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Violent extremism, mental health and substance abuse among adolescents: towards a trauma psychological perspective on violent radicalization and deradicalization

Daniel Koehler

German Institute on Radicalization and De-Radicalization Studies (GIRDS), Stuttgart, Germany

ABSTRACT

Mental health issues and psychopathologies have been looked at as potential explanations for violent extremist radicalization for a long time and caused significant debates among academic experts. While psychological or psychopathological determinants for entering extremist environments can mostly be discarded based on the available evidence (except certain personality traits and mental health issues of lone actors), this discourse has rarely focused on the mental health impacts, for example, through factors such as substance abuse and toxic stress, as the consequences of radicalization processes, membership in violent extremist milieus and for deradicalization as well as disengagement for children and adolescents. This article provides a theoretical assessment regarding the available evidence from multiple academic disciplines on mental health problems and associated issues such as substance misuse in young people who have been exposed to violent extremist ideologies or who underwent a violent radicalization process. It discusses the implications for intervention specialists and potential ways to address and manage the risks resulting from these multiple and complex issues. It is argued that the psychological mechanisms involved in violent radicalization have traumatic (i.e. toxic stress) and therapeutic components. Therefore, a trauma psychological perspective on this issue is warranted.

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Over the last decades, terrorism research has accumulated strong evidence that violent extremism and terrorism, as with other forms of deviant and delinquent behavior, seems to be especially attractive for young men: ‘ultimately, most people who join a terrorist group are young – by young here I am referring to teenagers and people in their early twenties’ (Silke, 2008, p. 105). Of course, extremist and terrorist milieus differ widely regarding their ideological and organizational makeup, as well as their geographical and

CONTACT Daniel Koehler  daniel.koehler@girds.org

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cultural context. In depth studies of specific extremist milieus, however, have generally supported Silke's claim (e.g., Bakker, 2006; Sageman, 2007). A German study assessing the socio-biographic backgrounds of 784 individuals who left to join a jihadist terror group in Syria or Iraq, for example, found a mean age of 25.8 years (with a range between 13 and 62 years). The majority of the sample was between 22 and 25 years old and the next-largest group was the 18-to-21-year olds (BKA, BfV & HKE, 2016, p. 11). For those who the authors were able to determine the starting age of the radicalization process, the study shows a mean age of 22 with the first and third largest groups being 18–21 (largest) or age 17 and younger (third largest) (BKA, BfV & HKE, 2016, p. 23).

Looking at a different violent extremist milieu, Mark Hamm's sample of 36 U.S. neo-Nazi skinheads had a mean age of 19.6 years and 19 of the sample members had already been involved in the milieu for 3 or more years (Hamm, 1993, p. 106). In another study of U.S. right-wing terrorist radicalization and recruitment, Simi et al.'s subsample of 20 former white supremacists reported a mean entry age into the movement of 17.6 years (Simi, Windisch, et al., 2016, p. 34). In the European radical right, this holds true as well: 'There is little doubt that the vast majority of new recruits to the various European radical right groups is male, lower class and very young' (Merkel, 1997, p. 36). For example, an analysis of 1,398 police records on violently criminal extreme right-wing perpetrators in Germany between 1991 and 1992 found that more than 75% of the investigated suspects were 20 years old or younger and over 35% were under 18 (Willems, 1995, p. 168). Another analysis of 255 perpetrators of extreme right-wing arson attacks in Germany between 1990 and 1995 found that 53% were between 17 and 19 years old; 19.6% of the perpetrators were between 14 and 16 years old (Neubacher, 1998, p. 154). Historical context and extremist group style of course matter a great deal regarding the potential attraction and recruitment among youths and adolescents and these examples only serve to give a rough indication of the problem.

It is also well-established that many violent extremist and terrorist groups actively seek recruitment among youths and adolescents (Bloom & Horgan, 2019). They typically do so with specially designed propaganda, usage of dedicated youth-centric communication channels (e.g., through social media) and the promotion of specific subcultural products thought to be attractive to younger target groups (such as music or fashion). Many extremist milieus encourage the entry of whole families with their children or have their own members becoming parents and raising their offspring within the extremist environment. Prime examples would be white supremacist movements (Simi & Futrell, 2010) and the Salafi-jihadist terror organization Islamic State (IS) (Horgan et al., 2017). Among these violent extremist milieus, different parenting and education techniques have been developed and are used to ensure young children's perfect

integration into the group and its ideology. Being part of violent extremist milieus during childhood or adolescence arguably comes with significant risks for mental and physical health, for example through exposure to environmental circumstances (e.g., violence, abuse, parental separation due to imprisonment or death, substance use) or core milieu features (e.g., harsh parenting, fear, hatred and anger produced through collective identity and ideology, brutalization).

