CREST Centre for Research and Evidence on Security Threats

Trauma, Adversity & Violent Extremism: A Systematic Review

FULL REPORT

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This systematic review was produced as part of the CREST project Trauma, Adversity and Violent Extremism (TAVE). You can find all the outputs from this project at: *www.crestresearch.ac.uk/projects/trauma-adversity-and-violent-extremism/*

ABOUT CREST

The Centre for Research and Evidence on Security Threats (CREST) is funded by the UK's Home Office and security and intelligence agencies to identify and produce social science that enhances their understanding of security threats and capacity to counter them. Its funding is administered by the Economic and Social Research Council (ESRC Award ES/V002775/1).

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BACKGROUND AND METHODOLOGY

This systematic review builds on previous CREST-funded research (Lewis & Marsden, 2021) and examines the complex relationships that exist between trauma, adversity and engagement in violent extremism. The analysis presented in this report is organised into three sections:

1. Section one sets out the evidence identified through a systematic review of post-2000 research on trauma, adversity and violent extremism to better understand a) the prevalence of trauma in the life histories of violent extremists; and b) the relevance of trauma in interpreting pathways towards, and away from, violent extremism. It draws on 159 studies identified through keyword searches in academic repositories and hand searches of key publications and institutions, and discusses the different relationships linking trauma, adversity and violent extremism.

2. The second section explores whether and how trauma is captured in existing radicalisation models. This synthesises the research on trauma, adversity and violent extremism and an analysis of 99 papers identified through a separate systematic review of radicalisation models (Corner & Taylor, 2023).

3. The final section presents a more theoretical and conceptual analysis which explores how applying a trauma-informed perspective to understanding journeys into and out of violent extremism might inform research and practice.

SUMMARY OF KEY FINDINGS

1. THE SYSTEMATIC REVIEW OF TRAUMA, ADVERSITY AND VIOLENT EXTREMISM

A) Overall Conclusions

A proportion of violent extremists will experience trauma before, during and/or after their engagement in violent extremism. These traumas may produce specific effects that are relevant to understanding journeys into and out of violent extremism.

The relationships between trauma and violent extremism are complex, and non-deterministic. Trauma may contribute to, and result from, engagement in violent extremism in some cases. However, the mere presence of trauma in an individual's pre-engagement life history does not prove that trauma played a role in radicalisation, nor will every violent extremist be traumatised by experiences during engagement, disengagement, or post-disengagement that appear to be objectively traumatic.

Understanding the relevance of a traumatic experience is helped by understanding the meanings that individuals attach to that experience. People experience events in heavily contextualised ways and attach different meanings to these events which shape the impact they have.

Practitioners and policymakers will benefit from being sensitive to the different types of trauma that individuals might experience throughout their journeys into and out of violent extremism. Even where identifiable trauma played little to no role in these journeys, interventions should be sensitive to the potential prevalence and relevance of trauma in order to avoid acting in ways that risk re-traumatisation.

B) Prevalence and Relevance of Pre-Engagement Trauma

Behavioural Radicalisation and Distal Trauma

A proportion of violent extremists experience trauma during childhood and adolescence. Trauma history in isolation is not predictive of radicalisation.

The prevalence of distal trauma is not proof of its relevance. Whilst the prevalence rates of distal trauma amongst samples of violent extremists is increasingly well understood, the mechanisms linking these experiences to radicalisation are not.

Experiences of trauma during childhood and adolescence may be particularly impactful. Traumas experienced during these key stages of development can produce specific effects that have been implicated in radicalisation processes.

Repeated exposure to trauma during early stages of life can produce a cumulative effect. This cumulative effect might contribute to increased vulnerability over time.

Maladaptive responses to distal experiences of trauma can create the context for radicalisation. In some cases, individuals may join violent extremist groups as an attempt to cope with the lasting effects of early-life trauma. In others, maladaptive psychological and behavioural adaptations to trauma might create the context in which radicalisation becomes more likely over longer time periods.

More research is needed to examine whether and how these mechanisms operate, and to uncover the implications of these mechanisms for policy and for practice.

Behavioural Radicalisation and Proximal Trauma

Quantitative research points to the prevalence of trigger events in the periods immediately prior to individual acts of violence. This research suggests that proximal traumas can accelerate radicalisation towards violent action, although it is difficult to unpick the causal processes that might be at work through this type of analysis.

Qualitative research highlights that proximal experiences of trauma can motivate individuals to engage in violent extremist behaviours. Whilst no single event in isolation can explain why an individual becomes behaviourally radicalised, highly personal experiences of trauma have the potential to motivate action when reframed through a collective lens.

Behavioural Radicalisation and Trauma

Pre-engagement trauma, and its effects, can cluster with other factors in ways that might contribute to radicalisation. The relationship between trauma history and radicalisation therefore appears to be heavily contextualised.

Pre-engagement trauma is somewhat gendered, with research highlighting how specific forms of pre-engagement trauma might be more prevalent amongst females, and may be more relevant to understanding their radicalisation. However, empirical evidence relating to this gendered dimension is somewhat mixed.

There is some preliminary evidence to suggest that specific forms of pre-engagement trauma might be predictive of specific behavioural outcomes. For example, exposure to violence pre-engagement has been linked to participation in violence during engagement. However, empirical evidence of this effect remains limited.

More research is needed to examine the granular relationships between pre-engagement trauma and behavioural radicalisation. This includes research examining how individuals adapt to specific types of trauma, and the extent to which adaptations to experiences might help in interpreting radicalisation pathways.

Cognitive Radicalisation and Trauma

There is some evidence of a relationship between trauma and the development of attitudes linked to violent extremism. Research has identified an indirect link between personal, collective, and historical forms of trauma and cognitive radicalisation.

This relationship is complex, heavily contextualised, and mediated and moderated by different factors. A range of different factors have been shown to mediate the relationship between trauma and cognitive radicalisation, including sub-clinical and clinical conditions, and contextual factors.

Violent extremist ideology and identity may perform a protective function for individuals with a trauma history. People may seek out violent ideologies as an attempt to cope with the lasting effects of trauma, although more research is needed to understand these processes better.

C) Engagement as a Potential Source of Trauma

Involvement

Involvement with violent ideologies can expose individuals to potentially traumatic imagery that might elicit a range of psychological responses. Whilst research amongst extremist populations is limited, research with non-extremist samples has highlighted how engaging with violent extremist content online can produce negative psychological effects.

Violent extremist organisations may seek to deliberately induce trauma through extreme content. There is preliminary evidence of extremists seeking to use traumatisation as a mechanism of radicalisation, either by inducing new forms of trauma, or reactivating past traumas and reframing them through a collective lens to motivate action.

More research is needed to examine the potential protective function served by engagement with violent extremism, and the mechanisms by which violent extremist organisations might seek to leverage this protective function by inducing trauma.

Engagement

Behaviourally engaging in violent extremism is a potential source of trauma. Physically joining a violent group in conflict and non-conflict settings can expose individuals to a range of potentially traumatising experiences, whilst participation in harmful activities can elicit feelings of trauma.

Not every individual is traumatised by their engagement-related experiences. Individuals may participate in different activities during their engagement and may experience them differently to others. The extent to which these activities are experienced as traumatic appears to be linked to the subjective meanings that individuals attach to these experiences, rather than their objective severity.

In some instances, engagement may buffer against more severe forms of psychological distress. Whilst rates of clinical and sub-clinical conditions appear to be higher amongst samples of violent extremists, they are perhaps not as pronounced as might be expected given the objectively traumatic events they have experienced.

The relationship between trauma and disengagement is complex. Whilst specific experiences of trauma might motivate some individuals to disengage, such trauma might inhibit disengagement where engagement serves a protective function.

There are three ways in which continued membership or ongoing engagement in violent extremism might serve a protective function against psychological distress:

1. Joining an extremist group might be a maladaptive attempt to cope with the lasting effects of an earlier distal or proximal trauma.

2. Some individuals who are ideologically

committed to a movement may not experience objectively traumatising experiences as traumatic.

3. Continued group membership may inhibit the development of more severe forms of psychological distress or trauma, which sustains commitment to the group as disengagement would remove a key protection against this.

D) The Relationship between Trauma and Disengagement

Research on disengagement-related trauma remains limited. Although a number of preliminary conclusions can be drawn, more research is needed.

The limited research to date provides additional evidence of the protective function that a violent extremist identity might serve. Disengagement can be a distressing experience for individuals who lose this protective function.

This disengagement-related trauma might increase an individual's vulnerability to traumas they might encounter in the post-disengagement period. Whilst anecdotal, individuals who experienced disengagement as a source of distress have discussed feeling more vulnerable in the post-disengagement period.

E) Post-Disengagement Trauma

The lasting effects of earlier traumas can continue to manifest in the post-disengagement period. Issues linked to pre-engagement, engagement, and post-disengagement experiences may continue to affect individuals after disengagement.

Experiences during engagement may contribute to elevated rates of post-disengagement trauma and distress. Exposure to, and participation in, violence have been identified as particularly impactful in this regard, although post-disengagement trauma again appears to be linked more to the subjective meanings applied to specific experiences, rather than their objective severity.

The post-disengagement period can be a source of trauma. Stigmatisation, feelings of shame, and challenges reintegrating can be distressing. More research is needed to understand how traumas that emerge post-disengagement intersect with the lasting effects of earlier traumas that continue to manifest after individuals have disengaged.

F) Considering Intersections Across Different Stages

Trauma experienced across different stages of life can produce a cumulative and compounding effect. Experiences during engagement, disengagement, and post-disengagement can exacerbate the effects of traumas experienced earlier in life.

Practitioners and researchers should consider these types of intersection when examining trauma symptomology emerging during a specific stage of engagement. Exploring the potential relevance of trauma experienced at and across different stages of engagement, and considering any potential compounding effects, will be important for uncovering and ultimately treating the sources of any identified symptomology.

2. TRAUMA AND EXISTING RADICALISATION MODELS

A) Overall Conclusions

Trauma is rarely discussed explicitly within existing radicalisation models. However, trauma is captured in two distinct ways in a small number of radicalisation models. Researchers either highlight the prevalence of trauma within biographies of extremists or examine the relevance of trauma to radicalisation.

- Studies examining prevalence explicitly or implicitly frame trauma as a potential risk factor for radicalisation that can exist at different levels of analysis.

- Studies examining relevance identify both indirect and direct mechanisms by which trauma exposure might contribute to radicalisation trajectories.

B) The Prevalence of Trauma

Trauma, and related constructs like personal crisis, are sometimes cited as potential 'risk factors' in models of radicalisation. These models tend to identify trauma and related phenomena as potential 'push factors' for radicalisation. However, these models say little about the mechanisms by which trauma contributes to risk.

A number of models point to the presence or prevalence of trauma in the life histories of extremists without using the language of risk factors. The analyses in these studies align with many of the themes identified in our review, discussing how both distal and proximal forms of trauma might be implicated in radicalisation, and emphasising the importance of understanding maladaptive responses to trauma. However, they do not provide robust evidence of causality.

Various models of radicalisation highlight the importance of considering trauma experienced in relation to different social contexts. These models highlight the importance of considering how trauma and its effects might manifest at different levels of an individual's social ecology in ways that might be relevant to radicalisation.

C) The Relevance of Trauma

A small number of radicalisation models identify potential indirect and direct mechanisms linking pre-engagement trauma to radicalisation. The former draws attention to the role of behavioural and psychological adaptations in mediating this relationship, and the latter to the potential trigger effect of certain experiences.

Models setting out indirect pathways between trauma and radicalisation highlight how this relationship may be mediated by adaptive responses to traumatic experiences. These models provide additional evidence of how maladaptive psychological responses to trauma might be implicated in radicalisation pathways.

Models examining more direct pathways align with our earlier analysis of proximal trauma by highlighting how experiences of trauma might trigger radicalisation processes. A number of models also identify trigger events as potential risk factors.

3. TOWARDS A TRAUMA-INFORMED PERSPECTIVE ON RADICALISATION

The two bodies of research examined in this report point to the potential relevance of trauma in shaping individual journeys into and out violent extremism. This supports the effort to develop a more explicitly trauma-informed perspective on radicalisation.

Taking a trauma-informed perspective to radicalisation would reframe trauma as a contextual factor, rather than a risk factor for radicalisation. Whilst trauma history may be a risk factor for radicalisation in some cases, individual and collective experiences of, and adaptations to, trauma can also create the context for radicalisation over time.

Socio-ecological models provide a useful foundation for a trauma-informed perspective on radicalisation. These models recognise that individuals existing within contexts that sit across five levels of analysis: the micro, meso, exo and macro systems and the chronosystem, which recognises the temporal context and takes account of historical events and experiences across someone's lifespan.

Viewed through this lens, trauma is both experienced in, and may be a feature of, specific contexts. A trauma-informed perspective therefore understands trauma as emerging from context; as something that is experienced in context; and as context:

- **Trauma from Context:** Trauma is generated at different levels of social ecology. Individual and collective adaptations to traumatic events are present at different levels of analysis and can shape socio-ecological contexts in ways that might contribute to an increased risk of radicalisation in some cases.

- **Trauma in Context:** Individuals encounter trauma in certain historical, social, cultural, and political contexts. These shape the meanings experiences hold and the kinds of responses or adaptations that are available in ways that are relevant to interpreting radicalisation processes. Adaptations to past life events can shape the contexts in which subsequent life events are experienced. In some cases, this can produce a cumulative effect, and a 'downward spiral' towards negative outcomes, including violence.
- **Trauma as Context:** Individuals interpret and respond to different experiences informed by their trauma history. Viewing present day cognitions and behaviour through the lens of past trauma history can help to contextualise 'risk factors' in ways that can assist in interpreting radicalisation.

A trauma-informed perspective would recognise that trauma could be a feature of someone's life history but would avoid making assumptions about the association between trauma and risk, and securitising and pathologising trauma and its effects.

Instead, a trauma-informed perspective would acknowledge the different effects that trauma may produce that are individualised; informed by the meanings they hold for the individual; and which interact with past life experiences, and current contexts.

RECOMMENDATIONS

RECOMMENDATIONS FOR POLICY AND PRACTICE

Policymakers and practitioners may benefit from adopting a trauma-informed perspective when seeking to understand, and counter, radicalisation. This requires a nuanced approach that avoids making assumptions about the likely prevalence or relevance of trauma in the life histories of potential, actual, or former violent extremists.

- Policymakers and practitioners should consider the potential presence of trauma at different levels of social ecology amongst at risk or violent extremist populations, and avoid acting in ways that risk re-traumatisation.
- Such an approach should not assume that trauma, even when present in an individual's life history, produced a specific effect, or had an impact on an individual's journey into or out of violent extremism.
- However, it would consider whether and how trauma experienced at and across different stages of life and engagement in violent extremism might have contributed to an individual's journey into and/or out of violent extremism.
- This more nuanced approach rests on understanding the individualised and contextualised ways in which individuals and collectives might adapt to trauma, and how these adaptations can contribute to risk or resilience.
- Focusing on adaptive responses to trauma would provide a foundation for contextualising those behaviours and cognitions that are traditionally associated with risk through reference to a past trauma history in ways that could support risk assessment, and ultimately interventions.

RECOMMENDATIONS FOR FUTURE RESEARCH

More research is needed to further explore the utility of using a trauma-informed approach to explore radicalisation pathways. This research might include:

- Deeper, empirical investigation of the indirect and direct mechanisms linking trauma and adversity to engagement in violent extremism cited in this report.
- Empirical research examining how trauma history, and maladaptive responses to past trauma, might create the contextual conditions for radicalisation.

- Research analysing how violent extremist movements might seek to induce trauma or re-activate past trauma as a mechanism of radicalisation.
- Studies focused on the protective functions that violent extremist identities perform for individuals with a trauma history, including how such identities might inhibit violent extremists from developing more severe forms of psychological distress linked to their engagement.

More research examining the use, and the effectiveness of trauma-informed approaches to countering radicalisation is also needed. This research might include:

- In-depth analyses of existing interventions to understand the current use of trauma-informed practice in the field of countering radicalisation to violence.
- Evaluations of existing trauma-informed interventions in this field, and in related fields of violent prevention, in order to identify areas of good practice that could be utilised to counter radicalisation to violence in different contexts.
- Research amongst policymakers and practitioners to understand the opportunities and barriers of embedding trauma-informed practice in this space.

1. INTRODUCTION

1.1 BACKGROUND

This report presents the findings of a systematic review of research on how, and under what circumstances, trauma might be implicated in individual journeys into, and out of, violent extremism. It builds on previous work carried out by the research team on these dynamics, including a scoping review of the literature (Lewis & Marsden, 2021), and a process of network development involving a series of workshops bringing together researchers, policymakers and practitioners to discuss the relevance of trauma and adversity to violent extremism. This process confirmed there was a nascent, but growing, body of research exploring this topic, and that there was significant practical and analytical utility in exploring these processes in greater depth.

The analysis presented in this report develops this research programme in three ways:

1. Undertaking a systematic review of post-2000 empirical, academic research on trauma, adversity and violent extremism to better understand a) the prevalence of trauma in the life histories of violent extremists; and b) the relevance of trauma in interpreting pathways towards, and away from, violent extremism.

2. Examining the different ways in which trauma is implicated in radicalisation pathways by synthesising this research on trauma, adversity and violent extremism with radicalisation models identified in a separate systematic review.

3. Exploring how applying a trauma-informed perspective to understanding journeys into and out of violent extremism might inform research and practice.

1.2 OVERVIEW OF THE REPORT

This report consists of eight sections. The next section provides an overview of the key concepts discussed in the report, before discussing the conceptual framework that underpins our analysis. This is followed by an overview of our methodology and by three analysis sections addressing the three objectives outlined above:

1. Section one sets out the evidence identified through the systematic review. Drawing on 159 studies, it discusses the different relationships that have been identified between trauma, adversity and violent extremism.

2. The second section explores whether and how trauma is captured in existing radicalisation models. This draws on an analysis of 99 papers identified through a separate systematic review of radicalisation models (Corner & Taylor, 2023).

3. The final section presents a more theoretical and conceptual analysis, reviewing the implications of these findings for research and practice.

The report concludes by summarising the key conclusions, implications, and recommendations for researchers, policymakers, and practitioners.

2. CONCEPTUALISING TRAUMA, ADVERSITY & VIOLENT EXTREMISM

2.1 CONCEPTUALISING TRAUMA

The term 'trauma' has been conceptualised in different ways, and to refer to experiences that are objectively or subjectively distressing; the psychological effects of such experiences; or experiences and their effects (Briere & Scott, 2015). We adopt the third approach and define trauma as both specific experiences and effects.

The definition of trauma used to inform this systematic review is deliberately broad, aiming to capture a wide range of experiences and effects (Boals, 2018). These are set out in Figure 1. Whilst recognising that conceptualisations of traumatic experiences differ, we draw on the following definition that understands them as: 'an actual or threatened harm to a person's safety, integrity, or life, and that are negative in impact and outcome' (Fink & Galea, 2015, p. 2). This inclusive definition takes account of the differing dimensions of trauma including 'type, chronicity, severity, expectedness, and timing' (Fink & Galea, 2015, p. 2), which can inform a range of outcomes.

Acute
Singular, highly distressing events.

Chronic
Prolonged and continued exposure to traumatic experiences.

Direct
Individuals can be affected by an event that they personally experienced.

Indirect
Individuals can be vicariously affected by another individual's experience of trauma.

Personal
Some experiences of trauma are specific to individuals (e.g., past histroy of abuse).

Collective
Some experiences of trauma are shared by collectives (e.g., conflict or natural disaster).

Contemporary
Individuals can be directly or indirectly affected by traumas that occur during their own lives.

Historical & Intergenerational
The effects of past traumas can be transmitted across generations.

Figure 1. Different Dimensions of Trauma (Lewis & Marsden, 2021)

As well as taking account of the potential clinical outcomes of trauma, including diagnosable conditions such as post-traumatic stress disorder (PTSD) (e.g., Canetti et al., 2021), the review also captures evidence about the sub-clinical effects of trauma including observable stress or strain (e.g., Corner & Gill, 2015), and the impact trauma and adversity can have on developmental processes (e.g., Windisch et al., 2022). Our review adopts a non-clinical perspective and does not provide the same kind of clinical analysis of trauma and its neurobiological and physiopathological effects as clinicians researching radicalisation have done (e.g., Rolling et al., 2022), however we draw on clinical perspectives on trauma and violent extremism where relevant.

Our approach also reflects the subjective nature of trauma. Psychological research suggests that it is less the objective severity of an experience that dictates whether it is traumatising, and more the meaning the individual attaches to it (Boals, 2018). This means that although events which might objectively be considered to represent 'an actual or threatened harm' may be prevalent in the life histories of violent extremists (e.g., Windisch et al., 2022; Speckhard & Ellenberg, 2020; Gill et al., 2021), it is only when those events are 'negative in impact and outcome' that they can be considered traumatic. Similarly, whilst less obviously traumatic experiences might be considered irrelevant, they may still produce negative effects, which may have the potential to play a role in radicalisation processes (Windisch et al., 2022). This report therefore aims to capture data relating to both objectively and subjectively traumatising events.

2.2 CONCEPTUALISING VIOLENT EXTREMISM

This report defines violent extremism as 'the beliefs and actions of people who support or use violence to achieve extreme ideological, religious or political goals' (Canada Centre, 2018, p. 7). We deliberately use the term 'violent extremism' as opposed to related concepts such as 'terrorism' because it is a broader term that captures a wider range of violent beliefs and behaviours than those accommodated by many definitions of terrorism (Vergani et al., 2020). It also allows us to capture research from a variety of contexts with differing definitions of terrorism and violent extremism and different legislative frameworks. Our analysis is therefore not restricted to individuals who have engaged in terrorism as traditionally understood (such as joining a proscribed group, or planning or perpetrating an attack). Instead, we seek to examine the relationships between trauma and adversity, and a broader range of radicalisation processes.

