Schooling, Family, and Individual Factors
Mitigating Psychological Effects of War on Children

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Old men declare war. But it is the youth that must fight and die.
-Herbert Hoover

Introduction
Studies on the effects of war on children, from World War II to the present, have presented different paradigms and have yielded mixed results. Some researchers reported non-significant differences between children exposed to different degrees of violence, suggesting "adaptation" or "habituation" (e.g. Bodman, 1941; Jensen & Shaw, 1993; Nashef, 1992; Ziv & Israeli, 1973), that is, the strength of children's anxiety and other psychological responses decreased with repeated exposure to war stimuli. Others focused on the parent-child relationship, pointing to the detrimental absence of a caring parent to act as a buffer against trauma (e.g. Despert, 1942; Freud & Burlingham, 1943; Lowenfeld's work in Urwin & Hood-Williams, 1988). Yet other researchers suggested that developmental tasks are interrupted by war, which negatively affects how children view themselves, others, and society (e.g. González-Cantón, 1989; Martín-Baró, 1990; and Tortorici-Picado, 1988; as well as Arroyo & Eth, 1985, in their study of Salvadoran refugees in the United States). As Gary Ladd and Ed Cairns stated in their 1996 review for a special section on children and political violence in Child Development, "Unfortunately, the research literature on... political violence is at a very early stage, and much remains to be learned about how this type of violence affects children and their development" (p. 15).

Addressing the needs of civilians affected by war deserves far more attention than national and international organizations are capable of giving (Ressler, Tortorici, & Marcelino, 1993; Ronstrom, 1989), especially in low income countries (Desjarlais, Eisenberg, Good, & Kleinman, 1995). Part of the problem of providing assistance, however, is the lack of research regarding the effects of war on civilians (e.g. Jensen & Shaw, 1993). Empirical evidence is needed on the types and frequency of psychological problems of civilians exposed to war, and on the gender, age, family, and community variables that may moderate the strength and nature of wartime effects (Jensen & Shaw, 1993). As we increase our knowledge of those factors, interventions may become more effective and less expensive. The purpose of my study is to provide quantitative information on the psychological effects of war on the children of El Salvador, and the factors that mitigate those effects. In an effort to increase our understanding of the impact of political violence as a public health concern, and as an advocacy effort to aid organizations in the planning of intervention programs for children affected by armed conflicts, the study focused on group rather than individual differences in psychopathology.

El Salvador was at civil war for over 12 years, from the late 1970's to 1992[1]. As rural communities were among the most affected by the war (e.g. Brockman, 1989; Gómez &

Cameron, 1981; Weiss-Fagen & Eldridge, 1991), campesino children were studied for advocacy reasons. Campesino families and their children have historically lacked characteristics associated with resilience in children at risk, including a lack of socioeconomic advantage and lack of effective schools (e.g. Romero in Brockman, 1989). Services addressing effects of war on campesino children are more likely to occur if research documenting the need has been conducted.

Method

> Maria Elena sat huddled in a corner of a small room that looked out her backyard. She heard bullets raining down on the roof and she couldn't look outside because the windows were boarded up. ...Maria Elena was often scared to go to sleep at night -- she wondered if she would wake up the next morning. And she kept hoping that her father, who was in the army, was okay.
> (My niece, interviewed at age 12, by Pellot (1992, p.8) shortly after the civil war in El Salvador ended)
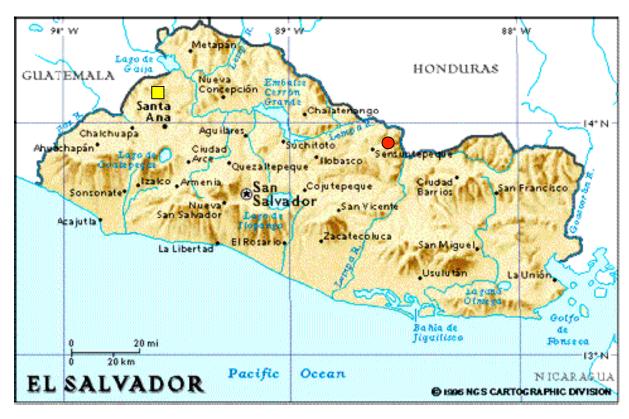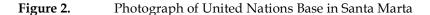
Figure 1.   Map of El Salvador

● = Santa Marta, Cabañas (Direct War Exposure Group).

□ = Tabloncitos, Santa Ana (No Direct War Exposure Group).

Research design

Participants were male and female children (eight to 12 years of age) from conflict and no-conflict zones in rural, low socioeconomic status (SES) areas. Children were independently selected from each community by random sampling[2]. The dependent variables were: post traumatic stress disorder (PTSD), anxiety, depression, behavior problems, and psychosocial competence. The study also explored disruptions in families and schooling as a result of the war, and the relationship between children's discrete war experiences and psychological outcomes[3]. The data were collected between August and November of 1992, shortly after the civil war ended.

The original sample consisted of 200 participants and significant efforts were made to obtain equal numbers of children selected by stratified random sampling (stratified by gender and age) for each group. Unfortunately, some of the data were lost in transit from El Salvador to the United States. Thus, the final sample consisted of 132 children, 93 in the community that was exposed to the war directly and 39 in the community that was not.

