School Persistence in the Wake of War: Wartime Experiences, Reintegration Supports, and Dropout in Sierra Leone

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This article examines the relationship of wartime experience and reintegration supports to students' risk of school dropout. It draws on longitudinal, mixed-methods data collected among children and youth in Sierra Leone from 2002 through 2008. The study finds that family financial support and perceived social support are positively associated with lower risk of dropout over time.

Introduction

Children are profoundly affected by their exposure to mass violence, whether as active participants—forced or willing—or as bystanders (Sommers 2002). Despite the effects of violence perpetration and trauma, children are also resilient, and engaging youth in the postwar period may both assist them in recovering from the traumas of wartime and help the nation to recover on a broader scale (Sommers 2006; Betancourt and Khan 2008). For young people in most countries, resuming their education is the primary means of supporting resiliency and encouraging positive reintegration into society.

The effect of war on young people's educational attainment has been documented in several studies. In an analysis of education outcomes across 43 sub-Saharan African countries from 1950 to 2010, Poirier (2012) found that civil wars and other periods of armed conflict were extremely damaging to educational participation. In Rwanda, children who were exposed to the 1994 genocide had lower educational attainment in 2000 than children who were not; this difference was approximately one-half year of school (Akresh and de Walque 2008). School-age children exposed to the civil war in Côte d'Ivoire completed fewer years of school on average compared to youth in an older cohort (Dabalen and Paul 2012). As we discuss below, there are myriad reasons why this disruption occurs, including the destruction of schools and psychosocial problems resulting from exposure to conflict. Education is not a magic bullet in postconflict contexts; it will not necessarily

result in peace between previously warring groups or even ensure steady employment at the individual level. However, it will likely result in greater resiliency among youth and the society at large (Davies 2010). For this reason, we argue that programs designed to assist children in re-entering educational programs are of critical importance in countries emerging from violent conflict.

While conflict-related retrenchment of educational progress has been documented across Africa, it is not inevitable. However, little is known about the relative effectiveness of the various types of reintegration services and supports for war-affected children and youth. Government officials, policy makers, and external actors must therefore be prepared to deal effectively with the ongoing effects of violent conflict on youth and school systems. This analysis examines the relationship between four types of postwar supports in Sierra Leone—reintegration support via interim care centers (ICCs), NGO financial support for education, family financial support for education, and social support—and children's risk of dropout.

Background and Context

Sierra Leone's Civil War and Its Effects on Youth

Between 1991 and 2002, Sierra Leone was consumed in a civil war that resulted in approximately 50,000 deaths. The Sierra Leone army, civilian defense forces, and the Revolutionary United Front (RUF) recruited and abducted children and forced them to participate in the conflict (McKay and Mazurana 2004). The broad scope of the fighting meant that many children, even those who were not directly involved with armed groups, were victimized and exposed to violence.

In addition to the catastrophic loss of life, Sierra Leone's civil war devastated the education system. Schools were frequent targets of violence, and hundreds were destroyed (MEST 2007). Three-quarters of the population was displaced one or more times during the decade of war (Abdalla et al. 2002), scattering students and teachers across Sierra Leone and into neighboring countries. The generation of children who were of school age during the war suffered at best a disruption in their educations that delayed their progression and, at worst, a permanent end to their schooling.

In the postwar period, the government attempted to encourage youth to return to school by passing several acts abolishing school fees for primary schools and junior secondary schools. However, unofficial fees, which often support school expenditures or go directly to teachers, persisted at all levels, and senior secondary school students paid approximately $100 annually (Williamson 2005). In Sierra Leone, households pay an estimated 50 percent of the costs of education for primary school and 60 percent of the costs for secondary school (MEST 2007). Sierra Leone's education sector remains highly dependent on external funding; it was estimated that in 2012, more

than 40 percent of its funding would come from external donors, including the World Bank and the African Development Bank (MEST 2007).

While the education system's persistent structural problems affect all children, former child soldiers face particular challenges to completing their education. First, in Sierra Leone, students are often several years beyond the typical age for their grades (Betancourt et al. 2008). While overage students are by no means found only in conflict-affected countries, the destruction of schools and time spent hiding from or participating in armed conflict was a major contributing factor to this problem in Sierra Leone. In 2004, in the aftermath of the war, almost 4 of 5 students in grade 6 in Sierra Leone were over age (Wang 2007). As students age, the demands on their time increase. They may face pressure to obtain a paying job, to marry, or to take on greater responsibilities in the household. Overage students are therefore at a higher risk of dropping out of school. Second, war-affected youth may struggle with post-traumatic stress and other mental health sequelae, including depression, anxiety, and hostility (Derluyn et al. 2004; Bayer et al. 2007). Third, youth who were perpetrators of violence or affiliated with an armed group in any way may be stigmatized in their communities (Hill and Langholtz 2003). Discrimination from teachers or peers may lead directly to dropout, while more broadly, stigma may lead to increased levels of hostility. Such psychosocial problems would make it more difficult for young people to succeed in school and remain enrolled.

Though the barriers to educational success in the postwar period were great, when a subsample of the youth participating in this study participated in in-depth qualitative interviews in 2004, they remained hopeful that education would provide a path to reintegration and stable, successful futures. More than half of the young people said they intended to become professionals, including doctors, lawyers, and teachers. Parents and caregivers, who perhaps assessed the situation more clearly, were less optimistic about the odds of positive outcomes for war-affected children. They cited poor school performance, the challenges faced by overage youth returning to school, and stigma as barriers to success (Betancourt et al. 2008).

Supporting Reintegration and Education in Sierra Leone

As the war drew to a close, concern grew over the fate of the thousands of children who had been involved with armed groups or who had been separated from their families during the fighting. A formal disarmament, demobilization, and reintegration (DDR) system for all combatants—child and adult—was set up by the government, the United Nations, and NGO partners, and operated under the auspices of the National Commission for Disarmament, Demobilization, and Reintegration. Between 1998 and 2002, more than 72,000 combatants were demobilized, of whom almost 7,000 were under age 18. Separate DDR processes were developed for adults and chil-

dren. Adult combatants were given 300,000 leones (US$143) and the option of participating in skills training (Women's Commission for Refugee Women and Children 2002).

