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In our 24th edition, we are privileged to reproduce the above 2012 article by Professor Emmy Werner. It is worth noting that the ‘risk, resilience and recovery’ framework used by this highly distinguished researcher in her analysis of the impact of war upon children in fact derives originally from her own ground breaking 40 year longitudinal study on the Hawaiian island of Kauai1. In that seminal study, Professor Werner and colleagues followed up a cohort of children born in 1955 from birth to the age of 40 years. The study confirmed prior research showing that early environmental ‘risk’ factors such as trauma, parental mental illness, alcoholism or criminality, were associated with negative developmental outcomes in children such as persisting emotional and behavioural disorders.

Importantly, the Kauai study went further to reveal factors that seemed to protect children from the negative effects of ‘risk’ factors. One-third of that sample appeared to be resilient, i.e. they grew up to be ‘competent, confident and caring adults’2. Further, even in adulthood certain experiences could play an important role in facilitating social and psychological ‘recovery’ in those who had previously shown poor childhood outcomes. The recent research focus on resilience and recovery in children affected by war and armed conflict owes much to Professor Werner’s early work, and her subsequent studies of how war can impact upon children’s developmental trajectories.

Professor Werner’s 2012 review article that we publish today is wide ranging, covering studies of children who survived World War II as well as research examining the impact of more recent wars upon children in Europe, Asia and Africa. Of particular interest to readers of our own psychosocial website, is her analysis of how certain child soldier experiences, such as killing others or the experience of rape, can have ‘particular toxic’ effects (p554). Professor Werner identifies risk factors for children in war situations (e.g. the age of the child) and protective factors (e.g. social support from peers and teachers), some of which resonate with those also important for children more generally.

The utility of interventions using existing social structures, such as schools, is highlighted, and finally Professor Werner considers where research needs to go next if we are to fully understand the nature of risk and resilience trajectories in war affected children.

Dr Linda Dowdney
Editor
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2 Ibid, p11.
This article reviews and reflects on studies that have explored the effects of war on children around the world. Most are cross-sectional and based on self-reports. They describe a range of mental health problems, related to dose effects and to the negative impact of being a victim or witness of violent acts, threats to and loss of loved ones, prolonged parental absence, and forced displacement. The more recent the exposure to war, and the older the child, the higher was the likelihood of reported posttraumatic stress disorder symptoms. Especially vulnerable to long-term emotional distress were child soldiers, children who were raped, and children who had been forcibly displaced. In adulthood, war-traumatized children displayed significantly increased risks for a wide range of medical conditions, especially cardiovascular diseases. Among protective factors that moderated the impact of war-related adversities in children were a strong bond between the primary caregiver and the child, the social support of teachers and peers, and a shared sense of values. Among the few documented intervention studies for children of war, school-based interventions, implemented by teachers or locally trained paraprofessionals, proved to be a feasible and low-cost alternative to individual or group therapy. More longitudinal research with multiple informants is needed to document the trajectories of risk and resilience in war-affected children, to assess their long-term development and mental health, and to identify effective treatment approaches.

Since Norman Garmezy (1983) first reviewed the research on the impact of war on children’s well-being, the scope of armed conflicts around the globe has grown significantly. More than one billion children under the age of 18 live today in countries affected by civil wars: in sub-Saharan Africa, Southeast and South Central Asia, Latin America, and the Middle East (United Nations, 2009). Nearly half of the casualties in these wars are children. In Europe, the child survivors of the Yugoslavian civil wars and of World War II are dealing with the long-term impact of war trauma on their mental and physical health in adulthood and old age.

My article will address some of the lessons we have learned from the research that focuses on the development and mental health of children of war. My interest is quite personal: between the ages of 10 and 15, during World War II (WWII), I experienced daily and nightly air raids, bombing and shelling that disrupted my schooling, the loss of family members, and the absence of my father who served in the Air Force and became a prisoner of war. But I also witnessed the tremendous resilience of my peers (Werner, 2000). Hence, I appreciate the opportunity to discuss not only the risk factors that lead to mental health problems among children of war, but also the protective processes that lead to their resilience and recovery.

