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Pathways to sympathies for violent protest and terrorism

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Abstract

Objective: To test the impact of depressive symptoms, adverse life events (LEs) and political engagement on sympathies for violent protest and terrorism (SVPT).

Method: A cross-sectional survey of a representative sample of Pakistani and Bangladeshi men and women from two English cities. Weighted, multivariable, logistic regression yielded population estimates of association (odds ratio and 95% confidence intervals) against a binary outcome of SVPT derived from a three-group solution following cluster analysis.

Results: Depressive symptoms showed a higher risk of SVPT (OR=2.59, 95% CI=1.59-4.23, $p<0.001$), but mediated little of the overall effects of LEs and political engagement, which were associated with a lower risk of SVPT: death of a close friend: OR=0.24, 95% CI=0.07-0.74; donating money to a charity: OR=0.52, 95% CI=0.3-0.9). .

Conclusions: Independent of risks of SVPT related to depressive symptoms, some expressions of social connectedness are associated with a lower risk of SVPT.

INTRODUCTION

In the aftermath of attacks on civilians in Western cities, psychiatrists, psychologists and criminal justice agencies have turned their attention to understanding the role of mental illness in terrorist offending.¹⁻³ An association has been reported between severe mental illness and terrorists who operate independently of others; 30% to 40% of these so called 'lone wolves' appear to show signs of mental illness, isolation and marginalisation, which may make them suggestible and vulnerable to persuasion by terrorist ideology.⁴ Mental illnesses are 13 times more likely to occur in 'lone wolves' than in group-based terrorists, but mostly due to severe mental illnesses like psychoses rather than depression.^{5,4} However, even lone wolves are not always isolated, suggesting there is no uniform profile.⁵ Compared with lone wolves, those who conduct school attacks and assassins are more likely to have signs of depression, despair and suicidal ideas, and a history of violence.⁶

In contrast, terrorist plots and attacks in the UK, France, USA and Canada were, on the whole, organised by people without obvious symptoms of mental illnesses.⁷ The perpetrators were born and educated in the countries that they attacked, and they seemed to be socially integrated. Without evidence of previous criminal activities or adverse life events, they fall into the category of offenders called 'late starters'.⁷

Links with organised terrorist groups are not easily identified, but communications through social media and websites, as well as exposure to extremist ideology, are often revealed during criminal investigations to have contributed to adopting extremist ideology.⁷ Whether hidden or sub-threshold mental illness plays a role in the recruitment of this group of ostensibly ordinary individuals is under-researched,

but radicalisation is the process that is proposed by governments to explain this phenomenon.

The term radicalisation was first used following the Madrid 2004 and London 2005 bombings,⁸ though its definition continues to evolve. The UK PREVENT policy defined radicalisation as the process by which a person comes to support terrorism and forms of extremism leading to terrorism. We adopt a broader definition: a social and psychological process by which ordinary individuals come to sympathize with, and then make a commitment to, terrorist activities.^{9 10} However, all definitions are explicit that radicalisation can exist without violence and extremist behaviour. Indeed, the 2011 revision of PREVENT includes a broadening of what is considered radical, encompassing vocal or active opposition to fundamental British values, democracy, the rule of law, individual liberty, mutual respect, and tolerance of different faiths and beliefs. Despite the evolving shift in preventive frameworks and terminology, there is little empirical research into the process of radicalisation, how this might differ in populations and specific groups, nor about the role of psychological factors or common mental illnesses.

The dominant explanation about radicalisation is that poverty, unemployment, discrimination, political isolation and cultural marginalisation lead to grievances, which in turn foster increased receptivity to political violence as a solution.⁷ Adverse life events and poor civic engagement are associated with depression^{11 12} and poor health,^{13 14} and all are reported to engender extremism,^{7 15-17} suggesting some shared aetiologies for depression and extremism.

Sympathies for violent protest and terrorism (SVPT) are regarded as an early 'pre-radicalisation' phase when individuals are vulnerable to recruitment to terrorist causes. We developed a measure of SVPT as a marker of susceptibility to engagement with extremist groups and actions.¹⁸ We previously found an association between depressive symptoms and SVPT,¹⁸ suggesting that they may drive cognitive biases leading to the adoption of extremist ideology and violence.¹ The lack of hope and pessimism that characterise depression may increase the appeal of potent ideologies that promote agency, empowerment and give purpose and meaning, even if related to criminal actions.^{1 19} Further evidence in support of a potential role for depression comes from a recent meta-analysis that shows a three-fold increase in the risk of violence among those with depression.²⁰ Given the associations that exist between depression, social adversity²¹ and marginalisation,²²²³ we hypothesised that depressive symptoms mediate relationships with SVPT.

METHOD

Sample

The study included 608 people of Pakistani and Bangladeshi family origin, aged between 18 and 45, of Muslim heritage and living in Bradford and East London. Bradford, an industrial town in northeast England, is home to a significant proportion of the Muslim population who live in traditional communities, and relatively isolated areas of deprivation.^{18 19} East London has a substantial and well-established Muslim population living in a region of greater religious and cultural diversity with wider opportunities for employment.