The first step for many children and youth who had been separated from their families was to be processed via an interim care center (ICC). Seven of these centers were set up across the country by child-protection NGOs and the Sierra Leone government. More than 5,000 former child soldiers and more than 2,000 noncombatants were placed at ICCs during the demobilization period (Williamson 2006). These centers were intended to be short-term solutions, with few children staying longer than 6 weeks (Williamson and Cripe 2002). The major goals of the ICCs were to allow for a transition period to civilian life and to reunite children with their families.

As part of the DDR process, a coalition of NGOs offered former child combatants support to participate in vocational training or to continue their formal education (Women's Commission for Refugee Women and Children 2002; Williamson 2006). UNICEF's Community Education Investment Program (CEIP), which was implemented by a coalition of NGOs, covered the costs of school fees and uniforms for former child combatants (Alexander 2006). The program also gave schools enrolling former combatants packages of educational materials like chalk and writing utensils, in an attempt to avoid the impression that former combatants were being rewarded (Williamson and Cripe 2002).

The NGO-supported options for continued education had their problems. The fact that school fees were often paid only for former combatants was a source of conflict in communities, as families whose children were also war-affected but not directly involved with an armed group struggled to pay fees as well (Shepler 2005).[1] When the CEIP program ended in 2005, many participants' families could not pay the fees on their own, and they dropped out (Alexander 2006). In addition, the vast majority of child combatants who went through the official DDR process were boys, despite the fact that thousands of girls had been affiliated with armed groups. Screening processes that required children to present a weapon or to demonstrate that they knew how to disassemble and use a gun may have kept girls from qualifying for DDR (McKay and Mazurana 2004; Williamson 2005, 2006). In other cases, girls may have chosen not to access DDR services in order to avoid further stigma upon returning home (McKay and Mazurana 2004). Whether as a result of girls' choices or of inappropriate screening, many girls were not able to access DDR services, including education support.

While these NGO-supported services, in spite of their problems, helped many former child combatants—particularly boys—normalize their lives, the programs were not solely responsible for the success or failure of reintegra-

[1] In our sample, 31 percent of former combatants and just 17 percent of noncombatants reported that NGOs paid their school fees (see table 1).

tion. Informal, community-based support mechanisms were also at work when children returned home. It is critical for returned children to feel accepted by their communities; research has shown that higher levels of postwar social support and community acceptance mitigate some of the negative mental health effects of wartime violence perpetration and victimization (Betancourt, Brennan et al. 2010). Cleansing ceremonies, rituals that symbolically cleanse children of their wartime experiences and reintroduce them to their communities, are one example of informal reintegration mechanisms (Hill and Langholtz 2003; Stark 2006). Several NGOs, including the International Rescue Committee and the Christian Children's Fund, supported children and communities in holding these ceremonies (Williamson and Cripe 2002). These ceremonies can increase community acceptance of returned children, leading to greater levels of social support for the youth. In a review of the research on war-affected children, Werner (2012) finds that social support is a key protective factor that can reduce the mental health effects of exposure to violence. It is particularly important that young people in postconflict areas take steps to reconnect with their communities, because due to the deaths of parents and family, friends, and other community members, youth in these regions are likely to have smaller social networks and reduced levels of social support (Hill and Langholtz 2003; John 2011). In Afghanistan, Matsumoto (2008, 71) criticizes the lack of focus on "the rebuilding of social and community bonds" as one of the reasons for the poor outcomes of the DDR process.

While general social support helped children to reintegrate upon returning home, in order for them to continue as full-time students beyond sixth grade, the willingness of families to provide financial support was crucial. As noted above, families generally pay more than half of the costs of education in Sierra Leone, and these costs are significant to the average household. In our analyses below, we will examine not only socioeconomic status—indicating the ability to pay—but also the willingness of the family to contribute to the youth's educational costs. In the absence of the latter, youth would have to combine work and school to cover expenses and would likely be at greater risk of dropping out compared to children who do not have to work.

The NGO-supported services and community and family-based supports discussed above all have the same goal—the successful reintegration of young people into their communities. We are interested in whether they succeeded. Reintegration is a difficult concept to measure quantitatively. We argue that one measure of successful reintegration is the participation of young people in the formal education system. In our analyses, therefore, we examine the factors than influenced school leaving in a sample of war-affected youth.

In this analysis, therefore, we will examine the associations between four types of services and supports—ICC-supported reintegration, NGO financial support for education, social support, and family financial support for ed-

ucation—and risk of school dropout. As a first stage of the analysis, we will also analyze the relationship between dropout and wartime exposure to violence. As youth who were more deeply involved with armed groups may have been more likely to participate in formal services after the war, we will use this baseline model to control for any potentially confounding effects.

Research Questions

While Sierra Leone's civil war is over, other countries in Africa and around the world are locked in armed conflicts at the local, national, and international levels. These conflicts inevitably affect children's life outcomes. Therefore, we pose the following research questions in an effort to better understand how young people's experiences during and after armed conflict affect their long-run educational participation:

1. Are youth exposed to greater levels of violence during the war at greater risk of dropout?
2. Is participation in reintegration programs supported by external agencies—such as interim care centers and financial support for education—associated with reduced risk of dropout?
3. Are higher levels of family and community support—such as social support and family financial support for education—associated with reduced risk of dropout?

Research Design

Data used in this analysis comes from the Longitudinal Study of War-Affected Youth in Sierra Leone (LSWAY-SL), a multiphase, mixed-methods longitudinal study (Betancourt, Borisova et al. 2010; Betancourt 2011). The baseline survey was conducted in 2002, with follow-ups in 2004 and 2008, along with qualitative data collection used to identify and develop measures of key constructs relating to psychosocial adjustment and social reintegration. We also conducted in-depth interviews with youth (and an index caregiver) sampled at wave 2 in 2004 from the highest and lowest quartiles of distress, as measured by baseline assessments of combined internalizing and externalizing problems. The wave 2 qualitative sample included 31 youth and 12 caregivers. In 2008 we conducted follow-up interviews with 21 of the youth and 13 caregivers. We use this qualitative data to illuminate the findings from our quantitative analyses.

