Civil War, Reintegration, and Gender in northern Uganda

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Abstract: What are the impacts of war on the participants, and do they vary by gender? Are ex-combatants damaged pariahs who threaten social stability, as some fear? Existing theory and evidence are inconclusive and focus on males. New data and a tragic natural experiment in Uganda allow us to estimate the impacts of war on both females and males, and assess how war experiences affect reintegration success. As expected, violence drives social and psychological problems, especially among females. Unexpectedly, however, most women returning from armed groups reintegrate socially and are psychologically resilient. Partly for this reason, post-conflict hostility is low. Theories that war conditions youth into violence find little support. Finally, the findings confirm a human capital view of recruitment: economic gaps are driven by time away from civilian education and labor markets. Unlike males, however, females have few civilian opportunities and so they see little adverse economic impact of recruitment.

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1. Introduction

After war, nations and people try to rebuild their lives and avoid a slide back to violent conflict. Reintegrating combatants is a particular priority, in part for humanitarian reasons, and in part because failed reintegration can threaten economic recovery, social integration, and peace. This paper scrutinizes the theoretical and empirical basis for such concerns, especially among females.

The iconic image of the combatant at war is a young man with an automatic weapon. Women are typically depicted as victims: mourning family, fleeing, struggling to care for a child, or sexually abused. Perhaps as a consequence, research on reintegration and recidivism focuses almost exclusively on males. Programs and policy follow suit. Until recently, national programs for disarmament, demobilization, reinsertion and reintegration (DDRR) excluded most women and children associated with fighting forces.[2]

Women and girls, however, fight or provide military support in most conflicts. Scholars have begun to assemble narratives of women and girls as combatants—in El Salvador, Columbia, Eritrea, Guatemala, Nicaragua, Sierra Leone, Sri Lanka, Uganda and elsewhere (e.g. Luciak 2001; Alison 2003; Viterna 2006; Wood 2009). These studies describe the wide range of female roles in armed groups, and emphasize that many are soldiers and perpetrate the same violence as males (Brett 2002; McKay and Mazurana 2004; Corbin 2008; Cohen 2009). This evidence and advocacy has led to sweeping policy changes. In 2000, the UN Security Council passed Resolution 1325, encouraging "all those involved in the planning for disarmament, demobilization and reintegration to consider the different needs of female and male ex-combatants" (2000, para.13).

What do we know about reintegration and the threats that ex-combatants pose to economic recovery and social stability? What do we know about the particular vulnerability of females? Below we review competing theories. Two dominate the academic literature. On the economic front, research suggests that war leads to injuries, lost education, and lost opportunities. Unaided, human capital may be slow to re-accumulate, leading to persistent poverty. Socially, exclusion and alienation may also create a class with no stake in peace, and the ravages of war could leave psychological trauma and aggression. Together poverty and exclusion

[2] See McKay and Mazurana (2004), MDRP and UNIFEM (2005), Schroeder (2005), and McKay et al. (2006).

could threaten a nation's long term stability. Indeed, the fear of alienated, aggressive youth fuels much of the policy and academic interest in DDRR.

Evidence is thin, and little is quantified or causally identified. Policy and practice have yielded many lessons learned, but scholars have had few opportunities to assess the impacts of war, and to determine why some individuals and not others are able to reintegrate (Humphreys and Weinstein 2007; Tajima 2009). Moreover, with few exceptions, all this research focuses on males.

In the absence of evidence, policymakers fear the worst. Speaking at a 2007 conference, the French foreign minister warned that young ex-combatants are "a time bomb that threatens stability and growth, …lost for peace and lost for the development of their countries" (BBC 2007). Former child soldiers in particular are "damaged, uneducated pariahs," according to a *New York Times* editorial (2006). Women and girls, especially those who were sexually abused or bore children to rebels, are said to be the most likely to face family rejection, and to need the most assistance in reintegration (UNIFEM 2004).

This paper uses an in-depth study of the Lord's Resistance Army (LRA) in Uganda to test theories of the consequences of combat and war violence, the determinants of ex-combatant reintegration, and the risks of renewed violence. We conducted extensive interviews and surveys in northern Uganda, where for 20 years the LRA has forcibly recruited tens of thousands of youth.

Previously we published the effects of forcible recruitment on young men, finding support for the human capital view of reintegration but little evidence of social exclusion or aggression (Blattman and Annan forthcoming). To the contrary, we see positive political and community engagement among males (Blattman 2009). This paper introduces for the first time quantitative data on women and girls in the LRA, building on and integrating earlier qualitative analyses (Carlson et al. 2006; Annan et al. 2008; Carlson and Mazurana 2008).

The central challenge in understanding the effects of combat and the determinants of reintegration is causal inference: males and females in armed forces are usually a select group, including those selected by commanders and those who choose to join. The LRA's forced recruitment presents a tragic natural experiment; abduction is nearly random, meaning that causal impacts can be estimated using non-combatants of the

same age and location as counterfactuals for abducted youth. We also examine patterns of recovery over time and by war experiences.

Our evidence challenges the more pessimistic theories of female psychosocial reintegration: social acceptance is high, by and large women and girls are psychologically resilient, and there is little evidence of aggression and violence. Distress and difficulties are commonplace, but serious problems are concentrated in the minority exposed to the most violence or with the least social support. These findings hold even for the longest serving females, and those who were forcibly married or bore children.

The evidence also supports the human capital approach. Ill economic effects persist where opportunities for schooling and work experience were lost. Thus males returning from the LRA are well behind their peers. Not so for most females, however, who appear to have had few opportunities if they were not abducted. These findings suggest a large shift in post-conflict policy.

2. War and reintegration: Theory, evidence and stereotypes

Reintegration eludes easy definition. At a minimum it implies some resumption of livelihoods and social relationships, either to the life led before war or that of non-combatant peers (Kingma 1997). In all cases, reintegration of ex-combatants presupposes some adverse impact of war, and a gap between ex-combatants and noncombatants. What are these impacts, and where do gaps persist? We explore four domains.

Economic livelihoods

Economists consider human and physical capital the principle determinants of earnings and employment (Card 1999). Those in armed groups may accumulate capital not relevant to civilian labor markets. Meanwhile, non-combatants continue accumulating education, experience, or wealth. This theory suggests several predictions, which we number for convenience: (E1) recruitment should be associated with lower human capital, employment, wages, and wealth; (E2) these adverse impacts should increase with the length of enlistment and (E3) decrease with time since return; and (E4) employment and wage gaps should be correlated with lower human and physical capital.

A small empirical literature confirms large and persistent earnings gaps between male veterans and non-veterans. Angrist (1990) finds that white American males drafted into the Vietnam War lost 15% of their long-term earnings due to lost work experience, a finding echoed among American volunteers in Vietnam and Western veterans of World War II (Angrist and Krueger 1994; Imbens and van der Klaauw 1995; Angrist 1998).

The evidence, however, suggests that adverse impacts hinge on the opportunity cost of recruitment into armed forces. Angrist (1990) finds that African-American conscripts have higher lifetime earnings than their civilian peers. Either civilian opportunities for young black males were so poor that military experience provided greater returns, or employers used military experience as a signal of ability. Predictions E1 to E4 thus depend on the relative opportunities available to civilians subgroups. Humphreys and Weinstein (2007) possess the only systematic data on female veterans, from a 2003 survey in Sierra Leone. They observe no difference in employment between male and female combatants after accounting for factions, war experiences, and pre-recruitment characteristics, suggesting that male-female differences may be small. Without data on non-combatants, however, the effect of military service on female well-being is unknown.

Psychological distress

Psychological theory proposes that increased exposure to violence causes increased symptoms of depression and traumatic stress (prediction P1), a finding referred to as the dose-response relationship (Johnson and Thompson 2008). This relationship has been seen among adolescent ex-combatants in east Africa (Bayer et al. 2007; Pham et al. 2009) and events related to combat and sexual assault or rape are more highly associated with symptoms than other traumatic events (Weiss et al. 1992; Kessler et al. 1995). While there is broad agreement on the dose-response relationship, the literature diverges on incidence; some medical studies record extremely high levels of posttraumatic stress and depression in war-affected populations (P2a), while others argue that the majority is resilient (P2b) (Masten 2001). Most studies, however, suffer from small sample sizes, unrepresentative samples, or an absence of control groups or causal identification.

In addition to exposure, a number of factors are posited to raise resilience, including social support (P3a) and 'cognitive appraisal'—how individuals think about and interpret events (P3b) (Brewin et al. 2000; Ozer

et al. 2003). Empirically, however, it is difficult to establish causation due to the bi-directional relationship of these factors and distress.

Another robust finding is that females are more at risk of developing post-traumatic and depressive symptoms after traumatic events—including war trauma—even though males are usually more exposed to direct combat in war (P4) (Tolin and Foa 2006). Psychologists do not have a proven theoretical basis for this regularity. One reason may be female's greater exposure to sexual assault, but a meta-analysis of gender differences shows that higher female symptom rates remain even when controlling for violence type (Tolin and Foa 2006). Other theories posit that females have more ongoing stressors, that females are biologically more vulnerable, or that females are more likely to blame themselves for events (Olff et al. 2007). Much remains unknown.

