The Psychological Impact of Child Soldiering

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1. The age of 'New Wars'

In 2004, political scientists counted more than 42 wars and armed conflicts worldwide, almost all of them in developing countries [1]. Observers of these current 'New wars' [2] or 'complex political emergencies' [3] have noted that the main target of the war parties is the civilian population, and systematic atrocities, massacres and bombings are often applied as rational strategies within current warfare. Some believe to witness a qualitative change in the way wars are waged and organized violence is exerted; in other words, a transformation in the 'culture of violence' cannot be overlooked [2]. Children have increasingly become victims of warfare [4]. Warring factions largely rely on irregular forces, forced recruitments and the use of fear and violence to gain control over the population and to maintain their power within their own fighting forces. Crimes against humanity, like mass rape, mutilations and torture are not an exception, but a way to exert power in this context. Internationally agreed upon undesirable and prohibited war outcomes, which in fact are a hallmark of today's conflicts, have been defined [5] and the phenomenon of child soldiering is one of them.[1]

The proportion of *civilian casualties in armed conflicts* has increased dramatically and is now estimated at more than 90 per cent. About half of the victims are children [6]. More than 2 million children have died as a direct result of armed conflict over the last decade. More than three times that number, at least 6 million children, have been seriously injured. Between 8,000 and 10,000 children are killed or maimed by landmines every year. [7, 8]

[1] Others are: high mortality to civilians versus combatants; increased injuries to civilians versus combatants; torture of civilians or combatants; rape or sexual humiliation of civilians or combatants; sexual humiliation of civilians or combatants; mutilations of civilians or combatants; kidnapping and hostage taking; disappearances; summary execution of captured prisoners; terrorist attacks; assassination of civilian leaders; attacks on religious and medical personnel and on medical units; use of particularly undesirable or prohibited weapons (e.g. landmines and booby traps); suicide bombers disguised as civilians; child death or injury; female civilian mortality or injury; elderly civilian mortality or injury; violence to non-combatant indigenous groups; use of human shields; initiating weapon fire from among civilians; locating headquarters or weapons storage among civilians; combatants taking civilian appearance during military operations (not wearing uniforms); combatants disguised as humanitarian, peacekeeping, or medical workers; leaving landmines or UXO; destroying infrastructure essential for civilian survival (e.g., food, water sources, hospitals).

War related injury in itself is traumatic for children, but additional traumas can also occur from painful and frightening medical treatments and living with disability, especially in resource poor countries. It is estimated that 4 million children have *become physically handicapped and disabled* after they were wounded in conflict over the last decade. For example 75 percent of the injuries incurred from landmines in rural Somalia are to children between the ages of five and fifteen years [9]. All of these samples include formerly abducted children and child soldiers. The lack of medical assistance during abduction times is an additional serious humanitarian issue.

Among a number of at risk populations, children of war and child soldiers are a particularly vulnerable group and often suffer from devastating long-term consequences of experienced or witnessed acts of violence. Child war survivors have to cope with *repeated traumatic life events*, exposure to combat, shelling and other life threatening events, acts of abuse such as torture or rape, violent death of a parent or friend, witnessing loved ones being tortured or injured, separation from family, being abducted or held in detention, insufficient adult care, lack of safe drinking water and food, inadequate shelter, explosive devices and dangerous building ruins in proximity, marching or being transported in crowded vehicles over long distances and spending months in transit camps. [8, 10-13] This experiences can hamper children's healthy development and their ability to function fully even once the violence has ceased. Furthermore, destruction brought by war is likely to mean that children of war and child soldiers are *deprived of key services*, such as education and healthcare. A child's education can be disrupted by armed conflict due to abduction, displacement, absence of teachers, long and dangerous walks to school (e.g. landmines, snipers) and parental poverty (e.g. inability to provide school fees and uniform and necessity for children to contribute to household income). Schools can be caught up in conflict as part of the fighting, between government forces and rebel groups, or used as centres for propaganda and recruitment. Attacks on and abductions of teachers and students are a frequent phenomenon of global warfare. The same can be observed for hospitals, doctors and nursing staff. Health centres often become a direct target, medical supply is cut off during intense periods of fighting and health personnel is frequently kept from accessing the sick and injured as a political strategy. [8, 14, 15] Of the 10 countries with the highest rates of under-

five deaths, seven are affected by armed conflict [8]. The World Bank reports additionally that the mortality rate of children under the age of five years at the average increased significantly as a consequence of war [16].

The social consequences of growing up in shattered, war-torn environments include effects, such as alcoholism, drug abuse and early unprotected sexual activity (sex for food and security), which can result in teenage pregnancy and the contraction of HIV/AIDS. [13, 17] The increased likelihood of *HIV transmission in conflict zones* is mostly due to the breakdown of family, school and health systems, with its regulatory safeguards that could counter these risks. [8]

During 1990 and 2005 an estimated 30 million children were forced by conflict and human right violations to escape their homes and are living as *refugees in neighbouring countries or are internally displaced* within their own national borders. During flight, families may become separated. More than 2.5 million children have been orphaned or separated from their families because of war in the past decade. [7, 8, 18] The poor living conditions in which fleeing families find themselves increase children's vulnerability to malnutrition, diarrheal diseases and infections [19]. In Africa crude mortality rates have been as high as 80 times baseline rates among refugees and internally displaced populations [20]. Some camps have been described as

> "'total institutions', places where, as in prisons or mental hospitals, everything is highly organised, where the inhabitants are depersonalized and where people become numbers without names". [21]

Often the period of exile runs into years and decades and in such cases children may spend their whole childhood in camps and displacement. Today there are entire generations of children who have never lived at home in Africa and Asia [8].

2. The use of child soldiers in armed conflicts

2.1. Prevalence and phenomenon

> "A child soldier has been defined as any person under 18 years of age who forms part of an armed force in any captivity, and those accompanying such

> groups, other than purely as family members, as well as girls recruited for sexual purposes and forced marriage." [22]

Hundreds of thousands of children are conscripted, kidnapped or pressured into joining armed groups. The proliferation of lightweight weapons has made it possible for children under the age of 10 years to become effective soldiers. The trend in using children in armed conflict as soldiers is not diminishing, since 2003 a surge in the recruitment of children is observable. An estimated 300,000 child soldiers - boys and girls under the age of 18 - are involved currently in more than 30 conflicts worldwide. [23, 24] Some 40 percent or 120,000 child soldiers are girls, whose plight is often unrecognized since international attention has largely focused on boy soldiers. Generally, when people speak of 'child soldiers', the popular image is that of boys rather than the thousands of girls who comprise the less visible, 'shadow armies' in conflicts around the world. [25]

According to the United Nations and Save the Children, key conflict areas where the problem of boy and girl soldiers has been and remains acute today include Colombia, East Timor, Pakistan, Uganda, the Philippines, Sri Lanka, the Democratic Republic of the Congo (DRC), and western and northern Africa. However, conflict-induced atrocities against boys and girls are not entirely new. In wars historically and in modern conflicts such as Afghanistan, Chechnya, the former Yugoslavia, Haiti, Liberia, Peru, Rwanda, and Sierra Leone, recruitment and abuse of child soldiers have occurred. Like the boys, typically the majority of girl soldiers are abducted or forcibly recruited into regular and irregular armed groups ranging from government-backed paramilitaries, militias, and self-defense forces to antigovernment opposition and factional groups often based on ideological, partisan, and ethnic or religious affinity. Children are recruited and used in armed conflict in at least 15 countries and territories at present: Afghanistan, Burma (Myanmar), Central African Republic, Chad, Colombia, Democratic Republic of Congo (DRC), India, Iraq, Occupied Palestinian Territories, Philippines, Somalia, Sri Lanka, Sudan, Thailand, and Uganda. In the DRC, at least five parties to the armed conflict are known to use child soldiers. These include the Congolese army (FARDC), the Democratic Forces for the Liberation of Rwanda, the National Congress for the Defence of the People, pro-government Mai-Mai groups, and the Lord's Resistance Army. [26]

Child soldiers are used as combatants, messengers, porters, cooks and to provide sexual services. Some are forcibly recruited or abducted, others are driven to join by poverty, abuse and discrimination, or to seek revenge for violence enacted against themselves and their families. When children are recruited into combat and servitude, they experience sexual violence and exploitation and are exposed to explosives, combat situations and the experience and witnessing of killings [7]. Reports abound from conflict zones of girls and boys being abducted and forced into sexual slavery by militias or rebel groups. [8, 18, 27] Countries especially named for sexual exploitation of child soldiers – this includes boys as well as girls - are: Afghanistan, Angola, Burundi, Congo, Honduras, Cambodia, Canada, Columbia, Liberia, Mozambique, Myanmar/Burma, Peru, Rwanda, Sierra Leone, Uganda, UK and USA. [28]

