

Association between Adversity and Prosociality in Children

Exposed to Trauma in Four Sites in West Africa

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## ABSTRACT

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The negative effects of trauma exposure on youth behavior and mental health has included internal disturbances that cause distress to the individual, as well as, externalizing behaviors that cause distress to others. Researchers have also argued that trauma exposure can have a positive impact on psychosocial development, in that it can lead people to align with others, rather than turn against them. In an effort to identify factors that might nullify the association between trauma exposure and subsequent negative consequences, this paper examines the relationship between trauma exposure and prosocial behavior in Sierra Leone, Togo, Burkina Faso and Liberia.

Results indicate that total trauma exposure was negatively associated with prosocial behavior in Sierra Leone and Liberia, while the inverse relationship was found in Togo and Burkina Faso, where trauma exposure was shown to have a positive association with prosocial behavior. The effect of trauma exposure on prosocial behavior varied by gender in Togo; among girls, trauma exposure had a positive significant association with prosocial behavior, however it did not impact prosocial behavior among boys. Lastly, the negative impact of trauma exposure on prosocial behavior found in Sierra Leone is partially explained by the indirect effect of PTSD and depression. Results are discussed in the context of individual and environmental differences that promote risk or resilience. Limitations and future implications for research, and practice are discussed.

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## DEDICATION

For my Oma, a child survivor of the Armenian Genocide, who was the first to teach me about loss, suffering, survival and resiliency.

## Chapter I

### INTRODUCTION

The effects of adversity and trauma exposure on youth development, behavior and mental health have been well documented. Studies of the psychopathological consequences of childhood adversity and exposure to trauma have focused on negative effects, with particular reference to youth behavioral problems (Bayer, Klases, & Adam, 2010; Albertyn et al., 2003; Catani et al., 2008). Correspondingly, studies on the development of empathy and prosocial behavior emphasize positive early childrearing, attachment, supportive home environments, and healthy peer relationships as factors that lead to healthier adjustment (Hobfoll et al., 2009; Liable, Carlo, & Roesch, 2004; Quota, Punamaki, El-Sarraj, 2005). The commonly held belief is that antisocial behavior is rooted in exposure to adversity and trauma, while altruism and prosocial behavior originates from supportive and positive experiences and processes. In an effort to identify conditions or factors that might nullify or reverse the hypothesized positive association between adversity and subsequent negative consequences, this paper examined the relationship between trauma exposure and prosociality in a sample of adolescents from four West African countries who have suffered significant trauma and loss.

Children exposed to adverse life conditions (e.g., displacement, exposure to war etc.) experience a large number of traumatic events that often result in the loss of family members, friends, community and social support structures (Barenbaum, Ruchkin, & Schwab-Stone, 2004). The impact of these traumas are multiple, severe, and chronic (Machel, 2000) and is believed to contribute to further violence and antisocial behavior (WHO, 2002). Alternately, the literature looking at factors that contribute to helping and prosocial behaviors among individuals exposed to severe trauma identifies empathic caretaking, positive attachments and

strong social supports as potential protective factors (Vollhardt, 2009). In contrast to this well-supported notion, researchers have proposed that some individuals who experience significant adversity will show positive change (Bonanno, Galea, Bucciarelli&Vlahov, 2006; Frazier et al., 2012; Luthar, Cicchetti, & Becker, 2000; Tedeschi, Calhoun, Cann, 2007). Specifically, research has discussed the link between adversity and post-traumatic growth (PTG), with a focus on four areas of growth: strengthening of the self, a more positive orientation and empathy towards others and the belief in one's responsibility for others welfare (Luthar&Cicchetti, 2000).

Many have argued that PTG following adversity can have a positive impact on psychosocial development and promote altruism, leading people to align with others, rather than turn against them (Tedeschi 1999; Vollhardt, 2009). This idea, referred to as "altruism born of suffering" by many researchers (Staub, 2003, 2005; Vollhardt, 2009), suggests that experiences of adversity and trauma exposure can promote responsibility and commitment to helping others rather than giving rise to hostile behavior. In fact, some have even suggested that although changes in "the orientations to self and others" are central to posttraumatic growth, it is only when these cognitions are transformed into action that growth occurs (Hobfoll et al., 2007). To help explain why an individual who has experienced significant adversity and trauma exposure could potentially become motivated to help others in need, theorists have discussed positive coping effects that arise from helping behaviors (Brown, Brown, House, & Smith, 2008; Midlarsky, 1991). Altruism towards others following traumatic experiences is an effective coping mechanism for several reasons. It can help in relieving the negative affect related to one's own suffering by identifying with other victims in need and shifting one's attention from self to other; it can promote competence and self-efficacy; it can help promote

reciprocity from others, and it can help restore hope for those who have difficulty making sense of the suffering they have endured (Barnett, Tetreault, & Masbad, 1987; Vollhardt, 2009).

Consistent with the noted motives, Eisenberg (2000) has indicated that the reasons individuals chose to help others are influenced by perceived gains to the self and others. The interest in understanding prosociality that arises from adversity and traumatic exposure is linked to a larger concern towards reducing violence, in that, the psychological process associated with altruism tend to make aggression less likely (Spielman & Staub, 2000).

## Chapter II

### LITERATURE REVIEW

Before outlining the literature on the association of altruism and prosocial behavior with adversity and trauma exposure, this paper will begin with a discussion of: 1) the negative impacts of adversity and exposure to trauma and; 2) the positive conditions that lead to altruism and prosocial behavior, followed by; 3) the evidence of altruistic and prosocial behavior among individuals who have suffered adversity and trauma.

#### **Psychosocial Effects of Adversity and Trauma Exposure**

**Negative impacts.** The negative impacts of adversity and trauma exposure have been well recorded and include both internal disturbances that cause distress to the individual and external disturbances that provoke the individual to distress others (Vollhardt, 2009). In recent years there has been an increase in research on the social and psychological consequences of adversity and trauma exposure for children (Betancourt & Khan, 2008). In situations of armed conflict, children are at risk for abandonment, abduction and forced soldiering, separation from or loss of parents, health problems, hunger and extreme poverty (Kinfu, 1999; Klassen, Oettingen, Daniels, & Hubertas, 2010). The consequences of adversity and trauma exposure include symptoms that decrease individual well-being (e.g., post-traumatic stress disorder (PTSD), depression, anxiety, substance abuse, sleep disorders) and those that have destructive consequences interpersonally, including increased conflict with others and violent behavior (WHO, 2002.) Specifically, the world report on violence and health (2002) has distinguished between interpersonal forms of violence (family/domestic violence) from collective violence (wars, ethnic conflict, genocide, and other forms of human rights abuses). On the interpersonal level, research has looked at domestic violence, childhood abuse, sexual abuse, and neglect

(Catani, Jacob, Schauer, & Kohila, 2008; Feerick & Snow, 2005; Jarvis, Gordon, & Novaco, 2005). On the collective level, research has looked at conditions created by violence including civilians living in war (Albertyn et al., 2003), refugees (Paardekooper, de Jong, & Hermanns, 1999), and those living in extreme poverty (Anooshian, 2005). Research has suggested that exposure to trauma severely compromises one's sense of security and feelings of control (Dodge, 1993; Dong et al., 2003; Martens, 2001).

The African continent seems to be a particular background for civil and international warfare. In fact, Sub-Saharan Africa may be one of the most conflict-affected regions in the world today (Luckman & Ahamed, 2001). More than six decades of warfare, genocide, and ethnic and regional based conflict have contributed to enormous human suffering, the displacement of families, civilian casualties, violence, economic instability and loss of communities and infrastructure (Albertyn et al., 2003; Lustig et al., 2004; Machel, 2000). In fact, over the last decade the impact of violence on children in Africa has resulted in an estimated one million orphaned or separated from their families, two million children killed in battle, six million left disabled, and up to twelve million suffering from psychological consequences as a result of their trauma exposure (UNICEF, 2008).

Some clinicians and researchers have argued that young children show positive adaptation even after severe traumatic exposure because they do not have the cognitive ability to remember important details or process the severity of the traumatic events (Benedek, 1985). However, studies have shown that parents, teachers and other adults underestimate the intensity, magnitude and longevity of children's reactions following adverse events (Yule & Williams, 1990; Zivcic, 1993). Dyregrov, Gjestad, and Raundalen (2002) interviewed children in Iraq following the Gulf War and learned that children stopped talking with adults about their intrusive

images and thoughts because they felt that adults did not understand them, or just told them to forget about their experiences. Some researchers have noted that because adults have difficulty dealing with their own traumatic after-effects from trauma there is strong resistance in confronting the painful struggle children endure following trauma (Dyregrov, et al., 2002). What contributes to this denial is that young children have difficulty providing a coherent narrative about their experiences and they have a limited ability to verbalize or label certain thoughts and feelings. Furthermore, they know little about the link between trauma exposure and the specific manifestations of re-experiencing, dissociation, and hyper-arousal that are associated with PTSD in order to communicate their distress (Feldman & Vengrober, 2011).

Several studies have investigated the ways in which adversity and war-related trauma exposure contribute to subsequent distress and long-term psychological consequences in children and have discussed feasible interventions (Betancourt & Khan, 2008, Bolton et al., 2007; Lustig, et al., 2004; UNICEF, 2006). The literature has identified the effects of war that are specific to children. To begin with, children are dependent on the support and attention of caring adults, however, these attachments are unstable and unpredictable, due to the frequent loss of parents to war related trauma or disease, preoccupation of parents in finding assistance for the family, and emotional unavailability of depressed parents (Feldman & Vengrober, 2011). Second, exposure to trauma in childhood may adversely affect the life trajectory of children far more than it would adults. During war children lose the opportunity for education, they are sometimes forced to move into refugee camps, where they may remain for years before normal life resumes and they lose the ability to trust or form lasting relationships with others. Long after the war has ended, these lives will never attain the potential they had before the impact of war (Santa Barbara, 2006).

The literature also discusses negative impacts on the general health status of children exposed to war, which includes high mortality, an increase in the prevalence of infections, war-related injuries, and a decline in nutrition (Cliff & Noormahomed, 1993; Kinfu, 1999; Pearn, 1996). Furthermore, child survivors of war and trauma many exhibit symptoms of anxiety, depression, and post-traumatic stress such as avoidance, irritability, sleeping disorders, lethargy, fear and the inability to concentrate (Albertyn, et al., 2003). For example, children in Uganda and Mozambique who were victims of war and reported high levels of trauma exposure showed higher levels of anxiety, depression, and grief (Raundalen & Dyregrov, 1991) compared to their peers who reported lower trauma exposure. In some studies, it has been shown that high trauma exposure and loss constitutes a risk for children's cognitive impairment including their attention and memory performance (Diehl, Zea, & Espino, 1993; Quota, Punamaki & El Sarraj, 2005). Other studies have shown that rape and prostitution often occur in situations of war, ethnic cleansing, and refugee life leaving lasting physical impacts in sexually transmitted diseases, including HIV/AIDS (Kalichman & Simbayi 2004; Santa Barbara, 2006). Wars are also known to disrupt families and extended social networks and interrupt community services (Bettancourt & Khan, 2008, Klassen, Oettingen, Daniels, & Hubertas, 2010). In a study on the psychosocial impact of war in South Sudanese refugee children who were compared to Ugandan children who had no war exposure, it was found that the refugee children experienced significantly more traumatic events and daily hassles, and reported significantly more PTSD-like symptoms, behavioral problems and depressive symptoms. In particular, the Sudanese children reported less satisfactory social support from family and friends and indicated lower levels of emotional support, socializing and material support than nonrefugee Ugandan children (Paardekooper, de Jong, & Hermanns, 1999).



Research has shown a bidirectional association between exposure to violence and aggression towards others. In other words, exposure to violence, crime, and abuse increases the risk for aggression and conduct problems, in that having personally experienced harmful actions can increase the need to defend, protect or seek revenge (Dodge, Bates, & Pettit, 1990). Dodge (1993) has found that exposure to violence can make individuals more hypervigilant and reactive to their environment as they tend to over interpret others' actions as threatening. Thus, past exposure to violence tends to be one of the influences that is strongly linked to further violence (Rouhana& Bar-Tal, 1998; Staub& Pearlman, 2006). In fact, for many children, violence and war become the norm with a vicious cycle in which the victims of violence become the perpetrators (Albertyn et al., 2003).

It is clear that exposure to war related trauma has a detrimental impact on children as it interferes with the necessities of early life that supports healthy development. Although the impact of armed conflict on children has been well documented there has been little focus on exploring the processes associated with resilient outcomes in children. Instead the majority of the research on the mental health of children impacted by adverse situations and traumatic exposure has focused on risk factors and subsequent psychopathology. Consequently, little is known about the effective responses and factors associated with positive mental health outcomes. The diverse responses to trauma can all be seen as coping strategies which attempt to balance the demands of the environment with the available resources of the individual (Pat-Horenczyk&Brom, 2007). Therefore, there is an important need to look at the concept of resilience in the context of children affected by conflict, as it can provide information towards understanding potentially modifiable protective processes, which may be the targets for improving interventions (Fergus & Zimmerman, 2005).

**Pathways of resilience and posttraumatic growth.** Resilience has been discussed as a personal characteristic of certain invulnerable children and has been defined as demonstrating “positive adaptation within the context of significant adversity” (Luthar, Cicchetti & Becker, 2000).

However, many scholars on resilience suggest that resilience be viewed as an outcome or a trajectory in children faced with adversity, rather than merely an individual characteristic of certain children (Luthar, 1993). Research supporting this notion represents the complexity of human behavior, in that it cannot be fully accounted for by a linear perspective. As Bonanno (2004) explains, people who experience adverse life events are not always negatively impacted, and resilient outcomes are in fact not uncommon. There are a number of protective factors that contribute to resilient mental health outcomes in the context of children affected by armed conflict (Betancourt & Khan, 2008). Luthar & Cicchetti (2000) discuss three sets of factors that are related to the development of resilience in children. They include attributes of the individual child (e.g., high self-esteem, internal locus of control, and self-efficacy) attributes of a child’s family (i.e., positive parenting and parental monitoring), and characteristics of the larger social environment (i.e., systems and individuals providing support and positive peer relationships).

Many researchers have explored personal growth (e.g., posttraumatic growth) as a pathway from adverse life conditions to positive outcomes (Staub & Vollhardt, 2008; Vollhardt, 2009). The research on PTG has focused on cognitive changes that occur regarding an individual’s perception of himself, of others and of the world around him (Tedeschi & Calhoun, 1996). The cognitive changes include a strengthened sense of the self, increased identification with other sufferers, increased understanding of the thoughts and feelings of others, and a renewed sense of responsibility for the welfare of others. PTG theory has focused more on personal characteristics that lead to positive cognitive changes following traumatic events, while

research on altruism and prosociality has focused on positive helping behaviors that emerge from trauma exposure (Hobfoll et al., 2007). Therefore, altruism requires a focus that is beyond the self, and beyond the constructs that are known to foster personal growth. Central to this paper is to see whether prosocial actions and the ability to extend beyond the self to other individuals who are in need arise from adversity and trauma exposure in children and adolescents, (Staub, 2005; Staub&Vollhardt, 2008).