The baseline survey sample of war-affected youth in five districts was selected in two ways. First, we used ICC registries to create a master list of youth ages 10–17 who were demobilized between June 2001 and February 2002. From this list of youth, we were able to contact and obtain consent from 264. Second, in order to include the experiences of youth who had

not been served by ICCs, we conducted a door-to-door random sample of 127 youth. Of this second group, half were former combatants who had returned to their communities on their own. In the second wave of the study, using NGO lists of former child combatants in a sixth district, Makeni, we added another group of former child soldiers who had self-reintegrated ($N = 128$).[2] Data collection was cut short during wave 2, when the death of the head of our collaborating NGO in an accident led the study to be suspended early. However, in wave 3 in 2008, we were able to reinterview 73 percent of the 529 youth from waves 1 and 2. We did not find systematic differences between youth who were reinterviewed and those we could not locate.

Sierra Leonean research assistants conducted all surveys and interviews verbally in Krio, Sierra Leone's most common language. Institutional review boards at Boston University (waves 1 and 2) and the Harvard School of Public Health (wave 3) approved this study.

Sample

The survey sample analyzed here is drawn from the 387 participants from waves 1 and 2 who were reinterviewed at wave 3. Of that group, 351 had ever been enrolled in school, and 339 provided information on the highest grade of schooling they had completed. This subset of participants is included in the quantitative analyses. Of this group of 339, 321 were former combatants, and 18 were noncombatants.[3] See table 1 for further description of the survey sample.

We also discuss findings from a set of interviews conducted in 2008 with key informants, which help to explain the processes by which youth remained enrolled or dropped out of school. Thirty-one youth who had been affiliated with armed groups during the war were selected and interviewed at wave 2 in 2004; 21 (68 percent) of them were located and reinterviewed at wave 3 in 2008. Sierra Leonean research assistants who had received training in qualitative methods and research ethics conducted the interviews using a semistructured questionnaire with open-ended questions. In this group of youth, 13 were males and 8 females; 11 were currently enrolled students, and 10 had dropped out.

Measures

In this analysis, we define "dropout" as leaving school before completing the third year of senior secondary school (grade 12). This is the term used

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[2] Because Makeni was one of the last cities to be involved in the fighting and the last to be demobilized, this may have introduced some bias into the sample in terms of access to education and other services. We explore the extent of the possible bias by including a dummy variable for Makeni in the final model and comparing the statistical significant of this parameter estimate as well as overall model fit.

[3] Throughout, we use the term "war-affected youth" to refer to the whole sample, while we use the terms "child soldier" or "combatant" to refer to the subset of youth who were affiliated with an armed group.

TABLE 1
DESCRIPTIVE STATISTICS

Variable	Overall ($n = 339$)	Former Combatants ($n = 321$)	Noncombatants ($n =18$)
Female (%)	21	21	28
Age (years)	20.6	20.6	19.3
Wartime experiences:			
Witnessed violence (%)	80	82	44
Killed/injured another (%)	32	34	6
Rape victim (%)	14	14	11
Parent/caregiver death (%)	32	31	39
Years with armed forces	N/A	2.8	N/A
Age first involved with armed forces	N/A	11.0	N/A
Postwar reintegration support (%):			
Interim care centers (ICC)	N/A	50	N/A
NGO financial support for education	31	31	17
Family financial support for education	78	78	94
Education:			
Currently enrolled (%)	63	61	94
Highest grade completed, mean	7.8	7.8	7.7
Dropouts who tried to return to school (%)	66	66	100
Ever repeated a grade (%)	25	25	28
Passed NPSE exam (%)	94	94	94
Received vocational/technical training (%)	7	7	6
Ever educated at university level (%)	1	1	0
Annual mean school fee expenditure (leones)	95,845	96,820	85,000
Annual mean school materials expenditure (leones)	181,438	178,771	212,615

NOTE.—N/A = not applicable; NPSE = National Primary School Examination.

locally to refer to those who have not completed senior secondary. With Sierra Leone's national gross enrollment rates of 35 percent for secondary school as a whole and just 18 percent for senior secondary school (UNESCO 2011), this suggests that we should expect that most of our sample has dropped out. We argue, however, that completion of secondary school is a critical marker of basic skills and employability and should be the goal for all youth. While little economic evidence is available on the returns to education in Sierra Leone, evidence from Gambia (Foltz and Gajigo 2012), Burkina Faso (Kazianga 2004), and the Ivory Coast (Schultz 2004) suggests that there are positive returns to education in terms of wages, even in countries that continue to face enrollment challenges.

The outcome for the analyses discussed here is whether the participant is still enrolled after the completion of a given grade. This variable, LGC (last grade completed), indicates whether that grade is the last grade completed by the participant. The variable LGC is dichotomous and time-varying. Our time metric is grade (GRADE), a continuous time-varying variable that records the grade to which each row of data refers, coded from 0 to 11.[4] We also include Grade^2 (GRADE2), the quadratic expression of grade, to improve model fit (Singer and Willett 2003).

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[4] As discussed below, our data is organized into a person-period data set.

Our control variables include a continuous measure of age (AGE), a dichotomous variable for gender (FEMALE), and a measure of socioeconomic status (SES). The SES measure is a composite of eight items pertaining to family resources, including the household's main water source, type of toilet, roofing material, and number of rooms. These component items were taken from the Sierra Leone Demographic and Health Survey (Statistics Sierra Leone and ICF Macro 2009). Positive pair-wise correlations with health variables supported the validity of the SES measure at wave 3. The war experiences variables include a set of dichotomous variables indicating whether a participant had (1) witnessed violence (WINTVIOL), (2) perpetrated violence against another person (PERPKILL), (3) was a victim of rape (RAPED), and (4) lost a parent or caregiver (LOST_PARENT). The final two war experiences variables are continuous and indicate the age at which the child joined the armed forces or was abducted (AGE1FF), and the length of time with those forces (YRSFF). All of these war experiences variables are self-reported at wave 1.

