

# The role of trauma and mental health in violent extremism

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## Purpose

This policy paper assesses the impact of non-ideological risk factors on radicalisation and violent extremism, namely mental health and trauma. Although radicalisation is a complex, individualised and multi-determined process, few studies have examined mental health and trauma as vulnerability factors for violent extremism. Those that have, have been based in Western contexts like the US and Europe, while currently, in fragile and conflict affected states, no studies exist that integrate trauma, mental health and violent behaviour. This is an oversight, given that both conflict-related and non-conflict related trauma is higher in FCAS than the West, and that planning for global acts of terrorism often begin within such contexts. This note argues that funding is needed for large-scale, integrative and interdisciplinary research in this area. Prevention and deradicalisation programming will greatly benefit from a wider evidence-base of mental health-related vulnerability factors, including research into the complex developmental pathways that may lead individuals to become radicalised or engage in violent extremism. The Cross-Border Conflict Evidence, Policy and Trends (XCEPT) research programme is addressing a number of these key limitations through examining, over time, the interlocking dynamics, in adults, between trauma and mental health, and whether a mental health intervention can decrease radicalisation and support of violent extremists.

## Key findings

- ▶ **Traumatic experiences can be linked to violent extremism.** Adverse childhood experiences (e.g., child maltreatment) and moral injury (e.g., behaviours that violate values and morals, including betrayal from leadership) are two types of traumatic experiences that appear to be particularly relevant to violent extremism and warrant further study.

## Key findings

- ▶ **Social and economic factors can strengthen or weaken the links between mental health, trauma, radicalisation, and violent extremism.** Factors such as community level social cohesion, access to resources and a sense of agency can act as preventative measures. However, the lure of a sense of belonging to overcome feelings associated with trauma and alienation can also be a risk for joining violent extremist groups.
- ▶ **The exact relationship between mental health and how it possibly contributes to radicalisation is not yet clear.** Currently, most studies are small, cross-sectional and retrospective, meaning that data on the outcome (radicalisation) and exposures (trauma) are collected at the same time. From such studies we cannot conclude if mental health issues precede radicalisation or vice versa. In addition, the types of mental health examined vary widely between studies, as does the nature of the studies themselves. Replication efforts are uncommon; therefore, the robustness of findings is presently not known.
- ▶ **Sophisticated longitudinal research in FCAS is feasible.** With careful planning, it is possible to overcome and/or mitigate the particular challenges of conducting such research in conflict environments and with displaced populations.

## Policy implications

Joining a violent extremist group is an individualised, complex process with many points of entry. It would be virtually impossible to generate a set of risk factors that could identify all at-risk individuals in unity. Trauma and mental health will undoubtedly be more important for certain individuals than others. Yet, at the same time, very little is known about the functional relevance of mental health and trauma as vulnerabilities for radicalisation and violent extremism. To improve understanding and help policy and programmes more effectively target the types and timing of mental health problems and traumatic experiences that increase vulnerability for radicalisation, the following recommendations apply:

- ▶ Large-scale longitudinal studies in FCAS and LMIC that allow for examination of the complex interrelationships of trauma and mental health *before* radicalisation and under different social and economic conditions are vital and timely.
- ▶ Investment should also be made in experimental research designs: demonstrating that an intervention imbedded in an longitudinal research design modifies a trajectory of violent extremism through reducing mental health problems is a particularly convincing test of causation. Recommendations regarding feasibility of such research designs in FCAS/LMIC are made in the last section of this brief.

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# Findings

## Finding: **Mental health is important to radicalisation and violent extremism.**

Research on the role of mental health and vulnerability to violent extremism has a 40-year history, primarily in western, educated, industrial, and rich democratic countries (WEIRD). A recent review by Gill and Corner<sup>1</sup> charts this history. In the 1970s and 1980s research determined that psychopathy or childhood maltreatment as the source of narcissistic personality was necessary for the lack of empathy and motivation to engage in violent revenge-based acts<sup>2,3</sup>. Then came a series of critical review papers that called into question the quality of evidence surrounding psychopathy and personality-driven explanations of terrorism<sup>4-6</sup>. Many misinterpreted these review papers as claiming that individuals with mental health problems were unlikely to be capable of the planning and teamwork necessary to be a part of a terrorist organisation. In addition, around the same time, there was a view that to examine the “root causes” of terrorism through mental health was dehumanising and could overly pathologize and underappreciate legitimate social or political grievances that lead to violent acts of protest<sup>7</sup>. Either way, much existing research and public policy do not include mental health<sup>1</sup>.

Since 9/11 and the 7/7 London bombings, mental health has re-emerged as a potential vulnerability factor in the study of radicalisation and violent extremism. Although much of the research is still based in WEIRD, there is now a greater focus on low-to-middle income countries (LMIC) and fragile and conflict-affected states (FCAS). This is with good reason. Research by Kieling et al. shows that, worldwide, the greatest burden of mental health problems rests in LMIC<sup>8</sup>, and a WHO-led review of data from 39 countries, estimates that in conflict contexts, 22% of people will have mental health disorders such as depression, anxiety, post-traumatic stress disorder (PTSD), bipolar disorder or schizophrenia<sup>9</sup>.

In WEIRD, we know from forensic evaluations and criminological research that certain mental health problems can act as vulnerability factors for violence, and *in extremis*, murder<sup>10,11</sup>, along with a myriad of other crimes including gender-based violence, theft, and substance use. That said, existing research also

acknowledges that consideration of the environment is critical – the link between mental health and violence often occurs within a context of poverty and crime<sup>12</sup>. Likewise, in FCAS, many people suffering from poverty are targeted by recruiters for terrorist groups.