Figure 2.   Photograph of United Nations Base in Santa Marta

Participating communities[4]

Two rural cantón communities from the Departments of Cabañas and Santa Ana participated in this study (see Figure 1)[5]. The Santa Marta community (in the Department of Cabañas) was in a high conflict zone (see Figure 2)[6]. The other cantón, Tabloncitos (in the Department of Santa Ana) did not experience direct conflict. The two participating communities were typical of the rural communities of El Salvador. The primary difference between the two groups was degree of exposure to war.

The children that participated in this study were born during the war years; thus they spent their entire life under conditions of political conflict (see Figures 3-8, interspersed below). Since all of El Salvador was affected by the civil war, it is fit to regard children as varying in their degree of exposure to political violence. Thus the labels of "Direct War Exposure" and "No Direct War Exposure" for the samples from the two participating communities, rather than "exposed" and "not exposed" (or "control") groups.

Figure 3.
Photograph of boys playing on a tree

Figure 4.
Photograph of mother and her children in their home
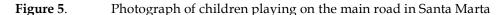

Background of the study

Given the complexity of the subject of the effects of war on children, and the social context in which such applied research takes place, some argue that to engage in such research is inevitably a political act (Lambert, 1986). Ressler et al. (1993) have provided a note of caution concerning the possible detrimental outcomes of research and programs conducted by investigators with a poor understanding of the conditions faced by children in armed conflict. This becomes a painful reality when investigators are, "motivated by curiosity or the desire for interesting and publishable study material" (Ressler et al., 1993, p. 206), or by using children for political advantage or as means of raising funds. Given the ethical concerns that come into play regarding a study such as the present one, it becomes important to describe my more personal reasons for conducting this study.

I was born and raised in El Salvador, and experienced and witnessed the many problems that children face due to the socio-economic and political conditions of the country. My childhood memories of the early stages of the civil war in the 1970's include finding some classes at school canceled due to one of our teachers having "disappeared"[7]. Rumors among classmates were that his disappearance was due to his teaching us concepts of *conciencia social*, social consciousness, tucked in between subject matter. Several days later, I saw my teacher's picture in the newspapers over the heading "Mr. ___ found dead in..." This marked the seriousness of events to follow, notably, an assassination attempt against my father, which left him with a destroyed leg by G-3 caliber machine-gun-shots. The reasons for the attempt included his advocacy for peasant's rights, and his lobbying to free the Salvadoran Military Officer Corps of corruption. This was followed by the murder of my uncle, Father Manuel Antonio Reyes Mónico, who as a priest and high school teacher was an advocate for the poor and liberation theology. He was seized from his home by armed men on October 6, 1980

(Americas Watch Committee & The American Civil Liberties Union, 1982). His dead body was found the next day with indications of torture. A childhood friend was killed by a gunshot to his head while piloting a helicopter. A spiritual brother was ambushed and killed in the countryside. The list kept growing. By the 1980's my sister, my two little nieces and my little nephew had painful signs of psychological distress due to exposure to the Salvadoran civil war.

These and over 75,000 other reasons provided the background for my initial interest in children and war[8]. Furthermore, my experiences on how adults as representatives of institutions were responding to the needs of children in El Salvador pointed out to me the need for advocacy and a sense of personal responsibility. Such disconcerting experiences included a meeting with an officer of Health Programs for the United States Agency for International Development (USAID) in El Salvador. As a chief of projects for USAID he explained that he had consulted with psychiatrists from the Salvadoran association of psychiatrists and had been informed that Salvadoran children did not suffer psychological problems as a result of the civil war. He had thus concluded that the cases of children in need of psychological services were few and sporadic, and that their problems were not systematically related to the civil war. As a result, they did not warrant the use of USAID resources.

Further, although a health officer from UNICEF acknowledged that the psychological status of Salvadoran children was indeed a serious problem, he explained that UNICEF was at the time investing its resources in prosthesis projects since it was easy to document the need for prosthesis by taking pictures of children with no limbs and receive funding for that. On the other hand, he added that it was difficult for his agency to establish psychological services since there was a lack of research documenting the need to address psychological issues. He stated that UNICEF had neither the funding nor the trained personnel to do a needs-assessment study to document children's needs for psychological services. He concluded that with a needs-assessment study done by another organization, UNICEF could try to develop services.

Figure 5.   Photograph of children playing on the main road in Santa Marta

Sadly, the civil war had polarized many adults. It had created a climate in which it was difficult to act on the superordinate need of children, beyond their community's political affiliation. The conceptualization of all children as an important resource for the country as a whole was difficult to realize. This was illustrated by my conversations with some North American researchers while I was preparing for this study, who stated a bias favoring, "children from the FMLN [Farabundo Martí National Liberation Front]." By contrast, some Salvadoran mental health professionals stated a bias favoring, "children that were not from the FMLN."

I have been volunteering mental health services in El Salvador for many years, which led, in part, to the development and implementation of the present study. The preparatory stages of this study began with establishing trusting relationships with the Salvadorans that were to participate in this study since 1987, and concluded with the data collection in 1992. The study's process emphasized child advocacy as a superordinate need, which attracted the participation of humanitarian persons from diverse governmental and non-governmental organizations from El Salvador and the United States[9].

