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Geographic Differences in Psychosocial Correlates of Support for Violent Radicalization

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Abstract

This study explores how psychosocial factors—including perceived discrimination, mental health symptoms, and social support—relate to approval of violent radicalization (VR) among young adults in three North American cities: Montréal, Toronto, and Boston. It also examines whether geographic setting alters these relationships. Data were drawn from 791 participants aged 18–30 who took part in the Somali Youth longitudinal study and a separate Canadian postsecondary student survey. Associations between Radical Intentions Scale (RIS) scores and demographic variables, anxiety, depressive symptoms, perceived social support, and discrimination were analyzed using multivariate regression models. In analyses pooling all participants, higher perceived discrimination and differences by age and gender were linked to greater endorsement of VR. Stratified analyses by location revealed distinct patterns: depressive symptoms were related to RIS scores only among respondents in Montréal, whereas in Toronto, both lower social support and higher discrimination were associated with stronger support for VR. No significant predictors emerged for participants in Boston. The results suggest that pathways associated with support for violent radicalization are shaped by local context rather than operating uniformly across settings. Future research should more explicitly account for regional and sociocultural variation when identifying risk and protective factors.

Keywords: Discrimination, Mental health, Violent radicalization, Social support, North America, Somali

Introduction

Violent radicalization (VR) has emerged as an increasingly prominent global concern [1, 2]. It can be defined as a process through which individuals or groups abandon norms of dialogue, tolerance, and compromise, instead turning to violence to advance political, social, or religious objectives [3]. In an era marked by heightened social fragmentation and polarization, support for violent extremism affects both majority and minority populations and targets multiple forms of perceived difference, including race, ethnicity, religion, political ideology, and gender identity (e.g., [4]). Growing scholarly and policy attention has therefore focused on identifying the factors that shape pathways toward radicalization, including both immediate and more distal influences [5]. This emphasis aligns with a public health perspective that conceptualizes prevention across primary, secondary, and tertiary levels [6]. Within this framework, primary prevention prioritizes understanding the social and psychological determinants of radical attitudes in the general population, with the goal of fostering resilience through community-based initiatives that promote civic participation, dialogue, and democratic engagement [7].

An expanding body of empirical research has examined individual-level correlates of VR, yet findings remain inconsistent. A recent scoping review identified perceived collective disadvantage—such as experiences of injustice, marginalization, victimization, or stigmatization—as one of the most frequently cited contributors to pathways toward extremist involvement [8]. Perceived discrimination, particularly when linked to language or political beliefs, has been associated with greater endorsement of violent extremism in some

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studies [9, 10]. However, other research has failed to detect such associations; for example, perceived discrimination was not related to sympathy for VR in a sample of Muslims in England [11]. Similarly, studies of Somali youth and young adults in North America indicate that those expressing support for VR reported only moderate levels of discriminatory experiences rather than extreme exposure [12]. These mixed findings suggest that discrimination alone may be insufficient to explain variations in radical attitudes.

Psychological functioning has also been examined as a potential contributor to VR, sometimes operating as an intermediary mechanism between social grievances and extremist sympathies. For instance, Rousseau and colleagues (2019) found that depressive symptoms accounted for a substantial proportion of the association between perceived discrimination and support for VR [10]. At the same time, evidence linking mental health problems to radicalization remains equivocal. Depression and related symptoms tend to predict extremist attitudes only under specific conditions and in combination with other vulnerabilities [13]. One explanation for these inconsistencies may lie in differences across study populations and the broader sociopolitical environments in which individuals are embedded.

Drawing on a socio-ecological perspective, vulnerability and resilience to radicalization are understood as the product of interacting influences operating at multiple levels—individual, relational, community, and societal [6]. This framework underscores the importance of moving beyond exclusively individual explanations to consider how broader contextual forces shape support for VR. Radicalization does not unfold uniformly across settings; rather, it reflects the historical, cultural, and political characteristics of particular societies [14]. Consequently, examining place-based effects—such as variation across cities, regions, or countries—may help clarify how local contexts condition both risk and protective factors [15]. Despite this, empirical research explicitly testing contextual variation remains limited, although emerging evidence points to meaningful national and regional differences in the correlates of VR support [16, 17].

Context of violent radicalization in toronto, montréal, and boston

Public discourse and policy responses related to VR differ considerably across geographic settings. In Canada, the issue gained heightened political and media attention following the disruption of a planned attack in Toronto in 2006 involving a group later referred to as the "Toronto 18." The arrests contributed to widespread public anxiety and intensified scrutiny of Muslim communities. An analysis of more than 200 media texts published in the aftermath of these events found that a substantial portion promoted fear, reinforced suspicion toward Muslims, and portrayed Islam in a negative light [18]. As one of the largest and most visible Muslim communities in the city, Somali Canadians were particularly affected, especially given that several of the individuals arrested were of Somali background.

In Québec, concerns surrounding VR intensified following separate but related developments. These included a lone-actor attack in Saint-Jean-sur-Richelieu and the departure of young people from Montréal to join Daesh in Syria in 2015, which brought public and political attention to issues of radicalization beginning in 2014. The 2017 mass shooting at a Québec City mosque further underscored the presence and consequences of extremist ideologies, including those associated with far-right movements. These events unfolded amid highly polarized debates over immigration, secularism, language, and cultural diversity, highlighting longstanding tensions between Montréal's multicultural character and the more homogeneous sociopolitical identity often associated with the rest of Québec.