Positions are mixed on the relationship between mental health, radicalisation and violent extremism, but recent research does suggest a link. The idea that mental health precludes the capacity for planning has been debunked. Gill and Corner<sup>13</sup>, amongst others, have shown that lone-actor terrorists experiencing mental health problems are very capable of engaging in rational pre-attack behaviours, including stockpiling weapons, planning, and training. Of interest, research in WEIRD suggests depression can act as a risk factor for seeking violent extremist groups<sup>1</sup>. Youths radicalised into Islamist extremist groups in the UK often report experiencing depression<sup>14</sup>. A survey of over 600 individuals showed that depression symptoms were associated with support of violent aggression as protest and terrorism<sup>15</sup>. Rousseau *et al.*<sup>16</sup> replicated these results in Canada, and highlighted a potential risk-pathway to violent extremism: The lived experience of discrimination and violence can increase depression symptoms, which, in turn, can increase expressed sympathies for violent protest and support of radical groups. Similar results of support for radical groups and violent protest have been found in marginalised Muslim communities in the USA<sup>17</sup> and France<sup>18</sup>.



***Since 9/11 and the 7/7 London bombings, mental health has re-emerged as a potential vulnerability factor in the study of radicalisation and violent extremism.***

**Finding: The exact nature of links between mental health and violent extremism is not known. This is as much about research design as it is about conceptualisations of mental health.**

Whether pre-existing mental health problems create vulnerabilities for violent extremism is currently not fully understood. As reviewed elsewhere<sup>19</sup>, most of the existing research is cross-sectional and retrospective, where extremists are interviewed or surveyed and asked, at the same point in time, about their mental health and violent beliefs and behaviours. This means the degree to which mental health comes before, or is predictive of, subsequent radicalisation or violence, cannot be evaluated<sup>20</sup>. Bearing this limitation in mind, a wide range of mental health problems have been investigated in extremist samples including depression, bipolar disorder, obsessive-compulsive disorder, anxiety, psychosis, narcissistic personality, attention-deficit hyperactivity, schizophrenia, autism spectrum, intellectual disabilities, PTSD and dissociative disorder<sup>19</sup>. However, these studies vary in the types of mental health examined, and some have only focused on ‘confirmed’ diagnoses of a small subset of these mental health problems. Moreover, relying only on diagnoses is too simplistic to fully determine an association between mental health and extremism. Psychiatry and psychology are moving away from diagnoses and single category mental health problems for at least three reasons, each of which is relevant for radicalisation research.



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1. A persistent challenge to single categories of mental health is comorbidity – the coexistence of two or more disorders. Here, the 50% rule shows that half of the individuals who meet criteria for one disorder also do so for a second disorder, and half of the individuals with two disorders meet criteria for a third disorder, and so on. This brings on the possibility of a proxy – if depression is identified as a risk for radicalisation, but no other types of mental health were examined, it may be that depression is a proxy for a comorbidity with PTSD and psychosis, for example. Thus, reliance on a single category of mental health will not uncover the true associations.
2. Subthreshold symptoms – symptoms scoring just below diagnostic cut-offs – show similar long-term patterns of comorbidity and functional impairment as symptoms above thresholds<sup>21</sup>. This is one reason diagnostic cut-offs are being abandoned in favour of assessing symptom severity on a continuum (from low to high).
3. There is good evidence that single interventions are effective in the treatment of multiple different kinds of mental health issues (i.e., ‘transdiagnostic for both depression and anxiety<sup>22</sup>).

This has led to the development of a *general factor of psychopathology*<sup>23</sup> (i.e. the ‘p’ factor<sup>24</sup>) that consists of a net total of symptoms across a range of mental health problems, organised as internalising (i.e., facing inwards: depression, anxiety, psychosis, PTSD) and externalising (i.e. facing outwards: ADHD, antisocial personality, oppositional defiance, violence). In WEIRD, the p-factor is making headway in criminology: A recent study of 1722 pretrial clients showed that higher p scores strongly predicted total, violent, sexual, property, weapon, and drug offence charges. Of particular interest, for these pre-trial clients, higher p scores were also associated with higher exposure to adverse childhood experiences, particularly physical and sexual abuse, and brings to the fore the importance of considering the role of trauma as important for *de novo* mental health problems, as a vulnerability factor for criminal behaviours. This finding is important: non-ideological criminal behaviours are a robust correlate of radicalisation and violent extremism.

# Traumatic experiences are important to radicalisation and violent extremism.

**Finding: There is a clear link between trauma and mental health problems. Populations in LMIC and FCAS are particularly at risk to exposure to trauma.**

The link between trauma and mental health problems is well researched and conclusive. It therefore follows that those contexts with higher rates of trauma may create conditions that are conducive to increases in mental health problems. Exposure to traumatic experiences is highest in LMIC and FCAS, which correlates with the points raised above regarding high rates of mental health in these geographies. That said, risk factors correlate, such that the influence sum of all exposures is often greater than its parts. In other words, factors such as rampant inequality and marginalisation, poverty and lack of access to

resources perpetuated by climate change and land degradation, widespread corruption, criminality and authoritarianism, and prolonged conflict at the local and national level, together, increase a population's exposure to danger and potential traumatic experience<sup>25</sup>. This exposure to trauma, coupled with a lack of access to basic resources brings with it a greater risk of vulnerability to radicalisation and involvement in violent extremism<sup>26</sup>. Yet problematically, compared to WEIRD, there is currently considerably less radicalisation and violent extremism research focused on trauma and mental health in LMIC and FCAS.