**Altruism and prosocial behavior.** It has been argued, that empathy plays a major role in prosocial behaviors (Eisenberg, 2000; Hoffman, 2008). Empathy is defined as having both cognitive and affective aspects in current psychology literature. It is both the cognitive understanding of other people's internal states (theory of mind) and the affective response to another's experiences and feelings. However, despite these two aspects of the definition, underlying both is that empathy is the "sharing of affect"; one's own emotional response as a consequence of the emotions of another (Baron-Cohen & Wheelwright, 2004; Zahn-Waxler&Radke-Yarrow, 1990). Thus, one must first understand that other people have thoughts and feelings (cognitive empathy) and then identify with those feelings (affective empathy) to act in a prosocial manner.

Biological theories of empathic development focus on evolutionary processes, as well as, genetic and personality factors to explain a natural predisposition to empathy (Voldhardt, 2009). Animals tend to act in a way that promotes future generational survival (Wilson, 1975, 1978) and to develop empathy within a care giving and familial context (MacLean, 1985). This biological predisposition is evident in studies involving primates. Apes can distinguish between accidental and intentional aspects of others' behavior, suggesting that they understand other's actions through a psychological perspective (Povinelli&Vonk, 2003; Tomasello, Call, & Hare, 2003).

Researchers believe that children are born with a predisposed capacity for empathy and to understand others' emotions or intentions that then evolves through cognitive development and life experiences (Brothers, 1989).

Empathy has also been found to have a genetic component, showing the heritability of characteristics associated with prosocial behavior (Davis, Luce, & Kraus, 1994; Knafo, Israel, Ebstein, 2011), however these results have been mixed (Krueger et al., 2001). For example, Gray (2002) argued that there are systems in the brain related to approach and withdrawal tendencies that result in empathy and cooperative exchanges (Penner, Dovidio, Piliavin, & Schroeder, 2005). Others have discussed individual personality traits related to temperament, such as shyness, rigidity, and general negative emotionality have been found to inhibit children and adolescents' prosocial behaviors (Eisenberg, Liew, & Pidada, 2004). Furthermore, prosocial behavior can also be influenced by sociodemographic characteristics. Being female (Carlo, Okun, Knight and de Guzman, 2005), younger in age (Kaniasty & Norries, 1995a), having a higher education and income (Updegraff et al., 2002) and strong sense of religiosity (Penner et al., 2005) have been found to be related to prosocial behavior.

Overall, theories of altruism and prosocial behavior have discussed the interplay of nature and nurture and have primarily focused on positive factors and processes leading to the motivation to help others. In other words, prosocial attitudes develop out of positive origins. This positive focus is consistent across research on the effects of socialization (e.g., positive parenting, secure attachment, parental warmth etc.) individual differences (empathy, positive mood and perspective taking), and situational factors (positive social norms and needs). In the same way that research has suggested positive outcomes will develop from supportive experiences, it has revealed that negative outcomes will develop from adverse experiences.

However, recent outcomes on traumatic exposure that have been documented show that a large proportion of people who experience traumatic events have the ability to cope adaptively and report positive outcomes, particularly in their relation to others.

**Prosocial behavior as a consequence of adversity.** Review of the clinical literature on trauma and the social psychological literature on prosocial behavior literature concluded that there is little research on prosocial behavior following trauma (Vollhardt, 2009; Frazier et al., 2012)

The little research that exists on prosocial behavior following trauma suggests that people caring for others, helping children, or forming connections made them feel nurtured and were discussed as sources of growth (Tedeschi, 1999; Tedeschi, Calhoun, Cann, 2007; Woodward & Joseph, 2003). Vollhardt (2009) developed a motivational model that explains and organizes evidence showing altruism and prosocial behavior among those who have been exposed to adversity. According to Staub and Vollhardt (2008) the motivational processes that contribute to altruism following exposure to trauma include: 1) coping through helping others in need by increasing self-efficacy; 2) identification with others and social integration; and 3) norms of expected reciprocity. The concept of alternative “survivor mission” has also been discussed, referring to a deep commitment by victims of violence to prevent future suffering (Lifton, 2003). Studies have also linked motivations of helping and prosociality to improving relationship satisfaction, reducing one’s own distress, and improving physical health (Brown, Brown, House, & Smith, 2008; Midlarsky, 1991). Janoff-Bulman (1992) has argued that helping allows for the rebuilding of “shattered assumptions” of the world and finding new meaning in life after trauma. These motives are consistent with social psychological theory and research that helping behavior tends to benefit both the self and others (Eisenberg, 2000).

Hobfoll et al. (2007) has suggested that genuine personal growth following trauma and victimization only occurs when cognitive changes are transformed into action. In studies looking at terrorism in Israel and the link between cognition and action, Israeli settlers who chose to stay to help others when their settlements were demolished, reported higher PTG and experienced a significant reduction in developing PTSD compared to residents who fled immediately. Although empathy may be helpful in coping with trauma by changing a person's psychological experience of the traumatic events and his/her view of others, coping abilities can be further heightened when cognitive changes can motivate prosocial actions in the aftermath of victimization and loss.

Some research has looked at posttraumatic growth or prosocial behavior following a collectively experienced trauma (Harel, Kahana, & Kahana, 1984; Kaniasty & Norris, 1995; McMillan & Fisher, 1998; Suedfeld et al., 2005; Volpato & Conterello, 1999). For example, among refugees from the war in Sarajevo (Powell et al., 2003) and individuals who survived the Dresden bombing stronger positive changes were reported in themselves and in their perception of others (Maercker, & Herrle, 2003). Among Holocaust survivors, providing help to other victims in concentration camps was endorsed by a majority of those interviewed (82%) and was noted as a fundamental aspect of their experience and survival (Kahana, Kahana, Harel, & Segal, 1985). Survivors reported that they mostly helped other victims by sharing food and clothing, helping avoid harm, and with emotional support. A few studies have looked at helping and prosocial behaviors after the 9/11 terrorist attacks on the World Trade Center and have found that over 50% of individuals provided help to victims and that the most common donations were monetary and blood donations, as well as praying for the victims. Kaniasty and Norris (1995a) examined the levels and predictors of receiving and providing social support among 1,000

disaster victims and non-victims of Hurricane Hugo, and found that storm victims received and provided more helping behavior (e.g., tangible, informational, and emotional support) than did nonvictims.

Studies of prosocial behavior following individually experienced traumas are less common. Vollhardt and Staub (2008) identified that the average helping tendencies are higher among undergraduates who had experienced higher levels of past victimization and suffering compared to their peers suggesting severity and type of trauma exposure explain the relationship between adversity and prosociality (Kleinman, 1989; Mcmillan & Fisher 1998).

The works cited above pertain largely to adults. Research on posttraumatic growth, specifically on prosociality and altruism among children and adolescents is extremely sparse, a surprising lacunae given long-standing recognition among developmental psychologists that the capacity for empathy emerges within the first two years of life (Brothers, 1989). There are only a few empirical studies to date that have investigated this question. One study looked at prosocial and aggressive behavior of preschool children measured before and after the war in Croatia in the early 1990s (Raboteg, Zuzul, Kerestes, 1994). According to teacher reports, prosocial behavior of preschool children examined during the war was significantly higher than that of the children of the same age whose behavior was observed before the war, while differences in aggressive behavior did not differ significantly between the two groups. Macksoud and Aber (1996) studied children separated from their parents who had directly witnessed violent acts during the Lebanese civil war in the 1980s. The authors reported an increase in prosocial behavior in these children, although the relationships were quite modest and emerged from a series of post-hoc analyses and in children directly exposed to shelling and combat. In a related study on the effects of war-related trauma on social adjustment and functioning of young

Cambodian refugees, it was found that the trauma a family suffered before leaving their homeland seemed to play a protective role at various times in adolescence with regard to externalizing symptoms, risk behavior and school failure in boys, and positive social adjustment in girls (Rouseau, Drapeau & Platt, 1999).

As evidenced the majority of studies discuss the negative consequences of adversity and trauma exposure, therefore progress in this field requires discerning the special conditions or personal characteristics that might promote positive behaviors at the extremes of social suffering. The current study will examine the relationship between trauma exposure with prosociality in four West African countries, with high prevalence of orphaned children in Sierra Leone, children affected by economic trafficking in Togo and by displacement in Burkina Faso, and child soldiers in Liberia.

### **Background Information**

A very large number of children in parts of West Africa are currently living in extremely difficult conditions. Many of the children have become orphaned after losing parents to wartime violence or disease (Stichick, 2001). Others have a history of being trafficked, displaced or forced into combat (Albertyn et al., 2003, Lustwig 2004). Children living with these adversities are believed to be at greater risk for further trauma exposure than children that are not, including domestic abuse, exploitation, infection (Catani et al., 2008) and mental health related difficulties (Bolton, et al., 2007). The stress surrounding their living conditions can affect children's social and emotional development.

In 2007, Plan International, an organization promoting child rights, and Family Health International (FHI), an organization active in international public health, embarked on a study to investigate the psychological trauma and emotional well being of children from four West



African countries. In-depth interviews were conducted in four different countries, that included: communities with high rates of child orphans due to war related trauma in Sierra Leone; communities with children affected by economic trafficking in Togo; communities with high rates of displaced children in Burkina Faso, who had been living in Côte d'Ivoire, but were forced back to their country of origin; and communities with high rates of child soldiers in Liberia (Morgan & Behrendt, 2009).

In 1991 a civil war broke out between the Revolutionary United Front (RUF) and the Sierra Leonean Army (SLA) that generated political and institutional instability and lasted nearly a decade. Factors that led to the violence included the state's unpopular dictatorship, including its mismanagement of funds and public services. However according to Smith (2004), control over and profits from the diamond mines is what perpetuated the conflict. Both the RUF and RLA were responsible for abusing civilians through forced labor, physical, verbal and sexual violence and recruitment as soldiers. Due to war related casualties children experienced significant trauma and many were left orphaned (Behrendt, 2008).

“After the death of my father in the war, something terrible happened. I was nine years old when I was captured and forced to have sex with a rebel. I tried to run away and refuse, but he beat me up very badly and separated me from my mother. Up to now, the whereabouts of my mother is unknown.” 16-year-old girl in Sierra Leone (Morgan & Behrendt, 2009 p.X)

The high prevalence of child trafficking in Togo has raised international concern. Faced with devastating poverty many parents are forced to sell their children into labor. Girls typically have little choice in the matter, however, because boys are more valued, they tend to leave against their parents wishes in hopes for their own success (Morgan & Behrendt, 2009).

The children recruited -- with or without parental consent -- leave their homes in the hope of making enough money to support their families, continue their education or just to buy basic material goods. More often than not children are misguided and exploited by traffickers with promises of education, money and resources. A good example to illustrate this is in Kenya, where children are trafficked from rural areas to urban centers where they are promised an education, yet are quickly put to work as domestic servants. These children often face neglect, poor health care, and physical and sexual abuse (Department of Children Services; ANPPCAN, 2005).

“My boss and his wife used to hit me with their shoes, pull my hair, burn me with wood from the fire or with boiling water.” Boy, 15 years old at the time, in Togo (Morgan & Behrendt, 2009 p.45)

By the mid-nineties more than 2 million Burkinabe people had moved from Burkina Faso to Côte d'Ivoire to find work, mostly on the cocoa plantations. The Ivorian political crisis that began in 1999, during which the Ivorian government focused on cleansing its country of all foreigner nationals (most of which were from Burkinabe origin) as it blamed them for an attempted coup, led to thousands of Burkinabe immigrants being displaced back to their country of origin. Burkinabe people experienced displacement and subsequent refugee situations. During the ethnic cleansing, the people of Burkinabe origin suffered significant abuse, persecution and were deprived of their lands and possessions (Behrendt & Mbaye, 2008). Past studies of refugee children have drawn attention to the horrendous situations to which children are exposed. In a study that looked at Sudanese refugee children it was found that the refugee children experienced far more traumatic events mainly caused by the poverty in their camps, lack of food, lack of clothes, lack of materials and having poor sanitation and healthcare (Paardekooper et al., 1999).

“The people who came from Côte d’Ivoire had nowhere to go. They were hungry and thirsty and their clothes were filthy. They had lost everything and they didn’t want to speak. I even saw grown-up men crying. I felt very sorry for them.” 14-year-old (non-returnee) boy in Burkina Faso. (Morgan & Behrendt, 2009 p.X)

Liberia is another West African country marked by significant instability, with a history of two civil wars, the first that lasted from 1989-1996 and the second that began in 1999 and ended in 2003. During periods of armed conflict approximately 15,000 children were voluntarily or forcefully recruited by regular and irregular fighting forces (Morgan & Behrendt, 2009). Studies looking at the mental health of former soldiers from Sierra Leone (Betancourt, et. al., 2010), Uganda (Klassen et al., 2010) and Nepal (Kohrt et al., 2008) have found that children were abducted and forced into armed forces at a very young age, with the girls more frequently assigned to domestic chores (i.e., cooking and caring for younger children), while boys were assigned “front-line tasks (i.e., fighting, looting). Child soldiers have experienced potentially traumatizing experiences during their time in abduction, including physical and sexual abuse, starvation and witnessing or personally carrying out killings (Betancourt, et. al., 2010; Klassen et al., 2010).

“I was 11 when I became a bush wife. I was given drugs in order to be brave and continue obeying them. I was trained how to fight, shoot and operate guns. They forced me once to kill a woman and many times to punish people that had been captured. Every day we had to burn houses, to steal and destroy.” 19-year-old girl in Liberia (Morgan & Behrendt, 2009 p.37)

“I am now living with my aunt. My father was killed, and we don’t know up to now where my mother is. My aunt does not love me. Sometimes she cooks only for her own children, while I remain with an empty stomach. I would so much like to have someone who cares for me.”10-year-old boy in Liberia (Morgan & Behrendt, 2009 p.38)

Data collected across the four sites were used to investigate the psychological impact and emotional well-being of children living in potentially traumatizing life circumstances.

Specifically, this study builds on prior research by investigating the association of total trauma exposure (e.g., sexual and physical abuse) to prosocial behavior in a cohort of children from West Africa who have experienced significant trauma and loss related to chronic armed conflict and economic instability. In addition, the possible influence of sociodemographic characteristics, for example, the gender and age of the child, as well as, mental health disorders on the associations between trauma exposure and prosocial behavior are also explored.

### **Research Aims**

The focus of the study is to examine the impact of trauma exposure on prosociality across four selected countries in West Africa. The following were the aims of the study:

1. To examine mean levels of trauma exposure and prosocial behavior by sociodemographic characteristics overall and within each of the four sites in order to identify sociodemographic variables that were associated with trauma exposure and prosocial behavior (confounding variables).
2. To examine the relationship of prosocial behavior with trauma exposure overall, as well as, within and between each of the four sites, while controlling for confounding variables identified in aim 1.

3. To test whether major sociodemographic characteristics (i.e., age and gender) modify the association between trauma exposure and prosocial behavior.
4. To test whether the presence of PTSD or depression mediate the association between trauma exposure and prosocial behavior.

### Chapter III

#### METHODS

In all sites, the data were collected by Alice Behrendt, MA, working on a contract with PLAN International, an organization promoting child rights, and Family Health International (FHI), an organization active in international public health for the purpose of providing systematic data to inform the development of services for the communities surveyed. The data were collected using a matched case-control group study design, in that the study compared the psychosocial impact a specific adversity of interest has on children with that of children with no history of adversity (Index Adversity = orphanhood, trafficked, displacement, child soldier). The groups were matched according to specific criteria that were likely to influence outcomes (i.e., age, gender, and years of education).