2.2. Reasons for recruitment of children

Blattman [29] summarized several reasons why fighter recruitment may focus on children and young adolescents. These arguments should be interpreted as complementary facets of motivations for child recruitment. Firstly, the current demographic shift in poor countries (in part due to HIV/AIDS) led to the largest population of children and adolescents ever, making this age group most available for recruitment and abduction. Secondly, especially African commanders emphasize stamina, survival and stealth of child soldiers as well as their fearlessness and will to fight [30]. This may be due to children's limited ability to assess risks, feelings of invulnerability, and short-sightedness [31]. It is a fact that child soldiers are more often killed or injured than adult soldiers, being deployed at the front line, to e.g. lay or clear mines, or as suicide bombers because they provoke less suspicion [32]. Thirdly, child soldiers are cheaper for the respective group or organization than adult ones since they need (or can handle) only fewer and smaller weapons and equipment. On the other side, becoming a fighter may be an attractive possibility for children and adolescents facing poverty, starvation, unemployment, and ethnic or political persecution. [30] Facing these problems children are 'soft targets' as recruits into armed groups and may be more willing to fight for honour or duty, for revenge or protection from violence. [4, 31] Fourthly, children are also easier to retain in the group. Commanders report that children are more malleable and adaptable. They are easier to indoctrinate and they stick more to authorities without questioning them.

Moral and personality development is not yet completed in children causing differences in decision-making when compared to adults. [29] Interviews with rebel leaders (of the Ugandan Lord Resistance Army) and conscripts revealed that adults have been the most skilled fighters, but also those who were most likely to desert. Despite being weak fighters, young children have been most likely to stay since they were easiest to indoctrinate. Adolescents seemed to offer the best fit between malleability (or likelihood to stay) and effectiveness as fighters. [29] Also Somasundaram states that military leaders prefer younger children because of their suggestibility and fearlessness or weaker ability to estimate dimensions of danger [33].

3. Voluntary or forced enlistment

Pertinent Laws of War anonymously state that the enlistment, recruitment, use and/or deployment of child soldiers under the age of 15 is a war crime:

- 1989 Convention on the Rights of the Child;
- 1998 Rome Statue of the International Criminal Court.

These two international instruments are however not in line with the Convention of the Rights of the Child anymore, which states a ‘straight 18’ approach to recruitment in the 2002 Optional Protocol to the Convention on the Rights of the Child. The 1990 African Charter on the Rights and Welfare of the Child supports the age of 18 as a minimum entry age of soldiering (more information on related topics can be sought in [4]).

3.1. Why children’s choices to join cannot be considered ‘voluntary’

Reasons as to why children’s choices to join armed groups cannot be considered ‘voluntary’ from a psychological point of view:

- children have no or limited access to information concerning the consequences of their choice; they neither control, nor fully comprehend the structures and forces they are dealing with [4];

- children do not have full knowledge and understanding of the mid- and long-term consequences of their actions [4];

- children might be told and believe that they have to ‘stand up’ against an enemy, who would otherwise kill them or hurt their loved ones; they tend to trust and obey caretakers’ and families’ or key community leaders’ judgement on this [34];

- children might believe that they have to take the place of a family member, who would otherwise be enlisted or ‘retribute’ a loved one who has been killed by the ‘enemy’, which might constitute a emotionally perceived life threat for the child [4];

- conditions of civil war and armed conflict undermine the ability of families and communities to protect the young of both sexes [35]; parents’ might then be driven to give in to the powerful influence of militia leaders of their own ethnic group. Enlistment on part of the parents or caretakers can never be considered ‘voluntary’ on part of the child.

- a large number of child victims of social chaos and violence become orphans, refugees or are only partly protected by adult scare, as a result being left alone in their struggle to survive social, emotional and economic hardship, a potential push factor into recruitment. Interestingly, it is extremely rare for wealthier children from urban areas to be recruited. [35]

- with systematic indoctrination and acculturation a commander can over time replace the position of a caretaker/parent and serve as an adult role model, which children will naturally accept and in fact need to attach to for mentorship, guidance and survival; fellow child combatants can take the place of siblings and/or replace the community peer group; this ‘surrogate family’ phenomenon [34] does not imply a voluntary choice by the child, but a forced adaptation and is in fact a sign of healthy development in the absence of other choices;

- children might feel that they have to protect themselves, if the official state structure, community, family can not; by perceiving to have no choice they might try to escape the violence and abuse around them and enlisting might become a perceived survival mean;

- girls might think that joining an army might protect them from being raped or harmed by free roaming ‘militia groups’;

- during the initial period children who have joined armed groups, whether voluntary or forced are almost always subjected to harsh, life-threatening initiation procedures, such as severe beatings, forced killings, magic-spiritual rituals (e.g. tattooing, scarring, spraying with blood or ‘holy’ water) and forced drug intake in order to make them ‘proper soldiers’; such practices tend to be forced on the new recruit and put children’s lives in danger; [4, 34]

- rarely do demobilised children share with their parents or communities the emotional context of what they have experienced or how they were treated; as a result of the lack of emotional communication, reintegration into local communities is hampered by perceptions of the community’s view of the particular armed group the child was associated with. The individual needs and unique case of the returning child is rarely considered [34]. Stigmatisation levels are high at time point re-entry into the community of origin and constitute a potential push factor for re-recruitment.

Possible criteria to distinguish between forced and voluntary:

- ask about abduction history;
- ask the child how their enlistment and recruitment came about;
- ask what would have been a likely alternative to joining;
- ask what, in the child’s view is likely to have happened if they would not have joined the armed group.

3.2. Known risk factors for recruitment

Known risk factors for becoming a child soldier are poverty, less or no access to education, living in a war-torn region, and displacement, separation from one’s family, with orphans and refugees being particularly vulnerable. [36] Somasundaram [33] lists the following factors as catalysts for children to become LTTE child soldiers in North-Eastern Sri Lanka: death of one or both parents or relatives, family

separation, destruction of home or belongings, displacement, lack of food, ill health, economic difficulties, poverty, lack of access to education, no avenues for future employment, social and political oppression, harassment from government soldiers, abductions and detention. He also describes an emerging pattern of youth violence in the general population after two decades of war in the affected communities. After growing up in war environment, when a natural disaster hit coastal regions, male youth in displaced camps seemed to drift into anti-social groups and activities. Unemployed and left out of school-based programs, some left to join militant groups, other started abusing alcohol and formed into violent groups and criminal gangs. Having grown up immersed in an atmosphere of extreme war violence, many had witnessed horrifying deaths of relatives, the destruction of their homes and social institutions, experienced bombings, shelling, extrajudicial killings. [37] A similar pattern of 'saturation' can be assumed in children who grow up in conflict-stricken communities that are later recruitment targets of rebel movements. This could constitute a pull factor for joining the movement. Further reasons might be false promises or relatives taking part in the movement.

4. The consequences for children who have been combatants

4.1. Exposure to traumatic stress

In 2007, Bayer and colleagues [38] carried out a study in former child soldiers in Uganda and Congo. The interviewed 169 children were a mean age of 15 years at the time of being interviewed. All reported that they had been violently recruited by armed forces at a mean age of 12 years. They had on average served 38 months in captivity. The most commonly reported traumatic experiences were having witnessed shooting (92,9 percent), having witnessed somebody being wounded (89,9 percent) and having been seriously beaten (84 percent). A total of 54 percent of the children reported having killed someone, and 28 percent reported that they were forced to engage in sexual contact. 35 percent of the interviewed children had developed a fully developed posttraumatic stress disorder, a debilitating mental health disorder.

In a study by our group [39], which was carried out a representative large selection of IDP camps of Northern Uganda during 2007 and 2008, it was found that the interviewed sample of 1114 children and young adults, 43 percent were formerly abducted children many of them recruited temporarily as child soldiers. The most common traumatic life events of those who had been abducted were: forced to skin, chop or cook dead bodies (8%), forced to eat human flesh (8%), forced to loot property and burn houses (48%), forced to abduct other children (30%), forced to kill someone (36%), forced to beat, injure or mutilate someone (38%), causing serious injury or death to somebody else (44%), severe human suffering, such as carrying heavy loads or being deprived of food (100%), given birth to a child in captivity (33% of women), threatened to be killed (93%), seeing people with mutilations and dead bodies (78%), sexual assault (45%), assault with a weapon (77%) and physical assault including kicked, beaten, burnt (90%). The PTSD rate of the children who were never abducted was found to be 8,4 percent; of those who had ever been abducted 33 percent and those who had spent more then one month in captivity the PTSD rate was measured at 48 percent. In this large, representative study, the children's mental health impairment had remained chronic since in a majority of cases the interviews had taken place years after they had come back from captivity. In this sample self-perceived spirit possession correlated significantly with PTSD and clinical depression; 26 percent of the former child soldiers reported to be still currently disturbed by different intensities of self-perceived 'spirit possession'.

