with positive psychosocial development and community cohesion in contexts where a population experiences high levels of adversity.¹¹ In this sense, risk and resilience represent two orthogonal dimensions of human experience. Even when risk is high (i.e., a community experiences structural violence or social stigma), it is still possible for there to be many resilience promoting processes operating (i.e., strong adherence to a collective identity, social cohesion, economic security through internal trade, secure attachments with caregivers, etc.). Thus both concepts of risk and resilience are not opposite ends of a single continuum but instead provide complementary perspectives. To date, however, the issue of why people choose *not* to participate in violent extremism has been poorly researched, as compared to research on risk factors.¹²

The issue of youth resilience to violent extremism gained impetus following the flow of over 36,000 foreign fighters—the vast majority of them young men—from more than one hundred countries to Syria and Iraq as part of Islamic State's now-failed caliphate project.¹³ Current policy concerns for many governments now include the potential social

influence and attack skills that returning foreign fighters and supporters of Islamic State can wield as they seek to return to their countries of origin and re-join local communities, compounding the risk that domestic terrorism will accelerate and diversify.¹⁴ This scenario has created further urgency for policymakers to develop resilience-based approaches to violent extremist prevention as a means of reducing such risks. More recently, cognate concerns have emerged regarding the rise of ethno-nationalist and white supremacist-based violent extremism. Recent attacks indicate the capacity of these groups for mobilizing young people, especially online, in pursuit of social division and violent conflict.¹⁵

Resilience to violent extremism can be a challenging concept, particularly in relation to its translation into policy and practice,¹⁶ resulting in community and policy confusion or suspicion about what “resilience to violent extremism” may actually mean, and to what political agendas it may be harnessed.¹⁷ In practical terms, the social-ecological approach to building resilience to violent extremism, which we discuss in greater detail below, has been undercut at times by more security-oriented logics of resilience.¹⁸ These logics can make resilience discourse toxic for communities by designating specific ethno-religious communities as “risky” and by conflating resilience to violent extremism with national values, cultural assimilation, and exclusionary models of citizenship and belonging.¹⁹ For some communities, making them more resilient has been equated with assimilation and surveillance rather than structural transformation of the conditions that put these communities at risk for violence.²⁰

Defining resilience through the prism of security-driven logics and the political exigencies that inform them does not wholly explain the prominence of resilience concepts within P/CVE discourse, however. A central tenet to emerge across a number of studies is that resilience to violent extremism can be characterized as the capacity to reject the “social legitimacy of violent extremism”²¹ based on strong family, peer, cultural, religious and community networks and resources²² that can serve as protections against violent extremist narratives of humiliation, disenfranchisement, nihilistic rebellion, and social purpose and belonging.²³

Indeed, the most common construct of resilience for many P/CVE scholars, analysts and program developers is a concept of resilience allied to prevention of and resistance to violent extremism. In its simplest form, resilience-as-resistance can mean both “withstand[ing] violent extremist ideologies” and also “challeng[ing] those who espouse them.”²⁴ For the most part, definitions of violent extremism focused on resilience as prevention or resistance tend to be very strongly grounded in the social-ecological resilience model.²⁵ This model understands resilience as the ability to thrive in contexts of adversity or challenge through positive, prosocial adaptation; the presence and mobilization of protective factors that can offset risks and vulnerabilities, and the ability to access and navigate resources in culturally meaningful ways.²⁶ All of these capacities rely on complex interrelationships, dynamics and trade-offs between different levels and systems of humans and their social and natural environments.²⁷ Resilience as a more psychological construct, with its emphasis on self-regulation, self-compassion, and mindfulness,²⁸ is not our focus here, nor is individual resilience to violent extremism, which limits opportunities for strengthening prosocial resistance to terrorist ideation and action.²⁹

Our development of a measure to help assess protective capacities for young people in relation to violent extremism heeds the call of researchers and practitioners to develop field-

based assessment tools that help avoid the prospect of resilience to violent extremism becoming “nothing more than just another good concept and meaningless buzz-word.”³⁰ Thinking through a public health lens, the application of such a measure can have particular relevance in primary prevention work at the broad community level because it focuses policy and practice attention on identifying existing resources that can serve as protective factors but which may be under-resourced, under-utilized, or both in relation to strengthening resilience to violent extremism. It can also potentially help generate new insights into why, in community settings where groups of people may share similar grievances or adversities, various protective or risk factors may be activated for some members of a group but not others, offering new pathways for resource investment and allocation. It may also have applications in secondary interventions for individuals who are on radicalization to violence pathways but who have not yet committed violent action by helping to understand their relationship to various protective resilience assets that they may struggle to access or navigate in meaningful ways.

In developing the measure within the framework we outline above, we aim to support a concept of resilience to violent extremism that sees this as the ability to resist and challenge the social legitimation of violent extremist propaganda, recruitment and ideology³¹ as a response to social and political grievances, based on access to and capacity to navigate and mobilize socio-cultural resources for coping and thriving under adversity. Such resistance includes, but goes well beyond, the ability to bring critical thinking and integrative complexity to bear during encounters with violent extremist ideology and propaganda. In particular, we aim to build on and extend work that identifies *existing* resources within communities that can be harnessed to this task but that may have been overlooked in resilience studies focused on identifying vulnerabilities rather than assets.

The conceptual underpinnings of such an approach have already characterized empirically-based projects such as Weine and Ahmed’s³² study of resilience and protective factors to violent extremism amongst Somali-Americans living in Minneapolis-St. Paul; Ungar and colleagues’³³ Barriers to Violent Radicalization project in Canada; and Grossman, Tahiri and Stephenson’s³⁴ study on harnessing ethno-cultural resilience capital to violent extremism in Australia, all of which have taken an asset-based approach to asking why the vast majority of people in so-called “communities at risk” do not ever radicalize to violent extremism. Indeed, these studies have been instrumental in re-focusing discussion of “risk” away from socio-cultural identities (such as those related to faith or ethnicity) and toward a more nuanced understanding of the complex online and offline social contexts in which resilience-based risk and vulnerability factors may feature when exploring susceptibility or resistance to violent extremist influence, including the role of social trust, fear, and uncertainty.³⁵

Despite these developments in the research agenda on resilience to violent extremism, while there are a number of validated measures of general resilience for use with youth,³⁶ there are few measures specifically addressing resilience to violent extremism. Extant measures of resilience to violent extremism are focused on single ethnicity youth groups—such as the Building Resilience to Violent Extremism Amongst Somali-American youth in Minneapolis-St. Paul, U.S.A.,³⁷ or on multiple specific ethnic adult population groups—such as Harnessing Resilience Capital.³⁸ The absence of a standardized measure addressing relevant domains for youth resilience to violent extremism currently limits the efforts of communities and agencies to develop effective and meaningful youth-focused policies and programs that can identify

