Mental Health and Everyday Violence in the Eastern DRC

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Abstract

People in the DRC have experienced waves of violence and the Eastern part of the country has been the worst affected. The consequences are severe, there is widespread extreme poverty as well as physical and mental health problems. While there is currently no large scale armed conflict, rural communities experience considerable everyday violence while still recovering from the trauma of war. Using a rich dataset from seven communities in rural North and South Kivu we analyse the prevalence and correlates of violence. While we can confirm that adolescents and young adults are at high risk of victimization as well as being more likely to perpetrate violent acts, we find a number of puzzles. Although the prevalence of Post-traumatic Stress Disorder is very high, it appears to have little impact on the perpetration of violence, but makes continued victimization more likely. These mechanisms need to be better understood while the DRC is making an attempt to provide mental health care for its traumatized population.

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This paper builds on the Trauma Treatment International report ‘Youth at Risk’.
1. Introduction

The Democratic Republic of Congo (DRC) is one of the poorest countries in the world and has experienced two major civil wars during the past twenty years. The state has failed to establish a monopoly of power (United Nations, S/2014/14) and Eastern provinces host a kaleidoscope of armed groups (Stearns & Vogel, 2015; Verweijen & Iguma, 2015). The safety of civilians is also threatened by widespread banditry, livestock theft, kidnappings, armed robberies, intercommunal violence and land conflicts (e.g., Kivu Security Tracker, 2019; The United Nations, 2019). Today’s Eastern Congolese youth were born into the peak of the region’s civil and military unrest, waves of organised violence and a severely afflicted civilian population. In this paper we first establish the prevalence of violence in rural communities in North and South Kivu, using an exceptionally rich data set. Clinical psychologists interviewed over 1,000 individuals, providing information on their current and past experiences of violence, their mental health, attitudes, emotions and a number of socio-economic variables. Experiences of violence were surveyed in detail and we categorize these into being the target of violence (victimization) as well as using violence (perpetration). In our analysis we can therefore analyse the correlates of victimization as well as perpetration.

Our paper is structured in the following way. In section 2 we provide a discussion of the drivers of violence, considering research from clinical as well as social psychology, development economics and (epi)genetics. Section 3 discusses the data and shows that the frequency of trauma and perpetration in communities in Eastern DRC remains high. The data and discussion suggest that the history of violence exposure as well as mental ill-health perpetuate engagement in violence. While the preliminary results in Section 4 support some of the discussion they also generate new questions. Section 5 concludes.

2. Violence: Risk Factors and Etiological Models

In this short overview we sketch out current theories and evidence that are relevant to explain the high levels of violence in the Eastern DRC. Here we distinguish between psychological, immediate social factors, the wider socio-political-economic context and (epi)genetic factors.

2.1 Psychological Evidence

Aggression is commonly defined as overt behaviour that has the intention of inflicting physical harm (Anderson & Bushman, 2002). Motives for aggression broadly divide into two groups, reactive and proactive (Anderson & Bushman, 2002; Vitiello & Stoff, 1997). Reactive aggression occurs in response to a perceived threat in order to defend oneself, whereas proactive aggression is defined as goal directed and intentional (Crick & Dodge, 1996). The motivation can be predatory, e.g., robbery, to gain a social status or just the intrinsic rewarding experience of a hunt as such (including the thrill of hunting of
Humans). The latter is referred to as appetitive aggression (Elbert et al., 2010; Nell, 2006) and can become addictive.

Aggressive behaviour or violence causes stress and as a response to this stress the body releases hormones which return to the brain, thereby affecting its functioning and with it behaviour and health (Heim & Nemeroff, 2001). Unremitting stress can result in depression and emotional regulation difficulties (Elbert & Rockstroh, 2003; McEwen & Lasley, 2002). A number of stressful episodes and events can lead to Posttraumatic Stress Disorder (PTSD) where uncontrollable re-experiencing of memory components leads to the illusion that the threat is present in the here and now so the survivor attempts to avoid or counter this ill-perceived threat. These factors also change mood and cognition. Corresponding symptoms have been chosen as diagnostic criteria for PTSD (The American Psychiatric Association, 2013).