Social acceptance

Violence and socialization into armed groups may have a direct effect on family or community acceptance, as well as an indirect effect due to the impact of poverty and distress on social relations. As discussed, conventional wisdom holds that ex-combatants become social pariahs. Women and girls returning from armed groups are thought to be more ostracized than males, and to need specialized reintegration assistance (Knight and Özerdem 2004; Corbin 2008). The most vulnerable females, in this view, are the sexually abused and those who bore children as a result of this abuse (Sideris 2003; McKay 2004; Onyango et al. 2005). They are thought less likely to marry or find economic livelihoods, and together with their children, to have high rates of rejection and stigmatization by their families and communities—with many forced to leave their communities (Nordstrom 1991; McKay et al. 2006).

There is little evidence, however, that ex-combatants face difficulty gaining social acceptance (Annan and Patel 2009). On the contrary, several studies suggest that ex-combatants gain social acceptance and function at par with others in their community (Boothby et al. 2006; Williamson 2006; Humphreys and Weinstein 2007; Betancourt et al. 2008; Blattman 2009; Muggah and Bennet 2009; Blattman and Annan forthcoming). Most of these studies, however, concern men. Reports on central African demobilization have found that female ex-combatants were generally well-received by their families (MDRP 2007; MDRP 2008). Humphreys

and Weinstein (2007), however, find that while Sierra Leonean women report more problems gaining acceptance, that correlation arises from factional differences; after controlling for faction, male-female acceptance levels are similarly high.

Each of these literatures share common predictions: (S1a) armed recruits have difficulty with family and community members upon return and report lower family and community support than their noncombatant peers; (S1b) social rejection increases with violence perpetrated; and (S1c) rejection is greater among females, especially those forcibly married to fighters and those who bore children. The principal difference between the schools of thought is one of magnitude: one sees social rejection as widespread and persistent (S2), while one sees it as confined to a minority and improving with time back (S3).

Hostility

Finally, ex-combatants may pose a threat to peace because they are more likely to engage in interpersonal, communal, or political violence (H1). There are several theoretical rationales. First, some psychological theories argue that those who suffer more symptoms of distress in response to trauma also exhibit more anger, which sometimes manifests itself in episodes of interpersonal violence such as domestic abuse and physical fights (Catani and Jacob 2008; Gupta and Acevedo-Garcia 2009; Olatunji et al. 2009). If true, we may observe more interpersonal violence (H2) and a relationship between distress symptoms and aggression (H3).

Second, combatants may be accustomed to accomplishing objectives through force. In practice, this may surface in the use of violence to solve disputes or more sympathy for violence as a means to achieve one's ends (H4), or in dissatisfaction with peaceful institutions of dispute resolution at the local or national level (H5).

Third, ex-combatants may be more easily mobilized through social networks. Spear (2006) emphasizes the importance of dissolving armed factions and breaking the command and control structures operating over rebel fighters which make organized rebellion possible (H6).

Fourth, following economic theories of warfare (e.g. Hirshleifer 1995), poorer or less accepted ex-combatants have a lower opportunity cost of violence (H7). There is much theory but little evidence on the aggression of ex-fighters. In general, social networks seem to be important in motivating communal forms of

violence, while we see little association between income and violence in practice (Scacco 2008; Cramer 2010). The empirical literature, however, is inconclusive, in part because of a lack of data and in part because of the difficulties in identifying causal mechanisms. Intuitively, hostility may be associated with violence experienced in combat (especially violence perpetrated) and length of service for reasons that have as much to do with selection as with causality. There is little theory or evidence on the subject.

3. Data

Quantitative

From October 2005 to March 2006 we conducted a representative survey of male youth (ages 14 to 30) in eight rural subcounties in the Districts of Kitgum and Pader. Due to budget and logistical constraints, we delayed a similar survey of females (ages 14 to 35) until January 2007. Both surveys collected data on well-being, war experiences, and a number of pre-war characteristics.

To survey youth present in 2005-07 would create selection bias due to migration, mortality, and unreturned abductees. Pre-war sample frames (such as a census) do not exist. We thus sought to develop a retrospective sample frame. We randomly chose 1,162 households from the earliest comprehensive source available: U.N. World Food Programme population lists from 2002-03. In 2005 a team of local enumerators found 88% of households and worked with each household head to develop a roster of all youth in the household in 1996—a year easily recalled as the first election since 1980, and one that pre-dates 85% of abductions. We randomly selected 881 male youth and 857 female youth from this retrospective frame, stratified by subcounty and abduction status, over-sampling the abducted. Roughly half of sampled youth had migrated from their village of birth, and enumerators sought to track them all. They located 84% of the males and 72% of the 857 females—the lower tracking rate due largely to the time since between female sampling and surveying.

Qualitative

We purposefully selected 30 males and 21 females from the sample for in-depth qualitative interviews.[3] We also conducted eight interviews outside the sample with formerly abducted young women in an NGO 'reception center' for returning abductees. Finally, we held interviews with seven reception center social workers and 15 LRA junior officers. Questions addressed daily life; relationships with family, husband or domestic partner, and children; abduction; war experiences; and experiences of return. The qualitative research allowed theories to emerge inductively from raw data (Charmaz 2006). The interviews were open-coded, and emergent themes informed the quantitative analysis in developing questions and explaining findings.

4. Background to the war in northern Uganda

In 1986, rebels from southern Uganda overthrew a government dominated by northern ethnic groups, including the Acholi. Several Acholi guerrilla forces resisted the takeover, but for the most part settled for peace by 1988. A few hundred fighters refused to settle, and in 1988 gathered under an Acholi prophet named Joseph Kony, forming the LRA.

The decision to keep fighting was unpopular, and the LRA commanded little Acholi support. With no volunteers or resources, the LRA began looting homes for supplies and forced recruits. LRA raiders killed, maimed, and burned many victims to instill terror in the population and dissuade them from government collaboration (Doom and Vlassenroot 1999).

LRA activity was initially low scale, but in 1994 Sudan began supplying them with weapons and territory for bases. Abductions climbed, with 60,000 to 80,000 people taken by the LRA for at least a day (Annan et al. 2006; Pham et al. 2007). Adolescent males were the primary targets, though adolescent and adult females and adult males were taken as well.

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[3] The qualitative sample was selected to include variability in current age, length and age of abduction, war experiences, level of psychological symptoms, and level of social reintegration. 21 interviews were taped and transcribed in Luo and then translated into English, and 13 interviews were transcribed from field notes.

In response to the insecurity, some Acholi moved to displacement camps as early as 1996, usually no more than a few miles from their homes. In 2003 the government forcibly displaced the entire rural population to camps as part of their counter-insurgency.

The LRA possessed a puritanical code of conduct that governed all aspects of behavior—fighting, eating, washing, and praying. Sex was permitted only for combatants in sanctioned, forced marriages. Violations of strictures were met with severe punishment. The LRA supreme commander Kony set this code of conduct and military orders through religious proclamations. His powers as a spirit medium are broadly accepted in the region.

Screening, rather than selective recruitment, was the basis of the LRA's fighting force (Beber and Blattman 2009). The distribution of 'wives' was one of the LRA's only systems of privilege and remuneration. Those with rank and power received multiple girls as wives.

The LRA's decline began in 2002, when Uganda escalated its counterinsurgency campaign and Sudan permitted Ugandan forces to invade. By 2004 the rebels weakened and abductions nearly ceased. Peace talks began in 2006 and collapsed in 2008. Kony and a few hundred followers roam central Africa, fleeing Ugandan forces. The Acholi returned from displacement in 2006 to 2008.

The LRA continue to abduct and terrorize populations in southern Sudan, eastern Congo, and the Central African Republic.

5. Females in the LRA

Our survey data provide the first representative picture of the LRA. Abduction was extremely widespread; in the areas surveyed, 26% of female youth (aged 14 to 35) and 47% of male youth were ever abducted. Abduction length ranged from a few hours to twelve years, averaging 11.8 months for females and 10.8 months for males. 64% of females were abducted for more than two weeks and 11% were kept for over a year.

Females served many roles in the rebel group, often servile. Of females abducted longer than two weeks, 69% said their main role was a supporting one, especially as porters (27%) or cooks and water collectors (37%). With time females took on fighting roles; 16% reported a combat role, whether a fighter, fighter's aid

or spy. This figure likely underestimates the number of females who fought, although it captures those who fought as a main role. Asked differently in the male survey, 42% of males were given a gun. Just 4% of females abducted over two weeks reported that they were in a position to give orders to other fighters, compared to 15% of males.

Nevertheless, females report similar levels of violence as males. The survey asked all respondents, abducted or not, about 17 specific *Violent acts experienced*, including 6 witnessed, 6 received, and 5 upon the family of the respondent. It also asked about 8 *Violent acts perpetrated*. Roughly a quarter of both males and females were forced to beat, cut or murder other abductees, civilians, or even family members in order to bind them to the group, reduce their fear of killing, and discourage disobedience. They reported perpetrating the same number of acts as males (1.6 acts), including many of the worst acts: killing civilians, soldiers, or friends and family.

Females, however, were principally recruited to become `wives' and mothers. Qualitative interviews suggest that females carried firearms for defensive more often than offensive use, and typically females were no longer called for battle after the first pregnancy (at least until the later, more desperate stages of the war). In our sample, 26% of abducted females were given as wives, including 41% of those abducted over two weeks. Rape was relatively rare outside these forced marriages; 93.5% of forced wives said they were sexually abused or forced to have sex with a man, compared to 6.9% of never-married abductees, and 1.7% of non-abductees.