While the academic literature has extensively studied and discussed the role of mental health issues and psychopathologies as potential precursors of entry into violent extremism and terrorism (for some of the most recent additions to the debate see, for example: Corner & Gill, 2018; Gøtzsche-Astrup & Lindekilde, 2019; Misiak et al., 2019), little work has been done so far on the mental health effects of the radicalization process and membership phase itself, especially on children and adolescents. The few studies that do exist, however, point to potentially significant negative impacts (Bubolz & Simi, 2019; Corner & Gill, 2018; Weatherston & Moran, 2003). Therefore, the following article brings together evidence from multiple different disciplines to theoretically discuss these potential impacts on mental and physical health on young and adolescents by membership in violent extremist milieus, as well as the implications for intervention specialists. This present study does not focus on mental health issues or child abuse as a potential precursor (i.e. risk factor) of radicalization into violent extremism, even though some recent studies have pointed out possible links between early childhood risk factors (e.g., family dysfunction, victimization), negative emotions (e.g., anger, depression), adolescent conduct problems (e.g., aggressive behavior, truancy) and extremist participation as a coping strategy (Simi, Sporer, et al., 2016). It is hence not the goal to help identify those at potential risk of radicalization but rather to provide a framework for assessing the mental health impact on children and adolescents being raised in an extremist environment or by extremist involvement. It is argued here that not only the salient features of membership in extremism automatically contain significant risk factors for physical and mental wellbeing, but also that a core mechanism of violent extremist radicalization processes is to combine constant traumatic and therapeutic elements to foster commitment and embeddedness into the extremist milieu. This mechanism, it is proposed, holds serious potential for mental health damage especially for young and adolescent individuals and should be considered as a form of child abuse in itself.

Discussing this matter is very timely now, since the prospect of an increase in the numbers of foreign Islamist extremist fighters and/or their families returning to their home countries across the world from war zones and refugee camps in the Middle East is likely to put existing mental-health and counter-radicalization programs to a severe limit. However, this issue not only concerns this particular extremist milieu, but violent radicalization in general, as is argued here.

Adolescents' attraction towards extremism

What might explain attractiveness of extremist groups and ideologies for children, adolescents and young adults? Even though it is beyond the scope of this article to recapitulate the extensive literature on radicalization processes and pathways in general, some aspects that have been suggested as particularly relevant for youths and adolescents must be pointed out. Recruitment into violent extremism and terrorism can happen in many ways and is typically dependent on the individual biographical context. Four types are usually seen along the two main axes active/passive and intentional/unintentional: deliberate (individual decision to join), social (search for social inclusion and gradual integration), peer group (recruitment by third party with awareness by individual) and classic recruitment (recruitment by third party without awareness by individual) (Pauwels et al., 2014, p. 35). Violent extremist groups oftentimes present themselves as particularly attractive oppositional or counter cultures to the mainstream (e.g., Adams & Roscigno, 2005), thereby appealing to needs for rebellion against the establishment or adult authorities. This can be done through the use of specific youth-centric communication channels like social media (e.g., Awan, 2017; Ferrara, 2017; Wahlström & Törnberg, 2019) and the distribution of youth-oriented propaganda products, such as music (Conti, 2017; Simi et al., 2016), professionally edited videos (Awan, 2017), fashion (Miller-Idriss, 2018), video games (Lakomy, 2019), subcultural lifestyles (Hamm, 1998), sports, concerts and other attractive leisure activities (Braunthal, 2010), social services (Shelley, 2014) and so on. One example of this recruitment strategy is the attempt to use the social media platform 'TikTok,' which is highly popular among young people of the Generation Z, by IS for recruitment in late 2019 (Renaldi, 2019). Dozens of IS TikTok accounts at that time began spreading propaganda content specifically designed for the platform, using its typical style, appealing rhymes, lyrics and delivery, which quickly drew public attention and fears of targeted recruitment of minors.