A set of four variables measure availability of different types of postwar reintegration services and supports. Dichotomous variable ICC indicates whether the child attended an ICC after the conflict ended. Dummy variables are also used to measure whether children received financial support from NGOs (NGO_FIN_ED) or their families (FAM_FIN_ED) after the war ended. Social support (SOCSUP) is a continuous measure adapted from the Inventory of Socially Supportive Behaviors (Barrera and Ainlay 1983), which assesses participants' perceptions of support from others. For example, participants were asked how frequently someone gave them advice, tried to cheer them up when they were depressed, or loaned them a needed item. Respondents answered each item on a scale from 0 (no one gives that type of support) to 4 (this type of support received almost every day). At wave 3, the adapted scale had a range of 0 to 84 and a Cronbach's alpha of 0.87.

Data-Analytic Plan

The data set used for these analyses is organized into a person-period data set (Singer and Willett 2003). As few youth had reached grade 12, the risk set for that grade was very small and the estimate unreliable. We therefore chose to model dropout in grades 1 through 11 rather than 1 through 12. Each participant therefore contributed between 1 and 11 rows to the data set, corresponding to the number of grades of school they had completed by the time they left school or by the third wave of data collection, whichever came first. Those who were still enrolled at wave 3 were censored at that grade. We used multiple imputation to deal with missing data, generating nine data sets using the chained equations method in IVEware (Raghunathan et al. 2001). Multiple imputation results in greater precision by allowing for

the retention of incomplete cases and maintains variation in the sample (Rubin 1987).

We will address our research questions by fitting a taxonomy of discrete-time hazard models using logistic regression analysis in the person-period data set (Singer and Willett 2003). To answer research question 1, we fit the following hypothesized discrete-time survival analysis model, in which we represent the baseline logit-hazard of event occurrence as a quadratic function of grade in school and war experiences:

$$
\begin{aligned}
\text{Logit hazard LGC} = \ &\beta_0 + \beta_1 \text{GRADE}_{ij} + \beta_2 \text{GRADE2}_{ij} \\
&+ \beta_3 \text{FEMALE}_i + \beta_4 \text{AGE}_i \\
&+ \beta_5 \text{SES}_i + \beta_6 \text{WITNVIOL}_i \\
&+ \beta_7 \text{RAPED}_i + \beta_8 \text{PERPKILL}_i \\
&+ \beta_9 \text{AGE1FF}_i + \beta_{10} \text{YRSFF}_i \\
&+ \beta_{11} \text{LOST\_PARENT}_i.
\end{aligned} \tag{1}
$$

To answer research questions 2 and 3, we add the postwar services and supports variables to the above model:

$$
\begin{aligned}
\text{Logit hazard LGC} = \ &\beta_0 + \beta_1 \text{GRADE}_{ij} + \beta_2 \text{GRADE2}_{ij} \\
&+ \beta_3 \text{FEMALE}_i + \beta_4 \text{AGE}_i \\
&+ \beta_5 \text{SES}_i + \beta_6 \text{WITNVIOL}_i \\
&+ \beta_7 \text{RAPED}_i + \beta_8 \text{PERPKILL}_i \\
&+ \beta_9 \text{AGE1FF}_i + \beta_{10} \text{YRSFF}_i \\
&+ \beta_{11} \text{LOST\_PARENT}_i + \beta_{12} \text{ICC}_i \\
&+ \beta_{13} \text{NGO\_FIN\_ED}_i \\
&+ \beta_{14} \text{FAM\_FIN\_ED} \\
&+ \beta_{15} \text{SOCSUP}_i.
\end{aligned} \tag{2}
$$

The qualitative data were analyzed using thematic analysis and a four-step approach informed by grounded theory methods (Strauss and Corbin 1998). The first step involved open coding of the data to identify core themes related to psychosocial adjustment and social reintegration. In a second step, we developed core themes or categories related to our central focus of factors contributing to school dropout and labels or codes associated with them. In a third step, we engaged in axial coding to link key categories to one another, which informed a fourth step of theory development and examination by comparing initial conclusions to the data. The reasons given by the youth

for dropout were a central area of focus, as were topics surrounding interactions with nongovernmental organizations, families and communities, and other support systems in the postwar period. Our categories and their codes were assembled in a codebook. We used Atlas.ti software to apply the codebook to all key informant interviews (translated interview transcripts) collected in 2004 and 2008 where education and access to education were discussed in depth.

Findings

Table 1 displays descriptive statistics. The majority of our participants were male, as a result of the initial sampling strategy that drew heavily from rosters tracking former child combatants. Overall, four out of five youth in the sample reported witnessing violent events during the war, while almost a third had perpetrated violence. Parent or caregiver death or loss was experienced by 32 percent. In this sample, the average respondent who had been involved with armed forces had joined or been abducted at age 11 and had spent just under 3 years with the group. Almost a third received financial support from an NGO for school fees, and half of the former combatants in this sample came from lists of those attending an ICC after the conflict ended.

Surprisingly, despite the average age of 20 years at wave 3 in 2008, well over half of the youth reported that they were still enrolled in school. However, given that only 1 percent had any university-level education, most of these youth were overage students in primary or secondary schools. Of the 126 (37 percent) who were no longer enrolled in school, the most common reason given for dropout was "no money" (73 percent). Thirteen percent had stopped attending when they were abducted during the war and never returned. Ten percent said that they had to stop attending school because they had too many siblings, which could either indicate that the family could not afford to send all children to school or that the respondent was needed at home to help with child care. Two-thirds of those who had dropped out had attempted to return to school but were unsuccessful.