Although rising polarization and extremist mobilization have been observed in both Toronto and Montréal, the forms these dynamics take are shaped by distinct historical trajectories and sociopolitical contexts. In Toronto, discourses of multiculturalism and diversity frame intergroup relations, whereas in Montréal, debates are more closely tied to language, national identity, and secularism. These contextual differences underscore the importance of examining how local environments influence the relationships between discrimination, psychosocial factors, and support for violent radicalization.

The United States has also faced episodes of politically motivated violence linked to a broad spectrum of ideological positions, including extremist movements on the right, left, and those invoking religion [19]. One of the most visible incidents occurred in Boston in 2013, when two brothers carried out the Boston Marathon bombing, an act later associated with religiously framed extremism. Public reactions in the city initially emphasized collective resilience and solidarity, captured

in the widely circulated expression "Boston Strong," which promoted unity across ethnic and religious communities and rejection of hatred [20, 21]. At the same time, these events also contributed to the reinforcement of negative stereotypes in parts of the population. Survey and experimental research conducted afterward documented increased suspicion toward Muslims, including beliefs that Islam is uniquely linked to violence [22, 23], as well as public support for practices such as profiling young Muslim men [24].

Comparative research examining how risk and protective factors for violent radicalization operate across different populations and sociopolitical contexts remains limited, yet it is essential for determining whether findings can be generalized across settings. Such comparative work also informs how prevention policies and community interventions might be adapted to local realities. The present study contributes to this developing area by analyzing psychosocial correlates of support for violent radicalization among two populations—Somali-background youth and youth from the broader population—living in three large, culturally diverse cities across Canada and the United States: Montréal, Toronto, and Boston. We focus on discrimination, depressive symptoms, and anxiety as potential risk factors, alongside social support as a potential protective factor. We expected that, after accounting for age and gender, each of these variables would show an association with support for violent radicalization. We further anticipated that these relationships would not be uniform across cities, reflecting contextual differences in local social and political environments.

Materials and Methods

Study samples

The analyses combine data from two independent multi-site research projects: the Somali Youth Longitudinal Study (SYLS) and a Canadian postsecondary student survey.

Boston and toronto participants

The Boston and Toronto subsamples include 198 Somali young adults who completed Wave 2 of the SYLS between 2014 and 2015. Eligibility criteria required participants to be between 18 and 30 years of age at enrollment, to have resided in either Canada or the United States for at least one year, and to be either born in Somalia or have Somali family background. Recruitment relied on community-based approaches, including peer referral and outreach through local organizations and community gatherings.

Montréal participants

Participants from Montréal were drawn from a study conducted between 2016 and 2017 across 14 colleges in Québec examining attitudes toward violent extremism. Eligibility required full-time enrollment at one of the participating institutions. Institutional response rates varied considerably, ranging from 2% to 19%. For the present analyses, only respondents attending colleges located within the greater Montréal metropolitan area were retained (n = 593 from six institutions).

Measures

Demographic characteristics

Participants provided self-reported demographic information. In the Somali Youth Longitudinal Study (SYLS), gender was recorded as a binary variable (male/female), whereas in the college-based survey, respondents could indicate male, female, or another gender identity. Age was collected as a continuous variable in SYLS using a direct question, while the college survey assessed age using predefined categories (18; 19–21; 22–24; 25–27; 28–30; 31 and older). For analytic consistency, SYLS age responses were recoded into the same categorical groupings used in the college dataset. Geographic location was determined by interview site in SYLS and by the institution attended in the college survey. All SYLS participants identified as being of Somali origin. In the college sample, respondents reported their own and their parents' country of birth and indicated region of origin if born outside Canada.

Support for violent radicalization

Support for violent radicalization was assessed using the Radical Intentions Scale (RIS), a four-item subscale of the Activism and Radicalism Intention Scales (ARIS; [25]). This measure captures willingness to endorse or engage in illegal or violent actions on behalf of a group or cause. Items are rated on a seven-point Likert scale ranging from 1 ("strongly disagree") to 7 ("strongly agree"). An example item is: *"I would take part in a public protest against the oppression of my group even if there was a risk that the protest could become violent."*

For participants in SYLS, a modified version of the RIS was administered to enhance cultural appropriateness and

acceptability. Specifically, items were reframed to assess attitudes toward others who engage in legal or illegal actions rather than asking about the respondent's own intentions. Mean scores were computed, with higher values reflecting greater endorsement of violent radicalization. Both the original and adapted versions of the ARIS have demonstrated sound psychometric properties in previous research [9, 25, 26]. Internal consistency in the present study was acceptable to strong, with Cronbach's alpha values of 0.858 (Boston), 0.861 (Toronto), and 0.878 (Montréal).

Perceived discrimination

Experiences of everyday discrimination were measured using the nine-item Everyday Discrimination Scale (EDS; [27]), which assesses routine unfair treatment in daily life. Items include experiences such as being treated with less respect than others or being perceived as dishonest. Response options capture frequency of occurrence on a scale ranging from "never" to "almost every day." For analysis, responses were dichotomized to indicate whether each experience had ever occurred. A mean score was then calculated, with higher values representing greater exposure to discrimination. The EDS has been widely validated and shown to demonstrate strong reliability across diverse populations [28, 29]. In the current sample, internal consistency was good, with Cronbach's alpha coefficients of 0.813 (Boston), 0.866 (Toronto), and 0.874 (Montréal).