The content of these recruitment efforts might be designed to appeal to youth-specific themes, such as offering action and adventure to escape boredom (Van der Valk & Wagenaar, 2010), orientation and solutions regarding discontent with social problems (Schils & Verhage, 2017), social networks for friendships, camaraderie, intimate relationships and alternative families (Perešin, 2015; Stern, 2010), or glamorisation and mystification of violence to portray membership as 'cool' (Awan, 2017; Picart, 2015) among others. Such offers might especially resonate with an audience during adolescence, when the human brain is undergoing drastic changes oftentimes resulting in anhedonia, anxiety and dysphoria that make teenagers not only more susceptible to drug use but also high-risk behavior in general (Andersen & Teicher, 2009).

This adolescence phase-specific change in neurobiology might also increase susceptibility to extremist social movements, which regularly use emotion-based recruitment strategies instead of rational-ideological arguments to evoke feelings like fear, anger, hatred or outrage in order to trigger certain response mechanisms and portray itself as the most effective channel to vent those emotions and become active against the sources of grievances and frustration (Meier, 2019; Van Stekelenburg, 2017). It should also be pointed out that violent extremist milieus not only recruit based on negative emotions but in many instances also strategically attempt to instil pride, honor, joy and other pro-social positive feelings amongst their potential new followers (e.g., Cohen, 2016).

However, the explanatory value of most risk factors commonly associated with entering violent extremism and terrorism, including young age, has been found to be weak at best and should therefore be seen with caution (Desmarais et al., 2017).

Toxic stress, child development and membership in violent extremist milieus

Experience of negative or stressful life events and their impact on children's development has become a major research focus and concern for childcare professionals. Naturally, building resilience to stress is a normal and healthy part of growing up (i.e. positive stress) and the coping skills learned while dealing with manageable stressful input and moderated by caring parents and a positive social environment (including friends and teachers) form a key ingredient for a healthy and successful adult life (Franke, 2014, p. 391). However, once stress becomes unmanageable, extreme, and frequent in a way that it 'results in prolonged activation of the stress response, with a failure of the body to recover fully' and in combination with 'a lack of caregiver support, reassurance, or emotional attachments' (Franke, 2014, p. 392), one can speak of 'toxic stress', which may lead to negative psychological and physical health outcomes (Honor, 2015, p. 192). Examples of such toxic stress in childhood and adolescence include 'abuse, neglect, extreme poverty, violence, household dysfunction, and food scarcity' as well as 'caretakers with substance abuse or mental health' and 'ongoing daily stressors' (Franke, 2014, p. 392). Precursors of toxic stress can be childhood trauma or childhood adversity (Adverse Childhood Experiences – ACE), such as parental loss or separation, witnessing violence, household dysfunction, criminal household members, emotional or sexual abuse, experiencing domestic violence (Andersen & Teicher, 2009; Honor, 2015) or harsh parenting (Del Giudice, 2014).

Many of those stressors are regularly present to a significant degree within violent extremist and terrorist milieus. Former members who have quit these environments have commonly reported various push and pull factors as main

driving factors behind their exit. Push factors, defined as ‘the negative social incidents and circumstances that make it uncomfortable and unappealing to remain’ in the group (Bjørge, 2016, p. 234), are most often disillusionment with the group’s strategy or actions, disagreements with group leaders or members, dissatisfaction with one’s day-to-day tasks, burnout due to exhaustion through the terrorist and extremist lifestyle, psychological and physical pressure through constant government repression, frustration with group’s hypocrisy, mistreatment and abuse, excessive violence, loss of status and support, or social stigma (e.g., Altier et al., 2017; Horgan, 2009; Hwang, 2018; Koehler, 2016; Marsden, 2017). Many vivid accounts of these push factors leading to exiting an extremist environment and oftentimes resulting in severe strains on mental health exist in the literature. Speckhard and Yayla (2015, p. 95) for example, note about their sample of 13 IS defectors, that their daily life with the organization was ‘punctuated by brutal practices – including floggings, torture and beheadings. Defections were the result of exposure to extreme brutality, disgust over the slave trade, observations of deep hypocrisy—a total mismatch between the words and deeds of IS.’

Membership in many such groups automatically brings with it the potential to live in conflict zones and areas of open war, be deprived of basic necessities such as adequate food, clean water, healthcare and hygiene, lack of age adequate education and social environments or the fear and witnessing of incarceration or death of oneself or close family members and friends.