**Finding: Traumatic experience in childhood (conflict and non-conflict related) can have implications for long-term mental health issues and vulnerabilities to radicalisation and extremism.**

Exposure to trauma in childhood can have long-term developmental implications. In cases of extreme or prolonged trauma, children can suffer 'toxic stress', which can become biologically embedded<sup>27</sup>. Amongst other things, this can impact a child's ability to deal with stress through disrupting the development of the stress response and immune systems, both of which are tightly involved in healthy brain development<sup>28</sup>, with severe knock-on effects for cognitive development and behavioural and emotional regulation<sup>29-31</sup>. In other words, there are biological and psychological routes through which toxic stress in childhood increases vulnerability for stress-related mental health problems<sup>32</sup>, including those that associate with violence<sup>28</sup>.

This is a particular issue for FCAS, as prolonged exposure to war and displacements, with constant fear and uncertainty, means that many children are in a state of 'toxic stress'. In 2019, it was estimated that 420 million children live in FCAS, and five times as many children die from conflict than armed actors<sup>33</sup>. Furthermore, a meta-analysis of 17 studies of 7,920 children showed that the prevalence of mental health

problems in conflict zones as high, with 47% showing PTSD and 43% showing depression<sup>34</sup>. Research in Syria<sup>35</sup> (and Rwanda<sup>36</sup>) has highlighted that more than 90% of children surveyed experienced ongoing bombing and shelling; 66% reported having lost a loved one or suffered war-related injuries. Further, 80% of these children reported becoming more nervous, fearful, and aggressive, and 71% suffered from frequent bedwetting and involuntary urination – all symptoms of PTSD. However, the concomitant fallout of war-related trauma in FCAS is unscalable, with many boys being recruited into violent armed groups and exposed to conflict-related sexual violence, and girls, whilst also vulnerable to recruitment into armed groups, more frequently fall victim to conflict-related sexual or gender based violence, including rape, forced marriage or trafficking.<sup>35,37</sup>

Research already exists into the relationship between adverse childhood experiences (ACEs) and violent extremism. The ACEs framework is a standardised assessment of 10 adverse experiences covering abuse and household dysfunction, including physical,

sexual, and psychological maltreatment, neglect and witnessing household violence<sup>38</sup>. In WEIRD, ACEs have been shown to relate to susceptibility to commit crime, substance use, mental health, physical health and reduced lifespan<sup>39,40</sup>. A recent review<sup>26</sup> of ACEs and violent extremism noted important findings: 63% of a sample of US-based former white supremacists (n=91) experienced four or more ACEs during the first 18 years of life<sup>41</sup>. A similar frequency was reported in a sample of juvenile offenders (55%), which is even more striking given that the frequency in the general population is approximately three times lower (16%)<sup>26</sup>. This would suggest that ACEs could similarly associate with

ideological and non-ideological criminal offending, or that joining a violent extremist group may not always be ideologically driven<sup>26</sup>. ACEs can also associate with higher levels of PTSD and depression after the experience of conflict. For example, up to 69% of UK war veterans seeking help for PTSD-related difficulties reported experiencing six or more ACEs before the age of 18<sup>42</sup>. This finding suggests that these veterans joined the military with increased levels of pre-enlistment vulnerabilities<sup>42</sup>. Although most of ACEs research has taken place in WEIRD, ACEs has been adapted by the WHO<sup>43</sup> for use in LMICs by including a wider range of adversities to which children may be exposed.

### **Finding: Moral injury is important to consider in relation to ACEs, conflict-related trauma and radicalisation.**

Moral injury is the product of perpetrating or witnessing events that violate one's core beliefs or, importantly, betrayal by a trusted source of authority<sup>44</sup>. In the past decade, moral injury has gained traction in helping to understand what types of trauma make individuals especially vulnerable to mental health problems<sup>45</sup>. Moral injury may take place in childhood through parental betrayal or via experiences later in life, including participation in a violent extremist group. Guilt, shame, disgust and anger are some of the correlates of moral injury<sup>46</sup> and unsurprisingly, moral injury highly associates with PTSD, depression, anxiety and psychosis<sup>47</sup>. Recent research carried out in Liberia with 459 former child soldiers found that a sense of moral injury was a significant factor in producing anxiety, avoidance and negative feelings, particularly amongst those that admitted committing acts of violence<sup>48</sup>.

Importantly there is also new research emerging that shows how moral injury can function as a vulnerability factor for extreme beliefs and radicalisation<sup>49</sup>. Notably, there is evidence that individuals at risk of adopting radical beliefs or those experiencing a moral injury may have been exposed to similar types of traumatic incidents, such as victimization or betrayal that can result in anger and shame. This is important as recruiters to violent extremist organizations often will legitimize grievances and frame their message in terms of offering an actionable route to revenge<sup>49</sup>. However, because much existing moral injury research is cross-sectional and retrospective, it is impossible to disaggregate the effects of moral injury-related mental health problems directly attributable to early experiences of ACEs, as opposed to later experiences of conflict-related trauma.