In defining violent extremism as beliefs and actions, this report examines research relating to both cognitive and behavioural forms of radicalisation (Wolfowicz, et al. 2021; Vergani et al., 2021). Following Vergani et al. (2021), we define cognitive radicalisation as the process by which individuals come to express 'support for violent extremist acts (e.g., terrorist attacks), people (e.g., Anders Breivik), and groups (e.g., Al Qaeda) that committed acts of violent extremism (e.g., terrorism)', and behavioural radicalisation as the process by which an individual is radicalised into 'committing an act of violent extremism (e.g., terrorism) or joining a violent extremist group (e.g., Islamic State of Iraq and the Levant or Al Qaeda)' (Vergani et al., 2021, p. 859).

In exploring both facets of radicalisation, we explore the relationships between trauma and adversity and the development of beliefs supportive or sympathetic towards extremist violence; and engagement in behaviours that are violent, or supportive of violent extremist causes. In adopting this definition, we include research on a range of extremist ideologies that either explicitly promote violence, or which have motivated or been used to justify violent action to achieve ideological, religious or political goals.

2.3 THE RELATIONSHIPS BETWEEN TRAUMA, ADVERSITY & VIOLENT EXTREMISM

There is no simple, causal link between trauma, adversity and violent extremism. Even though a proportion of violent extremists may have experienced trauma prior to or during their radicalisation, this should not be taken as evidence of a causal relationship (Lewis & Marsden, 2021). International research has shown that most people will experience some form of trauma during their lives (Benjet et al., 2016) and continue to live prosocial lives. Even studies which suggest that the prevalence rates of trauma may be higher amongst some cohorts of violent extremists compared to other samples (e.g., Windisch et al., 2022) find that identifiable trauma is not present in the life histories of all violent extremists. Equally, even when an identifiable trauma is present, it may have played little to no role in their radicalisation (Al-Attar, 2020).

Our previous report pointed to the increasing recognition of the potential traumas that might result from being engaged in violent extremism (Lewis & Marsden, 2021). However, it should not be assumed that all those who engage in violent extremist activity will be traumatised. Individual experiences during the engagement period vary (Speckhard & Ellenberg, 2020), and individual responses to shared experiences of engaging in violence - even those that appear to be objectively traumatic - may differ markedly (Corner & Gill, 2021). Significant caution is therefore needed when seeking to interpret the relationships between trauma, adversity and violent extremism.

Radicalisation is an individualised process shaped by the intersection of different factors that are specific to individuals (Wolfowicz et al., 2021). In isolation, trauma does not cause radicalisation. However, in some cases, trauma may be implicated in radicalisation processes. Existing research suggests that understanding the relevance of trauma to an individual's radicalisation rests on examining the broader context in which that trauma is experienced (e.g., Simi et al., 2016; Windisch et al., 2022). This report explores these contextualised dynamics to try and interpret the mechanisms by which trauma might be relevant to understanding violent extremist outcomes.

Trauma may be both something that contributes to engagement in violent extremism and a consequence of engagement (e.g., Speckhard & Ellenberg, 2020; Corner & Gill, 2020). Any analysis of trauma will therefore benefit from considering the potential cumulative effects of trauma experienced at and across different stages of an individual's life (e.g., Simi et al., 2016; Windisch et al, 2022), and how this relates to their engagement in violent extremism (e.g., Corner & Gill, 2020; 2021).

This systematic review is therefore informed by a conceptual framework that provides a foundation for exploring the different stages of life and different stages of engagement in violent extremism during which individuals might be exposed to trauma. This aims to interpret how the effects of trauma experienced at and across these different times might manifest throughout an individual's life course.

2.4 CONCEPTUAL FRAMEWORK

The conceptual framework is informed by two bodies of research that draw attention to two important dimensions of time. First, this review draws on Emily Corner and Paul Gill's work which has examined how trauma might be implicated at and across different stages of engagement in violent extremism (Corner & Gill, 2020; 2021). And second, it draws on research which has examined the effects of trauma experienced at and across different stages of life in shaping journeys into, and out of, violent extremism (Simi et al., 2016; Windisch et al., 2022; Logan et al., 2022). Both bodies of research emphasise the importance of considering the context in which trauma is experienced.

2.4.1 DIMENSION I: STAGE OF ENGAGEMENT

Emily Corner and Paul Gill (2020; 2021) have illustrated how 'psychological distress' can emerge during, and persist across, different stages of engagement in violent extremism: pre-engagement; engagement (and disengagement); and post-disengagement. The review therefore examines how trauma and its effects might manifest during four stages of engagement in order to explore specific questions:

- **Pre-engagement:** How and why trauma might contribute to cognitive and/or behavioural radicalisation, including engagement in violent action.
- **Engagement:** How and why engagement in violent extremism might be a site of trauma or might exacerbate pre-existing issues linked to earlier traumas.
- **Disengagement:** The extent to which disengagement may be linked to traumatic experiences during engagement or may itself be a source of trauma.
- **Post-disengagement:** The extent to which the lasting effects of earlier traumas might persist after disengaging from violent extremism; and the extent to which the post-disengagement period might itself be a site of additional trauma.

This review also considers the intersection of traumas that occur across different stages of engagement. For example, by examining how traumas experienced during later stages of engagement might exacerbate the effects of earlier traumas.

2.4.2 DIMENSION II: STAGE OF LIFE

Research on the relationships between violent extremism and trauma is increasingly drawing on developmental or life-course approaches (Windisch et al., 2022; Simi et al., 2016). This perspective emphasises the importance of understanding the time period when events are experienced, and recognises that age and life history influence the context within which trauma or adversity is encountered (Thornberry et al., 2001).

Trauma is experienced differently depending on an individual's stage of life. Childhood is a period of particular vulnerability when the impact of trauma is likely to be most significant (van der Kolk, 2005; Fink & Galea, 2015). The minds of children and adults differ in the way they respond to trauma, and experiencing trauma can negatively impact the development of a growing mind (van der Kolk, 2005). Commonly described as 'developmental trauma disorder' (DTD) (van der Kolk, 2005), childhood trauma has been linked to a variety of negative outcomes, including violent offending (Brooks et al., 2021) and engagement in violent extremism (Windisch et al., 2022). DTD also helps interpret some of the less visible signs of trauma which are less easily identified through clinical diagnoses of conditions such as PTSD (van der Kolk, 2005).

Taking this developmental approach helps make visible how the cumulative effect of adversity can shape negative outcomes over the life course. The processes by which individuals adapt to negative experiences have the potential to shape trajectories in potentially maladaptive ways, and limit the perceived or real opportunities to live pro-social lives (Thornberry & Krohn, 2001). Responses to earlier life experiences have the potential to shape the context in which individuals respond to subsequent life events. Persistent experiences of trauma can, under some circumstances, produce a cumulative effect with the potential to influence trajectories towards violence. These ideas have been acknowledged in research on violent offenders for some time (e.g., Fox et al., 2015; Wolff et al., 2018), and their applicability to violent extremism is now being explored in greater depth by authors writing from clinical (e.g., Rolling et al., 2022) and non-clinical (e.g., Simi et al., 2016) perspectives.

3. SYSTEMATIC REVIEW METHODOLOGY

3.1 OVERVIEW OF THE REVIEW

Underpinning this report is a systematic review of empirical, academic research on trauma, adversity and violent extremism published since 2000. To be included in this review, studies had to present empirical data that was relevant to understanding the relationship (or lack thereof) between trauma, adversity and violent extremism.

In total, 159 eligible studies were eligible for inclusion in the systematic review. In this report, we use 'study' to refer to individual publications. Whilst the study count therefore includes several publications that report on the same research project, these publications often presented findings from different components or sub-samples of a project, or different forms of analysis. It was also not always possible to determine whether and how individual publications overlapped. For consistency, we therefore included all publications in the overall count. However, this means that the counts presented should be read as illustrative only.[1]

3.2 SEARCH STRATEGY

Studies were identified using a strategy informed by the Campbell Collaboration guidelines (see Lewis et al., 2023). This combined several search methods:

1. Keyword searches in academic repositories accessible via the University of St Andrews: PsycNet; Scopus; Web of Science; and Academic Search Complete.[2]
2. Supplementary searches in Google Scholar using an abbreviated list of terms.
3. Hand searches: Searches of key journals[3] and bibliographies of key literature reviews (e.g., Gill et all., 2021); and forward and backward citation searches.

Initial searches were conducted in November and December 2021, before a second search was conducted in March 2023 to identify any additional, eligible studies.

3.3 INCLUSION CRITERIA

To be included in the review, studies had to meet the following criteria:

- Peer-reviewed academic studies or examined PhD theses.
- Published since 2000.
- Published in English.
- Empirical studies drawing on primary or secondary data.
- Assessed as being of sufficient quality against two quality assessment tools (Hassan et al., 2021; Gough, 2007).

Both qualitative and quantitative studies were included. Larger-scale quantitative studies are useful

1 More detailed information on the methodology used - including information relating to The Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) - is available on request.
2 (extremis* OR radicali* OR (terroris* AND (offend* OR offence* OR arrest* OR perpetrat* OR commit* OR convict* OR prison* OR engage* OR recruit*))) AND (trauma* OR stress* OR distress* OR strain OR advers* OR abuse* OR maltreat* OR neglect* OR victimi*).
3 These journals were: Terrorism and Political Violence; Studies in Conflict & Terrorism; Behavioral Sciences of Terrorism and Political Aggression; Critical Studies on Terrorism; Journal for Deradicalization; Perspectives on Terrorism; International Journal of Conflict & Violence; Dynamics of Asymmetric Conflict; Journal of Policing, Intelligence & Counter Terrorism; and the Journal of Threat Assessment and Management.

for quantifying the prevalence of trauma in the life histories of violent extremists. However, these studies are often less well suited for understanding how identified trauma influenced journeys into, and out of violent extremism. In contrast, qualitative analyses are better able to explore this type of relationship. Consequently, a significant amount of research cited in this review is qualitative in nature.

3.4 IDENTIFYING TRAUMA IN THE LITERATURE

Only studies that presented data relating to the relationship between trauma, adversity and violent extremism (as defined above) were included in the review. A key challenge in identifying relevant research was that the term 'trauma' was used inconsistently. Some authors do not use the term when describing experiences that are captured by common definitions of trauma, whilst others use the term to account for a broader range of experiences than those captured by such definitions. Given the subjective nature of the term, it could feasibly be argued that any negative experience could be potentially traumatic in some cases. It was therefore important to bound the review, and meant that we only included studies that adopted the following approaches:

a. Specifically discussed the relevance of trauma in the life histories of violent extremists by using established trauma-informed frameworks (e.g., Adverse Childhood Experiences, or ACEs).

b. Explicitly used the concept of 'trauma' as a variable of interest in relation to violent extremism, regardless of how trauma was defined by the authors.

c. Examined the relevance of experiences captured within established trauma-informed frameworks, even when not using the term trauma specifically.

d. Explored the impacts of more subjectively traumatic experiences.

e. Captured data relating to the clinical or sub-clinical effects of trauma.

Whilst we are confident in this approach, there is the possibility that a small number of studies examining phenomena that would meet others' definitions of trauma may not be included. However, our approach has sought to identify an appropriate balance between inclusivity and exclusivity in order to identify those studies that meet our own definition and conceptualisation of trauma set out above.

3.5 IDENTIFYING RELEVANT RESEARCH ON VIOLENT EXTREMISM

The systematic review captures research relating to multiple forms of violent extremism, including violent forms of Islamist, extreme right-wing, extreme left-wing and nationalist ideologies. Whilst there has been some debate as to whether Incels should be included within definitions of violent extremism, we also include emerging research on Incels as it provides useful evidence as to how traumatic experiences might contribute to the development of extreme beliefs, and the function that ideology can serve for those who have a history of trauma. In contrast, we do not include research relating to broader conspiracy theories, or other forms of violence.

The systematic review captures evidence drawn from different samples who have illustrated behaviours, intentions or attitudes related to violent extremism:

1. Former or current violent extremists: Current or former members of violent extremist organisations or movements (whether formal or informal), and individuals who participated in (or who tried to participate in) acts of extremist violence as part of a formal organisation, or alone.

2. At risk populations: Individuals exhibiting signs of cognitive radicalisation, such as espousing extremist views or viewing extremist content online.

3. Non-extremist populations: Research with the general population (or subgroups) which has explored relationships between trauma and attitudes related to violent extremism. Whilst findings of this research cannot easily be extrapolated to extremist populations, it can be used to examine how trauma might be implicated in the earlier stages of cognitive radicalisation.

3.6 LIMITATIONS

This analysis is based on a robust set of 159 empirical studies that met specific quality requirements. However, there are a number of limitations to the existing evidence base. The mechanisms that mediate between experiences of trauma and involvement in violent extremism are poorly understood. Although trauma is a feature of some violent extremists' histories, this does not mean there is a meaningful causal relationship. Research is beginning to explore potentially relevant mechanisms that inform these relationships, however this is an area that remains under-developed. We therefore avoid making claims about causality and caution against doing so.

The samples that underpin much of the research in the report are small opportunity samples. Particular sub-groups are over-represented in the research, specifically, lone actors and suicide terrorists. Comparative analysis across sub-groups is also rare. The research cannot therefore be considered representative of the wider population of people who engage in or support violent extremism. However, these smaller qualitative studies can help to explore the mechanisms through which trauma might shape pathways into and through violent extremism.

4. SUMMARY OF RESULTS

The literature searches identified 159 eligible studies that met the inclusion criteria outlined above. The vast majority of these studies (n=143) presented evidence relating to traumas experienced during the pre-engagement period. This included studies that discussed the prevalence of different forms of pre-engagement trauma amongst different samples, as well as those that sought to understand the relevance of trauma in interpreting different types of radicalisation outcomes.

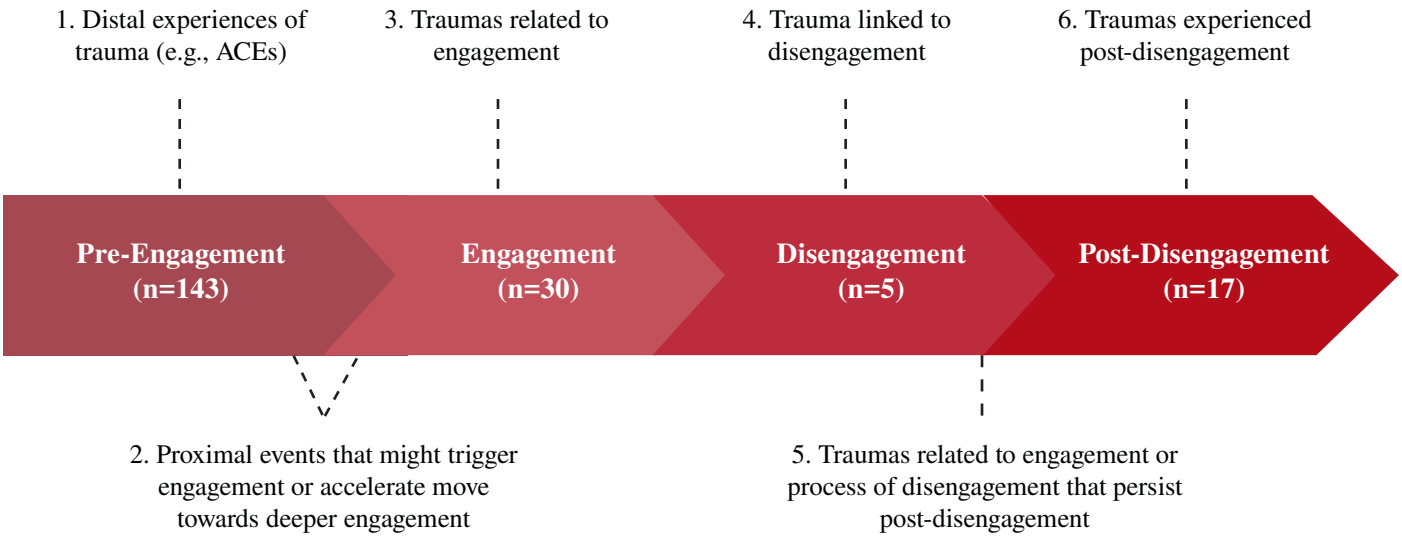

Figure 2. Mapping trauma across different stages of engagement

Research relating to the engagement (n=30), disengagement (n=5), and post-disengagement (n=17) stages was less prevalent. The analysis that follows is structured around these stages. Rather than citing every study included in these counts, we focus on exploring key themes from our analysis, and therefore only cite studies that best exemplify these themes.

Journeys into and out of violent extremism are not as linear as Figure 2 suggests. Whilst we examine the four stages individually, the relationships between traumas experienced at different stages of engagement can be multidirectional and individuals can experience trauma at and across different stages. For example, whilst engagement-related traumas might contribute to disengagement in some cases, traumas experienced during the disengagement and post-disengagement period could theoretically contribute to an individual choosing to re-engage in violent extremism. The diagram above therefore provides a framework for mapping the evidence, and for considering the different traumas that individuals might be exposed to, rather than representing actual journeys into and out of violent extremism.

5. TRAUMA ACROSS DIFFERENT STAGES OF ENGAGEMENT

5.1 PRE-ENGAGEMENT TRAUMA (N=143)

The analysis of pre-engagement trauma is split into four sections. The first two sections examine research on behavioural radicalisation, considering the prevalence and relevance of distal (Section 5.1.1) and proximal forms of trauma (Section 5.1.2) in the life histories of current or former violent extremists, as well as 'at risk' individuals referred to or supported through counter-radicalisation interventions. This is followed by a discussion of broader research examining the relationships between pre-engagement trauma and behavioural radicalisation (Section 5.1.3). The final section examines research exploring how forms of pre-engagement trauma might contribute to cognitive radicalisation amongst non-extremist samples (Section 5.1.4).

5.1.1 DISTAL TRAUMA AND BEHAVIOURAL RADICALISATION

This section focuses on studies examining childhood or adolescent trauma(s), before exploring how these distal experiences might be implicated in radicalisation pathways.

In total, 55 studies examined the prevalence and/or the relevance of distal forms of pre-engagement trauma amongst samples of at risk or radicalised individuals. This included 38 studies relating to childhood and 20 studies on adolescent trauma.[4] An additional 17 studies examined more distal forms of trauma within such samples, but did not specify the stage of life during which these experiences occurred.

Childhood Trauma

Most of the 38 studies that related to childhood trauma examined experiences that mapped onto the influential adverse childhood experiences (ACEs) framework developed by Felitti et al. (1998). This included studies that specifically used this framework (e.g., Windisch et al., 2022; Logan et al., 2022), as well as those that discussed experiences comparable to those captured by it (e.g., Simi et al., 2016). The original ACEs framework is made up of ten experiences that have been linked to a range of negative outcomes later in life (see Windisch et al., 2022) covering:

- Emotional abuse
- Physical abuse
- Sexual abuse
- Emotional neglect
- Physical neglect
- Witnessing violent treatment toward a caregiver
- Household substance abuse
- Household mental illness
- Parental separation or divorce
- Having a household member with a history of incarceration

Studies using the ACEs framework often quantify these experiences across childhood and adolescence. For example, Windisch et al. (2022) examine the prevalence of ACEs up to the age of 18 amongst former white supremacists. In what follows, ACEs and

4 Eleven further studies examined links between different forms of trauma and adversity and cognitive radicalisation in samples of adolescents. These are discussed later in the report.

comparable experiences are considered as childhood trauma unless a study specifically stated that such events occurred during adolescence or in adulthood.

A smaller number of studies analysed broader forms of childhood adversity and/or trauma that are not captured by the ACEs framework, such as bullying, victimisation as a child (e.g., Green, 2018), or more general family dysfunction (e.g., Noor, 2021).

Each of the 38 studies suggested that a proportion of violent extremists experience childhood trauma prior to their radicalisation. However, previous research has highlighted that prevalence rates for different experiences that align with those captured in the ACEs framework vary markedly across studies. For example, a systematic review conducted by Gill et al. (2021) found that prevalence rates for different forms of trauma fell between:

- 17.6% and 71.4% for physical abuse.
- 23% and 28.5% for sexual abuse.
- 16.35% and 85.3% for neglect or psychological abuse.
- 36% and 82% for parental abandonment.
- 18.6% and 64% domestic or neighbourhood violence.

We identified similar variation across those studies that presented prevalence rates for multiple (e.g., Cherney & Belton, 2021; Oppetit et al., 2019; Frounfelker et al., 2022; DeMichele et al., 2022; Bronsard et al., 2022; Rousseau et al., 2022; Mohammed & Neuner, 2022a; 2022b) or singular (e.g., Botha, 2014; Sikkens et al., 2017; Speckhard and Shajkovci, 2019; van Leyenhorst & Andrews, 2019; Morris & Reid Meloy, 2020; Becker et al., 2020) childhood traumas. The majority of these prevalence rates fell between the ranges reported by Gill et al. (2021) in their review as shown above, although Gill et al. do not specify the stage of life during which these experiences occurred, or specifically capture only those experiences that occurred during childhood.

One of the challenges interpreting prevalence rates is that they provide greatest insight when compared with control groups. However, only a few studies use control groups, and the results from such studies are mixed. Some of this research reports that prevalence rates of different forms of childhood trauma are more pronounced amongst violent extremists when compared to other offending populations (e.g., Stemmler et al., 2020; Windisch et al., 2022) or the general population (e.g., Windisch et al., 2022). Whilst other studies suggest that prevalence rates for some traumas are higher amongst the general population and/or other types of offenders (e.g., Pfundmair, 2019; Clemmow et al., 2020b; Dhumad et al., 2020).[5] The results of these studies are particularly difficult to interpret when the results vary across different types of trauma.

For example, Bronsard et al.'s (2022) analysis of 15 minors prosecuted for 'criminal association to commit terrorism' found that this group was more likely (although not statistically significantly) to have experienced specific events during childhood than a control group of 101 teenagers prosecuted for other forms of (non-terrorist) delinquency. However, the control group was more likely to have experienced other traumas. Whilst the conclusions that can be drawn from a small sample are limited, the figures shown in Table 1 suggest that specific forms of trauma - particularly exposure to violence - might be more closely linked to radicalisation outcomes than others. This relationship between violence and radicalisation is explored in detail in Section 5.1.4.