Subjects were recruited by proportional quota sampling. This is a standard method that sets quotas for participants on a range of demographic factors and ensures that

the sample interviewed is representative of the target population. Quota sampling offers an alternative to probability sampling and is often used in market research and national surveys as an efficient sampling strategy.²⁴ Using UK Census 2001 data, quotas were set for each region to reflect the key demographic variables of those living there. Target quotas were set for age (18–30 years and 31–45 years) gender, work status (working full-time, not working full-time) and ethnicity (Pakistani and Bangladeshi). Data were collected from Pakistan and Bangladeshi men and women of Muslim heritage, given the concerns expressed in the media and in counter-terrorism responses focused on South Asians and people of Muslim heritage. In addition, these UK communities experience social adversity and marginalisation, and in our preliminary community discussions endorsed the need for more empirical research to inform preventive actions. Individuals living within a sampling unit were identified by door knocking and offered a computer assisted interview if they gave informed consent. Flash cards were used to simplify the process of answering questions with choices.

Data collection was undertaken by Ipsos MORI Social Research Institute. All questions were refined following eight pilot interviews to check wording, sensitivity, and questioning styles. Interviewers from Ipsos MORI were recruited from the local population, and had significant experience of research into sensitive topics including religion and terrorism. Questions were asked in a computer-assisted format with prompts and cues so that sensitive questions could be answered anonymously, out of sight of the interviewer. Piloting and the main study itself found that language or religious matching were not requested or necessary, though available. Informed consent was recorded by checking an appropriate box before proceeding with the

survey. Ethical approval was received from Queen Mary University of London Research Ethics Committee.

Measuring Sympathies for Violent Protest and Terrorism (SVPT)

The 16-item measure designed to assess early signs of radicalisation asked about support for, or condemnation of, acts of protest characterised by differing levels of violence and extremist behaviour.¹⁸ Sympathies are regarded as an early phase of vulnerability to radicalisation.¹⁰ The wording and items were developed through participatory discussions.¹⁷ We consulted Muslim and non-Muslim researchers and members of local community panels (consisting of local charities and mental health and educational organizations and religious institutions) about how to measure radicalisation.¹⁸ The 16 core questions identified for inclusion had been proposed by and then reviewed by the community panel, and tested in pilot interviews.¹⁸ The questions were specifically aimed at being inclusive, rather than focus on specific religious, cultural or ethnic groups as respondents. The responses were in the form of a 7-item Likert scale, ranging from -3 (completely condemn) to +3 (completely sympathize). For all but two items a higher score indicated greater support for violent protest and terrorism. These two items, which asked about sympathies for, or condemnation of the UK government's decision to send British troops to Afghanistan and Iraq, were reverse-scored as condemnation might reflect a more radicalised perspective. The 16-item scale was found to be highly reliable, with a Cronbach's $\alpha=.81$.

A cluster analysis of the 16-item measure of SVPT produced a three-group solution: a group that was least sympathetic (group 1, n=93), a large intermediary group

(group 2, n=423) and most sympathetic (group 3, n=92). The methods for generating clusters are already published;¹⁹ a specific method of *cluster analysis, a classification likelihood method*, was applied to the sixteen items.^{25 26} The Bayesian Information Criterion was used to determine the number of clusters. The clustering was carried out on the principal component scores from a principal components analysis of the original 16 item scores. The clustering was carried out using different numbers of principal component scores and the most stable solution found was the one with the three groups.

Depressive symptoms were associated with membership of group 3 (the most sympathetic) when compared with groups 1 and 2 combined or group 2 alone.

However, depressive symptoms were not associated with membership of group 1, when compared with group 2 or, when compared with groups 2 and 3 combined.

Therefore, in this paper we aggregated groups one and two to form the reference group, and compared them with group three that includes individuals who show the most SVPT.

Employment and Education

Employment status was grouped into a three level variable: employed (full time, part time, or self-employed), unemployed, and an aggregated group who reported as retired, unwell, or a housewife. Educational status included those having no qualifications versus any qualifications below degree level (GCES/O-level/CSE, vocational qualifications such as NVQ1+2, A-level or equivalent such as NVQ3), and those having a degree (bachelor, master or doctorate).

Live Events (LEs)

The measure of adverse life events included injury, bereavement, separations, loss of job, financial crisis, problems with the police or courts, theft and major stressful events in the preceding 12 months.²⁷ For each adverse life event, a binary variable (Yes/No) was derived.

Political Engagement (PE)

The questions to assess political engagement were drawn from the UK Department of Communities and Local Government Citizenship Survey.²⁸ These questions addressed voting in local council elections, political discussions, signing a petition, donations to a charity or campaigning organisation, payment of membership fees to a charity or campaigning organisation, voluntary work, a boycott for political, ethical, environmental or religious reasons, political views expressed online, attendance at a political meeting, donations to or membership of a political party, and participation in a demonstration or march.²⁸ For each specific item of political engagement, a binary variable (Yes/No) was derived.

Depressive Symptoms

Depressive symptoms were measured by the Patient Health Questionnaire (PHQ-9), a screening measure commonly used in primary care and specialist mental health services, with well-established validated thresholds for indicating risks of clinical depression.²⁹ For the analysis, the total PHQ-9 score was classified into the following categories: PHQ score <5 and PHQ score ≥5, where the latter indicates 'probable clinical depression' (or PCD).