Furthermore, many violent extremist and terrorist groups have developed their own parenting styles to prepare their in-group born offspring or recruited children and adolescents for their future roles in line with the group’s goals and ideologies. One of the most sophisticated indoctrination procedures for children and adolescents by terrorist groups was developed and used by IS, which included a six-stage model involving the individual elements of seduction, schooling, selection, subjugation, specialization and stationing (Horgan et al., 2017). For example, the subjugation phase involves physical and psychological brutalization (Horgan et al., 2017), a fact that the IS has proved by producing multiple propaganda videos depicting young children participating in or conducting battle drills and executions of prisoners. Extreme right-wing environments have also developed their own parenting styles. Simi and Futrell (2010, pp. 19–36) for example, discuss three different forms of white power socialization to ‘raise their children as tomorrow’s warriors who will defend the white race against genocide’ (Simi & Futrell, 2010, p. 19): hard-core (extremely dysfunctional, violent), newly respectable (maintaining mainstream normalcy to hide racist parenting) and communitarian (socialization as part of white supremacist communities). If children subjected to these socialization styles are not raised with violence to brutalize them into becoming ‘warriors’, they nevertheless might be brought up with feelings of extreme hatred against and fear of group outsiders and political or

ethnic opponents. This in turn raises the chance of future conflict and trauma when contact with those outside of the group or movement will inevitably happen, for example, in school or employment. However, it is necessary to point out that the membership of parents in a violent extremist milieu not automatically predicts damaging and hazardous parenting. Childcare professionals will always have to rely on a case-by-case assessment of how much parents actually use milieu-specific parenting styles or attempt to enforce an ideology-conform development of their child. Furthermore, extremist ideologies do contain many complex elements with different potential effects on a young and developing mind. Hence, the real-life consequences for child endangerment need to be assessed (e.g., social isolation, physical and emotional neglect, abuse and mistreatment).

In sum, the available evidence overwhelmingly points to the fact that membership in extremist and terrorist milieus is a highly stressful and straining endeavour and brings with it a high probability of confrontation with numerous potentially physically and psychologically traumatizing factors.

The negative effects of exposure to such toxic stress during childhood and adolescence often become 'deeply embedded in the child's neurobiology, with an astonishing range of long-term effects on cognition, emotion, and behaviour' (Del Giudice, 2014, p. 270). Toxic stress may alter the brain development of children and adolescents, especially in the hippocampus and prefrontal cortex, as well as the brain's dopamine system (Andersen & Teicher, 2009). Visible effects, such as for example, increased substance abuse, aggression, impaired cognition, emotion and behavior, lack of coping skills, poor stress management and mental illnesses (Andersen & Teicher, 2009; Del Giudice, 2014; Franke, 2014; Shonkoff et al., 2012), may manifest after a significant lag period, for example, during the maturational process of adolescence or other sensitive periods of vulnerability (Andersen & Teicher, 2009). This in turn might prove consequential for diagnosis and treatment since the 'delay may provide a false sense of safety that early adversity did little to no long-term harm to the individual' (Andersen & Teicher, 2009, p. 521). In short, toxic stress and ACE are a 'major cause of poor mental health' (Andersen & Teicher, 2009, p. 516). Interactions especially occur with Axis I disorders (e.g., anxiety, panic or post-traumatic stress disorders) in comorbid youths and further increase negative impact for example, on coping skills and substance abuse in later life (Anderson et al., 2006).

Extended exposure to toxic stress in early childhood or adolescence is also linked with increased risk of alcohol and substance abuse in later life (Andersen & Teicher, 2009). One explanation for this might be that the drug reward circuit is essentially the same response neural system triggered through stress response (Gordon, 2002). Indeed, many violent extremist environments have been found to be highly inclusive of substance abuse. Many white supremacist groups for example, are notorious for extensive