Figure 1 displays the conditional probabilities of leaving school after each grade, while figure 2 shows survival probabilities as a function of grades completed. As shown in the figures, dropout risk was very low for youth in the early grades—less than 5 percent left school after completing each of the first five grades. Sixth grade is the final year of primary school, and these figures show steady increases in dropout risk beginning at that point. By grade 11, risk of school leaving, for those who had made it that far, was 64 percent. Of this sample of youth, all of whom had enrolled in school at one point, fewer than 40 percent had continued through the end of junior secondary school at grade 9.
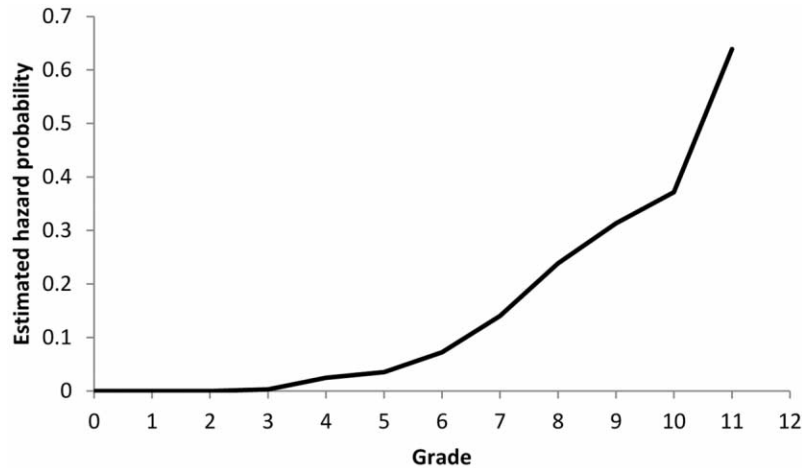
Fig. 1.—Sample hazard function

Research Question 1: Are Youth Exposed to Greater Levels of Violence during the War at Greater Risk of Dropout?

As shown in table 2, in model 1 we observe no statistically significant effects of war experiences on dropout risk. This suggests that what happens after the conflict is more important to later educational participation than what happens to the child during the conflict. We chose to retain the war experiences variables as control variables in model 2, however, despite their lack of individual or joint effect, because we observed in bivariate analyses that war experiences are correlated with likelihood of placement in an ICC. The retention of these variables may therefore result in more precise estimation of the relationship between ICC attendance and dropout.

Research Question 2: Is Participation in Reintegration Programs Supported by External Agencies Associated with Reduced Risk of Dropout?

As shown in model 2, we found a large and statistically significant association between ICC attendance and increased dropout risk across all grades. An ICC attendee had fitted odds of dropout that were 90 percent higher than a nonattendee, given that youth remained in school to that point. However, due to the structure of our sample, selection biases related to who needed additional support from ICCs and its geographic distribution,[5] this association may be due to factors that sorted youth into ICCs rather than attendance at the center itself, as will be discussed more fully below. Therefore, this association should not be interpreted as a measure of the effect of

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[5] None of the youth in the Makeni subsample added in wave 2 were ICC attendees, and Makeni's location close to Freetown may have resulted in easier access to schools.
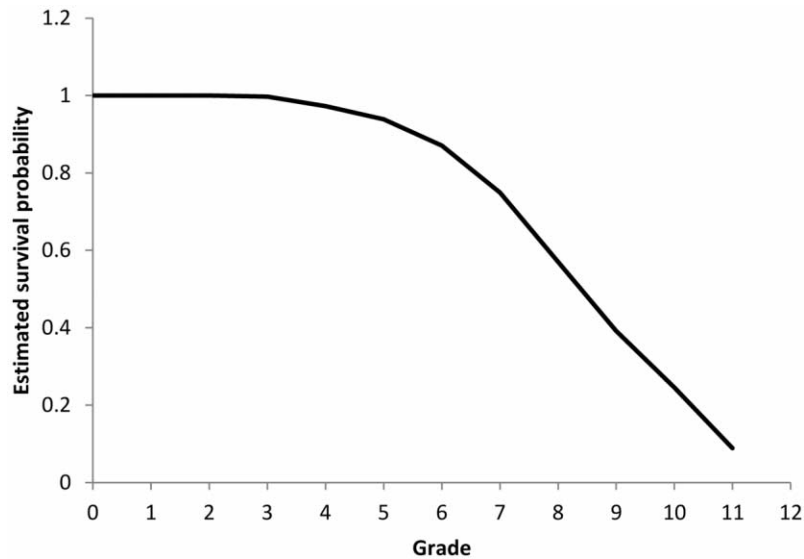
Fig. 2.—Sample survival probability

ICCs but as a signal that children who end up in ICCs will likely need additional services in order to successfully transition back to school and remain enrolled. In addition, model 2 indicates that receiving education-related support from an NGO did not have any statistically significant association with dropout risk.

An examination of the coefficients for the demographic covariates in the model shows that females and older youth are at greater risk of dropout. The fitted odds of dropout for females were more than twice those of males. Every additional year of age increased the fitted odds of dropout by 14 percent. Interestingly, socioeconomic status did not have a statistically significant relationship with dropout risk. This could be due to the low degree of variation in socioeconomic status in the sample or because our measure did not fully capture the variation that existed in the community.

Research Question 3: Are Higher Levels of Family and Community Support Associated with Reduced Risk of Dropout?