In another large study by Vinck and colleagues [40], again in Northern Uganda, it was found that 82 percent of formerly abducted children suffered from PTSD symptoms. A follow-up review of Pham et al. [41] with former abductees showed that 67 percent met the symptom criteria for PTSD; in those abducted for six months or more, this rate rose to 80 percent.

The 2004 Derluyn et al. [42] findings are the highest symptom scores so far reported in formerly abducted children. The study interviewed 301 former child soldiers who had been abducted. All children were abducted at a young age (mean 12.9 years) and for a long time (mean 25 months). Almost all the children experienced several traumatic events (mean six traumatic events): 77 percent saw someone being killed,

and 39 percent had to kill someone themselves; 97 percent reported post-traumatic stress reactions of clinical importance.

Amone P'Olak [43] examined experiences of war, physical and of sexual abuse and related psychological pathology in formerly abducted girls in 2005. The results demonstrated that 98 percent of girls had been threatened to be killed when disobeying, 98 percent had thought that they would be killed, 99 percent could only narrowly escape from death, 72 percent had been sexually abused by the rebels (in most cases forcefully 'being given as a wife' from the age of 13 years), 65 percent witnessed people being killed, 44 percent of the girls witnessed people being mutilated, 18 percent of the girls participated in killings and 7 percent were forced to participate in killing own relatives. On average the girls experienced 24 traumatic events during captivity. All but one of the girls (99.2%) showed clinically significant PTSD symptoms.

The large Annan et al. 'SWAY' study [44] found very similar prevalence rates as all of the above mentioned, in terms of prevalence and type of traumatic experiences. As an additional item, this study found that 23 percent of the children had been forced to abuse dead bodies.

(Please also see [32, 45] for a more comprehensive description of child soldiers' experiences).

4.2. Posttraumatic Stress Disorder

According to DSM-IV[2] [46], which classifies post-traumatic stress disorder (PTSD) as an anxiety disorder, a PTSD diagnosis is restricted to individuals who have experienced or witnessed at least one traumatic event in their life. But not every event that is perceived as extremely stressful by the respective person can be considered traumatic. A traumatic event, as defined in DSM-IV must involve actual or threatened death or serious injury, or a threat to the physical integrity of self or other and the subjective perception of intense fear, helplessness and/or horror. Victims as well as eye-witnesses

[2] International clinical manual for diagnosis of mental health disorders

> "enter a psychological alarm state during the [traumatic] event … [and] a cascade of responses in the body and mind is triggered which can damage both the mind and the body." [47]

Traumatic events can be man-made or caused by natural disasters. The former involves state-sanctioned or organized violence (e.g., being in a situation of war and combat, torture riots, terrorism and mass killing) and interpersonal violence (e.g., experienced or witnessed killing or mutilation, severe physical or sexual assault, sexual abuse, rape and domestic violence) as well as catastrophes (e.g., car accidents, air-plane crash and accidents involving poisonous substances). Traumatic natural disasters may be severe floods, hurricanes, earthquakes, or volcanic eruptions. After repeated exposure to traumatic stressors, posttraumatic stress disorder is the most likely psychiatric condition that emerges among a range of possible trauma spectrum disorders (others include depression, suicidality and substance abuse). The considerable similarities and consistencies in the clinical manifestations of psychopathology across diverse affected groups globally tend to outweigh cultural and ethnic differences. [48, 49] Across cultures core symptoms of posttraumatic stress disorder (PTSD) are reported as follows [46, 50]:

1) recurrent and intrusive distressing recollections of the event, including images, thoughts, or perceptions (e.g. observable in children's repetitive play or trauma-specific re-enactments); recurrent and distressing dreams (e.g. for children nightmares with scary content of any nature); acting or feeling as if the traumatic event was recurring; intense psychological and physiological distress at exposure to internal or external cues (e.g. observable in constriction of affect);

2) persistent avoidance of stimuli associated with the trauma and numbing of general responsiveness; in its most extreme forms phenomena like derealisation, depersonalisation or symptoms that resemble psychosis can occur;

3) persistent symptoms of increased arousal and constant alertness. Children often experience this as eating and sleeping problems, increased autonomic arousal (e.g. sweating, raised heartbeat and concentration difficulties), foreshortened sense of future (e.g. even small children can express hopelessness in relation to ever growing up), recklessness and risk-taking behaviour, hyperactivity,

withdrawal, defiance, aggression and also numerous psychosomatic complaints (e.g. common are stomach-aches and headaches).

In order to qualify as a psychiatric illness, the disturbance must cause clinically significant distress or impairment in emotional, social, occupational, scholastic or otherwise important areas of functioning; in children also observable as loss of acquired skills (impact on the child's developmental functioning, such as the ability to speak); as well as persist for a certain amount of time.

Gender does not consistently emerge as either a risk or a protective factor for the development of posttraumatic stress disorder. Even though differences have been detected, especially in exposure type, girls seem to suffer from psychiatric symptoms as frequently as boys [51-54]. Some studies find girls more symptomatic than boys, others find boys equally symptomatic to girls. Rape, for example is a type of traumatic event, which features among the most predictive of traumatic events that can cause PTSD. Since overall more girls and women experience rape, there is a tendency to find higher rates of posttraumatic stress disorder symptoms in females in general population samples. Once closely analysed however, we see that whereas 46 percent of women develop PTSD after rape, once men are exposed to the same event, the rate is even higher (65%) [55]. Overall there seems to be agreement that it is the type and amount of exposure to traumatic stressors (cumulative number of traumatic experiences survived or witnessed, in formerly abducted children also the cumulative number of forced acts of violence committed), the individual form of expression of symptoms (internalising versus externalising), the social support available and the particular course of recovery that might vary most among different sexes, rather then the actual gender-based vulnerability to development of psychopathology. [41, 51, 56-60]

Female gender in former abductees does however seem to predispose for more depression. In the large Pham et al. [41] review, female child soldiers were twice as likely as men to report symptoms of depression. But also in the development of depression we see a linear relationship between cumulative number of traumatic exposure (having survived or witnessed potentially traumatising events) and cumulative number of forced acts of violence (e.g. having to kill, mutilate, injure a

person) [41], which basically erases gender differences in the group of former child soldiers.

Similarly age at traumatisation is not a consistent predictor nor protector from traumatic stress reactions and the expression of symptomatology. [61, 62] The age of the individual at the time of exposure does not seem to mediate symptom expression over time for a majority of suffering survivors. There are also no significant differences found in PTSD rates across different developmental stages. [63] Numerous studies suggest that regardless of the passage of time, affected children and adolescents continue to suffer from distressing symptoms, with PTSD being most persistent. [58, 62, 64-82]

4.3. Living with posttraumatic stress disorder and trauma symptoms

Literature consistently shows that post-traumatic stress reactions are not transitory entities, but rather persist over time. Studies from western countries, e.g. with WWII veterans or political prisoners, found that PTSD has a high long-term stability, up to 40 years after the trauma. [65, 83] Even when a decline in symptoms is observed, it does not equate complete recovery. Presently, we know that, the suffering felt by survivors of violence will last a few months, but a countless majority of severely traumatized, especially those who have gone through cumulative traumatic events, could suffer for the rest of their lives. A single horrific experience with painful aftershocks can sear the psyche for decades, even worse is the second and third in sequel acting like a 'building block'. Research clearly shows a perfectly linear correlation between the number of traumatic event types experienced and the likelihood of developing posttraumatic stress disorder and other disorders of the trauma spectrum – the more exposure to trauma, the more likely the development of psychopathology. [77, 84-93] This effect of cumulative exposure, makes ex-combatants a highly vulnerable group as they are exposed to a high number and outstanding diversity of traumatic stressors.