Much of the research on children and war has been cross-sectional in nature and is based on self-reports by school-age children and teenagers. Very little research has embraced a developmental perspective and there are few longitudinal studies (Betancourt, 2011). To date, we have only limited data on the long-term consequences of differential timing of exposure to war. The evidence that exists suggests that younger children may exhibit more acute symptoms of distress in response to separation from their caregivers; older children may be more traumatized because of their higher exposure to violence and their greater awareness of the negative consequences of armed conflict (Masten & Narayan, 2012).

Risk Factors

The psychological literature describes a range of mental sequelae associated with children’s exposure to war (American Psychological Association, 2010). Most commonly reported are elevated symptoms of posttraumatic stress disorder (PTSD), depression, and anxiety disorders. PTSD is characterized by the presence of three distinct, but co-occurring symptom clusters: *reexperiencing symptoms* describe spontaneous intrusions of traumatic memory in the form of images or nightmares; *avoidance symptoms* involve restricting thoughts and distancing oneself from reminders of the traumatic event; and *hyperarousal symptoms* include insomnia, irritability, impaired concentration, hypervigilance, and increased startle responses.

Higher rates of trauma appear to have a “dose effect” in war-affected children: more frequent and severe trauma exposure leads to self-reports of worse psychological outcome. A systematic review of 17 studies of 7,920 children (ages 5–17
years), exposed to wars in Bosnia, Cambodia, Central America, the Middle East, and Rwanda reported PTSD as the primary outcome, with an overall pooled estimate of 47% (Attanayake et al., 2009). In addition, four studies reported elevated depression (pooled estimate: 43%), and three studies reported elevated anxiety disorders (pooled estimate: 27%). The more recent the exposure to war (which ranged from 1 month to 5 years in these studies), the higher the likelihood of PTSD in the children.

The dose–effect relationship between war trauma and mental health problems only partially describes the experience of war-affected children. Some authors report differential relationships between various types of war trauma, PTSD, mental health symptoms, and adaptation. Macksoud and Aber (1996) examined the type of war trauma faced by 224 Lebanese children (ages 10–16), and the relation of such traumatic experiences to their psychosocial development. Certain types of war trauma rendered the children more likely to exhibit PTSD. Such experiences were being a victim or witness of violent acts; being exposed to heavy shelling or combat, and the loss of loved ones. Children who were separated from their parents reported more depressive symptoms.

Several studies from the former Yugoslavia sought to “unpack” different dimensions of war exposure and their respective impact on the postwar adjustment of youths. They came to similar conclusions. Kuterovac-Jagodić (2003) examined symptoms of posttraumatic stress in 252 elementary school children from Croatia who had been subjected to massive military attacks from Yugoslavian forces. The children were first assessed in 1994, while the war was still going on, and then 30 months after the war. Children who were less likely to recover from PTSD symptoms over time were those with stronger short-term posttraumatic stress reactions and with higher eyewitness exposure to violence.

Duraković-Belko, Kulenović, and Dapić (2003) found that personal life threats, life threats to loved ones, and deaths of family members were the strongest predictors of PTSD and depression in 393 secondary school students from Sarajevo (average age = 17), 1 year after the end of the war. Layne et al. (2010) reported that four wartime variables predicted functional impairment in 861 Bosnian students (ages 13–19): witnessing violence, life threats, loss of loved ones, and displacement. Five years after the end of the war, a third of these youths still reported serious PTSD symptoms. Older students reported more PTSD symptoms, younger ones displayed more emotional and psychosomatic problems (Gavranidou, 2007).

Some 300,000 children (40% girls) are currently being used as child soldiers around the world. Once recruited, children might be used as fighters or for noncombat purposes, including sexual ones. There is a dearth of research on both the short-term mental health impact of being a child soldier and the long-term effects of the experience.

Studies conducted in Angola, Mozambique, Uganda, and Somalia report that the majority of the child soldiers had been in life or death situations, had witnessed people being killed, and had lost family members or close friends in the war (Wessells, 2006). Wounding or killing others and rape are two forms of violence that are common among former child soldiers and appear to have a particular toxic influence on their long-term psychosocial adjustment because of their intensity and intimacy.