As we hypothesized, stronger levels of informal support appear to help youth stay in school. This is especially true for family financial support: the fitted odds of dropout for those receiving such support were just half those of youth who did not. This is not a proxy for family wealth, as the models adjust for socioeconomic status. Family financial support varied both for poor families and wealthy families, and that variation mattered. Greater perceived social support is also significantly associated with lower risk of dropout. A

TABLE 2
FITTED DISCRETE-TIME HAZARD MODELS PREDICTING RISK
OF DROPOUT BY GRADE ($N = 339$)

	(1)	(2)
Grade	.864***	.843***
	(4.56)	(4.41)
Grade^2	−.044**	−.039*
	(−2.97)	(−2.63)
Female	.365	.802*
	(1.18)	(2.42)
Age	.116**	.134***
	(3.22)	(3.58)
SES	.021	.049
	(.54)	(1.26)
War experiences:		
Witnessed violence	−.161	−.032
	(−.64)	(−.12)
Rape victim	−.186	−.126
	(−.53)	(−.35)
Killed/injured another	−.215	−.435
	(−.97)	(−1.85)
Age first involved with armed forces	.005	.017
	(.10)	(.38)
Years with armed forces	.048	.021
	(.71)	(.34)
Parent/caregiver death	−.144	−.151
	(−.63)	(−.65)
Formal reintegration services:		
ICC		.643*
		(2.44)
NGO financial support for education		.405
		(1.76)
Informal reintegration support:		
Family financial support for education		−.690**
		(−3.15)
Social support		−.036***
		(−4.12)
Constant	−8.941***	−8.309***
	(−8.51)	(−7.60)

NOTE.—t-statistics in parentheses. SES = socioeconomic status; ICC = interim care centers.
* $p < .05$.
** $p < .01$.
*** $p < .001$.

youth who was 1 standard deviation higher on the measure of social support had fitted odds of dropout that were more than 45 percent lower. Therefore, both financial and nonfinancial support were central to continued school enrollment in this postwar setting.

Qualitative Findings

The findings presented above shed light on the relative importance of different types of postwar supports to young people's educational outcomes. The in-depth interviews conducted with 21 former child combatants in 2008 provide a fuller understanding of the mechanisms that connected the various types of support to dropout.

Education was of great importance to the participants. Twenty of the 21

youth had been enrolled at some point in their lives. Half (11 youth) were currently enrolled students at the time of interview. At that time, their ages ranged from 16–24, but only one was enrolled in university. They were therefore several years behind expected grade for age, a situation that youth consistently attributed to the disruptions of the war years. Despite the government's free primary education policy, fees were discussed as a problem by two-thirds of the youth. One student, a 21-year-old male, explained why the interviewer found him at home on the day of the interview: "I go to school now. But even this very day I should have been in school but I am not. I have not completed payment of my fees and I have been asked by the school to only return when I do. The family has provided me with part [of the] money. But I can see that they do not have more money at this time. When they have it they provide it to me. When they don't have it they don't provide. They provide food for the household." Beyond fees for school attendance, youth also reported being required to pay teachers for extra classes needed to pass exams, bribes in order to ensure passing grades, and materials charges.

Given the costs of education, particularly in the context of separated families, support from nongovernmental organizations was described as helpful in the immediate postwar years. Eleven of the 21 interviewees (52 percent) reported having received education-related NGO support after the DDR process. In contrast to the general conclusions in the literature that girls were left out of these formal processes, in this small sample, girls were just as likely to report having received this support as boys. As one adolescent girl explained, when she returned to her village, the NGO "enrolled me in school, paid my school fees and bought my uniform." A 17-year-old female reported that the NGO "used to be responsible for everything like school bags, books, and fees. They used to take these items to the school and a lot of our friends also benefited from them." While it is clear that NGO support helped many youth in this sample to re-enroll in school and to complete primary school, support ended at the transition to secondary school. This was an abrupt termination for many families. As one youth said, "They used to pay our school fees but that has suddenly stopped."

At this critical point—the end of the NGO program supporting education for former child combatants—family support, both financial and nonfinancial, became a major factor in whether youth could continue with their schooling. Many families were devastated during the war, from physical separation to deaths to loss of capital, land, and homes. Families that might have been willing and able to support their children's education before the war were often no longer able to do so. One 20-year-old male, a dropout who now does agricultural work, explained: "[Our family] did not treat us badly but they did not have the means to provide for us, so we found suffering upon our return. Our father had been well-to-do when we were here before but he was no more by the time we returned. Our uncle also used to be well-to-

do but he was dead by the time of our return. We found our homes destroyed, ruined. So there was little prospect of achievement. We just joined [our family] and settled into our hometown." Another male youth, aged 17 years, explained more simply that his decision to drop out was due to "financial problems." With NGO support he had completed primary school. But "when I was promoted to form one my parents couldn't pay our school fees any longer for my brother and I." Even when families wanted to continue educating youth, the costs were just too great.

Youth who were still enrolled spoke not only of the key role of family financial support but also about nonfinancial support they received from their caregivers. Some said that they were encouraged to study or not required to do much work around the house in recognition of their responsibilities as students. A 23-year-old female college student said, "[My foster parents] gave me lots of time to study and my foster father will stop other children from causing noise whilst I am studying. They will even put the generator [on] to light up the house and also extended accommodation to my friends who come to study with me, especially when we had public exams. He really encouraged me." A 21-year-old male secondary school student said, "[My parents] put a lot of pressure on me to study and do my schoolwork. . . . They do not permit me to go out frequently. They insist that I should study, that I am on the verge of tackling a big exam." This type of support, encouragement, and structure was evident for many of the more successful students and was generally observed alongside family willingness to support education financially.

In this postwar context, many of the youth were at risk of dropout at the transition to secondary school, when NGO support ended for those who had been receiving it, fees increased, and the opportunity costs of being in school began to rise for all. But there were gendered patterns of what happened when the support ended at this transition point. Male adolescents could work for money—as farm help, general laborers, or market vendors. One 19-year-old male said that he worked all day at the diamond mines on the weekend, hauling gravel, in order to pay his school fees. These students did not generally make much money, but for some it was enough to scrape together their fees and remain enrolled. Working also interfered with study time, however, and youth were not always able to balance both successfully. One 16-year-old male sold cold water in town to raise funds, at the direction of an extended family member he lived with. As an example of the difficulties he faced in working while studying, he said, "Take even a certain year when she had me sell cold water so often that I ended up failing my exams. I had to repeat the class. It was not until the following year that I gained promotion." For other students, being forced to repeat a grade led them to give up and leave school permanently.