Among forced wives, 25% were 'married' within nine days of abduction, 50% within two months, and 75% within a year. Interviews suggest that rebels divided females into three groups: prepubescent girls, young adolescents, and older adolescents and adults thought to have had sexual experience. Prepubescent girls were kept as servants to be forcibly married later, while young adolescents were forcibly married sooner. Older adolescents and young adults, seen as potential carriers of sexual diseases, were more seldom given as wives and were more often released.

The marriages were largely coercive relationships without the consent of the female or her family, and were characterized by shared domicile, domestic responsibilities, exclusivity, and sex. The relationships were familial, and children were born and raised by abducted mothers and captor husbands. Half of forced wives

bore children. The longer a female stayed with the rebels, the more likely she was forced to become a wife and mother. Educated abductees also married sooner—1.5 months faster for each extra year of education.

In qualitative interviews, young women described a range of feelings towards their marriage. Some described "harsh" and "abusive" men, while others felt they were treated well. One woman explained, "We got along well. You know, he was abducted like me." Despite varied feelings, most forced wives said that they wanted nothing to do with their "bush husband" once they returned home (Carlson and Mazurana 2008). Fewer than 5% of forced wives stayed with their LRA husband upon return from captivity.

Abductees typically escaped when supervision was low. A small number were rescued or captured by the Ugandan army. Abductees who were too young or too old were often released after being forced to carry looted goods or give directions (including 18% of females and 7% of males). Almost all abductees return home after escape or release. Over one-third passed through a non-governmental 'reception center' (especially those abducted for long periods), which provided basic medical care and psychosocial support, plus family relocation services.

6. Empirical strategy

We use five empirical strategies to examine theories of war impacts and reintegration. First, we measure incidence of distress symptoms, social exclusion, hostility, and reintegration difficulties. Second, to measure the causal impacts of recruitment on well-being and behavior, we use exogenous variation in abduction patterns to obtain unbiased estimates. Third, to assess whether impacts are persistent, we look at how well-being recovers over time. Fourth, several predictions hinge on the effects of specific war experiences, and so we examine how well-being varies with abduction length, violence, and forced marriage and motherhood. Fifth, some theories posit alternative mechanisms and causal channels (e.g. from human capital to labor market outcomes), and so we examine correlations between these intermediate and final outcomes.

Causal identification

All but the first empirical strategy seek causal identification. One of the main contributions of this paper is the unique opportunity it presents to causally identify the impacts of war and the determinants of reintegration.

Combatants are usually unlike non-combatants in unobservable ways, and comparisons conflate the impacts of war with pre-existing differences that led the youth to join. Non-fighters offer a reasonable counterfactual, however, when selection is observed (Imbens 2004). In most wars, such conditions would not hold. In the LRA, however, volunteers were very rare, eliminating bias from self-selection. Selection by the group was also minimal. Youth were typically taken by small groups of LRA raiders. Acholi households live in the midst of their fields, isolated and vulnerable to abductions. From their Sudanese bases, LRA rebels ventured into Uganda for weeks at a time in groups of roughly fifteen. Abduction parties were instructed to release young children and older adults, but to keep all adolescent and young adult males. In interviews, raiding party leaders said they seldom premeditated attacks or targeted particular households. Survey data support these claims of indiscriminate abduction. After controlling for age (where rebels were explicitly selective), male abduction is independent of pre-war household characteristics, including indicators of wealth (like land and livestock), parent's education, occupation, and death (Table 1). Abducted males differ only by household size—a difference driven by households greater than 25, in part because small rebel bands appear to have been hesitant to raid large groups.

Female abduction was driven in part by variation in commanders' demand for wives. Abductees and LRA officers explained that orders for more or fewer females typically came down from Kony himself (see also Carlson and Mazurana 2008). Thus adolescent females were sometimes ignored by raiding parties, while demand for male abductees was steady. Abduction was also related to characteristics of individual girls. Interviews suggest that the LRA sometimes targeted more beautiful girls. Regressions in Table 1 also suggest the LRA were also more likely to target females with more educated mothers; each year of mother's education is associated with a 2% increase in the probability of abduction. Interviews suggest that more educated girls were preferred for nursing, midwifery, radio communication, record-keeping, and logistical support

(Carlson and Mazurana 2008). In general, however, the act of abduction itself was not highly selective; as with males, female abduction was unrelated to household wealth, occupation or parental death.

In general, the LRA screened recruits after rather than before abduction. We observe this selection in release patterns (Table 2). Abduction age is the most robust determinant of release for females; each year of age is associated with a 1 percentage point higher probability of release. Rebels were least likely to release educated females. Each additional year of education at the time of abduction is associated with a 4 percentage point lower probability of release. With the correlation between mother's education and abduction, this suggests an LRA focus on educated girls and adolescents.

To assess abduction impacts, we run a least squares regression, weighting on the inverse of an estimate of the propensity score of abduction (Hirano et al. 2003). For outcome Y for individual i in subcounty j, we use the regression function:

$$Y_{ij} = \alpha_j + \theta A_{ij} + X_{ij}\beta + \varepsilon_{ij} \quad (1)$$

where α_j is a subcounty fixed effect, X is a vector of pre-abduction traits, and A equals 1 if i was abducted. If all selection criteria are included in the propensity score, then θ estimates the average treatment effect. This selection-on-observables assumption is most credible for males, but may be violated for females. If characteristics like beauty and health are associated with well-being later in life, estimates from (1) underestimate harmful impacts of abduction.

To assess the effects of war experiences, we run the following regression for abductees:

$$Y_{ij} = \alpha_j + \delta_L L_{ij} + \delta_V V_{ij} + \delta_P P_{ij} + \delta_W W_{ij} + \delta_M M_{ij} + X_{ij}\beta + \varepsilon_{ij} \quad (2)$$

where L is years abducted, V and P are indices of violence experienced and perpetrated, and W and M equal 1 for forced wives and mothers.

War experiences, especially length of abduction and violence, are probably endogenous. Hence we should regard coefficients as suggestive correlations. If unobserved characteristics leading to longer or more violent abductions are also associated with lower well-being, then we will tend to overestimate the causal effect of length or violence on youth. Even if endogenous, however, these correlations are still important indicators of reintegration, especially for policy purposes.

To assess the recovery of well-being since return, we run the following regression for abductees:

$$Y_{ij} = \alpha_j + \delta_T T_{ij} + X_{ij}\beta + Z_{ij}\Pi + \varepsilon_{ij} \quad (3)$$

where T is years since return. Time back is conflated with changes in abduction patterns over time, and we control for these factors using pre-abduction traits X and indicators for year of abduction, Z.

Our ability to test channels of impact is more limited. We can correlate human capital accumulation with labor market outcomes, or psychological distress with family support, but these outcomes are most likely jointly determined. Nevertheless, the correlations are suggestive and the likely direction of endogeneity bias can be predicted.

There are two final identification concerns. First, our results will underestimate the adverse impacts of abduction if humanitarian services are targeted to abductees. While we observe such targeting, reintegration programs have been rudimentary in scale and reach (Allen and Schomerus 2006; Annan et al. 2008). Our estimates thus reflect the impact of abduction conditional on youth receiving rudimentary reintegration services.

Second, attrition was low considering a decade (and a war) elapsed since sampling. Nevertheless, attrition was higher among former abductees, and so if attrition is associated with greater well-being, we will overstate the adverse impacts of abduction. Following Fitzgerald et al. (1998), we weight all estimates to account for observable determinants of attrition (so that individuals who, based on pre-abduction traits, look more like the missing respondents receive slightly more weight). In general, high rates of attrition typically have little impact on estimates (Falaris 2003). Nevertheless, attrition due to war might be particularly selective in unobservable ways.

Measuring well being

We measure five economic outcomes: an *Index of household wealth* constructed from a set of asset and housing quality indicators[4]; to proxy for income, average gross *Daily earnings* (2212 UGX among females, 2629 UGX among males—or $1.23 and $1.46); a *Skilled work indicator* for work in a trade or business (2%; 9%); and two measures of employment, an *Employment indicator* for any income-generating work in the past

[4] Based on a principal components analysis following Filmer and Pritchett (2001).

month (82%; 46%) and the number of *Days employed* in the past month (10; 5). We also use two human capital measures: highest *Educational attainment* (4.4; 7.2) and an indicator for a *Serious injury* that limits physical labor (6%; 11%).

For social acceptance, we gathered data on five return experiences among abductees, including: an indicator for whether they *Returned home* (100%; 99%) or *Returned to school* after abduction (39%; 59%); an indicator for whether the abductee reported *Family problems ever* (18%; 7%), including insults, blame, or aggression; whether they experience these same *Family problems now* (7%; 3%); and, finally, indicators for whether they experienced *Community problems ever* (44%; 32%) and *Community problems now* (6%; 3%). To gauge impacts of abduction, we use three measures: an additive *Index of social support* composed of 17 types of support reported in the past month, such as someone comforting the respondent when sad, or helping her find work (5.6; 3.4); an *Index of family connectedness* ranging from 0 to 6 based on whether a youth reported greater family comfort, closeness and lack of conflict (3.7; 5.5); and a *Group member* indicator for membership in at least one of eight social or political groups (34%; 28%).