In each site that was surveyed, the principal investigators from PLAN international first met with government officials to provide information about the project and to gain access to the communities. Once that was established, field interviewers who were native to each research site and had working experience providing mental health services were recruited to assist with data collection. With the help of translators the principle investigators provided a 16-day training workshop in each site to the recruited field interviewers that included proper etiquette for approaching potential study participants, importance of confidentiality, informed consent and neutral tone when administering the interview questions. A lot of attention and instruction was provided on core mental disorders of children and adolescents according to the DSM -IV and ICD-10 as well as on administration of the research tools. Each measure was translated from English with the help of consultants who were fluent in English into the prospective sites preferred language (Creole in Sierra Leone and Togo, Pidgin English in Liberia, and Doula in

Burkina Faso). The translators discussed each item, came up with a consensus translation, wrote them down, and taped the translated items on a tape recorder. Once the measures were translated and recorded, the field team read over and listened to the tape recordings numerous times before data collection (Behrendt, 2007, 2008)

In every community that the researchers visited they invited children to focus group discussions where the children played games and sang songs and then were told short stories about children suffering from difficult living situation, including loss of a parent, domestic violence, serious somatic problems and difficulties in school. After the depiction of the story, the researchers then asked the children to share what kind of feelings the story's main character experiences and what solutions they propose. During these gatherings researchers first identified children who met criteria for exposure to the specific adversity of interest (orphanhood, trafficked, displacement etc.) and along with their guardians were given further information. If they showed interest, children and their parents were then asked to provide written consent and to refer any additional child that was also met adversity exposure criteria that might be interested in participating. Researchers also recruited children in markets and sporting events. Through participation in community activities and partaking in daily talks with locals, researchers then recruited a comparison sample of the same size that were matched according to key sociodemographic variables.

Children's rights to anonymity and confidentiality were ensured and respected during all data-collection activities. The data and information was collected through individual interviews that asked about sociodemographic information, distressing and traumatic exposures, emotional wellbeing, and mental difficulties. The age range for the participating children was from 10 – 20 years old across all sites. Field interviewers had difficulty attaining the correct age of children as

they noticed that the children's reported official age did not necessarily match with their physical appearance.

This may be because children and their parents had adjusted their real age for the purpose of school enrolment or other benefits. Therefore for each child his official age and the age estimated by the field expert was recorded. As suggested by the principle investigators the child's estimated age was a better representation of the child's age, therefore was used for the calculations of the data analysis. For this reason, although subjects in each site were matched on official age, results indicate that in some sites they did not effectively match when the estimated age was used. Children with severe mental health problems identified during the study received at least three months individual psychosocial support after the research project from community mental health workers. Exclusion criteria from participation in individual interviews included children with mental retardation, psychotic disorders or neurological factors impeding the capacity of the child to answer the interview questions.

### **Participants**

**Sierra Leone.** The field team, three Sierra Leonean psychosocial workers conducted 180 individual interviews over a two-month period from November 2007 to January 2008 in one rural and three urban communities in the district of Kailahun. They interviewed orphaned children (n=88) impacted by civil war and a comparison group of nonorphaned children (n=92) that were matched by gender, age, and years of education. The orphaned group was comprised of children meeting one of the following criteria 1) being a child with both parents deceased; 2) being a child separated from both parents during the war with whom they have not been reunited and have no traces of their whereabouts; 3) having a deceased parent, while the other is still missing; or 4) having one deceased or missing parent while the remaining parent suffers from a



chronic illness or disability. The non-orphaned group was recruited included children who did not meet any of the above listed criteria.

**Togo.** Four Togolese clinical psychologists conducted 216 individual interviews over a four month period in spring 2007 in 19 villages in the regions of East Mono, Sotouboua, Tschamba and Tschaoudjo. A sample of trafficked (n=110) and non-trafficked (n=106) children were interviewed that were matched by age, gender, and years of education.

**Burkina Faso.** Four Burkinabe, psychologists conducted 205 individual interviews of children who were either of Burkinabe origin repatriated to Burkina Faso in the period from 1999 and 2004 (n=103) from Côte d'Ivoire or who had no history of displacement (n=102). The two groups were matched by gender, age, and years of education. The study was implemented over a two-month period in the summer of 2007 in seven villages and two towns in the regions of Gaoua and Banfora.

**Liberia.** Three Liberian psychosocial workers conducted 193 individual interviews to compare the psychosocial needs of child soldiers (n=96) to nonsoldiers (n=97). The study was implemented over a two-month period from November 2007 to January 2008 in five communities in Lofa County. In Liberia, many children had been captured by fighting forces or retained for some hours or for a couple of days, during which they carried looted goods and ammunition for the fighting force. In order to exclude children who had only been with the fighting forces for very short periods, seven days was used as the cut-off timeframe between exposure and comparison group.

Data were also collected from children living in Cameroon, however since the data in Cameroon were not collected in the similar matched case-control group study design that was

used in the other four sites, comparisons were difficult to interpret and therefore left out of analyses.

### **Study Measures**

The current paper includes measures on trauma exposure, mental health disorders, and prosocial behaviors.

**Sociodemographic items.** The socio-demographic questions concerned basic personal information (e.g., age, gender, ethnic group, education level) and about the participant's living circumstances.

**Exposure to traumatic life events and other forms of violence.** Potentially traumatic exposures were assessed with several different checklists. A list of highly traumatic general events (e.g., bad accident, disaster, seeing someone being killed) was taken from the University of California Los Angeles (UCLA) PTSD Index questionnaire for adolescents (Ellis, Charney, & Cabral, 2006; Steinberg et al., 2004). Catani's checklist (Catani, 2008) was used to measure domestic violence, namely, verbal, physical and sexual abuse and neglect (e.g., has a family member ever slapped, kicked, or punched you, you been ignored by your caretakers, have you ever been forced to have sex). The time frame for each checklist was lifetime exposure, For each child we calculated the number of trauma exposures by adding the number of endorsed traumas within each category (e.g., general trauma, physical, sexual, verbal abuse and neglect). A domestic violence exposure index (26 items) was constructed by the addition of physical (9 items), verbal (6 items), sexual abuse (7 items) and neglect (4 items) items. A total trauma exposure index (34 items) was also constructed by the addition of general trauma (8 items) and domestic violence items.

**Prosocial behaviors.**The prosocial subscale from the Strengths and Difficulties

Questionnaire (SDQ) for youth was used to measure prosocial behavior with a referenced time period of the preceding six months. This subscale comprises five self-report items concerning being considerate of other people's feelings; sharing readily with others; being helpful if someone is hurt or feeling ill; kindness towards younger children and volunteering to help others. The response options were "not true" (scored 0) "somewhat true" (1) and "certainly true" (2). The psychometric properties of the SDQ have been extensively examined. Goodman (2001) demonstrated satisfactory reliability, whether judged by internal consistency (mean Cronbach  $\alpha$ : .73), cross-informant correlation (mean: .34), or retest stability after 4 to 6 months (mean: .62). In regards to the validity, SDQ scores above the 90<sup>th</sup> percentile predicted a substantially raised probability of independently diagnosed psychiatric disorders (mean odds ratio: 15.7 for parent scales, 15.2 for teacher scales, and 6.2 for youth scales). Studies were also able to confirm the SDQ's predicted five-factor structure (emotional, conduct, hyperactivity-inattention, peer, prosocial subscales) with reported good reliabilities across the subscales (Goodman, 2001). It has been translated into over 60 languages, and used across a variety of cultures where it also enjoys adequate to good psychometric properties and clinical utility overall and for the prosocial subscale considered separately (Goodman, 1997; Goodman, et al., 2001). In the current study, the internal consistency reliability for the prosocial subscale was .71 and exceeded .64 for each gender and educational level. With reference to discriminant validity, scores on the prosociality subscale was appreciably and significantly lower among individuals with conduct disorder than among those free of this diagnosis.

### **Psychiatric disorders.**

The UCLA PTSD Index is a 22-item youth self-report instrument with items rated on a five-point frequency scale (Rodriguez et al., 1999). The items can be summed to form a severity

score or scored categorically, yielding separate DSM-IV diagnostic results for criterion B, C, and D. There are 17 scores (corresponding to the 17 DSM-IV PTSD symptom criteria) that make up the total symptom score. Each symptom is added to calculate a total PTSD severity score and severity scores for each of the DSM-IV B, C, and D, subcategories. The response options were “none” (scored 0), “little” (scored 1), “some” (scored 2), “much” (scored 3), and “most” (scored 4). When scored categorically, scores of 2 and above on any of the symptom criteria counted towards diagnoses. The instrument demonstrates strong convergent validity (Rodriguez, Steinberg, Satzman, & Pynoos, 2001). Cronbach’s alpha coefficients have demonstrated high internal consistency (.90) (Layne, Stuvland, Saltzman, Djapo, & Pynoos, 1999; Roussos et al., 2005).

Other major DSM-IV mental health disorders of interest, including Major Depression and PTSD, were measured with the Mini International Neuropsychiatric Interview for Children and Adolescents (MINI-KID) English version 5.0. The MINI-KID is a structured clinical interview used to diagnose Axis I disorders of the DSM-IV seen in childhood and adolescence (Sheehan, Sheehan, & Shytle, 2006) and assesses the presence or absence of current symptoms for each disorder. The MINI has been validated against the Structured Clinical Interview for DSM Diagnoses (SCID) and the Composite International Diagnostic Interview for ICD-10 Diagnoses (CIDI) (Sheehan et al., 1998). The results for the comparison of the MINI with the SCID were characterized by very good kappa values. Specifically, the kappa value for Major Depression was .84 and for PTSD was .78, while sensitivity and specificity values for both disorders fell above .85. Very good results were also obtained when the MINI diagnoses were compared with the CIDI. Kappa, sensitivity and specificity values for Major Depression and PTSD fell above .70. Reliability and validity studies of the MINI-KID have also been investigated (Sheehan et

al., 2010) with results showing substantial to excellent MINI-KID to K-SADS (the Schedule for Affective Disorders and Schizophrenia for School Aged Children) agreement for diagnoses of mood, anxiety, attention-deficit, substance use and eating disorders with kappas falling between .56-.87. Interrater and test-retest kappas were also substantial to almost perfect (.64-1.0) for all individual MINI-KID disorders. In one study the MINI-KID was employed in Ugandan communities with high armed conflict looking at the mental health of former child soldiers (Klassen et al., 2010) Another study looked at the prevalence of psychiatric disorders among war abducted and non-abducted adolescents in Uganda (Okello et al., 2007).

### **Data Analysis**

Statistical analyses were carried out using Statistical Package for Social Sciences (SPSS), Version 22.0 Descriptive statistics and correlations are reported for sociodemographic characteristics, trauma exposure and prosociality across the four sites. Analysis of variance (ANOVAs) was used to evaluate the mean levels of trauma exposure and prosocial behavior by sociodemographic characteristics (aim 1). The analyses for aim 1 were conducted in order to identify any variable that was significantly associated with the independent variable (trauma exposure) and dependent variable (prosocial behavior), also known as a confounding variable. All confounding variables were controlled for in regression analyses in order to isolate the true impact of the independent variable on the dependent variable.

In addition, given the exploratory nature of the analyses the alpha value was not lowered to account for the numerous comparisons being made as this would have excluded many of the results that did not meet a very conservative standard of statistical significance, therefore all analyses that were statistically significant at  $p < .05$  were pursued.

In aim 2, Linear regressions were carried out to explore the association between trauma exposure and prosocial behavior within each site. A series of linear hierarchical regressions were used in order to determine if the association between trauma exposure and prosocial behavior significantly differed across sites (aim 2). Next, to test whether the effect of trauma exposure on prosocial behavior varies by (i.e., is modified by) sociodemographic characteristics a series of linear hierarchical regressions are conducted in each site to examine the main effects and the interaction effects of trauma exposure and sociodemographic variables (aim 3).

Whereas the interest in looking at the modifying role of sociodemographic variables was to specify under what conditions the effects of trauma exposure on prosocial behavior varied by third variables, the mediating role of psychiatric disorders was also explored to evaluate whether a diagnosis of PTSD or depression could help explain how or why such effects occur (Baron and Kenney, 1986). In a mediational model the hypothesized is that trauma exposure influences the mediator variable (PTSD and Depression), which in turn influences prosocial behavior. In other words, to test whether PTSD or depression could help clarify the nature of the relationship between trauma exposure and prosocial behavior (aim 4).

In order to examine the mediating effects of PTSD severity and depression (0= diagnosis absent and 1=diagnosis present) on the association between trauma exposure (independent variable) and prosocial behavior (outcome variable) a series of linear and logistic regressions were evaluated. According to Baron and Kenny (1986) the following conditions needed to be met in order to infer mediational effects: 1) trauma exposure is significantly associated with prosocial behavior; 2) trauma exposure significantly accounts for variations in mental health outcomes; 3) mental health outcomes significantly account for variations in prosocial behavior and; 4) the association

between trauma exposure and prosocial behavior is significantly reduced when mental health outcomes are controlled for in the analyses.

## Chapter IV

### RESULTS

As noted in the preceding chapters, the overall aim of the study is to examine the association between trauma exposure and prosociality across four sites, each in a different West African country. The countries included Sierra Leone, Togo, Burkina Faso and Liberia. In each country a group of children were drawn from a specific at risk population. These at risk children were child orphans due to war in Sierra Leone; in Togo, children who had been economically trafficked and who had returned home; displaced children in Burkina Faso; and child soldiers in Liberia. A comparison group of the same size and matched with the at risk group on age, gender and years of education was then assembled from the general population. The age range for the participating children was from 10 – 20 years. The total sample comprised 794 children with 180 interviews from Sierra Leone, 216 from Togo, 205 from Burkina Faso and 193 from Liberia. As previously mentioned, for the overall sample, followed by within and between site analyses. .

Table 1 provides descriptive statistics for sociodemographic characteristics across the four West African sites and the overall sample. Across the four sites 50.6% were female (N=488). The mean age ranged from 15.4 years old in Sierra Leone and Burkina Faso to 16.7 years old in Liberia. The average years of education ranged from 4.9 in Togo to 7.0 in Sierra Leone. In Sierra Leone and Liberia, the great majority of respondents were Christian (68% and 86% respectively) compared to Togo where the majority identified as Muslim (57%). Among children attending school, the majority across most sites attended government schools. In Sierra Leone, the majority of children attended mission schools (78%).

General trauma, verbal, physical and sexual abuse and neglect represent the types of trauma exposure. The domestic violence subscales which includes physical, sexual, verbal abuse



and neglect had a range of 0 – 26 items, while total trauma exposure (general trauma and domestic violence items) had a range of 0-34 exposures. The rate of exposure to at least one type of trauma for each of the different trauma types is presented in Table 2. Results depict the extent of trauma exposure experienced by the overall sample. Across all four sites 97% of children experienced verbal abuse, 80% of children experienced some type of physical abuse or neglect, while 16% reported experiencing at least one incident of sexual abuse.