While boys at least had the option of trying to earn their school fees

themselves when external support was cut off, girls had fewer opportunities to safely work outside the home. Girls said that their families did not want them to be walking around on the streets. For girls in this sample, the response to the problem of school fees was to get a "boyfriend" to pay them.[6] Six of the eight female interviewees reported that a boyfriend had paid their school fees. Several described the relationship as one entered into for this explicit purpose. One female dropout explained, "I dated him because my mother and family are poor and lack lots of things so I dated him to help me." Another said, "During the time I was attending, it was my boyfriend that used to sponsor me in my schooling." While these young women may have benefited from this arrangement in the short run, in the longer run pregnancy was the result for six of the eight females in this sample, and four of those six dropped out of school to care for their children. By 2008, only four of the females were still enrolled in school, and two of those four were atypical cases—high performers who were being individually sponsored by NGO staff.

As discussed above, ICC attendance appears to be a sign of increased risk for dropout. As all of the youth in the qualitative sample had been processed through formal child combatant DDR processes, we cannot make a comparison between ICC and non-ICC youth in this subgroup. The interviews do, however, provide some detail as to their experiences during the reunification and reintegration period. Most of the participants ended up with their parents or extended family after a period of time; only a handful ended up spending long periods with foster parents or people from their village to whom they were not related. Therefore, from the experiences of this sample, it may not be accurate to assume that ICC attendance indicated that the family was unwilling or unable to accept the child. It may instead be related to the patterns of DDR participation across various armed groups and geographic areas.

The interviews discussed in this section illuminate why family financial and social support is important for continued school enrollment and why short-term external support for education may not have a long-term impact. When asked at the end of her interview whether she had anything else to add, one 23-year-old woman, who had beaten the odds and was attending college despite having lost contact with her parents, made the following recommendation: "So many NGOs have been helping us but when you help someone half way and the person cannot continue supporting herself then all the help is meaningless because at the end of the day she did not achieve anything[;] however if you help her through whatever she is doing then you will be proud of helping someone at the end of the day." Her astute interpretation of the situation, based on her observations of friends who were no

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[6] In the literature, men who engage in this type of transactional sexual relationship with young girls are often referred to as "sugar daddies." We use the term "boyfriend" rather than "sugar daddy" because it is the term that the girls themselves used.

longer attending school, aligns with our qualitative and quantitative findings about the importance of developing longer-term means of support for youth in countries that have been devastated by war.

Discussion

War-affected youth face tremendous vulnerability in educational attainment. As our study demonstrated, many war-affected youth who endeavored to continue their studies were far over age for their grade and had missed significant years of schooling due to the physical dislocations and traumas of the war (see Betancourt et al. [2008] for a discussion of wartime experiences among this group). In fact, two-thirds of those who tried to return to school after such interruptions eventually dropped out. These findings parallel Sommers's conclusion about education in postconflict settings: "For many, education tragically becomes an unattainable luxury while income generation attains a towering significance largely powered by sheer necessity" (Sommers 2006, 14). Another compelling finding of our research is that what happens during the war in terms of violence exposure appears much less influential on educational attainment than what happens in the postconflict environment, particularly with regard to family and community supports. In fact, having family support to pursue one's education was associated with halving the risk of school dropout, a finding that was independent of family wealth. The importance of postwar factors rather than wartime involvement in violence corresponds with recent findings from a longitudinal study of former child soldiers in Burundi, which finds no relationship between former child combatant status and current well-being (Jordans et al. 2012).

These findings are important to consider within the context of current policies and practices in the reintegration of war-affected youth. In the immediate postconflict period in Sierra Leone, NGOs invested large amounts of money into short-term supports, such as paying for children's school fees. While this may have encouraged children to go back to school in the short term, it does not appear to be associated with longer-term school retention, possibly because the support ended when the student passed to secondary school. This could be because children selected to receive NGO support, particularly those sent to ICCs because of family separation, were generally the more vulnerable and therefore the least likely to be able to pay their own fees once the support ended. The figures show the steady increase in dropout risk after grade 6, when NGO support ended. This transition was also clearly identified by the interview participants as a risk point—many families were unable to take over the financial responsibilities of paying for secondary school. The primary-level focus of the NGOs operating in Sierra Leone in the postwar period is not uncommon in postemergency contexts (Sommers 2002). In contrast to those who depended on the NGO support, children who received family financial support for school attendance had

greater odds of remaining in school over time. Our findings suggest that in postconflict areas, NGOs and bilateral aid agencies should spend less money on stand-alone projects that are externally funded and managed and more on supporting family- and community-level support systems. One possible alternative model was demonstrated in Angola, where community members affiliated with religious groups provided a variety of services that helped former child combatants reintegrate into their communities, including tracking of family members, ongoing support, and even foster care (Verhey 2001). In countries where religious or other community-based groups are equipped to provide this outreach, NGOs could support them financially and logistically.

It is unsurprising that young people who have higher levels of social support and those whose families are willing to invest in their education are less likely to drop out. However, it is noteworthy that these effects are maintained independent of family SES. The qualitative data makes clear that education is valued by the poor as well as the wealthy: youth and their parents did whatever they could to earn extra money for school fees, from selling cold water on the street to working dangerous jobs in the mines. Youth of various SES levels described types of social support they had received that allowed them to continue in school, from general encouragement to help solving interpersonal problems. While poverty presents immense challenges for youth in Sierra Leone, supportive families and social networks can encourage school persistence.

The more challenging question remains: How can external actors promote family and community support for war-affected youth in postconflict countries? Turning first to family financial support, the large differential in dropout risk between youth who did and did not receive such support makes clear that fees are a real barrier and are large enough that children cannot pay them on their own. While some youth in the interview sample attempted to solve this problem by working or by finding a "boyfriend" willing to pay fees, in the long run these methods were incompatible with academic success. Abolishing official fees at the secondary level and unofficial fees at all levels would reduce the need for family financial support. School fee abolition would also allow countries to avoid the appearance of favoring former combatants with special educational programs, which may cause resentment among community members (Davies 2011). Concurrently, we note from these experiences that the education system will likely need greater amounts of external funding in order to accommodate increased student numbers without reducing the quality of the education provided. In Kenya, the abolition of primary school fees led to larger classes and a perception of lower quality, driving many families to fee-charging private schools (Bold et al. 2011). Primary education quality also fell in Malawi after fee abolition (World Bank 2009), and such deterioration may impact parental decision making sur-

rounding enrollment of children. While it is therefore far from certain that fee abolition would have the intended enrollment benefits, our interviews with school-age youth and the patterns shown in figure 2 suggest that it is a necessary first step.