To measure psychological impacts, our main measure is an additive *Index of emotional distress* using 17 self-reported symptoms of depression and traumatic stress.[5] Females' average is 4.8 and males' is 2.5; maximum values are 13.7 and 15 for females and males. These averages could indicate a youth experiencing 4 to 5 symptoms frequently (i.e., nightmares, difficulty concentrating) to 16 to 20 symptoms rarely. The nightmares and hallucinations associated with post-traumatic stress are often interpreted as being *Haunted* by the spirits (*cen*) of those harmed (12%; 7%).

Measuring propensity for violence is less straightforward. For interpersonal aggression, we have three indicators: one (unfortunately, asked in the males survey only) for whether the respondent reported being *In a physical fight* in the past six months (8% for males); a second for self-reported *Aggressive behaviors* such

[5] The measure is an adapted version of the Northern Ugandan Child and Youth Psychosocial Adjustment Scale by MacMullin & Loughry (2002). Each symptom is scaled between zero and one according to its reported intensity. For each of the 19 symptoms, "often" receives a full value of 1, "sometimes" 0.66, "rarely" 0.33, and "never" a zero. Questions were selected for inclusion in the index of distress additively if, in a factor analysis, they shared a loading over 0.3.

as being quarrelsome, threatening others, and using abusive language (14%; 6%); and a third for having trouble getting along with neighbors in the past year (27% for females). We have weaker measures of attitudes to peaceful dispute resolution: an indicator for *Respect for community elders*, the main source of local dispute resolution (97%; 92%); and an additive *Index of antidemocratic attitudes* (1.39 for females) for support for a military, autocratic or single party government, plus non-support of multiparty democracy.

7. Results

We estimate impacts of abduction (equation 1) in Table 3, the effects of war experiences (equation 2) in Table 4, and the effects of time back (equation 3) in Table 5. Finally, we report return experiences in Table 6, and how they vary with war experiences (equation 3) in Table 7. We also report evidence on causal channels in Table 8. Results are robust to alternative estimators (e.g. matching or nonlinear regression) and to alternative sets of controls, unless otherwise mentioned.

Economic impacts

The human capital approach to reintegration finds reasonable support, though with divergent implications for males and females.[6] Looking at males, patterns in Table 3 confirm that abduction leads to a large human capital deficit (E1): a 10% drop in education and a more than doubling of injuries. We also see a 0.4 standard deviation decrease in wealth, a 45% fall in earnings and a 35% fall in skilled work. There is no statistically significant change in employment levels, and both metrics have small but positive coefficients. For male abductees, it appears to be the quality rather than the quantity of employment that shifts.

Consistent with prediction E2, longer abductions are associated with lower human capital among males, especially in terms of education (0.49 fewer years education for every year abducted, in Table 4). This human capital deficit is somewhat persistent. Consistent with prediction E3, males do attempt to return to school, and education rises by 0.17 years for each year since return (Table 5), but the education gap never completely disappears. Only 59 percent return to school after abduction (Table 6).

[6] Male impacts were discussed in more detail in Blattman and Annan (forthcoming).

Longer abductions are not associated with lower wealth, earnings or employment (Table 4). Also, neither wages nor employment increase with time back. One possibility is a weak relationship between human capital and these economic outcomes. We examine correlations between economic outcomes and human capital (E4) in Table 8, using non-abducted males only. Education is associated with higher wealth, wages and skilled work, but not employment. The pattern is consistent with the idea that abduction impacts quality and not quantity of employment. The coefficients are, however, sizable enough that it is surprising that we do not see economic outcomes falling with abduction length and increasing in time back. Measurement error and sample size may be one reason, but these results do suggest that other forces may be at work.

Turning to females, we see a different pattern: no adverse effect on human capital or labor market outcomes (Table 3). Rather, the point estimates are generally small and not statistically significant. The only significant impacts are a 0.28 standard deviation lower wealth and 2 fewer days employed. Nor do predictions E2 or E3 hold for females: we do not see a correlation between abduction length and human capital or economic outcomes (Table 4C) or a correlation between time back and most outcomes (Table 5).[7]

What explains this gendered difference? Do the results contradict the human capital approach? Certainly the most basic prediction of a human capital model—that wages and wealth are increasing in education—are borne out by the wage regressions in Table 8 for females as much as males; regression coefficients are similar for both genders.

[7] To be precise, looking at Table 4B, we see large, negative, and statistically significant correlations between abduction length and education, almost identical to the coefficients on males (in 4A). This finding seems incompatible with the results in Table 3, where no adverse impacts are found for all abducted females. But educated females tend to escape more quickly—1.3 months more quickly for every extra year of education (regressions not shown). Thus the correlation between education and abduction length in Table 4B appears to be spurious, driven by the propensity of more educated females to escape. When we control for education at the time of abduction for females, as in 4C, the correlation between abduction length and educational attainment disappears.

One possibility is omitted variables: high-ability females are more likely to be abducted, biasing the results in Table 3 towards zero. Of course, this ability would have to be unaccounted for by our pre-abduction controls: parental education, occupation and wealth.

While selection could drive the results in part, other evidence suggests a more depressing explanation: for most females, the alternative to abduction is dismal—low educational investment and few opportunities for skilled employment. Two patterns suggest that, even in the absence of abduction, women and girls may not have been educated. First, non-abducted females are less likely to be enrolled than males at all ages. We see this in Figure 1, which displays the probability of currently being in school among non-abducted youth. Current enrolment understates the historical gap, however, as enrolment among both males and females is high in the displacement camps, and universal primary education (UPE) was only introduced after 1997. Figure 2 displays educational attainment of non-abducted youth. Male attainment is increasing in age, a pattern consistent with continued enrolment in high school among older males. Female attainment falls steeply, especially among the older cohort who did not benefit from UPE. For most females, life at home bore certain resemblances to life with the rebels: withdrawal from school, early marriage and child-bearing.

We do observe schooling deficits among one group: forced mothers. Females who bore children with the rebel group have more than a year less education than their peers, abducted or non-abducted, after controlling for initial education and abduction length (Table 4C). Looking at return experiences (Table 6), females are slightly less likely to return to school than males after their return from abduction, in part because females are less likely to be schooled in the first place. But forced motherhood is also closely associated with a lower likelihood of returning to school; while longer abductions are not associated with a lower likelihood of school return, forced mothers are 40 percentage points less likely than forced wives (and 39 percentage points less likely than unmarried abductees) to return to school (Table 7B). Figure 3 shows rates of return to school by age back from abduction. The difference is stark; girls who return without children go back to school at least 80% of the time before the age of 12 (versus 90% of boys). The decision to return to school falls with age; for those returning from abduction at age 18 roughly 40% of girls and 50% of boys return to school. Fewer than 10% of forced mothers return to school.

Social acceptance

Broadly, the evidence suggests that, as predicted, armed recruits have initial difficulty with social acceptance (S1a). Evidence that social rejection is widespread and persistent (S4) is weak; it is more likely that social troubles are confined to a minority and improve with time (S5).

We first turn to descriptive statistics on return (Table 6). Females and males return home in almost all cases. In the beginning, some face difficulties with at least one family member or neighbor, including insults, fear, or aggression. 18% of females and 7% of males report at least one problem within the family, while 44% of females and 32% of males report at least one problem within the community. Females were 15 percentage points more likely to report family problems but not more likely to report community trouble (substantively or significantly). For the majority of returnees, however, these troubles were temporary. Just 7% of females and 3% of males reported that family problems persisted—improvements of 59% and 65% respectively. Similarly, just 6% of females and 3% of males report persistent community problems—improvements of 87% and 80% over time.

Comparing abductees to civilian youth (in Table 3) neither male nor female abductees display levels of social support different from their peers or each other. Both males and females are as likely to belong to a community group as their non-abducted peers. But abducted females report 6% less family connectedness than non-abducted females and abducted males 8% less connectedness—i.e., more quarrels or fewer feelings of comfort and closeness. Females are at least twice as likely to report persistent family and community problems as male (Table 6).

Are these females rejected by families outright? In qualitative interviews, those who reported problems tended to focus on difficulty with a single family member or neighbor, not all, and other relationships were generally described as positive. Thus conflicts are localized, usually to a single relationship. The interviews also suggest that those who returned to extended family, rather than parents, had more strained relationships because of scarce food and resources.

If social impacts of abduction are small, then we may not observe improvement since time of return. Indeed, none of our social measures vary with years since return (Table 5). This contrasts with the evidence discussed above, where abductees who had difficulties report improvements between the time they returned

and today. There are at least two possibilities. First, in interviews, abductees usually reported difficulties with just one or two people, rather than the whole family or community. Thus overall social support is consistent with isolated conflicts. Second, if social reintegration occurs quickly (in less than a year, for instance) then we should not expect the "time back" regressions in Table 5 to show significant results.

Violence perpetrated is associated with higher levels of ever having family and community problems, and with current family problems, as suggested by prediction S1b. These effects are reasonably large; an additional act of violence perpetrated by females, for instance, is associated with a 5.8 percentage point (or roughly 30 percent) increase in reports of family difficulty ever (Table 7). Curiously, and contrary to this result, violence perpetrated is *positively* correlated with social support and group membership among both women and men, though the effects are only significant for women (Table 4). It's impossible to interpret this result with our data, but one possible explanation is that formerly abducted women (especially those that fought or perpetrated the most violence) support one another, or form groups together, in spite of or because of family and community difficulties.