Application of this predominantly neuro-cognitive theoretic framework into a psycho-social context suggests a bi-cyclic structure of violence (Figure 1), (Elbert et al., 2018). One cycle, the negative emotional valence circuit, is propelled by victimization which in turn leads to trauma-related disorders like anxiety, PTSD, depression, dissociation, leading to reactive aggression, whereas the other cycle, the positive emotional valence loop, is fuelled by an environment that leads to violent and criminal behaviour presenting as symptoms of antisocial personality disorder, psychopathy and characterised by an appetite for aggressive behaviour. Each cycle contributes to the occurrence of violence though both become interrelated through the experience of violence.

In studies with former Congolese combatants and Burundian soldiers, accumulated trauma exposure and perpetration consistently predicted both, PTSD and appetitive aggression (Koebach, Nandi, et al., 2015; Koebach, Schaal, & Elbert, 2015). Accordingly, Hecker, Fetz, Ainamani, and Elbert (2015) found a positive relation between traumatic events experienced during the war and ongoing reactive aggression, which was mediated by PTSD severity and appetitive aggression in Congolese refugees. Nandi and colleagues (2015; 2017) demonstrated in a sample of Burundian soldiers that trauma-driven and perpetration-driven symptoms independently increase the likelihood of community violence. They found that the number of experienced traumatic events and perpetrated violence are linked to appetitive aggression in Burundian soldiers and former combatants. In addition, the authors found that the interaction of childhood maltreatment and perpetrated violence predicted appetitive aggression.

Therefore, neuro-cognitive as well as psycho-social research suggests that survivors of interpersonal trauma are at a much higher risk of perpetrating violence. Experiencing interpersonal trauma during sensitive periods of psychological development has been found to be of particular importance and
experiencing interpersonal violence during childhood is a major driver of later violent behaviour (Capaldi, Knoble, Shortt, & Kim, 2012; Vagi et al., 2013).

2.2 Immediate Social Factors
Human life evolved in systems such as the family, peer groups, principal groups (e.g., formal institutions like schools or churches), communities (or neighbourhoods) and political entities (states). Although the organism, and most importantly the brain, seems to function in isolation; we are equipped with an enormous potential to sense the social world around us. The ‘social brain’ is the network of brain regions that are involved in understanding other people, and includes the medial prefrontal cortex and the posterior superior temporal sulcus. These regions are key to the process of mentalizing – that is, the attribution of mental states to oneself and to others. These brain regions undergo structural development, including synaptic reorganization, during adolescence in parallel with the changes in social behaviour during the teenage years (Blakemore, 2008). It was found that mirror neurons in the brain mimic the movements of others (Gallese & Goldman, 1998), brain rhythms synchronize in pupils in one classroom (Dikker et al., 2017), or emotions are felt just by listening to a story (empathy). Babies deprived from social interaction suffer life-long sequelae of depression and severe mental illness and neurological changes (Chugani et al., 2001; Kaler & Freeman, 1994). These are just a few of the findings that indicate the high potential of sensitivity for sociality and the fundamental need of social connectedness within the human species. As such, the ‘social fabric’ – the norms and rules that tie the individuals together – and their cultural mindset, e.g., attitudes and shared believes, have wide-reaching implications for the acceptance of behaviours including violence. Therefore, the people around an individual are likely to have a large influence on the experience of violence. This includes parents, siblings, intimate partners, the wider family as well as peer or non-peer groups. They can victimize the individual or become victims themselves, they can fuel violence as well as prevent or reduce it.