### **Finding: Traumatic experiences and mental health problems must be understood in terms of risk and protective factors such as social cohesion and access to resources.**

Social cohesion within a community can constitute a potent source of influence towards peaceful resolution of conflict, as well as toward violence and crime<sup>50,51</sup>. Social cohesion, at its most basic, provides a social bond, a sense of trust, and a level of support and social integration between individuals and institutions<sup>52</sup>. Research in WEIRD shows that high levels of social cohesion within

a high crime neighbourhood can lower risk for post-traumatic stress related to the experience of violent victimization<sup>53</sup>. Research in FCAS<sup>54</sup> shows that for ex-combatants, positive reintegration into a community where there is a sense of inclusion and social cohesion can portend psychosocial well-being for ex-combatants with diagnoses of PTSD<sup>55</sup>. In addition, the ability to meet basic needs, carve out a



meaningful place for oneself in society, and be seen to be fulfilling expected gender norms, can help to sway a once violent individual toward prosocial and peaceful behaviour<sup>54,56,57</sup>. Another example of social cohesion and mental health comes from a study on the impact of chronic exposure to conflict for Israeli versus Palestinian children<sup>58</sup>. Prevalence of PTSD was estimated to be 5–8% in Israel and 23–70% in Palestine. The determining factors for this difference included lower levels of social cohesion and greater poverty in Palestine.

There is, however, a “dark side” to social cohesion<sup>59</sup>. Sociological and criminological analyses highlight that the “cultural content” of the clustering of behaviours and attitudes of peer networks constitute an important ecological force (i.e., psychosocial surroundings) in generating violence and crime<sup>60</sup>. Here, attitudes that favour use of violence as revenge, punishment, or to obtain a goal (e.g. economic gain) correlate with the “instrumental” use of violence<sup>61</sup>. Social networks that lift up traumatised and socially, economically and religiously marginalised individuals—for example, through a sense of belonging—can influence members to

employ violence as a means to solve problems<sup>62</sup>. Offers of participation in a group with a violent ideological goal, that provides a sense of agency and feeling of empowerment through which to counteract symptoms of trauma, may be attractive to individuals who have little access to alternative support<sup>63</sup>. It’s possible that socially cohesive groups with high norms of violence are more resistant to interventions, which might make them problematic for reducing or countering violent extremism. Here, for example, it may be that for groups where violence is seen as a legitimate manner to reinforce status or to resolve disputes, these very ‘norms of violence’ may drive attitudes and behaviours that result in low buy-in for peace-building programming. In other words, existing ‘norms of violence’ would need to be explicitly addressed by programming.

However, little is known about how trauma, mental health, moral injury and social cohesion inter-relate across an individual’s life course to create time-sensitive vulnerabilities for radicalisation and violent extremism. Cross-sectional research limits the ability to define the functional role of mental health and trauma.

## Finding: Cross sectional research suffers from ‘reverse causality,’ meaning it cannot be efficient in prediction.

One criticism levied at cross-sectional studies is that data on exposure (whether in present or past) and outcome are assessed at the same point in time. This is problematic as it is very difficult to distinguish between an event occurring (violence) and the causes for that event occurring. This does not negate the importance of cross-sectional research in generating insight into factors that may increase vulnerability to radicalisation; however, there are three key methodological considerations to bear in mind when interpreting findings based on cross-sectional research.

- 1. Cross-sectional research can’t pinpoint which trauma caused a vulnerability for violent extremism, or when.** There may be time windows (e.g., childhood) in which trauma can be especially influential, creating a vulnerability for subsequent radicalisation. For example, certain developmental criminologists posit that for children born into chronic and toxic caregiving contexts, the damage is really done in the first few years of life, and everything experienced thereafter is a proxy for these early exposures<sup>64</sup>.

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*This means the degree to which mental health comes before, or is predictive of, subsequent radicalisation or violence, cannot be evaluated.*

**2. Prevalence may be a poor proxy for incidence.**

In epidemiology, *prevalence* is a metric that indexes the number of cases in a population at a given time, whether old or new. *Incidence*, on the other hand, is the rate of new cases in a specific population during a specific period. Here, a one-off assessment of trauma and violent extremism may simply reflect the *prevalence* at that moment, with little information as to how trauma can generate new cases of violent extremists. With regard to intergenerational transmission of trauma, this means that, with cross-sectional data, one cannot determine how one generation ‘causes’ incidents of trauma in the next generation.