I felt the need to maintain the study as an independent project given the tense atmosphere in the country at the time data were collected as organizations were perceived as acting with political agendas and with prejudice (e.g. as advocating only for children "from the FMLN" or "not from the FMLN"). The independent approach increased trust and access to participating communities, and facilitated an increased sense of safety and credibility for the author and for those collaborating with him. This approach also allowed me greater intellectual freedom in the design of the study. Significant threats to both personal safety and to the design of the study seemed imminent if carried out under an institutional affiliation, given the sad and dangerous political polarization affecting the country at the time of data collection.
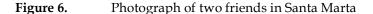
Figure 6.   Photograph of two friends in Santa Marta

Figure 7.   Folk art made by Salvadoran children while in refugee camps in Nicaragua

Protection of participants

Protection of all participants, especially children and their family members, was of the foremost importance in this investigation. The process to earn the trust and to obtain consent from the participating communities has been as important as the study itself. In lieu of a human subjects committee, approval was required from elected representatives of the participating communities. Furthermore, representatives were invited to be involved in the planning and implementation of this study. This included holding many meetings over a period of several months. Their input was implemented, which included using community-sensitive procedures to select interviewers for data collection as described below.

Town meetings were held in the two participating communities to present and to discuss the project. Along with community representatives, I explained the purpose and requirements of the study to prospective participants (see Figure 8). Cultural sensitivity, careful listening, feedback to parent's concerns and flexibility were important to address if the study was to succeed in protecting participants[10]. As Bruno Lima and colleagues noted in their research with peasants exposed to natural disasters in South America, flexibility and cultural sensitivity are important components in planning applied research in rural areas in Latin America (Lima, Penk, Gerardi, & Keane, 1989). All community members from the two communities agreed to participate.

Salvadoran-panel review[11]

Community representatives and their advocates were invited to be involved in the review of the items from all of the measures used. It was important to dispel any suspicions about the content of the information gathered in the study; and the study did not proceed until panel members agreed that all the items were deemed acceptable as questions to be asked to children and parents.

Figure 8.   Town meeting in Santa Marta to request approval to do the study (the author is seated wearing a blue shirt)

Selection of interviewers

For reasons of their degree of exposure to the civil war, Santa Marta, as a community in a conflict zone, requested that all the interviewers be from their own community. They required maintenance of strong internal communication links, and they did not want to share their perceived intelligence information with outsiders[12]. On the other hand, the Tabloncitos community, in a no-conflict zone, requested that the parents or guardians be interviewed by people from outside the community, since the adults would not feel comfortable being interviewed by workers they knew, for reasons of privacy, although their children could be interviewed by workers from their own community.

I provided intensive training to the interviewers until they reached proficiency in the administration of the measures. Careful procedures were followed to protect the confidentiality of participating children. All the interviewers were paid volunteer Salvadorans (see Figures 9-10).

Figure 9.   Training session with interviewers in Santa Marta (author is seated, 2nd from right)

Figure 10.   Interviewing a study participant

Results

> … when figures reach millions [of child victims of war], it is too easy to forget that these statistics represent individual children …[who need] the protection and care that all children deserve. (United Nations, 1996a)

Results from the data analyses (for statistical analyses see Flores, 1999[13]) indicated that the Direct War Exposure group experienced a significantly higher incidence of war related events, disruption of schooling, and disruption of families, than the No Direct War Exposure group. The two groups had comparable SES and demographic characteristics[14]. Children in the Direct War Exposure group showed a significantly higher incidence of PTSD[15]. In addition, these children showed a significantly higher incidence of behavior problems and problems with psychosocial competence, but significantly lower levels of depression. There were no significant differences between groups in anxiety. Neither age nor gender was related to any of the outcomes.

Results also indicated risk or protective variables associated with PTSD, anxiety, behavior problems, and competence. Children who had friends wounded or killed in the war, and those who experienced parental separation due to the war, showed a higher incidence of PTSD. Children having had friends wounded or killed in the war, and reports by the parent or guardian of children experiencing psychological distress, were significant predictors of high anxiety levels. Children who had friends wounded or killed in the war, and those who attended a lower grade in school, showed a higher incidence of behavior problems. School attendance was an important determinant of higher levels of psychosocial competence. Higher frequencies of having been in danger of personal injury or death, and lower levels of parental education (mother's and father's), were important determinants of lower levels of competence.

Discussion

> Historically, those concerned with the situation of children during armed conflict have focused primarily on their physical vulnerability. But the loss, grief and fear

> a child has experienced must also be taken into account. All phases of emergency and reconstruction assistance programmes should take psychosocial considerations into account… (United Nations, 1996b)

The discussion of the study's results is divided into several sections: (1) psychological outcomes and the risk or protective factors associated with those outcomes; (2) theoretical implications of the findings; and (3) the influence of age and gender.

Psychological outcomes
The results of this study on the effects of war on the psychological functioning of children contrast to some degree with research conducted during and after World War II on samples from Western Europe, the United States, and the Middle East (e.g. Despert, 1942; Greenbaum, Erlich, & Toubiana, 1993; Nashef, 1992; Ziv, Kruglanski, & Shulman, 1974). Those studies found no significant differences between groups of children who were exposed or not exposed to war. Again, some researchers suggest that such findings may be due to adaptation or habituation to war stimuli (e.g. Ziv & Israeli, 1973).