5 Similar findings are also reported in grey literature reports such as Versteegt et al. (2018) whose comparative analysis of a sample of terrorist and non-terrorist offenders in the Netherlands found 'there was 'not necessarily more trauma in the terrorist unit group, but more impact of traumatic events and less adequate coping mechanisms' (p. 116). The terrorist sample was more likely to have experienced trauma related to 'relationship issues', whereas non-terrorists were more likely to have a history of trauma linked to 'lethal violence.

Event in childhood	Radicalised adolescents	Non-radicalised adolescents
Emotional violence	6 (40.0%)	19 (21.8%)
Physical violence	6 (40.0%)	27 (31%)
Sexual violence	1 (6.7%)	9 (10.3%)
Emotional neglect	7 (46.7%)	19 (21.8%)
Physical neglect	0 (0.0%)	8 (9.2%)
Absence of one parent	2 (13.3%)	40 (46.0%)
Mother maltreated	2 (13.3%)	16 (19.5%)
Parental drug abuse	2 (13.3%)	22 (26.8%)
Parental psychiatric condition	1 (6.7%)	24 (29.3%)
One close relative in prison	4 (26.7%)	45 (56.3%)

Table 1. No. of respondents experiencing adversity (Bronsard et al., 2022)

Rather than solely focusing on prevalence, our analysis aims to examine the relevance of childhood trauma in shaping radicalisation. Following our conceptual framework, this means using a life-course perspective to explore the mechanisms by which early-life trauma might contribute to radicalisation over longer time frames (see Section 7).

Adolescent Trauma

Evidence relating to adolescent trauma is less robust. Only a small number of studies report on the prevalence rates of adolescent trauma amongst samples of violent extremists. One example is research from DeMichele et al. (2022), which found that 56.5 per cent of their sample of 47 white supremacists experienced physical abuse during adolescence. Whilst a number of studies have interviewed adolescents to explore the relationship between adversity and cognitive radicalisation, these studies do not necessarily capture the effects of adversity experienced during this life stage.

Literature relevant to adolescence includes research examining the relationship between exposure to violence in conflict (e.g., Victoroff et al., 2010; Laufer et al., 2009) and non-conflict settings (e.g., Jahnke et al., 2021; Haymoz et al., 2021; Pedersen et al., 2017; Harpviken, 2021); and a series of studies analysing the relationship between experiences of social adversity and sympathy for violent radicalisation (Li et al., 2023; Miconi et al., 2022; Miconi et al., 2021; Rousseau et al., 2019; 2020; 2021).

This research provides some tentative, albeit sometimes contradictory, evidence of a potential link between trauma and violent extremist attitudes amongst adolescents. This is explored in more detail in section 5.1.4 on cognitive radicalisation as it cannot be easily extrapolated to individuals who have been behaviourally radicalised and become engaged in violent extremist movements. Unfortunately, current research provides little insight into the specific relevance of adolescent trauma in contributing to engagement in violent extremism. Indeed, one study that compared samples of radicalised adolescents to radicalised adults in France found no significant

differences in prevalence rates for different traumas across both samples (Oppetit et al., 2019).

Although empirical evidence relating to adolescent trauma and radicalisation remains limited, a small number of studies have argued that adolescence, as a key stage of development, is likely to impact how trauma is experienced (e.g., Botha, 2014; Schröder et al., 2022). Following our conceptual framework, we examine how the specific context of adolescence might shape how individuals adapt to traumatic experiences in ways that might be relevant to understanding radicalisation processes.

Life Course Perspectives

A number of studies used a life-course perspective to examine radicalisation, and the potential role of more distal forms of trauma (e.g., Simi et al., 2016; Moeller & Scheithauer, 2022; Windisch et al., 2022; Logan et al., 2022). This research draws attention to pathways linking trauma in childhood and adolescence to radicalisation processes unfolding over longer time frames (Simi et al., 2016; Windisch et al., 2022).

Life-course perspectives emphasise that interpreting the impact of a life experience rests on understanding both what an individual experienced, and when an event occurred (Moeller & Scheithauer, 2022). This section therefore examines research which discusses why traumas experienced in childhood or adolescence may be particularly relevant to radicalisation (e.g., Grimbergen & Fassaert, 2022; Noor, 2021).

The first study to apply a developmental approach to understanding the relationship between trauma and violent extremism was Simi et al.'s (2016) analysis of life history interviews with 44 former white supremacists. This found that 37 people from this sample had experienced at least one 'adverse environmental condition' during childhood (e.g., physical abuse; emotional and physical neglect; parental incarceration; parental abandonment; witnessing serious violence) and 19 had experienced three or more.

This analysis informed the development of the 'risk factor model' (Simi et al., 2016). The original model included three dimensions: 1) experiences of childhood adversity; 2) the subsequent onset of conduct problems in adolescence; and 3) non-ideological motivations and circumstances that lead to extremist participation. It identified a pathway linking early-life trauma to later engagement in violent extremism:

> **… [the] effect of early childhood risk factors, negative emotionality, and adolescent misconduct creates a downward spiral that leads individuals to regard extremist groups as a support system, capable of addressing nonideological needs.**
>
> **(Windisch et al., 2022, p. 1209)**

The risk factor model understands participation in violent extremism as a maladaptive attempt to cope with early-life trauma and its continuing effects. This model, and the notion of participation in violent extremism as a maladaptive response to distal experiences of trauma, has proved impactful. A number of subsequent studies have deployed this model (Windisch et al., 2022; Logan et al., 2022; DeMichele et al., 2022), whilst several other studies have adopted a similar approach when examining the relationship between early-life trauma and radicalisation (e.g., Grimbergen & Fassaert, 2022; Noor, 2021; Moeller & Scheithauer, 2022). This section examines both bodies of literature and explores the evidence underpinning this approach.

The Relevance of Early Life Trauma

Three studies used the ACEs framework to examine the presence of childhood trauma in samples of current, former (Windisch et al., 2022; Logan et al., 2022) or suspected violent extremists (Grimbergen & Fassaert, 2022). As shown in Table 2, all three studies found that a significant proportion of their samples reported experiencing at least one ACE, whilst the proportion reporting having experienced four or more ACEs – a

figure that has consistently been found to be correlated to violent and serious offending later in life (e.g., Ford et al., 2019) – ranged from 35.3 to 63 per cent. Whilst caution is needed when reading across multiple studies, the results illustrate that some proportion of former and/or suspected violent extremists had experienced at least one ACE. These studies also find that different forms of childhood adversity often co-occur.

	Windisch et al. (2022) (n=91 former white supremacists)	Grimbergen & Fassaert (2022)(n=34 adults suspected of VE)	Logan et al. (2022) (n=20 left- or right-wing extremists)
At least one ACE	90%	70.6%	95%
Four or more	63%	35.3%	60%
Average	4.4 ACEs	2.1 ACEs	3.95 ACEs

Table 2. Comparative rates of ACEs

Of these three studies, only Windisch et al. (2022) used a control group. Notably, they found that the proportion of former white supremacists (n=91) who reported four or more ACES before the age of 18 (63%) was slightly higher than a control group of "high-risk" juvenile offenders (55%) and significantly higher than the figure within a general population control group (16%). This research points to the cumulative effect of repeated childhood trauma, where: 'extremist onset does not begin with a single life event but rather is generated, and further exacerbated by the cumulative impact of multiple adverse experiences during childhood' (Windisch et al., 2022, p. 1200). Logan et al. (2022), and Grimbergen and Fassaert (2022) identify a similar cumulative effect.

Grimbergen and Fassaert (2022) point to a 'statistically significant positive association' between the number of ACEs reported in a sample of intervention clients, and two types of 'self-sufficiency problems': mental health issues, and current and/or past involvement with police and the law. Logan et al. (2022) similarly identify this type of cumulative effect when comparing left-wing (n=10) and right-wing (n=10) extremists.

In their sample, 50 per cent of left-wing and 70 per cent of right-wing extremists had experienced four or more ACEs during the first eighteen years of life, although right-wing extremists exhibited higher rates of adversity (Logan et al., 2022, p. 9). The severity of adversity also varied, with right-wing extremists experiencing 'a spectrum of abuse that exceeded the scope of "normal" abuse' (Logan et al., 2022, p. 9).

Further evidence for Simi et al.'s (2016) risk factor model is provided by Windisch et al. (2022) and Logan et al. (2022). Windisch et al. (2022) identified three maladaptive coping strategies for childhood trauma within their sample – the loss of childhood innocence; self-blame; and short-fuse – and incorporated them within Simi et al.'s original model. In noting how these maladaptive coping strategies were implicated

6 Grimbergen and Fassaert only recorded data relating to nine categories, as the data that they sourced did not distinguish between emotional and physical abuse as outlined in the ACEs scale.

in radicalisation pathways over longer time periods, they highlighted how joining an extremist group can be a direct attempt to cope with trauma, but also 'an extension of maladaptive coping rather than an origination' (Windisch et al., 2022, p. 1220).

Logan et al. (2022) similarly describe conduct problems in adolescence, such as experimenting with drugs before the age of sixteen or truancy, as 'maladaptive adjustment issues used to manage the emotional distress associated with adversity' which increased susceptibility to left-wing and right-wing extremism (p. 12). A useful example of how maladaptive responses to trauma might increase the risk of radicalisation is found in this study's discussion of escaping adversity at home:

> **[P]articipants in both [left-wing and right-wing] samples reported running away as a short-term adaptive solution to escape adversity at home. However, running away also increased these individuals' susceptibility to extremism by placing them in unstructured environments with deviant peers. These deviant peers not only increased the potential for delinquency by making it easier and rewarding, but, in some cases, also helped facilitate their entry into violent extremism.**
>
> **(Logan et al., 2022, p. 12)**

This analysis draws attention to the importance of considering the social context surrounding (traumatic) life experiences. Whilst a life course perspective draws attention to events that are experienced by individuals at the micro-level, this approach highlights the importance of someone's context 'since how our lives unfold is partly a result of social organization [sic]' (Carlsson et al., 2020 p. 75). The presence or absence of pro-social support can influence how a specific event is experienced, and its effects. As Logan et al. (2022) highlight, the respondents in their sample that were exposed to childhood adversity often had little support when dealing with their emotional distress. This left them feeling 'rejected and unable to appropriately negotiate a sense of self, which generated a variety of negative emotions' (p. 12). Within this context, membership of an extremist group was seen as an attractive route to finding support and meeting non-ideological needs, including providing a space to express aggression that was to some extent a product of trauma (Logan et al., 2022).

Other studies provide further illustration of violent extremist groups operating as a support system for those affected by early life trauma (e.g., Sieckelinck et al., 2019; Mattsson & Johansson, 2020; DeMichele et al., 2022; Gould, 2021). For example, Sieckelinck et al. (2019) report that 'the coherent rules and support' that 'appear[ed] to be much more available' within extremist groups was a key pull factor in the radicalisation of young people growing up in environments where such support was absent (Sieckelinck et al., 2019, p. 11). This dynamic was identified by approximately half of their sample of 34 former extremists and their families in the Netherlands.[7]

This type of dynamic unfolds in two different ways across the identified literature. In the first instance, authors such as Bjørgo (2005) highlight how experiences of trauma can be 'immediate reasons' for joining violent extremist groups. In research in Norway, Bjørgo (2005) discusses how children as young as 11 or 12 years old had come to see local neo-Nazi groups as the only 'Victims Support' available to help them deal with earlier experiences of bullying and victimisation. Following Simi et al. (2016), there is some evidence that joining a violent extremist movement can be a direct, maladaptive attempt to deal with effects of trauma, and fulfil nonideological needs.

7 Rolling et al. (2022) similarly hypothesise that adherence to violent extremist ideology can be a coping mechanism for early life trauma. They argue that the 'strict life framework' provided by violent extremist groups is likely to appeal to those with a history of trauma as it can provide them with a sense of control, and a way to 'anchor themselves' (p. 6).

For others, this relationship is less direct. Studies also suggest that joining an extremist group may be understood as an extension of pre-existing maladaptive coping mechanisms. For example, Mattsson and Johansson's (2020, p. 80) interviews with 15 former neo-Nazis highlighted how young people experiencing 'primary stigmatization [sic]' from peers due to their upbringing had 'actively developed behaviours that could conceal this stigmatization [sic]' which in turn had contributed to them becoming neo-Nazis. Similar to the process above, they note that '[b]y becoming neo-Nazis, they not only found a sense of belonging and peers but also overcame their deprecated role as a deprived child' (Mattsson & Johansson, 2020, p. 80).

Based on an analysis of 31 jihadists, Noor (2022) discusses how developmental issues linked to, for example, parental separation, communication issues, or family conflict can be relevant to interpreting pathways into violent extremism. Noor argues this kind of family dysfunction means the child's socialisation needs are not met, and that as a result, they are not exposed to normative values and ideology, making them more vulnerable to harmful ideologies they might encounter outside the family context.

This body of research suggests that maladaptive cognitive and behavioural responses to early life trauma may create contexts in which radicalisation is more likely. Researchers are therefore increasingly arguing that experiences of trauma in childhood and adolescence might be particularly relevant to understanding radicalisation (e.g., Moeller & Scheithauer, 2022; Noor, 2021; Botha, 2014). For example, Moeller & Scheithauer (2022) coded the court files of 45 individuals who grew up in Germany convicted of a Terrorism Related Offense (TRO) to capture different experiences, and the specific stage of life during which these experiences occurred. A number of relevant experiences - such as parental separation, and significant negative life events - were twice as likely to occur during childhood (defined as the period between 0 to 11 years old) than in any other stage of life. Whilst the authors do not infer causation, they suggest that 'childhood is a much neglected but insightful phase' for understanding radicalisation processes and that 'destabilizing factors' are particularly prevalent in childhood (Moeller & Scheithauer, 2022, p. 12).

Similar claims have been made about adolescence, although the evidence relating to this stage of life is weak. One study that did look at this age period (Botha, 2014), reported that 18 per cent of individuals associated with al-Shabaab in Kenya (n=95) grew up without a father, 16 per cent without a mother, and 12 per cent without both parents present. Botha emphasises that the majority lost parents between adolescence and early adulthood, suggesting that experiencing such a loss during this particular life-stage was likely to have been especially impactful as they are 'particularly vulnerable to a loss of this magnitude'[8] at that age (Botha, 2014, p. 897).

Adherence to a violent extremist ideology has been described as providing adolescents who have been radicalised with a 'temporary solution' to crises experienced in adolescence by allowing them to 'act out conflicts that they cannot manage in their internal psychological worlds' (Campelo et al., 2022, p. 16). This analysis of the clinical files of 20 adolescents with a history of 'radical conduct', found that the developmental effects of negative experiences in adolescence might be implicated in their subsequent radicalisation. The authors also outline how the behaviours that these individuals exhibited during clinical work was indicative of the lasting effects of these past experiences, and of the mechanisms by which these experiences might have contributed to their behavioural radicalisation:

> **Their relational style during consultations revealed their difficulties in appropriate and internalized [sic] experiences**

8 Percentages refer to the proportion of individuals who had lost their father and/or mother.

> **that they went through in their usual environments. Furthermore, their relational attachment indicated a major external dependence and difficulty finding a suitable distance in social relations. Therefore, issues facing youths seem to be an important factor in their identification with a violent extremist ideology and group, as clinical literature has noted.**
>
> **(Campelo et al., 2022, p. 16)**

Whilst further empirical research examining the specific impacts of adolescent trauma is needed, existing research draws attention to the importance of considering how the life-stage at which an individual experiences a traumatic event might be relevant to understanding the nature and severity of psychological and behavioural outcomes.

Concluding Thoughts on Distal Trauma

Research is increasingly highlighting how maladaptive responses to distal experiences of trauma might be implicated in radicalisation processes that unfold throughout the life course. In some instances, engagement in violent extremism may be a direct attempt to cope with the lasting effects of early life trauma. In others, maladaptive psychological and behavioural adaptations to trauma might create the context in which radicalisation becomes more likely. Thus, whilst distal trauma in isolation does not cause radicalisation, a number of direct and indirect mechanisms linking childhood and adolescent trauma to later radicalisation can be identified, and further empirical research exploring how these mechanisms operate is needed.

5.1.2 PROXIMAL TRAUMA AND BEHAVIOURAL RADICALISATION

We identified 35 studies which examined proximal experiences of trauma amongst individuals who were behaviourally radicalised. Whilst no single event in isolation can be seen as responsible for radicalisation, this research highlights how specific traumas can play a role in triggering or accelerating radicalisation towards violence.

Proximal Traumas as Triggering Radicalisation

A number of studies discussed the role that experiences of trauma play in motivating individuals to become engaged with violent extremist groups/movements. This dynamic is most clearly evidenced by Speckhard and Ahkmedova (2006) in their analysis of 34 Chechen suicide terrorists. Interviews with family members and associates highlighted that 27 of these individuals had experienced trauma prior to joining a group that advocated terrorism, and that many had 'changed dramatically first in response to the traumatic death of a loved one followed by their seeking out of their own accord a radical religious organization' (p. 448). As the authors explain:

> **In these cases it appeared that the individual was distraught following a traumatic loss and felt an overwhelming need for answers, comfort, substitute family ties, and the promise and means that were offered to him in these organizations to work toward enacting social justice (from their point of view)—albeit not through normally recognized channels—but by becoming terrorists.**
>
> **(Speckhard & Ahkmedova, 2006, p. 448)**

A similar dynamic has been identified in a number of contexts, including research amongst 42 members of Kurdish militant groups (Özeren et al., 2014); and amongst current or former members of IS (Nuraniyah, 2018; Speckhard & Ellenberg, 2020). However, the impact of a specific trigger event on the radicalisation process may vary in individual cases. For example, whilst 48 per cent of the IS-affiliated females in Indonesia interviewed by Nuraniyah (2018) had experienced some form of 'personal crisis' prior to their radicalisation, the author notes that the 'level of

causality may vary in each case, from a direct push factor to a mere contributing one' (pp. 8-9). Nuraniyah (2018, pp. 9-10) contrasts one respondent for whom there had been 'a direct causal link between personal crisis and cognitive opening' with another individual who had initially coped with a crisis 'quite well', and did not immediately experience a cognitive opening. However, over time, 'the subsequent feeling of guilt and the desire to be a good mother made her long for a new spiritual and moral compass that was much firmer than the liberal worldview she grew up with' (Nuraniyah, 2018, pp. 9-10).

It is therefore important not to generalise about this dynamic, particularly given that others report that such events were less relevant in their samples (e.g., Eggert, 2018).

Proximal Traumas as Accelerating Radicalisation

A comparatively large body of quantitative literature has pointed to the apparent prevalence of trigger events or 'tipping points' that occurred immediately prior to an individual's attack (or attempted attack). For example, Corner et al. (2019) reported that 59.2 per cent of their sample of 125 lone actors had experienced 'an identifiable tipping point' linked to a life event that was seen as 'propelling them towards planning and conducting an attack' (p. 118). Such quantitative analyses often capture a range of trigger events which do not always meet our definition of trauma. However, whilst existing analyses of trigger events are not limited only to traumatic events, proximal experiences of trauma (broadly defined) are identified as being one type of potential trigger in a range of quantitative studies (e.g., Gill, 2012; Gill et al., 2014; 2019; Perry et al., 2018). Although, it is worth noting that the majority of these studies have focused on discrete types of violent extremist, namely suicide attackers and/or lone actors, which may limit the generalisability of the findings to other extremist samples.

A number of qualitative studies also explore the relevance of proximal traumas in motivating violent action (e.g., Berko & Erez, 2007; Speckhard & Ahkmedova, 2006; Chima, 2020). Speckhard and Ahkmedova's (2006) earlier-cited research points to indirect and direct pathways linking such trauma to violence. Whilst no single event can explain why individuals commit acts of terrorism, personal traumas were found to be the dominant motivator of violent action amongst Speckhard and Ahkmedova's sample (n=34). However, the authors also note that this trauma only came to motivate action when filtered through a specific ideology, proposing that 'individual traumatization [sic] is used by terror-sponsoring organizations [sic] to politically sensitize [sic] individuals and move them into the path of fighting for a political cause' (p. 444).

Speckhard and Ahkmedova's (2006) research highlights how personal traumas may come to be interpreted through a collective lens in ways that motivate violent action, and that violent groups may explicitly seek to reframe personal traumas in this way.[9] A similar dynamic is identified by Chima (2020) through interviews with 14 Sikh ethno-nationalists, who were found to have (re)interpreted individual trauma through the lens of collective experience in ways that helped interpret the move to violence.

Whilst much of the research on trigger events focuses on experiences that are objectively traumatic, research also highlights that less objectively severe events can be potential push factors for violence in certain contexts. For example, Berko and Erez (2007) and Öztop (2022) discuss how societal and cultural norms can shape how individuals experience specific events in ways that are relevant to radicalisation.

9 The use of this kind of tactic in a clinical case of radicalisation is highlighted by Rolling et al. (2022), who note how a terrorist recruiter used a 'a paranoid discourse of victimization [sic]' and rebellion' to 'instrumentalise' feelings of guilt and helplessness elicited by a past trauma: 'blaming others relieves the would-be jihadist of her own guilt inherited from previous trauma.' (p. 6).