**3. The association between trauma and violent extremism may reflect reverse causality.**

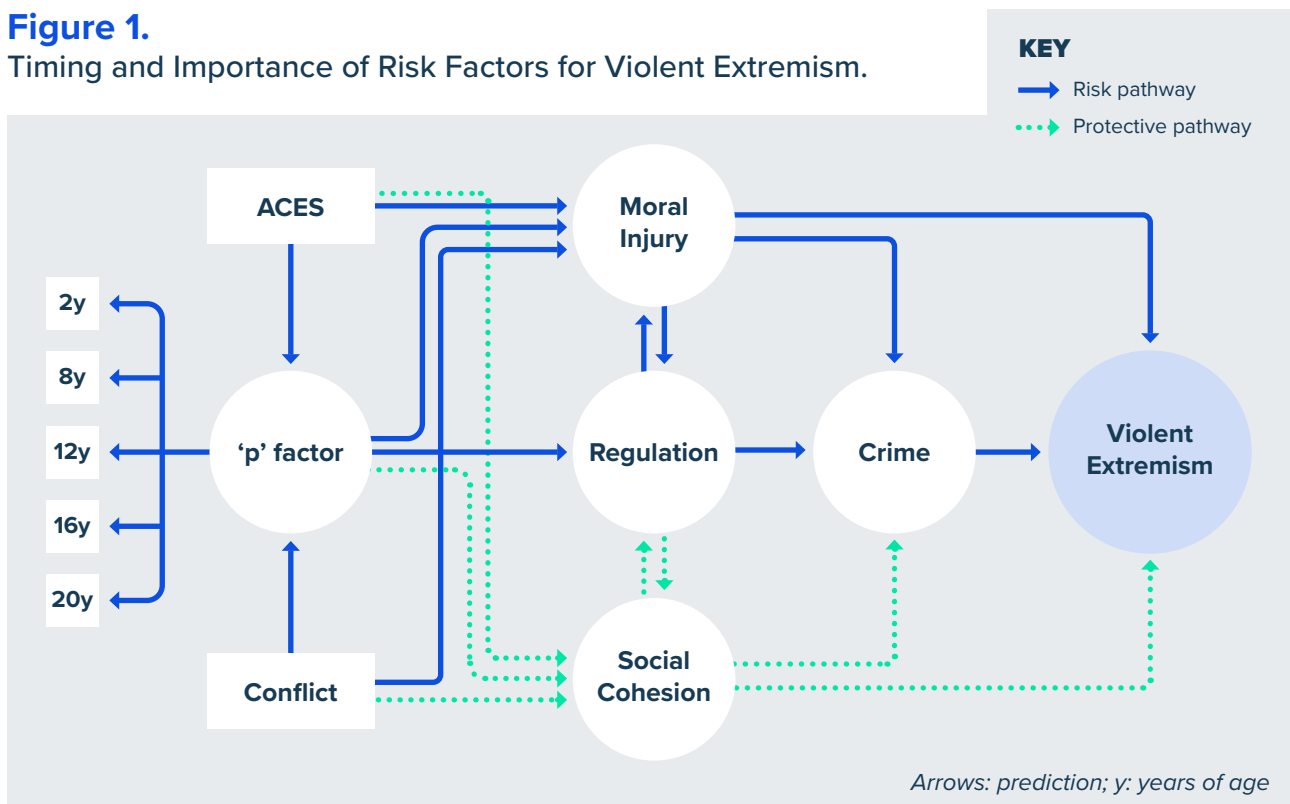
Here, if an individual is in prison for an act of ideological violence and is also experiencing depression symptoms, these symptoms may artificially increase the number of ACEs the individual reports. However, it may be that the depression itself is resultant from a combination of moral injuries experienced through childhood experience, by belonging to a terrorist organisation, perpetrating the violence, and the ‘wear and tear’ of daily prison life.

**Finding: A lot could be learned from large-scale longitudinal research efforts.**

Of note, XCEPT is a multi-year, interdisciplinary project with funding from UK Aid, that examines trauma and mental health, amongst other factors, that shape adult violent and peaceful behaviour across different conflict-affected regions, such as Iraq, Syria, and South Sudan to inform policy and programming efforts to prevent violent extremism. This is an important study, as, although findings can be mixed, research in WEIRD points to the real

possibility that individuals who use violence are significantly more likely to be survivors of early trauma than their non-violent counterparts<sup>65-68</sup>. Moreover, the link with trauma is true for different types of violent perpetration: violence against intimate partners, children, strangers and as part of organised groups<sup>69</sup>. The directionality between traumatic exposures, mental health problems and acts of violence has been established in the many

**Figure 1.**  
Timing and Importance of Risk Factors for Violent Extremism.





existing WEIRD birth cohorts – studies that start from the beginning, sometimes even during pregnancy. Figure 1 contains a statistical model that can chart the timing of different risk factors and their relative and combined impacts on an increased probability of violent extremism. For example, as stated previously, non-ideological criminal offending is strongly associated with radicalisation<sup>70,71</sup>. As traumatic events and mental health are related to criminal lifestyles, we can generate a developmental model that could be tested with a proper longitudinal cohort. Here, the development of mental health problems (p factor) between ages 2 to 20 is hypothesized to be impacted by ACEs and conflict trauma. This in turn impacts child emotional and behavioural regulation, a robust vulnerability factor for criminal lifestyles. Notice that moral injuries also negatively impacts regulation, but this is via earlier experiences of ACEs, conflict-related trauma and mental health problems. Together these ‘indirect’ developmental pathways increase the odds of crime and, in turn, violent extremism. In Figure 1, the dotted lines are protective pathways that work through ‘the bright side’ of social cohesion.

Of note, certain studies go one step further and include interventions that are ‘nested’ within the longitudinal design. Demonstrating that an intervention imbedded in an experimental design modifies a trajectory of violent extremism through reducing mental health problems is a more convincing test of causation compared with retrospective data or even correlational prospective data<sup>72</sup>. The longitudinal cohort design allows for testing of positive intervention effects years down the road. This is an important point: The degree to which a trauma/mental health intervention decreases revenge-based violence (or sympathy for violent extremism) is a question in need of greater attention.

Longitudinal cohort studies in FCAS face challenges that do not exist in WEIRD<sup>73</sup>, as often populations will change rapidly and unpredictably due to conflict

that can lead to potentially high levels of attrition. One type of limitation is non-random attrition, where those that drop out have different characteristics from those that stay in (e.g., those with social and economic capital being more likely to survive conflict situations). However, there are ways to handle potential attrition, as there are organisations, such as the [International Organization for Migration](#) that successfully track internally displaced families and individuals within FCAS. In addition, large scale longitudinal research studies such as [MIGNEX](#), have successfully tracked migration patterns of families and individuals across the world, even from FCAS, with very low attrition rates.