Finally, though gender was not the focus of this analysis, we would be remiss to disregard the finding that being female put youth at a greater risk for dropout than any of the war or postwar factors examined. As Maclure and Denov (2009) discuss, the aftereffects of the war and the DDR process are only part of the reason that girls lag behind boys in educational attainment in Sierra Leone. Sharkey (2008) documented the extensive physical and verbal abuse that girls experienced in a primary school outside Freetown as well as the danger of sexual violence while in transit; these experiences are likely common. In the qualitative sample, several female respondents said that their families preferred them to stay inside their homes, to avoid potential problems with men, consensual or nonconsensual.

The frequency with which girls in the qualitative sample reported using boyfriends—or "sugar daddies"—to pay school fees was also concerning. Girls did not see accepting money for sex from a regular partner as prostitution, paralleling findings from elsewhere in sub-Saharan Africa (Moore et al. 2007; Nobelius et al. 2010, 2011). In our discussion above, we focus on pregnancy as an outcome of this strategy for obtaining school fees, because pregnancy generally led directly to dropout. The practice may have other effects on girls' lives as well. Girls have little power to negotiate with an older partner over condom use or other issues (Maswanya et al. 2011; Nobelius et al. 2011), which results in exposure to a range of other conditions and diseases, including HIV/AIDS and other sexually transmitted illnesses and physical and emotional abuse. Therefore, the lack of policies supporting full enrollment in Sierra Leone has a particularly pernicious impact on girls.

International agencies working in postconflict countries must work closely with local organizations and community leaders to ensure that girls' rights are protected and their needs are met in ways that are acceptable to the girls themselves as well as to their communities. If girls are reluctant to go through reintegration programs and be formally affiliated with armed groups in the eyes of their communities, then broader programs designed to benefit all vulnerable girls may be the best approach.

Limitations of the Study and Data Set

There are several limitations to this study that must be noted. The analyses we have presented here are not causal, and we have taken care to present the findings above as associational. This is because assignment to formal reintegration services, such as ICC and NGO financial support, was not random. For example, youth who joined or were abducted into armed groups but not taken far from home or those who had more social ties intact were

more likely to have been able to "self-reintegrate" by traveling home and finding their families on their own. Similarly, it is likely that those whose families were less affected by the conflict or did not have to flee the area were more able to reunite with relatives and therefore less likely to spend time in an ICC. As noted above, these dynamics are likely built into our sample because the Makeni subsample included only self-reintegrated youth who were added to the ICC-served youth and a community sample. In order to test for this bias, we added a dummy variable for Makeni to our models. The variable was not statistically significant and did not significantly improve model fit, indicating that the inclusion of the Makeni group did not exert explicit influence on our results. Additionally, the interview sample was chosen from youth in the highest and lowest quartiles of psychosocial functioning at baseline, and their postwar experiences may therefore be atypical.

Due to the limitations of the data available to us, we have used grade as a time metric. Grade is not technically a measure of time—one young person may take 4 years to complete grades 1–4, while another young person may need 6 years if he or she repeats a grade twice. However, grade completion is a more policy-relevant outcome than years spent in school, especially in countries like Sierra Leone, where the repetition rate is high. Employers want to hire youth who have completed grade 12, not those who have spent 12 years in school. While we know the age at which children were abducted by or joined the armed group, we do not know the age at which their education was first disrupted by the war, which may have been much earlier. Additionally, we do not have measures for prewar school performance. This factor likely explains some of the remaining variation in children's risk of dropout after the war ended.

Overall, the DDR process in Sierra Leone was widely criticized for not being responsive enough to the needs of girls as well as other war-affected youth more broadly who were not necessarily associated with armed forces and armed groups (McKay and Mazurana 2004). While we have attempted to adjust for some of these factors in model 2 by retaining the war experiences variables and including gender in our analyses, we acknowledge that this set of factors does not perfectly encapsulate participants' wartime experiences. The small female representation suggests caution in making assumptions about girls' experiences on the basis of these models. Additionally, we do not have any information on family functioning before the war, which we hypothesize would influence whether parents and children made attempts to reunite after the war ended and their subsequent level of investment in the youth. However, our qualitative subsample does allow for a deeper understanding of the particular problems faced by female former combatants as well as some insight into the experiences of youth who passed through ICCs and attempted to reunite with their families.

Conclusion

The findings of this multiphase, mixed-methods longitudinal study lead to several implications for program planners and governments dealing with war-affected youth. First, on an optimistic note, it appears that traumatic experiences during the war, such as being a victim or perpetrator of violence, do not condemn children to educational failure. We found that these experiences were not statistically significant predictors of dropout risk, indicating that if supportive conditions are available, youth may successfully reintegrate into the formal education system. Second, youth who end up in ICCs are the most vulnerable to dropout and therefore should be the focus of special efforts in order to ensure post-DDR transition to school and long-term educational success, working with their families wherever possible. Having attended an ICC may be a stigmatizing factor that follows children back to their home villages (Verhey 2001) or could be an indicator of other vulnerability such as longer time away from family or weaker community and social ties. Additional research is needed with community leaders, teachers, and youth in order to find ways to offer ongoing support to ICC attendees without exacerbating relationships between these children and other community members who may also be in need. Third, supportive relationships with family members and the broader community are crucial to ensuring that youth remain enrolled. Therefore, in postwar contexts, external actors and governments need to identify ways to support family investment in their young people as well as supporting local reintegration processes without taking them over in ways that render them meaningless. While such approaches are context specific and may be more challenging to design than limited-focus educational support programs, the results of this study suggest that they may lead to greater educational participation among youth affected by war.

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