In terms of magnitude, some research suggests that 10 to 25 percent of survivors never recover from PTSD, but that figure can be much higher after exposure to extreme, multiple or deliberately inflicted psychological trauma. Systematic torture or child soldiering for example, can result in much higher rates of PTSD, some authors

report rates of up to 90 percent of survivors being affected. [42, 94-97] There is emerging clarity to the question of what type of traumatic experiences will lead most likely to the development of trauma spectrum disorders. Perpetrator events, as well as surviving rape and cruel torture, seem to have a predictive power in terms of likelihood of development of psychopathology. A study by Glockner [98] found that the more violence children had been forced to commit against others, the more PTSD symptoms could be expected. Nader [99] finds that children who reported 'hurting another human being' scored highest in terms of development of PTSD symptoms in war-exposed children in Kuwait. Derluyn [42] reports a prevalence of 97 percent post-traumatic stress reactions of clinical importance in former child soldiers, among who, 39 percent had to kill a person themselves, and 77 percent of the children had witnessed killings while in captivity. Other studies in veterans have furthermore shown that witnessing abusive violence and enormous cruelty was of especially high traumatic valence. [99, 100]

4.4. The Impact of Trauma on the Body

Beyond psychological suffering from the symptoms of PTSD, traumatized populations show significantly elevated levels of physical morbidity and mortality. As outlined above, in recent years evidence has amounted that severe anxiety states – stress at traumatic level – leads to a functional and structural alteration of the brain. The co-occurrence of several pathogenic processes includes a permanent alteration of bodily processes due to a state of persistent readiness for an alarm response. Psychobiological abnormalities in posttraumatic stress disorder are observed as psychophysiological-, neurohormonal-, neuroanatomical- and immunological effects [101-104]. Trauma survivors, including child soldiers, frequently report high rates of physical illness, involving a variety of physiological systems. There seems to be a positive correlation not just between developed psychiatric illnesses and prior trauma, but also a significant relationship between the amount of traumatic exposure and poor health outcomes. An emerging body of literature is successfully exploring the relationship between trauma spectrum disorders, foremost PTSD and increased somatic complaints, as well as, decreased immune-functioning: such as, cardiovascular, pulmonary, neurological and gastrointestinal complaints; various types of somatic pain; susceptibility to infectious diseases; vulnerability to

hypertension and atherosclerotic heart disease; abnormalities in thyroid and other hormone function; increased risk of cancer and susceptibility to infections and immunologic disorders; and problems with pain perception, pain tolerance, and chronic pain. [17, 50, 92, 101-103, 105-117] It is important to keep in mind that in post-disaster/conflict regions, children and their parents who remain in the area or are forced to migrate (asylum seekers, refugees, IDPs) have survived an unusual number and types as well as severity of traumatic experiences usually additional to poverty-related or other social stressors and adversities, such as domestic violence, family separation and child labour. [89, 118] Child soldiering only contributes to the already heightened stress load due to adversity. A weakened immune-status due to traumatic stress under circumstances of exposure to dysfunctionality and otherwise caused poverty, resulting in malnutrition, furthermore the exposure to manifold infectious diseases (such as TB, HIV/AIDS, malaria) in the context of absent or inadequate health services might partly explain high child, adolescent and adult mortality, epidemic rates of disease transmission as well as low life expectancy rates in many of today's (post-) conflict settings. [92, 103, 106, 110, 119-124]

5. Further psychopathological consequences

There are a multitude of further psychopathological consequences of experiencing traumatic life threat. In sum, the response to war-related trauma by ex-combatants and former child soldiers in countries directly affected by war and violence is complex and frequently leads to severe forms of multiple psychological disorders. Stressors have a vast impact, especially in childhood. During childhood and adolescence mind and brain are particularly plastic and hence, stress has the greatest potential to affect cognitive and affective development. Exposure to significant stressors during sensitive developmental periods causes the brain to develop along a stress-responsive pathway. Brain and mind become organized in a way to facilitate survival in a world of deprivation and danger enhancing an individual's capacity to rapidly and dramatically shift into an intense angry aggressive or fearful fleeing/avoiding state when threatened. This pathway however is costly because it is associated with increased risk of developing serious medical and psychiatric disorders like the aforementioned PTSD and is unnecessary and maladaptive in peaceful environments. [125, 126] Chronic danger or exposure to extreme stress requires

costly developmental adjustment in children. Though PTSD is the most extensively studied psychological consequence of war it is clearly not the only one. Often survivors also suffer from drug abuse/dependence, depression, suicidal ideation, drug abuse/dependence, other forms of anxiety disorders and psychosis. [65, 101-103, 127-133] Surviving traumatic experiences might be followed by social withdrawal, loss of trust, major changes in patterns of behaviour or ideological interpretations of the world and feelings of guilt and shame. [134, 135]

5.1. Drug Abuse

Systematic drug taking is especially reported about West-African-based militia movements. In fact some authors consider hallucinatory drug intake a critical factor, which contributed to the desensitization of boy soldiers during their prolonged exposure to violent aggression and to prepare them for combat.

> "Parallel to the trafficking of light weapons, the global commerce of illicit pharmacological stimuli served as an effective catalyst of war." [34]

Utas and Jorgel [136] describe in their account of the 'West Side Boys' child soldiers of Sierra Leone, how most fighters used drugs in abundance: crack cocaine, smoked heroin, ephedrine and diazepam and marijuana.

> "Drugs were used in military navigation both to enable soldiers to act courageously and ultra-violently, and also to make fighters relax in extreme settings of fear." [136]

Also drug use and abuse often develops later on as a means of coping with PTSD [137, 138]. Gear [139] notes, that substance abuse can be seen as a way to escape the emotional burden associated with extreme poverty and unemployment, at the same time being an attempt to cope with trauma-related symptoms, a form of self-medication. In several samples of Somali (ex-) combatants our group [123, 133] found that those with PTSD used more drugs in order to 'self-medicate', especially those who indicated that drug use helped them forget stressful war-experiences [128]. The main drug (ab)used in Somalia are the leaves of the khat shrub that contain the amphetamine-like cathinone. In these studies we could clearly demonstrate that PTSD leads to higher khat intake and this, in turn, leads to a higher risk for the development of psychotic symptoms such as paranoia. In a large cross-

sectional household survey involving 4854 randomly selected persons of the general population of Hargeisa, Somaliland, we [128] observed that 12 years after the end of the liberation war and 6 years after the last fighting, 16 percent of the ex-combatants were severely impaired by complex psychological suffering, mostly severe psychotic disorders intermingled with drug abuse, trauma-related disorders and emotional problems. In most cases, uncontrollable behaviour like aggressive outbreaks had led to the situation that helpless family members had chained them for years to concrete blocks or trees in their compounds or that they had ended up in prison. Among the male adult population, former combatants with civilian war survivors and persons who never had been confronted with war (i.e. those who managed to flee abroad before the war) were compared. The rate of 8 percent of PTSD, depression and drug abuse disorder in the civilian war survivors doubled in the group of ex-combatants and reached less than 3 percent in those without direct war exposure. In a city like Hargeisa, every 5th household had to care for one severely affected, dysfunctional young man in the household, drawing resources from all members of the household and forcing the household to loose out on the support and capacity of one male family member.

5.2. Depression and Suicidality

The significant correlation between posttraumatic stress disorder and clinical depression is scientifically well known. In a large study by Vinck and colleagues [40] in Northern Uganda, it was found that 52 percent of formerly abducted children suffered from depression symptoms. A follow-up review of Pham et al. [41] with former abductees showed that 40 percent fulfilled the symptom criteria for major depression. In our Pfeiffer et al. [39] child soldier sample again from Northern Uganda, 16 percent of children who were ever abducted had a fully developed major depression, with this rate increasing to 24 percent in those who had stayed in captivity one month or longer.

The most disturbing finding is the risk of suicidality in the former child soldier sample of Pfeiffer et al. In this group 34 percent of children showed a risk of suicidality (17 percent of children at high risk)[3], with this rate rising to 37 percent (25 percent at high

[3] classified as: low = ‘I wish I was dead’, medium = ‘I have made a plan how to kill myself’, high = ‘having made a serious attempt to kill myself’

risk) in those who were forced to stay in captivity one month and longer. Post-Vietnam, studies showed highly elevated risks of suicide among ex-combatants and veterans of war. [140-142] Especially having been an agent of killing and having been a failure at preventing death and injury of others are related more strongly to general psychiatric distress and suicide attempts [143]. The few investigations there are for children present a significant correlation between childhood diagnosis of PTSD and suicidal ideation. Guilt might play an important mediating factor. In the case of child soldiers also the guilt about having killed members of the family, friends or community members emerged as a key predictor of suicidal ideation [39]. Authors suggest that suicidal ideation may be increased additionally when the child's functioning is impaired. [144] In an epidemiological study in the LTTE-controlled areas of North-Eastern Sri Lanka [92], we observed a highly significant relationship between PTSD and risk for suicide, which was diagnosed for 26 percent of the children with PTSD, but only for 7 percent of children without PTSD. The reasons for these epidemic proportions are unclear. Sociologists have suggested that the young have few support systems and are unable to cope with societal and cultural demands. Researchers also found that for many youngsters, self-poisoning seemed to be the preferred or only method of dealing with difficult situations [145]. Child soldiers might simply lack adequate interpersonal skills, such as the ability to communicate anger and sadness or might not be able to place trust in supportive and positively guiding relationships with adults.