Another possibility, the accelerated cohort sequential design<sup>74</sup>, might be of particular use in FCAS. As seen in Table 1, a main advantage of this approach is the ability to span the age range of interest in a shorter period than would be possible with a single cohort longitudinal study (4 years in total for an 8-year span). The shorter time is advantageous as it will be less affected by attrition. The trade-off for this shorter time is that each participant’s period covers only part of the age range. This can be a problem when there are systematic differences between people born at different times.

All in all, the benefits of what could be learned from longitudinal research in terms of vulnerabilities for radicalisation far outweigh the logistical challenges. In addition, current prevention programming and risk assessment tools often do not include trauma and mental health. This is an important oversight given the research covered above clearly suggests an association. Those who get recruited into a violent extremist group are most likely a subset of the larger group of people who are susceptible in a similar way. There are likely many factors that determine who gets pulled into an extremist group that are not reviewed in this Policy Note. What is clear is that the rate of radicalised or recruited members of violent extremist groups can be estimated *ex post*

**Table 1.**  
Accelerated Cohort Sequential Design.

<b>Cohort 1</b>	X	X	X	X			
<b>Cohort 2</b>		*	*	*	*		
<b>Cohort 3</b>				^	^	^	^
	<b>2 y</b>	<b>3 y</b>	<b>4 y</b>	<b>5 y</b>	<b>6 y</b>	<b>7 y</b>	<b>8 y</b>
	<b>Age</b>						

facto, but there is not an efficient way to evaluate the rate of susceptible individuals. That number could be alarmingly large and might even constitute a public health crisis. Longitudinal research with nested interventions is a step forward in evaluating the timing and importance of known susceptibility factors, the basic building blocks of evidence-based prevention.



**At present, the most promising interventions combine mental health and social cohesion, both of which are likely important for peacebuilding within a context of conflict.**

In sum, the benefits of including mental health and trauma within longitudinal studies include<sup>73</sup>:

- Empirical rebalancing of un-evidenced beliefs about the role of mental health and trauma in radicalisation and violent extremism
- Provide an evidence base for a holistic understanding of developmental vulnerability factors for violent extremism within FCAS
- A better understanding of the timing and nature of risk factors that could influence vulnerability to violent extremism
- Relatedly, a better understanding of the type of programming that would be needed to prevent violent extremism, if trauma and mental health do play a role. At present, the most promising interventions combine mental health and social cohesion<sup>75</sup>, both of which are likely to be very important for peacebuilding within a context of conflict.
- Of interest, mental health facing research in FCAS typically does not assess radicalisation and research on radicalisation often does not collect information about mental health.

## Endnotes

1. Gill P, Corner E. There and back again: The study of mental disorder and terrorist involvement. *Am Psychol*. 2017;72(3):231.
2. Pearlstein RM. *The mind of the political terrorist*. Scholarly Resources; 1991.
3. Lasch C. The culture of narcissism. *Bulletin of the Menninger Clinic*. 1980;44(5):426.
4. Silke A. Cheshire-cat logic: The recurring theme of terrorist abnormality in psychological research. *Psychology, Crime and Law*. 1998;4(1):51-69.
5. Corner E, Gill P. Psychopathy and terrorist involvement. In: *Psychopathy and Criminal Behavior*. Elsevier; 2022:389-402.
6. Borum R. *Psychology of terrorism*. University of South Florida Tampa Dept Of Mental Health Law And Policy;2007.
7. Newman E. Exploring the “root causes” of terrorism. *Studies in Conflict & Terrorism*. 2006;29(8):749-772.
8. Kieling C, Baker-Henningham H, Belfer M, et al. Child and adolescent mental health worldwide: evidence for action. *Lancet*. 2011;378(9801):1515-1525.
9. Charlson F, van Ommeren M, Flaxman A, Cornett J, Whiteford H, Saxena S. New WHO prevalence estimates of mental disorders in conflict settings: a systematic review and meta-analysis. *The Lancet*. 2019;394(10194):240-248.
10. Abreu V, Barker E, Dickson H, Husson F, Flynn S, Shaw J. Investigating homicide offender typologies based on their clinical histories and crime scene behaviour patterns. *Journal of Criminological Research, Policy and Practice*. 2019;5(3):168-188.
11. Abreu Minero V, Barker E, Bedford R. Method of homicide and severe mental illness: A systematic review. *Aggression and Violent Behavior*. 2017;37:52-62.
12. Halle C, Tzani-Pepelasi C, Pylarinou N-R, Fumagalli A. The link between mental health, crime and violence. *New Ideas in Psychology*. 2020;58:100779.
13. Gill P, Corner E. Lone-actor terrorist target choice. *Behavioral sciences & the law*. 2016;34(5):693-705.
14. Copeland S, Marsden S. The Relationship Between Mental Health Problems and Terrorism. 2020.
15. Bhui K, Otis M, Silva MJ, Halvorsrud K, Freestone M, Jones E. Extremism and common mental illness: Cross-sectional community survey of White British and Pakistani men and women living in England. *The British Journal of Psychiatry*. 2020;217(4):547-554.