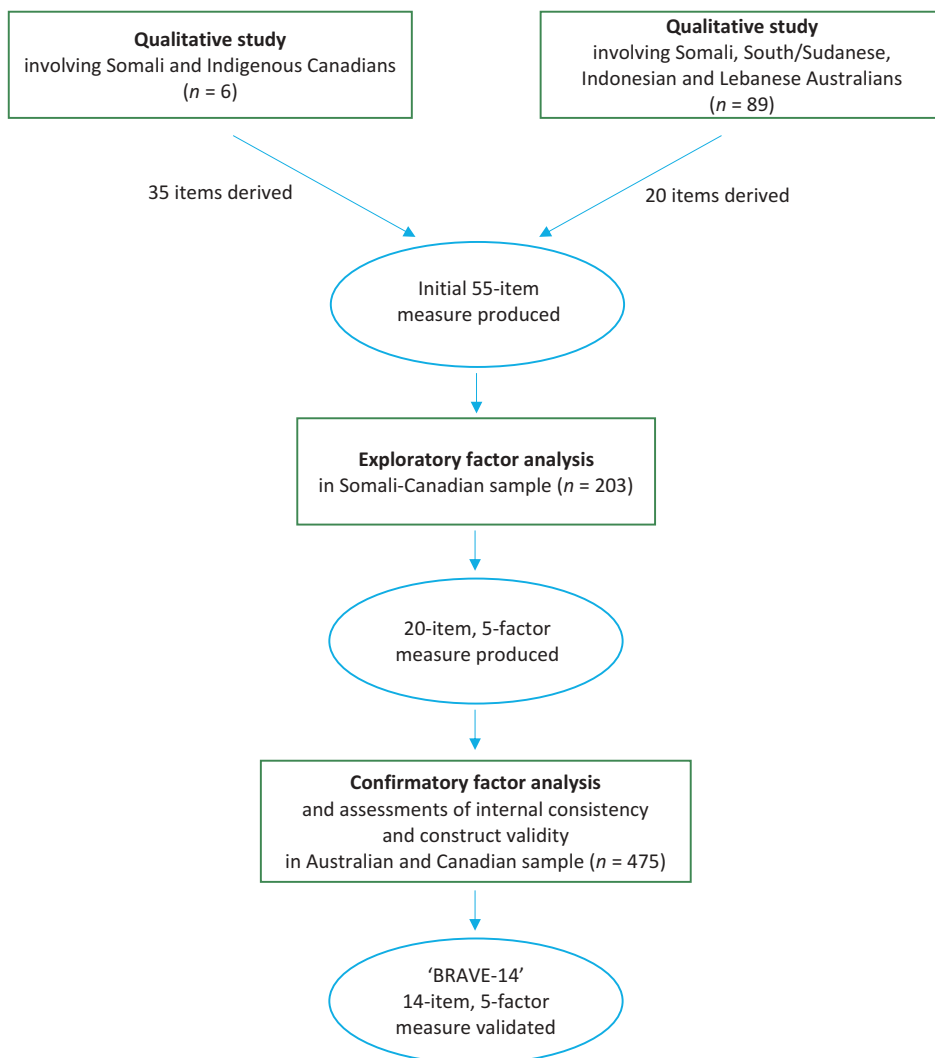


Figure 1. Process for the development of the BRAVE-14.

both what young people in communities already possess as protective resources against violent extremism (but which may be unrecognized or under-utilized), and what vulnerabilities or gaps they may need to address, and how. Accordingly, this paper outlines the development and validation of a cross-cultural standardized measure applicable to a wide spectrum of culturally diverse youth.

Method

Design

To develop the measure, we conducted initial pilot work to generate a bank of potential item statements relevant to resilience to violent extremism. These items were derived from

two qualitative studies conducted in Australia ($n = 89$) and Canada ($n = 6$). Somali youth in Canada ($n = 203$) then filled in a questionnaire which included these items, and their responses were subject to Exploratory Factor Analyses (EFA) to produce a range of potential models for evaluation. When the most appropriate model was determined, Confirmatory Factor Analyses (CFA) were used to validate the emerging measure, and assessments of internal consistency and convergent validity were conducted, using self-report data from a further sample of young adults in Australia ($n = 200$) and Canada ($n = 275$). This process for the development and validation of the measure is illustrated in Figure 1, and follows common practice in resilience measurement development.³⁹ The decision to focus on Australia and Canada was because both countries have communities where individuals are at risk of radicalization to violent extremism⁴⁰ and both had active research groups with links to local affected communities.

Qualitative pilot work

The initial survey measure was developed based on hypothesized indicators for resilience to violent extremism drawn from qualitative studies in Australia and Canada. Twenty items were derived from an Australian qualitative study,²¹ involving eighty-nine individuals (thirty-three female, fifty-six male) aged eighteen to seventy-five. The participants identified as Somali-Australian ($n = 26$), South/Sudanese Australian ($n = 19$), Indonesian Australian ($n = 22$), and Lebanese Australian ($n = 22$) and were interviewed individually ($n = 52$) or in focus groups ($n = 37$). These sessions involved semi-structured interviewing to elicit community perceptions of the proactive resilience measures that account for cultural diversity as a key variable in building community resilience to radicalization and extremism. Data collection took place at four sites: Brisbane ($n = 19$), Darwin ($n = 15$), Melbourne ($n = 36$), and Sydney ($n = 19$).

The second qualitative study, Ungar and Amarasingam's Barriers to Violent Radicalization: Understanding Pathways to Resilience among Canadian Youth (2016), took place in Canada, with six young people aged eighteen to twenty-nine, living in

Table 1. Participants involved in the development of the measure

Group	Female	Male	Transgender	Other/not specified	Total
Qualitative study – Australia ($n = 89$)					
Somali-Australian	*	*	*	*	13
South/Sudanese-Australian	*	*	*	*	13
Indonesian-Australian	*	*	*	*	15
Lebanese-Australian	*	*	*	*	11
<i>Focus group participants:</i> Somali-Australian, South/Sudanese-Australian, Indonesian-Australian, Lebanese-Australian*	12	25	0	0	37
Qualitative study – Canada ($n = 6$)					
Indigenous Canadian	*	*	*	*	4
Somali-Canadian	*	*	*	*	2
EFA sample ($n = 203$)					
Somali-Canadian	65	131	2	5	203
CFA sample ($n = 475$)					
Australian	95	102	1	2	200
Canadian	121	147	2	5	275

*A more detailed breakdown is not available for these participants, as this was not recorded in the original study to avoid risk of participant identification.

Ontario Indigenous ($n = 4$) and Toronto Somali ($n = 2$) communities and who had a proximity to “violent extremism.” This meant the inclusion of friends, family members, and professionals who have worked with individuals who have attended indigenous protests that have become violent or Somali youth from neighborhoods that have experienced significant levels of violence, political and/or otherwise. While these contexts of violence are distinct, the study sought to get a better sense of the intra-community conversations and debates taking place among individuals living in these contexts of political grievance (local and transnational). Individual interviews, focus groups, PhotoVoice, and participatory video were employed in this second qualitative study, and thirty-five additional items for the measure were derived from the data collected from these Canadian participants.

A key facet of the approach taken to derive the initial fifty-five items for the measure was the involvement of local community partners to ensure face validity, relevance, and inclusiveness across different community and national settings. For this reason, we established a Local Advisory Committee (LAC) in each of the study’s field sites, comprising community service providers (including mental health professionals, youth welfare workers, and educators), researchers, community elders, and youth. Committee members commented on the risk and protective factors relevant to resilience to violent extremism, as well as how best to engage the community and youth in each setting in the research and knowledge mobilization processes. Additionally, the final selection of items from the data was determined by the entire research team in consultation with LACs in each setting.

EFA and CFA participants

Once the pool of fifty-five items was produced, we used EFA to identify a factor structure for the emerging measure, and to clarify which of the items were associated with the identified factors.⁴¹ Participants involved in the (Barriers to Violent Radicalization) served as the group for the EFA ($n = 203$); they completed a survey which included the fifty-five items that were developed through the interviews, focus groups, and conversations with the LACs. These participants were youth aged eighteen to thirty (sixty-five female, 131 male, two transgender, five did not specify) and were recruited in Toronto, Canada. All self-identified as Somali Canadian.

Once a factor structure was established, this was validated through CFA using completed questionnaires from a cohort of 475 youth that were part of the (Understanding Youth Resilience to Violent Extremism) study. These individuals were aged eighteen to thirty and were from culturally diverse and disadvantaged backgrounds in Australia ($n = 200$) and Canada ($n = 275$). The surveys were administered in three Australian cities: Brisbane ($n = 30$), Melbourne ($n = 80$), and Sydney ($n = 90$), and in four Canadian cities: Halifax ($n = 11$), Montreal ($n = 25$), Toronto ($n = 165$), and Vancouver ($n = 74$). These field sites were selected for their capacity to provide culturally diverse youth populations as potential participants in the study, and the capacity of the research team in each country to mobilize preexisting networks in each locale for recruitment of participants through research and engagement relationships with local community organizations and contacts. Data from these participants were also used to assess the internal consistency and convergent validity of the measure (Table 1).