Berko and Erez (2007) cite the case of an individual whose participation in violent extremism was precipitated by her fiancé calling off their engagement, explaining how this 'was a traumatic scarring event for her, as in Arab culture cancellation is tantamount to a divorce' (Berko & Erez, 2007, p. 505). Öztop's (2022) study discusses how growing up in a patriarchal society might have impacted how individuals in Turkey who had been arrested after fighting for IS (n=132) experienced maternal neglect and/or violence. An analysis of the police files of these individuals suggested that personal trauma, most commonly related to parental issues, had been a push factor in the radicalisation of eleven individuals.[10] However, maternal, and not paternal, factors were most relevant in these cases as they were more impactful in this context:

> **It has been established that the most prominent source of trauma was maternal: they were unable to tolerate the indifference and beatings they received from their mothers. In this framework, individuals who participated in ISIS considered paternal violence reasonable, but could not cope with maternal violence.**
>
> **(Öztop, 2022, p. 561)**

It is again important not to generalise. Experiences of acute trauma are largely absent within some samples of violent extremists (e.g., van Leyenhorst and Andreas, 2017; Capellan & Anisin, 2018). Moreover, the extent to which these triggers are specific to violent extremists has also been questioned by a number of authors. For example, public mass murderers (n=115) were more likely to have experienced a range of 'acute strains' - including feeling that somebody important did not care about them; feeling degraded; or experiencing problems in meaningful personal relationships - in the six months prior to their attack than lone actor terrorists (n=71) in an analysis of open-source data conducted by Silver and colleagues (Silver, Horgan & Gill, 2019; Gill et al., 2016). Notwithstanding these caveats, however, there is some evidence that proximal trauma may be implicated in some cases of radicalisation.

Concluding Thoughts on Proximal Trauma

A number of quantitative studies have pointed to the prevalence of specific experiences of trauma and adversity occurring in violent extremists' life histories in the period immediately prior to an act of violence. This research suggests that these proximal forms of trauma may play a role in accelerating radicalisation processes towards violent action, although it is difficult to infer causality from this analysis. Further evidence pointing to the relevance of proximal trauma is found in qualitative research which points to the role of specific experiences in triggering and accelerating radicalisation processes. Taken together, specific experiences of proximal trauma might contribute to radicalisation in different ways in different cases, although it is worth restating that no single event in isolation can explain why an individual becomes radicalised or commits an act of violence.

5.1.3 FEATURES OF PRE-ENGAGEMENT TRAUMA

In addition to those papers examining distal and proximal forms of pre-engagement trauma, we identified a number of studies that made broader points about the prevalence and/or relevance of pre-engagement trauma. This section sets out the insights from these papers that are not captured in the analysis above.

Clinical and Sub-Clinical Manifestations of Trauma

Several studies discussed sub-clinical and clinical manifestations of trauma. This includes Corner & Gill's (2020; 2021) research that informed our conceptual framework. It captured the prevalence of broader forms of 'psychological distress' across

10 For context, socio-economic factors were identified as a push factor in 121 files.

different stages of engagement in violent extremism. In the initial analysis of 97 terrorist autobiographies (n=91 individuals), 23.1 per cent suffered from psychological distress prior to engagement, rising to 45.9 per cent during engagement; and 41.9 per cent during post-disengagement (Corner & Gill, 2020).[11] This suggests that understanding the effects of trauma, and the relevance of trauma to radicalisation processes, rests on understanding both its clinical and sub-clinical manifestations.

Prevalence rates for clinical manifestations of trauma such as PTSD in the pre-engagement period are often lower than the prevalence rates of psychological distress reported by Corner and Gill above. This is perhaps to be expected, given that these conditions can only be identified based on a very specific set of symptoms that are much narrower than those used to identify broader symptoms of distress.[12]

PTSD was analysed in a number of different ways, including clinical diagnoses, or the presentation of PTSD symptoms (e.g., Duits et al., 2022; Kenyon et al., 2023; Speckhard & Ellenberg, 2022a; Weenink, 2019; Merari et al. 2009). The relevance of PTSD to radicalisation is unclear as studies examining comparative rates of PTSD amongst violent extremist samples have produced mixed results. For example, whilst Weenink (2019) reported that prevalence rates for PTSD (3.4%) amongst a sample of 'jihadist travellers' from the Netherlands (n=319) were significantly higher than the national average as reported in their paper (0.6%), they were also lower than the rate reported amongst persistent offenders (7.0%). A related challenge is that the baseline rates of PTSD amongst control groups often varies across these studies.

Two further challenges are that first, it is not always clear whether PTSD emerged prior to, during, or after any form of engagement in violent extremism; and second, that the prevalence rates of PTSD amongst violent extremists reported in individual studies varies. Thijssen et al. (2022) reported a comparable prevalence rate to Weenink (2019) finding that 2.4 per cent of their sample of individuals convicted for terrorism in the Netherlands (n=82) had been diagnosed with PTSD. However, Kenyon et al. (2023) report a lower prevalence rate of around 1.3% (3 out of 235) within their sample of terrorist offenders in the UK. Whilst these figures are broadly similar, small percentage differences in prevalence rates across different studies can influence the conclusions drawn about the relevance of PTSD. A related challenge is that prevalence rates may vary according to whether authors report on diagnosed PTSD, or on the presence of PTSD symptomology. For example, whilst Duits et al.'s (2022) analysis of a subset of the European Database of Convicted Terrorist Offenders reported that none of the offenders aged under 21 (n=31) and 2.7% of those aged 22 or over (n=75) had been diagnosed with PTSD, the prevalence rates for PTSD symptomology were far higher for both groups (9.7% and 9.3% respectively).

Very few studies have specifically examined the relationship between trauma exposure, mental health conditions, and behavioural radicalisation. Where this relationship is considered, research has tended to focus on analysing how trauma history, mental health conditions, and other factors might cluster together in ways that might be relevant to understanding radicalisation (e.g., Campelo et al., 2018a; Clemmow et al., 2020a). This clustering is examined in more detail in the next section.

Clustering of Trauma with Other Risk Factors

A number of studies identify trauma and adversity as a potential risk factor for radicalisation, and in

11 This same data informs Corner et al.'s (2021) analysis which was discussed in an earlier section as it more specifically explored the intersection between distress and other factors.
12 Indeed, Corner & Gill (2020, p. 501) write that '[p]sychological distress has a wider remit than mental disorder, as it does not require a specific set of medically defined attributes'.

turn developed models of radicalisation that treat trauma in this way, including efforts to understand how trauma clusters with other factors. For example, Klausen et al.'s (2020) empirical model of behavioural radicalisation, which was developed from a sample of 135 'homegrown jihadists' in the United States frames trauma as a risk factor for radicalisation. A fifth (19.3%; n=26) of their sample had suffered from some type of trauma, which almost exclusively occurred (n=22) in the pre-radicalisation stage of their model. Klausen et al.'s (2020) model is discussed in more detail in the analysis of radicalisation models that is presented in Section 6.

Eight distinct pathways were identified by Jensen et al. (2020a) through which a range of different risk factors - including variables such as a personal crisis that is characterised by 'intense trouble, difficulty, or danger leading to personal instability' (p. 1071) - had coalesced in ways relevant to understanding the radicalisation pathways of their sample of violent extremists (n=31). Personal crisis was identified in five of the eight pathways (n= 24) suggesting that these experiences were a relevant, but not deterministic, factor in a number of cases of radicalisation within their sample.

Similar analyses are presented by other authors. For example, two of the eight radicalisation pathways identified by Campelo et al. (2018a) in their analysis of 122 intervention clients pointed to a history of abuse clustering with other factors within individual life histories. In the first cluster, this history clustered with feelings of depression, risk-taking behaviours, and suicidal behaviour; and in the second, with intense sexual fantasies and activity; feelings of guilt when happy; and not searching for protection or in-group belonging. Similarly, Clemmow, Bouhana and Gill (2020) distinguish between an 'unstable' and 'stable' cluster of lone actors within their sample (n=125). Although 30.6 per cent of the stable cluster exhibited signs of psychological distress, these individuals were considered stable on the basis that prevalence rates for other co-occurring issues were significantly lower compared to the unstable cluster.

The unstable cluster was marked by a higher prevalence of distress (82.5%), and a range of co-occurring issues, including low self-control or impulsivity (85.0%); difficulties with anger management (80.0%); inflexibility or inability to adapt to challenges (62.5%); and diagnosed mental illness (70.0%). Clemmow et al. (2020a, p. 461) also reported that this cluster was 'characterised by a pattern of instability'.[13]

Specific trajectories linking individual characteristics (including those related to trauma history) and situational factors to engagement in violent extremism were identified by Clemmow et al.'s (2020a) study. One of these pathways echoes Logan et al.'s (2022) findings where 'cognitive susceptibility indicators' have the potential to shape choices about engaging in radicalising settings, which subsequently increases their risk of engagement in terrorism. This underlines the idea that individual adaptations to trauma are both shaped by context, and can shape the contexts in which individuals are situated in ways that might be relevant to interpreting trajectories into extremism.

However, this study, and a separate paper from the same authors (Clemmow et al., 2022) - which identified similar clustering amongst a general population sample (n=1,500) - emphasise that cognitive susceptibility is not deterministic of exposure to radicalising settings. In a later study looking at the same general population sample, Clemmow et al. (2023) expand on this point to emphasise that understanding vulnerability to radicalisation rests on examining whether and how situational and individual variables that cluster together intersect in ways that are relevant, and not on the predictive power of individual variables, including those related to trauma.

13 These authors present a similar analysis in Clemmow et al. (2020b).

Gendered Dimensions of Pre-Engagement Trauma

A small body of research which has examined the gendered dimensions of pre-engagement trauma (e.g., Jacques & Taylor, 2008; Merari & Ganor, 2020). Whilst there is no evidence to suggest that trauma is a specific, or more relevant, driver of female engagement in violent extremism, it is perhaps notable that studies such as Webber et al. (2017) and Speckhard and Ellenberg (2020) suggest that some forms of pre-engagement trauma are more prevalent amongst females than males.

Speckhard and Ellenberg (2020) report that 23.6 per cent of the females in their sample of 220 current or former members of IS reported having experienced some form of 'prior trauma' before coming engaged in terrorism, almost twice the proportion of male respondents who reported the same (11.6%). Female respondents also considered this trauma to be more important to their decision to join IS than male respondents, and were more likely to report being exposed to experiences that map onto the ACEs framework. Whilst such research does not provide any evidence of a causal link, it suggests that further research examining these gendered dynamics would be useful.

Experience	Males	Females
Emotional abuse	0.0%	7.9%
Physical abuse	1.7%	7.9%
Sexual abuse	0%	2.6%
Emotional neglect	1.7%	0%
Domestic violence exposure	1.7%	5.3%
Household substance abuse	1.7%	7.9%
Household mental illness	2.2%	0%
Parental separation/ divorce	8.8%	21.0%
Incarcerated household member	1.1%	5.2%
Deceased parent	12.1%	7.9%
Prior trauma	11.6%	23.6%

Table 3. Sample of pre-engagement events captured in Speckhard & Ellenberg (2020)

Trauma History and Radicalisation Trajectories

A small number of studies have explored the relationship between pre-engagement trauma and different radicalisation outcomes. This includes research comparing samples of violent extremists adhering to different ideologies (e.g., Frounfelker et al., 2023); lone actors to members of formal groups (e.g., Dhumad et al., 2023); and those participating (or not participating) in different activities (e.g., Mohammed & Neuner, 2022b; Ivaskevics & Haller, 2022; Green, 2018). Whilst evidence of this kind is not yet robust, findings from this research highlight several key areas for further exploration.

This research raises interesting questions about the function that group membership and/or specific

ideologies serve for those with a trauma history. Regarding group membership, Dhumad et al. (2023) reported that growing up with an authoritarian father - which they framed as a potential source of trauma - was predictive of group membership when comparing lone (n=62) and group (n=98) actors convicted of terrorist offences in Iraq. On ideology, Frounfelker et al. (2023) reported that various forms of trauma and adversity were more pronounced amongst male supremacist extremists (n=22) compared to other extremists (n=64). They argue that 'male supremacist violent extremism exists and is expressed at an intersection of individual, relational, and sociopolitical distress' (p. 11). Whilst these studies do not infer causality, they suggest that research exploring the functions that different types of violent extremist identity serve for individuals with a trauma history would be useful.

There is also some tentative evidence to suggest that specific experiences of trauma might be more pronounced amongst samples of individuals who became behaviourally radicalised compared to those who are cognitively radicalised (e.g., Green, 2018; Koca, 2012). For example, Green (2018)'s analysis of 497 Prevent referrals reported that a number of relevant life experiences were predictive of 'active behaviours' (i.e. evidence of some form of behavioural radicalisation) when compared to individuals with no active behaviours (i.e. no evidence of behavioural radicalisation). An analysis of referrals for Islamist (n=234), extreme right-wing (n=119), and no specific ideology (n=126) identified several relevant predictors of active behaviour:

> **Islamist:** Childhood trauma; subject to abuse; life transition.
>
> **Extreme Right Wing:** Childhood trauma; Bullied; Caregiver disruption.
>
> **No specific ideology:** Subject to abuse; Lost job or failed school.

Caution is required when discussing the predictive power of trauma, as trauma history in isolation is not predictive of radicalisation, or of specific behavioural or cognitive outcomes. However, the correlations identified in this research warrant further exploration.

Five studies have explored whether trauma history was correlated with specific forms of violent behaviour. Two studies comparing samples of violent and non-violent extremists identified inconclusive (Lindsay, 2021) or no evidence (Dillon, 2021) of such a relationship. However, similar research from Knight et al. (2017; 2019) provided some tentative evidence of 'potential trauma' linked to past exposure to extreme violence, including through the internet being correlated with violent action. Based on a comparative analysis of 24 violent and 16 non-violent extremists, Knight et al. (2017) reported that violent extremists were significantly more likely to have been exposed to extreme violence (87.5%) than non-violent extremists (56.3%). A limitation of this study is that it is based on the authors identifying experiences that they felt might be traumatic, and not on events that were considered traumatising by the individuals in their sample. However, as noted earlier, this is true of many of the studies examining the relationships explored in this review. As a result, this research still suggests that further research comparing samples of violent and non-violent extremists could be useful.

Further tentative evidence of this relationship is found in an examination of juveniles in Iraq who were formerly members of IS (n=59) by Mohammed and Neuner (2022b). This identified a strong correlation between a history of victimisation (including family violence, war experiences, and IS-related events) and the perpetration of ten specific violent acts whilst engaged with IS. The authors hypothesise that this relationship might be explained 'through the habituation to violence and the vicious cycle of violence' (p. 5). Whilst their analysis of victimisation is not restricted to pre-engagement trauma, it highlights how pre-engagement experiences might intersect with engagement experiences in ways that help interpret behavioural outcomes.

Broader Conclusions on Behavioural Radicalisation

Broader research relating to behavioural radicalisation supports our earlier conclusions on distal (Section 5.1.2) and proximal (Section 5.1.3) experiences of trauma. This research once again highlights that pre-engagement trauma might be implicated in radicalisation processes in different ways. It also provides preliminary evidence to suggest that the relationship between trauma and radicalisation is more granular, and that past trauma might be linked to specific radicalised behaviours. However, more research exploring the relationships between pre-engagement traumas and behavioural outcomes is needed.

5.1.4 PRE-ENGAGEMENT TRAUMA AND COGNITIVE RADICALISATION

We identified 51 studies which had examined the relationship between trauma and the development of violent extremist attitudes amongst non-extremist samples. We also identified four studies that analysed similar dynamics amongst online Incel communities who had not yet exhibited signs of behavioural radicalisation. This section examines these 55 studies, focusing on those studies that discuss potential pathways linking trauma history to cognitive radicalisation.

Personal Trauma and Cognitive Radicalisation

A number of studies used large-scale surveys to examine the relationship between personal forms of trauma and the development of radical attitudes. Whilst this relationship is not deterministic, most of these studies identify some form of relationship between different experiences of trauma or adversity and cognitive radicalisation (e.g., Bhui et al., 2016; 2020; Pedersen et al., 2017; Haymoz et al., 2021; Li et al., 2023; Miconi et al., 2022; Rousseau et al., 2019; 2020; 2021). For example, several studies analysing surveys of college students in Canada identified a correlation between past exposure to violence and 'social adversity' (capturing exposure to violence and/or different forms of discrimination) and sympathy for violent radicalisation (Li et al., 2023; Miconi et al., 2022; Rousseau et al., 2019; 2020; 2021). This research also identified a cumulative effect, whereby higher levels of exposure to social adversity were associated with greater sympathy for violent radicalisation.

The research highlights that any relationship between trauma and radical attitudes appears to be mediated by a range of factors, including clinical and sub-clinical measures. Clinically diagnosable conditions such as PTSD (e.g., Ellis et al., 2015; Bhui et al., 2020) or depression (e.g., Miconi et al., 2022; Rousseau et al., 2019; Bhui et al., 2016) were cited as important mediators by several studies. Whilst other studies emphasised the importance of sub-clinical moderators (e.g., Jahnke et al., 2021; Marković et al., 2021). For example, a survey of 6,715 school pupils in Germany identified a link between lack of family cohesion and parental violence and support for political violence (Jahnke et al., 2021). Their analysis suggested that this relationship was mediated by measures of legal cynicism, and not by symptoms of depression. This research highlights that the development of mental health conditions alone is unlikely to fully explain any relationship between trauma and cognitive radicalisation.

However, this relationship between personal trauma and cognitive radicalisation was not identified in all the studies that explored these dynamics. Experiences of trauma were not always predictive of cognitive radicalisation outcomes (e.g., Harpviken, 2021; Schröder et al., 2022). Moreover, research illustrated that any relationship, when it does exist, does not always translate into a willingness to engage in violence (Lemieux & Asal, 2010). It is therefore important not to generalise about this type of relationship.

Context is also important in interpreting the relationships between personal trauma and radical attitudes. For example, Miconi et al. (2021) examined the relationship between social adversity

and sympathy for violent radicalisation across four regions of Canada (n= 1,765). This relationship was found to vary across each region: social adversity was a risk factor for sympathy for violent radicalisation in three regions (Montreal, suburban/rural Quebec, and Anglophone Quebec) but not in the fourth (Quebec City). This suggests that the relevance of trauma may vary across different geographies, and that this relationship might in turn be mediated by other environmental and contextual factors, a point that is discussed in more detail below.

A different indirect relationship between trauma and cognitive radicalisation was identified by Snook et al. (2021) who reported that, amongst their sample of 177 US Muslim converts, individuals who had converted to Islam in the wake of a 'crisis' – defined as an experience of stress or difficulty that contributes to the collapse of one's pre-conversion belief system' – were found to have stronger radical intentions than converts who had not experienced a pre-conversion crisis. Crisis was also the only driver of conversion found to have a statistically significant relationship with radicalism.

However, the results of other studies highlight that caution is needed when considering any potential link between trauma history, conversion, and radicalisation (e.g., Groppi, 2017; Jones & Dawson, 2021). For example, whilst Jones and Dawson (2021) identify a range of traumatic experiences in the life histories of several radicalised Muslim converts in Canada (n=25), they urge caution, and stress that these experiences 'would be quite common for any randomly selected subset of the population' (p. 11).

Collective Trauma and Cognitive Radicalisation

The relationship between collective trauma and cognitive radicalisation was the subject of a relatively large number of studies in the review. The work of Canetti and colleagues (e.g., Canetti-Nisim, 2009) has proved particularly impactful, with a number of studies conducted in conflict settings providing empirical support for their 'stress-based' model of political extremism (e.g., Johnson et al., 2009; Hirsch-Hoefler et al., 2016; Canetti et al. 2021; Zipris et al., 2019; Mordeno et al., 2020) shown in Figure 3.[14]

This model was initially developed through research in Israel and Palestine, and identified an apparent relationship between exposure to collective forms of violence and more politically exclusionist and militant attitudes towards the perpetrators of this violence. This relationship was mediated by symptoms of psychological distress and a subsequent increase in threat perceptions (Canetti-Nisim, 2009; Canetti et al. 2021).

Whilst some of the attitudinal variables captured in individual studies using this model do not always specifically relate to cognitive radicalisation, the stress-based model has been identified as a radicalisation model by other authors (e.g., Corner & Taylor, 2023). The findings of these studies also align with research conducted in other contexts that has pointed to a correlation between community-level violence, and attitudes related to violent extremism (e.g., Finkel et al., 2021; Schutte et al., 2023). Whilst the mechanisms identified within this stress-based model are illustrative, the attitudinal outcomes captured within this model are often specific to particular conflicts (e.g., the Israel-Palestine conflict; the conflict in Northern Ireland), and to perceived adversaries within these conflicts. Further research is therefore needed to understand whether these mechanisms translate to other contexts.

14 Although, this pathway was not universally supported, with Hobfoll et al. (2006), for example, reporting that ' those who had increased PTSD symptoms were more likely to endorse ethnic exclusion and authoritarianism, but not support for political violence' (p. 215).

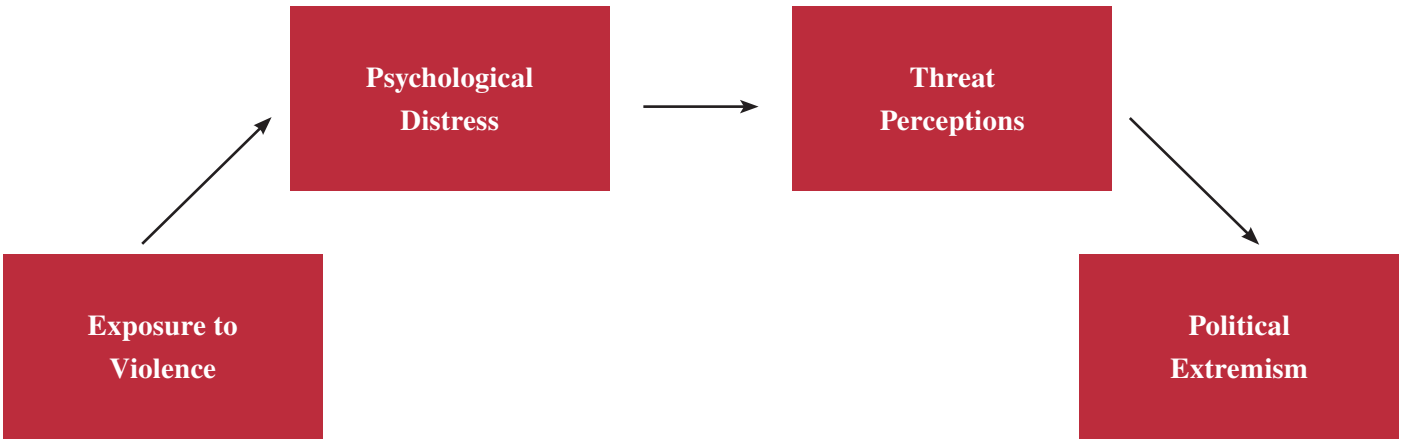

Figure 3. Stress-Based Model of Political Extremism (based on Canetti et al., 2013)

This observation links to a broader point relating to the sensitivities of examining any relationship between conflict-related trauma and cognitive radicalisation. It should not be assumed that individuals exposed to conflict are at an elevated risk of radicalisation as conflict-related trauma is not deterministic of radical outcomes. In considering any potential indirect relationship it is important to not only take account of the potential harms that might come from assuming that such a relationship exists, but also to consider the mediating or moderating role played by individual, environmental, contextual, and structural factors that might help interpret these dynamics (e.g., Hall, 2016; Ellis et al., 2016). The importance of contextual factors is highlighted by Ellis et al. (2015; 2016; 2021) in a series of studies based on research with Somali refugees in the USA.