Mental health indicators

Symptoms of depression and anxiety were assessed using subscales from the Hopkins Symptom Checklist (HSCL; [30]). Depressive symptoms were measured using a 14-item version of the depression subscale; one item assessing sexual interest was omitted from the SYLS for cultural acceptability and was therefore excluded from analyses of the Québec data as well. Anxiety symptoms were captured using the standard 10-item anxiety subscale. Participants were asked to report how much they had experienced each symptom during the previous four weeks, using a four-point response scale ranging from "not at all" to "extremely." Mean scores were calculated separately for depression and anxiety, with higher scores reflecting greater symptom severity. The HSCL has demonstrated strong psychometric performance in immigrant and ethnically diverse samples [31]. In the present study, reliability estimates were good for anxiety (α = 0.828, 0.808, 0.868) and good to excellent for depression (α = 0.872, 0.869, 0.920) across the Boston, Toronto, and Montréal samples, respectively.

Perceived social support

Perceived social support was measured using selected items from the Multidimensional Scale of Perceived Social Support (MSPSS; [32]). Two items each were drawn from the family and friends subscales, resulting in a four-item measure. Respondents rated their agreement with each statement on a seven-point Likert scale ranging from "strongly disagree" to "strongly agree." An example item is: *"My family really tries to help me."* Responses were averaged to produce a composite score, with higher values indicating greater perceived support from family and friends. The MSPSS has demonstrated strong reliability and validity across multiple populations [10].

Procedures

Boston and Toronto

All study activities adhered to ethical principles outlined in the Declaration of Helsinki and its subsequent revisions. Ethical approval for the Somali Youth Longitudinal Study (SYLS) was obtained from the Institutional Review Board of Boston Children's Hospital as well as the Research Ethics Board at Carleton University. Written informed consent was secured from all participants prior to data collection. Interviews were conducted in English and administered orally by trained, non-Somali research personnel, while consent procedures were facilitated by Somali members of the research team to ensure cultural appropriateness. Participants received financial compensation in the amount of $60 in recognition of their time and contribution.

Montréal

Ethical clearance for the Montréal component was granted by the Ethics Committee of the Centre intégré universitaire de santé et de services sociaux du Centre-Ouest-de-l'Île-de-Montréal (CIUSSS–CODIM), in addition to approvals obtained from the research ethics boards of each participating college. The survey questionnaire was hosted on a secure institutional online platform used by colleges to communicate with students and remained accessible for approximately one month. Participants were given the option to complete the questionnaire in either French or English. The study was presented as research examining young adults'

adaptation to the contemporary social environment in Québec. Participation was entirely voluntary, confidentiality was emphasized, and informed consent was obtained electronically on the survey's opening page. Respondents were free to withdraw at any point without penalty. Contact details for both the research team and the relevant ethics committees were provided to address questions or concerns related to participation.

Data analysis

Descriptive statistical analyses were conducted as an initial step. Participant demographic characteristics and mean values for the study variables are presented by study site in **Table 1**.

Table 1. Demographic information of study participants by location.

Characteristic	Total (N = 791) N (%) or mean ± SD (Range)^a	Montréal (n = 593) N (%) or mean ± SD (Range)^a	Toronto (n = 95) N (%) or mean ± SD (Range)^a	Boston (n = 103) N (%) or mean ± SD (Range)^a
Gender				
Male	297 (37.6)	181 (30.6)	60 (63.2)	56 (54.4)
Female	492 (62.4)	410 (69.4)	35 (36.8)	47 (45.6)
Age				
18	12 (1.5)	0 (0.0)	0 (0.0)	10 (9.7)
19–21	503 (63.6)	399 (67.6)	2 (2.1)	40 (38.8)
22–24	157 (19.8)	105 (17.8)	64 (67.4)	27 (26.2)
25–27	74 (9.4)	53 (9.0)	25 (26.3)	17 (16.5)
28–30	39 (4.9)	33 (5.6)	4 (4.2)	6 (5.8)
31+	3 (0.4)	0 (0.0)	0 (0.0)	3 (2.9)
Immigration/generation status				
Non-immigrant	360 (46.1)	360 (60.7)	0 (0.0)	0 (0.0)
1st or 2nd generation	421 (53.9)	223 (37.6)	95 (100)	103 (100)
Region of the world participants (or their parent) were born				
Canada/North America	387 (48.9)	387 (65.3)	0 (0.0)	0 (0.0)
North Africa/Middle East	69 (8.7)	69 (11.6)	0 (0.0)	0 (0.0)
Sub-Saharan Africa	217 (27.4)	19 (3.2)	95 (100)	103 (100)
South America	27 (3.4)	27 (4.6)	0 (0.0)	0 (0.0)
Caribbean	39 (4.9)	39 (6.6)	0 (0.0)	0 (0.0)
Europe	52 (6.6)	52 (8.8)	0 (0.0)	0 (0.0)
HSCL: Anxiety	1.48 ± 0.51 (1–4)	1.58 ± 0.55 (1–4)	1.31 ± 0.38 (1–2.70)	1.24 ± 0.34 (1–2.80)
HSCL: Depression	1.56 ± 0.59 (1–4)	1.74 ± 0.64 (1–4)	1.38 ± 0.41 (1–3.38)	1.29 ± 0.36 (1–2.71)
MSPSS: Social support	5.51 ± 1.29 (1–7)	5.28 ± 1.33 (1.25–7)	6.10 ± 0.95 (2.25–7)	5.86 ± 1.18 (1–7)
EDD: Discrimination	0.45 ± 0.35 (0–1)	0.37 ± 0.34 (0–1)	0.72 ± 0.27 (0–1)	0.60 ± 0.29 (0–1)
RIS: Radical intentions	2.76 ± 1.63 (1–7)	2.60 ± 1.51 (1–7)	3.23 ± 1.90 (1–7)	2.94 ± 1.71 (1–6.40)

Note. EDD, everyday discrimination scale; HSCL, hopkins symptoms checklist; MSPSS, multidimensional scale of perceived family and friend social support; RIS, radicalism intention scale. Data from Wave 2 of the Somali Youth Longitudinal Study (Boston, USA and Toronto, Canada; 2014–2015) and from a multi-site college study (Quebec, Canada; 2016–2017).