For both EFA and CFA participant groups, the Australian and Canadian research teams recruited youth through a wide range of local service organizations, including youth centers and advocacy groups, immigrant and refugee services, educational institutions, religious centers and groups, and LAC networks. Organizations who assisted with recruitment are not identified for reasons of confidentiality and privacy.

Participants were informed of study aims and then were asked to complete a consent form in order to be eligible to take part in the study. Thirty dollar gift vouchers were offered to offset costs of participation. The survey was administered in public settings such as sports and recreation or community, education, and youth centers that were easily accessible to young people. Data collection was conducted with ethical approval from the institutional review boards of Victoria University and Dalhousie University.

Analyses

EFA and CFA models were fit using Mplus 7.31⁴² with full information maximum likelihood used to handle missing data. In an EFA, factor structure is determined from the bottom up, with the number of factors identified from the interrelationships between the questionnaire items. We requested a range of potential factor solutions, from a single factor solution up to one involving thirteen factors, fitting with Grossman, Tahiri and Stephenson's proposal that violent extremism would be comprised of thirteen factors.⁴³ We used an oblique Geomin (OB) rotation and considered any loadings greater than .30 to be indicative of a loading or cross-loading. The most appropriate model was selected based on a review of fit statistics and theory.⁴⁴ The CFA was then used to replicate the most appropriate factor structure. Replication of factorial composition in a second sample is an indicator of construct validity.⁴⁵

For both the EFA and CFA, model fit statistics involved reviewing the root mean square error of approximation (RMSEA), standardized root mean square residual (SRMR), and comparative fit index (CFI). Model fit is considered acceptable where the RMSEA is $\leq .06$ with a limit of the upper confidence interval of $< .08$, SRMR is $\leq .08$, and CFI is $> .90$.⁴⁶ Internal consistency was examined through Cronbach's alpha of each of the factors in the EFA and CFA, and of the overall measure.

To examine convergent validity, we explored relationships between the newly developed measure and validated measures of resilience, family functioning, neighborhood collective efficacy, prosocial behaviors, emotional and behavioral difficulties, experiences of discrimination, and participation in criminal activities, among the 475 participants whose data was used for the CFA. In particular, we expected that individuals demonstrating higher levels of resilience to violent extremism would also report higher levels of resilience in general, and so that scores on the measure would be positively correlated with scores on the *Adult Resilience Measure* (ARM-28; $\alpha = .81$).⁴⁷ Similarly, as research has indicated that an individual's resilience is facilitated by their relationships with family or caregivers and qualities of the community they live in,⁴⁸ we expected scores on the measure of resilience to violent extremism to positively correlate with scores on the *general functioning subscale* of the *McMaster Family Assessment Device* ($\alpha = .92$),⁴⁹ the *Boston Neighborhood Survey* measure of *collective efficacy* ($\alpha = .93$),⁵⁰ and prosocial behaviors, measured by the *Strengths and Difficulties Questionnaire* ($\alpha = .80$).⁵¹

Research has also indicated that psychosocial adversity may be associated with vulnerability to violent extremism,⁵² and therefore, we expected scores on our measure to negatively correlate with emotional symptoms, conduct problems, hyperactivity/inattention, and peer problems subscales of the *Strengths and Difficulties Questionnaire* ($\alpha = .80$).⁵³ Experiences of discrimination have also been linked to violent extremism,⁵⁴ and so we expected scores on our measure would be negatively correlated with levels of reported discrimination, assessed via the *Everyday Discrimination Scale* ($\alpha = .74$).⁵⁵ Finally, criminal activity prior to radicalization has been associated with post-radicalization violent extremism,⁵⁶ and so we expected scores on the resilience to violent extremism measure to negatively correlate with scores on the *delinquency subscale* of the *4-H study of Positive Youth Development* ($\alpha = .73$).⁵⁷ Evidence for these expected relationships would indicate convergent validity, which is a form of construct validity; although we do not establish predictive validity in this paper, if there is convergent validity then this would be suggestive that we are assessing resilience to violent extremism.

Results

Exploratory factor analysis (EFA)

Both the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (.80) and Bartlett's Test of Sphericity ($p < .001$) indicated an adequate sample size to carry out an EFA. Several models were requested in the analysis, from a single-factor to a thirteen-factor solution. We evaluated each of these by considering their fit statistics and factor structures proposed by extant theory.

A five-factor structure was identified as the most appropriate solution, with the five factors corresponding to those posited by Grossman, Tahiri and Stephenson⁵⁸ However, we reviewed a number of alternatives prior to identifying this solution. In particular,

Table 2. Factor loadings for the twenty-item measure resulting from the EFA on the Somali sample

Item	Factor				
	1	2	3	4	5
Importance of cultural traditions	1.00	.00	.01	.00	-.01
Familiarity with culture	.70	-.06	-.02	.00	.02
Access to culture	1.00	.02	.00	.00	.00
Centrality of cultural identity	1.00	.02	.00	.00	.00
Trust in persons outside community	-.03	.78	.00	.03	.02
Knowing where to get help	.03	.78	.05	-.05	-.04
Support from persons outside community	-.13	.72	-.02	.03	.02
Engagement with diverse others	.00	.39	-.10	-.02	.01
Confidence in engagements with authorities	.00	-.01	.99	.01	.01
Feeling heard in engagements with authorities	.00	.00	.82	.00	.00
Encouraged to engage with authorities	.00	-.01	.98	.01	.02
Trust in law enforcement agencies	.00	.03	.81	.00	.01
Willingness to speak out against violence	.00	.01	.03	1.00	.01
Willingness to challenge violent behaviors of others	.00	.01	.01	1.00	.02
Belief in nonviolent resolutions	-.01	-.02	.0	.84	.01
Avoidance of violent situations	.00	.00	.00	.84	-.03
Not responding to violence with violence	.00	-.01	-.01	1.00	.01
Community acceptance of youth violence	-.01	-.01	.01	.01	.97
Belief in violence as a source of strength	.00	.03	.02	.00	.99
Belief in violence as a source of respect	.00	.00	.00	-.01	.78
<i>a</i>	.88	.76	.89	.84	.75

Grossman, Tahiri and Stephenson⁵⁹ theorized that resilience to violent extremism would be comprised of thirteen factors within four overarching factors: (1) cultural identity and connectedness (made up of cultural knowledge, cultural continuity, cultural security, and cultural adaptability); (2) relationships and networks (made up of bonding capital, bridging capital, linking capital); (3) community norms, behaviors, attitudes, and values (made up of coping with adversity, problem behaviors, and resources for problem solving); and (4) framing, preventing, and responding to violence (made up of beliefs, values, and resources/strategies for nonviolent conflict resolution). However, although it had an eigenvalue of 1.044, a thirteen-factor model would not converge within 1000 iterations, suggesting that this was not a good fit for the data.

Previous qualitative analyses with Pacific Islander and South Sudanese young people⁶⁰ had suggested that framing, preventing, and responding to violence might be made up of two factors as opposed to three, meaning that a twelve-factor structure was also a possibility, so we then tried the model with twelve factors. As with the thirteen-factor model, this would not converge within 1000 iterations.