One possible reason for these differences is that political violence in low-income countries such as El Salvador, as compared to conventional war between high-income countries, has different characteristics (Desjarlais et al., 1995). Political violence in low-income countries is characterized by three "low-intensity" features that might contribute to the development of long-lasting anxiety and trauma: (a) the subjection of daily life to pervasive tension and fear; (b) the ubiquitous use of deadly weapons including land mines; and (c) the targeting of violence against civilians and combatants in a hateful brutal manner (Arroyo & Eth, 1984; Desjarlais et al., 1995; Straker, Moosa, Becker, & Nkwale, 1992). Such conditions lasted for over 12 years in El Salvador. Children were personally involved or targeted; the distinctions between enemies and non-enemies were poorly defined; and many children were forced to participate in a "normal abnormalcy" where violence was perceived as part of everyday life (Martín-Baró, 1990). This was accompanied by the need to engage in a "clandestine identity" where persons pretended to be part of a group as a means of survival, and "polarization" in which ambiguity could not be tolerated and any disagreement with the opponent justified the use of violence (Martín-Baró). In addition, the state of repression and fear exposed civilians to a "culture of silence" in which parents, either for security reasons or in efforts to protect their children from potential danger, tended to exclude children from discussions about war related events. Thus, children were not able to talk freely about the war trauma they were experiencing (Ronstrom, 1989) and because the threat to self continued to be imminent for prolonged periods of time, children generalized the need to be constantly hypervigilant to the possibility of violence (Swenson & Klingman, 1993).

Additional stressors that may have contributed to the increase in psychopathology noted above included deprivation of basic physical and emotional needs due to problems of resources as a result of militarism (e.g. Montes, 1984), hunger and undernourishment, lack of medical and social assistance, and living in cramped and poorly built houses. Campesino families and their children, such as the participants in this study, were among the most affected as they lacked characteristics associated with resilience in children at risk, including lack of socioeconomic advantages and effective schools (e.g. Romero in Brockman, 1989).

Conditions of "normal abnormalcy"

Martín-Baró (1990) suggested that the circumstances of the Salvadoran civil war exposed children in a unique way to the development of trauma. Martín-Baró delineated several conditions leading to the development of "a normal abnormalcy" in Salvadoran children (pp. 233-249). First, Salvadoran children faced the prospect of becoming combatants, victims, or both. Given the forced recruitment of minors by the army as well as by the FMLN, the prospects of becoming involuntary combatants and/or victims were a very real part of children's daily lives.

Second, many children were forced to develop a "clandestine identity" that is, pretending to be part of a group as a means of survival. A third and closely related child-dilemma was "polarization." The polarized child thinks in simplistic terms of friend and foe where ambiguity can not be tolerated, and any disagreement from the opponent justifies the use of violence.

The aforementioned concepts can be understood best in the context of the daily events of the civil war. The government and the FMLN both made conscious efforts to earn the sympathy of the civilian population in an effort to gain their support. Also, in zones of armed conflict, families had to endure the presence of the army and the FMLN on alternate days. In order to survive children and their families had to show complete allegiance and support to the group present at the time. This created high levels of stress in children and family members; if the armed group present became suspicious of their allegiance, torture and/or death to a family member or to the whole family was imminent.

Martín-Baró indicated that this social state of "normal abnormalcy" was etiologic in the development of not just psychological trauma (i.e., PTSD) but psychosocial trauma as well. For Martín-Baró, psychosocial trauma goes beyond the individual child and includes dehumanizing relationships between social groups and systems. Similar dilemmas of moral exclusion as a result of living in a culture of violence have also been presented by Straker et al., (1992), in their study on the psychological effects of violence on township youth in South Africa, where violence was also perceived as part of everyday life.

Post traumatic stress disorder (PTSD)

Results indicated a significantly higher incidence of PTSD in the Direct War exposure group in comparison to the No Direct War exposure group. This supports the notion that exposure to highly stressful war events can produce distressful psychological symptoms in children as conceptualized by the Diagnostic and Statistical Manual (DSM) (American Psychiatric Association, 1987) PTSD diagnosis (i.e., (a) the child has experienced an event that is outside the range of usual human experience and that would be markedly distressing to almost anyone; (b) the traumatic memory of the event is persistently reexperienced by the child, such as through play or dreams; (c) persistent avoidance of stimuli associated with the trauma or numbing of general responsiveness; (d) persistent symptoms of increased arousal; and (e) duration of the disturbance (symptoms in b, c, and d) of at least one month).

These findings are in concordance with other research that used both the DSM criteria for PTSD as well as measures of the degree of exposure to war. For instance, Macksoud and Aber (1996), and McIntyre and Ventura (1995) found that increased exposure to war experiences had significant effects on the development of PTSD in their studies of Lebanese and Angolan children respectively.

By contrast, the present findings differed from research that did not use the DSM criteria for PTSD or measures of the degree of discrete exposure to war in their samples. For example, Nashef's (1992) study of Palestinian children suggested that prolonged exposure to political violence decreased "traumatic" symptoms, as defined by the content of drawings and the re-telling of dreams. Further, González-Cantón (1989, first experiment) found no psychopathological effects of war in Salvadoran children (no significant differences between groups), as defined by the content of spontaneous stories and drawings.

