Education and debate

Child soldiers: understanding the context

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Concern is growing about the increasing use of child soldiers in armed conflicts around the world.[1] However, it may not be enough to just condemn or prohibit the recruitment of children. We need to ask why children join armies. If we are to prevent children fighting we need to understand the conditions under which children become soldiers and work to improve these conditions. One such context, that of Sri Lanka, may shed some light on the issues.

The reasons why children become fighters can be categorised into push and pull factors. The use of push-pull categorisation has been used recently in relation to child labour by the International Labour Organization (see www.ilo.org/public/english/standards/ipec/child/2tour.htm) and more specifically child soldiers (see www.child-soldiers.org/conference/confreport_asiawgc.html).[2]

Push factors

Traumatisation

In the civil war that has been in progress in north east Sri Lanka for almost two decades children have been traumatised by common experiences such as shelling, helicopter strafing, round ups, cordon and search operations, deaths, injury, destruction, mass arrests, detention, shootings, grenade explosions, and land-mines. Studies focusing on children in war situations—for example, in Mozambique[3] and the Philippines[4]—report considerable psychological sequelae. A detailed Canadian study of children in the Eastern Province of Sri Lanka found considerably more exposure to war trauma and psychological sequelae in ethnic minority Tamil children.[5]

In northern Sri Lanka extensive epidemiological surveys in 1993 of 12 cluster schools in Vaddukoddai[6] and of adolescents in Jaffna[7] and Killinochchi[8] schools showed widespread war stressors (summarised in table 1). One effect of the war on these children's development (tables 2 and 3), and the resulting brutalisation, is to make them more likely to become child soldiers.

Brutalisation

Tamil youths are specifically targeted by Sinhala security forces in their checking, cordon and search operations, and they are often detained for interrogation, torture, execution, or even rape[9] (see also www.uthr.org). During the so called "Operation Liberation" in 1987 youths were either summarily shot[10] or shipped off en masse in chains to the Booza camp in the south by the army. Fifteen per cent of the 600 dis-

appearances in 1996 within Jaffna were of children. In the recent Duraiappa stadium excavation, and in the mass grave at Mirusuvil, remains of children were found. Thus it is no surprise that most of the young men tried to escape the "Herodian solution" adopted by the Sri Lankan army to crush the militancy. This became a vicious cycle where increasingly repressive policies aimed at this age group forced them to join the militants or flee abroad.

Deprivation

Many displaced families—without incomes, jobs, or food—may encourage one of their children to join an

> ### Summary points
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> The recruitment and use of children as soldiers should be condemned and prohibited
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> Understanding why children choose to fight is important for preventing it
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> Factors that prompt children to join armed groups include witnessing the death of relatives; destruction of homes; displacement; economic difficulties; political oppression, and harassment
>
> Children may be enticed by beliefs in the cause, threat to group identity, propaganda, thrill of adventure, and entrapment
>
> Responsibility lies not only with those recruiting children but also with the civil society, state, and international community

Table 1 War stress in adolescents (n=613)[6]

War stress	No (%)
Direct war stress:	
Threat to life	154 (25)
Injury	45 (7)
Detention	39 (6)
Torture	23 (4)
War death of relation	195 (32)
Witnessing violence	156 (25)
Indirect war stress:	
Displacement (before 1995)	241 (39)
Lack of food	92 (15)
Economic problems	208 (34)
Mean number of stresses (per child)	4

Table 2 Common symptoms in school children in Vaddukoddai (n=305)[6]

Symptoms	No (%)
Sleep disturbances	270 (88)
Separation anxiety	122 (40)
Hyperalertness	152 (50)
Sadness	131 (43)
Clinging	137 (45)
Withdrawal	76 (25)
Decline in school performance	183 (60)
Irritability	223 (73)
Brutalisation	
Aggressiveness	140 (46)
Cruelty	92 (30)
Antisocial behaviour	134 (44)
War games	165 (54)
War vocabulary	195 (64)

army so that at least they have something to eat. There is a higher incidence of malnutrition and ill health in the war torn areas.[11] [12] Healthcare facilities in the north east are sparse,[13] and education and schools have become disrupted. Opportunities for and access to further education, sports, foreign scholarships, or jobs in the state sector[14] have been progressively restricted by successive Sinhalese governments. Much of the deprivation has risen as a result of the ravages of the continuing conflict in the north east.

However, the discrimination and inequity in development, investment, and opportunities had started with independence from British rule and grew with the upsurge of majority ethnic consciousness in 1956, which laid the seeds for the separatist war.[8–10]

Institutionalised violence

Over time discrimination and violence against the minority Tamils have become institutionalised.[8] Laws such as the Prevention of Terrorism Act and the Emergency Regulations allow for detention for long periods without judicial process, and torture and "disappearances" occur regularly.[15] The greatest impact of this kind of structural violence and oppression is on the younger generation. These conditions create a sense of fear, frustration, hopelessness, and general discontent. Joining a group of fighters becomes a means of putting things right.