2.3 Socio-Political-Economic Factors – Systemic Risk
Besides the pervasive violence, political instability and weak governance prevail as main drivers of poverty and inequality resulting in poor living standards, inaccessibility of basic services and social or economic opportunities (The World Bank, 2019). Although large scale armed violence has receded in the DRC, the country remains fragile. For example, in 2019 the Fund for Peace ranks the DRC as the sixth most fragile country worldwide (https://fundforpeace.org). Definitions of fragility tend to focus on a state lacking the capacity to provide security and/or development opportunities to their citizens. Fragility is thus not synonymous with large scale armed conflict. The LSE-Oxford Commission on State Fragility provides a definition of fragility where five interlocking mechanisms are described that lead to a “fragility syndrome” (LSE-Oxford Commission on State Fragility, Growth and Development, 2018). Figure 2 provides a schematic overview of these five mechanisms: The society is fractured into opposing groups (1) and parts of society do not regard the state as legitimate (2). This poses problems
for capacity due to low tax collection and the provision of (public) services (3), resulting in poor economic performance and sometimes security issues (4). The private sector is under-developed and the economy has a narrow base, making it more vulnerable to adverse shocks (5).

The definition of the five interlocking mechanisms appears are useful to describe the systemic risk factors at the societal level in the DRC, in the interest of spaced we just want to point out a few relevant studies on fragility in the DRC. Very few studies examine Congolese citizens’ attitudes towards the state. For example, AfroBarometer, the leading pan-African organisation in the collection of data series of national public attitudes on democracy, governance, and society, have to date not carried out a survey in the DRC. In a slightly dated survey, respondents in the DRC stated that they do not believe that the government has any interest in or even can remedy the current situation (Bureau d’Études de Recherche et de Consulting International BERCI, 2004). The strong mistrust in state actors and security forces is further driven by pervasive harassment by the police, violence and human rights violations by state actors (Sanchez de la Sierra & Titeca, 2019; The World Bank, 2019).

Tax compliance is low and the provision of public goods through the Congolese state remains very limited, in particular in the periphery. In the Eastern Congo the national security forces are largely absent and local armed actors form monopolies of violence and they then often raise head taxes, consumption taxes, transit taxes, as well as implement fiscal and legal administration (Sanchez de la Sierra, 2019). The area is also highly perceptible to shocks, the consequences in the changes in the demand for gold and coltan have been studied at the micro level. Changes in the demand for such commodities are found to have a significant impact on the local use of violence (Sanchez de la Sierra, 2019). Given the DRC’s fragility resulting from the factors discussed above, the country is ill equipped to deal with shocks. Political and economic shocks continue to threaten the country’s brittle peace.

2.4 (Epi)genetic Risk Factors

It is the family, the community and the society that shape the individual. The individuals in turn reflect these back determining societal dynamics. Changing societal dynamics therefore requires behavioural modification and education of the individual. However, once the dynamics of the individual are set during childhood, the room for later modifications becomes limited. One of the reasons is that the plasticity in gene expression related to brain and mind has age-related limits and with it the possibility to change. With the fusion of sperm and ovum the genetic architecture of a human being is set for his/her lifetime, however, the behavioural traits, mental strengths and vulnerabilities depend on the section of genes that are actually expressed. The range can be substantial – just consider the difference between a muscle cell, a neuron or cells in endocrine organs – all are equipped with the same genetic code, but read it differently. This process, called epigenetics also allows the individual to adapt to a specific
environment, a process that begins already during pregnancy (a foetus develops differently in severely stressed mothers) and contributes to plasticity throughout the teenage years.

There is a debate about the extent of heritability of chronic aggressive behaviour and no studies have been done in aggression and violence as it appears specifically in war-torn regions. Target genes such as monoamine oxidase A (MAOA) are typically involved in the regulation and production of neurotransmitters such as serotonin and dopamine (Provençal, Booij, & Tremblay, 2015). For instance, Godar, Fite, McFarlin, and Bortolato (2016) summarized in their review that male carriers of low-activity alleles of variants of MAOA interpret social stimuli with a negative bias. These individuals tend to react more aggressively and impulsive when being confronted with provocation and stress. Investigating genetic predispositions in association with the various subtypes of aggression, Hemmings et al. (2018) found genetic variants associated with appetitive or reactive aggression respectively in a sample of South African gang members. Caspi et al. (2002) found a functional polymorphism in the gene encoding MAOA as moderating factor between maltreatment experience and antisocial behaviour. In their study a genotype associated with low levels of MAOA expression in individuals with maltreatment experience were more likely to show antisocial behaviour. Furthermore, a meta-analysis confirmed the gene-environment interaction for aggressive behaviour in male victims of child abuse who carried the MAOA risk variant (Provençal et al., 2015). Such gene-environment interactions are of particular interest as they indicate the value of early prevention programs.