alcohol and methamphetamine (or other illegal substances) consumption, partially as a method to manage social stigma and balance the significant cognitive dissonance felt by their members (Bubolz & Simi, 2019; Simi & Futrell, 2009, 2010). Even extremist and terrorist groups based on religious ideologies that have banned the use of drugs, such as Salafi-jihadism, can be prone to massive substance abuse. In the case of IS, for example, the chemical compound fenethylline (also known as Captagon) has been used widely by the group as a battlefield stimulant to enhance the aggressiveness and stamina of its fighters (Katselou et al., 2016). The group also seems to have been involved in producing and selling the drug as an additional source of revenue. During the significant territorial losses of the group between 2018 and 2019, the drug was so commonly used that it was dubbed the 'Jihadi Drug', with significant consequences for counterterrorism and deradicalization (Koehler & Popella, 2019). One significant challenge through this cumulative collection of risk factors is, that substance abuse by adolescents and children is of course strongly linked to violent and non-violent criminality in later life (Sinha & Easton, 1999), also in the case of absence of a surrounding environment actively encouraging violent extremist behavior. But even without the milieu of specific substance abuse and addiction, the psychological mechanisms underlying violent radicalization processes and the subsequent commitment to the group and its cause can have withdrawal-like physical effects when attempting to quit the environment (Simi et al., 2017).

Susceptibility to the negative impact of toxic stress, however, depends on individual level psychosocial risk factors and the presence of protective factors (Anderson et al., 2006) and resilience (Hornor, 2015), which will be discussed later on when assessing the potential of intervention and prevention measures. Ironically, however, some of the protective factors named in the literature, such as religion, spirituality, social support and community belonging (Hornor, 2015; Wills & Filer, 1996), are particularly strong components of many violent extremist groups' incentives for recruits and members. Hence, this article argues that radicalization processes increase commitment to a violent extremist milieu through inclusion of deliberate traumatic (i.e. toxic stressors) and therapeutic components on the side of the radical environment.

The academic literature offers at least three theoretical explanations for the negative effects of toxic stress and ACE. On the one hand (and predominant in psychology and medicine), there is the dysregulation model, which attributes maladaptive outcomes to the protracted activation of the stress response system creating an allostatic load interfering with the developmental process (Del Giudice, 2014). On the other hand, however, an adaptive model inspired by evolutionary psychology has also been suggested (Del Giudice, 2014), which posits that 'early stress does not primarily impair or dysregulate children's developmental trajectories, but rather shifts them

toward behavioral strategies that have proven biologically adaptive in harsh or unpredictable conditions' (Del Giudice, 2014, p. 272). In this view, 'maladaptive traits such as anxiety, aggression, and impulsivity' as results of toxic stress exposure are better understood as survival techniques for hostile and unpredictable environments (Del Giudice, 2014, p. 272). The third model, called the 'integrative life history perspective', attempts to somewhat combine the two previous explanations based on 'life history strategies': resource allocation decisions expressed through the 'development of a coherent, integrated suite of physiological and behavioral traits' (Del Giudice, 2014, p. 273). The model posits that toxic stress exposure in early life might suggest to the young and developing mind that the future environment will be dominated by danger and unpredictability. More defensive behavioral patterns (so called 'fast strategies'), containing elements such as aggression, attention seeking, impulsivity, anxiety and depression, could be the consequence (Del Giudice, 2014, p. 273). Further considerations of this model regarding the delayed effects of toxic stress exposure have pointed out the potential importance of external and internal predictive adaptive-responses, or in other words the influence of a stable environment and the level of permanent damage created by the stressors (Del Giudice, 2014; Nettle et al., 2013). Both seem to be inextricably linked and mutually influential.

Towards a trauma-psychological perspective on violent radicalization and mental health impacts on children and adolescents

The extensive literature on violent radicalization processes has been summarized elsewhere (e.g., De Coensel, 2018; Dalgaard-Nielsen, 2010; Horgan, 2017). However, as a starting point for discussing violent radicalization processes from a trauma-psychological perspective, Gøtzsche-Astrup's (2018) assessment regarding empirical support for knowledge about the phenomenon provides an excellent basis and includes multiple elements overlapping with toxic stress, trauma psychology and substance abuse. His meta-study especially pointed out strong and moderate empirical evidence for (among others) the impact of negative life experiences, influence of fundamental uncertainty, heightened dispositional anxiety, aggression and impulsivity and the role of negative emotions like anger and contempt as driving factors of radicalization (Gøtzsche-Astrup, 2018, p. 94). Further important elements with less obvious connection to toxic stress and trauma listed by Gøtzsche-Astrup are the lack of a general psychopathology, the importance of motivational processes rather than rational choice calculations, a shift in social identity, small group dynamics, sacred values and a psychological mindset of authoritarianism, dogmatism and fundamentalism (Gøtzsche-Astrup, 2018, p. 94)).