These studies identified an apparent relationship between war trauma (Ellis et al., 2015; 2016) and other forms of adversity (Ellis et al., 2016; 2021) and support for violent activism that was partially mediated by PTSD symptomology. However, this relationship was found to be moderated by contextual factors, including strength of social bonds, sense of belonging, and trust in government (Ellis et al., 2016; 2021).

One of these studies reported that this relationship was not distinct to cognitive radicalisation, and might even be stronger for other delinquent outcomes unrelated to violent extremism. In their survey of Somali refugee young adults (n=374), Ellis et al. (2016) found that a 'delinquent' cluster in this sample (characterised by high levels of gang involvement and delinquency, but low support for violent extremism) were more likely to have experienced 'high trauma' and be clinically at risk for PTSD than clusters marked by high levels of support for violent extremism. Taken together, Ellis et al.'s research shows that trauma may contribute to cognitive radicalisation in some circumstances, but this relationship is not deterministic, and is heavily contextualised. This is supported by other studies that have illustrated, similarly to Ellis et al. (2016), that past exposure to political violence is not in itself predictive of cognitive radicalisation (e.g., Rink & Sharma, 2018).

This type of contextualised relationship, moderated by other factors, is also found in non-conflict settings. For example, whilst Nivette et al. (2017) reported that 'collective strain' was 'associated with a marginal increase in support for violent extremism' in a survey of 1,214 adolescents in Switzerland, they also noted that this effect 'disappears when other social and individual variables [such as gender and age]

are included in the model' (p. 777).[15] These studies underline the importance of context when interpreting whether and how experiences of trauma might relate to radical attitudes or intentions.

Research from Canada provides some tentative evidence of the function that extremist ideologies might serve for individuals who experienced personal or collective trauma. Two papers by Levinsson et al. (2021; 2022) identified an apparent relationship between psychological distress, adherence to conspiracy theories, and sympathy for radicalisation. This research found a positive correlation between endorsement of COVID-19 conspiracy theories and sympathy for violent radicalisation amongst a sample of 6,003 people aged 18-25 living in Canada.[16] This analysis also identified a significant interaction between the endorsement of COVID-19 conspiracy theories and psychological distress. Given that conspiracy theories are often embedded within violent extremist narratives (Lewis & Marsden, 2021), the conclusion that Levinsson et al. draw could be relevant to understanding why such narratives appeal to those who are distressed:

> **The fact that psychological distress and endorsement of COVID-19 [conspiracy theories] are associated with support for [violent radicalisation] in both women and men may indicate that in the pandemic context distress and helplessness may lead to attribution of blame which in turn can lead to hate and to legitimation of violence onto the group which is perceived as responsible of the adversity.**
>
> **(Levinsson et al., 2022, p. 230)**

Trauma and Incels

The four studies that examined samples of Incels provided interesting findings relating to the prevalence of trauma and adversity within this milieu (Moskalenko et al., 2022a; 2022b; Speckhard & Ellenberg, 2022b; Speckhard et al., 2021). However, these studies emphasise that there is no simple causal link. For example, Moskalenko et al. (2022a) identify elevated rates of clinically diagnosed (11%) and self-reported (40%) PTSD amongst a sample of 54 self-identifying Incels, and note that almost all (91%) of this sample had a history of being bullied. Similarly, in a larger survey (n=274) published later (Moskalenko et al., 2022b), the same research team identifies a significant correlation between a history of being bullied and recorded level of radicalisation.[17] Both studies caution against inferring causality - partly because the sequencing of trauma and engagement in this milieu was not always clear - and instead emphasise the importance of providing Incels with support for these issues.

Research from Speckhard and Ellenberg (2022b) and Speckhard et al. (2021) reports similar findings. In line with the analysis presented in Section 5.1.1, this research discusses how engagement with the Incel ideology might be a maladaptive attempt to cope with the lasting effects of trauma. For example, Speckhard and Ellenberg (2022b) noted that, rather than seeking professional help for self-reported distress, the most commonly occurring coping mechanism amongst their sample of 272 self-identifying Incels was participation in online Incel forms (93%). A particularly interesting finding was that the self-reported intensity of PTSD was higher amongst individuals reporting that the forums had made them feel more violent, likely to self-harm, or suicidal. In contrast, self-reported psychological issues were not associated with agreement that the forum had helped them make

15 The definition of collective strain used in this study is far broader than any definition of trauma, in that it refers to experiences such as 'perceived discrimination against a group one identifies with, feelings of injustice, or vicarious or direct trauma from war and civil strife' (p. 756). However, the results illustrate how experiences that might produce psychological distress might be linked to cognitive radicalisation.
16 The analysis in Levinsson et al. (2022) was based on a subset (n=4,928) of this sample.
17 Although, this same correlation did not exist for level of ideological commitment.

friends, feel at home, reduced feelings of loneliness, feel a sense of belonging, feel understood, or feel more positive. This highlights the different psychological impacts of cognitive engagement with extremism.

Historical Trauma and Cognitive Radicalisation

A small number of studies have provided tentative evidence of a potential relationship between historical forms of trauma and cognitive radicalisation amongst non-extremist samples. For example, Skrodzka et al. (2022) identified a relationship between how frequently Hungarian university students (n=335) thought about historical losses, emotions and behaviours triggered by these losses, and adherence to conspiratorial antisemitic beliefs. A series of surveys of Israeli Jews conducted by Canetti et al. (2018) identified similar dynamics, whereby Holocaust primes 'increased support for aggressive policies against a current adversary and decreased support for political compromise via an amplified sense of identification with Zionist ideology' (p. 3).

Canetti et al. (2018) also identify some evidence linking intergenerational forms of trauma and cognitive radicalisation. Intergenerational trauma is 'the ‘transmission of stress, risk and adaptation across generations, influenced by genetic predispositions, as well as learnt models of parenting, and family, community and cultural perceptions of the world’ (Isobel et al., 2021). Whilst Canetti et al. do not specifically identify these mechanisms, they discuss a specific dynamic amongst Holocaust survivors and their descendants whereby they 'exhibited amplified existential threat responses to contemporary political violence, which were associated with militancy and opposition to peaceful compromises' (p. 3). Whilst correlation is not causation, it suggests that further research examining intergenerational trauma in this context would be useful.

Unfortunately, we were unable to find additional, eligible empirical research examining intergenerational trauma in this context. This was despite running additional searches in the databases discussed in Section 3 specifically focused on this topic. Whilst authors are increasingly discussing the potential relevance of this concept in this context (e.g., Buljubašić, & Holá, 2021; Rolling et al., 2022), more research is needed.

Concluding Thoughts on Cognitive Radicalisation

There is growing evidence of a potential relationship between different forms of trauma and adversity and the development of beliefs sympathetic towards, or supportive of, violent extremism. Whilst this relationship is complex, and is not deterministic, research is beginning to identify mechanisms by which personal and collective, and even historical trauma might contribute to cognitive radicalisation, and specific factors that might mediate or moderate this relationship. The research relating to cognitive radicalisation also provides support for some of the conclusions drawn in relation to behavioural radicalisation above, most notably by highlighting how violent ideology might perform a specific function for individuals with a history of trauma, and that the relationship between trauma and radicalisation is heavily contextualised.

5.2 ENGAGEMENT TRAUMA (N=30)

This section examines 30 studies that captured evidence relating to two different forms of violent extremist activity as outlined by Horgan (2005): Initial involvement with violent extremist ideologies (e.g., through propaganda); and engagement in violent extremist activities. Section 5.2.1 examines involvement; and Section 5.2.2. examines engagement. Through this discussion, we explore three different dimensions of engagement-related trauma, and discuss how this kind of trauma can be linked to:

1. **Exposure:** Engagement can expose individuals to potential traumas.

2. **Perpetration:** Participation in specific activities can be traumatic.

3. **Inducement:** Extremist movements may deliberately induce trauma.

5.2.1 INVOLVEMENT WITH VIOLENT IDEOLOGIES

Research examining the psychological effects of engaging with terrorist propaganda remains limited and is largely restricted to research amongst non-extremist populations. This restricts the conclusions that can be drawn, as simply accessing or viewing extremist content is not always an indicator of radicalisation, as there are a variety of other explanations for why an individual may choose to engage with extremist material (Redmond et al., 2019). However, it seems reasonable to assume that a proportion of individuals who engage with this content will be at risk of radicalisation, or already on a radicalisation pathway. This research can therefore provide useful insights into the potential psychological effects of initial involvement with violent extremism. It also highlights that viewing terrorist propaganda can expose individuals to potentially traumatic imagery, and that such material might be deliberately used by violent extremist organisations to induce trauma.

Exposure

A small number of studies pointed to the negative psychological effects of viewing extremist content. Of these, Reeve's (2020) interviews with members of the UK's Counter-Terrorism Internet Referral Unit was one of the only studies to explicitly use the term 'trauma'. Reeve reported that levels of PTSD were low amongst the sample, but respondents 'experienced a variety of emotional responses including; horror, revulsion, empathy for victims, and being upset by the material they reviewed' (Reeve, 2020, p.10).[18] Similarly negative psychological responses were reported by Redmond et al. (2019), who found that individuals who had viewed at least part of an ISIS beheading video (including on the news) reported higher levels of 'global distress' and greater fears of future events (including terrorism) two years after the videos went viral.

Emotional reactions to this content are not uniform, and engaging with violent extremist content can produce a diverse range of behavioural and psychological responses. For example, the most common emotions selected from a list by a sample of young people in Australia when asked to describe how they had felt when viewing 'extremist' content online were 'sad, depressed, upset, and distressed' (Waldek et al., 2022, pp. 22-23). A quarter (24%) of the 110 respondents to a larger survey (n=1,004) who reported having viewed extremist content online reported these emotions.[19] However, a similar proportion (21%) of respondents indicated that the 'emotions listed in the survey did not appropriately express their feelings' (p. 23). The authors therefore conclude that viewing this content is likely to elicit a broader range of emotional responses than might be expected based on the existing literature on this topic.

Similar diversity is identified by Cottee and Cunliffe (2020) in their survey of 3,104 young people, which elicited responses to four English language ISIS propaganda videos. Table 4 highlights that emotional responses to the most violent video, which showed 'an international cast of knife-wielding ISIS recruits marching scores of Syrian Army captives to a line-up where they are to be executed' (p.189), varied.

Finally, research from Speckhard & Ellenberg (2022b) and Speckhard et al. (2021) examined the potential psychological effects of engaging in online Incel communities. Whilst we noted above that engaging in these communities could be understood

18 Reeve's study is the only included study that draws solely on insights from practitioners, and does not, therefore, examine the relationship between trauma and cognitive or behavioural radicalisation. However, it is included in this review as it is one of the few studies that highlights the trauma that can result from viewing extremist propaganda.
19 Although, some respondents' definitions of extremism were debatable. For example, 4% of those who reported being exposed to extremism online cited erotic and explicit content.

	Strongly Agree	Total Agree
It scares me	32.5%	57.7%
It makes me feel uncomfortable	51.5%	76.5%
It makes me feel sick	40.7%	66.9%
It bores me	4.0%	10.8%

Table 4. Percentage agreeing with statements about propaganda video (Cottee & Cunliffe, 2020)

as a maladaptive attempt to cope with difficult life circumstances, this research highlights how engaging in these communities may exacerbate pre-existing issues. For example, Speckhard and Ellenberg (2022b) found that Incel forums made some of their sample of 272 self-identified Incels feel depressed, suicidal, and like self-harming. They also suggest that:

> **'those with pre-existing difficulties in emotional expression and social interactions may be particularly susceptible to the forum's echo chamber, and highlight how the self-reported intensity of posttraumatic stress was 'significantly associated' with agreement that the forum 'has made the respondent feel violent', 'like self-harming', and suicidal.'**
>
> **(Speckhard & Ellenberg, 2022b, p., 15).**

This points to an interesting interaction effect between manifestations of trauma during the pre-engagement and engagement stages, and cognitive radicalisation outcomes.

Inducement

Several papers that did not meet our inclusion criteria discuss how violent extremist movements may deliberately seek to induce trauma through propaganda to encourage radicalisation. A particularly interesting perspective on this process is presented by Rolling et al. (2022) in a clinical case study of a radicalised adolescent, 'Lea' which discusses how:

> **'post-traumatic symptoms may be "used" by recruiters of radical movements at different moments of the radicalization [sic] process' through either 'the reactivation of post-traumatic psychic mechanisms' or 'trauma induction.'**
>
> **(Rolling et al., 2022, p. 3)**

The study notes how propaganda might 'reactivate' post-traumatic mechanisms, highlighting how the same kind of 'dissociative state' that recruiters seek to induce through propaganda may also be 'sought out' by traumatised adolescents who 'seek to satisfy violent impulses or who need to soothe traumatic reactivations' (p. 5). From this perspective, the decision to engage with violent propaganda; the function that this propaganda might serve for an individual; and the potential psychological and behavioural impact of this activity may be linked to pre-engagement trauma. Rolling et al. (2022) therefore argue that the recruitment process 'traps the young person [with] her own post-traumatic mechanisms', simultaneously working to 'excite' and 'calm' the person being recruited to foster their dependence on the violent group.

Koehler (2020) similarly argues in a more conceptual paper that violent extremist groups seek to radicalise individuals through both 'the continuous deliberate and undeliberate creation of trauma and toxic stress' and 'the parallel offering of therapeutic and protective factors' (p. 464), and notes that both elements are

embedded in extremist ideologies.[20] Whilst empirical research relating to these dynamics is limited, a small number of included studies provide some tentative evidence of the type of mechanisms identified by Koehler and Rolling et al.

For example, Speckhard and Ellenberg (2022a) note that 41.4 per cent of men and 7.7 per cent of women in their sample of foreign terrorist fighters (n=137) reported watching amateur videos of the conflict in Syria that 'moved them to take up arms or provide humanitarian aid' (p. 177). This study does not specifically focus on terrorist propaganda, or identify trauma as a driver of radicalisation. However, it illustrates how such content might interact with past traumas in ways that motivate collective action:

> **They described in detail their emotions evoked by watching mobile phone videos of subjects such as mothers crying over their dying children, calling out to the ummah for help. For many interviewees from the Balkans, these videos triggered visceral post-traumatic reactions that brought them back to their war-torn childhood homes.**
>
> **(Speckhard & Ellenberg, 2022a, p. 177)**

This research also provides some tentative evidence in support of Speckhard and Ahkmedova's (2006) hypothesis that 'secondary traumatization [sic]' caused by viewing content that 'emphasises the unjust treatment of one's 'fictive kin' (p.486) might play a role in motivating violent action. However, more empirical research exploring this phenomenon is needed before any robust conclusions can be drawn.

A related argument is made by Bouzar (2017), who identifies 'anxiety-inducing emotional appeals' as a mechanism for radicalisation. Drawing on interviews with 809 clients of a counter-radicalisation intervention, and clients' past communications with terrorist recruiters, Bouzar (2017) discusses how recruiters used conspiracy theories to 'create stress, fear, distrust and suspicion [of adults, parents and government]' (p. 603) whilst simultaneously increasing commitment to the terrorist ideology. This perspective would align with Koehler's (2020) conceptual argument. However, empirical evidence of this effect remains limited and, as Bouzar did not report on the prevalence of anxiety amongst this sample, it is not possible to comment on the precise role (if any) that efforts to induce anxiety may have played in any radicalisation.

Concluding Thoughts on Involvement with Violent Extremism

Involvement with violent ideologies can expose individuals to potentially traumatic imagery that might elicit a range of psychological responses. It is therefore perhaps unsurprising that violent extremists might seek to induce these psychological reactions as a mechanism of radicalisation. Whilst research pointing to these effects remains limited, it provides further evidence of the potential trauma that might be linked to engagement in violent extremism, and the role that trauma might play in radicalisation.

5.2.2 ENGAGEMENT IN VIOLENT EXTREMIST ACTIVITIES

Different Dimensions of Engagement-Related Trauma

Research highlights how engagement in violent extremism can expose individuals to different forms of trauma, and that specific acts perpetrated during engagement may be experienced as traumatic for some, but not all, of those who commit them.

A growing number of studies are now discussing the psychological effects of engaging in violent extremism. A significant proportion of this research has focused on examining the experiences of individuals who joined IS (e.g., Mohammed & Neuner, 2022a; 2022b; Speckhard

20 The idea that violent extremists seek to 'induce trauma' as a mechanism of control is also discussed by Hassan and Shah (2019) as part of broader research on high-control groups.

Traumatic Event	Men reported	Women reported
Experienced bombing	46.2%	65.8%
Imprisoned by ISIS	34.1%	15.8%
Execution witness	23.1%	7.9%
Executed corpse witness	17%	10.5%
Death of family	15.9%	42.1%
Torture witness	15.4%	5.3%
Invited to suicide attack	12.6%	2.6%
Physical torture	12.1%	5.3%
Battlefield deaths witness	9.9%	0%
Wounded in battle	8.8%	0%
Widowed by ISIS-related violence	1.1%	42.1%
Rape victim	0%	7.9%
Forced marriage	0%	21.1%

Table 5. Traumas with highest prevalence in Speckhard & Ellenberg (2020)

& Ellenberg, 2020; Kizilhan, & Noll-Hussong, 2018). All these studies highlight how joining IS and living in a conflict zone exposed individuals to a range of potential traumas. The most detailed analysis of this type is Speckhard and Ellenberg's (2020) interviews with 220 ISIS returnees, defectors and prisoners which quantified exposure to a range of potentially traumatising events (Table 5). The figures above suggest that engagement-related trauma is somewhat gendered, with males and females seemingly likely to be exposed to different experiences.

Living under the Islamic State seems to have exposed a proportion of individuals to the kinds of violent traumatic experiences discussed in the earlier section on pre-engagement trauma (Section 5.1). This raises the possibility that individuals who joined IS after growing up in a conflict zone such as Iraq might experience some kind of cumulative effect having already experienced similar war-related trauma prior to their radicalisation (Mohammed & Neuner, 2022a; 2022b). However, evidence of how these dynamics play out is currently lacking, and further research would be useful.

Individuals are not just passive actors in these contexts. Speckhard and Ellenberg (2020) distinguish between traumatic experiences that individuals witnessed or were victims of, and those 'actively committed by the participant' (p. 111). Mohammed and Neuner (2022a; 2022b) also make the point that specific engagement-related activities may be an identifiable source of trauma for some. The number of violent events perpetrated by their sample of 55 convicted terrorists who had been involved with IS varied from 0-6 (mean=1.29): 14.5 per cent self-reported having attacked other armed groups; 1.8 per cent having tortured others; and 7.3 per cent having punished others. However, whilst Mohammed and Neuner identify these experiences as being potentially traumatic, they do not specifically examine the impact of these experiences.

It is important not to generalise about effects of engaging in violence. Individual roles within violent groups vary, and the nature of specific roles may differ for each individual (Speckhard & Ellenberg, 2020; Altier et al., 2022). Nor can it be assumed that individuals who undergo particular experiences, even those that appear objectively traumatic, will respond in the same way. For example, whilst some of Speckhard and Ellenberg's (2020) sample 'regretfully remembered killing innocents in battle', many felt that 'the battlefield provided an appropriate and moral setting for killing' (p.115). This observation highlights that the extent to which an event is experienced as traumatic will depend on the context in which it occurs, and the meaning the individual attaches to it. Both points are explored in Section 5.4. on post-disengagement.

Evidence relating to both trauma exposure, and perpetration-induced trauma has been identified in other contexts. For example, Speckhard and Shajkovci's interviews with 16 former members of al-Shabaab in Kenya pointed to both phenomena:

> **Nearly all of the men witnessed extreme brutality, including taking part in battles; living under bombardments; witnessing beheadings, torture, punishments, and executions of other types. Many referenced becoming psychologically numb after repeatedly being sent to fight and kill and witnessing the deaths and debilitating injuries of their fellow cadres in battle.**
>
> **(Speckhard & Shajkovci, 2019, p. 36)**

Similar forms of trauma are identified in research amongst violent right-wing extremists in non-conflict settings (e.g., Carroll, 2022; Latif et al., 2016; DeMichele et al., 2022). For example, former white supremacists (n=18) interviewed by Carroll (2022) framed participation in the far-right extremist movement as either a 'traumatic event or a series of traumatic events resulting in traumatic stress' (p. 119). In turn, Carroll coins the term 'Post-Extremist Traumatic Stress' (PETS) when discussing the lasting effects of this trauma upon these individuals, a phenomenon also discussed in Section 6.4.

> **I would definitely say that if you didn't have trauma going in, most likely you have some level of trauma coming out.**
>
> **(Former white supremacist interviewed by Carroll, 2022, p. 119)**

'Moral injury' - engaging in or witnessing acts that violate one's deeply held moral beliefs – is described as a potential psychological effect of violent extremism by Bont (2020). This analysis identifies several potential sources of moral injury in the autobiographical accounts of nine former members of the Provisional Irish Republican Army, including being confronted with the consequences of violent action; informing on other members; and guilt at not preventing the deaths of hunger strikers.