Integrated into the (epi)genetic code, trauma and perpetration together with its psychological sequelae will be inherited by the next generation so that offspring will be best prepared to survive in a highly violent environment. This means that the epigenetic code may preserve a memory for violent experiences even across one and – as indicated by Serpeloni et al. (2019) – two generations. Together with the culturally preserved memory, this biological mechanism may contribute to ongoing violence even into the next generation of post-conflict populations.

However, a number of caveats should be mentioned. The genetic differences detected so far can explain only very little of the variance in violent behaviour. Recent scientific findings provide surprising and contradictory epigenome-environment interactions. Investigations in Europe and the US indicated that children who experience maternal intimate partner violence prenatally are prone for developing a psychiatric condition. Serpeloni et al. (2019) studied members of a high violence community in Brazil and found that when children are exposed to abuse of their mother during pregnancy, violence-related psychiatric problems are less frequent – and a different, potentially protective, pattern of epigenetic

Serotonin
chemically known as 5-hydroxytryptamine (5-HT), belongs to the monoamine neurotransmitter and is amongst others linked to cognition, learning, memory functioning, and the reward system in the brain. Dopamine (DA) on the other hand counts among the catecholamines and phenethylamine and acts as a neurotransmitter as well as a hormone. It is linked to motor control and like serotonin it plays a crucial role in the mammal reward system.
changes may occur. This finding suggests that like other animals, humans are primed via epigenetic changes to face the environment their parents have been exposed to and in particular their mother experienced during pregnancy. In this case, the children showed more antisocial behaviour – a trait that may be adaptive in high violence communities, but hamper the efforts towards a peaceful society after war and conflict.

3. Data

The data were obtained in the preparation of a psychological intervention (NETfacts; Schmitt et al., in prep). The interviewed individuals were randomly selected to participate in a survey representative for age and gender for the baseline evaluation of a community-based intervention study. All individuals were briefed about the purpose of the study and received more detailed information by the interviewer again before the interview started. Those who agreed to participate gave written informed consent. Before the studies were implemented, ethical approval was granted by the ethical commission of the University of Konstanz and the Social Fund of the DRC.

All assessment measures were administered via clinical interviews. These were conducted by international trauma experts and local psychological interviewers who were specifically trained for the purpose of these studies. The interviewers were fluent in the local language and dialect, Kiswahili. Prior to use, the measures were translated into Kiswahili and back translated into English to check for their accuracy (except for Elbert et al. (2013) in which instruments were translated by a Kiswahili-speaking psychologist). Discrepancies were resolved through discussions between clinical psychologists and local translators. The training of interviewers included instructions on obtaining informed consent, the use assessment measures, empathic interviewing, overview of key principles of scientific studies including the importance of confidentiality, information about the therapeutic intervention that would be offered and interviewer self-care (since the interviewers were exposed to hearing about severe traumatic events). Following the training, interviewers were closely supervised and another clinical psychologist including during live observations of interviews. Interviews took between 1.5 and 2.5 hours, in a confidential setting at the according site. Clients received transport money if appropriate (up to 3,000 CDF, ca. 2 USD) and light refreshment for participation in the interview.

A total of 1,288 individuals were surveyed in Eastern DR Congo, mainly North Kivu (Lutobogo, Maoma, Ngumba, Bukobati, Kihindo) and South Kivu (Kairenge and Katolo).