Finally, theory and practice predict that forced wives and, especially, mothers to rebel-born children should have the most difficulty reintegration into family and community (S1c). In northern Uganda, however, forced marriage and motherhood are not associated with (statistically significant) lower rates of family and community acceptance, giving little support to the worst fears. Our sample size, however, is modest; of 228 abducted women, there were 59 forced wives, 29 of whom bore children. Hence we must be careful not to treat the absence of statistical significance as evidence of absence—the confidence intervals include sizeable adverse effects. From Table 4, panel B, forced marriage is associated with 1.03 fewer forms of social support, a 26% decline relative to abductees, albeit again the result is only weakly significant (at the 10 percent level).

Qualitative interviews reveal that some community members called rebel-born children names, particularly when the children were troublesome, such as when fighting with other children. Yet most forced mothers said their families welcomed their children. Social workers and returned females also explained that the parents of forced mothers took care of their grandchildren, as is customary when a female has a child out of

wedlock. Grandparent acceptance of children does not imply a problem-free relationship. Even so, the custom increases the female's opportunity to remarry.

Psychological distress

While social impacts appear small, we observe adverse psychological impacts of abduction. Abducted females report an average of 20% more symptoms of emotional distress than their non-abducted peers, and abducted males 15% more symptoms (Table 3). The difference between genders, however, is not significant. As noted above, symptoms of distress are often interpreted as spiritual haunting. Male abductees are nearly four times as likely as non-abductees to report feeling haunted by *cen* (spirits), and females are nearly thrice as likely (this gender difference is weakly significant). Note, however, we must make any gender comparison with caution, since surveys occurred in different years. Stressors were greater at the time of the males' survey (with war and displacement ongoing) and so we may understate the male-female difference.

Higher levels of distress are concentrated rather than broad-based. At the median, abducted/non-abducted differences are small. Rather, serious symptoms of distress are concentrated in a minority of youth whom are disproportionately abductees. Abducted females are 1.25 times more likely than non-abductees to be in the top quartile of the distress index. For instance, nearly 42% of female abductees report nightmares "sometimes" or "often" versus 25% of non-abducted youth.

Violence received and violence perpetrated are the main correlates of distress and haunting. Among males, each act of violence experienced and perpetrated is associated with a 0.15 and a 0.18 increase in reported symptoms of distress (Table 4A); among females, each act of violence experienced and perpetrated is associated with a 0.34 and a 0.33 increase in reported symptoms of distress (Table 4C). For violence experienced, the difference between the male and female coefficients is statistically significant; women's symptoms appear to be more sensitive to violent trauma than males, in spite of being interviewed later and with fewer war stressors.

Most striking and puzzling, controlling for violence and abduction length, emotional distress is actually significantly *lower* among forced wives than other abductees (Table 4C).

These findings confirm that exposure to violence is related to increased symptoms of depression and traumatic stress (P1) but support a resilience view over the view that debilitating traumatic symptoms are broad-based, although this is limited without a clinical cut-off for this population (P2). Other studies of war populations suggest that family connectedness and an absence of self-blame are important protective factors related to reduced symptoms of distress (P3) (Betancourt 2004; Annan 2007; Betancourt et al. forthcoming). Last, there is suggestive evidence that females develop more post-traumatic symptoms in response to violence, though with our evidence we are unable to distinguish the mechanism (P4). This, along with the reduced number of symptoms among forced wives, remains a subject for further research.

Hostility

Finally, we see little evidence of elevated hostile attitudes or behaviors among former abductees (H1). From Table 3, male ex-combatants are no more likely to report a physical fight than non-abducted males (in fact, the coefficient is negative). Male abductees are, however, 3 percentage points more likely to report aggressive behaviors—64 percent greater than non-abductees. These results may indicate greater hostility. This result, however, is fragile and disappears in other specifications.

We see no relationship between abductions and aggressive behaviors among female abductees (again, the coefficient is negative). Females also report no more troubles with neighbors in the last year, nor do they report any difference in antidemocratic attitudes (these attitudinal data were not collected in the males' survey).

In results not shown, we see no difference in attitudes to other ethnic groups, even the north-south cleavage that can characterize Uganda. As explored by Blattman (2009), we actually see *greater* peaceful political and community activities among ex-combatants. That paper argues that, in Uganda, exposure to violence augments preferences for peaceful political change among both combatants and civilians.

We also see little relationship between war experiences and fights, aggressive behavior, and antidemocratic attitudes (Table 4). Males who perpetrated more violence are more likely to have been in a physical fight, but the effect is weak and small, and likely endogenous (more aggressive people committing more violence during and after abduction). Females who experienced more violence are much more likely to report

trouble with neighbors. Given the absence of a relationship with aggressive behaviors, this could simply be picking up the specific community problems discussed above and in Table 7.

Our qualitative interviews suggest that former abductees have strong incentives not to behave aggressively. Anger and aggressive behavior can be stigmatizing, as friends and neighbors are quick to interpret it as a sign of 'bush behavior' (Annan et al. 2008). Most abductees return to their families and communities, and seek to signal their reintegration with composure. If anything, they react meekly rather than aggressively to tense situations and avoid confrontations. This integration and restraint, and the absence of evidence for a combat-hostility relationship (H1), also weigh against the causal channels (H2-7). Aggression may be context dependent, however, and ex-combatants who returned to city streets rather than rural homes and communities might react differently. Moreover, given the difficulty of measuring hostility, and the multiple interpretations of these particular measures (especially antidemocratic attitudes), these results must be taken with caution. Nevertheless, we see no evidence for the view that ex-combatants or those exposed to violence are a source of aggression or social disruption.

8. Discussion and conclusions

This paper provides a detailed and representative picture of the effects of war and reintegration experiences, especially among females. Advocacy groups and policymakers produce a great deal of hype, much of it gloomy, and these pessimistic views drive policy and practice in post-conflict peacebuilding and reconstruction efforts. The stakes are high, not simply for humanitarian reasons, but because so many war-torn nations revert to violent conflict. It is important to better understand what is actually happening during post-conflict reintegration.

This paper also attempts to provide a more detailed and representative picture of life in the LRA that previously offered. The LRA is one of Africa's largest and longest-running insurgencies, and an accurate picture of sexual violence and the experiences of females in the LRA may help inform the broader study of insurgency participation and organization, and repertoires of violence. Perhaps more importantly, however, we hope our methodology—representative retrospective sampling, measurement, strategies for causal identi-

fication, and use of mixed methods—is emulated and improved in the micro-level study of warfare's causes and consequences.

Most of all, this paper is preoccupied with testing alternative theories of the impacts of war on males versus females and the determinants of reintegration success. In the economic realm, our evidence weighs in favor of human capital theories of the impact of war and reintegration. We learn at least two important lessons: first, that human capital accumulation is a crucial component of the quality of employment and returns to work after war, but is unrelated to the quantity of employment opportunities; second, that opportunity cost matters, and that this opportunity cost is largely a function of the context and counterfactual, namely whether there are opportunities for education outside the armed force.

In the psychosocial realm, our evidence confirms the general beliefs and theory that the experience and perpetration of violence lead to difficulty in social acceptance and serious emotional distress. Academics and practitioners differ on the breadth and intensity of these effects, however, and our evidence supports theories that emphasize resilience. Large numbers of males and (especially) females face family and community troubles upon return, and suffer serious symptoms of emotional distress. But social acceptance improves with time, and tends to persist only in a smaller group, usually those who experienced the most violence and returned to less supportive family environments (though this latter relationship is somewhat endogenous). Where social difficulties do persist, they are typically focused on only a few, or just one, family or community member, and are rarely widespread. Moreover, we see little relationship between violence experienced with the LRA and current aggression, or violence and emotional distress. Overall, at least in northern Uganda at the present time, ex-combatants do not appear to be an outsized source of social instability.

Are these results relevant outside Uganda, or even this war? In the absence of data or rigorous causal evidence in other developing countries, it is difficult to say. In the economic realm, there are good reasons to believe that the patterns we observe in Uganda have a high level of external validity. Blattman and Miguel (2010) review the micro-level conflict literature and find broad support for the human capital approach: war commonly disrupts education and other capital accumulation, both for veterans and noncombatants. The results for males in Uganda closely resemble those of white U.S. Vietnam veterans. The results emphasize, however, that context matters. Yet if we know the returns to education in a region, and the opportunities

available to noncombatants during war, then we believe we can confidently predict the direction and magnitude of human capital and economic impacts. What requires more study is the absence of a strong link between longer abductions, human capital deficits, and earnings and employment performance.

In the psychosocial realm, effects could be more context-dependent. The results could differ where females join armed forces or groups voluntarily for nationalist or other motives, or where females have more opportunity for equality within armed groups, such as in the LTTE in Sri Lanka (Alison 2003) or the PLA in Nepal (Mazurana et al. forthcoming). The results may also differ in contexts where families and communities are not so welcoming of their children. We note, however, that a growing number of qualitative studies tell a similar story of resilience rather than rejection and distress among youth returning from fighting forces (e.g. Shepler 2005; Boothby et al. 2006; Wessells 2006). We conclude with words from one of the young mothers we interviewed, who returned after five years with the LRA along with a child, a severe injury and the news that her parents had both been killed. After remarrying and having another child, she stunned us with her ability to strive for a better life for both of her children. This is the advice she offered to parents of girls who return from the LRA: "Take good care of her. It is not the end of her life. She should forget what happened. Be a good example for her. She is still surviving. She should not see this as the end of her life. She can still continue."