The above comparisons between studies suggest that methodological improvements including DSM criteria for PTSD and measures of exposure to war experiences affect results when studying the "traumatic" effects of war on children.

Risk or protective factors associated with PTSD
Family, schooling, and war exposure characteristics may be viewed within the context of resilience, or qualities of the child's environment that are associated with better psychological functioning during or following adverse experiences (Masten & Coatsworth, 1998; Rutter, 1983; Sameroff, Seifer, Baldwin, & Baldwin, 1993). Findings from this study suggest that basic protective systems that characterize resilience were severely hindered or damaged by the war in El Salvador. Lacking protective factors, children became more vulnerable to the risks of war.

The most significant risk factor was the death or injury of a friend. More than other types of war experiences, this was the most salient risk factor, and was associated with higher incidences of anxiety and behavior problems. Children who had friends wounded or killed in the war were 5.2 times more likely to develop PTSD than children who did not. This suggests that knowledge about a direct threat to the life or well being of friends affects an increase in psychopathological symptoms. As Eth and Pynoos (1985) have proposed, knowledge of another person's death puts children at risk of psychopathology since they may need all of their psychological energies to cope with the anxiety and trauma surrounding the other person's death. Another risk factor was parental separation. Children whose parents separated due to the war were 4.9 times more likely to develop PTSD than children whose parents stayed together. This concurs with resilience research indicating that one of the most widely found predictors of resilience has been the presence of parental figures (Masten & Coatsworth, 1998). As other researchers have suggested (Rutter, 1983; Sameroff et al., 1993; Werner, 1990), parental availability may provide a significant buffer for the child's experience of war-trauma exposure, and parental separation may lead to a higher incidence of traumatic experiences that cause PTSD.

The order of frequency of types of traumatization incurred by children diagnosed as having PTSD was (a) seeing someone else experience trauma (vicarious -- e.g. witnessing

killing or seeing the mutilated remains of others), (b) personal experience (experiential) of war (e.g. the child was in the line of fire), or with an event related to the war (e.g. the child falling from a tree when trying to find protection from armed conflict), and (c) being told about a traumatic event (verbal mediation -- e.g. being told about a friend or family member that was harmed, disappeared, or killed). These findings support Saigh's (1991) recommendation that theories of the development of PTSD must take direct experience, observation, and verbal mediation into account.

Behavior problems and psychosocial competence
Results indicating significantly higher incidences of behavior and competence problems in the direct exposure group in comparison to the no direct exposure group support Cohn and Goodwill-Gill (1994), Garbarino, Kostelny and Dubrow (1991), and Masten and Coatsworth (1998) who suggested that behavioral skills and developmental tasks reflecting competence become negatively affected by direct and prolonged exposure to political violence. These data also support Martín-Baró's (1990) suggestion that the circumstances of "normal abnormalcy" that characterized the civil war in El Salvador hindered children's behavior and competence skills. Hence, effective adaptation for survival to the war-environment required behaviors that are not perceived as socially desirable.

The finding that war has a negative impact on behavior seems to depend somewhat on who the informant is. This study as well as other studies on the impact of war on children that used adults as informants to obtain data on the behavior or competence status of children (Garbarino & Kostelny, 1996; Saigh, 1989) obtained similar results. By contrast, the studies that used the child as informant (e.g. Macksoud & Aber, 1996) found that the number of war experiences had no effect on children's self-report of competence (planful and prosocial behaviors) and behavior problems (aggression). Further research might explore the prevalence of discrepancies among different sources of information and identify variables that may contribute to them.

Risk or protective factors associated with behavior problems and psychosocial competence
There were several risk/protective factors associated with increased instances of behavior and competence problems including: (a) the frequency a child was in danger of personal injury or death due to war; (b) having had friends wounded or killed in the war; (c) lower levels of parental education; (d) not attending school; and (e) attending a lower grade in school.

The literature on resilience has found that the dangerous conditions of war may be highly adverse to the development of competence (Masten & Coatsworth, 1998). In addition, amount of education is a good indicator of caregiver competence (Phillips & Howes, 1987). The assumption is that the level of a caregiver's education contributes significantly to quality in child care, which in turn facilitates children's psychosocial development (Phillips & Howes, 1987). Also, the extrafamilial context of effective schooling has been a characteristic of resilience for children under highly stressful conditions (Masten & Coatsworth, 1998).

Models for the development of PTSD and problems of behavior and psychosocial competence
Children may develop coping strategies expressed as behavioral efforts to manage or regulate the negative emotions associated with the stressful episodes and with the danger inherent in exposure to war (Compas & Epping, 1993; Garbarino & Kostelny, 1993). The behavior problems and low competence responses reported for Salvadoran children exposed to war may be efforts to cope with environmental and internal demands, to avoid the source of stress, ignore a threat, or deny outcomes. Indeed, the child's behavioral goal may be to try to maintain a sense of normalcy, control, and safety (Athey & Ahearn, 1991).

Behavior modeling may have contributed to increased behavior and competence problems in Salvadoran children since a state of war facilitates: (a) children's exposure to aggressive behavior by adults in their surrounding environment, and (b) a permissive attitude by significant adults--including parents and teachers--when children copy those behaviors (Macksoud, 1993).