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1 Due to the lack of demographic data, we conducted a pre-survey in the villages to identify age and gender distributions. More details can be provided upon request.
3.1 Violence

Perpetration: Questions were based on the Threats to Human Life subscale Social and Physical Dominance Behaviour (Schmitt et al., in prep) to assess all possible perpetrated acts threatening the physical integrity of others, e.g., ‘Have you ever injured someone so badly, that this person presented with visible physical damage and/or had to be provided with medical aid?’ or ‘Have you ever burned someone on purpose?’ or. There are 17 items and individuals were asked about current perpetration (past three months) as well as life time perpetration. We use the scaled sum scores in our analysis.

Victimization: We applied the Threats to Human Life Scale (Schmitt et al., in prep) assessing 18 different attacks to physical integrity, for example, ‘Have you been injured or threatened with a sharp object?’ or ‘Have you been afraid of suffocation?’ or ‘Have you ever been physically assaulted by another person (without an object or weapon’). Scaled sum scores were used as estimates of current (past three months) and lifetime victimization.

Table 1 shows that the overwhelming majority of these individuals had a recent experience of violence (1153 out of 1288), of these 1124 were victims of violence, 532 perpetrated violence and 503 experienced violence as a victim as well as a perpetrator.

Threats to social integrity: The frequency of lifetime experiences of social rejection was assessed by the eight item subscale Threats to Social Integrity of the Threats to Human Life Scale. (Schmitt et al., in prep) Questions asked for instance whether the interviewee was neglected during childhood, locked-in against his/her will or held in confined places, or suffered a severe loss in his/her status. A scaled sum score is our indicator of lifetime experiences of threats to social integrity.

Appetitive aggression: Aggression potential was further measured using the Appetitive Aggression Scale (Weierstall & Elbert, 2011). The AAS is a 15 item semi structured interview that measures appetitive aggression according to the extent of agreement to statements, on a scale ranging from 0 (disagree) to 4 (agree) for each item. A total sum score is used to measure severity of aggression (max. 60). The instrument has been validated in similar contexts (Weierstall & Elbert, 2011; Weierstall, Haer, et al., 2013).

3.2 Psychological Variables

Posttraumatic stress disorder: PTSD symptoms were assessed using the PTSD Symptom Scale Interview for DSM 5 or IV (PSS-I-5: Foa & Capaldi, 2013; PSS-I-IV: Foa & Tolin, 2000). The PSS-I assesses for PTSD diagnosis according to the Diagnostic and Statistical Manual (DSM; The American Psychiatric Association, 2000, 2013). Scores for each item range from 0 (not at all) to 3 (DSM-IV) or
4 (≥ 6 times a week / severe; DSM-5). Diagnosis was ascertained according to the manual, and sum scores were derived by adding all items of clusters B-E (max. 80). Participants were instructed to answer in relation to an index trauma (dominant in intrusions) with a one month time frame. The DSM-IV version of the instrument was successfully applied and validated in similar East African settings (Ertl et al., 2011) and presented with high reliability outcomes in the studies in DRC (Hecker et al., 2013; Koebach, Schaal, & Elbert, 2015; Robjant et al., in prep). We have further found a high overlap of the DSM-IV and 5 version in DRC (Schaal, Koebach, Hinkel, & Elbert, 2015). We use the scaled sum score as an indicator of PTSD.

**Depression:** The Patient Health Questionnaire (PHQ-9; Kroenke & Spitzer, 2002) was used to measure depression severity (Elbert et al., 2013). The 9 item questionnaire can be scored from 0 (not at all) to 3 (nearly every day) according to the presence of the symptom in the previous two weeks. A sum score was calculated for depression severity (max. 27). This variable is described and examined in Koebach et al. (2015), Robjant et al. (in prep) and Schmitt et al. (in prep), and presented with excellent psychometric properties in such settings (Robjant et al., in rev). We use the scaled sum score as an indicator of depression.

### 3.3 Systemic Variables

**Years of education** In the initial part of all interviews, we asked for the number of years of formal education.

**Relationship status:** This variable takes a value of one if the individual is in a long-term relationship, or married, zero otherwise.