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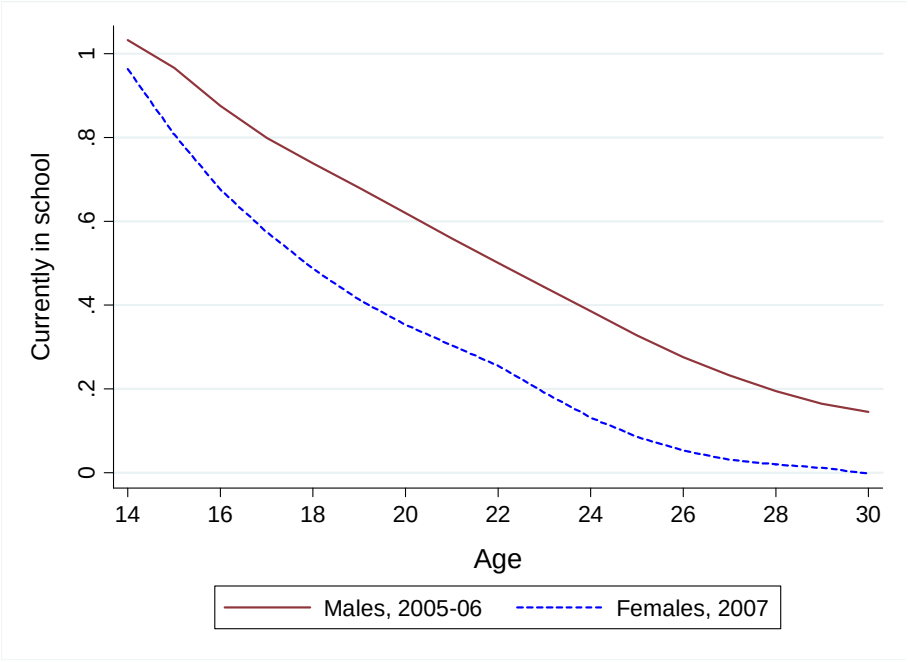
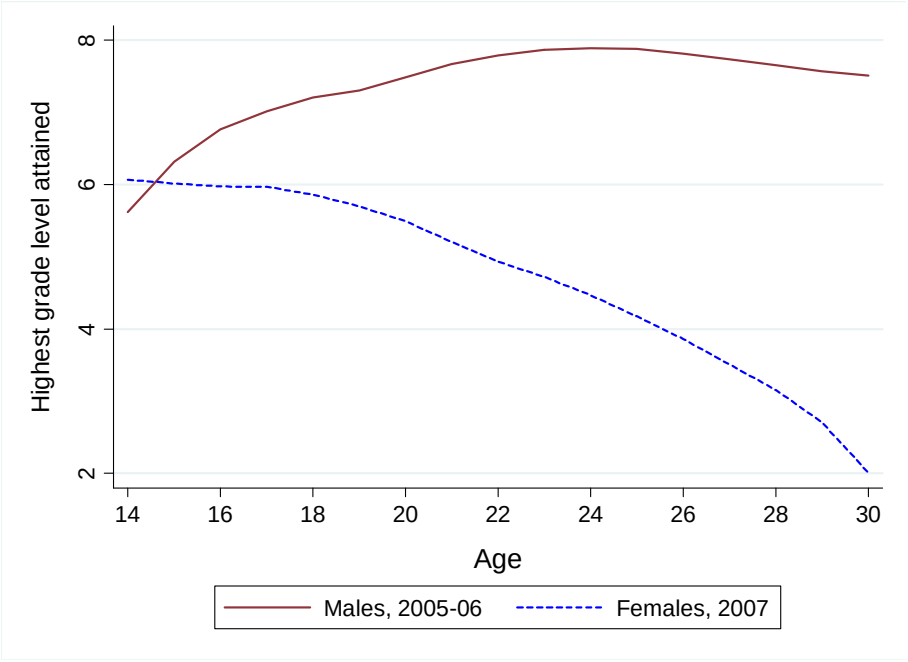
Figure 1: Probability currently in school, by current age



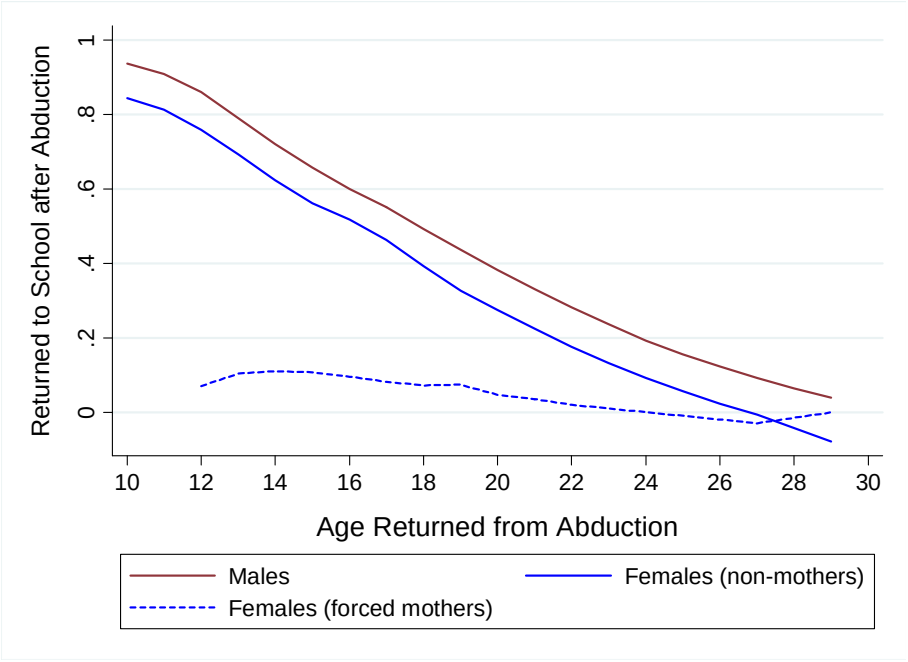
Note: Each line represents a running mean with unit bandwidth.

Figure 2: Educational attainment, by current age



Note: Each line represents a running mean with unit bandwidth.

Figure 3: Probability returned to school after abduction, by age of abduction



Note: Each line represents a running mean with unit bandwidth.

Table 1: Determinants of Abduction (By Gender)

Pre-war trait	Males: Difference between abducted and non-abducted	Females: Difference between abducted and non-abducted
Respondent Age	1.19 [0.42]***	-0.72 [0.39]*
Indicator for father a farmer	0.01 [0.02]	0.04 [0.02]
Household size in 1996	-0.58 [0.19]***	-0.05 [0.34]
Standard normal index of household wealth in 1996	0.07 [0.06]	0.01 [0.08]
Father's education	0.01 [0.26]	0.32 [0.40]
Mother's education	-0.30 [0.34]	0.58 [0.21]**
Paternal death before 1996	0.01 [0.04]	0.03 [0.03]
Maternal death before 1996	0.01 [0.02]	-0.01 [0.03]

Each figure is a conditional mean difference. Each is the coefficient on abduction from a regression of the pre-war trait on an abduction dummy and all other pre-war covariates, including location of birth. Robust standard errors are in brackets, clustered by sampling location. All estimates weighted by inverse sampling probabilities and inverse attrition probabilities.

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 2: Determinants of Early Release

	(1)	(2)
	Dummy for being released in first two weeks	
	Females only	**Males & Females**
Abduction age	0.01	0.01
	[0.004]**	[0.004]***
Abduction age × Male		-0.01
		[0.005]**
Wealth index	0.00	0.00
	[0.022]	[0.021]
Wealth index × Male		0.01
		[0.024]
Mother's education	-0.01	-0.01
	[0.010]	[0.008]
Mother's education × Male		0.01
		[0.010]
Father's education	-0.01	0.00
	[0.008]	[0.006]
Father's education × Male		0.00
		[0.009]
Father died before 1997	0.09	0.06
	[0.065]	[0.051]
Father died × Male		-0.05
		[0.056]
Mother died before 1997	0.21	0.13
	[0.107]*	[0.079]
Mother died × Male		-0.05
		[0.060]
Abduction year	0.00	0.00
	[0.011]	[0.007]
Abduction year × Male		0.00
		[0.009]
Abducted after 2002 (Operation Iron Fist)	0.05	0.03
	[0.112]	[0.091]
Abducted after 2002 × Male		-0.11
		[0.064]*
Education at the time of abduction	-0.04	
	[0.018]**	
In school at the time of abduction	0.09	
	[0.086]	
Observations	278	898

Robust standard errors in brackets, clustered by sampling location
All estimates weighted by inverse sampling probabilities and inverse attrition probabilities
Location of birth dummies are included in regressions but coefficients are not displayed
* significant at 10%; ** significant at 5%; *** significant at 1%