[a]Column displays frequencies and percentages for categorical variables and mean/SDs and range for continuous variables.

Multiple regression analysis

Analyses were conducted using multiple linear regression models with several predictors entered simultaneously. Estimation was carried out using maximum likelihood procedures with robust standard errors to account for departures from normality. The proportion of missing data across variables ranged from 10.7% to 29.8%. Analyses were restricted to complete cases using listwise deletion.

To assess whether excluding incomplete observations introduced bias, descriptive statistics derived from the full dataset were compared with those calculated from the complete-case sample. Mean values and standard deviations were nearly identical across the two datasets, indicating negligible distortion attributable to casewise

deletion. Specifically, comparisons showed minimal differences for anxiety (M_full = 1.4773 vs. M_listwise = 1.4753), depression (1.5951 vs. 1.5883), radicalism (2.7608 vs. 2.7778), perceived social support (5.5086 vs. 5.5896), and discrimination (0.4510 vs. 0.4645). On this basis, listwise deletion was deemed appropriate for the primary analyses.

Because the regression model was fully saturated, overall model fit indices were not interpreted. Instead, statistical inference focused on the individual regression coefficients, each evaluated while controlling for all other predictors in the model. Statistical significance was assessed using two-sided tests with an alpha level of .05, consistent with the power considerations described below. Group differences in regression coefficients were examined using Wald tests by imposing equality constraints across pairs of groups. All analyses were conducted using Mplus version 8.5.

Power analysis

Statistical power for the regression analyses was evaluated assuming six predictors and a continuous outcome variable. Using a medium-sized multiple correlation (R = .15), an alpha level of .05, and a two-tailed test, a minimum sample size of 97 complete cases was estimated to provide 80% power [33]. Additional power assessment was conducted through Monte Carlo simulation to evaluate the detectability of standardized regression coefficients of 0.30, representing medium effect sizes [33]. Simulations were based on 1,000 replications with a sample size of n = 94, corresponding to the smallest analytic subgroup. Results indicated that coefficients of this magnitude were detected with approximately 81.3% power, and that parameter coverage averaged 94.8% across replications. These findings suggest that the study was sufficiently powered to detect effects of moderate size in the regression analyses.

Results and Discussion

Table 2 displays zero-order correlations among all study variables by geographic location. Across sites, anxiety and depression were strongly and consistently correlated, with coefficients ranging from .710 to .797. Perceived discrimination was moderately and positively associated with both anxiety and depression in all locations, with correlation coefficients ranging from .235 to .351. Age showed a stable inverse association with radicalism across sites, with correlations ranging from −.162 to −.294.

Other associations differed by location. In Montréal and Toronto, higher levels of social support were associated with lower levels of perceived discrimination (r values ranging from −.178 to −.187), whereas this relationship was not statistically significant in the Boston sample. Similarly, social support demonstrated inverse associations with anxiety and depression in Montréal and Toronto (r values ranging from −.182 to −.381), while in Boston only the association with depression reached statistical significance.

Table 2. Intercorrelations between measured variables by location.

Location	Variable	Sex	Age	Anxiety	Depression	Social Support	Discrimination	Radicalism
Montréal	Sex	1						
	Age	0.051	1					
	Anxiety	0.162**	0.033	1				
	Depression	0.178**	0.001	0.710**	1			
	Social Support	−0.079	0.001	−0.182**	−0.327**	1		
	Discrimination	0.031	0.043	0.263**	0.344**	−0.178**	1	
	Radicalism	−0.246**	−0.162**	−0.008	0.078	0.010	0.002	1
Toronto	Sex	1						
	Age	−0.016	1					
	Anxiety	0.331**	−0.219**	1				
	Depression	0.342**	−0.178	0.797**	1			
	Social Support	−0.079	−0.029	−0.363**	−0.381**	1		
	Discrimination	−0.072	−0.095	0.266**	0.235*	−0.187	1	
	Radicalism	0.103	−0.208*	0.154	0.137	−0.282*	0.212*	1
Boston	Sex	1						

Age	−0.115	1					
Anxiety	0.016	−0.073	1				
Depression	0.036	0.099	0.774**	1			
Social Support	−0.019	−0.257**	−0.091	−0.360**	1		
Discrimination	−0.178	−0.030	0.258**	0.351**	−0.123	1	
Radicalism	−0.163	−0.294**	0.147	0.065	0.187	0.087	1

Note. *$p < 0.05$; **$p < 0.01$. Data from Wave 2 of the Somali Youth Longitudinal Study (Boston, USA and Toronto, Canada; 2014–2015) and from a multi-site college study (Quebec, Canada; 2016–2017).