Table 1

*Selected Sociodemographic Characteristics across the Four West African Sites and of the Total Sample*

Sociodemographic Characteristics	Sierra Leone (n=180)	Togo (n=216)	Burkina Faso (n=205)	Liberia (n=193)	Total (n=794)
Gender, %					
Female	48.9	50.0	48.8	50.8	49.6
Male	51.1	50.0	51.2	49.2	50.4
Age, %***					
10-15	43.9	30.6	56.9	21.8	38.2
16-20	56.1	69.4	43.1	78.2	61.8
Age, M (SD)***	15.4(2.7)	16.2(1.9)	15.4(2.1)	16.7(2.1)	15.9 (2.3)
Education, %***					
0-5 years	26.3	54.2	38.8	46.3	41.8
≥6 years	73.7	45.8	61.2	53.7	58.2
Education M (SD), ***	7.0(2.8)	4.9(2.6)	5.45(3.6)	6.1(3.0)	5.8 (3.1)
Religion <sup>a</sup> , %, ***					
Muslim	31.3	57.0	30.0	13.6	33.7
Christian and Other	68.7	43.0	70.0	86.4	66.3
School Type <sup>b</sup> , %, ***					
Government	17.0	98.9	97.5	70.6	71.1
Mission	77.2	0.0	0.0	23.3	25.0
Other	5.8	1.1	2.5	6.1	3.9

Note: \*\*\*p<.001. X<sup>2</sup> tests were used to compare proportions across the four sites for categorical data and analysis of variance for continuous variables.

<sup>a</sup> Religion "other" includes African traditional and folk religions.

<sup>b</sup> School type "other" includes children in trade and professional schools. Children who never attended school = 2.2% Sierra Leone; 1.7% Cameroon; 11.5% in Togo; 25% Burkina Faso and; 4.1% Liberia

Table 2

*Percentage of Individuals who Endorsed at least One Traumatic Experience in each of the Types of Trauma Exposure across the Four West African Sites*

Trauma Types	Sierra Leone		Togo		Burkina Faso		Liberia		Total Sample	
	(N)	%	(N)	%	(N)	%	(N)	%	(N)	%
General Trauma***	(177)	98.3	(214)	99.1	(191)	93.2	(191)	99.0	(783)	97.7
Physical Abuse	(151)	83.9	(204)	94.4	(178)	86.8	(172)	89.1	(705)	88.9
Sexual Abuse***	(39)	21.7	(114)	52.8	(16)	7.8	(75)	38.9	(244)	30.8
Verbal Abuse	(163)	90.6	(200)	92.6	(186)	90.7	(177)	91.7	(726)	91.8
Neglect	(136)	75.6	(176)	81.5	(166)	81.0	(170)	88.1	(648)	81.9
<b>Domestic Violence<sup>a</sup></b>	(172)	95.6	(212)	98.1	(200)	97.6	(189)	97.9	(783)	97.5
<b>Total Trauma Exposure<sup>b</sup></b>	(178)	98.9	(216)	100.0	(203)	99.0	(192)	99.5	(789)	99.5

Note: \*\*\* $p < .001$ .  $X^2$  used to evaluate percentage differences across the five sites.

<sup>a</sup> Domestic violence (26 items) = physical abuse (9 items) + sexual abuse (7 items) + verbal abuse (6 items) + neglect (4 items).

<sup>b</sup> Total Trauma Exposure (34 items) = General Trauma (8 items) + Domestic violence (26 items).

Correlation analysis was conducted between sociodemographic (gender 1=female 2=male; age, years; education, years; religion 1=non-Muslim 2=Muslim) and psychiatric (PTSD and depression 0=no diagnosis 1=diagnosis present) characteristics, total trauma exposure and prosocial behavior for the total sample. As presented in Table 3, prosocial behavior was significantly negatively correlated with total trauma exposure ( $r = -.19$ ,  $p < .05$ ). Prosocial behavior was also significantly negatively correlated with religion (muslim:  $r = -.08$ ,  $p < .05$ ) depression (present:  $r = -.19$ ,  $p < .001$ ). Prosocial behavior was not significantly correlated with gender, age, years of education, or PTSD. Significant positive correlations were found between total trauma exposure with age ( $r = .15$ ,  $p < .001$ ), years of education ( $r = .07$ ,  $p < .05$ ), PTSD ( $r = .46$ ,  $p < .001$ ) and depression ( $r = .36$ ,  $p < .001$ ). Total trauma exposure was not significantly correlated with gender or religion. Of note, being male had a significant positive correlation with years of education

( $r=.21$ ,  $p<.001$ ), while being female had a significant positive correlation with PTSD ( $r=-.08$ ,  $p<.05$ ) and depression ( $r=-.08$ ,  $p<.05$ ). Identifying as Muslim was significantly negatively correlated with years of education (Muslim:  $r=-.15$ ,  $p<.001$ ) and PTSD ( $r=-.10$ ,  $p<.01$ ). There was a positive significant correlation between PTSD and depression ( $r=.53$ ,  $p<.001$ ).

Table 3

*Correlates of Prosocial Behavior, Total Trauma Exposure, Sociodemographic and Clinical Characteristics of the Total Sample*

	1	2	3	4	5	6	7	8
1. Prosocial Behavior	—							
2. Total Trauma Exposure <sup>a</sup>	-.19***	—						
3. Gender (Male)	.06	-.03	—					
4. Age	-.07	.15***	.08*	—				
5. Education (Years)	.03	.07*	.21***	.22***	—			
6. Religion (Muslim)	-.08*	.01	.01	-.02	-.15***	—		
7. PTSD (Present)	-.02	.46***	-.08*	.05	.07	-.10**	—	
8. Depression (Present)	-.19***	.36***	-.08*	.05	.05	-.05	.53***	—

*Note.* \* $p<.05$ ; \*\* $p<.01$ ; \*\*\* $p<.001$ . While results give a useful overview of the relationships between major study variables, tables 4 and 5 provide a more exact p values since they are based on ANOVA's not correlations.

<sup>a</sup> Total Trauma Exposure (34 items) = General Trauma (8 items) + physical abuse (9 items) + sexual abuse (7 items) + verbal abuse (6 items) + neglect (4 items).

In order to fully evaluate the relationship between trauma exposure and prosocial behavior, both within and between site analyses were examined. The analyses of the aims of the study proceeded in the following stages: examination (aim 1) of the mean of trauma exposure and prosocial behavior by sociodemographic characteristics in order to identify confounding variables (aim 2) of the relationship of prosocial behavior with trauma exposure controlling for confounding variables, (aim 3) of the effect trauma exposure on prosocial behavior by sociodemographic variables (moderator effects); and (aim 4) of the impact of PTSD and depression on the relationship between traumatic exposure with prosocial behavior (mediation effects).

Initially, the basic analyses were run for the total sample (four sites combined), however to test whether the significant results found in the total sample held significant in each site, within site analyses were conducted. Specifically, the significant associations of trauma with age and of prosocial behavior with age, education and religion that were found in the total sample, were evaluated within each site. Results indicated that the significant associations that were found in the total sample were not consistent across sites. Furthermore, associations that were not significant for the total sample, were found to be significant within specific sites. Therefore, subsequent analyses looked at overall (total sample), as well as, within and across site differences.

### **Aims**

**Aim 1:** To examine mean levels of trauma exposure and prosocial behavior by sociodemographic characteristics overall and within each of the four sites.

ANOVA's were conducted to examine the association of sociodemographic variables with total trauma exposure overall and within each of the four sites (Table 4). This was done to determine the variables that needed to be controlled for in attempt to isolate the impact of trauma on prosocial behavior.

Results for the total sample show that older children reported higher levels of trauma exposure than younger children, however this association is significant only in Sierra Leone. Females reported higher levels of trauma exposure than males in Sierra Leone, Togo and Liberia, although results were only significant in Togo. In Burkina Faso, males reported significantly higher levels of trauma exposure than females did. In Togo higher levels of trauma exposure were reported among Muslims than non-Muslims.

Table 4

*Association of Sociodemographic Characteristics with Total Trauma Exposure within each Site and of Total Sample*

Sociodemographic Characteristics	Sierra Leone		Togo		Burkina Faso		Liberia		Total Sample	
	<i>M</i>	(SD)	<i>M</i>	(SD)	<i>M</i>	(SD)	<i>M</i>	(SD)	<i>M</i>	(SD)
Gender										
Female	15.7	(7.1)	15.5	(4.8)**	9.5	(4.9)***	17.6	(7.1)	14.6	(6.7)
Male	13.6	(8.9)	13.3	(6.6)	13.4	(4.8)	16.8	(7.3)	14.2	(7.1)
Age										
10-15	12.4	(7.2)**	13.8	(5.2)	11.9	(5.0)	15.9	(6.8)	12.9	(6.1)***
16-20	16.4	(8.4)	14.6	(6.1)	11.0	(5.5)	17.6	(7.3)	15.2	(7.3)
Education										
0-5 years	14.2	(7.3)	15.0	(5.2)	11.7	(5.3)	16.5	(7.4)	14.5	(6.4)
≥6 years	14.8	(8.4)	13.7	(6.5)	11.4	(5.2)	17.6	(6.9)	14.3	(7.3)
Religion <sup>a</sup>										
Muslim	13.3	(8.5)	15.6	(5.7)**	11.6	(5.6)	18.8	(5.7)	14.5	(6.7)
Christian and Other	15.2	(7.9)	12.8	(5.6)	11.6	(5.0)	16.9	(7.4)	14.3	(7.0)
Type of School <sup>b</sup>										
Government	15.7	(7.1)	14.3	(5.8)	11.5	(5.2)	17.1	(7.2)	14.2	(6.4)
Mission	14.8	(8.4)	–	(–)	–	(–)	16.4	(7.6)	15.2	(8.2)
Other	11.0	(6.4)	0.0	(0.0)	8.0	(6.2)	19.4	(7.3)	13.4	(8.3)

*Note.* \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ . Analysis of variance used to evaluate mean differences within each site.

<sup>a</sup>Religion "other" includes African traditional and folk religions.

<sup>b</sup>School type "other" includes children in trade and professional schools.

As presented in Table 5, ANOVAs were conducted to examine the association between sociodemographic variables and prosocial behavior within each of the four sites and the sample as a whole. For the total sample, higher prosocial behavior was reported among younger, more educated and non-Muslim children. Within site analyses showed that males were significantly more prosocial than females in Sierra Leone and Liberia, while in Burkina Faso, females were significantly more prosocial than males. Levels of prosociality did not differ by gender in the remaining sites. Within each site prosocial behavior did not differ significantly by age. In Sierra Leone children with more education reported more prosocial behavior than children with less education. In Burkina Faso, higher prosocial behavior was reported among non-Muslim children. Level of prosociality did not differ by education or religion in the remaining sites. Overall,

children in Burkina Faso reported the highest prosociality ( $M=8.7$ ,  $SD=1.7$ ), while children in Togo reported the lowest ( $M=5.9$ ,  $SD=1.5$ )

**Aim 2:** To examine the relationship of prosocial behavior with trauma exposure overall, as well as, within and between each of the four sites.

Previous analyses has demonstrated that age and gender were significantly associated with both the independent and dependent variables in at least one site. Although the associations were not significant within each site, age and gender were controlled for in all linear and logistic regressions in order to maintain uniformity across analyses

Regression analyses were conducted to assess the effect of each type of trauma exposure on prosocial behavior (Table 6) across the four sites and for the total sample. In Sierra Leone and Liberia, total trauma exposure is negatively associated with prosocial behavior, in that the more trauma exposure the lower the prosocial score, although the association was only significant at  $p=.06$  in Liberia. This association is significantly negative across all types of trauma considered separately in Sierra Leone, except for sexual abuse where the positive association was not significant. In Liberia, exposure to general trauma significantly decreased prosocial behavior. In Togo and Burkina Faso, total trauma exposure was significantly but positively associated with prosociality. This significant positive association emerges across all types of trauma considered separately, except for neglect in Togo and general trauma and physical abuse in Burkina Faso where the positive associations were not significant In summary, trauma is negatively associated with prosocial behavior in Sierra Leone ( $\beta=-.38$ ,  $p<.001$ ) and Liberia ( $\beta=-.13$ ,  $p<.06$ ), while positively associated in Togo ( $\beta=.21$ ,  $p<.01$ ) and Burkina Faso ( $\beta=.17$ ,  $p<.05$ ). Total trauma exposure, controlling for gender and age accounted for 5-17 % of the variance (adjusted  $R^2$ ) in prosocial behavior across the four sites.

Table 5

*Association of Sociodemographic Characteristics with Prosocial Behavior within each Site and of the Total Sample*

Sociodemographic Characteristics	Sierra Leone		Togo		Burkina Faso		Liberia		Total Sample	
	<i>M</i>	(SD)	<i>M</i>	(SD)	<i>M</i>	(SD)	<i>M</i>	(SD)	<i>M</i>	(SD)
Gender										
Female	5.8	(2.3)*	5.9	(1.5)	8.9	(1.5)*	6.1	(2.0)**	6.7	(2.2)
Male	6.6	(2.1)	5.9	(1.6)	8.4	(1.7)	6.8	(2.0)	6.9	(2.0)
Age										
10-15	6.0	(2.1)	5.7	(1.4)	8.6	(1.6)	6.8	(2.0)	7.1	(2.2)**
16-20	6.3	(2.3)	6.0	(1.6)	8.6	(1.7)	6.3	(2.0)	6.6	(2.1)
Education										
0-5 years	5.6	(2.3)*	5.8	(1.5)	8.5	(1.7)	6.4	(2.0)	6.6	(2.1)*
≥6 years	6.4	(2.2)	6.0	(1.5)	8.7	(1.5)	6.5	(2.0)	7.0	(2.1)
Religion <sup>a</sup>										
Muslim	6.0	(2.4)	6.0	(1.4)	8.2	(1.8)*	6.7	(2.1)	6.5	(2.0)*
Christian and Other	6.3	(2.2)	5.8	(1.7)	8.8	(1.5)	6.4	(2.0)	6.9	(2.2)
School Type <sup>b</sup>										
Government	5.2	(2.7)*	5.9	(1.5)	8.7	(1.6)	6.4	(1.9)	6.9	(2.1)
Mission	6.4	(2.1)	0.0	(0.0)	0.0	(0.0)	6.8	(2.2)	6.5	(2.1)
Other	6.5	(2.1)	6.0	(1.4)	8.7	(1.6)	6.0	(1.7)	6.6	(2.1)
Overall Prosocial Behavior	6.1	(2.3)	5.9	(1.5)	8.7	(1.7)	6.5	(2.0)	6.8	(2.1)

*Note.* \* $p < .05$  \*\* $p < .01$ . Analysis of variance used to evaluate mean differences within each site. Mean scores for overall prosocial behavior with differing subscripts are significantly different at  $p \leq .05$ .

<sup>a</sup> Religion "other" includes African traditional and folk religions.

<sup>b</sup> School type "other" includes children in trade and professional schools

Table 6

*Linear Regression Analysis for each Type of Trauma Exposure on Prosocial Behavior across the four West African Sites*

Trauma Types	Sierra Leone	Togo	Burkina Faso	Liberia	Total Sample
	$\beta$	$\beta$	$\beta$	$\beta$	$\beta$
General Trauma	-.30***	.17**	.12	-.16*	-.17***
Physical Abuse	-.37***	.17**	.12	-.12	-.20***
Sexual Abuse	-.12	.15*	-.15*	-.04	-.14***
Verbal Abuse	-.31***	.17*	.07*	-.06	-.10**
Neglect	-.39***	.08	.14 <sup>+</sup>	-.10	-.14***
Domestic Violence <sup>a</sup>	-.38***	.20**	.16*	-.11	-.16***
Total Trauma	-.38***	.21**	.17*	-.13 <sup>+</sup>	-.18***
Exposure <sup>b</sup>	Adj. R <sup>2</sup> = .15***	Adj. R <sup>2</sup> = .03*	Adj. R <sup>2</sup> = .07**	Adj. R <sup>2</sup> = .05*	Adj. R <sup>2</sup> = .04***

*Notes.* +p=.06; \*p<.05; \*\*p<.01; \*\*\*p<.001. Gender and age were controlled for in all analyses.  $\beta$ =Standardized beta coefficients from linear regression analyses are reported. <sup>a</sup> Domestic violence (26 items) = physical abuse (9 items) + sexual abuse (7 items) + verbal abuse (6 items) + neglect (4 items).