Statistical Analysis

A binary measure of sympathies for violent protest and terrorism was used in univariable and multivariable logistic regression models weighted for the sampling strategy and for non-response, thus yielding estimates attributable to the population from which the sample was drawn.

1. All socio-demographic, life-event and political-engagement variables were assessed for associations with the binary outcome of SVPT and PCD. This information was used to undertake two further analyses.
2. All variables significantly associated with the binary SVPT in the univariable analyses were included in the multivariable logistic regression models with one model for each life event and for each action of political engagement. These models were adjusted for age, gender, employment status, education level and depression.
3. If specific life events and political engagement actions were significantly associated with both depressive symptoms and with SVPT, mediation models were employed to assess to what extent depressive symptoms explained the associations of LE and political engagement with SVPT.³⁰ Where conditions of mediation analyses were met, we estimated what proportion of the direct relationship was explained by the indirect relationship through depressive symptoms.

The cluster analysis was implemented using the *mclust* package in R. All other analyses were performed in Stata 14. Statistical significance was considered at $p < 0.05$.

RESULTS

Demographic, health and social characteristics

Tables 1 and 2 show the distribution of demographic, social and health characteristics. The sample is primarily composed of 26 to 35-year olds, most of whom are employed and educated at a degree level; 61% of this sample have a personal income between £5,000 and £24,999. Ten per cent of the sample had experienced the death of a close friend or relative, and encountered a serious problem with a close friend, neighbour or relative; 62% of the sample voted in the last local council election, 41% donate money to charity and 19% undertake voluntary work. Only 1.4% reported a problem with the police or courts and 6% were searching for a job for over a year. A fifth (22%) reported a PHQ-9 score indicating PCD.

Univariable analyses

Table 3 shows that, contrary to expectation, those who had experienced the death of a close friend, a serious problem with a close friend, neighbour or relative or another major event were less likely to have SVPT. People who had problems with the police or made a court appearance were more likely to report SVPT. As predicted, people who voted in the last election, signed a petition, donated money to charity, provided

voluntary work or boycotted products for religious reasons were less likely to report SVPT.

Multivariable analyses

Figure 1 shows the relationship between SVPT, specific life events and acts of political engagement, with one model for each of the items. On the whole the effects of life events and political engagement on SVPT were independent of PCD. Adjusted analyses (Figure 1) suggest that death of a close friend (OR=0.24, 95% CI=0.07-0.74, $p=0.014$), signing a petition (OR=0.32, 95% CI=0.15-0.66, $p=0.002$), donating money to a charity (OR=0.52, 95% CI=0.3-0.9, $p=0.018$), voluntary work (OR=0.31, 95% CI=0.14-0.66, $p=0.003$), and boycotting religious products (OR=0.04, 95% CI=0-0.78, $p=0.033$) are associated with a lower risk of SVPT. Another variable, major life events (not specifically defined by the questionnaire), falls just short of a significantly lower risk (OR=0.01, 95% CI=0-1.05, $p=0.053$), whilst contact with the police and courts falls just short of a significantly higher risk of SVPT (OR=6.49, 95% CI=0.96-43.85, $p=0.055$).

The aggregation of cluster-groups in the analysis was driven by the association of a higher risk of depressive symptoms in group 3 compared with groups 1 and 2 combined. However, in order to aid interpretation of the findings, univariable analyses of LE and PE items by specific cluster groups were also undertaken. These compared group 1 (condemning) with group 2 (intermediate as reference) and group 3 (sympathetic). Boycotting religious products, signing a petition, and voluntary work were associated with (lower risk) membership of group 3 compared with groups 2 as the reference, but these items were also associated with a lower risk of membership

of group 1 compared with group 2, suggesting that those who expressed most sympathies and most condemnation had lower levels of political engagement. In contrast, voting in the last council elections, donating money to a charity, and all the LE items were not associated with membership of group 1 compared with group 2, but showed an association (lower risk) with membership of group 3 compared with 2.

Mediation analyses

Three items were potential mediators, showing significant associations with both PCD and SVPT (Table 3): death of a close friend or relative, another major life event, and signing a petition. Expressing a problem with the police or criminal justice agencies was strongly associated with sympathies for violent protest and terrorism, but less so with probable clinical depression. As a result, the effects were unlikely to be mediated by depression and this possible association was not considered further. In the absence of depression, experiencing the death of a close friend or relative, another major life event, and having signed a petition are all associated with a lower direct risk of SVPT. Yet, when accompanied by symptoms of depression, there is a higher risk because of an indirect effect of depressive symptoms, though this still accounts for a very small proportion of the overall lower risk associated with life events and political engagement (Figure 2).