Prediction of violent radicalization using radical intention scores from personal characteristics

Figure 1 summarizes the regression results based on the pooled sample that combined participants from all study sites. The analysis indicated that three predictors—gender, age, and perceived discrimination—were significantly associated with Radical Intentions Scale (RIS) scores. Specifically, women reported significantly lower levels of support for violent radicalization than men (b = −0.195, p < .05), and increasing age was linked to lower RIS scores (b = −0.204, p < .05). In contrast, greater exposure to discrimination was associated with higher levels of radical intention (b = 0.099, p < .05). Collectively, the set of predictors accounted for approximately 6% of the variance in radicalism scores, a proportion that was statistically different from zero. According to conventional benchmarks for explained variance in multiple regression (small = .01, medium = .06, large = .14; [33]), this corresponds to a medium-sized overall effect.

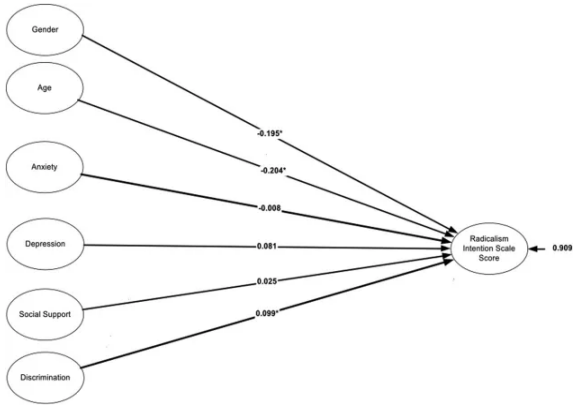

Figure 1. Regression-based estimates of factors associated with support for violent radicalization in the combined sample.

Analyses draw on Wave 2 data from the Somali Youth Longitudinal Study conducted in Boston (USA) and Toronto (Canada) during 2014–2015, together with data from a multi-campus college survey conducted in Québec (Canada) in 2016–2017.

Location-specific effects in the prediction of violent radicalization

Table 3 summarizes results from regression models that tested whether associations between individual characteristics and support for violent radicalization differed across geographic settings. Location was specified as a grouping variable, allowing direct comparison of regression slopes across Montréal, Toronto, and Boston **(Figure 2).**

Gender differences varied significantly by site. Compared with Toronto, identifying as female was associated with lower predicted radicalism scores in both Montréal (Δβ = −0.39, p < .05) and Boston (Δβ = −0.35, p < .05). In contrast, age did not exhibit differential effects across cities; its inverse association with radicalism was comparable in all three locations.

No interaction effects involving anxiety were detected, as anxiety was not significantly related to radicalism in any of the sites. Depression, however, displayed a context-dependent pattern. Elevated depressive symptoms were linked to higher radicalism scores among participants in Montréal only, whereas corresponding associations in Toronto and Boston were non-significant.

Patterns for social support also differed by location. Greater perceived support was associated with lower radicalism scores exclusively among respondents in Toronto (b = −0.28). In Montréal and Boston, the slopes for social support did not differ from zero.

Finally, discrimination emerged as a context-sensitive predictor. Its association with radicalism was significantly stronger in Toronto than in either Montréal or Boston, indicating that higher levels of perceived discrimination were uniquely related to greater support for violent radicalization in the Toronto sample. No additional moderation effects reached statistical significance.

Table 3. Comparison between regression coefficients across locations using the wald test.

Predictor	Montréal (β)	Toronto (β)	Boston (β)	Group Comparison	Wald χ^2	p-value
Gender	−0.259*	0.126	−0.228*	Montréal vs. Toronto	9.559	0.002*
				Montréal vs. Boston	0.081	0.776
				Toronto vs. Boston	6.347	0.012*
Age	−0.156*	−0.219*	−0.290*	Montréal vs. Toronto	1.773	0.183
				Montréal vs. Boston	1.052	0.305
				Toronto vs. Boston	0.803	0.370
Anxiety	−0.058	−0.027	0.099	Montréal vs. Toronto	0.002	0.963
				Montréal vs. Boston	0.609	0.435
				Toronto vs. Boston	0.332	0.564
Depressive symptoms	0.175*	−0.067	0.069	Montréal vs. Toronto	0.822	0.365
				Montréal vs. Boston	0.001	0.987
				Toronto vs. Boston	0.384	0.535
Perceived social support	0.037	−0.280*	0.162	Montréal vs. Toronto	10.280	0.001*
				Montréal vs. Boston	2.634	0.105
				Toronto vs. Boston	11.863	0.001*
Perceived discrimination	−0.004	0.175*	0.002	Montréal vs. Toronto	3.521	0.061
				Montréal vs. Boston	0.014	0.906
				Toronto vs. Boston	2.068	0.150

Note. Wald tests contrast regression coefficients between locations. For example, the effects of gender were significantly different between Montréal and Toronto ($b_{Montréal}$ = -0.259, $p < 0.05$; $b_{Toronto}$ = 0.126, p = n.s.) as pointed out by the significant Wald statistics (Wald = 9.559, $p < 0.05$). Data from Wave 2 of the Somali Youth Longitudinal Study (Boston, USA and Toronto, Canada; 2014–2015) and from a multi-site college study (Quebec, Canada; 2016–2017).