We then reviewed the four-factor model to test whether the four overarching factors within Grossman, Tahiri and Stephenson's⁶¹ theory were a better fit. The four-factor model had a relatively poor fit ($\chi^2 < .001$, RMSEA = .10, CFI = .86, SRMR = .05) and there was no factor consistent with the community norms, behaviors, attitudes, and values factor. We thus determined that the items did not fit clearly within the original factor structures postulated by Grossman, Tahiri and Stephenson.⁶²

Table 3. Results summary for confirmatory factor analyses (CFA) of the BRAVE measure, before and after selective reduction of items, using the Canadian and Australian samples

	N	χ^2	df	CFI	RMSEA	RMSEA Cl ₉₀	SRMR
<i>20-Item Measure</i>							
Full sample	475	586.89	160	.83	.08	.07, .08	.07
Women only	216	378.91	160	.78	.08	.07, .09	.08
Men only	249	350.64	160	.86	.07	.06, .08	.07
Australian only	200	380.07	160	.79	.08	.07, .09	.08
Canadian only	275	439.57	160	.81	.08	.07, .09	.08
<i>14-Item Measure</i>							
First half	236	134.85	67	.92	.07	.05, .08	.06
Second half	239	145.84	67	.90	.07	.06, .09	.06
Women only	216	113.50	67	.93	.06	.04, .07	.06
Men only	249	137.69	67	.92	.07	.05, .08	.06
Australian only	200	110.55	67	.94	.06	.04, .08	.06
Canadian only	275	168.46	67	.90	.07	.06, .09	.06
<i>Multigroup analyses</i>							
Gender	470						
Invariant factor loadings		310.90	157	.90	.07	.05, .08	.07
Invariant common residual covariances		327.95	171	.90	.06	.05, .07	.09
Country	475						
Invariant factor loadings		374.58	157	.87	.08	.07, .09	.08
Invariant common residual covariances		411.13	171	.86	.08	.07, .09	.11

The 20-item measure was developed through an exploratory factor analysis (EFA) using data from Somali 18–30 year-olds in Toronto (results displayed above). In the analyses split by gender, 10 participants were removed as they did not identify their gender ($n = 5$) or they identified as transgender ($n = 3$) or "other" ($n = 2$); in the analyses testing for factorial invariance by gender, the 5 participants who identified as transgender or "other" were removed. Full sample = the entire Canadian and Australian sample collected in 2017 ($n = 475$). First half = random half of the entire Canadian and Australian sample collected in 2017 ($n = 236$). Second half = other half of the entire Canadian and Australian sample collected in 2017 ($n = 239$). CFI = comparative fit index, RMSEA = Root mean square error of approximation, SRMR = standardized root mean square residual.

Based on the indices, we then removed the items relating to community norms, behaviors, attitudes, and values, and reviewed the remaining models. This led to identification of the five-factor structure as the most appropriate, with the five factors corresponding to five of the thirteen factors posited by Grossman, Tahiri and Stephenson. Factor 1 comprised of the cultural identity and connectedness items, Factor 2 comprised of the bridging capital items, Factor 3 comprised of the linking capital items, Factor 4 comprised of violence-related behaviors, and Factor 5 comprised of violence-related beliefs, $\chi^2 = .00$, RMSEA = .06 [95 CI: .05, .06], CFI = .97, SRMR = .03, $\alpha = .90$. That these factors correspond to the literature demonstrating the relevance of cultural identity and connectedness, bridging and linking capital, and violence-related behaviors and beliefs,⁶³ helps to confirm the content validity of the measure.

We then attempted to shorten the measure by identifying those items that were most effective by assessing variance of responses, cross-loadings, items which did not load strongly on any factor, and those which did not perform well. All items had a mean score between 2.0 and 4.0 and had standard deviations ranging between 0.8 and 1.3. Together, this suggests that participants avoided extreme floor or ceiling constraints for all items and that items captured variability in different aspects of resilience to violence; consequently, no items were removed for this reason. All items had non-response rates of less than 10 percent, so none were dropped from analyses due to non-response. The removal of items resulted in a twenty item, five-factor model with good fit, $\chi^2 = .01$, RMSEA = .04 [95 CI: .03, .06], CFI = .995, SRMR = .01, $\alpha = .83$ (Table 2).

Confirmatory factor analysis (CFA)

We then conducted a CFA on the twenty-item measure, using the sample of 475 Australian and Canadian youth. A CFA is used when you have pre-determined the factor

Table 4. BRAVE loadings by gender

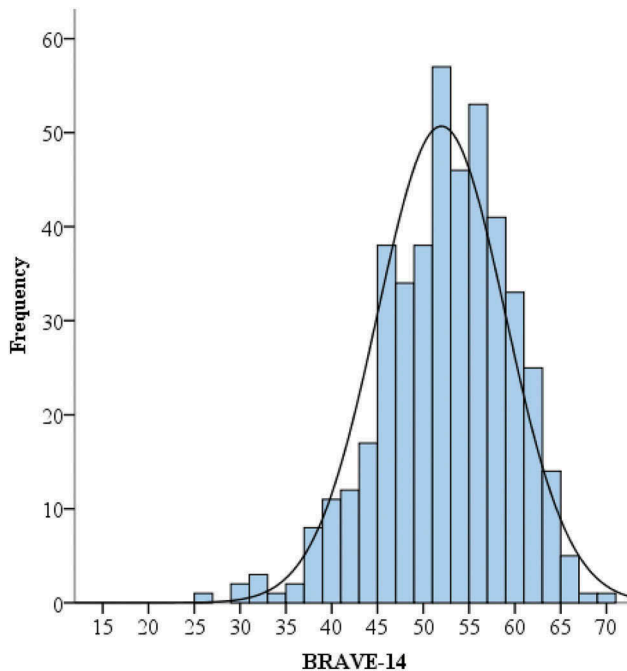
Item	Women		Men	
	Unstandardized	Standardized	Unstandardized	Standardized
<i>Cultural identity and connectedness</i>				
Importance of cultural traditions	1.00 (–)	.73 (.06)	1.00 (–)	.76 (.05)
Familiarity with culture	.92 (.15)	.76 (.06)	.76 (.11)	.66 (.06)
Centrality of cultural identity	.85 (.14)	.55 (.06)	.95 (.12)	.64 (.05)
<i>Bridging capital</i>				
Trust in persons outside community	1.00 (–)	.51 (.07)	1.00 (–)	.64 (.05)
Support from persons outside community	1.24 (.21)	.63 (.06)	1.14 (.14)	.73 (.05)
Engagement with diverse others	1.39 (.25)	.67 (.06)	.95 (.16)	.50 (.06)
<i>Linking capital</i>				
Trust in law enforcement agencies	1.00 (–)	.62 (.07)	1.00 (–)	.73 (.05)
Confidence in engagements with authorities	1.09 (.19)	.72 (.06)	1.02 (.11)	.80 (.04)
Feeling heard in engagements with authorities	.93 (.15)	.63 (.06)	.95 (.10)	.72 (.04)
<i>Violence-related behaviors</i>				
Willingness to speak out against violence	1.00 (–)	.78 (.07)	1.00 (–)	.70 (.06)
Willingness to challenge violent behaviors of others	.81 (.14)	.65 (.06)	.82 (.12)	.60 (.06)
<i>Violence-related beliefs</i>				
Belief in violence as a source of strength	1.00 (–)	.74 (.06)	1.00 (–)	.83 (.06)
Belief in violence as a source of respect	1.26 (.21)	.87 (.07)	.84 (.12)	.84 (.06)
Community acceptance of youth violence	.58 (.15)	.29 (.07)	.44 (.09)	.35 (.06)

Note: Standard errors are in brackets. This is comparing confirmatory factor analyses conducted using only the female participants with one using only the male participants. BRAVE = building resilience against violent extremism.