**Rape myth:** Attitudes underlying rape myths are measured with the Illinois Rape Myth Acceptance Scale-Short (IRMA-S; Payne, Lonsway, & Fitzgerald, 1999) with statements to be rated on a Likert scale from 0 (Strongly disagree) to 4 (Strongly agree). Based on Tavrow, Withers, Obbuyi, Omollo, and Wu (2013), qualitative research on the scale’s applicability for East African countries and team intern discussions, we added the subscale ‘She owed him’ including questions like ‘If a man wants to marry a woman, it is o.k. to force sex on her’ or ‘A woman who receives gifts from a man (i.e., not necessary for covering her basic needs as food, clothes, school fees but for example jewellery etc.) in addition to the four existing subscales ‘She asked for it’ (e.g., ‘A woman who dresses in skimpy clothes should not be surprised if a man tries to force her to have sex.’), ‘It wasn’t really rape’ (e.g., ‘If a woman doesn’t physically fight back, you can’t really say that it was rape.’), ‘He didn’t mean to’ (e.g., ‘Men don’t usually intend to force sex on a woman, but sometimes they get too sexually carried away.’) and ‘Rape is a deviant event’ (e.g., ‘Men from “the respectable people” in the community almost never
rape.’). The 19 items were summed up with higher values indicating a stronger belief in rape myths. We use a scaled sum score.

**Social reconstruction:** This variable is based on a series of 12 question on attitudes towards ex-combatants, higher values indicate that the individual is more in favour of re-integration. We use a scaled sum score.

**Relative Wealth:** Participants were asked for a self-assessment of their wealth on a scale from 0 (very poor) to 4 (wealthy). We use a scaled sum score.

**Dummy variables** were included for **death of mother** before the individual turned 18, **death of father** before the individual turned 18, **death of another close family member** (sibling, partner, child) in the family, **older adults** (older than 25 years), **ex-combatants, survivors of gender based violence and sex.**

The descriptive statistics in Table 2 show the high prevalence of violence experiences in these communities and that individuals face high risks to mental and physical health. Members from these communities reported having experienced an average of 9 types of threats/traumatic events during their lives (sd = 3.3; range 0-17), which most likely occurred several times. For instance, 89% in the overall sample that they had to escape from sudden danger. Escaping in the context of these groups may be the result of military attacks or personal harm by other individuals, for example. In addition, 57% in the overall sample had been threatened to death at some point in their lives, 65% have been severely physically harmed either by another person or an accidents, 11% have been attacked by a firearm, 43% by a knife, 20% reported to have been raped both in the overall sample (male: 15% - 16%, female: 25% - 25%, respectively), 75% have witnessed a person dying. 74% thought at some point in their lives that they would starve. Regarding the last 3 months before the interviews, community members experienced on average 4 new traumatic events (sd = 2.9, range 0-14).

PTSD levels are high (50.1%) as are rates of depression (40.2%). The prevalence rates are particularly high among survivors of GBV (PTSD prevalence 70.2 %) and ex-combatants (62.3%).

Integration within family and community systems is fundamental to survival, particularly in unsafe settings. The average number of threats to social integrity was 3 (sd = 2, range 0-8) in the whole community. A sudden loss of status in the community is one example of such type of threat or trauma. This was experienced by 63% in both overall community sample. 54% reported to not have had a (relatively) safe place to sleep for some time in their live or were homeless for a longer period. An average of 2 such events have occurred during the last 3 months for the overall sample (sd = 1.7, range 0-8), and also for the youth cohort (sd = 1.8, range 0-8). Many have lost family members during the
war or for other reasons. An average of 41% reported to have lost their father, 29% have lost their mother, and 48% have lost one or more sibling(s).