DISCUSSION

Pathways to SVPT

Specific life events appear to be strongly associated with a lower risk of SVPT, whilst the effects are mostly independent of depression. Only contact with police or the courts carried a higher risk of SVPT, perhaps explained by past criminality or a

heightened sense of injustice, leading to grievance and support for extremism. Yet, relatively few subjects reported involvement with the police and courts and the variable was not strongly associated with PCD. Political engagement was also associated with a lower risk of SVPT, which is encouraging given the current UK emphasis on policies to promote political literacy and civic participation. Some caution is needed to not use LE and PE as markers of SVPT, as some types of PE (boycotting religious products, signing a petition and voluntary work) do not distinguish those at high and low risk of SVPT.

An association between adverse life events and depression is well established, invoking feelings of entrapment or humiliation,^{21 31 32} underpinned by biological mechanisms of heightened amygdala activity and altered brain connectivity.^{33 34} We found depressive symptoms are associated with SVPT. However, the finding that life events appear to reduce the risk of SVPT is surprising as adversity and inequality are often proposed to explain extreme beliefs and violent behaviour.⁷ It is possible that losing a friend or relative might teach about the value of life and what it means to others to suffer a bereavement or loss, thereby deterring SVPT. Alternatively, adverse life events may cause people to draw on pre-existing social networks as a means of emotional support, creating opportunities to resolve disaffection and isolation. Yet, post-hoc adjustments to the regression models for social support and the proportion of people from the same ethnic group, made no difference to the estimates. This suggests social support does not explain the effect, although there may be residual unmeasured or unknown influences.

Depression and violence

A recent systematic review suggested that depression predisposes subjects to later conviction.²⁰ Depression is also associated with impulsivity and suicidal behaviour, and these in turn are associated with risk of violence more generally.^{35 36} In a previous paper, we found that the effect of depressive symptoms on SVPT is sustained when the analysis is re-run without the suicide item from the PHQ.¹⁹ This suggests that the association between SVPT and depressive symptoms is not due to suicidal thinking.

Alternatively, depressive symptoms may serve as a proxy for a number of other social concerns and psychiatric disorders.^{32 37} Further research into these possibilities is needed. Preventing depressive responses to adverse life events and poor political engagement (or poor civic participation) may marginally reduce the risk of SVPT, but our findings suggest that promoting political engagement and social connectedness are more likely to have a larger impact.

Criminal justice system contact

The association between problems with the police or courts and SVPT suggests a sub-sample who have offended or come to the attention of law enforcement agencies. Violent offending linked with early exposure to adversity, such as material disadvantage and harsh or absent parenting in childhood, produces so-called 'early starters' who use substances, join gangs and offend.^{38 39} However, such influences have not been reported among the families of the recent perpetrators of terrorist attacks in EU and North America, where young men and women involved in terrorist actions appear to fall into the group called 'late starters'; that is they are relatively

high functioning and offend after having encountered political ideologies, developed grievances, or, less frequently, become violent because of developing mental illness.

Strengths and limitations

SVPT do not measure actual violence or terrorist offending but their importance lies in the finding that such sympathies can create or accentuate vulnerability to persuasion and the adoption of the narratives of extremist groups.¹⁰ In recognition of the importance of cognitive rather than behavioural violence,⁹ recent definitions of radicalisation include attitudes and opposition to democracy, British values, and respect for the law and liberty. Studies of terrorist offending and the emergence of more extreme beliefs are important, but ethically challenging given the dilemma and risks of observing behaviour of increasing severity. Furthermore, levels of support for terrorism fluctuate influenced by high-profile events and selection bias in sampling. For example, after the Charlie Hebdo attacks in France, 27% of a sample of British Muslims endorsed an item showing sympathy for the motives behind the attacks.⁴⁰

There are other reasons for trying to reduce SVPT. Sympathisers may serve as a pool for sustaining infectious ideas that, even if in the minority, polarise whole populations.^{41 42} Radical ideas may be transformed into a practical threat if those who are sympathetic offer resources to terrorist groups.⁴² A reduction in the population prevalence of SVPT may be effected by encouraging political engagement and social inclusion to shift public opinion, so reducing the extent and severity of extremist ideas in the population. Achieving this in young people and public institutions accords with the Counter-terrorism Act in the UK that mandates safeguarding duties for all citizens. Whilst this study suggests that depression may

be a key pathway; more needs to be discovered about specific mechanisms of developing extremist ideas, preferably using longitudinal designs. Although cross-sectional data is not ideal for studying partial mediation,⁴³ the bias serves to overestimate apparent effects. Our study found little support for mediation, and as longitudinal studies would reveal more conservative or no effect, these would be consistent with our findings. Given the global importance of terrorism and the relative lack of research into the process of radicalisation, further studies are needed of other populations, and replication of the existing methods in different country contexts.

Alternative sampling strategies, for example, probability sampling may be useful although these would be expensive as many more people will enter the preliminary consent and screening procedure to assess suitability for entry into the study, and for a sensitive topic this may not be necessary and would raise ethical questions if the same research questions can be answered using quota samples.

We found problems with the police or courts were uncommon as would be expected in a population survey, but these problems were associated with SVPT. We did not assess personality disorders, which may be important correlates of offending behaviour, especially anti-social personality disorder. However, the notion of measuring personality across cultures is contested and diagnostic thresholds may differ across cultural groups.^{44 45} Future research will need to grapple with these methodological dilemmas.