The gendered dimensions of engagement-related trauma are examined by Carroll (2022) in ways that mirror the discussion of gendered differences presented in Speckhard and Ellenberg (2020) in Table 5 above. For example, Carroll points to 'physical, emotional, and sexual assault' as specific sources of engagement-related trauma for females. Carroll's research also highlighted that trauma was not something that simply emerged within this milieu, nor something that simply resulted from participation in specific acts, rather that trauma was a central feature of the movement:

> **The far-right extremist movement needs trauma to exist, whether through acts of domestic terrorism that seek to traumatize minoritized and racialized [sic] individuals and communities or acts of physical, sexual, or emotional violence directed toward its own adherents.**
>
> **(Carroll et al., 2022, p. 155)**[21]

21 Whilst they do not discuss trauma specifically, Latif et al. (2018) identify a similar dynamic.

In this way, violent movements may deliberately induce trauma as a mechanism for controlling individuals (Latif et al., 2018), and for fostering commitment to the group in the way that has been hypothesised by authors such as Koehler (2020) and Stein (2021). This potential radicalisation mechanism is discussed in detail in Section 7.

Trauma as a Driver of Disengagement

The relationship between engagement-related trauma and disengagement is complex and non-deterministic. A small number of qualitative studies cite cases where certain, highly traumatic events motivated individuals to disengage from violent extremist movements (e.g., van der Heide & Huurman, 2016; Simi et al., 2019). For example, Simi et al. (2019) discuss one former white supremacist who disengaged because a 'violent incident and the ensuing guilt became a breaking point' for them (p.13).

However, Altier et al. (2017) illustrate that individuals may remain engaged in violent extremism even after experiencing distressing events. Their analysis of terrorist autobiographies highlighted that some proportion of their sample who had disengaged voluntarily from terrorism (n=49) expressed difficulty coping with past violence (16.3%); regret for their role in attacks (18.4%); and/or experiencing psychological distress (20.4%) whilst engaged in terrorism. Their analysis also suggested that such experiences did not play a role in decisions to disengage from terrorism. The authors also acknowledge that individuals who chose to disengage for such reasons may be under-represented in their sample. They note that experiences of distress early in engagement may motivate some individuals to disengage from violent extremism, but that such individuals would be unlikely to have written an autobiography.

Further illustrations of this complexity were identified in a separate analysis of the same terrorist autobiographies (Altier et al., 2022). This study found that individuals who held leadership and violent roles within terrorist organisations were less likely to voluntarily disengage, despite the fact those in such roles were more likely to report experiencing negative psychological effects. Performing a leadership function was found to increase the likelihood of experiencing regret for a past role in an attack by 14 percentage points, and reporting difficulty in living a clandestine life by nine percentage points. Performing a violent role increased the probability of reporting burnout by 15 percentage points, and psychological distress by 10 percentage points. The authors suggest that those performing such functions may 'incur greater sunk costs and possess fewer alternatives' (Altier et al., 2022, p. 20) in ways that might inhibit their disengagement from violent extremism.

Altier et al. (2022) also found that individuals exhibiting a 'deep ideological commitment' were less likely to report negative psychological outcomes, regardless of their role. This suggests that for some individuals, identification with an (extremist) ideological movement could be protective against such outcomes; an observation that has been made elsewhere (e.g., Speckhard & Ellenberg, 2020). For example, Ferguson and McAuley (2020) discuss how continued engagement with violent extremist groups in Northern Ireland served a protective function for some:

> **[Violent] Group membership can be important in mediating the stress and trauma that is associated with involvement in political violence […] Therefore, this amplification or fusion of identity should additionally offer protection from the stress and trauma they encounter or create for themselves through their violence, sustaining the militants in their extremist careers.**
>
> **(Ferguson & McAuley, 2020, p. 8)**

In some cases, engagement-related trauma may be a barrier to disengagement. No single factor can explain why individuals choose to remain engaged in violent extremism. However, Jensen et al.'s (2020b)

comparative analysis of 25 far-right extremists who had disengaged and 25 who had not identified two cases where psychological issues relating to trauma, mental illness or substance abuse did inhibit disengagement when clustered with other barriers such as a history of incarceration, a lack of social mobility, and the extremist group being a source of income or prestige. Whilst only relevant in a small number of cases, this analysis highlights that engagement-related trauma might inhibit disengagement under certain conditions.

Concluding Thoughts on Engagement-Related Trauma

Behaviourally engaging in violent extremism is a potential source of trauma. Physically joining a violent group in conflict and non-conflict settings can expose individuals to a range of potentially traumatising experiences, whilst participation in specific activities can also elicit feelings of trauma. However, the extent to which engagement activities are experienced as traumatic appears to be linked to the subjective meanings that individuals attach to these experiences, rather than their objective severity.

The relationship between trauma and disengagement is complex. Whilst specific experiences of trauma might motivate some individuals to disengage, such trauma might inhibit disengagement in instances where engagement in violent extremism serves a protective function. The research on pre-engagement and engagement-related trauma suggests that there are three ways in which continued membership or ongoing engagement in a violent extremist movement might serve a protective function against psychological distress. First, as noted in the earlier section on pre-engagement trauma, joining an extremist group might be a maladaptive attempt to cope with the lasting effects of earlier trauma. Second, some individuals who are ideologically committed to a movement may not experience objectively traumatising experiences (such as participating in violence) as traumatic. And finally, continued group membership may inhibit individuals from developing more severe forms of psychological distress and trauma, serving to sustain their commitment to the group as disengagement would remove a key protective factor against such an outcome.

5.3 DISENGAGEMENT TRAUMA (N=5)

Research on disengagement-related trauma is limited. We only identified five studies through the review process. The research that has been published provides some preliminary evidence of the protective function that might be served by an extremist identity, and in turn the potential psychological distress that might result from losing this protection through disengagement.

5.3.1 DISENGAGEMENT-RELATED TRAUMA

The process of disengagement can be a distressing experience. Fisher-Smith et al. (2020) note that a former far-right extremist in their sample (n=8) had experienced disengagement as a 'crisis':

> **The participant's situation at exit, however, becomes particularly acute and is often experienced as a crisis, because what was previously stable (i.e., the participant's identity constellation vis-à-vis the extremist organization [sic]) is now destabilized [sic].**
>
> **(Fisher-Smith et al., 2020, p. 20)**

Carroll (2022) similarly notes how, for former white supremacists (n=18), disengagement from the movement meant 'entering an existential space in which their world, social network, and identity were seemingly 'shattered'' (p. 114). Further evidence of this type of experience is found in the Northern Irish context, with researchers discussing how the removal of a protective group identity might contribute to psychological distress (e.g., McEvoy et al., 2004; Ferguson et al., 2010).

McEvoy et al. (2004) noted that membership of the Republican movement in Northern Ireland had 'provided a structure and a certainty' to former Republican prisoners (n=100) that was now missing. In the absence of this certainty, 'large numbers demonstrated preliminary indicators of the symptoms of post-traumatic stress disorders' (p 659). Whilst they do not specifically state that these issues were a direct result of disengagement, other research in this context highlights that individuals shorn of a collective identity may adopt maladaptive coping mechanisms - such as alcohol or substance abuse - that have been linked to negative psychological outcomes, including conditions such as PTSD (Ferguson et al., 2010).

In this way, engagement-related trauma, coupled with the loss of an important protective factor, can increase an individual's vulnerability to psychological distress in the post-disengagement period. As one former member of the far-right explained:

> **I mean...it felt like I was walking around with an open wound that could easily be re-infected if it wasn't taken care of properly.**
>
> **(Respondent quoted in Carroll, 2022, p. 115)**

This quote suggests that former violent extremists may need some form of intervention able to support the post-disengagement period if they are to avoid this kind of re-traumatisation. As discussed in the next section, any support will need to consider how the post-disengagement period might exacerbate the risk of re-traumatisation.

5.3.2 CONCLUDING THOUGHTS ON DISENGAGEMENT-RELATED TRAUMA

Whilst research on disengagement-related trauma is limited, the research to date provides further evidence of the protective function that a violent extremist identity might serve, and in turn the trauma and distress that might result from losing this protection. This disengagement-related trauma might also increase an individual's vulnerability to traumas that might exist in the post-disengagement period.

5.4 POST-DISENGAGEMENT TRAUMA (N=17)

Seventeen studies pointed to two dimensions of post-disengagement trauma: 1) traumas experienced during post-disengagement; and 2) the lasting effects of earlier traumas that manifest post-disengagement. Research suggests that these dimensions might intersect, and so this section examines both dimensions in tandem (Section 5.4.1), before offering conclusions (Section 5.4.2).

5.4.1 THE TWO DIMENSIONS OF POST-DISENGAGEMENT TRAUMA

The clinical and sub-clinical psychological effects of engagement in violent extremism can persist post-disengagement, with authors often identifying a relationship between specific engagement-related activities and negative psychological outcomes. For example, whilst all the former members of al-Shabaab (n=16) interviewed by Speckhard and Shajkovci (2019) had 'paid a high psychological price' for their involvement in al-Shabaab, those who fought in battles described suffering from extreme posttraumatic stress disorder (PTSD), including becoming emotionally numb to brutality and killing (pp. 47-48). A number of other studies have pointed to elevated rates of PTSD amongst former extremists (e.g., McEvoy, 2004; Kizilhan & Noll-Hussong, 2022; Mohammed & Neuner, 2022a; 2022b), although these studies are not always able to state whether PTSD emerged prior to, or after engagement.

As noted earlier, the presence of sub-clinical or clinical effects is not always predicted by the objective severity of life experiences. Corner and Gill's (2020) analysis of terrorist autobiographies reported that post-disengagement psychological distress was not predicted by 'violence, victimization, disrespect, imprisonment,

abuse, the loss of a close family member or friend, or substance abuse' (p. 518). Rather they note that the presentation of psychological distress was related to the interpretation the individual had of those experiences, and the different ways they coped with them (Corner & Gill, 2020). As they explain:

> **Individuals who reported psychological distress were significantly more likely to report guilt, regret, problems coping with their actions, problems with their lifestyle, and burnout. These initial results lend support to the argument that within more psychologically resilient individuals, negative experiences do not produce the same levels of distress.**
>
> **(Corner and Gill, 2020, p. 518)**

These feelings of guilt, regret, and shame over past actions are regularly identified in research interviewing former violent extremists (e.g., Bubolz & Simi, 2015; Latif et al., 2018; Carroll, 2022; DeMichele et al., 2022; Mattsson & Johansson, 2020). Over half (54.5%) of the 34 former white supremacists interviewed by Bubolz & Simi (2015) experienced guilt related to their involvement with hate groups. This research has also examined how feelings of shame and guilt might contribute to more severe forms of psychological distress. For example, Carroll (2022) describes 'Post Extremist Traumatic Stress' (PETS) that was identified through self-reported symptoms of PTSD caused by respondents' experiences within the white supremacist movement, and journeys out of this movement. Shame and guilt were identified as key factors that exacerbated experiences of this type of traumatic stress:

> **I never talked about the trauma I experienced in the movement because I sort of felt like I deserved it. I felt so much shame and guilt that I was ever a part of something so toxic. I guess I felt I deserved everything I got.**
>
> **(Respondent quoted by Carroll, 2022, p.123)**

A similar relationship between shame, guilt, and psychological distress was discussed by Corner and Gill (2020). Individuals in their sample who suffered from psychological distress post-disengagement were more likely to feel guilt for their roles in attacks; report feeling judged; less likely to report that their past behaviour was morally justifiable; and more likely to receive psychological help post-disengagement.

Feelings of guilt and shame can provoke a range of psychological responses, both positive and negative. For example, whilst some individuals 'may languish in a negative reading of their actions' (Shirlow, 2014, p. 738), others may be motivated to undertake reparative work (Bont, 2020) or engage in preventive CVE initiatives (Mattsson & Johansson, 2020). Similarly, some former violent extremists may disengage publicly, whilst others may choose to keep their past a secret so as to avoid potential stigmatisation and judgement (Mattsson & Johansson, 2020; Carroll, 2022). In this regard, Mattsson and Johansson (2020) point to public disengagement as potentially supporting deradicalisation, but also as a potential source of trauma:

> **Confronting and eradicating the past and a stigmatized [sic] identity promote the deradicalization [sic] process. However, we noticed the risk of being trapped in the role of former neo-Nazi, which in itself creates a new trauma.**
>
> **(Mattsson & Johansson, 2020, p. 104)**

This discussion of stigmatisation draws attention to the second dimension of post-disengagement trauma, and the potential sources of trauma that individuals may be exposed to once they have left violent groups. Individuals, and their families, may face stigmatisation and shame linked to their past behaviour which can inhibit their ability to successfully reintegrate into communities (Guru, 2012; Shirlow, 2014):

> **It was commonly asserted that rejection and stigmatic shaming had placed respondents within a landscape**

> **of denunciation, intolerance, and admonition. Within these conversations the principal objective in terms of social engagement was to limit as far as possible contact with others.**
>
> **(Shirlow, 2014, p. 739)**

This type of reintegration challenge can be a potential source of distress, and may be compounded by the ongoing psychological effects of pre-engagement and engagement related experiences. Traumatised violent extremists may be genuinely fearful that they are incapable of changing (Bubolz & Simi, 2015), or may not be willing or ready to reintegrate without further support (Mohammed & Neuner, 2022a). Indeed, Mohammed and Neuner's (2022a) research with former IS recruits found that the 'individual's positive expectations for reintegration was compromised by the ongoing identification with the terrorist organization but also trauma exposure [war trauma or familial trauma] and impaired mental health' (Mohammed & Neuner, 2022a, p. 8). This further complicates the relationship between disengagement and trauma.

5.4.2 CONCLUDING THOUGHTS ON POST-DISENGAGEMENT-RELATED TRAUMA

The analysis above points to two key dimensions of post-disengagement trauma. First, the lasting effects of traumas experienced before or during engagement (and disengagement) can continue to manifest in the post-disengagement period. Second, the post-disengagement period can itself be a source of potential trauma. These two dimensions of post-disengagement trauma may also intersect in ways that produce a cumulative effect, a point which is examined in more detail in Section 5.5. below.

5.5 CONSIDERING INTERSECTIONS BETWEEN STAGES

A number of studies have illustrated that traumas experienced at and across different stages of engagement might intersect. For example, Carroll (2022) uses the term 'compounding trauma' to highlight how, for some respondents:

> **[T]he trauma they experienced due to being a part of the far-right extremist movement was compounded on top of unresolved trauma and traumatic stress they had carried before they even entered far-right extremism.**
>
> **(Carroll, 2022, p. 155)**

Carroll (2022) in turn notes how the symptoms of 'Post-Extremist Traumatic Stress' may have been exacerbated by this compounding effect. The intersection between traumas experienced before and during engagement is also alluded to by Mohammed and Neuner (2022a; 2022b). Whilst they do not explicitly explore the relationship between pre-engagement and engagement-related trauma, the composite measure of trauma that they use captures experiences relating to both stages. They note that traumatisation was prevalent amongst their sample of terrorist convicts, but go on to stress that 'we cannot determine to what extent the participants had been traumatized before recruitment, during combat, or after imprisonment' (Mohammed & Neuner, 2022b, p. 6). It cannot therefore be assumed that any clinical or sub-clinical effects of trauma that are identified post-disengagement are specifically related to engagement, disengagement, or post-disengagement experiences. In some cases, these effects might be linked to distal traumas that emerged prior to any radicalisation.

Understanding symptoms of psychological distress in the present rests on adopting a life course perspective and considering the different types of trauma that an individual might have been exposed to across

their life. It also seems important to examine how these different experiences intersect. Corner and Gill (2020; 2021) have pointed to an apparent relationship between distress experienced across different stages of engagement in their analysis of terrorist autobiographies, finding:

> **71.4% of terrorists who suffered psychological distress prior to engagement in terrorism also suffered distress during involvement. 66.7% who suffered prior to engagement continued suffering distress following disengagement. 70% who suffered psychological distress during engagement also suffered in the post disengagement period.**
>
> **(Corner & Gill, 2020, p. 508)**

The paper argues that this relationship was likely influenced by factors external to terrorist engagement (Corner & Gill, 2020). However, their analysis highlights how a significant proportion of individuals who present with symptoms of distress during or after engagement will already have suffered prior to their engagement. Corner et al. (2021) make a similar point by highlighting how individuals identified as 'vulnerable' within this same sample - those characterised by a high level of distress and increased prevalence rates of a range of adverse pre-engagement experiences, such as physical abuse - also presented with signs of vulnerability during and after their engagement.

Whilst both studies highlight that pre-engagement trauma is not entirely predictive of later distress, they highlight the importance of considering trajectories linking pre-engagement, engagement, disengagement and post-disengagement experiences. As Carroll (2022) suggests, the intersection between these different experiences might produce a cumulative or compounding effect throughout the life course. However, this intersection might not always operate as expected, with research suggesting that pre-engagement trauma, when effectively managed and treated, can become a source of resilience (Campelo et al., 2018a). Once again, understanding the impact of a specific experience, and the nature of any interaction between different experiences, rests on understanding the context in which these events are experienced.

5.6 CONCLUSIONS

5.6.1 OVERALL REFLECTIONS

A proportion of violent extremists will experience trauma before, during and/or after their engagement in violent extremism. These traumas may produce specific effects that are relevant to understanding journeys into and out of violent extremism.

The relationships between trauma and violent extremism are complex, and non-deterministic. Trauma may contribute to, and result from, engagement in violent extremism in some cases. However, the mere presence of trauma in an individual's pre-engagement life history does not prove that trauma played a role in radicalisation, nor will every violent extremist be traumatised by experiences during engagement, disengagement, or post-disengagement that appear to be objectively traumatic.

Understanding the relevance of a traumatic experience is helped by understanding the meanings that individuals attach to that experience. People experience events in heavily contextualised ways, and attach different meanings to these events which shape the impact they have.

Practitioners and policymakers will benefit from being sensitive to the different types of trauma that individuals might experience throughout their journeys into and out of violent extremism. Even where identifiable trauma played little to no role in these journeys, interventions should be sensitive to the potential prevalence and relevance of trauma in order to avoid acting in ways that risk re-traumatisation.

5.6.2 PRE-ENGAGEMENT TRAUMA

Behavioural Radicalisation and Distal Trauma

A proportion of violent extremists experience trauma during childhood and adolescence. Trauma history in isolation is not predictive of radicalisation.

The prevalence of distal trauma is not proof of its relevance. Whilst the prevalence rates of distal trauma amongst samples of violent extremists is increasingly well understood, the mechanisms linking these experiences to radicalisation are not.

Experiences of trauma during childhood and adolescence may be particularly impactful. Traumas experienced during these key stages of development can produce specific effects that have been implicated in radicalisation processes.

Repeated exposure to trauma during early stages of life can produce a cumulative effect. This cumulative effect might contribute to increased vulnerability over time.

Maladaptive responses to distal experiences of trauma can create the context for radicalisation. In some cases, individuals may join violent extremist groups as an attempt to cope with the lasting effects of early-life trauma. In others, maladaptive psychological and behavioural adaptations to trauma might create the context in which radicalisation becomes more likely over longer time periods.

More research is needed to examine whether and how these mechanisms operate, and to uncover the implications of these mechanisms for policy and for practice.

Behavioural Radicalisation and Proximal Trauma

Quantitative research points to the prevalence of trigger events in the periods immediately prior to individual acts of violence. This research suggests that proximal traumas can accelerate radicalisation towards violent action, although it is difficult to unpick the causal processes that might be at work through this type of analysis.

Qualitative research highlights that proximal experiences of trauma can motivate individuals to engage in violent extremist behaviours. Whilst no single event in isolation can explain why an individual becomes behaviourally radicalised, highly personal experiences of trauma have the potential to motivate action when reframed through a collective lens.

Behavioural Radicalisation and Trauma

Pre-engagement trauma, and its effects, can cluster with other factors in ways that might contribute to radicalisation. The relationship between trauma history and radicalisation therefore appears to be heavily contextualised.

Pre-engagement trauma is somewhat gendered, with research highlighting how specific forms of pre-engagement trauma might be more prevalent amongst females, and may be more relevant to understanding their radicalisation. However, empirical evidence relating to this gendered dimension is somewhat mixed.

There is some preliminary evidence to suggest that specific forms of pre-engagement trauma might be predictive of specific behavioural outcomes. For example, exposure to violence pre-engagement has been linked to participation in violence during engagement. However, empirical evidence of this effect remains limited.

More research is needed to examine the granular relationships between pre-engagement trauma and behavioural radicalisation. This includes research examining how individuals adapt to specific types of trauma, and the extent to which adaptations to experiences might help in interpreting radicalisation pathways.

Cognitive Radicalisation and Trauma

There is some evidence of a relationship between trauma and the development of attitudes linked to violent extremism. Research has identified an indirect link between personal, collective, and historical forms of trauma and cognitive radicalisation.

This relationship is complex, heavily contextualised, and mediated and moderated by different factors. A range of different factors have been shown to mediate the relationship between trauma and cognitive radicalisation, including sub-clinical and clinical conditions, and contextual factors.

Violent extremist ideology and identity may perform a protective function for individuals with a trauma history. People may seek out violent ideologies as an attempt to cope with the lasting effects of trauma, although more research is needed to understand these processes better.

5.6.3 ENGAGEMENT AND TRAUMA

Involvement

Involvement with violent ideologies can expose individuals to potentially traumatic imagery that might elicit a range of psychological responses. Whilst research amongst extremist populations is limited, research with non-extremist samples has highlighted how engaging with violent extremist content online can produce negative psychological effects.

Violent extremist organisations may seek to deliberately induce trauma through extreme content. There is preliminary evidence of extremists seeking to use traumatisation as a mechanism of radicalisation, either by inducing new forms of trauma, or reactivating past traumas and reframing them through a collective lens to motivate action.

More research is needed to examine the potential protective function served by engagement with violent extremism, and the mechanisms by which violent extremist organisations might seek to leverage this protective function by inducing trauma.