Sociocultural factors

Another potent push factor has been the oppressive Tamil Hindu society, where the lower castes were suppressed by the higher. For many from the lower castes joining the militant movement became a way out of this oppressive system. Similarly, for younger women experiencing the widespread sociocultural oppression against their sex joining is a means of escape and "liberation."[16]

Pull factors

Ever since the beginning of the civil war in 1983, children have been used by the army for odd jobs, in the home guards, and by various Tamil militant groups. Initially youths joined the Tamil separatist movement out of altruistic reasons to save their group identity from being eclipsed. In time, however, the older youths matured enough to become disillusioned with the way

the struggle was being directed. In 1987 the Tamil Tigers, the dominant separatist group, banned other Tamil militant groups and started using children and women as fighters because older men were no longer joining. Nevertheless, recruitment to the Tigers has remained largely "voluntary." Earlier, the Indian backed Ealam People's Revolutionary Liberation Front (another Tamil militant group) forcefully conscripted youths into their makeshift Tamil National Army, many of whom were later killed by the Tigers. Child recruitment by the Tamil Tigers was to become institutionalised after 1990. The Tigers themselves deny that they use child soldiers, but out of an estimated fighting force of 7000-10 000, as many as half may be women and 20-40% may be children.[17–19]

Tiger casualties show that most of the children are aged 14-18, while the younger ones are usually kept in reserve. But in large scale, mass attacks children may be used in greater numbers. In specialised units such as the leopards children form an effective fighting force in difficult battles.

Because of their age, immaturity, curiosity, and love for adventure children are susceptible to "Pied Piper" enticement through a variety of psychological methods.

Public displays of war paraphernalia, funerals and posters of fallen heroes; speeches and videos, particularly in schools; and heroic, melodious songs and stories all serve to draw out feelings of patriotism and create a compelling milieu—indeed, a martyr cult.

In addition the severe restrictions imposed by the Tigers on civilians leaving areas controlled by them, particularly for younger children, create a feeling of entrapment as well as ensuring a continuing source of recruits. More recently, the Tigers have introduced compulsory military-type training in areas under their control, instilling military thinking. Everyone, beginning from the age of about 14, is compelled to undergo training in military drill, use of arms, and mock battles together with military tasks such as digging bunkers and manning sentry posts. Government rations, other benefits, and travel are allowed only to those who have been trained.[19]

Society's complicity

In the face of open recruitment of children, Tamil sociocultural and religious institutions failed to protest. No Tamil leader has dared to condemn it. This paraly-

Table 3 Psychosocial problems in adolescents (n=625)[6]

Psychosocial problems	No (%)
Post-traumatic stress disorder	194 (31)
Somatisation	200 (32)
Anxiety	211 (34)
Depression	179 (29)
Hostility	279 (45)
Relationships problems	210 (34)
Alcohol and drug misuse	41 (7)
Functional disability	220 (35)
Cognitive impairment	
Loss of memory	275 (44)
Loss of concentration	297 (48)
Loss of motivation	201 (32)

Young Tamil Tiger recruits in training

sis was partly due to the actions of the Sri Lankan state in indiscriminate bombing, shelling, detention, and torture; partly to general social deterioration caused by the war; and partly to totalitarian control by the Tamil militants. Thus the Tamil militants were allowed to function freely within society to attract children through their propaganda and by exerting psychological pressure in the vacuum left by the abdication of social institutions.

Psychological consequences

Death and injury apart, the recruitment of children becomes even more abhorrent when one sees the psychological consequences. In children who came to our unit for treatment, we found a whole range of conditions from neurotic conditions like somatisation, depression, post-traumatic stress disorder to more severe reactive psychosis and what has been termed malignant post-traumatic stress disorder.[20] This leaves children as complete psychological and social wrecks.[8]

Our observation has been that children are particularly vulnerable during their impressionable formative period, causing permanent scarring of their developing personality. Military leaders have expressed their preference for younger recruits as "they are less likely to question orders from adults and are more likely to be fearless, as they do not appreciate the dangers they face."[21] Their size and agility makes them ideal for hazardous assignments.

It is those responsible for recruiting, training, and deploying child soldiers who should be charged as war criminals, not the child soldiers themselves who surrender or are captured. They should not be killed (as happened in Bindunuwewa recently) or treated as criminals as they are now, but offered appropriate psychological, socioeconomic, and educational opportunities for rehabilitation.[22]

Prevention

The only way to reduce the phenomenon of child soldiers is to work on the push and pull factors described above. Towards this end civil society, the government,

and the international community have an important role. In particular Tamil community leaders, both locally and in the diaspora, need to take responsibility and voice their concerns equally to both sides.