5.3. Dissociation and Derealisation

Another, so-called 'associative feature' of severe child traumatisation, often seen in former child soldiers, is the phenomenon of 'dissociation'. During times of trauma, fight or flight is rarely an option for children, as they are often physically unable to defend themselves or escape. The most readily accessible response to the pain of trauma may be to activate dissociative mechanisms, involving disengagement from the external world. Biological defence mechanisms are activated by the central nervous system, such as depersonalisation, derealisation, numbing, in extreme cases catatonia and 'tonic immobility' [82]. Dissociation might be allowing the child to psychologically and physically survive the trauma. Over time, however it often becomes maladaptive, emerging at inappropriate times during, for example,

situations that may trigger verbal of nonverbal/bodily memories of earlier trauma. Children who have learnt to cope with trauma by dissociating are vulnerable to continue to do so in response to minor stresses. The continued use of dissociation as a way of coping with stress interferes with the capacity to fully attend to life's ongoing challenges. During dissociative episodes, the child may stare off and appear as if he or she is daydreaming. [146] Such children may be misdiagnosed as suffering from ADHD, inattentive type [50]. Other children may freeze in response to certain activating stimuli. Caregivers or teachers may misinterpret this reaction as an act of defiance. If confronted, more anxious children can quickly escalate to feeling threatened, 'frozen' and ultimately resort to a classic fight or flight response by becoming aggressive or combative over relatively minor events [50]. Other children may react to stressors by dissolving into regressed, dissociative states that may contain micro-psychotic episodes including auditory command hallucinations. It is not uncommon for severely traumatised children to hear voices commanding them to harm themselves or others, a dangerous unpredictable condition. Consequently, such children can be erroneously misdiagnosed as suffering from a primary psychotic disorder such as schizophrenia.

5.4. Negative Behaviour

PTSD is also significantly associated with negative behaviour against the own family, the expression of anger and hostility to others and self harm. [50, 82, 108, 147-153] Research shows that former child soldiers have difficulties in controlling aggressive impulses and have little skills to handle life without violence. These children show ongoing aggressiveness within their families and communities even after relocation to their home villages. [154] In a qualitative study Magambo and Lett [155] reported that former child soldiers in northern Uganda mainly applied physical violence to resolve conflicts. Although the children sympathized with victims of violence, in the absence of adequate social skills, they couldn't even think of non-violent alternatives.

Most former child soldiers have spent several critical years of their development in captivity, under the constant threat of abuse and manipulation by their commanders. Most probably, this period affects the development of a personal and collective identity. [156] In general, children exposed to war and child soldiering show a strong identification with their own group [98, 157] and develop a worldview dominated by

political and nationalistic categories [158] which often includes pro-war attitudes [159]. In the Glockner study [98] it emerged, that the longer children had stayed in abduction, the stronger was their rebel-related collective identity. But also after return to their home-communities collective identification might occur post-hoc. Glockner explains that questions and discussions of family and community members about the cruelty of the LRA's actions may activate a process of reasoning about what had happened. Former beliefs about 'right' and 'wrong' actions might clash with current ones and in order to regain cognitive homeostasis identification with the rebel group is aspired. Interestingly this study could also show a positive correlation between collective identification and reactive aggression (physical and verbal aggression and anger). Also Glockner [98] reports that formerly abducted children with PTSD might be especially vulnerable to accepting simplistic models of 'good versus bad', a black and white worldview, which is a known cognitive distortion. Although a rigid political view might be protective during the exposure to war events, it might facilitate violent behavior after returning from the fighting to the home communities.

Children living in conditions of political violence and war have been described as "growing up too soon" and "losing their childhood" [8, 160, 161] Levels of conscience seemed to be significantly related to the severity of PTSD symptomatology, but also with negative schematisations of self and others and lower self-efficacy rating. [68, 162, 163] In fact, several studies document a link between sexual and physical abuse and low self-esteem. [164, 165]

5.5. Ideological Commitment

There is also the discussion on ideological commitment of former child soldiers to a cause and its influence on mental health. A number of studies [166, 167] show a protective mechanism, associating strong ideology with good mental health in adolescents, however mainly in individuals who were exposed to low levels of political violence. A recent study among Tamil child soldiers shows that this protective mechanism only worked in the group of those who were not among the highest exposure intensity group, e.g., length of exposure, being wounded, having killed, having tortured, direct combat [156]. Tibetan refugee children also reported that the sense of participating in their nation's struggle against an oppressor and their strong Buddhist beliefs protected against mental health difficulties and accelerated

the healing process [168]. Cognitive appraisals of experiences seem to matter in symptom development in various forms and strong feelings of guilt and responsibility might increase trauma symptoms. In Kanagaratnam's study [156] personal achievement in combat, popularity, knowledge and experience acquired by being a combatant, friendship, and the support of the community were considered as the best of combat life by the youngsters; death of friends, killings of their own people, guilt of being responsible for unnecessary killings, and being confronted with morally conflicting situations were the worst experiences for most of them.

5.6. Cognitive and Educational Impairment

When comparing abductees with non-abductees Blattmann [169] came to the result that especially traumatic experiences during abduction had an adverse impact on education, less years of schooling, greater reading problems and productivity and lower work quality later in life. What research has shown is that exposure to trauma in formative years may affect the maturation of the central nervous system and the neuro-endocrine systems, with especially negative impact on the hippocampus. [66, 170-173] The traumatic stress related altered cortical homeostasis seems to result in dysregulation of cognitive and narrative memory and disruptions to the limbic system result in emotional memory impairments, at times combined with dissociative experiences. [172, 174-177] Consolidation of long-term memory involves gene expression, new protein synthesis, and growth or pruning of synaptic connections. A cascade of intracellular events takes place, allowing for short-term memory to be converted into long-term memory. In order to process and store explicit memories, hippocampal contribution is needed. In absence of full hippocampal functioning due to e.g. elevated levels of stress hormones, especially glucocorticoids, during traumatic events, memories cannot be stored and retrieved appropriately. These neuroanatomical and neurophysiological changes peri- and posttrauma may directly decrease a child's ability to express feelings in words. [50, 84, 178] Chronic stimulation of the brain's fear response in a child that lives in an abusive, violent or neglectful environment means that the regions of the brain involved in this response are frequently activated. When they are, other regions of the brain, such as those involved in complex thought, cannot also be activated and are therefore not 'available' to the child for learning. [179] Resulting from PTSD, the inability to

concentrate and learn often translates into a refusal to attend school and eventual drop-out [150]. In a study by Duncan [180] college enrolment rates continued to drop at each subsequent semester until, by their senior year, only 35 percent of multiply abused students were in attendance. Also, adolescents with PTSD, compared to adolescents who have suffered stressful experience, but did not develop PTSD, show to have significantly lower scores on standardized achievement test compared to their controls [181]. A study by McFarlane and colleagues [73] shows that 18 percent of surveyed children after a disaster were underachieving educationally after 8 months, this figure had risen statistically significant to 25 percent at 26 months. The underachieving children were also those with the highest trauma symptom scores and with the most days absent from school, reporting headaches, stomach-aches and feeling miserable and worried as important sources of absenteeism. Perez & Widom [182] show that child abuse represents a significant risk factors for poor long-term intellectual and academic outcomes, e.g. lower IQ and reading ability. Findings of low IQ in traumatised children were described also in Mannarino and Cohen [183]. In his book 'Scarred minds' [184], Somasundaram presents a listing of psychosocial problems in adolescents, sampled from six different schools and colleagues across the war affected Northern-Eastern educational zones of Sri Lanka. Within this study, 28-65 percent of children report loss of memory, 33-60 percent loss of concentration and 35-60 percent loss of motivation to achieve in education. Besides psychometric testing for psychiatric disorders, our group [92] undertook cognitive and memory tests in a sub-sample validation group of Tamil school children residing at the time in the LTTE controlled areas of North-Eastern Sri Lanka. This region had been affected by two decades of civil war at the time of assessment in 2002. All traumatised children with a diagnosis of PTSD in the sample reported lasting interference of experiences with their daily life. The neuropsychological testing and the investigation on school grades validated mental health outcomes further and accentuated some specific cognitive problems associated with post-traumatic stress disorder, especially the deficiency in memory functions. In fact affected children's performance decreased with the number of traumatic events experienced. The children's grades in school, when averaged separately for the two groups and across disciplines, reflected that the problems in functioning are mental in nature, with a focus on deficit in the verbal abilities.