Further, Giardino, Everly Jr. and Dusek (1997) suggest that a traumatic event shatters the cognitive assumption that life is "fair," or that the world is "just" or "good" (p. 167). This violation or challenge to an individual's assumption about life and the world around him/her effects a "hypersensitivity to perceptions of threat, demoralization, and panic" (Giardino et al., 1997, p. 167). Furthermore, the less predictable and controllable the traumatic event, the greater the intensity of PTSD symptoms as a result of associating the environment and the world at large as less predictable and less controllable (Foa, Steketee, & Rothbaum, 1989; Foy, Osato, Houskamp, & Neumann, 1992). This suggests that war experiences may debilitate children's view of the world, with the resultant PTSD symptoms.

Findings from the present study for PTSD, behavior and competence support the theoretical implications for adjustment presented by Garbarino and Kostelny (1993), Martín-Baró (1990), and Tortorici-Picado (1988), that important childhood psychosocial developmental tasks of trust vs. mistrust, and industry vs. inferiority (Erikson, 1968) may be interrupted by the Salvadoran civil war experience. A prolonged state of "normal abnormalcy" may affect how children view themselves and others, their trust in other people may be eroded, and they may be hindered in their attempts to view their parents as protectors and rescuers of physical and psychological stressors. This in turn may be expressed in problems of behavior, competence and PTSD such as fearfulness, aggression, and school problems.

Anxiety
The result of no significant differences in anxiety between war exposure groups is compatible with other studies on effects of exposure to war (e.g. Greenbaum et al., 1993; Macksoud & Aber, 1996; Ziv & Israeli, 1973). One interpretation of this finding is the adaptation or habituation hypothesis (Catania, 1984; Ziv & Israeli, 1973). This suggests that the strength of children's anxiety responses decreased with repeated exposure to war stimuli. Another possible interpretation of the present findings however, is that the total Salvadoran sample had high levels of anxiety. When converted to standard (scaled) scores, the total sample was significantly beyond the average range on the anxiety measure: boys were at the 91st percentile, and girls at the 80th percentile.

In contrast to the adaptation or habituation hypothesis for anxiety symptoms (Ziv & Israeli, 1973), the finding of high levels of anxiety in the total sample suggests that conditions of civil war may have been sufficient to effect anxiety symptoms in all Salvadoran children. Under war conditions, anxiety or a mental state of expecting "the danger" (i.e., anxiety state; Freud, 1920/1989) may increase in all children, whether they live in zones of conflict or not, and whether they are directly exposed to armed conflict or not.

Outcomes from the present study support the observation made by Sigmund Freud (1920/1989) that a dangerous environment characteristic of a country in war increases anxiety, defined as a psychological state of expecting danger. However, a state of anxiety by itself can not produce traumatic symptoms (i.e., PTSD) (Freud, 1920/1989). In this regard, Freud hypothesized that anxiety would act as a protection against the development of trauma in the person. This "protective shield" would serve as protection against stimuli perceived as a threat to the life or to the well being of the person. A state of "preparedness for anxiety" was hypothesized by Freud to stimulate the individual to develop mechanisms to defend itself against impending threatening stimuli. However, the strength of a traumatic experience, one that is etiological for the development of PTSD, is one that exceeds the limit where anxiety as preparedness ceases to carry protection. For children living in a country at war, then, non-direct exposure to political violence may cause levels of anxiety similar to direct exposure to political violence.

Depression
Results indicating that children from the no direct war exposure group reported more symptoms of depression than children from the direct war exposure group differ from other studies on the effects of war on children, even though some used comparable methodologies, including standardized self-report measures of depression and measurements of discrete exposure to war experiences. For instance, Macksoud and Aber (1996) found that neither region of residence nor number of war experiences had significant effects on the development of depression symptoms. Yet, Saigh (1989) found that children who were directly exposed to war, and had PTSD, exhibited higher levels of depression than controls. The differences in findings for levels of depression between studies suggest that different patterns of psychopathology may result from different political violence contexts (Cairns & Dawes, 1996). Alternative interpretations of the findings for depression symptoms are discussed below.

High levels of depression
When converted to standard (scaled) scores, the total sample from the present study was significantly beyond the average range on the depression measure: the no direct war exposure group was at the 91st percentile, and the direct war exposure group was at the 83rd percentile. This suggests that the long-term pervasive state of instability and "normal abnormalcy" in El Salvador (Martín-Baró, 1990) created the conditions for the development of depression symptoms such as negative self-esteem (when the feedback from society was that human life was not esteemed in general) and negative mood (when the country as a whole was somber) in all children whether they lived in zones of conflict or not.

Mortality
The difference in levels of depression between war exposure groups may be due to mortality, or differential loss of children from the exposure groups (Campbell & Stanley, 1963). Perhaps children who suffered high levels of depression could not survive in a community directly exposed to war.

Survival in a high conflict zone in El Salvador required stamina, mental concentration, and the will to survive in order to save one's life (for instance, the colloquial term guinda was especially adapted during the war to mean "running for your life"). Doing something wrong, or doing nothing, could cost a child his or her life. Children who suffered high levels of depression -- including a diminished ability to think or concentrate, fatigue or loss of energy, ineffectiveness (a sense of doing things wrong), and suicidal thinking -- might have had a diminished probability of survival in zones of conflict. Indeed, Dilling and Rogers (1984) documented eyewitness accounts of how hundreds of children died following the Lempa river crossing from Santa Marta (the community from which the direct war exposure group was obtained for this study). Thus, given that many children from Santa Marta died during the war, the direct war exposure group may have represented a special case of survivors.