<sup>b</sup> Total Trauma (34 items) = General Trauma (8 items) + Domestic violence (26 items).

In order to determine whether the associations found between total trauma exposure and prosociality significantly differed between sites hierarchical regression analyses of the interaction of trauma's effect on prosociality as a function of site were examined.

For example, in Table 7, total trauma exposure controlling for gender, and age was entered in step 1 of the model. In step 2, Togo, Burkina Faso and Liberia were dummy coded (0) and entered as covariates, while Sierra Leone (coded 1) was consequently the specified reference (comparison) group. In step 3, the interaction effects of site by total trauma exposure were entered in the model (i.e., Togo X trauma; Burkina Faso X trauma; and Liberia X trauma) to determine which groups were significantly different than Sierra Leone in the effect of trauma exposure on prosocial behavior. For clarity of presentation, the same steps were repeated for



each site as the reference group: Togo (Table 8), Burkina Faso (Table 9) and Liberia (Table 10).

As indicated in Table 7, the standardized beta coefficients of the interaction terms (Togo X trauma; Burkina Faso X trauma; and Liberia X trauma) were significant, indicating that the effect of trauma exposure on prosocial behavior for Sierra Leone was significantly different from that for Togo, Burkina Faso and Liberia. The effect of trauma exposure on prosocial behavior in Togo and Burkina Faso were significantly different that the effect found in Liberia, however they were not significantly different from one another (Table 8-10.)

Table 7

*Hierarchical Regression Analysis for the Interaction of Total Trauma Exposure's effect on Prosociality as a Function of Site with Sierra Leone as the Reference Group*

	$\beta$	$\beta$	$\beta$
Step 1			
Gender	.07	.05	.05
Age	-.05	.01	.03
Total Trauma Exposure	-.18***	-.09**	-.30***
Step 2			
Togo		-.05	-.52***
Burkina Faso		.48***	.16
Liberia		.07	-.10
Step 3			
Togo X Total Trauma Exposure			.52***
Burkina Faso X Total Trauma Exposure			.31***
Liberia X Total Trauma Exposure			.21*
	Adj R <sup>2</sup> =.04***	Adj R <sup>2</sup> =.26***	Adj R <sup>2</sup> =.29***

*Note.* \*p<.05 \*\*p<.01 \*\*\*p<.001 Standardized beta coefficients from hierarchical regression analyses are reported. Step 1 looks at total trauma on prosocial behavior controlling for sociodemographic variables. Step 2 looks at whether prosociality within each site is significantly different than in Sierra Leone controlling for trauma exposure and sociodemographic variables. Step 3 looks at whether the association of total trauma with prosociality within each site is significantly different from that in Sierra Leone.

Table 8

*Hierarchical Regression Analysis for the Interaction of Total Trauma Exposure's effect on Prosociality as a Function of Site with Togo as the Reference Group*

	$\beta$	$\beta$	$\beta$
Step 1			
Gender	.07	.05	.05
Age	-.05	.01	.03
Total Trauma Exposure	-.18***	-.09**	.20**
Step 2			
Sierra Leone		.05	.49***
Burkina Faso		.53***	.67***
Liberia		.12**	.41***
Step 3			
Sierra Leone X Total Trauma Exposure			-.53***
Burkina Faso X Total Trauma Exposure			-.10
Liberia X Total Trauma Exposure			-.39***
	Adj R <sup>2</sup> =.04***	Adj R <sup>2</sup> =.26***	Adj R <sup>2</sup> =.29***

*Note.* \* $p < .05$  \*\* $p < .01$  \*\*\* $p < .001$  Standardized beta coefficients from hierarchical regression analyses are reported. Step 1 looks at total trauma on prosocial behavior controlling for sociodemographic variables. Step 2 looks at whether prosociality within each site is significantly different than in Togo controlling for trauma exposure and sociodemographic variables. Step 3 looks at whether the association of total trauma with prosociality within each site is significantly different from that in Togo.

Table 9

*Hierarchical Regression Analysis for the Interaction of Total Trauma Exposure's effect on Prosociality as a Function of Site with Burkina Faso as the Reference Group*

	$\beta$	$\beta$	$\beta$
Step 1			
Gender	.07	.05	.05
Age	-.05	.01	.03
Total Trauma Exposure	-.18***	-.09**	.07
Step 2			
Sierra Leone		-.46***	-.15
Togo		-.54***	-.69***
Liberia		-.41***	-.26*
Step 3			
Sierra Leone X Total Trauma Exposure			-.40***
Togo X Total Trauma Exposure			.13
Liberia X Total Trauma Exposure			-.24*
	Adj R <sup>2</sup> =.04***	Adj R <sup>2</sup> =.26***	Adj R <sup>2</sup> =.29***

*Note.* \* $p < .05$  \*\* $p < .01$  \*\*\* $p < .001$  Standardized beta coefficients from hierarchical regression analyses are reported. Step 1 looks at total trauma on prosocial behavior controlling for sociodemographic variables. Step 2 looks at whether prosociality within each site is significantly different than in Burkian Faso controlling for trauma exposure and sociodemographoc variables. Step 3 looks at whether the association of total trauma with procsociality within each site is significantly different from that in Burkina Faso.

Table 10

*Hierarchical Regression Analysis for the Interaction of Total Trauma Exposure's effect on Prosociality as a Function of Site with Liberia as the Reference Group*

	$\beta$	$\beta$	$\beta$
Step 1			
Gender	.07	.05	.05
Age	-.05	.01	.03
Total Trauma Exposure	-.18***	-.09**	-.13
Step 2			
Sierra Leone		-.06	.10
Togo		-.12**	-.42***
Liberia		.41***	.26**
Step 3			
Sierra Leone X Total Trauma Exposure			-.19*
Togo X Total Trauma Exposure			.34***
Burkina Faso X Total Trauma Exposure			.17*
	Adj R <sup>2</sup> =.04***	Adj R <sup>2</sup> =.26***	Adj R <sup>2</sup> =.29***

*Note.* \*p<.05 \*\*p<.01 \*\*\*p<.001 Standardized beta coefficients from hierarchical regression analyses are reported. Step 1 looks at total trauma on prosocial behavior controlling for sociodemographic variables. Step 2 looks at whether prosociality within each site is significantly different than in Liberia controlling for trauma exposure and sociodemographic variables. Step 3 looks at whether the association of total trauma with prosociality within each site is significantly different from that in Liberia.

**Aim 3.** To test whether major sociodemographic characteristics (i.e., gender and age) modify the association between trauma exposure and prosocial behavior.

To test whether the effect of trauma exposure on prosocial behavior varies depending on gender (1=female; 2=male), age (8-20), and religion (1=Christian & other; 2=Muslim) a series of linear regressions were conducted in each site with trauma exposure and sociodemographic variables entered as main effects and trauma exposure by each of the sociodemographic variables entered separately as interaction terms (i.e., gender X trauma; age X trauma; and religion X trauma.) Results for main effects and interaction effects are reported in Table 11.

**Gender.** Gender moderated the relation between trauma exposure and prosocial behavior

in Togo. When looking at the simple effect of trauma exposure on prosociality for males and females separately, trauma exposure was found to have a significant positive association with prosocial behavior among females, but did not have a significant impact on prosociality among males.

**Age.** There are no significant interactions between trauma exposure and age at any site.

Table 11

*Hierarchical Regression Analyses for Main and Interaction Effects of Trauma Exposure and Sociodemographic Variables on Prosocial Behavior and within each Site*

	Sierra Leone	Togo	Burkina Faso	Liberia
	$\beta$	$\beta$	$\beta$	$\beta$
<b>Main Effects<sup>a</sup></b>				
Gender	.17*	.02	-.17*	.19*
Age	.07	.10	-.02	-.10
Total Trauma Exposure	-.33***	.21**	.02	-.15*
<b>Interaction Effects<sup>b</sup></b>				
Model 1				
Gender	.19	.45*	-.19	.10
Total Trauma	-.22	.73**	.23	-.24
Gender x Total Trauma Exposure	-.11	-.61*	-.09	.13
Model 2				
Age	.21	.06	.13	-.18
Total Trauma	-.25	.16	.28	-.32
Age x Total Trauma Exposure	-.15	.06	-.23	.21

Note: +p=.06; \*p<.05; \*\*p<.01; \*\*\*p<.000.

<sup>a</sup> Standardized beta ( $\beta$ ) coefficients are reported for main effects gender, age and total trauma each entered into a model separately.

<sup>b</sup> Standardized beta ( $\beta$ ) coefficients for interaction effects are based on models containing the sociodemographic variable of interest (gender and age) total trauma and the interaction terms (i.e., gender x total trauma, age x total trauma).

**Aim 4.** To test whether the presence of PTSD or depression mediate the association between trauma exposure and prosocial behavior..

Baron and Kenny (1986) have discussed four steps in establishing mediation: 1) The

predictor variable (trauma exposure) is significantly associated with the outcome (prosociality); 2) the predictor variable (trauma exposure) is associated with the mediator (PTSD/depression); 3) the mediator (PTSD/depression) effects the outcome (prosociality) and; 4) the effect of the predictor variable (trauma exposure) on the outcome (prosociality) is significantly reduced (partial mediation) or reduced to zero (complete mediation) when the mediator (PTSD/depression) is added to the model.

**PTSD.** As reported in Table 9, trauma exposure had a significant negative association with prosocial behavior in Sierra Leone and a significant positive association with prosocial behavior in Togo and Burkina Faso (step 1). Since Liberia did not meet criteria for step 1 of Baron and Kenny's approach it was left out of subsequent analyses. In an effort to identify the differences that exist across the remaining 3 sites regarding the association between trauma exposure and prosocial behavior, the association between trauma exposure and PTSD was examined (step 2). Logistic regression analyses were conducted to assess this association. Results are presented in Table 12. As expected, total trauma exposure is significantly positively associated with PTSD across all 3 sites, indicating that the more trauma exposure the higher PTSD symptomatology

Table 12

*Logistic Regression Analysis Total Trauma on PTSD Severity across three West African Sites*

	Sierra Leone		Togo		Burkina Faso	
	B	Exp B	B	Exp B	B	Exp B
Total Trauma Exposure	.29	1.33***	.15	1.16***	.25	1.29***

*Note:* \*\*\* $p < .001$ . Gender and age were controlled for in all analyses. Unstandardized beta coefficients (B) and odds ratio (Exp B) from logistic regression analyses are reported.

Next, linear regression analyses were conducted to assess the association between PTSD and prosocial behavior (step 3, Table 13). In Sierra Leone, PTSD was significantly inversely associated with prosocial behavior, (i.e., the higher PTSD severity scores are associated with lower prosociality.) No association was found between PTSD and prosocial behavior in Burkina Faso and was therefore excluded from subsequent analyses as it failed to meet step 3 criterion for establishing mediation.

Table 13

*Linear Regression Analysis for PTSD Severity on Prosocial Behavior across three West African Sites*

	Sierra Leone	Togo	Burkina Faso
	$\beta$	$\beta$	$\beta$
PTSD	-.34***	.09	.12
	Adj. R <sup>2</sup> =.12***	Adj. R <sup>2</sup> =.00	Adj. R <sup>2</sup> =.05**

*Note:* \*\*p<.01;\*\*\*p<.001. Gender and age were controlled for in all analyses.  $\beta$ =Standardized beta coefficients from linear regression analyses are reported.

Sobel (1982) provided a statistical method to determine whether the indirect effect of the independent variable on the dependent variable through the mediator variable is significant (i.e., whether the reduction in the effect of the independent variable, after including the mediator in the model, is a significant reduction). If  $a$  is the unstandardized regression coefficient for the association between the independent variable and mediator and  $s_a$  is its standard error, and if  $b$  is the unstandardized regression coefficient for the association between the mediator and the dependent variable and  $s_b$  is its standard error then the Sobel formula testing for the significance of the mediating variable effects is  $z = ab / \sqrt{b^2 s_a^2 + a^2 s_b^2}$ . Therefore, according to the Sobel test, the intervening variable effect of PTSD was significant ( $z = \pm 1.96$  at 95% confidence interval) only in Sierra Leone ( $z = -3.45$ ), but not in Togo ( $z = 1.29$ ). In sum, when PTSD was entered into

the regression model containing trauma and prosociality (step 4) the standardized regression coefficient for trauma exposure significantly decreased in Sierra Leone (from  $\beta = -.38$  to  $\beta = -.29$ ), indicating the establishment of partial mediation (Table 14).

Table 14

*Linear Regression Analysis for PTSD and Total Trauma on Prosocial Behavior across Sierra Leone and Togo*

	Sierra Leone
	$\beta$
PTSD	-.17+
Total Trauma	-.29**
	Adj. $R^2 = .17***$

*Note:* + $p < .06$ ; \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ . Gender and age were controlled for in all analyses.  $\beta$  = Standardized beta coefficients from linear regression analyses are reported.

**Depression.** To examine the association between trauma exposure and depression and to evaluate whether depression mediated the relationship between total trauma exposure and prosociality a series of logistic and linear regression analyses were conducted. As previously noted, trauma exposure was not significantly associated with prosocial behavior in Liberia and therefore was left out of subsequent analyses as it failed to meet criterion for step 1. Logistic regression analyses revealed that trauma exposure has a significant positive association with depression in Sierra Leone, Togo and Burkina Faso (Table 15). Next Linear regression analyses were conducted to assess the association between depression and prosocial behavior (Table 16). In Sierra Leone, depression was significantly inversely associated with prosocial behavior. In other words, presence of depression is associated with lower prosociality. In Togo, Burkina Faso, and Liberia depression is positively related to prosociality, however results are not significant, therefore step 3 of establishing mediation was not met in these 3 sites.



Linear regression results revealed that in Sierra Leone the relationship between trauma exposure and prosocial behavior was mediated by depression (step 4). The standardized regression coefficient between trauma exposure and prosociality decreased when controlling for depression (from  $\beta = -.38$  to  $\beta = -.30$ ), and the Sobel test ( $z = -3.16$ ) was significant indicating that the indirect effect of trauma exposure on prosociality via the mediator is significant. In Togo, the slight decrease in the standardized regression coefficient between trauma exposure and prosocial behavior when controlling for depression was not significant.

Table 15

*Logistic Regression Analysis Total Trauma on Depression across the three West African Sites*

	Sierra Leone		Togo		Burkina Faso	
	B	Exp B	B	Exp B	B	Exp B
Total Trauma	.14	1.15***	.15	1.16***	.15	1.17**

*Note:* \*\* $p < .01$ ; \*\*\* $p < .001$ . Gender and age were controlled for in all analyses. Unstandardized beta coefficients (B) and odds ratio (Exp B) from 1 logistic regression analyses are reported.

Table 16

*Linear Regression Analysis for Depression on Prosocial Behavior across the three West African Sites*

	Sierra Leone	Togo	Burkina Faso
	$\beta$	$\beta$	$\beta$
Depression	-.32***	.13	.05
	Adj. $R^2 = .12$ ***	Adj. $R^2 = .01$	Adj. $R^2 = .04$ *

*Note:* \* $p < .05$ ; \*\*\* $p < .001$ . Gender and age were controlled for in all analyses.  $\beta$  = Standardized beta coefficients from linear regression analyses are reported.