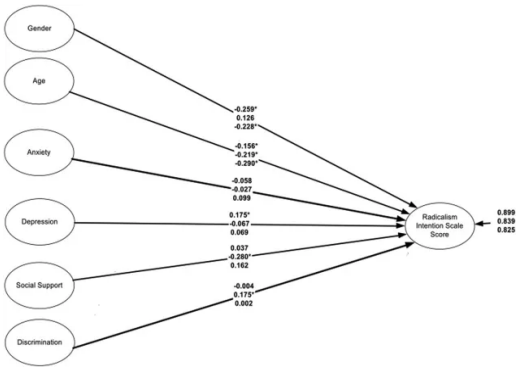

Figure 2. Standardized regression estimates predicting support for violent radicalization by study site

Our results demonstrated that HCWs' risk perception and negative emotional responses varied according to gender, professional role, location, and Coefficients are standardized and presented in the following order: Montréal (first), Toronto (second), and Boston (third). Data derive from Wave 2 of the Somali Youth Longitudinal Study conducted in Boston (USA) and Toronto (Canada) between 2014 and 2015, as well as from a multi-campus college survey carried out in Québec, Canada, in 2016–2017.

The present findings underscore the importance of accounting for local context when examining factors associated with support for violent radicalization (VR). When participants from all three cities were analyzed together, discrimination, age, and gender emerged as significant correlates of radicalism. However, disaggregated analyses revealed that the relative influence of specific risk and protective factors differed substantially across Montréal, Toronto, and Boston, suggesting that pathways to radical attitudes are shaped by local social and cultural environments.

In Montréal, depressive symptoms emerged as the primary predictor of support for VR within a sample composed largely of majority-group youth. This pattern may reflect broader feelings of uncertainty, vulnerability, and pessimism reported among young people in the city [34], along with a diminished sense of future opportunity [35]. From this perspective, endorsement of violence-related attitudes may represent a symbolic or psychological response to existential insecurity rather than a direct political stance. Such responses may reflect evolving "idioms of distress," whereby despair or loss of meaning is expressed through attitudes that legitimize

violence, paralleling earlier generations' use of self-harm or other self-directed behaviors as expressions of suffering [36]. The relatively small proportion of racialized minorities in the Montréal sample may also help explain why perceived discrimination did not emerge as a strong predictor. Additionally, the exclusive focus on college students may capture a population with greater access to social mobility and opportunity, potentially attenuating the salience of discrimination relative to other stressors.

In contrast, the Toronto findings point to discrimination and social support as central correlates of support for VR. Among Somali participants in this city, higher exposure to discriminatory treatment was associated with stronger endorsement of radical attitudes, whereas greater perceived social support appeared to play a protective role. These results highlight how minority group membership within a multicultural setting can simultaneously expose individuals to marginalization while also offering community-based resources that mitigate its effects. Endorsement of violence in this context may represent an outwardly directed response to perceived injustice, reflecting frustration and resistance rather than withdrawal. The absence of gender differences in Toronto may further suggest that shared experiences of marginalization transcend gender boundaries, producing similar attitudinal responses among men and women.

Several methodological and conceptual factors may help explain why patterns differed across locations. One consideration relates to sample composition and design. Although the Toronto and Boston samples were drawn using comparable procedures and included individuals from the same ethnic background, their results diverged, indicating that methodological differences alone are unlikely to account for the observed variation. Instead, the findings point to the influence of broader regional contexts in shaping how psychosocial factors relate to support for VR.

Differences in political climate, public discourse, and dominant narratives surrounding extremism may also play a role. In Toronto, public attention surrounding the so-called "Toronto 18" may have contributed to heightened scrutiny of Somali communities, potentially amplifying experiences of discrimination and shaping how expressions related to radicalism are interpreted or internalized. By contrast, the aftermath of the Boston Marathon bombing was characterized by the "Boston Strong" narrative, which emphasized solidarity and collective resilience. Such a discourse may have fostered a greater sense of social safety, allowing expressions related to radicalism to reflect personal attitudes rather than distress rooted in marginalization. In settings perceived as safer or more supportive, endorsement of radical ideas may therefore be less tightly linked to experiences of discrimination or psychological hardship. Taken together, these findings suggest that support for violent radicalization cannot be understood independently of local sociopolitical climates. Regional histories, media narratives, and dominant cultural frames may shape whether psychological distress, discrimination, or social connectedness emerge as salient predictors. Future research would benefit from incorporating measures that more directly capture contextual stressors, media environments, and perceived safety, as well as longitudinal designs capable of tracing how shifting local conditions influence pathways toward or away from support for violence.

Limitations

Several constraints should be considered when interpreting the findings of this study. First, the cross-sectional design precludes conclusions about directionality or causation among the examined variables. Associations identified here should therefore be understood as correlational rather than causal. Comparisons across study sites are also subject to important caveats, given notable differences in sample composition and size. In particular, the Montréal sample consisted primarily of college students from diverse racial and ethnic backgrounds, whereas the Toronto and Boston samples were composed of young adults of Somali origin. These population differences limit the extent to which direct comparisons can be made across locations.

Methodological inconsistencies across sites further constrain interpretation. Data collection in Montréal relied on an online survey format, which yielded relatively low participation rates and may have introduced selection bias, limiting representativeness of the broader student population. In contrast, data collection for the Somali Youth Longitudinal Study relied on interviewer-administered surveys. Additionally, the version of the Radical Intentions Scale used in SYLS was adapted to enhance cultural acceptability. Although this modified version demonstrated acceptable psychometric properties, differences in item framing may have influenced

response patterns and comparability of scores across samples.

Another limitation concerns measurement scope. The indicator of discrimination focused on interpersonal experiences and did not capture broader structural or institutional forms of racism and inequality. As such, the role of systemic discrimination in shaping support for violent radicalization may be underestimated in the present analyses.