In 1998 the special representative of the UN Secretary-General for Children and Armed Conflict, Mr Olara Otunnu, visited Sri Lanka and was able to obtain important commitments from the government and the Tamil Tigers. However, Mr Otunnu's call to launch a local initiative, proclaiming "children as zones of peace," was soon ignored. While the Tamil Tigers continued to recruit children, the Sri Lanka government did not act to ameliorate the socioeconomic and political conditions that push children into becoming soldiers but merely exploited the child soldiers it captured for propaganda by exhibiting them to the media. The state will have to systematically dismantle the structures of discrimination and violence against the Tamil minority. Particularly, it should create opportunities in education, employment, and development, opening the doors to Tamil children and youths for advancement.

As for the Tamil Tigers, they need children to sustain the war. One way would be to curtail international funding and support for the war to both sides. The international community should also apply pressure to conduct the war within some norms, such as the Geneva conventions, and the Convention on the Rights of the Child.

Funding and support from the Tamil diaspora should be reduced or made conditional on the Tigers not using children as soldiers. While the children of Tamil emigres are safely attending schools in their host country, the children of poor Tamils trapped in the north east are forced to be soldiers. At the same time and on a much bigger scale, international governments and funding organisations are indirectly supporting the national government's developmental programmes, and that helps it to prosecute the war (by freeing other funds). For example, the heavily foreign funded colonisation schemes in the north east in the guise of developmental programmes are in fact Sinhala settlements with politicomilitary objectives.[23] But as Graca Machel concludes in her report to the UN on the impact of armed conflict on children, "… the most effective way to protect children is to prevent the outbreak of armed conflicts."[24]

DS is a Tamil as well as a member of the district child protection committee and National Child Protection Authority, which is against the use of child soldiers.

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Peer review of statistics in medical research: the other problem

Peter Bacchetti

Peer review has long been criticised for failing to identify flaws in research. Here Peter Bacchetti argues that it is also guilty of the opposite: finding flaws that are not there

The process of peer review before publication has long been criticised for failing to prevent the publication of statistics that are wrong, unclear, or suboptimal.[1] [2] My concern here, however, is not with failing to find flaws, but with the complementary problem of finding flaws that are not really there.

My impression as a collaborating and consulting statistician is that spurious criticism of sound statistics is increasingly common, mainly from subject matter reviewers with limited statistical knowledge. Of the subject matter manuscript reviews I see that raise statistical issues, perhaps half include a mistaken criticism. In grant reviews unhelpful statistical comments seem to be a near certainty, mainly due to unrealistic expectations concerning sample size planning. While funding or publication of bad research is clearly undesirable, so is preventing the funding or publication of good research. Responding to misguided comments requires considerable time and effort, and poor reviews are demoralising—a subtler but possibly more serious cost.

This paper discusses the problem, its causes, and what might improve the situation. Although the main focus is on statistics, many of the causes and potential improvements apply to peer review generally.

The problem

Mistaken criticism is a general problem, but may be especially acute for statistics. The examples below illustrate this, including commonly abused areas (examples 1 and 2), non-constructiveness (1), quirkiness and unpredictability (3 and 4), and the potential difficulty of successful rebuttal (3 and 4).

Example 1: Grant review, US National Institutes of Health

"There is a flaw in the study design with regard to statistical preparation. The sample size appears small."

Because of uncertainties inherent in sample size planning, reviewers can always quibble with sample

Summary points

Peer reviewers often make unfounded statistical criticisms, particularly in difficult areas such as sample size and multiple comparisons

These spurious statistical comments waste time and sap morale

Reasons include overvaluation of criticism for its own sake, inappropriate statistical dogmatism, time pressure, and lack of rewards for good peer reviewing

Changes in the culture of peer review could improve things, particularly honouring good performance

size justifications—and they usually do. The information needed to determine accurately the "right" sample size (a murky concept in itself) is often much more than available preliminary information. For example, even directly relevant preliminary information from 30 subjects provides an estimated variance with a threefold difference between the lower and upper ends of its 95% confidence interval, resulting in threefold uncertainty in a corresponding sample size calculation.[3] Often considerable uncertainty also exists about other relevant factors such as the size of the effect or association, an outcome's prevalence, confounding variables, adherence to study medication, and so on. Such uncertainties can be especially acute for highly innovative research.

Unfortunately, reviewers usually expect a "sample size calculation," with all the precision that "calculation" implies. This may be reasonable for studies based on extensive previous data but is unrealistic in many situations, particularly pilot or exploratory studies. In

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