5.7. Employment Opportunities

Employment possibilities are already scarce stretched in post-war societies, and researchers observe that finding a job is even more difficult for ex-combatants. [139, 185] Mogapi [186] reports from the South African DDR programme that ex-combatants who suffer from trauma spectrum disorder have clear-cut difficulties on the job, suffer increased concentration problems and are more likely to act out aggressively in difficult situations which eventually leads to job loss. In turn the situation of unemployment causes feelings of helplessness and thus aggravate symptoms of depression in a downward spiral effect.

5.8. Transgenerational Effects

Psychological exposure and suffering from trauma can cripple individuals and families even into the next generations. After having experienced organized violence, affected parents can leave an imprint in their grandchildren's generation [187]. Concern about consequences for offspring whose mother's were stressed during pregnancy derives from evidence gained in experimental biology, as intrauterine stress shows to affect neurodevelopment in animals, which are thought relevant to cognition, aggression, anxiety and depression in humans [188]. Chronic maternal stress during pregnancy for example interrupts healthy regulation of hormonal activity and increases free circulating CRH (corticotrophin-releasing hormone). [189-193]. Changed neurotransmitter activity can promote a range of emotional and cognitive impairments. [194, 195] While the genome, the DNA sequence, remains unaffected by acute stress responses, epigenetic alterations may be manipulated by a variety of conditions, including stress hormones [196]. With regard to the nervous system, epigenetic alterations play a role in a diverse set of processes and have been implicated in a variety of disorders, including vulnerability to anxiety- and trauma-related illness. If a pregnant mother is affected by severe and chronic stress, epigenetic modifications in the child may act as a molecular or cellular memory that tune the off-spring for one or several generations to survive in a hostile environment, making generations more vulnerable for mental illnesses, including suicide [197]. The quality of how a mother is able to attach to and care for her child alters the expression of genes in the child that regulate behavioural and endocrine responses to stress, as well as hippocampal synaptic development. These effects form the basis

for the development of differences in stress reactivity and certain forms of pathologic cognition.

Literature shows that boys and men with war and combat experiences are more likely to exhibit violent behaviour. [89, 198-200] The same can be expected for men who have a history of child soldiering. In families were men show violent behaviour against women, children are maltreated as well [201, 202]. In fact, domestic violence against the child's mother during the first six months of life elevates the risk of physical child abuse three times and doubles the risk of emotional abuse and neglect of the child [203]. Additionally, babies born to traumatized and socially stressed mothers, which certainly can include formerly abducted child-mothers (women who gave birth to babies in captivity), are born with a deformed stress regulating system (HPA-a), which translates into babies' higher and faster arousal peaks, longer intervals of crying and irritability and impaired affect regulation [204]. A challenge for any new parent, a major challenge for a parent who her/himself suffers from a disorder of the trauma spectrum, making 'high expressed emotional' behaviour and punitive up to aggressive disciplinary parenting styles more likely. Parents of such babies report less confidence and joy in their role as caregivers and the phenomenon of 'negative reciprocity' starts to develop. [205] A child with reduced abilities for affect regulation in combination with one or two traumatized primary caregivers is a very great potential risk constellation. Internalized affects of violent and neglectful caretaker-models deform the psyche and can also act out on the next generation. As a result, the family suffers from heightened levels of stress and psychiatric symptoms that can be evoked in people who live with an individual who suffers from posttraumatic stress disorder. Violence and trauma at the time of parents' childhood may result in problematic attachment relationships that have long-term consequences for mental health and interpersonal relationships on the side of their children. An intergenerational cycle of dysfunction is set in motion. [153, 206-211] Traumatized parents are challenged in providing secure attachment, since posttraumatic symptoms of emotional numbing might be hindering emotional closeness. Symptoms of hyperarousal, such as irritability might make it furthermore challenging to regulate babies and own affect adequately. Parental sensitivity in pre-empting a child's need might be impaired and 'high expressed emotions' without sufficient verbalization of the context can render a small child helpless in

understanding parental motivation and intention. It has been shown that, if children live in such unpredictable reward-punishment environments, their psycho-physiological arousal is significantly heightened and will over time lead to a changed hypothalamic-pituitary-adrenal axis. Beyond coincidence, researchers clearly note higher rates of psychiatric morbidity in children of survivors compared with non-traumatized comparison groups. [192, 212-217] A partner, father or grandmother suffering from traumatisation can behave like a distant, fearful stranger, who cannot tolerate closeness or emotional expression, even within the family unit. Survivor's intense and bizarre way of self-expression in form of e.g. irritability, jumpiness, hypervigilance may be so extreme as to appear like paranoia and can engender fear, confusion and a sense of powerlessness in family members. [218, 219] On the other hand, children of survivors can be equally affected by their parents' symptoms of numbing and avoidance, which are associated with substantial decrements in parent-child relationship quality and prevent normal emotional expression and closeness [220]. Consequently, children are forced to operate within a domestic context in which intimacy as well as affect regulation is severely impaired [221]. Avoidance symptoms seem to have an additional deleterious effect on the parent-child relationship satisfaction. Studies on fathers' who have experienced numerous war events show that feelings of detachment and numbing can carry over to their children, leading to behavioural problems in the child. [222, 223] Based on the vulnerability of surviving a war or growing up in a post-conflict setting, children in turn might also become more vulnerable to forces that instigate violence. [33, 224]

5.9. Social stigma of returning girls and women

Between the years 1990 and 2003, girls were present in fighting forces (government forces, paramilitary/militia, and armed opposition groups) in 55 countries, and in 38 of these countries they were involved in situations of armed conflict [25]. Girls' roles typically overlap and include working as spies and informants, in intelligence and communications, and as military trainers and combatants. They are health workers and mine sweepers, and they conduct suicide missions. Other support roles include raising crops, selling goods, preparing food, carrying loot and weapons, and stealing food, livestock and seed stock. Important to understand is that underlying these various roles and activities, girls' participation is central to sustaining a force because

of their productive and reproductive labour. As such, they replicate traditional societal gender roles and patriarchal privilege, whereby girls (and women) serve men and boys. Honing their labour is a foundation upon which fighting forces throughout the world rely. [25] Key gender-based experiences of both women and girls during armed conflicts is sexual violence, including torture, rape, mass rape, sexual slavery, enforced prostitution, forced sterilization, forced termination of pregnancies, giving birth without assistance and being mutilated [225]. Girls in fighting forces in Mozambique, Northern Uganda, and Sierra Leone reported sexual violence, and abducted girls were almost universally raped [25]. As was the situation in Sierra Leone, in Angola, sex labour was integral to the function of girl soldiers [226]. Again, depending on the context, when they reach puberty, girls may supply reproductive labour through giving birth to and rearing children who become members of the force. For example, in the Lord's Resistance Army (LRA) fighting force in Northern Uganda, the leader Joseph Kony has been prolific in fathering large numbers of children who have grown up in his force. Physically, girl soldiers are challenged to survive as they cope with illnesses, exhaustion, wounds, menstrual difficulties, complications from pregnancy and birth, sexually transmitted diseases, and a host of other maladies such as malaria, intestinal parasites, tuberculosis, anaemia, diarrhoea, malnutrition, disabilities, scars, and burns. [25, 226]

Returning women, who are perceived to have had sexual relations with combatants, whether forced or voluntarily and/or bring back children from such encounters, belong to the most stigmatised group of survivors. Most communities regard the illegitimate children as a shame not only on the child and mother, but also on the family and the community as a whole, sometimes forcing mothers to choose either between their child or their community. [4] Schalinski and team [227] found that a great number of returning women in Eastern Congo are living in forced separation to their husbands and experience homelessness after they are back from captivity, especially when they are feared infected with STDs and HIV and if they bring back a child from the time in the forest. In many cultural settings, girls are unable to get married or re-married and find it difficult to enter a new supportive partnership within which to bring up their children in civilian life. The environments into which girls reintegrate are also problematic. Domestic violence and sexual violence is more common in IDP camps and communities of war-torn areas, as men can be

traumatised, depressed, alcoholic or otherwise aggravated due to the strain of war, contributing to violence behaviour. [4]

Demobilisation and Reintegration services are still a novelty for formerly abducted girls and women. Gender disparities that privilege boy soldiers over girls mean that few girls enter or benefit from formal demilitarization and demobilization or from rehabilitation and reintegration programs (RR) where the re-adjustment process can be fostered. These programs are mainly designed to restore security, and as female combatants are not seen as a major security threat, they are insufficiently targeted [228]. In a study conducted in five provinces of eastern Democratic Republic of Congo, twenty-three girls as compared with 1.718 boys were demobilized by four international NGOs, despite girls being recruited or abducted as extensively as boys and estimated to comprise 30 to 40 percent of children in fighting units [229].