Table 5. BRAVE loadings by study site

Item	Australian		Canadian	
	Unstandardized	Standardized	Unstandardized	Standardized
<i>Cultural identity and connectedness</i>				
Importance of cultural traditions	1.00 (-)	.73 (.06)	1.00 (-)	.75 (.05)
Familiarity with culture	.82 (.12)	.66 (.06)	.82 (.10)	.71 (.05)
Centrality of cultural identity	1.25 (.18)	.66 (.06)	.81 (.10)	.60 (.05)
<i>Bridging capital</i>				
Trust in persons outside community	1.00 (-)	.57 (.06)	1.00 (-)	.60 (.05)
Support from persons outside community	1.30 (.21)	.66 (.06)	1.12 (.14)	.71 (.05)
Engagement with diverse others	1.01 (.18)	.55 (.07)	1.09 (.18)	.56 (.06)
<i>Linking capital</i>				
Trust in law enforcement agencies	1.00 (-)	.68 (.05)	1.00 (-)	.74 (.05)
Confidence in engagements with authorities	1.14 (.14)	.81 (.05)	.92 (.11)	.74 (.05)
Feeling heard in engagements with authorities	.90 (.12)	.67 (.05)	.92 (.10)	.71 (.04)
<i>Violence-related behaviors</i>				
Willingness to speak out against violence	1.00 (-)	.83 (.06)	1.00 (-)	.72 (.06)
Willingness to challenge violent behaviors of others	.70 (.12)	.62 (.07)	.78 (.12)	.59 (.06)
<i>Violence-related beliefs</i>				
Belief in violence as a source of strength	1.00 (-)	.69 (.06)	1.00 (-)	.82 (.07)
Belief in violence as a source of respect	.89 (.15)	.79 (.07)	.99 (.17)	.85 (.07)
Community acceptance of youth violence	.75 (.17)	.39 (.07)	.42 (.10)	.32 (.06)

Standard errors are in brackets. This is comparing confirmatory factor analyses conducted using only the participants in Australia with one using only participants in Canada. BRAVE = building resilience against violent extremism.

**Figure 2.** Histogram of scores on the BRAVE-14.

structure for a measure and want to test whether that factor structure fits in a different population. Although the internal reliability of the twenty-item measure was good ($\alpha = .82$), model fit was poor (Table 3). To see if this poor fit was caused by differences in the sample by nationality, we separated the sample by country, running separate

Table 6. Correlations between the BRAVE scores and indicators of risk and resilience for the total sample as well as by gender and nationality

	Full sample	Female	Male	Canadian	Australian
Resilience (ARM-28)	.50**	.44**	.52**	.48**	.52**
Acceptance of violence (MVQ)	-.24**	-.12*	-.23**	-.22*	-.27**
Delinquency (4-H study)	-.26**	-.16*	-.29**	-.24**	-.27**
Discrimination: in-group (EDS)	-.31**	-.26**	-.32**	-.35**	-.25**
Discrimination: out-group (EDS)	-.29**	-.24**	-.30**	-.31**	-.27**
Discrimination: overall (EDS)	-.30**	-.25**	-.31**	-.33**	-.26**
Family functioning (McMaster FAD)	.46**	.42**	.51**	.53**	.35**
Neighborhood collective efficacy	.18**	.11	.19*	.34**	-.03
Emotional difficulties (SDQ)	-.22**	-.19**	-.27**	-.21**	-.24**
Conduct problems (SDQ)	-.31**	-.29**	-.34**	-.26**	-.32**
Hyperactivity (SDQ)	-.30**	-.28**	-.29**	-.30**	-.30**
Peer problems (SDQ)	-.28**	-.31**	-.26**	-.24**	-.30**
Prosocial behaviors (SDQ)	.37**	.34**	.41**	.16**	.22*

All correlations use Spearman correlations due to non-normal data.

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

analyses for Australia and Canada. Both models fit poorly. We then ran separate analyses by gender, with the model showing poor fit for both female and male participants. This indicates that while the five-factor model of resilience to violent extremism as measured by these twenty questions fit a sample of Somali youth from Toronto well, it was not a robust measure in this other sample.

Given that the twenty-item measure had poor fit, we selectively removed poor-performing items. To this end, we randomly split the sample of 475 Australian and Canadian youth in half (first half: $n = 236$, second half: $n = 239$) and then selectively removed items until we achieved acceptable fit in the first half (Table 3). This resulted in a fourteen-item measure, with three questions each relating to cultural identity and connectedness, bridging capital, linking capital, and violence-related beliefs and two questions relating to anti-violence behaviors. We then tested the model fit in the second half of the sample, because replication of factorial composition in a second sample is an indicator of construct validity.⁶⁴ This model fit well in the second half of the sample, with only the upper confidence interval for RMSEA falling outside of accepted boundaries. As shown in Table 3, this model also fit well in samples comprised solely of women or Australians. The RMSEA was elevated for samples comprised solely of men or Canadians, and the Canadians also had elevated confidence intervals for the RMSEA. Together, these results suggest that this measure performs relatively well at assessing our construct across a range of groups.

We then used the full sample of 475 youth to conduct two multigroup analyses (by gender and country), first with invariant factor loadings and then with invariant common residual covariances (Table 3). The model was just outside of the range of acceptable fit for females/males, suggesting that there may be factorial invariance across these two genders. The model fit was not acceptable for country, despite reasonable fit when analyses were run separately for Australians and Canadians. This suggests that, while the items measure a unified construct in both samples, young people in Australia and Canada may respond to individual items within the scale differently. In particular, “I am willing to speak out publicly against violence in my community” was more important to anti-violence behaviors for the Australians in the sample than the Canadians, while “Being violent helps me

earn the respect of others” was more important to Canadian pro-violence beliefs in the sample than to Australians. See [Table 4](#) for factor loadings for each item by gender (male, female) and [Table 5](#) for each item by country (Australia, Canada).

Taken together, these results suggest that this five-factor, fourteen-item measure is robust. It has good internal reliability ($\alpha = .76$). Scores ranged from 26 to 69 on the measure (out of a potential 14–70), with a mean of 51.98. There was a negative skew on the measure, with most participants scoring above the mid-point (see [Figure 2](#) for a histogram of scores on the measure). An independent samples t-test indicates that Australians in the sample ($M = 53.04$, $SD = 6.46$) had higher scores on this mean than Canadians in this sample ($M = 51.13$, $SD = 7.26$), suggesting a potential difference in resilience to violent extremism, $t(441) = 2.89$, $p < .05$. As there were not enough transgender or other gendered participants to compare, we used an independent samples t-test to assess whether there were differences between female and male participants on this measure; indeed, women in the sample ($M = 52.88$, $SD = 6.13$) had higher scores on this measure than men ($M = 51.23$, $SD = 7.47$), suggesting a potential difference in resilience to violent extremism, $t(432) = 2.49$, $p < .05$. Group differences were small in both instances.

To assess convergent validity, we examined whether scores on our measure were correlated with measures of constructs which are thought to be related to resilience to violent extremism. In line with expectations, the measure was significantly positively correlated with the ARM-28 ($p < .001$), family functioning ($p < .001$), neighborhood collective efficacy ($p < .001$), and prosocial behaviors ($p < .001$) in the full sample (see [Table 6](#)). It was negatively correlated with scores on measures of acceptance of violence ($p < .001$), delinquency ($p < .001$), in-group ($p < .001$) and out-group discrimination ($p < .001$), as well as the emotional difficulties, conduct problems, hyperactivity, and peer problems subscales of the SDQ ($p < .001$ for all subscales). These analyses were repeated by gender and by country, with similar patterns of findings ([Table 6](#)). Out of all measures, only neighborhood collective efficacy did not correlate in the expected direction with the measure for females and for Australians, despite a finding in the expected direction for the overall sample.

Discussion

Our analysis suggests that the BRAVE is a short, robust measure which can effectively evaluate empirically- and theoretically-derived, community-level strengths and protections relevant to the capacity to resist the social legitimation of violent extremism. As described above, this measure has face, construct, and convergent validity; together, this suggests its utility as a measure of resilience to violent extremism that can be used as the basis for further longitudinal and multi-sited studies to test for predictive validity.

The five factors identified here highlight the importance of key socio-cultural assets that facilitate a personal sense of wellbeing and security, group-level acceptance and belonging, and interaction between different socio-cultural groups, communities, institutions or authorities. The validation of the five factors used in the BRAVE is well supported by the existing literature. Culturally and linguistically diverse individuals and communities derive significant resilience resources through cultural identity and connectedness.⁶⁵ Research has established that there is an association between the absence of bridging capital and enhanced vulnerability to the appeal of violent extremism,⁶⁶ with “cultural

outsiders” experiencing reduced social capital and weaker resilience as a result.⁶⁷ Similarly, the role of linking capital in promoting community-level resilience when faced with adversity or threats is well established.⁶⁸ The relevance of this for developing resilient communities that can respond and intervene to “reduce potential vulnerabilities or risk factors, and promote protective experiences or conditions”⁶⁹ related to both violence-related behaviors and violence-related beliefs amongst youth is clear.