4. Preliminary Results

In Table 3 we present some preliminary regression results. Here we consider the bi-cyclical model of violence, as discussed above. Reactive aggression may be a consequence of trauma related disorders, such as PTSD and depression. In violent societies, such as the Eastern DRC, repeat experiences of violence may lead to an increase in appetitive aggression and thus further violence. In the first column we analyse which factors are correlates of victimization, while the second analyses the correlates of perpetration. PTSD sufferers as well as individuals with clinical depression appear to be trapped in a cycle of violence, they experience more incidents of violence (column 1). However, they are no more likely to perpetrate violence (column 2), providing no evidence that there is an increase in reactive violence due to trauma related disorders. However, a number of variables appear to have a similar, positive effect on victimization as well as perpetration. These include: the feeling of shame, death of the father before the age of 18, previous perpetration of violence, a previous threat to social integrity, living in a relationship and being an ex-combatant.

Younger adults, aged 16-25 years, are at a significantly higher risk of victimization as well as perpetration. However, there does not appear to be a significant difference between men and women, they are both equally at risk of being victimized as well as perpetrating violence.

Appetitive aggression appears to be correlated with current perpetration, as predicted in the model.

While our initial analysis confirms some of mechanism of our model, there are some results that require further investigation. Possibly only certain sub-groups, such as ex-combatants with PTSD, are engaging in more reactive aggression. Further avenues of research are differences between men and women, possibly as interactions with specific variables such as PTSD or depression. It also appears of particular importance to understand the specifics of the drivers of aggression in adolescents and young adults.
5. Conclusions

Research on Narrative Exposure Therapy (NET), as described in Section 2, provides the basis for evidence based effective mental health programming in Eastern DR Congo. NET has the proven potential not only to reduce psychopathology (and associated functional impairment) but also to reduce violence and therefore support peacebuilding efforts. NET has been scientifically evaluated in DRC and can be implemented and disseminated on a large scale by local mental health counsellors. Building on the evidence of this PTSD treatment, where the focus is solely on the individual patient, a team of clinical psychologists is in the process of preparing a community based mental health intervention in the Eastern DRC (NETfacts). Using data from the associated baseline study, we establish the high prevalence of violence and mental health problems in these communities. When designing interventions addressing mental health problems and aggressive behaviour, scientifically rigorous evaluations are of utmost importance. The principles outlined by Schauer and Schauer (2010) regarding trauma-focused public mental-health interventions also apply to interventions aiming to disrupt the cycle of violence in regions affected by ongoing conflicts and their importance cannot be emphasised enough. Those interventions need to be based on sound epidemiologic data, to be designed as appropriate training packages to facilitate dissemination to local counsellors, to be implemented with the aim to develop and strengthen capacities of local service-providers and support structures, to be human/child/women’s rights-based and testimonial acknowledging past injustices and favouring social change towards the implementation of those rights, and subject to evidence-based project evaluations. Our rigorous analysis forms part of the preparation and evaluation of this planned community intervention.
**Figures**

*Figure 1* Bi-cycles of violence (Elbert, Schauer, 2018).

*Figure 2* Fragile State Syndrome (LSE-Oxford Commission on State Fragility, Growth and Development, 2018).
Tables

Table 1: Victimization and Perpetration

<table>
<thead>
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<th>Victimization=0</th>
<th>Victimization=1</th>
<th>Sum</th>
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<td>Sum</td>
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Table 2: Descriptive Statistics

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<tr>
<td>Victimization (past 3 months)</td>
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<td>Victimization lifetime</td>
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<tr>
<td>Perpetration (past 3 months)</td>
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<tr>
<td>Perpetration lifetime</td>
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<td>2.21</td>
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<tr>
<td>Threats to social Integrity (past 3 months)</td>
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<tr>
<td>Threats to social Integrity lifetime</td>
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<td>PTSD</td>
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<td>Depression</td>
<td>6.84</td>
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<td>Shame</td>
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<td>Rape Myth</td>
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<td>Appetitive Aggression</td>
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<td>Yrs of Schooling</td>
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<td>Relative Wealth</td>
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Notes: Sum scores.
## Table 3: Experiences of Violence