Table 17

*Linear Regression Analysis for Depression  
and Total Trauma on Prosocial Behavior  
in Sierra Leone*

	Sierra Leone $\beta$
Depression	-.22**
Total Trauma	-.30***
	Adj. R <sup>2</sup> =.19***

*Note:* \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ . Gender and age were controlled for in all analyses.  $\beta$ =Standardized beta coefficients from linear regression analyses are reported.

## Chapter V

## DISCUSSION

The adverse effects of trauma exposure on youth development, behavior and mental health have been well documented and include both internal disturbances that cause distress to the individual and external disturbances that provoke the individual to distress others (Albertyn et al., 2003; Klassen et al., 2010; WHO, 2002). Specifically research suggests that antisocial behavior is rooted in exposure to trauma, while altruism originates from supportive and positive experiences (Machel, 2000; Vollhardt, 2009). Studies on prosocial behavior emphasize supportive childrearing, stable home environments, and healthy peer relationships as factors that lead to healthier adjustment (Quota, Punamaki, & El-Sarraj, 2005).

Although research has traditionally focused on the negative outcomes of trauma exposure, there have been numerous studies that have also shown that individuals are resilient and may show positive change following traumatic experiences (Bonanno, 2006; Staub 2005). Many have argued that adversity leads to increased compassion for the self and mutual understanding of others, which can have a positive impact on psychosocial development and altruism (Luthar&Cicchetti, 2000; Tedeschi, 1999),

In an effort to identify conditions or factors that might nullify or reverse the association between trauma and subsequent negative consequences, this paper examined the relationship between trauma exposure and prosociality in a sample of adolescents from four West African countries, who have lived through significant trauma and loss. In this chapter, a discussion of the research findings will be summarized. The chapter will conclude with a consideration of the of the findings, in the context of research and practice. Limitations of the study will also be presented.

## Summary of Findings

### Aim 1.

Prior to examining the relationship between trauma exposure and prosocial behavior, analyses were conducted to identify the confounding variables that needed to be controlled for in order to isolate the effect of trauma exposure on prosocial behavior. This was done by examining the mean levels of trauma exposure and prosocial behavior by sociodemographic characteristics overall and within each of the four sites. Results showed that females reported significantly higher levels of trauma exposure than males did in Togo, with similar associations found in Sierra Leone and Liberia, although results were not significant. However, in Burkina Faso males report more trauma exposure than females. Older age was significantly associated with trauma exposure for the total sample, however within site analyses showed that this significant association was only held in Sierra Leone. Furthermore, in Togo higher level of trauma exposure was reported among Muslims than non-Muslims.

The results of the current study demonstrate that females are vulnerable to similar if not more hardships when exposed to armed conflict and related loss. The high risk of trauma exposure among girls was also noted in communities marked by poverty and minimal resources. This finding may be explained by reports from the region that have documented that girls who are recruited as child soldiers or trafficked for economic purposes experience frequent rape, impregnation and contraction of sexually transmitted infections (Wessells, 2009). According to Behrendt (2009), more than 50% of girls who have been displaced by trafficking or abducted during war report being repeatedly sexually harassed. This may explain the varying levels of trauma exposure reported by females and males across the four sites. For example, in Togo where females reported more trauma exposure than males, 52.8% of individuals reported at least

one incidence of sexual abuse. In comparison, in Burkina Faso where males reported significantly more trauma exposure than females, only 7.8% of the individuals had experienced at least one incidence of sexual abuse. Research has reported that compared to boys, girls who are trafficked work more hours per day, are exposed to different forms of maltreatment and gain considerably less in terms of money or materials (Behrendt, 2007).

The finding that older children were exposed to a greater number of traumas is probably due to the fact that older children have had more time to be exposed to a traumatic event compared to children who are younger than them. Although, results were significant for the total sample, further within-site analyses of the positive association between trauma exposure and age was only significant in Sierra Leone. This result demonstrates that younger children are just as exposed to multiple forms of violence as older children. It may be that age is associated with the number of times each of the traumas assessed were experienced, however that data was not collected. For example, the trauma events checklist asked each individual whether he/she had ever been slapped, kicked, or punched by a family member, which was one of the items under physical index, however it did not ask how many times that had been experienced.

Results evaluating whether prosocial behavior varied by major sociodemographic variables showed that significantly more prosocial behavior was reported among younger, more educated and non-Muslim children, however results were not consistent across sites. Prosociality had a significant positive association with years of education only in Sierra Leone, while Muslims (reference group) reported significantly more prosocial behavior only in Burkina Faso. In the total sample, gender was not associated with prosocial behavior, although, within-site analysis revealed that males reported more prosocial behavior than females in Sierra Leone and Liberia, while in Burkina Faso, females were significantly more prosocial than males.

In regard to gender and prosocial behavior, prior research has indicated that both men and women engage in prosocial behavior, however they differ in the way they express these behaviors. In general, these patterns are consistent with societal gender roles, which tell men and women what they should do and what is typical of their sex. Specifically, in regards to helping others, women's behaviors are motivated by their need to connect with others; they are relational, friendly, concerned with others, and emotionally expressive. By contrast, men's prosocial behaviors, compared to women, are thought to be motivated by their need to be assertive, competitive, and dominant (Eagly, 2009). Therefore, the direction of sex differences in prosocial behavior may depend on whether the type of helping behavior being assessed is more action focused which are traits associated with men or connection (communal) focused which are traits associated with women. This raises the question of whether the gender differences in prosocial behavior reported across the four sites were a function of the varying type of help/support that was most needed in each of sites.

#### Aim 2.

The second aim was to explore the impact of prosocial behavior on trauma exposure overall, as well as, within and between each of the four sites. As results indicate, age and gender were significantly associated with both the independent variable (trauma exposure) and the dependent variable (prosocial behavior) in at least one site, therefore they were controlled for in all subsequent analyses to maintain uniformity. Overall, total trauma exposure was negatively associated with prosocial behavior in Sierra Leone and Liberia, in that the more trauma exposure the lower the prosocial score, although results were not quite significant in Liberia ( $p = .06$ ). This association was significantly negative across all types of trauma considered separately, except for sexual abuse in Sierra Leone and domestic violence (physical, sexual, verbal abuse and

neglect) in Liberia, where the negative associations were not significant. The inverse association was found in Togo and Burkina Faso, in that trauma exposure had a significant positive association with prosocial behavior. This positive association emerges across all types of trauma considered separately, except for neglect in Togo and general trauma and physical abuse in Burkina Faso.

In order to determine whether the impact of total trauma exposure on prosocial behavior significantly differed between the sites analyses of the interaction of trauma's effect on prosociality as a function of site were examined. Results showed that the effect of trauma exposure on prosocial behavior found in Sierra Leone was significantly different than in Togo, Burkina Faso and Liberia. Furthermore the effects found in Togo and Burkina Faso were significantly different than Liberia, however they were not significantly different from one another.

The contradicting relationship found between trauma exposure and prosocial behavior across the four sites is consistent with previous research that has shown both negative and positive effect of trauma exposure on prosocial behavior (Betancourt, Brennan, Rubin-Smith, Fitzmaurice, & Gilman, 2010; Frazier et. al., 2012). It is important to note that when the data was collected in Sierra Leone and Liberia where trauma exposure was negatively associated with prosocial behavior, there had been recent history of civil war and the collapse of social and economic infrastructures. Research has documented that experiencing violence, in addition to the younger age of involvement and length of trauma exposure all have negative consequences on a child's adjustment and integration into the community (Betancourt, et al., 2010). It has also been shown that in situations of armed conflict it is children who are increasingly exposed to abandonment, abduction, forced soldiering, separation from family, loss of parents and neglect

(Albertyn et al., 2003), all of which negatively impact their trust in others, willingness to cooperate and interest in community needs. Children who have been exposed to violence have an increased concern for their own safety and future, therefore they are less capable of showing care or concern for others.

It has also been proposed that experiencing violence and abuse can increase the need to defend, protect or seek revenge (Dodge, Bates, & Pettit, 1990) Overall, in-group identification during war, with the accompanying anxiety, mistrust and vengeful feelings, may all have negative effects on empathy and prosocial behavior (Haskuka, Sunar, Alp, 2008).

Furthermore, children living in war are at high risk of being orphaned or of having parents whose mental health has also been compromised by traumatic experiences. In both cases, a child's ability to form a positive and secure attachment with his/her primary caregiver is disrupted (Feldman & Vengrober, 2011). Parent-child experiences play a critical role in long-term consequences. In a secure parent-child relationship, the attachment system acts like a safe base that allows children to cope with new and challenging experiences. The attachment system provides a child with the safety to explore their environment, and develop important skills, such as the ability to self-regulate their body and emotions, and build an understanding of self and others (Beebe & Lachman, 1998). Specifically, in the context of a secure parent-child relationship, the child gains an understanding of reciprocity and perspective-taking skills and learns to negotiate with others (Bowlby, 1977). It has been argued that mothers who are warm, caring, nurturing and good at perspective taking have children who are also empathic (Eisenberg et al., 2000). It can be expected that children who have lost their primary caregivers or whose guardians are dealing with their own depression, anxiety, or PTSD miss the opportunity to form



secure and positive attachments and therefore do not attain skills related to emotional self-regulation or reciprocity (Feldman & Vengrober, 2011).

Although much has been written of the adverse effects of trauma, research has also documented positive changes after trauma, including an increase in altruism and prosocial behavior (Frazier, et al., 2012; Tedeschi et al., 2007; Vollhardt, 2009), which is consistent with results that were found in Togo and Burkina Faso. Neither Togo nor Burkina Faso has had history of armed conflict or war, however there is high prevalence of refugee children or children who have been economically trafficked, respectively. In a study looking at the coping behaviors of South Sudanese children who were displaced and living in refugee camps in Northern Uganda, it was found that the Sudanese refugee children reported using more coping strategies compared to Ugandan children who did not have the experience of displacement. Specifically, refugee children scored higher on emotion-focused strategies such as “spending time with others,” “trying to see the good side of things” and looking for advice (Paardekooper, 1999). In addition, Maksoud and Aber (1996) found that children who were separated from their parents and those who had witnessed violent acts towards their families or people in their communities, showed an increase in prosocial behavior

The motivations individuals have reported for prosocial behavior following trauma and suffering have including coping through helping others in need by increasing self-efficacy; identification with others and social integration; and norms of expected reciprocity. The concept of alternative “survivor mission” has also been discussed, referring to a deep commitment by victims of violence to prevent future suffering (Lifton, 2003). It has been found that finding social support and significant connections promotes healing after traumatization (Staub & Vollhardt, 2008). The findings of this study adds to previous research in that it did not

only look at prosocial behavior following one collective event (e.g., 9/11 attacks, Hurricane Katrina etc.), but rather following individual and multiple traumas. As noted earlier, while other studies have shown a positive association between trauma exposure and empathy or intentions to help, the current study demonstrates that good intentions towards others do lead to prosocial actions.

The varying behavioral reactions that follow a traumatic experience can be looked at as coping strategies that attempt to balance the “demands of the environment and the available resources of the individual” (Bettancourt, 2009). Exposure to traumas, such as war, trafficking and displacement has been found to have profound mental health and psychosocial consequences on children (Betancourt et. al., 2010; Masten& Narayan, 2012). In a study on Sierra Leonean former child soldiers that looked at the nature of internalizing and externalizing problems over time, as well as, adaptive/prosocial behaviors and whether post conflict factors contribute to resilient mental health outcomes (Betancourt et al, 2010). It was determined that increases in externalizing problems and decreases in adaptive/prosocial behaviors were associated with killing and injuring others, while internalizing problems were associated with being raped. However, risk and protective factors that were present following conflict, affected the nature and severity of impact that the war had on mental health and adaptive behaviors. For example, it was found that school attendance, social support, higher levels of community acceptance and lower levels of stigma were associated with increases in adaptive and prosocial behaviors post conflict. Therefore our finding that trauma exposure decreases prosocial behavior in some sites while increasing prosocial behavior in others may be a function of the extent or duration of the trauma experienced, or a function of the risk and protective processes in place post trauma exposure.

Aim 3.

For the third aim of the study, the analysis looked at whether the effect of trauma exposure on prosocial behavior varied by gender and/or age and, if so, how. Gender and age were examined for possible moderator effects, as they were both identified as variables that were associated with both trauma exposure and prosocial behavior in at least one site. Gender moderated the relation between trauma exposure and prosocial behavior in Togo. To further understand the significant interaction between gender and trauma exposure found in Togo, the effect of trauma exposure on prosocial behavior was examined for females and males separately. According to results, trauma exposure had a positive significant association with prosocial behavior among girls, but did not significantly impact prosocial behavior among boys. The impact of trauma exposure on prosocial behavior did not vary by age across the four sites. The results are consistent with prior studies that have reported that females show more growth and positive change than men after traumatic events (Powell et al., 2003; Tedeschi & Calhoun, 1996). This may be explained by gender specific social norm and expectations around caretaking and providing emotional support.

#### Aim 4.

The final aim was to examine whether PTSD or depression further explained the effect of trauma exposure on prosocial behavior. According to Baron and Kenny (1986) the first step in establishing mediation is that there must be a significant relationship between the predictor variable (trauma exposure) and the outcome variable (prosocial behavior), which was confirmed in Sierra Leone, Togo and Burkina Faso. Next, there should be a significant relationship between the predictor variable and the mediating variable (step 2). As expected, total trauma exposure had a significant positive association with PTSD and depression across all four sites. In step 3, the mediator should be significantly associated with the outcome variable and finally

the effect of the predictor variable on the outcome should be reduced in an equation including both the mediator and the predictor variable. Given the criterion for establishing mediation, PTSD and depression were found to partially mediate the effect of trauma exposure on prosocial behavior in Sierra Leone. In sum, the negative impact of trauma exposure on prosocial behavior is partially explained by the indirect effect of PTSD and depression.

This study confirmed previous research that has shown that children exposed to traumatic experiences are at risk for developing mental health problems, including PTSD and depression (Catani et al., 2008; Klasen et al., 2010), which interfere with an individual's willingness to interact and connect with others. Many children in Africa living in areas of combat are recruited into armed forces and experience subsequent social isolation arising from their communities' negative attitudes towards them, and their psychiatric disorders that cause them to withdraw or avoid social interaction, particularly if those interactions remind them of their past traumas (Schauer & Elbert, 2010). A symptom that is common in both PTSD and depression is social withdrawal and avoidance (i.e., preference for solitary play and decreased interest in people) (Feldman & Vengrober, 2011). In one study on Ugandan and Congolese child soldiers, children with more PTSD symptoms had significantly more feelings of revenge and less openness to reconciliation. This demonstrates that children with PTSD may have a difficult time processing and overcoming feelings of hate and revenge, therefore deeming retaliation as an appropriate way of dealing with traumatic experiences (Bayer, Klassen, & Adam, 2007). Other consequences of depression and PTSD include irritability, mood lability, sleep disorders, nightmares, fatigue, aggression, fear and difficulty concentrating (Albertyn et al., 2003).

### **Implications for research and practice**

Findings from the present study provide information that may be useful in informing research and clinical work with children in Africa exposed to disaster and trauma. Due to impact of war and refugee situation on community services and social facilities, as well as family breakdown and destruction of social values, children need supportive adults, a sense of security, continued education and opportunities to interact with their peers in order to help them reestablish health and stability (Barenbaum, Ruchkin, & Schwab-Stone, 2004).