Only a few studies have addressed the mental health and psychosocial functioning of former child soldiers over time. Santacruz and Arana (2002) interviewed 239 former child soldiers in El Salvador 10 years after the end of the civil war. A third each reported persistent sleep problems, depression and nervousness, and annoyance and anger. In a follow-up of 39 (male) child soldiers from Mozambique, Boothby, Crawford, and Halperin (2006) found that 16 years after their return to civilian life, 50% of the participants still reported physical and emotional reactions indicative of traumatic stress reactions. Betancourt and her associates (2010) report from a 2-year follow-up study of 156 male and female child soldiers in Sierra Leone (age 10–18) that boys who had wounded or killed during the war showed an increase in hostility, and girls who survived rape displayed higher levels of anxiety and depression over time. The magnitude of the effects of war-related stress, such as surviving rape and being involved in wounding or killing, was much larger than those associated with protective factors, such as staying in school or community reintegration.

One of the few long-term follow-up studies of a group of war-traumatized children followed some 40 Khmer youths who had suffered massive war trauma from adolescence into adulthood (Sack, Him, & Dickson, 1999). They had endured the horrors of the Pol Pot regime in Cambodia between the ages of 8–12 years, and were first interviewed when they were students at a high school in Portland, Oregon (mean age = 17 years). They were reinterviewed 3, 6, and 12 years later.

Fifty percent had been diagnosed with PTSD symptoms and 48% with depression when they were first seen in high school. Rates of depression dropped to 14% 12 years later, but the PTSD diagnosis persisted for more than a third (38% and 35%, respectively) 6 and 12 years later. Current PTSD symptoms (at age 29) were associated with specific childhood traumatic memories from 20 years past. Despite the persistence of PTSD over time, these Khmer refugees appeared to make the transition into American culture quite successfully. Most were pursuing either educational or occupational goals, and only two (with severe PTSD) were receiving financial aid.

Several studies in Germany have explored the long-term effects of war trauma on the physical and mental health of men and women who were children in World War II. An interdisciplinary longitudinal study of aging (Schmitt, 2007) explored the relationship between the health status, at ages 60–65 years, of 249 men and 234 women, born between 1930 and 1932, who were war children. Those who had been exposed to bombing and combat as children were 2.3 times more likely to have severe illnesses in their early sixties;
those who had been actively involved in fighting were 4.9 times more likely to be in poor health, as judged by a physician. An enforced separation from parents during World War II increased the likelihood of poor health among the elderly 3.6 times. In a population-based study of 1,456 Germans, ages 60–85 years, Glaesmer, Brähler, Gündel, and Riedel-Heller (2011) found significantly increased risks for a wide range of medical conditions for war-traumatized participants. Especially significant were the associations between current PTSD and cardiovascular diseases.

Another longitudinal study in Mannheim (West Germany) followed cohorts of 600 men and women, born in 1935, 1945, and 1955 into the mid-1980s and 1990s. Fifty years after the end of WWII, men and women in the 1935 and 1945 birth cohorts displayed significantly more psychosomatic and psychiatric symptoms if they had been separated from their father for a long period of time during their first 6 years of life (some 56% of the individuals born in 1935 and some 37% of those born in 1945 had experienced the prolonged absence of their fathers in early childhood). Individuals with serious symptoms reported an increase in their intensity over time (Franz, 2006).

Some 12 million Germans (mostly from the Eastern territories) were displaced in WWII. Several studies have explored the long-term consequences of expulsion and flight in aging former refugee children (Kuwert, Brähler, Glaesmer, Freyberger, & Decker, 2009; Muthz et al., 2011; Strauss, Dapp, Anders, von Rentel-Druse, & Schmidt, 2011). They report that forced displacement as a child in WWII was significantly associated with higher levels of anxiety and depression, and lower levels of life satisfaction and health at ages 70–75 years. Overall, displaced former WWII children were exposed to almost twice as many traumatic experiences (including rape) than nondisplaced children of war. PTSD and poor (self-reported) health was significantly associated with the number of multiple war trauma experienced more than 60 years earlier.

At the end of World War II, about 1.9 million German women and girls were raped, most by invading Soviet soldiers (von Münch, 2009). Some 10% of the raped women committed suicide; some 200,000 children were conceived by rape. The only study of raped German females has been published by Kuwert et al. (2010), who interviewed 27 elderly women (mean age = 80 years). They had been raped when they were 16–17 years old. Nearly half of the women suffered from significant posttraumatic symptoms more than 60 years after the wartime rapes in 1945, and 80% reported having been impaired in their sexuality during their lifetime.