Conclusion

The findings underscore the limited transferability of conclusions about risk and protective factors for support of violent radicalization across different geographic and social contexts. Evidence from the broader violence prevention literature demonstrates that local environments play a critical role in shaping patterns of harm and vulnerability [37]. Similarly, the present results suggest that understanding support for violent radicalization requires attention to contextual factors operating at multiple ecological levels.

Incorporating meso- and macro-level determinants into prevention frameworks has important implications for public health practice. Efforts to prevent radicalization should move beyond individual-level risk profiles to consider how local sociopolitical conditions, institutional practices, and community dynamics shape vulnerability and resilience. Although scholars increasingly advocate for prevention strategies grounded in socio-ecological and resilience-based approaches [15], relatively few empirically evaluated programs currently operationalize these principles. Moreover, existing initiatives have sometimes produced unintended negative consequences, particularly when they single out specific ethnic, racial, or religious communities [38, 39].

Current prevention efforts frequently emphasize strengthening individuals' resistance to extremist messaging, yet often overlook the broader social environments in which such messages gain traction. The present findings suggest that interventions must also address structural inequalities, discrimination, polarized public discourse, and other contextual stressors that may contribute to support for violence. Policies that integrate violence prevention with broader social justice and inclusion agendas—and that empower communities through locally grounded, participatory approaches—may offer a more effective and ethically sound path forward.

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References

1. National Consortium for the Study of Terrorism and Responses to Terrorism. Annex of statistical information: country reports on terrorism in 2014. College Park, MD: National Consortium for the Study of Terrorism and Responses to Terrorism (2015).
2. Institute for Economics and Peace. Global terrorism index 2018: measuring the impact of terrorism. Sydney, Australia: Institute for Economics and Peace (2018).
3. Schmid, AP. Radicalisation, De-radicalisation, counter-radicalisation: a conceptual discussion and literature review. The Hague, The Netherlands: International Centre for Counter-Terrorism (2013).
4. Stinton, C. Combining the aberrant with the ordinary: the role of white supremacy in the far-right radicalisation of women. J Appl Psychol Soc Sci (2019). 5:86–115.
5. Doosje, B, Moghaddam, FM, Kruglanski, AW, de Wolf, A, Mann, L, and Feddes, AR. Terrorism, radicalization and de-radicalization. Curr Opin Psychol (2016). 11:79–84. doi:10.1016/j.copsyc.2016.06.008
6. Eisenman, DP, and Flavahan, L. Canaries in the coal mine: interpersonal violence, gang violence, and violent extremism through a public health prevention lens. Int Rev Psychiatry (2017). 29:341–349. doi:10.1080/ 09540261.2017.1343527
7. UNESCO. Preventing violent extremism through education: a guide for policy- makers. Paris, France: UNESCO (2017).
8. Vergani, M, Iqbal, M, Ilbahar, G, and Barton, G. The three ps of radicalization: push, pull and personal. a systematic scoping review of the scientific evidence about radicalization into violent extremism. Stud Confl Terror (2018). 43. 854. doi:10.1080/1057610X.2018.1505686
9. Frounfelker, RL, Frissen, T, Vanorio, I, Rousseau, C, and d'Haenens, L. Exploring the discrimination-radicalization nexus: empirical evidence from youth

and young adults in Belgium. Int J Public Health (2019). 64:897–908. doi:10.1007/s00038-019-01226-z