Engagement

Behaviourally engaging in violent extremism is a potential source of trauma. Physically joining a violent group in conflict and non-conflict settings can expose individuals to a range of potentially traumatising experiences, whilst participation in harmful activities can elicit feelings of trauma.

Not every individual is traumatised by their engagement-related experiences. Individuals may participate in different activities during their engagement and may experience them differently to others. The extent to which these activities are experienced as traumatic appears to be linked to the subjective meanings that individuals attach to these experiences, rather than their objective severity.

In some instances, engagement may buffer against more severe forms of psychological distress. Whilst rates of clinical and sub-clinical conditions appear to be higher amongst samples of violent extremists, they are perhaps not as pronounced as might be expected given the objectively traumatic events they have experienced.

The relationship between trauma and disengagement is complex. Whilst specific experiences of trauma might motivate some individuals to disengage, such trauma might inhibit disengagement where engagement serves a protective function.

There are three ways in which continued membership or ongoing engagement in violent extremism might serve a protective function against psychological distress:

1. Joining an extremist group might be a maladaptive attempt to cope with the lasting effects of an earlier distal or proximal trauma.

2. Some individuals who are ideologically committed to a movement may not experience objectively traumatising experiences as traumatic.

3. Continued group membership may inhibit the development of more severe forms of psychological distress or trauma, which sustains commitment to the group as disengagement would remove a key protection against this.

5.6.4 DISENGAGEMENT AND TRAUMA

Research on disengagement-related trauma remains limited. Although a number of preliminary conclusions can be drawn, more research is needed.

The limited research to date provides additional evidence of the protective function that a violent extremist identity might serve. Disengagement can be a distressing experience for individuals who lose this protective function.

This disengagement-related trauma might increase an individual's vulnerability to traumas they might encounter in the post-disengagement period. Whilst anecdotal, individuals who experienced disengagement as a source of distress have discussed feeling more vulnerable in the post-disengagement period.

5.6.5 POST-DISENGAGEMENT TRAUMA

The lasting effects of earlier traumas can continue to manifest in the post-disengagement period. Issues linked to pre-engagement, engagement, and post-disengagement experiences may continue to affect individuals after disengagement.

Experiences during engagement may contribute to elevated rates of post-disengagement trauma and distress. Exposure to, and participation in, violence have been identified as particularly impactful in this regard, although post-disengagement trauma again appears to be linked more to the subjective meanings applied to specific experiences, rather than their objective severity.

The post-disengagement period can be a source of trauma. Stigmatisation, feelings of shame, and challenges reintegrating can be distressing. More research is needed to understand how traumas that emerge post-disengagement intersect with the lasting effects of earlier traumas that continue to manifest after individuals have disengaged.

5.6.6 INTERSECTIONS OF DIFFERENT STAGES

Trauma experienced across different stages of life can produce a cumulative and compounding effect. Experiences during engagement, disengagement, and post-disengagement can exacerbate the effects of traumas experienced earlier in life.

Practitioners and researchers should consider these types of intersection when examining trauma symptomology emerging during a specific stage of engagement. Exploring the potential relevance of trauma experienced at and across different stages of engagement, and considering any potential compounding effects, will be important for uncovering and ultimately treating the sources of any identified symptomology.

6. TRAUMA AND EXISTING RADICALISATION MODELS

The previous section identified a number of potential mechanisms by which trauma might be implicated in radicalisation pathways. This analysis highlighted how distal forms of trauma might contribute to longer term vulnerability (e.g., Simi et al., 2016; Windisch et al., 2022); how more proximal forms of trauma might trigger or accelerate radicalisation trajectories (e.g., Speckhard & Ahkmedova, 2006); and how repeated exposure to trauma across the life-course can produce a cumulative effect that might contribute to radicalisation (e.g., Simi et al., 2016; Windisch et al., 2022). It also highlighted how seeking out and maintaining a violent extremist identity might be interpreted as a maladaptive attempt to cope with the effects of pre-engagement and engagement-related trauma (e.g., Logan et al., 2022; Ferguson & McAuley, 2020).

This section further explores the relationships between trauma and radicalisation by examining whether and how trauma appears in existing models of radicalisation. The analysis that follows is based on a database of radicalisation models (n=99 studies) developed by Corner and Taylor (2023) as part of their systematic review.[22]

6.1 OVERVIEW OF THE LITERATURE ON RADICALISATION MODELS

From the 99 studies in Corner and Taylor's (2023) systematic review, we identified nineteen radicalisation models which examined trauma and adversity in some way. This included a small number of empirical studies that were also included in our systematic review (e.g., Klausen et al., 2020; Latif et al., 2018), as well as theoretical studies, and empirical studies that did not meet the inclusion criteria for our review.

The inclusion criteria for this section of the analysis were broader than for our systematic review of research on trauma. We included a small number of models that captured variables such as negative emotionality (e.g., De Waele & Pauwels, 2014) that have previously been identified as maladaptive responses to trauma, but that did not specifically examine trauma or a related concept. This enabled us to further explore some of the dynamics identified in our own review. The models are shown in Table 6.

Publication	Model Details
Winter & Feixas (2019)	Personal Construct Theory (PCT) model of radicalisation
Beelmann (2020)	Social-developmental model of radicalisation
Campelo et al. (2018b)	Three-level model
Klausen et al. (2020)	Behavioural sequencing model of radicalisation
Guss et al. (2007)	Cultural-psychological explanations for Islamic martyrdom
De Waele & Pauwels (2014)	Conceptual model of politically motivated violence
Böckler et al. (2018)	Developmental pathway of school attackers & terrorist attackers

22 This database was compared with our own systematic review, and any additional empirical studies that met our eligibility and quality criteria were subsequently included in our review.

Publication	Model Details
Latif et al. (2018)	Emotional dynamics in trajectory of development
Eleftheriadou (2020)	Model of refugee radicalisation/ militarisation drivers
McCauley & Moskalenko (2008)	Mechanisms of political radicalization
Ho et al. (2019)	Screening list to identify high-risk patients
Mills et al. (2019)	Social control-Social learning model
Cummings et al. (2012)	Social ecology of the effects of community violence on children
Canetti et al. (2013)	Stress-based model of political extremism
Beck & Pretzer (2005)	Cognitive model of hate and violence
Costabile et al. (2021)	No specific name or focus
Jost & Napier (2011)	Uncertainty-Threat model
Jensen et al. (2020a)	No specific name or focus
Kruglanski et al. (2014)	Significance Quest Theory (SQT)

Table 6. Radicalisation Models Capturing Trauma and Adversity

Trauma was captured in two distinct ways in the radicalisation model literature. Researchers either highlighted the **prevalence** (or presence) of trauma within the biographies of extremists or examined the specific **relevance** of trauma to radicalisation. Within these categories, there are differences in how trauma and related concepts are incorporated into models of radicalisation. Table 7 presents a typology of different ways of discussing trauma and adversity and radicalisation.

	Typology	Description
Prevalence of trauma	1. Trauma as a risk factor	Trauma (or related construct) explicitly cited as a risk factor.
	2. Traumatic experiences in life histories of extremists	Studies that observe the presence of pre-engagement trauma in the life histories of extremists without specifically identifying it as a risk factor.
	3. Trauma occurring in the social context	Traumatic experiences occurring within family, social or community contexts. Includes frameworks adopting socio-ecological approaches.
Relevance of trauma	4. Indirect mechanisms: Adaptive responses	Studies exploring how adaptive responses to trauma might mediate between trauma and radicalisation.
	5. Direct mechanisms: Trauma as a trigger	Studies that capture the triggering effects of traumatising events.

Table 7. Trauma and Radicalisation

The categories above are not mutually exclusive, reflecting the fact that some authors examine trauma from multiple angles or perspectives. The typology is used to represent the various ways in which trauma is considered in models of radicalisation rather than an attempt to divide models or studies into mutually exclusive categories.

The analysis that follows is organised around the two overarching themes of prevalence and relevance, and the typology of different approaches outlined in Table 7. Importantly, we do not discuss every study relating to these individual categories. Rather, we cite specific studies to illustrate a specific element of the typology. Where relevant, we also draw on insights from our earlier analysis of traumas experienced at and across different stages of engagement in violent extremism and of life.

6.2 THE PREVALENCE OF TRAUMA

6.2.1 TRAUMA AS A RISK FACTOR

Trauma, and related constructs like crisis, is sometimes cited as a risk factor in models of radicalisation. For example, Klausen et al.'s (2020) Dynamic Risk Assessment, identifies trauma as a push factor that 'may cause an individual to seek a solution in extremism' (p. 602). The authors analysed the available biographical data of 135 US jihadist terrorism offenders to identify risk factors relating to a pre-radicalisation, 'cognitive opening' stage, and three distinct stages of the radicalisation process. Notably, whilst the authors anticipated that trauma - defined as 'an event causing a shock or injury' - would be relevant to multiple stages of their model, incidents of trauma within their sample almost exclusively occurred pre-engagement: 22 of the 26 cases of trauma in their sample occurred before the individual engaged in extremism.

Relatedly, 'personal crisis' - defined as '[a]dverse personal circumstances leading to dissatisfaction with self or introspection, catalyzed by continuous, prolonged problems (e.g., incarceration, drug addiction, unemployment, homelessness)' (Klausen et al., 2020, p. 601) - is also identified as a potential pre-radicalisation risk factor in this study. Evidence of a personal crisis was identified in 27.4 per cent (n=37) of their cases, again predominantly in the pre-radicalisation stage (75.7%, n=28). Klausen et al. (2020) recognise that trauma and crises were relatively uncommon within their sample, and conclude that both are potential push factors that can encourage 'searching behaviours' that shape motivations to engage in violent extremism.

A number of other studies focus on trauma and/or personal crises as pre-engagement risk factors (e.g., Böckler et al., 2018). This includes authors such as Beelmann (2020) and Campelo et al. (2018b) who identify trauma as a risk factor existing at different levels of an individual's social ecology - a point which is examined in detail in Section 6.2.3. This notion of trauma as a risk factor aligns with much of the earlier cited research on pre-engagement trauma which focused primarily on examining the prevalence rates of this type of trauma in the life histories of violent extremists. Indeed, authors such as Öztop (2022) have described trauma as a 'push factor' in the same way as Klausen et al. (2020). However, as discussed earlier, simply quantifying trauma in this way says little about the relevance of trauma in shaping radicalisation.

6.2.2 TRAUMATIC EXPERIENCES IN THE LIFE HISTORIES OF EXTREMISTS

A number of studies point to the presence or prevalence of trauma in the life histories of extremists without specifically defining trauma as a 'risk factor'. These studies again tend to focus on trauma occurring during the pre-engagement period.

Models based on qualitative interviews or life history data sometimes note the presence of traumatic experiences in an individual's past. For example, Mills et al.'s (2021) Integrated Social Control-Social Learning Model of radicalisation is based on case studies of four offenders developed using data

obtained from the US Extremist Crime Database and the Profiles of Individual Radicalization in the United States (PIRUS) database. In one of those cases, the individual's biography includes multiple potentially traumatising events, including suffering a serious workplace injury which apparently ended his employment at a power plant. He also suffered "substantial distress" from being accused of rape and battery, leading to him being charged by US authorities before eventually being cleared of the charges. The biography states that he was also subject to a hearing at his mosque over the accusations. He became withdrawn, depressed, unhealthy, and more obsessively religious. These experiences contributed to anger towards the US and reportedly preceded his acceptance of extreme Islamism, although the authors note that these distressing events did not immediately precipitate his radicalisation (Mills et al., 2021).

This analysis provides further, albeit anecdotal evidence of a mechanism identified earlier in our analysis, whereby repeated exposure to trauma, even when occurring a (relatively) long time prior to radicalisation, might be implicated in radicalisation pathways over longer time frames (e.g., Windisch et al., 2022). This type of dynamic is also identified in Latif et al.'s (2018) study of white supremacist groups in the US. One participant in this study stated that his experiences of harassment as a child produced low self-esteem and feeling like an outsider, later remedied by his welcome inclusion into a white supremacist group (p. 484). While Latif et al. (2018) do not explicitly elaborate on the specific role that trauma or abuse played in their respondents' radicalisation, they cite this example when examining the role that emotional dynamics more broadly play in sustaining, and ultimately destroying, white supremacist groups.

Whilst individual accounts of this type cannot be considered representative of all violent extremists, they provide useful insights into mechanisms by which trauma might be implicated in radicalisation pathways, although they do not prove causality.

Theoretical contributions building on quantitative analysis also note the presence of trauma in the backgrounds of extremists. For example, Kruglanski et al.'s (2014) Quest for Significance (QFS) model has been used to examine trauma by Jasko et al. (2017).[23] Their analysis of 1,496 ideologically motivated criminals drawn from the PIRUS database identifies one or more traumatic experiences as a cause of loss of significance (along with achievement-related and relationship-related losses of significance). QFS theory posits that individuals who suffer a loss of significance have an enhanced need for personal significance which 'makes the occurrence of extreme behaviour more likely' (Jasko et al., 2017, p. 817).

Jasko et al.'s (2017) study included three trauma-related variables: *Abused – childhood, Abused – adulthood*, and *Trauma* – described as 'a traumatic event that involved intense fear, helplessness, or horror' (p. 820). Within their sample, 48 per cent had experienced a traumatic event, 35 per cent were abused as children, and 13 per cent were abused as adults. Bivariate analysis identified a positive relationship between the use of extremist violence and significant loss caused by abuse and trauma, although only abuse experienced as an adult was found to be significantly related to use of violence.[24] Whilst correlation does not equal causation, this framework provides an alternative lens through which to examine how maladaptive responses to trauma might contribute to behavioural radicalisation in the way discussed by authors such as Simi et al. (2016) and Windisch et al. (2022) earlier.

6.2.3 TRAUMA OCCURRING IN THE SOCIAL CONTEXT

Various models of radicalisation highlight the importance of considering traumatic experiences in relation to different social contexts. These include

23 Jasko et al.'s (2017) analysis was not included in the database of radicalisation models, but was identified through our own literature searches as outlined in Section 3.
24 A limitation of this analysis is that multivariate analysis was not possible due to the extent of missing data for the trauma and abuse variables (80%<; p. 824).

traumatic experiences occurring within the family, social-group or community settings. Some of these frameworks explicitly apply socio-ecological approaches to understanding radicalisation, whereas others implicitly provide support for such perspectives by acknowledging the need to consider, not only the individual, but also how they are influenced by, and interact with, events occurring within their social environment.

The Social-Developmental Model of Radicalisation developed by Beelmann (2020) considers the interaction between individual, social and societal risk and protective factors. While trauma is not explicitly discussed, it draws attention to other factors relevant to trauma and adversity. These are primarily located in the initial stage of Beelmann's three-stage model, moving from (i) Ontogenetic developmental processes through to (ii) Proximal radicalisation processes and eventually to (iii) Political or religious extremism. Within the first stage, the model refers to a variety of risk factors which include potentially traumatic experiences:

- **Individual level:** 'experience of social exclusion'.
- **Meso level:** 'conflicts and problems in families (e.g., violence)', 'experience of violence in the family or in deviant groups' and 'experience of group discrimination'.
- **Macro level:** 'real intergroup conflicts' and 'societal disintegration/collective marginalization'.

This approach highlights the importance of considering the role of potentially traumatising influences across multiple levels of analysis in relation to radicalisation.

Similarly, a model of European youth radicalisation developed by Campelo et al. (2018b) through a review of 22 qualitative and quantitative studies identified risk factors existing at three levels of analysis: (1) individual, (2) micro-environmental, (3) societal. Relevant factors were identified at the individual and the micro-environmental levels. At the individual level, 'early experiences of abandonment' were reported to be present in 'most of the radicalised youth's life trajectories' (p. 8), and at the micro-environmental level, 'fragility and failure of the family group'. This model aligns with Beelmann (2020) and others by stressing how different social environments may be sources of traumas that are relevant in shaping early stages of radicalisation.

For example, Böckler et al. (2018) specifically identifies the family environment as a context from which trauma may emerge. The analysis of terrorist offenders which underpins their Developmental Pathway of School Attackers and Terrorist Attackers identifies a range of risk factors existing at this level of analysis, including 'illness and death of significant others', divorce, and a 'familial atmosphere characterized by emotional indifference and a lack of parental involvement' (Böckler et al., 2018, p. 11).

Research also points to the relevance of trauma existing at the community or societal level including both contemporary and historical community experiences. Existing models of radicalisation reflect an apparent relationship between ongoing, community or societal exposure to political violence and the development of attitudes related to violent extremism (e.g., Canetti-Nisim, 2009; Canetti et al., 2013), as well as a potential link between community-level exposure to historical political violence and contemporary, sectarian behaviours (Cummings et al., 2012). This research therefore suggests that some forms of trauma may become embedded within the broader social context in ways which are relevant to interpreting radicalisation processes.

6.3 THE RELEVANCE OF TRAUMA

Our systematic review highlighted that research examining the mechanisms linking pre-engagement trauma and radicalisation was limited but growing. Radicalisation models that specifically examine these mechanisms were similarly limited. However, a small number of studies point to the potential relevance

of different indirect and direct mechanisms for understanding this relationship.

6.3.1 INDIRECT MECHANISMS: ADAPTIVE RESPONSES TO TRAUMA

Models setting out indirect pathways between trauma and radicalisation highlight how this relationship may be mediated by specific, adaptive responses to traumatic experiences. One such model is the Stress-Based Model of Political Extremism (Canetti-Nisim, 2009; Canetti et al., 2013) discussed in our analysis of collective trauma (Section 5.1.4). As stated earlier, this model identifies 'psychological distress' as a mediating factor in a causal chain beginning with exposure to political violence and leading to enhanced perceptions of threat, and finally to more militant attitudes.

A similarly indirect relationship is discussed by Costabile et al. (2020) based on data from Italian adolescents (n=328). This study does not specifically examine trauma. However, it identifies a negative relationship between 'psychological well-being' - including measures relating to anxiety and depression - and radicalism (understood as extreme beliefs) that is mediated by two factors: social disconnectedness and perceived illegitimacy of authorities. Costabile et al. (2020) argue that these psychological problems may cause youths to withdraw from society, whilst blaming the authorities for their isolation, which in turn affects their perceived legitimacy. The model states that these two mediating variables also influence whether the individual ultimately comes to adopt radical (violent) or activist (non-violent) beliefs.

Whilst these models focus on different phenomena to those discussed in the earlier section on life course perspectives, they provide further evidence of how maladaptive psychological responses to trauma might be implicated in radicalisation pathways.

6.3.2 DIRECT MECHANISMS: TRAUMA AS A TRIGGER

Research on radicalisation models aligns with our earlier analysis of proximal trauma by highlighting how experiences of trauma might trigger radicalisation processes. For example, McCauley and Moskalenko (2008), list 'Individual radicalization by personal victimization' as one of their twelve Mechanisms of Political Radicalization. The Chechen 'Black Widows' are among the examples provided of individuals prompted to undertake political violence because of their personal victimisation, echoing Speckhard and Ahkmedova's (2006) conclusions based on research with the same population. In this case, experiences of rape or the deaths of loved ones exemplify potentially traumatic events that led them to engage in violence – particularly suicide terrorism. This mechanism was informed by both a grievance and a desire for revenge.

Several of the other models or frameworks discussed above include trigger events as potential risk factors for radicalisation. For example, Campelo et al.'s (2018b) model incorporates insights from studies suggesting that experiences such as 'brutal trauma concerning a loved one,' experiences of discrimination, and exposure to violent video materials perceived to relate to the individual's family, can be triggering events that prompt 'acting out or at least reinforcing the radical commitment' (p. 9). Böckler et al. (2018)'s analysis of school and terrorist attackers also found that re-traumatising events that reactivate previous traumatic experiences can trigger violent attacks, although this was particularly noted among their sample of school attackers.

6.4 CONCLUDING THOUGHTS ON RADICALISATION MODELS

6.4.1 OVERALL CONCLUSIONS

Trauma is rarely discussed explicitly within existing radicalisation models. However, trauma is captured in two distinct ways in a small number of radicalisation models. Researchers either highlight the prevalence of

trauma within biographies of extremists or examine the relevance of trauma to radicalisation.

- Studies examining prevalence explicitly or implicitly frame trauma as a potential risk factor for radicalisation that can exist at different levels of analysis.
- Studies examining relevance identify both indirect and direct mechanisms by which trauma exposure might contribute to radicalisation trajectories.

These themes are explored in more detail in the final analysis section, which discusses the merits of a more explicitly trauma-informed model of radicalisation than currently exists in the research.

6.4.2 THE PREVALENCE OF TRAUMA

Trauma, and related constructs like personal crisis, are sometimes cited as potential 'risk factors' in models of radicalisation. These models tend to identify trauma and related phenomena as potential 'push factors' for radicalisation. However, these models say little about the mechanisms by which trauma contributes to risk.

A number of models point to the presence or prevalence of trauma in the life histories of extremists without using the language of risk factors. The analyses in these studies align with many of the themes identified in our review, discussing how both distal and proximal forms of trauma might be implicated in radicalisation, and emphasising the importance of understanding maladaptive responses to trauma. However, they do not provide robust evidence of causality.

Various models of radicalisation highlight the importance of considering trauma experienced in relation to different social contexts. These models highlight the importance of considering how trauma and its effects might manifest at different levels of an individual's social ecology in ways that might be relevant to radicalisation.

6.4.3 THE RELEVANCE OF TRAUMA

A small number of radicalisation models identify potential indirect and direct mechanisms linking pre-engagement trauma to radicalisation. The former draws attention to the role of behavioural and psychological adaptations in mediating this relationship, and the latter to the potential trigger effect of certain experiences.

Models setting out indirect pathways between trauma and radicalisation highlight how this relationship may be mediated by adaptive responses to traumatic experiences. These models provide additional evidence of how maladaptive psychological responses to trauma might be implicated in radicalisation pathways.

Models examining more direct pathways align with our earlier analysis of proximal trauma by highlighting how experiences of trauma might trigger radicalisation processes. A number of models also identify trigger events as potential risk factors.