A caveat is in order

Most child survivors of war who participated in long-term follow-up studies report no significant relationships between adverse experiences during the war and enduring patterns of emotional distress. Although the cumulative (dose) effect of multiple war trauma was the best predictor of who was likely to develop PTSD symptoms in later years, the distress of such symptoms did not necessarily produce psychological disability or poor psychosocial outcomes.

Protective Factors and Pathways to Resilience in Children of War

A number of protective factors appear to moderate the impact of war-related adversities in children. These are similar to those found in longitudinal studies of young people who have successfully overcome domestic adversities (Werner, 2007). Among them are a strong bond between the primary caregiver and the child; the mother’s mental health; the availability of additional caregivers, such as grandparents and older siblings; the social support of members in the community who are exposed to the same hardships, especially teachers and peers, a shared sense of values; a religious belief that finds meaning in suffering; the assumption of responsibility for the protection and welfare of others; an internal locus of control, and the use of humor and altruism as defense mechanisms.

These factors have shown to have a positive impact on children’s mental health in a variety of conflict settings: in sub-Saharan Africa, Asia, Central America, and Europe (Betancourt et al., 2010; Klasen et al., 2010; Werner, 2000, 2007). Future research on war-affected children should pay close attention to coping and meaning making on the individual level, the role of attachment relationships, the caregivers’ mental health, and the social support available in peer networks and in school (Betancourt & Khan, 2008).

Positive psychological changes after the war have been reported by a number of child survivors who were studied in late adulthood. They include Americans who had enlisted before age 18 and were combat veterans in Europe and the Pacific and Germans who were among the 200,000 boys (ages 9–17 years) who had been drafted and deployed as antiaircraft auxiliaries. One of the boys would later be elected Chancellor of the Federal Republic of Germany, and another would become Pope Benedict XVI.

Although they had been enemies, these former child soldiers shared an affirmation and appreciation of the value of life. They believed that their world was meaningful, and they were committed to alleviate the suffering of others. The processing of their traumatic war experiences, although painful, contributed to their personal growth and their strong sense of coherence in later life (Forstmeier, Kuwert, Spitzer, Freyberger, & Maerckler, 2009; Werner, 2007).

It needs to be kept in mind that the low prevalence of posttraumatic stress symptoms among these former child soldiers might be related to their advanced age at follow-up. Two longitudinal studies in the United States (at Berkeley and Harvard) have shown that young veterans who had been involved in heavy combat died prematurely (before the age of 65), most from cardiovascular diseases. The participants in the studies of posttraumatic growth appear to be a relatively resilient group of long-time survivors (Kuwert et al., 2008; Werner, 2007).
Psychosocial Interventions for War-Affected Children: Aiding the Process of Recovery

Research focusing on the resilience of children of war and their posttraumatic growth has identified potentially modifiable protective processes that may become targets of intervention. Once the armed conflict has stopped, basic needs must be met and a sustainable sanitary environment restored. This includes the provision of primary health care, efforts to halt communicable diseases (e.g., cholera, TB), access to clean water, food, shelter, and sanitation. Educational activities should be established or restored as soon as possible (Barenbaum, Ruchkin, & Schwab-Stone, 2004).

School-based interventions

Classroom settings provide predictable routines, rules, and training in academic skills neglected during armed conflicts. They also offer the opportunity for social interactions and friendships with peers with traumatic war experiences, as well as supportive relationships with teachers. Both contribute to the psychological well-being of war-traumatized children. Persson and Rousseau (2009) reviewed several outcome studies that evaluated school-based interventions in Gaza, Indonesia, and the former Yugoslavia. Most studies reported a reduction in PTSD symptoms and depression, and two observed a decline in functional impairment.

A teacher-led intervention aimed at preventing posttraumatic stress in school children was recently reported by Wolmer, Hamiel, and Laar (2011). Stress inoculation training (SIT) was added to the curriculum of fourth and fifth graders in six schools in a city in southern Israel, 9 months before a 3-week conflict with continuous rocket attacks. Three months after the attacks the children in the schools who had been taught adaptive coping skills displayed significantly fewer symptoms of PTSD than children in schools who had not received any stress inoculation training before the attacks.