Interaction effects of trauma and grief
The psychodynamic notion of an interaction between trauma and grief (Eth & Pynoos, 1985) also seems germane to the paradoxical findings of lower depression symptoms in the direct war exposure group in comparison to the no direct war exposure group, especially since the incidence of PTSD was higher in the direct war exposure group than in the no direct war exposure group. Eth and Pynoos suggest that the same event can precipitate both a "trauma syndrome," including intrusive memories, startle reactions, nightmares, and avoidant behavior (i.e., PTSD), and a "grief syndrome", including sadness, guilt, and loneliness (i.e., depression symptoms). But, it is possible that trauma may impair grief reactions, delaying the development of depression symptoms. For instance, the traumatic anxiety caused by the event of losing a friend may become a primary concern for the child's ego. This may render the child unable to attend to other concerns including "the fantasies of the lost object that are integral to the grief process" (p. 175) that characterize depression symptoms.

For Eth and Pynoos (1985), the psychodynamic interaction of trauma and grief becomes more salient when children need all of their psychological energies to cope with PTSD symptoms and their anxiety surrounding the other person's death. The need to survive in the midst of war may fail to support the emotions associated with mourning, adding to the child's inability to engage in a process of grief. Eth and Pynoos suggest that the ego's unavailability to engage in grief may result in an aborted or delayed response in the expression of grief. They cite the case of a child that developed PTSD after the murder of her sister, but who did not develop the symptoms of grief until 6 years later.

Trauma and grief interaction effects suggest long-term sequelae for Salvadoran children. As PTSD and anxiety symptoms may diminish in the future, grief and its accompanying depression symptoms may intensify in children suffering from war trauma.

The role of parental reactions to war exposure

While the presence of parents may serve as a protective shield against the development of psychopathology in children exposed to war, the view that parents may prevent contagion of psychological disturbances in children if they remain calm in highly stressful war situations (e.g. Freud & Burlingham, 1943) seems simplistic in the case of the Salvadoran civil war. A more plausible interpretation of the present findings is that exposure to multiple war experiences -- including bombings, witnessing killing, injury or death to friends, danger of personal injury or death, refugee status, the process of repatriation -- bring about psychopathological symptoms which may occur independent of parental reactions (Arroyo & Eth, 1984; Benedeck, 1985).

Age and gender

There were no gender or age differences in war experiences in the present study, even though traditional social attitudes in El Salvador would have predicted such differences. For example, UNICEF (1994) reported that the traditional social attitude, especially in rural communities in El Salvador and Central America, is that girls require more protection, care, and control than boys; and the tradition has been to keep the younger child girl at home more often than the older boy. The maintenance of these traditions would have been expected to decrease girls' probability of exposure to political violence more than boys', especially for younger girls in comparison to older boys.

It should be pointed out that many females changed their traditional gender roles in El Salvador as a result of the intensity and duration of the civil war. For instance, some studies reported that up to 30 percent of FMLN combatants and 20% of its military leadership were women during the 1980's (Montgomery, 1995). Also, an FMLN commander told the present author about females becoming combatants during the civil war as a response to the intensity of the conflict (C. Amaya, personal communication, June 14, 1992). In Santa Marta (the community from which the direct war exposure group was obtained), many late adolescent and adult women joined men in community tasks, and females became health promoters, military personnel, or community representatives. This suggested that the pervasiveness of the war may have created the conditions for girls to engage in equal activities as boys. Thus gender and age were not significant moderating factors of exposure to war in the sample.

The present findings of no age or gender effects for psychological outcomes are in concordance with other studies that used psychological measures with documented reliability or validity, as well as measurements of exposure to war. For instance, the studies by Macksoud and Aber (1996) and McIntyre and Ventura (1995; T. M. McIntyre, personal communication, August 12, 1995) found no age or gender differences in the incidence of PTSD in their samples of 10 to 16 year-old, and 13 to 16 year-old Lebanese and Angolan children, respectively. The consistent findings among studies suggest that age or gender may not moderate development of PTSD following traumatic war experiences in children. However, the effect of other age ranges not addressed in the available literature remains uncertain. It is important to note that most studies that have found age or gender differences in psychopathology due to exposure to war have been plagued by problems of research design, making a clear interpretation of their data impossible (e.g. Greenbaum et al., 1993).

Applied implications of the study

It is important to plan interventions based on the stage of emergency. As Evans (1996) suggests, intervention activities during rehabilitation or post-war reconstruction should be school-based. In addition to school involvement, activities that involve parents and communities can play an important role in holding together and rebuilding the affected families and communities. For instance, using the superordinate needs of children was a key approach for the successful collaboration of participating families and communities in the present study. This suggests that a promising way to provide services within the community is to develop initiatives that begin with children and are based on the needs of the children (Evans, 1996).