Table 3: Average Impacts of Abduction (By Gender)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Female, 2007			**Males, 2005-06**			**Female - Male**	**N**
	Non-Abd Mean	**Impact of Abduction †**	**% Change**	**Non-Abd Mean**	**Impact of Abduction †**	**% Change**	**Impact of Abduction †**	
Economic and human capital outcomes								
Educational attainment (years)	4.8	0.06 [0.312]	1%	7.58	-0.74 [0.174]***	-10%	0.80 [0.366]**	1244
Serious injury (indicator)	0.1	0.00 [0.024]	-5%	0.09	0.11 [0.030]***	120%	-0.12 [0.038]***	1244
Wealth index (standard normal)	0.0	-0.28 [0.108]**	n.a.	0.25	-0.40 [0.086]***	n.a.	0.11 [0.140]	1243
Daily earnings (2000 UGX = 1 USD)	2485.5	-547.74 [390.426]	-22%	3610.34	-1619.06 [756.238]**	-45%	1071.32 [754.951]	911
Capital or skill-intensive occupation (indicator)	0.0	-0.01 [0.019]	-28%	0.13	-0.05 [0.023]*	-35%	0.03 [0.031]	923
Employed in last 4 weeks (indicator)	0.8	0.03 [0.039]	3%	0.66	0.04 [0.047]	5%	-0.01 [0.061]	1244
Days employed in last 4 weeks	10.0	-1.94 [0.677]***	-19%	7.06	1.23 [0.909]	17%	-3.17 [1.171]***	1244
Social outcomes								
Additive index of social support (17 forms)	4.6	0.21 [0.192]	5%	5.63	-0.14 [0.150]	-3%	0.35 [0.247]	1244
Index of family connectedness (0 to 6, low to hig	3.8	-0.23 [0.128]*	-6%	5.28	-0.42 [0.085]***	-8%	0.19 [0.153]	1244
Member of at least one group	0.5	-0.04 [0.044]	-7%	0.45	-0.01 [0.042]	-2%	-0.03 [0.060]	1244
Psychological outcomes								
Index of emotional distress	4.5	0.91 [0.313]***	20%	3.73	0.57 [0.201]***	15%	0.34 [0.380]	1244
Top quartile of emotional distress (indicator)	0.3	0.08 [0.056]	27%	0.14	0.11 [0.035]***	76%	-0.02 [0.068]	1244
Haunted (indicator)	0.1	0.16 [0.030]***	268%	0.02	0.09 [0.025]***	390%	0.07 [0.039]*	1244
Hostility (attitudes and behaviors)								
In physical fight (indicator)	.	.	.	0.07	-0.02 [0.020]	-32%	.	741
Aggressive behaviors (indicator)	0.1	-0.02 [0.024]	-14%	0.05	0.03 [0.012]**	64%	-0.05 [0.025]*	1244
Trouble getting along with neighbors	0.3	-0.01 [0.028]	-3%	.	.	.	.	500
Antidemocratic attitudes (Index of 4)	1.4	0.10 [0.087]	7%	.	.	.	.	495

Each row represents a separate regression
Robust standard errors in brackets, clustered by sampling location
† Calculated as the coefficient on an abduction dummy variable in a weighted logit regression of the dependent variable on the abduction dummy, age (including the square and cube), location dummy variables, and pre-war household traits. The regression is weighted on inverse selection, sampling, and
* significant at 10%; ** significant at 5%; *** significant at 1%

Table 4: Reintegration Outcomes and War Experiences

	Economic and human capital outcomes							*Social outcomes*			*Psychological outcomes*			*Hostility*			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
	Educational attainment	**Serious injury**	**Wealth index**	**Daily earnings**	**Capital or skill-intensive**	**Employed**	**Days employed**	**Social support**	**Family connectedness**	**Member of group**	**Emotional distress**	**Top quartile of distress**	**Haunted**	**In physical fight**	**Aggressive behaviors**	**Trouble getting along**	**Anti-democratic attitudes**
Panel A: Males																	
Years abducted (total)	-6.06	0.50	-0.23	-548.95	-0.05	0.00	-1.81	-1.63	0.31	-0.59	0.32	0.03	0.20	-0.06	-0.03	.	.
	[1.034]***	[0.235]**	[0.484]	[1,398.127]	[0.072]	[0.155]	[3.593]	[0.970]	[0.534]	[0.147]***	[1.367]	[0.227]	[0.079]**	[0.095]	[0.076]		
Sum of 17 violent acts experienced	-0.04	0.02	-0.02	-252.63	-0.01	0.00	0.08	0.06	-0.06	0.01	0.15	0.03	0.01	-0.01	0.00	.	.
	[0.047]	[0.006]***	[0.017]	[119.256]**	[0.005]	[0.012]	[0.234]	[0.052]	[0.027]**	[0.009]	[0.042]***	[0.006]***	[0.004]	[0.004]	[0.004]		
Sum of 8 violent acts perpetrated	0.11	0.00	0.00	410.51	-0.01	0.00	0.05	0.19	-0.01	0.02	0.18	0.02	0.05	0.02	0.00	.	.
	[0.082]	[0.011]	[0.023]	[257.433]	[0.007]	[0.012]	[0.359]	[0.130]	[0.032]	[0.015]	[0.072]**	[0.013]	[0.015]***	[0.009]**	[0.008]		
Observations	458	458	458	318	458	458	458	458	458	458	458	458	456	458	458		
Panel B: Females (same coveriates as Panel A)																	
Years abducted (total)	-6.94	0.07	0.14	2064.38	-0.08	-0.47	-5.64	-0.85	1.84	-0.22	-3.22	-0.42	-0.13	.	0.00	-0.61	0.15
	[1.235]***	[0.154]	[0.395]	[3,997.077]	[0.061]	[0.225]**	[7.111]	[1.080]	[0.919]*	[0.452]	[2.339]	[0.411]	[0.153]		[0.001]	[0.356]	[0.552]
Sum of 17 violent acts received, witnessed, or upon family	0.01	0.00	0.01	-15.21	-0.01	-0.01	0.13	0.09	0.01	-0.02	0.34	0.05	0.01	.	0.00	0.03	-0.01
	[0.065]	[0.005]	[0.021]	[77.119]	[0.004]	[0.006]	[0.225]	[0.038]**	[0.036]	[0.013]	[0.072]***	[0.010]***	[0.008]		[0.005]	[0.008]***	[0.017]
Sum of 8 violent acts perpetrated	0.03	0.00	0.04	-169.80	0.00	0.02	0.03	0.18	-0.11	0.04	0.29	0.04	0.07	.	0.02	-0.02	-0.02
	[0.133]	[0.010]	[0.026]	[145.746]	[0.008]	[0.016]	[0.461]	[0.054]***	[0.064]	[0.024]*	[0.121]**	[0.023]*	[0.020]***		[0.011]*	[0.017]	[0.030]
Forced wife †	0.03	-0.01	-0.43	-490.05	-0.04	0.03	0.53	-1.03	-0.61	-0.18	-1.46	-0.22	0.03	.	0.03	0.01	0.14
	[0.726]	[0.027]	[0.177]**	[547.733]	[0.023]	[0.059]	[2.429]	[0.410]**	[0.369]	[0.113]	[0.471]***	[0.078]**	[0.066]		[0.048]	[0.057]	[0.144]
Forced mother †	-0.68	0.03	0.05	1095.05	0.00	0.07	1.92	0.45	0.42	0.16	0.77	0.05	-0.14	.	-0.22	0.19	-0.13
	[0.951]	[0.086]	[0.189]	[890.106]	[0.026]	[0.086]	[2.788]	[0.454]	[0.543]	[0.245]	[1.093]	[0.185]	[0.129]		[0.146]	[0.184]	[0.264]
Observations	228	228	228	191	228	228	228	228	228	228	228	228	226	.	228	228	224
Panel C: Females (including education at abduction)																	
Years abducted (total)	-0.58	0.00	0.42	2435.60	-0.01	-0.48	-2.46	0.52	1.65	-0.04	-2.34	-0.28	-0.05	.	0.29	-0.50	0.18
	[1.149]	[0.128]	[0.409]	[4,299.701]	[0.033]	[0.246]*	[6.781]	[1.071]	[0.958]	[0.422]	[2.527]	[0.417]	[0.154]		[0.306]	[0.321]	[0.549]
Sum of 17 violent acts received, witnessed, or upon family	-0.03	0.00	0.00	-12.77	0.00	-0.01	0.16	0.04	0.01	-0.02	0.34	0.05	0.01	.	-0.01	0.04	0.01
	[0.033]	[0.005]	[0.017]	[63.280]	[0.004]	[0.008]	[0.200]	[0.036]	[0.042]	[0.013]	[0.070]***	[0.009]***	[0.007]*		[0.006]	[0.008]***	[0.019]
Sum of 8 violent acts perpetrated	0.01	0.01	0.04	-179.39	0.01	0.02	-0.07	0.15	-0.14	0.05	0.33	0.05	0.09	.	0.02	-0.02	-0.03
	[0.070]	[0.011]	[0.023]	[132.295]	[0.009]	[0.016]	[0.472]	[0.057]**	[0.084]	[0.025]*	[0.120]**	[0.025]*	[0.020]***		[0.012]	[0.016]	[0.030]
Forced wife †	0.11	-0.01	-0.32	-535.01	-0.05	0.05	0.78	-0.77	-0.62	-0.14	-1.15	-0.23	0.01	.	0.07	0.01	0.20
	[0.254]	[0.044]	[0.174]*	[470.870]	[0.026]*	[0.047]	[2.288]	[0.422]*	[0.415]	[0.100]	[0.519]**	[0.090]**	[0.088]		[0.055]	[0.064]	[0.145]
Forced mother †	-1.14	0.05	0.03	1232.17	0.00	0.07	0.78	0.22	0.55	0.17	0.44	0.05	-0.17	.	-0.20	0.07	-0.24
	[0.524]**	[0.087]	[0.227]	[900.322]	[0.025]	[0.071]	[2.703]	[0.467]	[0.564]	[0.239]	[1.026]	[0.175]	[0.129]		[0.145]	[0.191]	[0.253]
Education at the time of abduction	0.92	0.01	0.05	32.58	0.01	0.00	0.24	0.10	-0.08	0.03	0.09	0.03	0.02	.	0.02	0.01	0.00
	[0.047]***	[0.009]	[0.036]	[47.240]	[0.005]	[0.014]	[0.420]	[0.046]**	[0.040]*	[0.016]*	[0.095]	[0.022]	[0.016]		[0.009]*	[0.012]	[0.024]
In school at the time of abduction	1.98	-0.09	0.24	812.33	0.03	-0.03	-1.22	1.02	0.08	-0.02	-0.37	-0.06	0.05	.	0.00	0.16	-0.04
	[0.239]***	[0.036]**	[0.110]**	[348.661]**	[0.027]	[0.039]	[1.622]	[0.198]***	[0.210]	[0.068]	[0.360]	[0.090]	[0.053]		[0.046]	[0.069]**	[0.155]
Observations	228	228	228	191	228	228	228	228	228	228	228	228	226	.	228	228	224