7. TRAUMA-INFORMED PERSPECTIVE ON RADICALISATION

The analysis presented above explored the relationships between trauma, adversity and radicalisation from two perspectives. Section 5 identified a number of studies that specifically examined this relationship, whereas Section 6 discussed how trauma is captured in existing radicalisation models. This section examines the key lessons emerging from both literatures and presents a preliminary perspective on the key dimensions of a more explicitly trauma-informed perspective on radicalisation.

7.1 DOMINANT APPROACHES TO RADICALISATION

Radicalisation is traditionally understood as being caused by the intersection of different risk factors and/or the absence of protective factors. A huge body of research has therefore focused on identifying risk and protective factors relating to radicalisation (e.g., Wolfowicz et al., 2021; Vergani et al., 2021). Read from this perspective, much of the research discussed in Sections 5 and 6 above would suggest that, in some instances, trauma history might be a potential risk factor for radicalisation. It is therefore unsurprising that research on violent extremism has explicitly or implicitly discussed trauma in this way. Systematic reviews identify trauma as a potential risk factor for radicalisation in the way discussed in Section 6.2.1 and 6.2.2 (e.g., Wolfowicz et al., 2021). Whilst theoretical studies have identified trauma as a risk factor that might exist at different levels of an individual's social ecology in a similar way to several radicalisation models cited in Section 6.2.3 (e.g., Ellis et al., 2022).

No author argues that trauma in isolation causes radicalisation. Rather, research is increasingly trying to understand how trauma might cluster with other factors in ways that might contribute to enhanced radicalisation risk (e.g., Campelo et al., 2018a; Clemmow et al., 2020a). Alongside this, an evidence base is developing around the cumulative effects of repeated trauma exposure (e.g., Windisch et al., 2022) which could also be read as evidence of an association between trauma and radicalisation.

Trauma may be a risk factor for radicalisation in some cases. However, the research discussed in the previous two sections emphasised that individuals respond to trauma in very individualised and contextualised ways. If, as noted earlier, the vast majority of the general population will experience trauma in their lives (Benjet et al. 2016), then trauma history - including repeated exposure to trauma – should not be interpreted as a decontextualised indicator of risk. Indeed, we noted earlier that past traumas can become a source of resilience (as opposed to vulnerability or risk) in some circumstances (Campelo et al., 2018a). As we set out in our previous report, understanding whether and how a traumatic experience might contribute to risk, or resilience, rests on understanding how the individual adapted to this trauma, the context they were in, and the meanings they attached to it (Lewis & Marsden, 2021).

These two bodies of research on trauma and violent extremism, and trauma in the context of radicalisation models, provide some parameters for what a trauma-informed perspective on radicalisation might look like. In focusing on the relevance rather than the prevalence of trauma in an individual's life history, at a minimum, a trauma-informed approach would recognise that trauma could be a feature of someone's life history, but should avoid making assumptions about the association between trauma and risk; and should avoid securitising and pathologising trauma and its effects.

The core tenets of a more trauma-informed approach are to acknowledge the range of effects trauma can produce, the variety of sources it might have, and recognise that these effects are individualised, are informed by the meaning they hold for the individual, and interact with past life experiences, and current contexts. To understand these complex processes, it is helpful to focus on the contexts and the mechanisms through which trauma(s) might contribute to radicalisation risk or resilience.

7.2 TOWARDS A TRAUMA-INFORMED APPROACH

Our own trauma-informed approach to radicalisation is informed by three themes emerging in the literature, which we term trauma from context; trauma in context; and trauma as context. The first theme highlights how trauma may itself be a feature of an individual's social ecology, and can be generated at micro, meso and macro levels and unfold over time. Taking account of the interactions between individuals and the relational, cultural, and historical contexts in which they live recognises that individual adaptations and responses to trauma can in turn shape the context in which they and others live. The second theme draws attention to the fact that traumatic events are experienced in specific contexts, and individual adaptations to these events are in part shaped by the meaning they hold and the kinds of barriers and opportunities to pursuing pro-social lives they embody. Finally, the way people respond to events and experiences - typically categorised as risk and protective factors - is likely to be shaped by someone's trauma history. Trauma forms the context or backdrop which informs how people respond to potential risks that might make extremist spaces appear attractive routes to meeting individual needs and adapting to adverse experiences.

Underpinning these themes is a recognition of the benefits of socio-ecological perspectives. Several authors who approach the study of radicalisation from a trauma-informed point of view have implicitly or explicitly adopted an ecological or socio-ecological perspective (e.g., Rousseau et al., 2019; Weine et al., 2020; Cardeli et al., 2019; Nivette et al., 2021; Miconi et al., 2021; Grimbergen & Fassaert, 2022). As Ellis et al. (2022) explain, the socio-ecological model developed by Bronfenbrenner (1977; 1979) 'asserts that an individual's development is a function of the strengths and challenges faced on multiple levels of the social ecology' (Ellis et al., 2022, p. 1322).

This model, presented in Figure 3, identifies five levels of an individual's social ecology: the micro, meso, exo and macro systems and the chronosystem, which recognises the temporal context and takes account of historical events and experiences across someone's lifespan. This makes it possible to capture the way individuals, and the contexts in which they exist (including the broader social or historical context) change over time (Bronfenbrenner, 1979; Townsend et al., 2020).

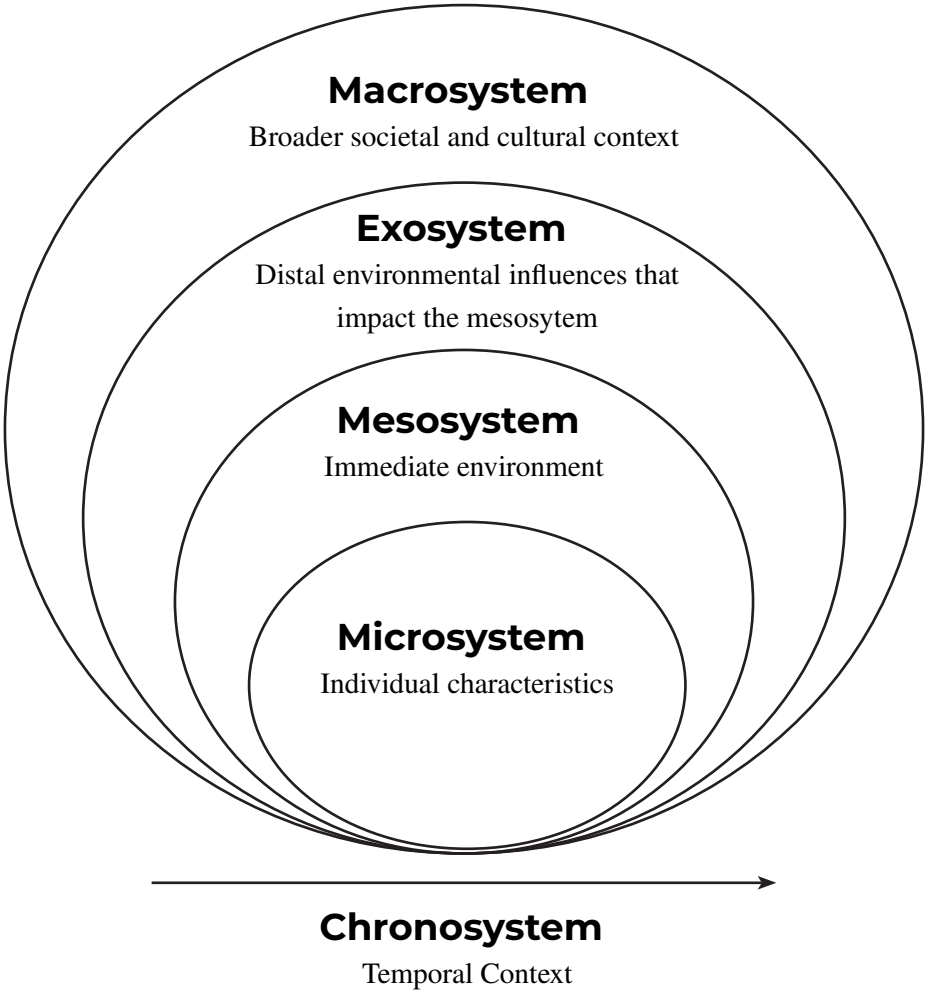

Figure 4. The Socio-Ecological Model (adapted from Ellis et al., 2022)

Researchers are increasingly drawing on socio-ecological perspectives to highlight that radicalisation is a function of individual characteristics and factors interacting with broader environmental factors (e.g., Bouhana, 2019). In this context, socio-ecological models provide a foundation for: a) recognising that trauma is generated at different levels of someone's social ecology, and that this context can be influenced – positively or negatively – by individual and/or group responses or adaptations to trauma (trauma from context); b) understanding the multiple layers of context within which someone encounters trauma and the way they shape the meanings experiences hold and the kinds of responses or adaptations the context makes available (trauma in context); and c) informing how individuals interpret and respond to socio-ecologically embedded experiences as a function of trauma histories (trauma as context).

The socio-ecological model helps to identify a range of factors that might protect against maladaptive responses to trauma, and in turn serve a protective function against radicalisation (e.g., Cardeli et al., 2019). Further, because this socio-ecological perspective has been embedded in research on trauma far longer than research on radicalisation (Lewis & Marsden, 2021), insights from the literature on trauma and trauma-informed practice could be usefully applied to counter-radicalisation work to help further embed socio-ecological perspectives on risk and resilience into this field.

7.2.1 TRAUMA FROM CONTEXT

The socio-ecological model provides a foundation for identifying different forms and manifestations of trauma that might exist at different levels of analysis, and how trauma emerges from socio-ecological contexts. As discussed in Section 6.2., trauma might be a specific feature of the micro, meso, exo or macrosystem in which an individual is situated. The research discussed in Section 5 highlighted how individuals might be exposed to different forms of familial, community, societal, structural, or historical forms of trauma. These types of traumas exist at different levels of an individual's social ecology and shape individual trauma histories (Ellis et al., 2022).

Researchers in other contexts writing from a trauma-informed perspective have developed a range of approaches for identifying trauma at different levels of analysis, and for examining how these different forms and manifestations of trauma might produce effects at the individual level (e.g., Goodman, 2013). These researchers highlight how examining the lasting effects of historical, personal, and collective forms of trauma can assist practitioners, and individuals with whom they work, in understanding the drivers of present day behaviours. Adopting a similar approach in the counter-radicalisation context would provide a more holistic understanding of the different forms of trauma that might be shaping an individual's current cognitions or behaviours in the here and now, a point which is discussed in detail in Section 7.2.2.

The socio-ecological approach also foregrounds the importance of time through the chronosystem. The chronosystem is important for two reasons. First, it emphasises the importance of considering the potential psychological effects of a given societal or historical context. For example, authors have identified the COVID-19 pandemic as a specific development within the chronosystem (e.g., Vaterlaus, 2022), and have analysed the relationship between distress caused by the pandemic and violent extremist sentiment (e.g., Miconi et al., 2022). Similarly, historical or collective socio-political experiences, including experiences of violence, can create the context for the development of more extremist attitudes (e.g., Canetti-Nisim, 2009; Canetti et al. 2021). Mindful of avoiding deterministic readings of the relationships between past experiences and the potential for future violence, experiences or developments in the chronosystem seem relevant to interpreting radicalisation processes.

Second, the chronosystem reinforces the importance of considering when during an individual's life a traumatic event is experienced. As noted in Section 2.4.2, individual adaptations to life events may vary according to the age at which it is experienced (van der Kolk, 2005), and the nature of previous life experiences, positive or negative (Thornberry & Krohn, 2001). Time is therefore an important contextual factor that may shape how traumatic events are experienced, and how individuals respond to them.

Socio-ecological contexts can also be influenced by individual and group responses to trauma. The ways in which individuals adapt to past experiences of trauma can shape the context in which subsequent life events are experienced (Thornberry & Krohn, 2001). As part of interacting and unfolding processes, responses to trauma experienced at the individual or collective level can generate or exacerbate the conditions that generate the context for future trauma, and maladaptive responses.

Research using the 'risk factor model' examined in Section 5 (Windisch et al., 2022; Simi et al., 2016; Logan et al., 2022) provides the clearest indication of this process, whereby maladaptive responses to past trauma carried the potential to directly and indirectly create the context for radicalisation. For example, Windisch et al. (2022) highlighted how maladaptive psychological responses adopted to cope with past trauma were seen to increase respondents' cognitive vulnerability, whilst Logan et al. (2022) described how specific behavioural responses led individuals into physical contexts in which radicalisation became more likely. In both a literal and a figurative sense,

maladaptive responses to past trauma can create the context for radicalisation.

Whilst avoiding deterministic or overly simplistic readings of the relationships between experiences of trauma and the likelihood of harmful individual or group responses, it remains important to recognise that efforts to adapt to trauma carry with them the possibility of increasing the potential for future violence. This perspective recognises the interacting and emergent nature of the relationships between trauma produced across different levels of a given socio-ecological context, individual and group responses, and the way they can influence those contexts in positive or negative ways.

7.2.2 TRAUMA IN CONTEXT

Trauma is experienced in specific socio-ecological contexts. Those contexts shape the meaning that experiences hold, and the opportunities and resources available to adapt to traumatic experiences individuals and groups encounter.

Socio-ecological contexts are constituted by both objective, material realities, and the subjective meanings they hold. These meanings are represented in individual and collective identities, norms, and narratives, and play a role, both in whether and how an event is experienced as traumatic (Boals, 2018), and how people respond to these experiences. As discussed in Section 5.1.4 on post-disengagement trauma, the way an event is interpreted goes some way to explaining whether or not it will produce negative psychological outcomes (Corner & Gill, 2020). In some cases, those once engaged in violence experience shame and guilt over their past actions leading to withdrawal, whilst others reorient the meaning of these experiences to support their involvement in violence prevention or peacebuilding work (Ferguson & McAuley, 2010). In this way, socio-ecological contexts represent the objective circumstances that produce trauma, and the subjective meaning experiences of trauma hold.

Socio-ecological contexts may also produce barriers that inhibit people from living pro-social lives often, as discussed earlier, through generating trauma and adversity. They can also make positive ways of adapting to experiences of trauma more or less easily accessible. In the wider literature on radicalisation, the things which enable people to respond to adversity positively are often described as protective factors, whereas risk factors are those things that increase the likelihood people will use harmful routes to overcoming challenges, such as traumatic experiences (Marsden & Lee, 2022).

The availability of positive routes to adapting to trauma are not evenly distributed. Barriers and opportunities to addressing challenges are informed by factors across the different levels of someone's social-ecology. A trauma-informed approach to radicalisation recognises these inequalities and the role the social context plays in generating, or inhibiting access to the resources that might allow people adapt to trauma and adversity. It also takes account of efforts made by violent extremists to deliberately shape the context in ways which exacerbate trauma, for example as Koehler (2020) argues by inducing trauma in an effort to radicalise others.

7.2.3 TRAUMA AS CONTEXT

The theme trauma as context helps to illustrate both how trauma history might help researchers and practitioners to contextualise individual journeys into violent extremism, and those behaviours and cognitions that are often understood as being linked to radicalisation risk. This theme therefore reframes trauma as a contextual factor, as opposed to a risk factor as traditionally understood.

The different forms of trauma - historical and contemporary - discussed in Section 5 that are embedded throughout the levels of an individual's social ecology inform individual trauma histories. These histories shape how people respond to new events and experiences. In this way present day cognitions and behaviours are, in part, a function of

these histories. They carry the potential to inform how people adapt to those things which are typically characterised as 'risk factors' for radicalisation.

Authors such as Bates-Maves and O'Sullivan (2017) have argued that many of those risk factors associated with (re)offending more broadly could be understood as maladaptive responses to past trauma. In turn, they argue that viewing these factors in the context of an offender's past trauma history provides a more accurate understanding of an individual's risk and what informs it:

> **A [practitioner] who does not know the rates of [trauma] among [clients], and how these experiences are connected to current behavioral [sic] patterns, cannot fully understand or appreciate how and why clients demonstrate such behaviors [sic]. Considering the same behavioral [sic] patterns through the lens of trauma adds context, both social and physiological, and provides direction towards remediation and appropriate care.**
>
> **(Bates-Mave & O'Sullivan, 2017, p. 96)**

A similar argument could be made when seeking to interpret risk factors that are traditionally associated with radicalisation, such as those captured in risk assessment tools for radicalised populations (see Lloyd, 2019). As an example, several factors captured in the UK's Extremism Risk Guidelines 22+ (ERG 22+) (Powis et al., 2019) align with some of those maladaptive responses to trauma identified in Section 5, such as a need to redress injustice or defend against threat (e.g., Canetti-Nisim, 2009; Canetti et al. 2021); a need for identity, meaning and belonging (e.g., Mattsson & Johansson, 2020); or a need for status (e.g., Jasko et al., 2017). This aligns with arguments made by Rolling et al. (2022) who suggest that risk factors linked to a search for support, belonging or identity can 'be intrinsically modified by post-trauma mechanisms', and in turn that 'one way to counter radicalization [sic] is to decipher the post-traumatic component embedded in these risk factors' (p. 9).

A trauma-informed perspective recognises that trauma histories – broadly defined – are usefully understood as part of the context of an individual's life that shapes behaviours and attitudes, and the repertoire of adaptive responses that are available to them (Rolling et al., 2022). They are not simply risk factors but are a crucial part of someone's past that influences how they act in the here and now. Understanding trauma histories in this way provides an alternative lens through which to interpret risk factors with implications for interventions, risk assessment and research.

7.3 CONCLUDING THOUGHTS ON A TRAUMA-INFORMED APPROACH

The two bodies of research examined in this report point to the potential relevance of trauma in shaping individual journeys into and out violent extremism. This supports the effort to develop a more explicitly trauma-informed perspective on radicalisation.

Taking a trauma-informed perspective to radicalisation would reframe trauma as a contextual factor, rather than a risk factor for radicalisation. Whilst trauma history may be a risk factor for radicalisation in some cases, individual and collective experiences of, and adaptations to, trauma can also create the context for radicalisation over time.

Socio-ecological models provide a useful foundation for a trauma-informed perspective on radicalisation. These models recognise that individuals existing within contexts that sit across five levels of analysis: the micro, meso, exo and macro systems and the chronosystem, which recognises the temporal context and takes account of historical events and experiences across someone's lifespan.

Viewed through this lens, trauma is both experienced in, and may be a feature of, specific contexts. A

trauma-informed perspective therefore understands trauma as emerging from context; as something that is experienced in context; and as context:

- **Trauma from Context:** Trauma is generated at different levels of social ecology. Individual and collective adaptations to traumatic events are present at different levels of analysis and can shape socio-ecological contexts in ways that might contribute to an increased risk of radicalisation in some cases.
- **Trauma in Context:** Individuals encounter trauma in certain historical, social, cultural, and political contexts. These shape the meanings that experiences hold and the kinds of responses or adaptations that are available in ways that are relevant to interpreting radicalisation processes. Adaptations to past life events can shape the contexts in which subsequent life events are experienced. In some cases, this can produce a cumulative effect, and a 'downward spiral' towards negative outcomes, including violence.
- **Trauma as Context:** Individuals interpret and respond to different experiences informed by their trauma history. Viewing present day cognitions and behaviour through the lens of past trauma history can help to contextualise 'risk factors' in ways that can assist in interpreting radicalisation.

A trauma-informed perspective would recognise that trauma could be a feature of someone's life history but would avoid making assumptions about the association between trauma and risk, and securitising and pathologising trauma and its effects.

Instead, a trauma-informed perspective would acknowledge the different effects that trauma may produce that are individualised; informed by the meanings they hold for the individual; and which interact with past life experiences, and current contexts.

8. RECOMMENDATIONS

8.1 RECOMMENDATIONS FOR POLICY AND PRACTICE

Policymakers and practitioners may benefit from adopting a trauma-informed perspective when seeking to understand, and counter, radicalisation. This requires a nuanced approach that avoids making assumptions about the likely prevalence or relevance of trauma in the life histories of potential, actual, or former violent extremists.

- Policymakers and practitioners should consider the potential presence of trauma at different levels of social ecology amongst at risk or violent extremist populations, and avoid acting in ways that risk re-traumatisation.
- Such an approach should not assume that trauma, even when present in an individual's life history, produced a specific effect, or had an impact on an individual's journey into or out of violent extremism.
- However, it would consider whether and how trauma experienced at and across different stages of life and engagement in violent extremism might have contributed to an individual's journey into and/or out of violent extremism.
- This more nuanced approach rests on understanding the individualised and contextualised ways in which individuals and collectives might adapt to trauma, and how these adaptations can contribute to risk or resilience.
- Focusing on adaptive responses to trauma would provide a foundation for contextualising those behaviours and cognitions that are traditionally associated with risk through reference to a past trauma history in ways that could support risk assessment, and ultimately interventions.

8.2 RECOMMENDATIONS FOR FUTURE RESEARCH

More research is needed to further explore the utility of using a trauma-informed approach to explore radicalisation pathways.

This research might include:

- Deeper, empirical investigation of the indirect and direct mechanisms linking trauma and adversity to engagement in violent extremism cited in this report.
- Empirical research examining how trauma history, and maladaptive responses to past trauma, might create the contextual conditions for radicalisation.
- Research analysing how violent extremist movements might seek to induce trauma or re-activate past trauma as a mechanism of radicalisation.
- Studies focused on the protective functions that violent extremist identities perform for individuals with a trauma history, including how such identities might inhibit violent extremists from developing more severe forms of psychological distress linked to their engagement.

More research examining the use, and the effectiveness of trauma-informed approaches to countering radicalisation is also needed.

This research might include:

- In-depth analyses of existing interventions to understand the current use of trauma-informed practice in the field of countering radicalisation to violence.

- Evaluations of existing trauma-informed interventions in this field, and in related fields of violent prevention, in order to identify areas of good practice that could be utilised to counter radicalisation to violence in different contexts.
- Research amongst policymakers and practitioners to understand the opportunities and barriers of embedding trauma-informed practice in this space.

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