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design, data collection and analysis, decision to publish, or preparation of the manuscript.

Competing Interests: The data collection was commissioned from Ipsos MORI. KB and EJ are trustees of Careif. KB is Director of MSc Psychological Therapies, MSc Transcultural Mental Healthcare, and co-Director of MSc Mental Health and Law. EJ is Course Director of MSc War and Psychiatry. There are no patents, products in development or marketed products to declare.

KB is Editor of BJPsych and was not involved in any editorial decisions about this manuscript.

Ethics: Queen Mary Research Ethics Committee.

Table 1 Demographic characteristics by Sympathies for Violent Protest and Terrorism (weighted)

Characteristic	Groups 1 and 2	Group 3	All
	% (N=516)	% (N=92)	% (N=608)
Age groups¹			
18-25	23.68	35.29	25.98
26-35	52.14	35.82	48.91
36-45	24.18	28.89	25.11
Gender			
Male	55.79	49.03	54.45
Female	44.21	50.97	45.55
Ethnicity			
Pakistani	45.63	50.78	46.65
Bangladeshi	54.37	49.22	53.35
Employment			
Employed	50.45	49.48	50.26
Unemployed	19.98	24.94	20.97
Retired/ill/housewife	29.57	25.57	28.78
Education			
No qualifications	19.13	21.63	19.62
< Bachelor degree	49.24	55.31	50.43
Bachelor, Master, PhD	31.63	23.06	29.95
Income²			
<£5,000	23.12	15.01	21.86
£5,000-£24,999	60.96	58.05	60.51
£25,000-£49,999	9.45	19.91	11.07
>£50,000	6.48	7.03	6.56
¹ N=599; ² N=412.			

Table 2 Social and health characteristics by Sympathies for Violent Protest and Terrorism (weighted)

	Groups 1 and 2	Group 3	All
	% (N=516)	% (N=92)	% (N=608)
Life Events			
Serious illness, injury or assault to a relative	4.89	1.10	4.14
Death of a partner, spouse, parent or child	3.25	0.42	2.69
Death of a close friend or relative	11.65	3.64	10.07
Separation due to marital differences	0.86	0.00	0.69
The end of a regular and steady relationship	4.69	2.66	4.29
A serious problem with a close friend, neighbour or relative	11.81	4.88	10.44
Unemployment or seeking work unsuccessfully for 1 month or more	5.77	8.51	6.32
Lost a job (fired, asked to leave)	3.68	1.05	3.16
Major financial crisis	5.03	6.38	5.30
Problem with the police or a court appearance	0.81	3.81	1.41
Something valuable to you was lost or stolen	4.81	0.02	3.86
Another major event that you found stressful not listed above	7.08	0.88	5.85
Political engagement			
Voted in the last local council election	64.92	49.48	61.86
Discussed politics or political news with someone else	24.98	19.34	23.86
Signed a petition	25.69	13.79	23.33
Donated money to a charity or campaigning organization	45.56	21.97	40.89
Paid a membership fee to a charity or campaigning organization	6.06	2.73	5.40
Done voluntary work	21.30	8.66	18.80
Boycotted certain products for political, ethical or environmental reasons	4.84	2.07	4.29
Boycotted certain products for religious reasons	8.95	0.40	7.26
Expressed my political opinions online	3.41	3.98	3.52
Been to any political meeting	2.05	0.13	1.67
Donated money or paid a membership fee to a political party	3.46	3.12	3.39
Take part in a demonstration, picket or march	4.00	0.71	3.35
Depression¹			
PHQ score <5	80.93	62.09	77.57
PHQ score ≥5	19.07	37.91	22.43
¹ N=527			

Table 3 Simple regression models: association between SVPT and depression with demographic, social and health variables (weighted)