Studies of risk and resilience of children exposed to war, terrorism, and disaster have highlighted a common set of protective factors that are associated with better psychosocial outcomes. The protective factors that have been indicated to promote positive adjustment and resilience are discussed on multiple levels including: individual (e.g., self-control and problem solving); familial (e.g., close and supportive relationships with caregivers); communal (social standards); and cultural (e.g., good schools and safe neighborhoods) perspectives (Masten & Narayan, 2012). The results of the study showed that trauma exposure can increase or decrease prosocial behavior, but more information is needed to understand these differences. Future research should look at whether the frequency or type of traumatic events impacts the association between trauma and prosocial behavior. In addition, the current study did not look at whether prosocial behavior was associated with better adjustment or well-being.

The current study showed some support for female gender and higher education as promoting prosocial behavior following trauma, however other personal factors, such as attachment and personality type, may be important to assess in order to fully understand factors that moderate the impact of trauma on prosocial behavior. The results of the study also suggest that a more nuanced examination of gender differences is needed to better understand gender-related differences in exposure, self-report differences on experiences and symptoms between

males and females, and if the long term impacts of trauma vary by gender. In addition, developmental timing plays a major role in understanding the impact of disaster on children. Specifically, factors related to age including level of emotional understanding, cognitive awareness, self-regulation skills, social relationships, connections and physical size can all impact the way a child experiences trauma. Furthermore, there are sensitive periods in a child's development during which trauma may have a larger impact on development. Some may argue that younger children would be more vulnerable to distress if separated from their caregivers or loss of structure, while others may posit that younger children have more plasticity and therefore are better at bouncing back from the effects of loss and trauma. Although, the current study did not show age to moderate the effect of trauma exposure on prosocial behavior, future research looking at the impact of trauma and disaster should not only assess for child's age at the time of data collection, but also the child's age when the trauma was experienced (Masten & Narayan, 2012).

In addition to the trauma children experience or witness during war, post conflict factors may be an important area to focus on in regards to interventions. Interventions are needed that trauma informed and address the specific needs of children who have been exposed to war, economic trafficking and/or displacement. Programs can work directly with children in helping them express and process traumatic experiences through various treatment modalities (e.g., drawing or talk therapy) or with parents and teachers on how to provide modeling for the expression of emotions (Barenbaum, Ruchkin, & Schwab-Stone, 2004). It is also important that families receive help in reducing distress and promoting a calm and stable environment. Interventions that focus on making changes on the community level include efforts to increase community socialization and attendance in school (Betancourt et al, 2010).

## **Limitations**

The study has limitations that should be considered. The matched pair design of the study makes the results difficult to generalize to other populations, given the nonrandom selection of participants. The data also includes the use of self-report data only, which may not be completely reliable. Future research should use non-self-report measures to evaluate whether individuals who are exposed to trauma actually engage in more helping behaviors than individuals who have not experienced similar traumas.

The current study was limited by the use of a five-item prosocial measure from the strengths and difficulties questionnaire and therefore did not assess for behaviors that were more specific to culture or gender. Future research may expand on this area by asking open-ended questions about how and why people help others following a traumatic event. In addition, although there is also a need to use instruments that have been validated across various contexts and settings, this reduces the focus on culture-specific symptoms and diagnosis. It is important to understand culture-specific ways of expressing and healing trauma (Barenbaum, 2004). The importance of culturally grounded approaches are critical in understanding the needs, situation, and resources of children exposed to armed conflict compared to those exposed to refugee or trafficking experiences. This can be done by asking open-ended questions to children and families about their understanding of their situations, what they think would best help their adjustment and integration into their communities and about the supports that have been available that have either helped or not helped their situations.

Another challenge with the data is the lack of baseline data, such that it is unclear whether the reported differences in prosocial behavior following a traumatic experience are related to the exposure of that event or whether the behavior existed before the trauma as data

was collected at only one time point. In sum, it is hard to determine whether differences shown among children after traumatic exposure reflects a change from preexposure functioning when there is no pre- and post-trauma exposure data or comparison data (Masten& Narayan, 2011). Longitudinal studies would also help understand the long term consequences of trauma exposure and inform the type of interventions needed within a certain region. For example, therapeutic interventions following trauma exposure may first need to focus on helping children who are at highest risk for PTSD, followed by the development of social structures that provide children with support and education.

### **Conclusions**

The present study sought to increase understanding of the impact of trauma exposure on prosocial behavior in children of West Africa exposed to armed conflict, economic despair and displacement. Results showed that children in these communities have experienced a great number of traumatic experiences including physical, verbal, sexual abuse and neglect. Although research has focused mostly on the negative trajectory of trauma exposure, there has also been a lot of research that has shown resilience and positive benefits following exposure to a traumatic event. The results of this study expands upon previous research as it documents both positive and negative outcomes following adversity and further highlights the importance of understanding the risk and protective factors associated with childhood adjustment.



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Appendix A

Map of Africa



## Appendix B

ID01 Code \_\_\_\_\_ ID02 Official age of participant \_\_\_\_\_ ID02b estimated age: \_\_\_\_\_  
 ID03 Physically disabled/handicapped: Yes...1 No...2 ID04 Handicap description \_\_\_\_\_

ID05 Date of interview \_\_\_\_/\_\_\_\_/\_\_\_\_ Duration of the interview \_\_\_\_/\_\_\_\_/\_\_\_\_

<b>ÉDUCATION</b>		
Q 114 Years in school	_____ Years	
Q 115 Type of school	Government school .....1 Mission school (church).....2 Koranic school .....3 Lay private school ...4 Never been to school .....5 other (precise).....	
Q 116 Currently, my school level is	Primary school (1- 6).....1 Secondary school (7 – 12) .....2 Not in school anymore.....4 Other (precise).....	
Q117 <b>Religion</b> (One answer)	Muslim... .....1 Traditional religion.....3 Christian .....2 Other (precise).....	
<b>SOCIAL STATUS</b>		
Q118 Are you married?	Yes.....1 No.....2	If no, Q122
Q118a) If yes, at what age?	.....years	
Q 118b) Did you choose/want to get married?	Yes, I choose to get married.....1 I did not have any other option..... .....2 No, I did not want to get married.....3 Other.....4	
Q 118c) If no for 117b, who chose your spouse?	My partner was chosen by.....	
Q 119 If yes, which type of marriage?	Traditional.....1 Civil.....2 Religious .....3	
Q 120 If married do you live together or are you separated?	Together.....1 Separated.....2	
Q 121 If separated; do you have a new partner?	Yes.....1 No.....2	
Q 122 Are you currently working?	Yes.....1 No.....2	If no, Q124
Q 123 If working; what kind	_____	

of work are you doing?		
Q 124 Have you ever been pregnant/ made a girl pregnant?	Yes.....1 No.....2	If no, Q126
Q 125 If yes, how many living children do you have?	_____ children	
Q 126 <b>Social status of parents</b> (do not read the list to the child)	Parents married (not polygamous).....1 Parents married (polygamous).....2 Parents separated/divorced.....3 Father deceased.....4 Mother deceased.....5 Both parents deceased/doubly orphan.....6 Other .....	
Q 126 a) Did your father go to school?	Yes.....1 No.....2 I don't know.....3	
Q127 Did your mother go to school?	Yes.....1 No.....2 I don't know.....3	
Q 128 Do you take part in group activities/ Are you a member of children/youth groups?	Yes.....1 No.....2	
Q 129 Have you ever received help from the government or of an NGO?	Yes.....1 No.....2	
Q129a) if yes, please specify what kind and from who?	..... .....	
Q 130 Have you ever received psychosocial support? <i>Researchers: please paraphrase psychosocial support.</i>	Yes.....1 No.....2	
Q130a) if yes, please specify what kind and from who?	.....	
<b>SITUATION 2: LOSS OF PARENT(S)/GARDIAN</b>		
Q 200 How are you related to your actual guardian? (do not list to the child)	Mother.....1 Father .....2 Aunt.....3 Uncle.....4 Grandmother.....5	Sister.....7 Brother.....8 Neighbor.....9 Cousin.....10 Don't have a guardian any more.11

	Grandfather.....6	Does not know .....12	
	Other.....	No response.....13	
Q 201 Did one/two of your parent (s) or a previous guardian ever disappear?	Yes.....1	No.....2	If no, go to Q 204
	Does not know.....3	Does not answer.....4	
Q 202 If yes, who was it?	Mother... ..1	Guardian.....4	
	Father.....2	Other (precise).....	
	Mother and father....3	.....	
Q 203 If yes, was it	Before the war.....1	After the war .....3	
	During the war.....2		
Q 204 Did one/two of your parent (s) or a previous guardian die?	Yes.....1	No.....2	If no, go to Q 300
	I don't know.....3	Does not answer.....4	
Q 205 If yes, who was it?	Mother... ..1	Guardian.....4	
	Father.....2	Other (precise).....	
	Mother and father....3	.....	
Q 206 If yes, did he die...?	Before the war.....1	After the war .....3	
	During the war.....2		
Q 207 If yes, was she/he killed during the war?	Yes.....1	No.....2	
	I don't know.....3	Does not answer.....4	
Q 208 How has the loss of your parent(s)/ guardian affected your life?	I do not go to school anymore.....1		
	There is more family workload (house chores, fieldwork)....3		
	I have to take care of younger siblings .....4		
	There is less money/food at home.....5		
	I have less personal things (clothes, toys...) .....6		
	No change.....7		
	Other.....		
<b>SITUATION 3: DISPLACEMENT</b>			
Q300 Have you ever been d? (don't include transits of less e months)	Yes.....1	No.....2	If no, go to question 400
	I don't know.....3	Does not answer.....4	
Q 302 Have you ever been d from your family during se) displacement(s)?	Yes.....1	No.....2	
	I don't know.....3	Does not answer.....4	
Q 303 If yes, have you been g that your parent(s) may be	Yes.....1	No.....2	
	I don't know.....3	Does not answer.....4	
Q 304 What were your re and arrival places? (Researcher : precise when the place was a refugee camp)	1: from.....to.....		
	2: from.....to.....		
	3: from.....to.....		
	4: from.....to.....		
	5: from.....to.....		
	6: from.....to.....		

Q 305 How long have you stayed in each of these places?	1:.....months 2:.....months 3:.....months 4:.....months 5:.....months	Not used for SPSS: data was inconsistently filled out
Q 306 Who did you stay	.....	
Q 307 How long have you ck home	.....month I never came back home...2 I don't know.....3 Does not answer.....4	
<b>SITUATION 4: LIFE IN REFUGEE CAMP</b>		
Q 400 Have you ever lived in refugee camp? ( <i>Researcher: see Q 304</i> )	Yes .....1 No .....2 I don't know.....3 Does not answer.....4	If no, go to Q 500
Q 401 If yes, in how many refugee camps have you lived?	..... camp (s)	
Q 402 If yes, how long did you live in that camp/ in these camps? <i>Researcher: please write the name of the camp after the duration</i>	1 <sup>st</sup> camp ..... 2 <sup>nd</sup> camp..... 3 <sup>rd</sup> camp..... 4 <sup>th</sup> camp.....	
Q 403 Who did you stay with?	.....	
Q 404 While staying in the camp, did you have access to ...?	Clean water Yes.....1 No.....2 Enough Food Yes.....1 No.....2 Convenient shelter Yes.....1 No.....2 Freedom to move Yes.....1 No.....2 Opportunity to go to school Yes.....1 No.....2	
Q 404 f) Have you ever been asked to have sex with camp workers in order to get something?	Yes.....1 No .....2 I don't know.....3 Does not answer.....4	If no, go to question 406
Q 405 If yes, what did that person (who wanted to have sexual relations with you) offer you in return?		
Q 406 Have you ever witnessed an invasion in the refugee camp?		If no, go to question 500
Q 407 If yes, who were the invaders?		
<b>SITUATION 5: LIFE IN CAPTIVITY/DETENTION DURING THE WAR</b>		

Q500 Have you ever been arrested?	Yes .....1 No .....2 I don't know.....3 Does not answer.....4	
Q501 Have you ever lived in captivity/detention?	Yes .....1 No .....2 I don't know.....3 Does not answer.....4	If no, go to Q 600
Q 502: Who were the persons retaining you?		
Q 503 When did this event took place?		
Q 504 Where were you held?		
Q 505 For how long?		
Q 506 Can you tell me the circumstances that brought your captivity/detention? <i>(Researcher: do not write again the time, location and perpetrators of the event)</i>		
What were positive and things about living in /detention?		
<b>SITUATION 6: LIFE AMONG FIGHTING FORCES ( REBEL/ GOVERNMENT MILITARY...etc)</b>		
Q 601 Have you ever lived among fighting forces?	Yes ..... No.....2 Does not answer.....3	If no, interview ends here
Q 602 If yes, with what kind of fighting forces was it? <i>(Researcher: specify the name of the group)</i>	A rebel group.....1 A government military group.....2 I don't know.....3 Does not answer.....4	
Q 603 If yes, how did you join this group? <i>(Researcher: make sure the child understands what you mean and give him time to answer)</i>	I was (violently) forced to go (abducted).....1 I volunteered to join.....2 I did not have any choice.....3	
Q604 How did you like living with in this group when you first arrived?	I felt quite satisfied.....1 I wanted to go back home.....2 I strongly hated it.....3 I did not have any feeling.....4 Other.....5	
Q 605 How did you like life in the camp after staying there after some time?	I felt quite satisfied.....1 I wanted to go back home.....2 I strongly hated it.....3 I did not have any feeling.....4	



	Other.....5	
What did you do most of the  <i>(researcher: more than one answer is possible)</i>	Domestic work (cooking, laundering, firewood etc.).....1	
	Carried ammunition, looted goods, wounded comrades.....2	
	Sexual services.....3	
	Combat activities.....4	
	Security/ bodyguard .....5	
	Looting, burning, abductions etc. ....6	
	Messenger/ spy.....7	
Q 607 Have you participated in demobilization/ reintegration activities?	Yes .....1                      No .....2 I don't know.....3              Does not answer.....4	

## Appendix C

UCLA PTSD Index Questionnaire: Code \_\_\_\_\_ Date \_\_\_\_\_

Below is a list of VERY SCARY, DANGEROUS OR VIOLENT things that sometimes happen to people. These are things where someone was HURT VERY BADLY OR KILLED, or could have been. Some people have had these experiences; some people have not had these experiences. Please be honest in answering if the violent thing happened to you, or if it did not happen to you.