This fourteen-item measure does not assess vulnerability to or pathways toward radicalization, but rather the presence and strength of validated social-ecological factors that can serve as protections against being drawn in to radicalized violence. As such, the measure can be deployed by researchers, communities, and government agencies to help identify what existing strengths and gaps there may be in each of the five factor areas within specific community contexts. A clear limitation is that the measure has not yet been developed to the stage where it can reliably predict or discriminate between which individuals or groups will or will not radicalize to violence. Indeed, to use a health metaphor, the measure highlights the ways in which resilience to violent extremism is more prophylactic rather than curative; like a vaccine, it can reduce but not wholly eliminate the phenomenon it is seeking to prevent given the ongoing exposure many communities continue to experience to toxic structural stressors like discrimination and social stigma.

However, the measure can help pinpoint whether known protective factors are present, and to what degree. This can help provide insights that can in turn guide assessments of hitherto unrecognized resilience resources within local settings, or alternatively, where these protections are absent or fragile, vulnerabilities and gaps that can be mitigated at policy and grassroots levels. The measure was developed with Australians and Canadians from a wide range of ethno-cultural backgrounds, suggesting it is applicable to multiple contexts. However, as resilience can vary from culture to culture,⁷⁰ further studies applying the measure are needed to validate and refine the ways in which the measure may function. We recommend that those considering using the BRAVE engage in contextualizing the measure through consultations with local communities and experts to adapt or add items where necessary, and also perform validation analyses to confirm factor structures and any alterations prior to use, similar to the Adult Resilience Measure.⁷¹ In addition, as a measure of protective factors, the BRAVE could be complemented by assessments of risk exposure and culturally and contextually relevant outcomes. Ungar⁷² has articulated the importance of including these three elements in studies of resilience.

There are a number of directions for further research based on these findings. First and foremost, we have established convergent validity with a number of constructs which have been theoretically or empirically linked to resilience to violent extremism—general resilience, family functioning, neighborhood collective efficacy, prosocial behaviors,⁷³ emotional and behavioral difficulties,⁷⁴ experiences of discrimination,⁷⁵ and participation in criminal activities⁷⁶—but we have not directly measured participants’ violent extremist thoughts or actions. Future work should evaluate whether the BRAVE is negatively related to both concurrent and future violent extremism. This was not possible to do in this study, given the challenges of collecting a large enough sample to include those who are actively involved in violent extremist actions (and who therefore should score low on the BRAVE) but also due to ethical issues with collecting this type of information.

Of the original thirteen hypothesized factors influencing resilience to violent extremism in Grossman et al.'s⁷⁷ Australian study, which engaged participants aged eighteen to sixty-five, factors which were linked to cultural norms and values were not validated for youth in the current study. This may suggest either that young people in the sample were less responsive to socially conforming behaviors governed by culturally normative values and attitudes than older adults across culturally diverse communities, or that other variables influenced this factor's lack of relevance. Further research is needed to explore this. We also found that, at least statistically, Australians in the sample demonstrated more resilience to violent extremism than did Canadians. However, the practical significance of this difference remains unclear given that the difference was small, as well as that both samples were collected opportunistically and are non-representative of the country populations as a whole.

We also found that young people in Australia and Canada may respond to individual items within the scale differently. For example, *"I am willing to speak out publicly against violence in my community"* was more important to Australian than Canadian anti-violence behaviors in this sample, while *"Being violent helps me earn the respect of others"* was more important to Canadians' pro-violence beliefs in the sample than to Australians' (see Table 4 for factor loadings for each item by gender [male, female] and Table 5 for each item by country [Australia, Canada]). Why this should be so is again open to interpretation and theory, and would benefit from further investigation. However, neither sample was representative of its national populations, and differences between countries in terms of the overall scale and particular factors within the scale may be due to sampling artifacts.

If the BRAVE were applied to other countries, responses might also vary in terms of what youth in different contexts consider most important out of the items for each of the BRAVE factors of cultural identity and connectedness, bridging capital, linking capital, violence-related behaviors and violence-related beliefs. Future application of the BRAVE as a standardized and validated measure in pre- and post-intervention settings can help gauge both baseline resilience to violent extremism and the difference that various programs and interventions might make to building resilience, in line with the five-factor structure identified through the research. This would help strengthen understanding of both the strengths and vulnerabilities that young people bring to bear in developing and maintaining resilience to the appeal of violent extremism.

Conclusion

The BRAVE measure of resilience to violent extremism can serve as a resource that allows communities and government agencies to identify protective capacities for young people that can be preserved or further strengthened, as well as existing or emergent gaps that can be addressed. The measure can also help underpin the evaluation of interventions seeking to enhance the social-ecological capacity for resilience to the social legitimation of violent extremism if employed at pre-post timepoints. Additionally, the measure can serve as a knowledge platform for developing effective strategies, programs and partnerships that can strengthen resilience to violent extremism amongst young people in locally relevant, innovative, and culturally and contextually sensitive ways. As Abdi and Ellis⁷⁸ note in a recent consideration of community resilience to violent extremism, "Done wrong, top-down efforts

to define and respond to the risk of violent extremism run the risk of undermining the very community assets that contribute to community resilience,” including misunderstood or misapplied strategies that adversely impact both social bonding and social bridging, “two essential resilient processes within communities.” The BRAVE measure offers the capacity to develop and integrate “bottom-up” empirical data that can be used as a springboard *by* communities, working either independently or in partnership with government agencies, to more accurately identify community-based assets that both strengthen resilience and dispel myths and stereotypes about young people’s vulnerability to violent extremism.

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Notes on contributors

Michele Grossman, Ph.D., is Professor of Cultural Studies and Research Chair in Diversity and Community Resilience at the Alfred Deakin Institute for Citizenship and Globalisation, Deakin University in Melbourne, Australia, where she is also Director of the Centre for Resilient and Inclusive Societies and Convenor of the AVERT Research Network. She is a Robert Schuman (Distinguished Scholar) Fellow at the European University Institute in Florence and Visiting Professor at University of Huddersfield in the UK.

Kristin Hadfield, Ph.D., is a lecturer in positive psychology in the Department of Biological and Experimental Psychology at Queen Mary University of London. Her research focuses on what makes children and adolescents thrive when faced with adverse or challenging situations.

Philip Jefferies, Ph.D., is a chartered psychologist and Research Fellow at the Resilience Research Centre at Dalhousie University in Halifax, Canada, where he coordinates projects around the world investigating factors that enhance the resilience, health, and well-being of individuals and communities facing different kinds of adversity.

Vivian Gerrand, Ph.D., is Research Fellow at the Alfred Deakin Institute for Citizenship and Globalisation, Deakin University in Melbourne, Australia, where she serves as the Coordinator for the AVERT (Addressing Violent Extremism and Radicalisation to Terrorism) Research Network and is a research member of the Centre for Resilient and Inclusive Societies. She is a Visiting Fellow and chief investigator at the European University Institute in Florence on the Horizon 2020 BRaVE (Building Resilience to Violent Extremism and Polarisation) project.

Michael Ungar, Ph.D., holds the Canada Research Chair in Child, Family and Community Resilience, and is the Director of the Resilience Research Centre at Dalhousie University in Halifax, Canada. He has authored or edited sixteen books including *Change Your World: The Science of Resilience and the True Path to Success* and *Multisystemic Resilience: Adaptation and Transformation in Contexts of Adversity*.