10. Rousseau, C, Hassan, G, Miconi, D, and Lecompte, D. From social adversity to sympathy for violent radicalization: the role of depression, religiosity and social support. Arch Public Heal (2019). 77:1–12. doi:10.1186/s13690-019-0372-y
11. Bhui, K, Silva, MJ, Topciu, RA, and Jones, E. Pathways to sympathies for violent protest and terrorism. Br J Psychiatry (2016). 209:483–490. doi:10. 1192/bjp.bp.116.185173
12. Ellis, BH, Abdi, SM, Lazarevic, V, White, MT, Lincoln, AK, Stern, JE, et al. Relation of psychosocial factors to diverse behaviors and attitudes among Somali refugees. Am J Orthopsychiatry (2016). 86:393–408. doi:10.1037/ort0000121
13. Misiak, B, Samochowiec, J, Bhui, K, Schouler-Ocak, M, Demunter, H, Kuey, L, et al. A systematic review on the relationship between mental health, radicalization and mass violence. Eur Psychiatry (2019). 56:51–59. doi:10. 1016/j.eurpsy.2018.11.005
14. Borum, R. Radicalization into violent extremism I: a review of social science theories. J Strat Sec (2011). 4:7–36. doi:10.5038/1944-0472.4.4.1
15. Stephens, W, Sieckelinck, S, and Boutellier, H. Preventing violent extremism: a review of the literature. Stud Confl Terror (2018). 44:346–361. doi:10.1080/ 1057610X.2018.1543144
16. Miconi, D, Calcagnì, A, Mekki-Berrada, A, and Rousseau, C. Are there local differences in support for violent radicalization? a study on college students in the province of Quebec, Canada. Polit Psychol (2020a). doi:10.1111/pops.12718
17. Fahey, S, and Lafree, G. Does country-level social disorganization increase terrorist attacks? Terrorism Polit Vio (2015). 27:81–111. doi:10.1080/ 09546553.2014.972156
18. Miller, J, and Sack, C. The toronto—18 terror case: trial by media? How newspaper opinion framed Canada's biggest terrorism case. Int J Divers Organizations (2010). 10:279–296. doi:10.18848/1447-9532/cgp/v10i01/39808
19. National Academies of Sciences E and M. Exploring the use of health approaches in community-level strategies to countering violent extremism and radicalization A workshop (2017). National Academies. Available From: https://www.nationalacademies.org/our-work/exploring-the-use-of-health- approaches-in-community-level-strategies-to-countering-violent-extremism- and-radicalization-a-workshop. (Accessed September 26, 2020).
20. Marcelo, P. "As trial wraps up, Boston Muslims worry about being stereotyped," in: Northwest Arkansas democr. Nizhny Novgorod, Russia: Gaz (2015).
21. Clauss, KS. Does "Boston strong" mean anything anymore?. in: B Mag. Editor (2016). Available at: https://www.bostonmagazine.com/news/2016/04/17/ boston-strong/. (Accessed Sep 26, 2020).
22. Gray, L. Muslim bashing in the wake of Boston bombing. Natl Geogr News (2013). Available From: https://www.nationalgeographic.com/news/2013/4/130426-boston-marathon-bombing-racism-hate-anti-arab-muslim-tamerlan- dzokhar-tsarnaev/#close (Accessed 22 September, 2013).
23. Pew Research Center. After Boston, little change in views of Islam and violence pew research center (2013). Available From: https://www.pewresearch.org/ politics/2013/05/07/after-boston-little-change-in-views-of-islam-and-violence/ (Accessed September 26, 2020).
24. Birnbaum, S. Anti-muslim backlash missing from marathon bombing aftermath. WGBH news (2014). Available From: https://www.wgbh.org/ news/post/anti-muslim-backlash-missing-marathon-bombing-aftermath (Accessed 26 September, 2014).
25. Moskalenko, S, and McCauley, C. Measuring political mobilization: the distinction between activism and radicalism. Terrorism Polit Violence (2009). 21:239–260. doi:10.1080/09546550902765508
26. Ellis, BH, Abdi, SM, Horgan, J, Miller, AB, Saxe, GN, and Blood, E. Trauma and openness to legal and illegal activism among somali refugees. Terr Polit Vio (2015). 27:857–883. doi:10.1080/09546553.2013.867849
27. Williams, DR, Yan Yu, Y, Jackson, JS, and Anderson, NB. Racial differences in physical and mental health. J Health Psychol (1997). 2:335–351. doi:10.1177/ 135910539700200305
28. Taylor, TR, Kamarck, TW, and Shiffman, S. Validation of the detroit area study discrimination scale in a community sample of older African American adults: the Pittsburgh healthy heart project.

Int J Behav Med (2004). 11:88–94. doi:10.1207/s15327558ijbm1102_4

29. Krieger, N, Smith, K, Naishadham, D, Hartman, C, and Barbeau, EM. Experiences of discrimination: validity and reliability of a self-report measure for population health research on racism and health. Soc Sci Med (2005). 61:1576–1596. doi:10.1016/j.socscimed.2005.03.006
30. Parloff, MB, Kelman, HC, and Frank, JD. Comfort, effectiveness, and self- awareness as criteria of improvement in psychotherapy. Am J Psychiatry (1954). 111:343–352. doi:10.1176/ajp.111.5.343
31. Mollica, R, Cardozo, BL, Osofsky, H, Raphael, B, Ager, A, and Salama, P. Mental health in complex emergencies. Lancet (2004). 364:2058–2067. doi:10. 1016/s0140-6736(04)17519-3
32. Zimet, GD, Dahlem, NW, Zimet, SG, and Farley, GK. The multidimensional scale of perceived social support. J Personal Assess (1988). 52:30–41. doi:10. 1207/s15327752jpa5201_2
33. Cohen, J. A power primer. Psychol Bull (1992). 112:155–159. doi:10.1037/ 0033-2909.112.1.155
34. Institut de la statistique Québec. Enquete québécoise sur la santé des jeunes du secondaire 2016-2017 [Québec survey on youths' health in secondary schools in 2016-2017]. Québec City, Canada: Institut de la statistique Québec (2018).
35. Miconi, D, Oulhote, Y, Hassan, G, and Rousseau, C. Sympathy for violent radicalization among college students in Quebec (Canada): the protective role of a positive future orientation. Psychol Violence (2020b). 10:344–354. doi:10. 1037/vio0000278
36. Steggals, P, Graham, R, and Lawler, S. Self-injury in social context: an emerging sociology. Soc Theor Health (2020). 18:201–210. doi:10.1057/s41285-020-00149-7
37. Azeredo, CM, Rinaldi, AEM, de Moraes, CL, Levy, RB, and Menezes, PR. School bullying: a systematic review of contextual-level risk factors in observational studies. Aggression Violent Behav (2015). 22:65–76. doi:10.1016/j.avb.2015.04.006
38. Brouillette-Alarie, S, Hassan, G, and Ousman, S. The prevention of violent radicalization: evidence-based guidelines to promote efficient interventions conference report copyright notice A conference report produced by the Canadian practitioners network for the prevention of radicalization and extremist violence (CPN-prev). Montreal, Canada: CPN-PREV Systematic Reviews (2019).
39. Stephens, W, and Sieckelinck, S. Being resilient to radicalisation in PVE policy: a critical examination. Crit Stud Terrorism (2020). 13:142–165. doi:10.1080/ 17539153.2019.1658415