LIST OF EVENTS	Ever	During the war	last month
1) Being in a <b>disaster</b> , like a fire, floods or heavy rainfalls. (researcher: adapt)			
2) Being in a bad <b>accident</b> , like a <b>very serious</b> car accident.			
3) Having <b>painful and scary medical treatment in a hospital</b> when you were sick or badly injured/ being so ill you thought you would die.			
4) Being <b>beaten up, shot at, tortured or threatened to be hurt badly</b> in your town/village (including attacks).			
5) Seeing someone in your town/village being <b>beaten up, tortured, shot at or killed</b> .			
6) Seeing a <b>dead body</b> in your town/village (do not include funerals).			
7) Hearing about the ( <b>violent</b> ) <b>death or serious injury</b> of a loved one			
8) Have you witnessed anybody committing suicide?			
9) Have you experienced a mob-execution?			
10) Have you witnessed a landmine explosion?			
11) Have you witnessed a child/ youth punished to severe injury or dead?			
<b>War related questions</b>			
12) Being in place where a <b>war</b> was going on around you (if not, skip to question Nr.27).			
13) Have you been surrounded, lying			

underneath or stepping on dead bodies?			
14) Was your home or properties looted?			
15) Did you ever carry a dead or wounded body during the conflict?			
16) Have you seen houses being burned?			
17) Have you witnessed that anyone close to you abducted or recruited by force?			
18) Were you forced by violence or threat of violence to leave your family?			
19) Have you ever been involved in fighting force (if not, skip to question nr 27)			
20) Have you been abducted/ arrested to join the army?			
21) Have you been forced into military training/ fighting?			
22) Did you have to loot properties/ burn houses?			
23) Have you been forced to punish or abduct people other children?			
24) Did you ever kill someone?			
25) Did you have to take drugs during the time you were with the rebels?			
26) Did you give birth to a child during the time you were with the rebels?			
<b>Domestic Violence</b>			
27) Have your arms being twisted/ have you been pulled by the hair			
28) Have you been threatened (verbally)?			
29) Have you been slapped, kicked or punched on the body, arms or legs?			
30) Have you been slapped, kicked or punched in the face?			
31) Have you been hit with an object (e.g. gas tube/electric cable, shoes, belt, broom, stick, stones)?			
32) Have you been burned with hot water, fire stick/ wood or cigarettes?			
33) Have things been thrown at you?			
34) Have you been tied up or locked up?			

35) Has somebody attempted to strangle or burn you?			
36) Have you been threatened with an object or weapon?			
37) Have you been threatened to be killed?			
38) Have you been injured with a weapon (gun, knife)?			
39) Have you been shouted, screamed, or sworn			
40) Have you been told that you are not good?			
41) Have you been ignored by caretakers? (researcher: explore neglect)			
42) Have you been ridiculed in front of others?			
43) Did you have to wear dirty/ ragged clothes?			
44) Were you not given enough food/ did you suffer hunger?			
45) Have you not being given anything to drink?			
46) Have you seen a family member being punched/ beaten/ kicked?			
47) Have you seen a family member being hit with an object?			
48) Have you seen a family member being burned/ strangled?			
49) Have you seen a family member being injured with a weapon?			
50) Have you seen a family member being threatened to be killed?			
<b>Sexual abuse</b>			
51) Have you been touched in your intimate body parts by someone much older than you?			
52) Have you been forced by an adult person to insert something in any part of your body/ a sexual act?			
If 51 or 52 is YES, otherwise go directly to question 57:			
53) Have you been forced to kiss someone (in a			

sexual way)?			
54) Have you been forced to touch the intimate parts of someone much older than you?			
55) Have you seen someone being touched on intimate body parts against his/her will?			
56) Have you been forced to watch sexual acts?			
57) Have you ever made love/ slept with someone for getting money or presents?			
58) <b>OTHER</b> than the situations described above, has <b>ANYTHING ELSE</b> ever happened to you that was <b>REALLY SCARY, DANGEROUS OR VIOLENT? If yes, please precise what other event:</b> _____			
<b>FOR THE NEXT QUESTIONS, please CHECK YES or NO to answer HOW YOU FELT during or right after the bad thing happened that you just wrote about in Q 59-b.</b>			

60) Were you scared that you would die? Yes [ ] No [ ]
61) Were you scared that you would be hurt badly? Yes [ ] No [ ]
62) Were you hurt badly? Yes [ ] No [ ]
63) Were you scared that someone else would die? Yes [ ] No [ ]
64) Were you scared that someone else would be hurt badly? Yes [ ] No [ ]
65) Was someone else hurt badly? Yes [ ] No [ ]
66) Did someone die? Yes [ ] No [ ]
67) Did you feel very scared, like this was one of your most scary experiences ever? Yes [ ] No [ ]
68) Did you feel that you could not stop what was happening or that you needed someone to help? Yes [ ] No [ ]
69) Did you feel that what you saw was disgusting or gross? Yes [ ] No [ ]

70) Did you run around or act like you were very upset? Yes [ ] No [ ]
71) Did you feel very confused? Yes [ ] No [ ]
72) Did you feel like what was happening did not seem real in some way, like it was going on in a movie instead of real life? Yes [ ] No [ ]

Here is a list of problems people sometimes have after very bad things happen. Please **THINK** about the bad thing that happened to you that you wrote about in Question # 59-b on the page 2. Then, **READ** each problem on the list carefully. **CIRCLE ONE** of the numbers (0, 1, 2, 3 or 4) that tells how often the problem has happened to you **in the past month**.

<i>HOW MUCH OF THE TIME DURING THE</i>	None				Most
1 <sub>D4</sub> I watch out for danger or things that I am afraid of.	0	1	2	3	4
2 <sub>B4</sub> When something reminds me of what happened, I get very upset, afraid or sad.	0	1	2	3	4
3 <sub>B1</sub> I have upsetting thoughts, pictures, or sounds of what happened come into my mind when I do not want them to.	0	1	2	3	4
4 <sub>D2</sub> I feel grouchy, angry or mad.	0	1	2	3	4
5 <sub>B2</sub> I have dreams about what happened or other bad dreams.	0	1	2	3	4
6 <sub>B3</sub> I feel like I am back at the time when the bad thing happened, living through it again.	0	1	2	3	4
7 <sub>C4</sub> I feel like staying by myself and not being with my friends.	0	1	2	3	4
8 <sub>C5</sub> I feel alone inside and not close to other people.	0		2	3	4
9 <sub>C1</sub> I try not to talk about, think about, or have feelings about what happened.	0	1	2	3	4
10 <sub>C6</sub> I have trouble feeling happiness or love.	0	1	2	3	4
11 <sub>C6</sub> I have trouble feeling sadness	0	1	2	3	4

or anger.					
12 <sub>D5</sub> I feel jumpy or startle easily, like when I hear a loud noise or when something surprises me.	0	1	2	3	4
13 <sub>D1</sub> I have trouble going to sleep or I wake up often during the night.	0	1	2	3	4
14 <sub>AF</sub> I think that some part of what happened is my fault.	0		2	3	4
15 <sub>C3</sub> I have trouble remembering important parts of what happened.	0	1	2	3	4
16 <sub>D3</sub> I have trouble concentrating or paying attention.	0	1	2	3	4
17 <sub>C2</sub> I try to stay away from people, places, or things that make me remember what happened.	0	1	2	3	4
18 <sub>B5</sub> When something reminds me of what happened, I have strong feelings in my body, like my heart beats fast, my head aches, or my stomach aches.	0	1	2	3	4
19 <sub>C7</sub> I think that I will not live long .	0	1	2	3	4
20 <sub>D2</sub> I have arguments or physical fights	0	1	2	3	4
21 <sub>C7</sub> I feel pessimistic or negative about my future	0	1	2	3	4
22 <sub>AF</sub> I am afraid that the bad thing will happen again.	0	1	2	3	4

## Appendix D

### Strengths and Difficulties Questionnaire (SDQ)

Please give your answers on the basis of how things have been for you over the last six months.

	Not True	Somewhat True	Certainly True
1-I try to be nice to other people. I care about their feelings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2-I get a lot of headaches, stomach-aches or sickness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3-I usually share with others (food, games, pens etc)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4-I am usually on my own. I generally play alone or keep to myself	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5-I am helpful if someone is hurt or feeling ill	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6-I have one good friend or more	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7-Other people my age generally likes me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8-I am kind to younger children	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9-Other children or young people pick on me or bully me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10-I often volunteer to help others (parents, teachers, children)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11-I get on better with adults than with people my own age	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12- I pee in my bed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13- It happens to me to have seizures or convulsions (your body moving or shaking and you cannot control it)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14- I often feel faint or dizzy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15- My ears often buzz and I sometimes hear bizarre things	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16- I am often constipated	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17- I sometimes look fixedly in front of me without thinking of anything	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18- When I am tired, I have the feeling that an outside power takes control over me and decides at my place what to do	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Duration of questionnaire: \_\_\_\_\_ minutes



## Strengths and Difficulties Questionnaire :*Evaluation sheet*

Code \_\_\_\_\_

<b>Peer problems scale</b>			
4. I am usually on my own. I generally play alone or keep to myself	0	1	2
6. I have one good friend or more	2	1	0
7. Other people my age generally like me	2	1	0
9. Other children or young people pick on me or bully me	0	1	2
11. I get on better with adults than with people my own age	0	1	2
<i>Total Score peer problems scale</i>		Value to be entered in SPSS	
<b>Pro-social Scale</b>			
1. I try to be nice to other people. I care about their feelings	0	1	2
3. I usually share with others (food, games, pens etc)	0	1	2
5. I am helpful if someone is hurt or feeling ill	0	1	2
8. I am kind to younger children	0	1	2
10. I often volunteer to help others (parents, teachers, children)	0	1	2
<i>Total score prosocial skills</i>		to be entered in SPSS	

### Interpretation of the scores (please circle)

	Normal	Borderline	Abnormal
1) Peer problem scale	0 - 3	4 -5	6 - 10
Pro-social skills	6 -10	5	0 -4

## Appendix E

**MINI INTERNATIONAL NEUROPSYCHIATRIC INTERVIEW**

	<b>MODULES</b>	<b>TIME FRAME</b>	<b>MEETS CRITERIA</b>
A	MAJOR DEPRESSIVE EPISODE	Current (Past 2 weeks)	<input type="checkbox"/>
B	SUICIDALITY	Lifetime	<input type="checkbox"/>
		Current (Past Month)	<input type="checkbox"/>
		Risk: <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High	
	Child has already made a suicide attempts in his life? Yes <input type="checkbox"/> no <input type="checkbox"/>		
	Child has a plan to kill himself Yes <input type="checkbox"/> no <input type="checkbox"/>		
	If yes, please specify what kind of plan: _____		
C	DYSTHYMIA	Current (Past 1 year)	<input type="checkbox"/>
E	PANIC DISORDER	Current (Past Month)	<input type="checkbox"/>
		Lifetime	<input type="checkbox"/>
F	AGORAPHOBIA	Current <input type="checkbox"/>	
G	SEPARATION ANXIETY DISORDER	Current (Past Month)	<input type="checkbox"/>
H	SOCIAL PHOBIA	Current (Past Month)	<input type="checkbox"/>
I	SPECIFIC PHOBIA	Current (Past Month)	<input type="checkbox"/>
J	OBSESSIVE COMPULSIVE DISORDER/	Current (Past Month)	<input type="checkbox"/>
K	PTSD	Current (Past Month)	<input type="checkbox"/>
L	ALCOHOL DEPENDENCE	Past 12 Months	<input type="checkbox"/>
L	ALCOHOL ABUSE	Past 12 Months	<input type="checkbox"/>
M	SUBSTANCE DEPENDENCE	Past 12 Months	<input type="checkbox"/>
M	SUBSTANCE ABUSE (Non-alcohol)	Past 12 Months	<input type="checkbox"/>
N	TOURETTE'S DISORDER	Current	<input type="checkbox"/>
	MOTOR TIC DISORDER	Current	<input type="checkbox"/>
	VOCAL TIC DISORDER	Current	<input type="checkbox"/>
	TRANSIENT TIC DISORDER	Current	<input type="checkbox"/>
O	ADHD COMBINED	Past 6 Months	<input type="checkbox"/>
	ADHD INATTENTIVE	Past 6 Months	<input type="checkbox"/>
	ADHD HYPERACTIVE/IMPULSIVE	Past 6 Months	<input type="checkbox"/>
P	CONDUCT DISORDER	Past 12 Months	<input type="checkbox"/>
Q	OPPOSITIONAL DEFIANT DISORDER	Past 6 Months	<input type="checkbox"/>
R	PSYCHOTIC DISORDERS	Lifetime	<input type="checkbox"/>
		Current	<input type="checkbox"/>

## A. MAJOR DEPRESSIVE EPISODE

### In the past two weeks:

A1 Have you felt sad or depressed? Felt down or empty? Felt grouchy or annoyed?

IF YES TO ANY, CONTINUE. IF NO TO ALL CODE NO.

Have you felt this way, most of the day, nearly every day ? NO YES

A2 Have you been bored a lot or much less interested in things (Like playing your favorite games)?

Have you felt that you couldn't enjoy things?

IF YES TO ANY CONTINUE. IF NO TO ALL CODE NO.

Have you felt this way, most of the day, nearly every day ? NO YES

IS A1 OR A2 CODED YES? NO YES

### A3 In the past two weeks, when you felt depressed / grouchy / uninterested:

a Were you less hungry or more hungry most days? Did you lose or gain weight without trying? [i.e., by  $\pm 5\%$  of body weight or  $\pm 8$  lbs. in the past month]? NO YES

IF YES TO EITHER, CODE YES

b Did you have trouble sleeping almost every night ("trouble sleeping" means trouble falling asleep, waking up in the middle of the night, waking up too early or sleeping too much)? NO YES

c Did you talk or move slower than usual? Were you fidgety, restless or couldn't sit still? NO YES

IF YES TO EITHER, CODE YES

d Did you feel tired most of the time? NO YES

e Did you feel bad about yourself most of the time? Did you feel guilty most of the time? NO YES

IF YES TO EITHER, CODE YES

f Did you have trouble paying attention? Did you have trouble making up your mind? NO YES

IF YES TO EITHER, CODE YES

g Did you feel so bad that you wished that you were dead? Did you think about hurting yourself? Did you have thoughts of death? Did you think about killing yourself? NO YES

IF YES TO ANY, CODE YES

ARE 5 OR MORE ANSWERS (A1, A2 AND A3a-g) CODED YES?

NO

YES

**MAJOR DEPRESSIVE  
EPISODE CURRENT**

**K. POSTTRAUMATIC STRESS DISORDER**  
**RESEARCHER PLEASE MATCH WITH UCLA**

K1	Has anything really awful happened to you? Like being in a flood, tornado or earthquake? Like being in a fire or a really bad accident? Like seeing someone get killed or hurt really bad. Like being attacked by someone?	NO	YES
K2	Did you respond with intense fear, feel helpless or horrified?	NO	YES
K3	<b>In the past month</b> , has this awful thing come back to you in some way? Like dreaming about it or having a strong memory of it or feeling it in your body ?	NO	YES
K4	<b>In the past month:</b>		
a	Have you tried not to think about this awful thing?	NO	YES
b	Have you tried to stay away from things that might remind you of it?	NO	YES
c	Have you had trouble remembering some important part of what happened?	NO	YES
d	Have you been much less interested in your hobbies or your friends?	NO	YES
e	Have you felt cut off from other people?	NO	YES
f	Have you noticed that you don't have strong feelings about things?	NO	YES
g	Have you felt that your life will be shortened or that you will die sooner than other people?	NO	YES
	<b>SUMMARY OF K4: ARE 3 OR MORE K4 ANSWERS CODED YES?</b>	NO	YES
K5	<b>In the past month:</b>		
a	Have you had trouble sleeping?	NO	YES
b	Have you been moody or angry for no reason?	NO	YES
c	Have you had trouble paying attention?	NO	YES
d	Were you nervous or "jumpy"?	NO	YES
e	Would you jump when you heard noises? Or when you saw something out of the corner of your eye?	NO	YES
	IF YES TO EITHER, CODE YES		
	<b>SUMMARY OF K5: ARE 2 OR MORE K5 ANSWERS CODED YES?</b>	NO	YES

**In the past month**, have these problems upset you a lot? Have they caused you to have problems at school? At home? With your friends?

0 ANY, CODE YES

NO	YES
<b>PTSD</b>	
<b>CURRENT</b>	