Robust standard errors in brackets, clustered by sampling location
All estimates weighted by inverse sampling probabilities and inverse attrition probabilities
Year and location of birth dummies and pre-war covariates are included in regressions but coefficients are not displayed
* significant at 10%; ** significant at 5%; *** significant at 1%
† coded as 0 if abducted for less than two weeks

Table 5: Average Impacts of Years Since Return (By Gender)

	(1)	(2)	(5)
	Years back		**N**
	Females	**Males**	
Economic and human capital outcomes			
Educational attainment (years)	0.00 [0.060]	0.17 [0.092]*	652
Serious injury (indicator)	0.01 [0.008]	0.00 [0.008]	652
Wealth index (standard normal)	0.01 [0.016]	0.07 [0.018]***	652
Daily earnings (2000 UGX = 1 USD)	34.24 [87.576]	70.66 [91.776]	478
Capital or skill-intensive occupation (indicator)	0.00 [0.003]	0.00 [0.007]	652
Employed in last 4 weeks (indicator)	0.00 [0.006]	0.00 [0.009]	652
Days employed in last 4 weeks	0.35 [0.250]	0.18 [0.160]	652
Social outcomes			
Additive index of social support (17 forms)	-0.05 [0.050]	0.09 [0.056]	652
Index of family connectedness (0 to 6, low to high	0.02 [0.041]	0.01 [0.036]	652
Member of at least one group	-0.01 [0.014]	0.00 [0.014]	652
Psychological outcomes			
Index of emotional distress	-0.02 [0.056]	0.02 [0.057]	652
Top quartile of emotional distress (indicator)	-0.01 [0.013]	-0.01 [0.012]	652
Haunted (indicator)	-0.02 [0.007]**	-0.02 [0.008]**	648
Aggression outcomes			
In physical fight (indicator)	.	0.00 [0.004]	462
Aggressive behaviors (indicator)	-0.01 [0.010]	0.00 [0.006]	652
Trouble getting along with neighbors	0.03 [0.012]**	.	190
Antidemocratic attitudes (Index of 4)	-0.01 [0.024]	.	186

All estimates weighted by inverse sampling probabilities and inverse attrition probabilities
Location of birth dummies are included in regressions but coefficients are not displayed
* significant at 10%; ** significant at 5%; *** significant at 1%

Table 6: Return Outcomes (For Youth Abducted More than 2 Weeks)

	(1)	(2)	(3)	(4)
	Sample Mean [Std Dev]		**Adjusted mean difference (Females - Males)**	
	Females	**Males**	**Adjusted for pre-war covariates**	**Adjusted for pre-war & abduction covariates**
Returned home	1.00 [0.00]	0.99 [0.00]	0.00 [0.01]	-0.02 [0.02]
Returned to school	0.39 [0.04]	0.59 [0.05]	-0.09 [0.05]*	-0.09 [0.05]*
Family problems ever	0.18 [0.04]	0.07 [0.01]	0.03 [0.03]	0.15 [0.06]**
Family problems now	0.07 [0.03]	0.03 [0.01]	0.07 [0.04]*	0.10 [0.04]**
Family problems improved	0.59 [0.13]	0.65 [0.10]	-0.29 [0.12]**	0.05 [0.28]
Community problems ever	0.44 [0.04]	0.32 [0.03]	-0.07 [0.04]*	-0.03 [0.05]
Community problems now	0.06 [0.02]	0.03 [0.01]	0.02 [0.02]	0.08 [0.05]*
Community problems improved	0.87 [0.04]	0.80 [0.04]	0.01 [0.05]	0.02 [0.12]

Robust standard errors in brackets, clustered by sampling location
All estimates weighted by inverse sampling probabilities and inverse attrition probabilities
* significant at 10%; ** significant at 5%; *** significant at 1%

Table 7: Reinsertion Outcomes and War Experiences

	(1)	(2)	(3)	(4)	(5)
	Returned to school after longest-lasting abduction	**Equals 1 if reported family problems ever**	**Equals 1 if report family problems now**	**Equals 1 if reported community problems ever**	**Equals 1 if report community problems now**
Panel A: Males					
Years abducted (total)	-0.60 [0.196]***	-0.07 [0.095]	-0.01 [0.069]	0.60 [0.135]***	-0.07 [0.048]
Sum of 17 violent acts received, witnessed, or upon family	0.00 [0.011]	0.01 [0.007]*	0.01 [0.006]*	0.01 [0.009]	0.01 [0.007]*
Sum of 8 violent acts perpetrated	0.02 [0.017]	0.02 [0.008]*	0.01 [0.006]*	0.04 [0.014]**	0.01 [0.005]
Observations	330	330	330	330	330
Panel B: Females					
Years abducted (total)	-0.01 [0.217]	0.42 [0.218]*	0.10 [0.130]	0.71 [0.313]**	0.02 [0.205]
Sum of 17 violent acts received, witnessed, or upon family	-0.01 [0.009]	0.03 [0.009]***	0.01 [0.008]	0.04 [0.009]***	0.01 [0.005]**
Sum of 8 violent acts perpetrated	0.01 [0.015]	0.05 [0.018]**	0.03 [0.011]**	0.07 [0.019]***	-0.01 [0.016]
Forced wife †	0.01 [0.087]	-0.15 [0.066]**	0.02 [0.044]	-0.02 [0.076]	-0.01 [0.028]
Forced mother †	-0.39 [0.111]***	-0.06 [0.135]	-0.01 [0.108]	-0.07 [0.152]	0.12 [0.121]
Education at the time of abduction	0.06 [0.014]***	-0.01 [0.011]	-0.01 [0.004]*	0.00 [0.013]	0.00 [0.003]
Observations	190	190	190	190	190

Robust standard errors in brackets, clustered by sampling location
All estimates weighted by inverse sampling probabilities and inverse attrition probabilities
Year and location of birth dummies and pre-war covariates are included in regressions but coefficients are not displayed
* significant at 10%; ** significant at 5%; *** significant at 1%
† coded as 0 if abducted for less than two weeks

Table 8: Determinants of Labor Market Outcomes

	(1)	(2)	(3)	(4)	(5)
	Wealth index	**Employed**	**Days employed**	**Daily earnings**	**Capital or skill-intensive occupation**
Panel A: Males					
Educational attainment (years)	0.11	-0.01	-0.11	489	0.03
	[0.021]***	[0.014]	[0.219]	[271]*	[0.009]***
Serious injury (indicator)	-0.49	0.01	0.91	-2676	0.01
	[0.149]***	[0.097]	[2.452]	[1,561]	[0.050]
Index of emotional distress	-0.13	0.02	0.23	-569	-0.01
	[0.031]***	[0.019]	[0.178]	[459]	[0.007]
Observations	741	741	741	646	741
Panel B: Females					
Educational attainment (years)	0.09	-0.01	-0.30	350	0.03
	[0.024]***	[0.007]*	[0.150]*	[104]***	[0.007]***
Serious injury (indicator)	-0.27	-0.25	-2.77	-687	0.10
	[0.165]	[0.097]**	[1.969]	[470]	[0.075]
Index of emotional distress	-0.03	-0.01	-0.23	39	-0.01
	[0.026]	[0.012]	[0.139]	[92]	[0.004]
Observations	617	618	618	544	618

Robust standard errors in brackets, clustered by sampling location
All estimates weighted by inverse sampling probabilities and inverse attrition probabilities
Year and location of birth dummies and pre-war covariates are included in regressions but coefficients are not displayed
* significant at 10%; ** significant at 5%; *** significant at 1%
† coded as 0 if abducted for less than two weeks