6. The challenges of demobilisation and reintegration of child soldiers

Psychiatric distress and malfunctioning, especially when expressed as outward aggression, irritation or acting out of intrusions (e.g. flashbacks, dissociation) exacerbates ex-combatants' difficulties to reintegrate into communities and the wider society [39]. Ex-combatants suffering from psychiatric distress might face double stigmatization for having engaged in combat and for being noticeably psychologically affected. Beyond the multitude of psychological problems that former child soldiers might be struggling with, there are other hindrances that can adversely affect the successful reintegration. Child soldiers carry a special burden of simultaneously being the recipient and perpetrator of violence [160], they are therefore a distinct group among children and adolescents in war regions. They are victimised two-fold, since they first are exposed to traumatic experiences and later are blamed and stigmatised for the atrocities they have committed [38]. In many cases child soldiers are forced to commit atrocities against civilians, at times against own family- and community members; so as to cut-off return routes and inflict increased terror and psychological harm also on home communities. These practices may force the recruit to violate their own moral principles and to break from any social attachment [230], ultimately a pull factor for re-recruitment. This fact alone challenges their integration and re-acceptance. However not just the formerly abducted child, also the community

has changed. On the communal level the reintegration of ex-combatants is a reciprocal process that happens within the host communities where the former fighters are settled. The attitudes of the host communities towards the ex-combatants are of particular importance for reintegration success [231]. In some cases, because of assumed or actual abusive violence combatants have perpetrated against civilians during war times, the attitudes of host communities towards former combatants are negative. There is no doubt and it has been shown that adequate social support and other support community practices are truly important mediators of the expression of trauma-related symptoms [94, 232-237] upon return of child soldiers to their home communities. A strategy of social support can be an additional element for affected communities who have lost children to abduction and child soldiering only where a sufficient number of adult community members remain at least partly protected from the psychological impact of armed conflict, organised violence and forced displacement. However, many key community members, such as parents, teachers, elders, counsellors, nurses, lawyers, doctors in post-conflict settings suffer from physical, as well as, mental impairment, incapacitating their normal, healthy ability to function as caretakers, providers and role models. Neither local healers nor religious leaders, who have traditionally been offering health-related services, or for example carried out re-integration measures for individuals who had committed harm in the community, nowadays have remained unaffected by the stressors of war and violence. [27, 200, 211, 238-242]. As members of the Children and War Foundations state:

> "There are some war situations that are so unprecedented, i.e. massacres in the community, that no cultures have societal healing or coping mechanisms to apply." [243]

So the culturally indigenous mechanisms of healing and reconciliation at the family and community level, which might have served in the rehabilitation of returning child soldiers are in most settings not available anymore. It is not surprising that former abductees report difficulties when coming home to their community after abduction, especially those who met criteria for symptoms of PTSD. Researchers [41, 244] have found that formerly abducted children in Northern Uganda do experience difficulties in psychosocial adjustment, especially when suffering from clinical symptoms of the posttraumatic stress syndrome and depression. Affected youngsters not only

experience more feelings of hopelessness and fear, but also more difficulties with regard to peer interaction, family interaction and community activities when compared with less clinically impaired non-abductees.

In reintegration programs ex-combatants with PTSD are considered an especially problematic group. Recent studies that have examined the prevalence of psychological effects after conflict suggest that traumatic exposure and resultant symptoms of posttraumatic stress disorder and depression can influence how individuals perceive mechanisms aimed at promoting justice and reconciliation. In 2004, Pham and colleagues [245] examined this association in 2074 adult survivors of the Rwandan genocide. The investigators demonstrated that traumatic exposure and PTSD symptoms were associated with negative attitudes toward reconciliation. Bayer's group [38] undertook a similar research in that they tried to understand the association of trauma and PTSD symptoms with openness to reconciliation and feelings of revenge among former Ugandan and Congolese child soldiers. This study found that those, this is girls and boys alike, among the group of former child soldiers who showed clinically relevant symptoms of PTSD had significantly less openness to reconciliation and significantly more feelings of revenge than those with fewer symptoms. Likewise, the children with PTSD symptoms might regard acts of retaliation as an appropriate way to recover personal integrity and to overcome their traumatic experience. In former Yugoslavia, Basoglu and team [246] similarly found that PTSD severely impedes processes of reconciliation and reintegration: war survivors exposed to war-related traumata displayed stronger emotional responses to perceived impunity, including anger, rage, distress and desire for revenge, than those who did not experience war. Moreover traumatized survivors showed less belief in the benevolence of people and reported demoralization, helplessness, pessimism, fear and loss of meaning in and control over life. Vinck et al.'s [40] study found a very similar association between survivors' symptoms of PTSD and depression and their attitude toward peace. Those who met PTSD symptom criteria were more likely to favour violent means to end the conflict and those with depression symptoms were less likely to identify non-violence means to achieve peace. In these populations, psychological symptoms associated with the trauma may be closely related to a desire for retribution rather than restorative ways to deal with past violence.

There seems to be also a clear link between symptoms of traumatisation, aggression and perceived stigmatisation in returning former child soldiers. [39, 44, 247, 248] In the United States, attitudes of the home environment were found to have a high impact on the ex-combatants' ability to cope with war and trauma and the subsequent psychopathological development. This effect has been conceptualized as 'home coming reception' [249]. Having belonged to a faction that was very abusive towards civilians during the civil war in Sierra Leone had a significant negative effect on reintegration [250]. Our Pfeiffer et al. study showed that stigmatization of any kind (e.g. being called names such as 'killer', being accused by community members to have an 'an evil rebel mind' or 'disturbed mind', or being forcefully pushed away from the well while fetching water) is reported by 73 percent of the formerly abducted youths. In this study stigmatisation was also found to be associated with symptoms of PTSD and clinical depression, as well as with elevated levels of aggression. Stigmatisation was connected more closely to heightened levels of psychopathology than to the mere fact of having been abducted. The authors' assumption is that children who have a mental illness as a result of their time in the bush and show symptoms of the trauma spectrum are the ones who are stigmatised because they behave 'different', e.g. experience nightmares, behavioural acting out, are prone to bizarre looking forms of dissociation and choose to stay alone and distant from others. In the same sample increased levels of aggression (verbal, physical, anger and hostility) were found in the group of formerly abductees with 31.6 percent showing heightened aggressiveness. Aggression was associated with having a history of abduction, an increased level of perceived stigmatisation, heightened symptoms of psychopathology and having survived a higher number of traumatic experiences. The score of aggression additionally showed a connection to higher identification with the rebel group. Interestingly, having been forced to kill and the duration of abduction did not predict heightened aggression, suggesting in summary that it is the overall score of symptoms of psychopathology, resulting from traumatic experiences during abduction that drives levels of aggression and stigmatisation, as well as identification with the rebel group. There were no gender differences to these findings.

Social isolation and the formation of ex-combatants as a distinct civilian sub-group is a consequence of the combined effects of factors which include host communities'

negative attitudes towards ex-combatants and the their psychological problems causing difficulties in social interaction. Furthermore, the risk of re-recruitment is high when ex-combatants fail to reintegrate economically and socially into their new host communities. When a large number of former combatants and of civilians are affected by war-related psychological problems, and remain without the possibility for treatment, the opportunity to initiate a substantial economic development and thus increase the standard of living might be substantially reduced.