	Sympathies for Violent Protest and Terrorism			Probable Clinical Depression		
	OR	95% CI	p	OR	95% CI	p
Age groups (18-25 - Ref)						
26-35	0.46	0.28-0.75	0.002	1.50	0.86-2.64	0.157
36-45	0.80	0.48-1.35	0.407	1.87	1.02-3.44	0.042
Gender (Male - Ref)						
Female	1.31	0.88-1.96	0.183	2.98	1.92-4.61	<0.001
Ethnicity (Pakistani - Ref)						
Bangladeshi	0.81	0.55-1.21	0.311	1.29	0.85-1.97	0.238
Employment (Employee - Ref)						
Unemployed	1.27	0.77-2.09	0.342	1.20	0.69-2.09	0.512
Retired/ill/housewife	0.88	0.54-1.43	0.608	1.67	1.04-2.69	0.033
Education (No qualifications- Ref)						
< Bachelor degree	0.99	0.59-1.67	0.981	1.97	1.10-0.49	0.023
Bachelor- Master, PhD	0.65	0.35-1.17	0.151	0.94	0.49-1.83	0.860
Income (<£5000 - Ref)						
£5000-£24999	1.47	0.67-3.20	0.336	0.80	0.42-1.53	0.493
£25000-£49999	3.25	1.24-8.49	0.016	1.75	0.74-4.12	0.201
>£50000	1.67	0.48-5.85	0.422	0.38	0.08-1.75	0.216
Life Events (No - Ref)						
Serious illness, injury or assault to a relative	0.22	0.04-1.26	0.089	1.00	0.38-2.64	0.999
Death of a partner, spouse, parent or child	0.12	0.01-2.08	0.147	13.15	3.83-45.17	<0.001
<u>Death of a close friend or relative*</u>	<u>0.29</u>	<u>0.11-0.77</u>	<u>0.014</u>	<u>2.16</u>	<u>1.18-3.94</u>	<u>0.012</u>
Separation due to marital differences	-	-	-	0.39	0.01-14.89	0.611
The end of a regular and steady relationship	0.56	0.17-1.82	0.332	0.64	0.16-2.58	0.532
A serious problem with a close friend, neighbour or relative	0.38	0.16-0.92	0.031	1.39	0.73-2.65	0.311
Unemployment or seeking work unsuccessfully for 1 month or more	1.52	0.72-3.20	0.271	1.07	0.45-2.54	0.876
Lost a job (fired, asked to leave)	0.28	0.05-1.71	0.167	4.69	1.70-12.95	0.003
Major financial crisis	1.29	0.56-2.97	0.555	2.68	1.12-6.44	0.027
Problem with the police or a court appearance	4.84	1.24-18.86	0.023	5.15	0.81-32.91	0.084
Something valuable to you was lost or stolen	-	-	-	1.79	0.72-4.46	0.209
<u>Another major event that you found stressful not listed above*</u>	<u>0.12</u>	<u>0.02-0.81</u>	<u>0.030</u>	<u>4.72</u>	<u>2.00-11.12</u>	<u><0.001</u>
Political engagement (No - Ref)						
Voted in the last local council election	0.53	0.35-0.79	0.002	1.11	0.72-1.72	0.625
Discussed politics or political news with someone else	0.72	0.44-1.18	0.195	0.52	0.31-0.89	0.016
<u>Signed a petition*</u>	<u>0.46</u>	<u>0.27-0.81</u>	<u>0.007</u>	<u>1.59</u>	<u>1.00-2.52</u>	<u>0.048</u>
Donated money to a charity or campaigning organization	0.34	0.21-0.54	<0.001	0.67	0.44-1.04	0.076

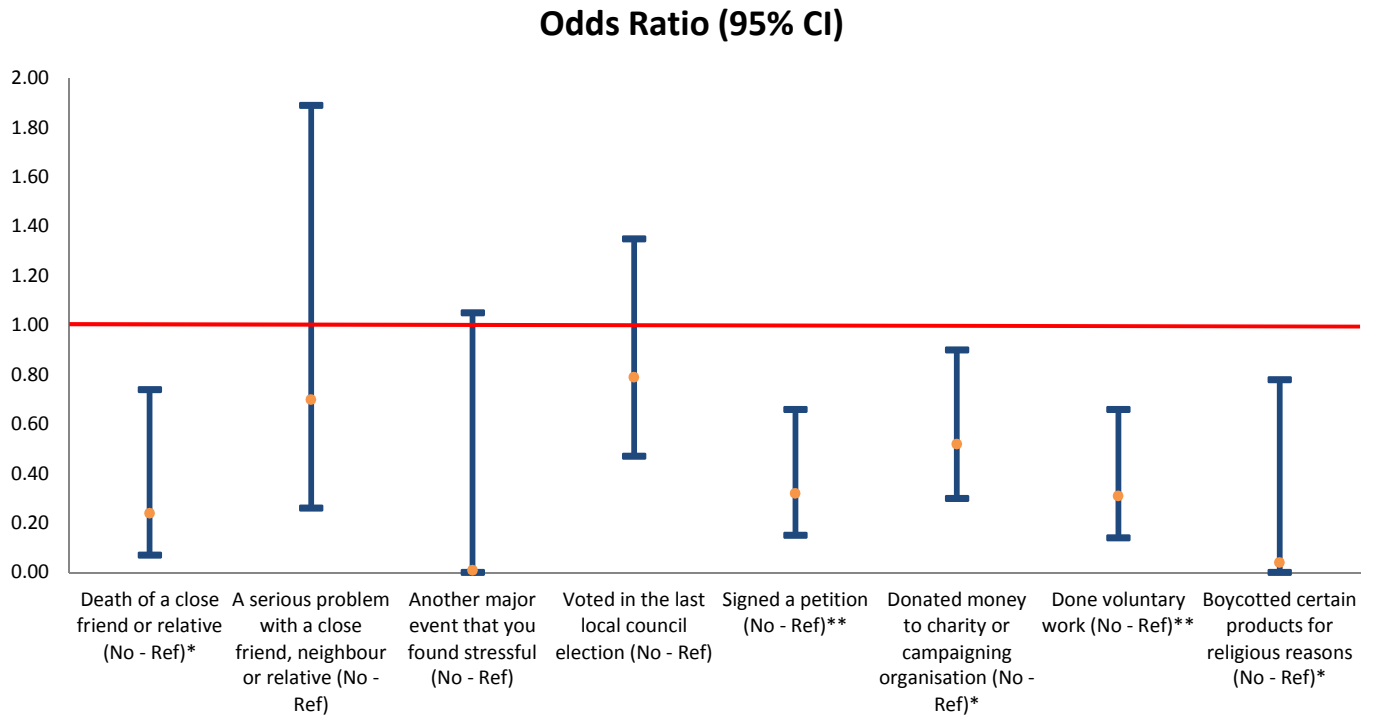
Paid a membership fee to a charity or campaigning organization	0.43	0.14-1.38	0.158	0.86	0.34-2.17	0.750
Done voluntary work	0.35	0.18-0.69	0.002	1.46	0.89-2.40	0.131
Boycotted certain products for political, ethical or environmental reasons	0.42	0.111-1.56	0.193	2.17	0.92-5.10	0.076
Boycotted certain products for religious reasons	0.04	0.00-0.70	0.028	0.82	0.37-1.83	0.621
Expressed my political opinions online	1.17	0.42-3.31	0.761	3.40	1.31-8.88	0.012
Been to any political meeting	0.06	0.00-8.77	0.274	8.07	2.07-31.42	0.003
Donated money or paid a membership fee to a political party	0.90	0.29-2.80	0.852	1.85	0.68-5.03	0.225
Take part in a demonstration, picket or march	0.17	0.02-1.51	0.112	1.38	0.50-3.85	0.537