ORCID

Michele Grossman  <http://orcid.org/0000-0001-5603-7687>

Kristin Hadfield  <http://orcid.org/0000-0003-0234-0829>

Philip Jefferies  <http://orcid.org/0000-0003-4477-9012>

Vivian Gerrand  <http://orcid.org/0000-0002-3169-547X>

Michael Ungar  <http://orcid.org/0000-0003-0431-347X>

Notes

1. All-Party Parliamentary Group, “Building Young People’s Resilience to Violent Extremism in the Middle East and North Africa,” (London, UK: British Council, 2017); Hamilton Bean, Lisa Keränen, and Margaret Durfy, “‘This Is London’: Cosmopolitan Nationalism and the Discourse of Resilience in the Case of the 7/7 Terrorist Attacks,” *Rhetoric & Public Affairs* 14, no. 3 (2011): 427–64; Patricia H. Longstaff, Nicholas J. Armstrong, Keli Perrin, Whitney M. Parker, and Matthew A. Hidek, “Building Resilient Communities: A Preliminary Framework for Assessment,” *Homeland Security Affairs* 1, no. 3 (2010): 1–23; Stevan Weine, “Building Community Resilience to Violent Extremism,” *Georgetown Journal of International Affairs* 14, no. 2 (2013): 81–89; and Basia Spalek, and Douglas Weeks, “The Role of Communities in Counterterrorism: Analyzing Policy and Exploring Psychotherapeutic Approaches within Community Settings,” *Studies in Conflict & Terrorism* 40, no. 12 (2017): 991–1003.
2. Public Safety Canada, “2017 Public Report on the Terrorist Threat to Canada,” (Ottawa, ON: Government of Canada, 2017).
3. Council of Australian Governments, “Australia’s Counter-Terrorism Strategy: Strengthening our Resilience,” (Canberra, ACT: Commonwealth of Australia, 2015).
4. The White House, “Strategic Implementation Plan for Empowering Local Partners to Prevent Violent Extremism in the United States,” (Washington, DC: The White House, 2011).
5. K. Hardy, “Resilience in UK Counter-Terrorism,” *Theoretical Criminology* 19 (2015): 77–94.
6. See note 3 above; and Caroline S. Clauss-Ehlers, “Sociocultural Factors, Resilience, and Coping: Support for a Culturally Sensitive Measure of Resilience,” *Journal of Applied Developmental Psychology* 29, no. 3 (2008): 197–212.
7. Allan Harriet, Andrew Glazzard, Sasha Jespersen, Sneha Reddy-Tumu, and Emily Winterbotham, “Drivers of Violent Extremism: Hypotheses and Literature Review” (London, UK: Royal United Services Institute, 2015).
8. See note 4 above.
9. Olivier Roy, *Jihad and Death: The global Appeal of Islamic State* (London, UK: C Hurst & Co Publishers Ltd, 2017).
10. See note 5 above.
11. Stevan E. Hobfoll, “Conservation of Resources. A New Attempt at Conceptualizing Stress,” *American Psychologist* 44, no. 3 (1989): 513–24; and Catherine Panter-Brick, “Health, Risk, and Resilience: Interdisciplinary Concepts and Applications,” *Annual Review of Anthropology* 43, no. 1 (2014): 431–48.
12. Tony Munton, Alison Martin, Theo Lorenc, Isaac Marrero-Guillamon, Farah Jamal, Angela Lehmann, Chris Cooper, Matthew Sexton. “Understanding Vulnerability and Resilience in Individuals to the Influence of Al Qa’ida Violent Extremism,” (London, UK: Home Office, 2011) 98.
13. Lydia Khalil and Rodger Shanahan, “Foreign Fighters in Syria and Iraq: The Day After,” (Sydney, NSW: Lowy Institute, 2016).
14. Ibid.
15. Mattias Wahlström and Anton Törnberg, “Social Media Mechanisms for Right-Wing Political Violence in the 21st Century: Discursive Opportunities, Group Dynamics, and Co-Ordination,” *Terrorism and Political Violence* (2019): 1–22., doi: 10.1080/09546553.2019.1586676.
16. See note 3 above.

17. See note 9 above; and Paul Thomas, "Failed and Friendless: The UK's 'Preventing Violent Extremism' Programme," *The British Journal of Politics and International Relations* 12, no. 3 (2010): 442–58.
18. See note 9 above; and Jon Coaffee and Pete Fussey, "Constructing Resilience through Security and Surveillance: The Politics, Practices and Tensions of Security-Driven Resilience," *Security Dialogue* 46, no. 1 (2015): 86–105, doi: 10.1177/0967010614557884.
19. See note 2 above; and Sandra Walklate, Gabe Mythen, and Ross McGarry, "States of Resilience and the Resilient State," *Current Issues in Criminal Justice* 24, no. 2 (2012): 185–204.
20. Tahir Abbas, and Imran Awan, "Limits of UK Counterterrorism Policy and its Implications for Islamophobia and Far Right Extremism," *International Journal for Crime, Justice and Social Democracy* 4, no. 3 (2015): 16–29.
21. Stevan Weine and Osman Ahmed, "Building Resilience to Violent Extremism among Somali-Americans in Minneapolis-St.Paul" (College Park, MD: National Consortium for the Study of Terrorism and Responses to Terrorism, 2012).
22. Michele Grossman, Hussein Tahiri, and Paul Stephenson, "Harnessing Resilience Capital in Culturally Diverse Communities to Counter Violent Extremism" (Canberra, ACT: Australia-New Zealand Counter-Terrorism Committee, 2014).
23. See note 14 above; Farhad Khosrokhavar, "Radicalization in Prison: The French case," *Politics, Religion & Ideology* 14, no. 2 (2013): 284–306, doi: 10.1080/21567689.2013.792654; and Farhad Khosrokhavar, *Radicalization* (New York, NY: The New Press, 2017).
24. Public Safety Canada, "Building Resilience Against Terrorism: Canada's Counter-terrorism Strategy," Ottawa, 2012, <https://www.publicsafety.gc.ca/cnt/rsrscs/pblctns/rsln-c-gnst-trrrsm/index-en.aspx> (accessed August 14, 2018).
25. Michael Ungar, "The Social Ecology of Resilience: Addressing Contextual and Cultural Ambiguity of a Nascent Construct," *American Journal of Orthopsychiatry* 81, no. 1. (2011): 1–17; and Michael Ungar, "Resilience Across Cultures," *The British Journal of Social Work* 38, no. 2 (2008): 218–35.
26. Ibid.; and Stevan E. Hobfoll and Joop. T. V. M. de Jong, "Sociocultural and Ecological Views of Trauma: Replacing Cognitive-Emotional Models of Trauma," in *Facilitating Resilience and Recovery Following Trauma*, edited by Lori A. Zoellner and Nora C. Feeny (New York, NY: Guilford Press, 2014), 69–90.,
27. See note 4 above; See note 29 above; See note 30 above; See note 34 above; Michele Grossman, "Prognosis Critical: Resilience and Multiculturalism in Contemporary Australia," *M/C Journal: a Journal of Media and Culture* 16, no. 5 (2013) <http://journal.media-culture.org.au/index.php/mcjournal/article/view/699> (accessed September 9, 2018); Suniya S. Luthar and Edward Zigler, "Vulnerability and Competence: A Review of Research on Resilience in Childhood," *American Journal of Orthopsychiatry* 61 no.1 (1991): 6–22, doi: 10.1037/h0079218; and Heidi B. Ellis and Saida Abdi, "Building Community Resilience to Violent Extremism through Genuine Partnerships," *American Psychologist* 72, no. 3 (2017): 289–300, doi: 10.1037/amp0000065.
28. Sandra Prince-Embury, Donald H. Sklofske, "Resilience in Children, Adolescents, and Adults: Translating Research into Practice" (New York, NY: Springer-Verlag, 2013). doi:10.1007/978-1-4614-4939-3.
29. See note 29 above.
30. See note 3 above.
31. See note 23 above.
32. See note 29 above.
33. Michael Ungar, Kristin Hadfield, Amarnath Amarasingam, Sarah Morgan, and Michele Grossman, "The Association between Discrimination and Violence among Somali Canadian Youth," *Journal of Ethnic and Migration Studies* (2017):1–13.
34. See note 30 above.
35. Atte Oksanen, Markus Kaakinen, Jaana Minkkinen, Pekka Räsänen, Bernard Enjolras, and Kari Steen-Johnson, "Perceived Societal Fear and Cyberhate after the November 2015 Paris Terrorist Attacks," *Terrorism and Political Violence* (2018): 1–20.