In sum, social and traumatic stress caused by multiple experiences of violence has a severe negative impact for the reintegration of ex-combatants and child soldiers on several levels. Rehabilitative efforts on all related levels are needed to increase the successful reintegration of former combatants into the civil society; most importantly their mental health needs must be attended to. A most likely but largely unstudied driver of the cycle of violence might be the detrimental impact of massive violence on individuals' psychological functioning and the related social dynamics and consequences for communities. Reconciliation and peace-building might be impeded or blocked by the psychological problems of a critical mass of individuals. In particular large-scale violence may cause patterns of emotional and cognitive processing, which might feed into further violence. War-related severe stress, even though transient, indelibly changes an individual on various levels. [126] On a cognitive level, traumatic experiences shatter the most fundamental beliefs about safety, trust and self-esteem, which lend instability and psychological incoherence to the individual's internal and external worlds [251]. As a consequence of a shattered belief system, the world is perceived as basically unsafe, frightening and evil. Victims feel weak, dependent and without control and competence that is vital for the psychological and cognitive coping with the environment. Severely psychologically affected formerly abducted children need more clinical, therapeutic rather then unspecific psycho-social or social approaches. In reality, current rehabilitation measures for former child soldiers focus on brief vocational training, family tracing, and reunification; with the assumption being that once a child lives with his or her family again, the psychological wounds will automatically heal. It must be clearly understood that as of today, no structures are in place to adequately address the psychological rehabilitation needs of formerly abducted children and child soldiers in the Great Lakes region of Africa or any other resource-poor, conflict stricken region

of the world for this matter. In fact, child combatants have a particularly high risk to be left out or marginalized by international programmes in the reintegration process [252]. They are especially vulnerable for reintegration failure. Only in recent years these vulnerable groups and the fact that ex-combatants in post-conflict countries suffer from psychological problems has been recognized. The acknowledgement that many of them are unable to profit from standard reintegration tools e.g. due to severe psychological distress, daily malfunctioning and gender-based discrimination is slowly leading to the inclusion of special programme steps for this group. Is fact is a clear neglect of the international community's obligation to psychologically rehabilitate former child soldiers according to Article 39 of the United Nations Convention on the Rights of the Child [253]. In the absence of psychological rehabilitation services, efforts to promote social reconstruction may be undermined, since rates of abduction near 50 percent of the overall population in war affected regions, such as e.g. Northern Uganda, Angola and parts of the Democratic Republic of Congo [39, 40, 254]. A critical mass of affected persons, in a given society can therefore be assumed lost as pro-active, mediating community agents for change and development. These child ex-combatants are to a large percentage impaired in their daily functioning. This has far reaching consequences for the process of reconciliation and peace-building within their communities and post-war areas at large. It might even fuel cycles of violence reaching into the generation after next.

7. Interference of the trauma with the ability to testify

Once posttraumatic stress disorder has developed, we see victims, including child soldiers, experience immense suffering due to involuntary sensory, visual or other recall of the most horrific moments of their lives, whereby their autobiographic memory is fragmented and their ability to willingly focus their mind and concentrate is reduced. Much of the daily and nightly energy is spent avoiding to get reminded, since remembering the traumatic experience brings up painful emotions and panic-like physical arousal and distress. The severity of trauma symptoms and distress of talking about the event are tightly linked to each other. We have observed, that with increasing severity of symptoms, the distress felt in people, when asked to disclose their traumatic scene increases. Paradoxically however, the urge to talk about the experiences also increases. [126] This condition is known as, 'speechless terror'.

Research has begun to show that traumatic events are not properly coded by the brain's episodic memory system due to their overwhelming, terrorizing quality. In fact, it is the hallmark of traumatic memory in its original state that presents itself in a dissociated form from autobiographic memory and semantic access. [84, 104] Therefore traumatised survivors often cannot fully disclose their traumatic experiences, i.e. psychiatrically affected survivors can be limited in their capacity to verbally express in detail and chronology, not because they do not remember what happened, but because they enter a state of great anxiety, visible or physiologically felt by the child as trembling, sweating, heart racing, headache, body pain. Emotions felt by the child range from anxiety, anger, disgust to helplessness during recall. The trade off here is of course that those potential child witnesses who have seen the most and the worst events, are also the once probably most affected by their experiences. They will be those who do not disclose or testify without successful treatment.

8. Protective & special measures for child witnesses appearing before the Court

Therefore a child or also an adult for that matter, with a developed PTSD and a high symptom severity load, will find it difficult to narrate in detail a particular traumatic experience. The information is certainly not lost to the survivor and can be recovered in clear order, completeness and chronology. This might however in some cases call for a therapeutic testimonial process before giving evidence in court, such as Narrative Exposure Therapy (NET) [47]. If it is known by the court, what specific experiences the child or young adult witness needs to recall in detail when giving evidence, e.g. a particular massacre, first time they had to kill, witnessing a mutilation, experiencing a particular combat, etc., the testimony of this experience would not be complete without a full reconnection of explicit and implicit memory of fear events and fear structure. This will require psychotherapeutic intervention.[4] Such a preparation would greatly reduce the high stress load for the child witness (in fact have a therapeutic effect) and also ensure that all necessary important facts are reported. The preparatory procedure of NET can certainly be documented on film, so

[4] each traumatic event, specially very frightening or horrible experiences, will take about 90 minutes to properly explore and document by a trained therapist; this should be done in advance of evidence giving.

as to ensure that no memory content is added or cut-out in the documentation process by the therapist.

Should, during evidence giving, involuntary memory loss occur by the child witness, then it will be important to help the process of recall by phrasing questions along the line of 'cold memory' (= description of facts and context). For example the judge asks: "who was the one giving the order to kill?" and the child is confused about the identity of the particular commander (e.g. since they have received orders to kill many times or they are fearful to reveal), it is helpful to ask context questions around this particular moment, such as "do you remember the exact location you were in that afternoon? Can you describe this place for me? How many people were there? What were they wearing? Where were you standing? Can you make a drawing for me? Was it still light or already dark at that moment? What did the landscape look like?" Such context related 'police questions' (e.g. who, where, what time was it, how many people were there, what happened next?) will aid the process of recall for the witness greatly.

The ultimate hindrance to evidence giving is probably the occurrence of a 'dissociation' or 'flashback'. This could happen while the child narrates a particular event, for example. A dissociation or flashback will put the witness in a psychological state, whereby the survivor's imaginative recall is so intense that he/she believes to be back in the traumatic experience. Behaviourally we might see a physiological state of 'freezing', a reduced ability or inability to move the body and/or produce language, also known as 'tonic immobility'; or the reverse, a flashback, a behavioural re-enactment of parts of the survived trauma scene; this might include active acting out. The occurrence of a dissociative state or a flashback is not as such 're-traumatizing' or otherwise harmful to the witness, since the stress level of such trauma-related recall is in no way close to the dimension of an 'alarm response' that is mounted in the body and brain during a traumatic event. Dissociation and flashbacks, which are symptomatic of PTSD, if present during recall in court, will definitely be also present in the daily life of the survivor. Unfortunately for the court hearing however it might take the witness 15-30 minutes to recover and be fully conscious again after dissociation or a flashback have occurred. Emotional support and re-assurance of safety and the reality of the 'here and now' will be of high

importance in such a moment. For such a case it might be helpful to have a supportive child companion at court, who can be called on. Holding hands, speaking in a reassuring, calm voice, addressing the child by first name, reassuring the child that all is 'well and safe' and that 'this is a good place', will be helpful tools.

Surviving traumatic experiences however does not necessarily lead to the development of a disorder of the trauma spectrum. Survivors with few to moderate trauma symptoms will be perfectly able to talk about past experiences and give testimony. Also for those with a medium to high severity of PTSD, testimony giving is possible, it might just provoke more states of anxiety and re-experiencing during recall and if so the child may not fully disclose all the atrocities experienced. Prior assessment of clinically relevant PTSD symptoms could give a predictor of the witness' ability to give a narrative testimony. Criteria and validated questionnaires exist.

As a general recommendation children should not be asked to give testimony directly in the presence of the accused. African children in general, but child soldiers in particular have been socialised in highly hierarchical, for the latter even life-threatening environments during their childhood and time in captivity. Even in a normal context, an African child will rarely have been asked to talk about personal experiences or reveal autobiographical memories in detail to an adult listener; especially not to a stranger. A commander will always be an anxiety-inducing figure; a chief commander is often even perceived as a person with supernatural powers. It needs to be understood that children are conditioned by the military hierarchy and are reticent to betray their commanders, who often remain important figures in their lives even after initial demobilisation. A separate room with a camera might help lowering anxiety to a substantial degree and the presence of an emotionally supportive person could be very helpful (e.g. somebody ready to hold hands, sitting close by). Ideally the judge or the defence could even come over to the room where the child is placed and ask his/her questions from there. If the child has to give testimony in the same room as the accused, it is very helpful to have a 'sight barrier' between the accused and the child witness, either by way of a screen or the child's supportive companion could for example be placed in-between the accused and the witness, as a form of 'human shield'. In order to feel encouraged and for anxiety to

reduce, children should be verbally appraised while giving testimony: “I understand very well what you are telling me, this is a good description, your explanations are useful”, etc.

Bukavu, 24.February 2009 Dr Elisabeth Schauer, vivo

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