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<td></td>
</tr>
<tr>
<td><strong>PTSD</strong></td>
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<td></td>
<td>(0.019)</td>
<td>(0.037)</td>
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<tr>
<td><strong>Depression</strong></td>
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<td>0.080</td>
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<td></td>
<td>(0.020)</td>
<td>(0.041)</td>
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<td><strong>Shame</strong></td>
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<td>0.125**</td>
</tr>
<tr>
<td></td>
<td>(0.020)</td>
<td>(0.040)</td>
</tr>
<tr>
<td><strong>Death close family</strong></td>
<td>0.045*</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>(0.019)</td>
<td>(0.042)</td>
</tr>
<tr>
<td><strong>Death of father</strong></td>
<td>0.114**</td>
<td>0.188*</td>
</tr>
<tr>
<td></td>
<td>(0.040)</td>
<td>(0.081)</td>
</tr>
<tr>
<td><strong>Death of mother</strong></td>
<td>0.049</td>
<td>0.214*</td>
</tr>
<tr>
<td></td>
<td>(0.047)</td>
<td>(0.091)</td>
</tr>
<tr>
<td><strong>Use of violence</strong></td>
<td>0.049**</td>
<td>0.140**</td>
</tr>
<tr>
<td></td>
<td>(0.018)</td>
<td>(0.045)</td>
</tr>
<tr>
<td><strong>Threat to social integrity</strong></td>
<td>0.081***</td>
<td>0.251***</td>
</tr>
<tr>
<td></td>
<td>(0.021)</td>
<td>(0.043)</td>
</tr>
<tr>
<td><strong>GD</strong></td>
<td>0.035</td>
<td>-0.020</td>
</tr>
<tr>
<td></td>
<td>(0.020)</td>
<td>(0.039)</td>
</tr>
<tr>
<td><strong>Rape Myth</strong></td>
<td>0.019</td>
<td>0.045</td>
</tr>
<tr>
<td></td>
<td>(0.019)</td>
<td>(0.039)</td>
</tr>
<tr>
<td><strong>Appetitive Aggression</strong></td>
<td>-0.025</td>
<td>0.089*</td>
</tr>
<tr>
<td></td>
<td>(0.018)</td>
<td>(0.038)</td>
</tr>
<tr>
<td><strong>Social Reconstruction</strong></td>
<td>0.020</td>
<td>0.098**</td>
</tr>
<tr>
<td></td>
<td>(0.019)</td>
<td>(0.037)</td>
</tr>
<tr>
<td><strong>Older Adult (&gt;25yrs)</strong></td>
<td>-0.154***</td>
<td>-0.607***</td>
</tr>
<tr>
<td></td>
<td>(0.041)</td>
<td>(0.041)</td>
</tr>
<tr>
<td><strong>Yrs of Schooling</strong></td>
<td>0.013</td>
<td>0.017</td>
</tr>
<tr>
<td></td>
<td>(0.020)</td>
<td>(0.042)</td>
</tr>
<tr>
<td><strong>Relative Wealth</strong></td>
<td>0.004</td>
<td>0.016</td>
</tr>
<tr>
<td></td>
<td>(0.018)</td>
<td>(0.036)</td>
</tr>
<tr>
<td><strong>In a relationship</strong></td>
<td>0.091*</td>
<td>0.209**</td>
</tr>
<tr>
<td></td>
<td>(0.036)</td>
<td>(0.073)</td>
</tr>
<tr>
<td><strong>Ex-combatant</strong></td>
<td>0.141*</td>
<td>0.365**</td>
</tr>
<tr>
<td></td>
<td>(0.059)</td>
<td>(0.111)</td>
</tr>
<tr>
<td><strong>SGBV survivor</strong></td>
<td>0.119**</td>
<td>0.103</td>
</tr>
<tr>
<td></td>
<td>(0.043)</td>
<td>(0.088)</td>
</tr>
<tr>
<td><strong>Sex</strong></td>
<td>0.026</td>
<td>-0.008</td>
</tr>
<tr>
<td></td>
<td>(0.038)</td>
<td>(0.038)</td>
</tr>
<tr>
<td><strong>nobs</strong></td>
<td>1041</td>
<td>1041</td>
</tr>
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</table>
References


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