This article proposes that a key psychological mechanism of violent radicalization, especially for children and adolescents, involves the continuous deliberate and undeliberate creation of trauma and toxic stress, either through milieu-specific parenting or socialization techniques (e.g., harsh parenting, brutalization) or highly stressful environments (e.g., living in warzones, parental separation) that invoke behavioral responses such as increased aggression, anxiety, impulsivity and other 'fast life strategies'. Those responses are particularly useful for violent extremist environments, which try to channel those negative emotions and behavior against the ideologically defined enemy (e.g., political or religious opponents, ethnic minorities) and into collective or individual action. In addition to deliberate and undeliberate toxic stress creation, extremist ideologies usually also contain traumatic elements, such as presentation of existential threats, dehumanization of the enemy or metaphysical punishments and apocalyptic scenarios as consequences for non-compliance. At the same time, psychological and physical commitment to the extremist milieu is increased through the parallel offering of therapeutic and protective factors that are presented as milieu-specific, for example, strong pro-social community and belonging, spirituality, social identity, empowerment, social support and so on. For compliance with the milieu and ideology-specific methods and goals, metaphysical rewards (e.g., entering into paradise) and narratives of salvation are offered by many extremist groups (e.g., Perry & Hasisi, 2015). Extremist groups usually combine both, the negative traumatizing and the positive salvation aspect, in their propaganda narratives and subcultural products to form contrast societies in which the individual might be psychologically trapped (Koehler, 2015a).

In consequence, it is argued here, the individual is kept in mental flux and uncertainty between emotional states such as anger, hatred, fear, anxiety or frustration on the one side and positive, quasi-therapeutic feelings such as belonging, happiness, joy, empowerment provided through commitment to the group on the other. As a result, persons undergoing such a process become not only highly committed and adapt their behavior to the collective norms and goals (including violence) but also develop a psychological dependency or addiction to that hate-love relationship triangle between themselves, the extremist milieu and the surrounding mainstream environment.

Ironically, that very social milieu responsible for this laser-focused bundling of toxic stress towards the developing mind and personality of children and adolescent recruits is seen as the only solution and safe haven to the allostatic load experienced consciously and unconsciously. Looking at the known long-term effects of toxic stress exposure during childhood and adolescence, the potential neurobiological damage and distortion of life strategies towards more aggressive and non-sustainable options through membership in violent extremist and terrorist environments can have lifelong devastating consequences. In particular, the psychological process of violent

radicalization itself is arguably based on continued creation of toxic stress and quasi-therapeutic offers through continued commitment to the group and milieu. This comes in addition to milieu-specific risks such as violence and death, substance abuse or criminality. In the view presented here, the violent radicalization process involving children and adolescents actively fuels the stress response system to push recruits to extreme behavior. The extremist milieus stand ready to offer what children and adolescents activated in this way might seek: action, adventure, a channel for their hate and aggression, drugs and alcohol but also community, social support and friendships, for example. This mechanism holds serious potential for mental health damage especially for young and adolescent individuals and should be considered as a form of child abuse in itself.

Conclusion and implications

Seeing violent radicalization and extremist recruitment of children and adolescents through the trauma-psychological perspective significantly strengthens the role of mental health and trauma therapy for countering violent extremism (CVE) and deradicalization. Luckily, this has been recognized in recent years, resulting in a continuous increase of awareness among interventions providers (e.g., Kizilhan, 2019; Koehler & Popella, 2019; RAN, 2018). Many serious CVE and deradicalization programs now include psychological components as a main element. Furthermore, the importance of mental-health professionals, such as psychologists, for reducing vulnerabilities and increasing psychological wellbeing of extremist prison inmates has been pointed out, for example, in the 'Rome Memorandum on Good Practices for Rehabilitation and Reintegration of Violent Extremist Offenders' (GCTF, 2013).

Trauma and toxic stress research also lends additional empirical weight to those CVE and deradicalization methods focusing on family support and pro-social networks, which have spread around the world in recent years and have become a cornerstone of many CVE strategies (El-Amraoui & Ducol, 2019; Koehler, 2015b, 2015c, 2016; Koehler & Ehrt, 2018; Williams et al., 2015). Indeed, the most important protective and buffering factors regarding toxic stress exposure consequences for children and adolescents are identified in strong family support (Wills & Filer, 1996) and consequently those interventions focusing on parent-child interactions (Kumpfer & Bluth, 2004), such as multidimensional family therapy (Liddle et al., 2009), are recommended.