16. Rousseau C, Hassan G, Miconi D, et al. From social adversity to sympathy for violent radicalization: the role of depression, religiosity and social support. *Archives of public health*. 2019;77(1):1-12.
17. Lyons-Padilla S, Gelfand MJ, Mirahmadi H, Farooq M, Van Egmond M. Belonging nowhere: Marginalization & radicalization risk among Muslim immigrants. *Behavioral Science & Policy*. 2015;1(2):1-12.
18. Adida CL, Laitin DD, Valfort M-A. Identifying barriers to Muslim integration in France. *Proceedings of the National Academy of Sciences*. 2010;107(52):22384-22390.
19. Gill P, Clemmow C, Hetzel F, et al. Systematic review of mental health problems and violent extremism. *Journal of Forensic Psychiatry & Psychology*. 2020:No Pagination Specified-No Pagination Specified.
20. Bubolz BF, Simi P. The Problem of Overgeneralization: The Case of Mental Health Problems and U.S. Violent White Supremacists. *American Behavioral Scientist*. 2019:0002764219831746.
21. Fergusson DM, Horwood LJ, Ridder EM, Beautrais AL. Subthreshold Depression in Adolescence and Mental Health Outcomes in Adulthood. *Arch Gen Psychiatry*. 2005;62(1):66-72.
22. Newby JM, McKinnon A, Kuyken W, Gilbody S, Dalgleish T. Systematic review and meta-analysis of transdiagnostic psychological treatments for anxiety and depressive disorders in adulthood. *Clin Psychol Rev*. 2015;40:91-110.
23. Lahey BB, Moore TM, Kaczkurkin AN, Zald DH. Hierarchical models of psychopathology: empirical support, implications, and remaining issues. *World Psychiatry*. 2021;20(1):57-63.
24. Caspi A, Houts RM, Belsky DW, et al. The p factor one general psychopathology factor in the structure of psychiatric disorders? *Clinical Psychological Science*. 2014;2(2):119-137.
25. Landry MD, Giebel C, Cryer TL. Health system strengthening in fragile and conflict-affected states: a call to action. *BMC Health Services Research*. 2021;21(1):726.
26. Lewis J, Marsden S. Trauma adversity and violent extremism. *Contemporary Research*. 2021.
27. Shonkoff JP, Boyce WT, McEwen BS. Neuroscience, molecular biology, and the childhood roots of health disparities: Building a new framework for health promotion and disease prevention. *JAMA*. 2009;301:2252-2259.
28. Barker ED, Cecil CAM, Walton E, et al. Inflammation-related epigenetic risk and child and adolescent mental health: A prospective study from pregnancy to mid-adolescence. *Development and Psychopathology* 2018;30:1145-1156.
29. Barker ED, Walton E, Cecil CAM. Annual Research Review: DNA methylation as a mediator in the association between risk exposure and child and adolescent psychopathology. *Journal of Child Psychology and Psychiatry* 2018;59:303-322.
30. Cecil CA, Zhang Y, Nolte T. Childhood maltreatment and DNA methylation: A systematic review. *Neuroscience & Biobehavioral Reviews*. 2020.
31. Cecil CAM, Jaffee SR, O'Connor TG, et al. Neonatal DNA methylation and early-onset conduct problems: A genome-wide, prospective study. *Development and Psychopathology* 2018;in press.
32. Danese A, Baldwin JR. Hidden wounds? Inflammatory links between childhood trauma and psychopathology. *Annual review of psychology*. 2017;68:517-544.
33. Children St. More than 170,000 children under 5 killed by war each year: new report. Published 2019. Accessed.
34. Attanayake V, McKay R, Joffres M, Singh S, Burkle Jr F, Mills E. Prevalence of mental disorders among children exposed to war: a systematic review of 7,920 children. *Medicine Conflict and Survival*. 2009;25(1):4-19.
35. McDonald A. *Invisible Wounds: The impact of six years of war on the mental health of Syria's children*. Save the children; 2017.
36. Dyregrov A, Gupta L, Gjestad R, Mukanoheili E. Trauma exposure and psychological reactions to genocide among Rwandan children. *Journal of traumatic stress*. 2000;13(1):3-21.
37. Aemro T. Women in Conflict Zones: The Case of Syria Civil War. *International Journal of Peace and Conflict Studies*. 2017;4(2):118-127.
38. Felitti VJMD, Facp, Anda RFMD, et al. Relationship of Childhood Abuse and Household Dysfunction to Many of the Leading Causes of Death in Adults: The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventive Medicine*. 1998;14(4):245-258.
39. Petruccielli K, Davis J, Berman T. Adverse childhood experiences and associated health outcomes: A systematic review and meta-analysis. *Child abuse & neglect*. 2019;97:104127.
40. Fox BH, Perez N, Cass E, Baglivio MT, Epps N. Trauma changes everything: Examining the relationship between adverse childhood experiences and serious, violent and chronic juvenile offenders. *Child abuse & neglect*. 2015;46:163-173.
41. Windisch S, Simi P, Blee K, DeMichele M. Measuring the extent and nature of adverse childhood experiences (ACE) among former white supremacists. *Terrorism and Political Violence*. 2020:1-22.
42. Murphy A, Steele H, Steele M, Allman B, Kastner T, Dube SR. The clinical Adverse Childhood Experiences (ACEs) questionnaire: Implications for trauma-informed behavioral healthcare. In: *Integrated early childhood behavioral health in primary care*. Springer; 2016:7-16.