In sum, school-based interventions implemented by teachers or locally trained paraprofessionals appear to be a feasible and low-cost alternative to individual or group therapy for children and adolescents exposed to the trauma of war.

Group versus individual therapy

Macksoud (2000) has written an excellent manual intended for parents and teachers, designed to help children cope with the stress of war, including advice on how to deal with specific problems, such as aggression, anxieties, depression, grieving, and difficulties in school work. It also includes helpful suggestions on how to identify severe problems, such as PTSD, and what “therapeutic” environment to turn to.

Group work is usually the treatment of choice for war-traumatized children and youths. Children who have had similar experiences are usually placed together in small groups. A feeling of belonging together and having gone through similar trauma, such as bombing, displacement, or loss of family members can facilitate the healing process, as I experienced after the war (Werner, 2000). Individual therapy can be offered to children of war whose problems persist despite group intervention. It seems especially appropriate for individuals with long-term problems that persist into adulthood or resurface in retirement (Franz, 2006).

Relatively little has been written about specific therapy techniques for war-affected children, and even less is known about their effectiveness. The first systematic review of the efficacy of various treatment approaches noted a lack of rigorous studies evaluating psychosocial and mental health care for children of war in low- and middle-income countries (Jordans, Tol, Komproe, & de Jong, 2009). The review drew on 66 articles describing activities in 18 countries in Africa, Asia, Central America, Europe, and the Middle East. All but one of the studies evaluated group interventions.

A wide range of treatment modalities was reported, including creative–expressive, recreational, and psychoeducational activities. Creative–expressive approaches included techniques, such as story telling, drawing, writing, role playing, and performing psychodrama. Few explicit therapies were reported. Among them were cognitive behavioral therapy, trauma/grief focused group therapy, and parent–child interaction therapy. Mainly, the treatment of children of war has focused on community-based approaches.

Most intervention studies were evaluated positively, but with only moderate treatment effects that were sustained up to 1 year in a few cases. Positive treatment effects included reduction of PTSD symptoms, depression, and grief, and an increase in hope, optimism, self-confidence, problem-solving, and communication skills.

Future Directions

In recent years, there has been a significant increase in research on the effects of war on children in developing countries, including several longitudinal studies in Africa and Asia. More attention has been paid to ethical and measurement issues and to the evaluation of programs designed to aid in the recovery of war-affected children. But in order to gain a more thorough understanding of the long-term effects of war on children we need more longitudinal studies that recruit representative samples, establish the cultural relevance and validity of the instruments used, and provide input from multiple informants. There is an urgent need to learn more about the fate of children who encountered the most intense and intimate trauma of war, such as child soldiers who killed and teenage girls who were raped.

We also need to understand the impact of parental deployment on military children whose parents have served in the Iraq and Afghanistan wars (Park, 2011). Cross-sectional studies suggest that extended and repeated parental deployments may have a negative impact on their offspring. Length of deployment appears to be significantly associated with a number of family-, peer-, and school-related difficulties for both boys and girls (Lester et al., 2010).
Given the increase in maternal deployment in current wars, we need to know if children are experiencing more difficulties with maternal than paternal absence (Chandra et al., 2010; Wadsworth and Riggs, 2011). The effectiveness of programs that assist military children and their families with issues surrounding parental deployment and reintegration need to be evaluated (Saltzman et al., 2011).

A great deal of mental health care delivered to war-affected children around the world is not documented in standardized ways. Research aimed at identifying the efficacy of various treatment modalities is urgently needed. The long-term effects on biological as well as psychological factors, is essential for discovering the processes that contribute to the vulnerability and resilience of children of war (Cicchetti, 2010).

Above all, we need to listen to the children. They can tell us better than any professional “expert” what war does to the human spirit. They have witnessed it, close up and defenseless. They have learned, as I did, that war is not good for children.

References


longitudinal study of adulthood: Consequences of collective war trauma in adulthood. In I. Fooken & J. Zinnecker (Eds.), Trauma und Resilienz (pp. 109–120). Munich: Juventa Verlag.


Werner, E. E. (2007). Resilience and protective factors in the lives of individuals who were children and youths in World War II. In I. Fooken & J. Zinnecker (Eds.), Trauma und Resilienz (pp. 47–55). Munich: Juventa Verlag.