36. Gill Windle, Kate M. Bennett, and Jane A. Noyes, "A Methodological Review of Resilience Measurement Scales," *Health and Quality of Life Outcomes* 9, no. 8 (2011): 1–18.
37. See note 29 above; and Stevan Weine, "Building Resilience to Violent Extremism in Muslim Diaspora Communities in the United States," *Dynamics of Asymmetric Conflict* 5, no. 1 (2012): 60–73.
38. See note 30 above.
39. Jing Sun, and Donald Stewart, "Development of Population-based Resilience Measures in the Primary School Setting," *Health Education* 107, no. 6 (2007): 575–599.
40. See note 6 above; and Shandon Harris-Hogan, "Violent Extremism in Australia: An Overview. Trends & Issues in Crime and Criminal Justice" (Canberra, ACT: Australian Institute of Criminology, 2016), 491.
41. Timothy Brown, *Confirmatory Factor Analysis for Applied Research* (New York, NY, Guildford, 2006).
42. Linda K. Muthén and Bengt O. Muthén, *Mplus* (version 7.31) (Los Angeles, CA: Muthen & Muthen, 2011).
43. See note 30 above.
44. Robin K. Henson and Kyle J. Roberts, "Use of Exploratory Factor Analysis in Published Research: Common Errors and Some Comment on Improved Practice," *Educational and Psychological Measurement* 66, no. 3 (2006): 393–416.
45. Gerald M. Devins, Carolee M. Orme, Charles G. Costello, Yitzchak M. Binik, Beverly Frizzell, Henderikus J. Stam, and Wendy M. Pullin, "Measuring Depressive Symptoms in Illness Populations: Psychometric Properties of the Center for Epidemiologic Studies Depression (CES-D) Scale," *Psychology and Health* 2, no. 2 (1988): 139–156.
46. Joop J. Hox, Mirjam Moerbeek, & Rens van de Schoot, *Multilevel Analysis: Techniques and Applications* (New York, NY: Routledge, 2010); and Li-tze Hu and Peter M. Bentler, "Cutoff Criteria for Fit Indexes in Covariance Structure Analysis: Conventional Criteria Versus New Alternatives," *Structural Equation Modeling: A Multidisciplinary Journal* 6, no. 1 (1999): 1–55.
47. Linda Liebenberg and Christopher J. Moore, "A Social Ecological Measure of Resilience for Adults: The RRC-ARM," *Social Indicators Research* 136, no. 1 (2018): 1–19.
48. See note 34 above.
49. Nathan B. Epstein, Lawrence M. Baldwin, and Duane S. Bishop, "The McMaster Family Assessment Device," *Journal of Marital and Family Therapy* 9, no. 2 (1983): 171–80.
50. David Hemenway and Sara J. Solnick, "The Unintentional Injurer: Results From the Boston Youth Survey," *American Journal of Public Health* 101, no. 4 (2011): 663–68.
51. Robert Goodman, "The Strengths and Difficulties Questionnaire: A Research Note," *Journal of Child Psychology and Psychiatry* 38, no. 5 (1997): 581–86.
52. K. Bhui, B. Everitt, and E. Jones, "Might Depression, Psychosocial Adversity, and Limited Social Assets Explain Vulnerability to and Resistance Against Violent Radicalization?" *PloS One* 9, no. 9 (2014): e105918.
53. See note 71 above.
54. Allan Ngari and Denys Reva, "How Ethnic and Religious Discrimination drive Violent Extremism" (Pretoria, SA: Institute for Security Studies, 2017).
55. David R. Williams, Yan Yu, James S. Jackson, and Norman B. Anderson, "Racial Differences in Physical and Mental Health: Socio-Economic Status, Stress and Discrimination," *Journal of Health Psychology* 2, no. 3 (1997): 335–51.
56. Michael A. Jensen, Patrick A. James, Gary Lafree, Anita Atwell-Seate, Daniela Pisoiu, and John Stevenson, "Empirical Assessment of Domestic Radicalization (EADR)" (College Park, MD: National Consortium for the Study of Terrorism and Responses to Terrorism, 2016); and Gary Lafree, Michael A. Jensen, Patrick A. James, and Aaron Safer-Lichtenstein, "Correlates of Violent Political Extremism in the United States," *Criminology* 56, no. 2 (2018): 233–68.
57. Erin Phelps, Aida B. Balsano, Kristen Fay, Jack S. Peltz, Stacy M. Zimmerman, Richard M Lerner, and Jacqueline V. Lerner, "Nuances in Early Adolescent Developmental Trajectories of Positive and Problematic/Risk Behaviors: Findings from the 4-H Study of Positive Youth Development," *Child and Adolescent Psychiatric Clinics of North America* 16, no. 2 (2007):

- 473–96; and Christina Theokas and Richard M. Lerner, “Observed Ecological Assets in Families, Schools, and Neighborhoods: and Conceptualization, Measurement, and Relations with Positive and Negative Developmental Outcomes,” *Applied Developmental Science* 10, no. 2 (2006): 61–74.
58. See note 30 above.
59. Ibid.
60. Michele Grossman and Jenny Sharples, “Don’t Go There: Young People’s Perspectives on Community Safety and Policing. A collaborative Research Project with Victoria Police Westgate Region,” (Melbourne, Australia: Victoria University, 2010).
61. See note 30 above.
62. Ibid.
63. Ibid.
64. See note 45 above.
65. See note 11 above; and Arve Gunnestad, “Resilience in a Cross-Cultural Perspective: How Resilience is Generated in Different Cultures,” *Journal of Intercultural Communication* 1 (2006).
66. See note 44 above; and Bertjan Doosje, Annemarie Loseman, and Kees van den Bos, “Determinants of Radicalization of Islamic Youth in the Netherlands: Personal Uncertainty, Perceived Injustice, and Perceived Group Threat,” *Journal of Social Issues* 69, no. 3 (2013): 586–604.
67. Steven Chermak, and Jeffrey A. Gruenewald, “Laying a Foundation for the Criminological Examination of Right-Wing, Left-Wing, and Al Qaeda-Inspired Extremism in the United States,” *Terrorism and Political Violence* 27, no. 1 (2015): 52.
68. Fran H. Norris, Susan P. Stevens, Betty Pfefferbaum, Karen F. Wyche, and Rose L. Pfefferbaum, “Community Resilience as a Metaphor, Theory, Set of Capacities, and Strategy for Disaster Readiness,” *American Journal of Community Psychology* 41, no. 1-2 (2008): 127–50.
69. See note 44 above.
70. See note 35 above; and Steven M. Southwick, George A. Bonanno, Ann S. Masten, Catherine Panter-Brick, and Rachel Yehuda, “Resilience Definitions, Theory, and Challenges: Interdisciplinary Perspectives,” *European Journal of Psychotraumatology* 5 (2014): 1–14.
71. See note 67 above; and Resilience Research Center, “*The Adult Resilience Measure (ARM). User’s manual*” (Halifax, Canada: Resilience Research Center, 2016).
72. Michael Ungar, “Designing Resilience Research: Using Multiple Methods to Investigate Risk Exposure, Promotive and Protective Processes, and Contextually Relevant Outcomes for Children and Youth,” *Child Abuse & Neglect* 96 (2019): 104098.
73. See note 34 above.
74. See note 72 above.
75. See note 74 above.
76. See note 76 above; and See note 78 above.
77. See note 22 above.
78. See note 44 above.