Depression (PHQ score <5 - Ref)

PHQ score >=5	2.59	1.59-4.23	<0.001	-	-	-
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^ Potential mediating effect of depression as associated with life events and political engagement and SVPT carried forward for mediation analyses see Figure 1.

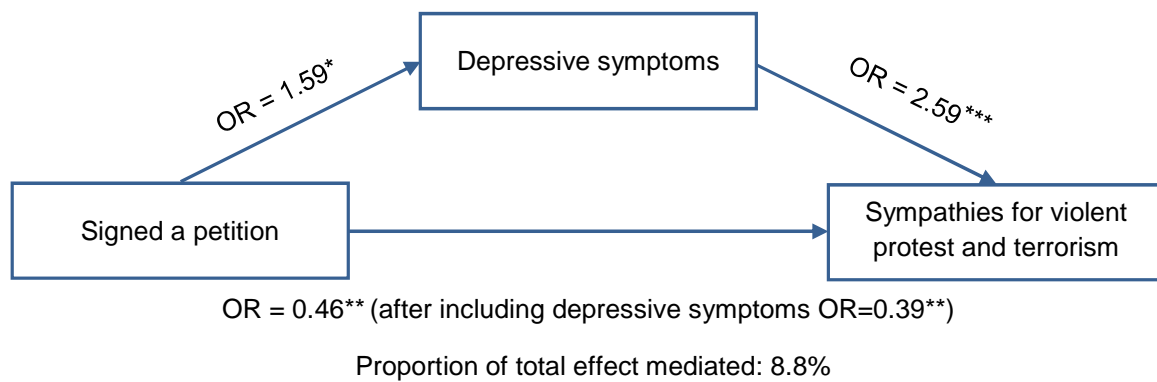
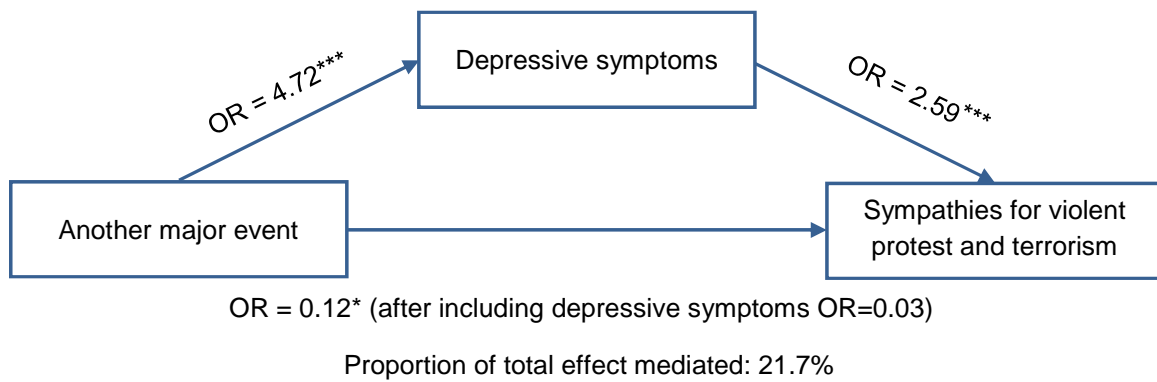
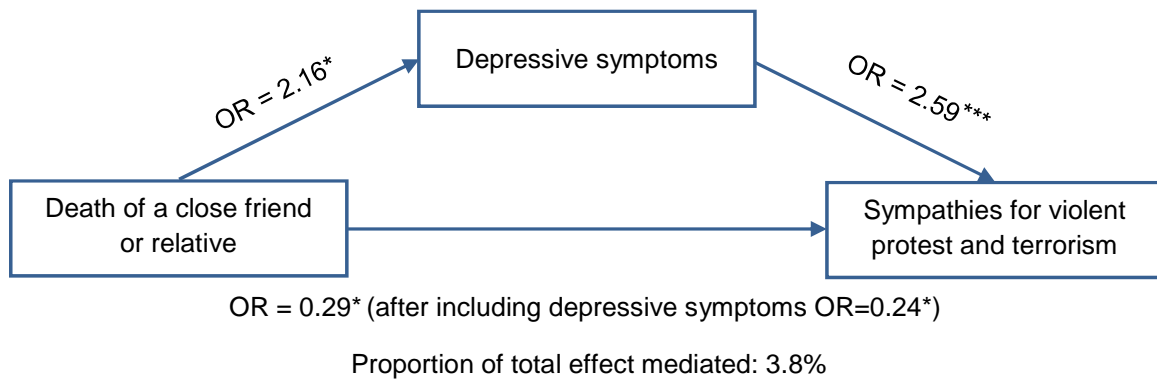
Figure 1 Multivariable analyses: association between SVPT and demographic, social and health variables (Odds ratio, weighted)