As UNICEF (1996) suggests, psychologists and social scientists should use their professional resources to train local professionals, especially teachers, health promoters and other paraprofessionals from the participating communities. The approach should be to assist promoters, teachers, or parents/guardians in developing their own community-based approaches (e.g. United Nations, 1996b; UNICEF, 1996). For instance, local professionals may be trained to screen children and to identify symptoms of psychopathology; and parents, teachers, promoters, and other paraprofessionals may be trained to know about the effects of war on children. This should include recognition of the psychological outcomes and the risk or protective factors identified in this and other studies.

Researchers and international organizations (e.g. Evans, 1996; Giardino et al., 1997; Macksoud, 1993; UNICEF, 1996) agree that addressing the child's psychological interpretation of the traumatic event should be a key point for intervention. They recommend that interventions that address the psychological outcomes identified in the present study foster strategies that help children (a) reinterpret their traumatic war events; (b) reinterpret the roles they played in those events; and (c) engage in behaviors oriented toward increasing their sense of control over the reconstructed community, including home and school.

Psychological interventions have shown positive outcomes in reducing distress symptoms in children affected by political violence. For example, Saigh (1987) documented the usefulness of cognitive-behavioral techniques in treating Lebanese children suffering from PTSD. However, given the high cost and heavy demands on time of psychology's traditional focus on individual and small-group processes, and the shortage of trained psychologists in resource poor countries such as El Salvador, there is a growing concern that traditional approaches are insufficient to attend large numbers of children affected by wars (Mays, Bullock, Rosenzweig, & Wessells, 1998; Zutt, 1994). In addition, there is the need to consider cultural factors when developing psychological interventions for children affected by armed conflicts. For example, Evans (1996) suggested that Western psychological models focusing on the individual may obviate the cultural need of Eastern African children to address their traumatic war events in the context of families, communities, and tribal society, and not only as individuals.

While researchers are just beginning to compare the effectiveness of different therapeutic approaches to healing war trauma, Evans (1996) and Macksoud (1993) suggest that in addition to verbal approaches, other local means of expression such as

singing, dancing, drama, drawing, painting, reading, or writing be explored as ways of enhancing coping strategies. In others words, as UNICEF (1996) states, "Time does not heal [war] trauma. A child must be helped to express suffering and to confront bad memories, with the support and guidance of an empathetic and informed adult" (p.24). In addition, UNICEF states that for children affected by war trauma, "The very act of talking or writing about, or even acting out, traumatic events is a way for a child to begin healing and start on the road to recovery" (p.24).

General recommendations
The obstacles and concerns in effectively addressing the psychosocial impact of political violence on children have motivated the international community to develop recommendations for interventions. These include the United Nations study of the impact of armed conflict on children prepared by Ms. Graça Machel (United Nations, 1996). This effort and others (e.g. Desjarlais et al., 1995; Evans, 1996; Mays et al., 1998) have searched for a consensus on program recommendations to promote children's psychosocial well-being. The recommendations from the international community that seem germane to research and programs in El Salvador are: (a) interventions and studies will work best if they are locally controlled, community based, and if they acknowledge cultural and gender diversity; and (b) programs must have a long-term perspective and should be based and built on local institutions, traditions and values to ensure their sustainability.

Conclusion: The role and importance of psychology in El Salvador's post-war reconstruction process
The present study attempted to increase our understanding of the effects of war on children, and aid agencies in the planning of much needed services in El Salvador. Even though there is no longer political violence due to civil war, the country continues to experience high degrees of societal violence. Youths are increasingly forming or joining violent gangs, and many youths state that one of their reasons for engaging in violent behaviors is to cope with their war-trauma experiences (Guggenheim, 1998). Alarmingly, more people are dying of violent crimes now (7,000 violent deaths reported for 1997) than during the civil war (with a yearly average of 6,000 violent deaths) (Malone, 1998); and youth gangs have been blamed for most of this violence (Guggenheim, 1998).

However, the recognition of the economic, sociological, cultural, and historical layers that contextualize war experiences suffered by the children in this study make the task of helping children affected by war a humbling experience. This formidable challenge suggests that applied psychologists need to develop new approaches that include advocacy, lobbying, information resources, or other competencies related to psychological and humanitarian work (Comas-Díaz, Lykes, & Alarcón, 1998).

Murphy-Berman and Weisz (1996) echoed the need for new approaches when discussing the challenges presented by the United Nations Convention on the Rights of the Child (United Nations, 1989). They suggested that psychologists and other social scientists working toward the reconstruction of countries affected by armed conflicts will need to address the policy challenges of the Convention not only from a

psychological framework, but also from philosophical, legal, political, constitutional, methodological, and cross-cultural perspectives.

Article 39 of the Convention obliges States Parties to promote the psychological recovery of children affected by political violence. It urges them to "take all appropriate measures to promote physical and psychological recovery and social reintegration of a child victim of… armed conflicts" (United Nations, 1989). Thus, alongside health and education, psychosocial well being should be a main element of all humanitarian interventions (United Nations, 1996). While El Salvador has ratified the Convention, it is still facing the complex challenge of how to accomplish the Convention's goal of psychological recovery of children affected by the civil war. It is imperative to face this challenge. Not doing so will prolong children's suffering, despair, and societal conflict. It is urgent for national and international agencies in El Salvador to earnestly invest in and to apply psychological research. Research on the psychological effects of war on children and research-based applications must move from the margin to the center of education, health, social policy, and interventions in El Salvador.

Notes

References