Notwithstanding, the arguably most severe limitation to providing adequate mental-health services to suffering children, adolescents and their families are availability and the intervention environment. Naturally, mental-health services should be available to children and their families as early as possible if needed but the negative impact of less than optimal circumstances, for example, in a refugee camp, prison or war zone, has rarely been discussed (Koehler &

Popella, 2019). Even in many countries of origin, mental-health services for adolescents and their families are at their capacity limit with unclear financial support for those returning from violent extremist and terrorist milieus. Furthermore, support measures for those publicly deemed guilty, dangerous or undesirable are regularly a political predicament impeding the availability of necessary interventions. This might be complicated even more by judicial proceedings, imprisonment or investigations by the authorities. It is clear that the overall environment in which any kind of therapy is implemented is a vital consideration when trying to ensure its success. What is described here as the context for an optimal intervention environment (e.g., stable and adequate funding, sufficient well-trained mental health and CVE professionals, public support for these measures) seems therefore particularly challenging in the field of countering violent extremism and terrorism. Not providing interventions at all or not in the necessary quality or volume naturally raises the potential of prolonged and increased risks to the society at large beyond the prospect of extremist and terrorist activities, including general criminality, substance abuse and violent behavior of traumatized individuals. Negative attitudes against those individuals within the community or population might add to secondary traumatization and victimization. Perceiving this issue at least partially through child protection themes might offer a possible way forward, since most countries possess legal obligations to safeguarding children and respective infrastructures, as well as responsible institutions. Indeed, a number of lawsuits against western governments have resulted in the court-mandated obligation of those countries to bring back IS children and facilitate their rehabilitation, for example.

What is also currently not discussed in depth among CVE providers and researchers, are specially designed trauma exposure interventions (Hornor, 2015). Seeing radicalization and recruitment of children and adolescents as a form of toxic stress-induced trauma might open up completely new forms and methods of early and advanced intervention and prevention against violent extremism. Absolutely essential for those specially designed trauma interventions is detailed knowledge and awareness regarding cultural, social and ideological context in addition to the trauma-psychological perspective. Different extremist environments and ideologies might impact children and adolescents differently according to their social and cultural background. Furthermore, a clear distinction between children, adolescents and young adults needs to be made by intervention specialists. Many intervention methods will be relevant for young adults and children alike, but differences based on risk and vulnerability factors, including, for example, previously existing attachment issues, traumatic experiences and neurodevelopmental conditions (such as Autism), must be recognized and integrated into the intervention. The age of first exposure, duration, gender and the nature of the therapeutic milieu put around them are further aspects to consider for an intervention. Furthermore, it must be pointed out that significant legal and counselling frameworks typically change with passing from childhood to

adulthood, even though the roots of mental health issues might be tied for example to growing up in a violent extremist environment. Intervention providers will need to explain what has been happening (before, during and after the involvement) and also what will change as adults (locating the problem and responsibility within the adult, as well as using tools to counsel adults in order to explain what happened to them as children). Usually, different types and more limited services are available for adults. Intervention specialists need to be well aware of such nuances and complexities to determine not only the psychological adequate trauma response but also the culturally and socially correct one in order to avoid reactance and increase compliance. Trauma-psychological intervention against violent extremist radicalization and connected toxic stress requires multi-disciplinary approaches. This leads to another key issue: adequate training of professionals.

Such training of mental health professionals in CVE and deradicalization methods, as well as the training of deradicalization and CVE providers in the basics of trauma first response is significantly under-developed. Unfortunately, the field of specialization and training in this field remains in its infancy (Koehler & Fiebig, 2019). This is even more problematic, as all the available evidence presented here points to a significant risk of delayed and maybe even lifelong effects of traumatic violent radicalization of minors and adolescents branching out into general criminality, substance abuse and addiction, poor mental and physical health. It is therefore essential to not only continue researching the role of mental health issues for radicalization (i.e. entry) processes, but also for disengagement and deradicalization processes to ensure the most effective and sustainable long-term rehabilitation and reintegration of those who have been brought up in or socialized by violent extremist milieus.

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