43. Organization WH. Adverse childhood experiences international questionnaire (ACE-IQ)– rationale for ACE-IQ. *WHO, Geneva*. 2012.
44. Griffin BJ, Purcell N, Burkman K, et al. Moral injury: An integrative review. *Journal of Traumatic Stress*. 2019;32(3):350-362.
45. Williamson V, Stevelink SA, Greenberg N. Occupational moral injury and mental health: systematic review and meta-analysis. *The British Journal of Psychiatry*. 2018;212(6):339-346.
46. Farnsworth JK, Drescher KD, Nieuwsma JA, Walser RB, Currier JM. The role of moral emotions in military trauma: Implications for the study and treatment of moral injury. *Review of General Psychology*. 2014;18(4):249-262.
47. Williamson V, Greenberg N, Murphy D. Predictors of moral injury in UK treatment seeking veterans. *Child Abuse & Neglect*. 2021;112:104889.
48. Wong P-H. Moral Injury in Former Child Soldiers in Liberia. *Journal of Child & Adolescent Trauma*. 2021:1-10.
49. Williamson V, Murphy D, Stevelink SA, Jones E, Allen S, Greenberg N. The Relationship between of Moral Injury and Radicalisation: A Systematic Review. *Studies in Conflict & Terrorism*. 2021:1-27.
50. Sampson RJ, Groves WB. Community structure and crime: Testing social-disorganization theory. *American Journal of Sociology*. 1989;94(4):774-802.
51. Barker ED, Trentacosta CJ, Salekin RT. Are impulsive adolescents differentially influenced by the good and bad of neighborhood and family. *J Abnorm Psychol*. 2011;120:981-986.
52. Sampson RJ. The neighborhood context of well-being. *Perspectives in biology and medicine*. 2003;46(3):S53-S64.
53. Johns LE, Aiello AE, Cheng C, Galea S, Koenen KC, Uddin M. Neighborhood social cohesion and posttraumatic stress disorder in a community-based sample: findings from the Detroit Neighborhood Health Study. *Social psychiatry and psychiatric epidemiology*. 2012;47(12):1899-1906.
54. Wessells M. Trauma, peacebuilding and development: An Africa region perspective. Paper presented at: Trauma, Development and Peacebuilding Conference in New Delhi, India2008.
55. Bowd R, Özerdem A. How to assess social reintegration of ex-combatants. *Journal of Intervention and Statebuilding*. 2013;7(4):453-475.
56. McMullin JR. Hustling, cycling, peacebuilding: Narrating postwar reintegration through livelihood in Liberia. *Review of International Studies*. 2022;48(1):67-90.
57. Friðriksdóttir GS. Soldiering as an obstacle to manhood? Masculinities and ex-combatants in Burundi. *Critical military studies*. 2018.
58. Dimitry L. A systematic review on the mental health of children and adolescents in areas of armed conflict in the Middle East. *Child: care, health and development*. 2012;38(2):153-161.
59. Portes A, Landolt P. The downside of social capital. 1996.
60. Fairchild G, Hawes DJ, Frick PJ, et al. Conduct disorder. *Nature Reviews Disease Primers*. 2019;5(1):43.
61. Dahlberg LL. Measuring violence-related attitudes, behaviors, and influences among youths: A compendium of assessment tools. *Centers for Disease Control and Prevention*. 2005.
62. Connolly EJ, Schwartz JA, Nedelec JL, Beaver KM, Barnes J. Different slopes for different folks: Genetic influences on growth in delinquent peer association and delinquency during adolescence. *J Youth Adolesc*. 2015;44(7):1413-1427.
63. Aubrey M, Aubrey R, Brodrick F, Brooks C. Why young Syrians choose to fight: Vulnerability and resilience to recruitment by violent extremist groups in Syria. *International Alert: London, UK*. 2016.
64. Shaw DS, Lacourse E, Nagin DS. Developmental trajectories of conduct problems and hyperactivity from ages 2 to 10. *J Child Psychol Psychiatry*. 2005;46(9):931-942.
65. Capaldi DM, Knoble NB, Shortt JW, Kim HK. A systematic review of risk factors for intimate partner violence. *Partner abuse*. 2012;3(2):231-280.
66. Webb RT, Antonsen S, Carr MJ, Appleby L, Pedersen CB, Mok PL. Self-harm and violent criminality among young people who experienced trauma-related hospital admission during childhood: a Danish national cohort study. *The Lancet Public Health*. 2017;2(7):e314-e322.
67. Qouta S, Punamäki RL, Miller T, El Sarraj E. Does war beget child aggression? Military violence, gender, age and aggressive behavior in two Palestinian samples. *Aggressive Behavior: Official Journal of the International Society for Research on Aggression*. 2008;34(3):231-244.
68. Widom CS. The intergenerational transmission of violence. In: Weiner NA, Wolfgang ME, eds. *Pathways to criminal violence*. Newbury Park, CA: Sage; 1989:137-201.
69. Sciences S, on Law C, National Academies of Sciences E, Medicine. The Neurocognitive and Psychosocial Impacts of Violence and Trauma. 2018.
70. Jensen MA, Safer-Lichtenstein A, James PA, LaFree G. The Link Between Prior Criminal Record and Violent Political Extremism in the United States. In: *Understanding Recruitment to Organized Crime and Terrorism*. Springer; 2020:121-146.

71. Clemmow C, Bouhana N, Marchment Z, Gill P. Vulnerability to radicalisation in a general population: a psychometric network approach. *Psychology, Crime & Law*. 2022;1-29.
72. Barker ED, Vitaro F, Lacourse E, Fontaine NMG, Carbonneau R, Tremblay RE. Testing the developmental distinctiveness of male proactive and reactive aggression with a nested longitudinal experimental intervention. *Aggressive Behavior*. 2010;36:127-140.
73. Herbert S. Perception surveys in fragile and conflict-affected states. *Governance and Social Development Resource Center*. 2013:1-10.
74. Galbraith S, Bowden J, Mander A. Accelerated longitudinal designs: An overview of modelling, power, costs and handling missing data. *Statistical methods in medical research*. 2017;26(1):374-398.
75. Lewis J, Marsden S. Countering Violent Extremism Interventions: Contemporary Research. 2021.

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