¹Logistic Regression Model for each life event or political engagement action in separate models (adjusted for age, gender, employment status, education level, depression; weighted). Most sympathetic group (N=92) compare with least sympathetic and intermediary groups (N=516).

*p<0.05, **p<0.01, ***p<0.001.

Figure 2 Mediation analyses for the role of depressive symptoms in explaining the relationship between life events, political engagement, and SVPT: logistic regression showing direct and indirect pathways



* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

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Strobe statements STROBE Statement—checklist of items that should be included in reports of observational studies

	Item No	Recommendation
Title and abstract	1	(a) Indicate the study's design with a commonly used term in the title or the abstract DONE (b) Provide in the abstract an informative and balanced summary of what was done and what was found DONE
Introduction		
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported DONE
Objectives	3	State specific objectives, including any prespecified hypotheses DONE
Methods		
Study design	4	Present key elements of study design early in the paper DONE
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection DONE
Participants	6	(a) <i>Cohort study</i> —Give the eligibility criteria, and the sources and methods of selection of participants. Describe methods of follow-up <i>Case-control study</i> —Give the eligibility criteria, and the sources and methods of case ascertainment and control selection. Give the rationale for the choice of cases and controls <i>Cross-sectional study</i> —Give the eligibility criteria, and the sources and methods of selection of participants- DONE (b) <i>Cohort study</i> —For matched studies, give matching criteria and number of exposed and unexposed <i>Case-control study</i> —For matched studies, give matching criteria and the number of controls per case
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable- DONE
Data sources/ measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group- DONE
Bias	9	Describe any efforts to address potential sources of bias- DONE
Study size	10	Explain how the study size was arrived at- NOT NECESSARY-DRIVEN BY FEASIBILITY

Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why DONE
Statistical methods	12	<p>(a) Describe all statistical methods, including those used to control for confounding-DONE</p> <hr/> <p>(b) Describe any methods used to examine subgroups and interactions-DONE</p> <hr/> <p>(c) Explain how missing data were addressed-DONE-NO SPECIAL HANDLING COMPLETE DATA ONLY</p> <hr/> <p>(d) <i>Cohort study</i>—If applicable, explain how loss to follow-up was addressed</p> <p><i>Case-control study</i>—If applicable, explain how matching of cases and controls was addressed</p> <p><i>Cross-sectional study</i>—If applicable, describe analytical methods taking account of sampling strategy</p> <hr/> <p>(e) Describe any sensitivity analyses</p>

Continued on next page

Results

Participants	13*	(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed DONE (b) Give reasons for non-participation at each stage-NOT POSSIBLE AS QUOTA SAMPLE AND ETHICS DID NOT PERMIT THIS (c) Consider use of a flow diagram NOT INCLUDED TO CUT DOWN SPACE/FIGURE USE
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders DONE (b) Indicate number of participants with missing data for each variable of interest DONE (c) <i>Cohort study</i> —Summarise follow-up time (eg, average and total amount)
Outcome data	15*	<i>Cohort study</i> —Report numbers of outcome events or summary measures over time <i>Case-control study</i> —Report numbers in each exposure category, or summary measures of exposure <i>Cross-sectional study</i> —Report numbers of outcome events or summary measures- DONE
Main results	16	(a) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included DONE (b) Report category boundaries when continuous variables were categorized DONE (c) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses DONE
DiscussiON		
Key results	18	Summarise key results with reference to study objectives-DONE
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias-DONE
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence-DONE
Generalisability	21	Discuss the generalisability (external validity) of the study results-DONE
Other information		
Funding	22	Give the source of funding and the role of the funders for the present study and, if

applicable, for the original study on which the present article is based-DONE

*Give information separately for cases and controls in case-control studies and, if applicable, for exposed and unexposed groups in cohort and cross-sectional studies.

Note: An Explanation and Elaboration article discusses each checklist item and gives methodological background and published examples of transparent reporting. The STROBE checklist is best used in conjunction with this article (freely available on the Web sites of PLoS Medicine at <http://www.plosmedicine.org/>, Annals of Internal Medicine at <http://www.annals.org/>, and Epidemiology at <http://www.epidem.com/>). Information on the STROBE Initiative is available at www.strobe-statement.org.