



2016

The Economic Efficacy of Reintegration Assistance for Former Child Soldiers

Jonathan B. Kaufmann

American University, jk9841a@american.edu

Recommended Citation

Kaufmann, Jonathan B. (2016) "The Economic Efficacy of Reintegration Assistance for Former Child Soldiers," *Undergraduate Economic Review*: Vol. 13: Iss. 1, Article 8.
Available at: <http://digitalcommons.iwu.edu/uer/vol13/iss1/8>

This Article is brought to you for free and open access by The Ames Library, the Andrew W. Mellon Center for Curricular and Faculty Development, the Office of the Provost and the Office of the President. It has been accepted for inclusion in Digital Commons @ IWU by the faculty at Illinois Wesleyan University. For more information, please contact digitalcommons@iwu.edu.

©Copyright is owned by the author of this document.

The Economic Efficacy of Reintegration Assistance for Former Child Soldiers

Abstract

There is no consensus among scholars on the efficacy of reintegration assistance programs, including how their services affect reintegration outcomes. This research is the first statistical analysis of the economic impacts of reintegration assistance for former child soldiers. Several regression analyses were performed to determine the effect of reintegration assistance on earnings and social capital. The results indicate that no statistically significant relationship exists between reintegration assistance and earnings or social capital. Conversely, societal interventions such as increasing access to education and promoting traditional cleansing ceremonies were effective.

Keywords

child soldiers, reintegration, assistance, earnings, social capital

Cover Page Footnote

Dr. Susan Shepler, Dr. Boris Gershman, Dr. Laura Field, Dr. Renee Souris and Dr. Aaron Boesenecker assisted with review and revision of this paper. Jeannie Annan and Chris Blattman conducted the Survey for War-Affected Youth, which is utilized in this paper.

Introduction

There are an estimated 300,000 child soldiers in conflict today, fighting for over 86 different groups—including governments—in 19 countries, despite international condemnation.¹ These children are used as spies, domestic servants, combatants, and sex slaves.² Even if they are demobilized, many will return to rebel groups if they are not successfully reintegrated.³ However, existing aid programs focus mainly on demobilizing children while paying little attention to reintegration.⁴ This phenomenon arises because child soldiering is often treated as a security issue by the state and international community, and the focus is on disarming militia groups rather than rebuilding society. Successful reintegration of child soldiers is essential to the long-term stability of a nation, and should be a primary concern for any state in civil conflict.⁵

Disarmament, Demobilization, and Reintegration (DDR) programs aim to facilitate the structured reintegration of former combatants into society.⁶ They attempt to ease adjustment to normal life in social and economic spheres, thus minimizing the impacts of soldiering.⁷ Therefore, successful reintegration for former child soldiers means mitigating or eliminating the differences between these children and their noncombatant peers. Though their objectives are the same, DDR programs have a variety of distinct philosophies that result in the implementation

¹ "Child Soldiers around the World," Council on Foreign Relations, accessed September 10, 2015, 2015. <http://www.cfr.org/human-rights/child-soldiers-around-world/p9331#p2>; H. Spitzer and J. M. Twikirize, "War-Affected Children in Northern Uganda: No Easy Path to Normality," *International Social Work* 56, no. 1 (2013): 68, <http://dx.doi.org/10.1177/0020872812459067>; Theresa Stichick Betancourt et al., "Sierra Leone's Former Child Soldiers: A Follow-up Study of Psychosocial Adjustment and Community Reintegration," *Child Development* 81, no. 4 (2010): 1078, <http://dx.doi.org/10.1111/j.1467-8624.2010.01455.x>.

² Betancourt et al., "Sierra Leone's Former Child Soldiers: A Follow-up Study of Psychosocial Adjustment and Community Reintegration," 1079.

³ V. Chrobok, *Demobilizing and Reintegrating Afghanistan's Young Soldiers: A Review and Assessment of Program Planning and Implementation*. (BICC: Bonn International Center for Conversion, 2005), 6.

⁴ Ozen Guven, Amy Kapit-Spitalny, and Dana Burde, *The Education of Former Child Soldiers: Finding a Way Back to Civilian Identity* (PEIC: Protect Education in Insecurity and Conflict, 2014), 1.

⁵ Jeannie Annan et al., "Civil War, Reintegration, and Gender in Northern Uganda," *Journal of Conflict Resolution* 55, no. 6 (December 1, 2011): 878, <http://dx.doi.org/10.1177/0022002711408013>.

⁶ Jeannie Annan, Moriah Brier, and Filder Aryemo, "From "Rebel" to "Returnee": Daily Life and Reintegration for Young Soldiers in Northern Uganda," *Journal of Adolescent Research* 24, no. 6 (November 1, 2009): 640, <http://dx.doi.org/10.1177/0743558409350499>.

⁷ "Disarmament, Demobilization, and Reintegration," United Nations, accessed December 12, 2015. <http://www.un.org/en/peacekeeping/issues/ddr.shtml>.

of different reintegration assistance methods.⁸ Some studies have found that assistance is effective at improving mental health outcomes, but the authors ignored economic factors.⁹ This research proposes to answer the question: How effective is reintegration assistance at improving economic outcomes for former child soldiers? Specifically, we explore how assistance services affect two identified factors of successful reintegration—earnings and social capital.

We used regression analysis to examine the effects of assistance. We performed these tests on data from the Survey for War-Affected Youth (SWAY) Phase One, a survey of 462 male youth in the northern region of Uganda conducted in 2005. Not only is SWAY the sole large scale dataset on former child soldiers that addresses the identified factors of successful reintegration, it also presents a unique opportunity for research due to the quasi-natural experiment created by the arbitrary abduction practices of the Lord's Resistance Army (LRA) during the recent Ugandan civil war.¹⁰ While tragic, these random abductions offer a rare possibility to explore the effects of reintegration assistance on former child soldiers whose only differences from their civilian peers stem from the abduction and its consequences.

No significant relationship was found between assistance and earnings or social capital, and we conclude that assistance services do not improve reintegration outcomes. The regression also shows that the mother's education and displacement are critical components in the earnings per month of former child soldiers. Similarly, traditional cleansing ceremonies and parental understanding had significant positive effects on social capital. Based on this analysis and substantial supporting literature, aid programs should focus on these societal factors if they wish to improve post-conflict conditions. It is essential for these youth to be successfully reintegrated in order to both protect them and ensure long-term stability in regions plagued by war.

⁸ See: Angela Veale et al., "Participation as Principle and Tool in Social Reintegration: Young Mothers Formerly Associated with Armed Groups in Sierra Leone, Liberia, and Northern Uganda," *Journal of Aggression, Maltreatment & Trauma* 22, no. 8 (2013/09/01 2013), accessed 2015/10/10, <http://dx.doi.org/10.1080/10926771.2013.823635>; Jeannie Annan, Eric P. Green, and Moriah Brier, "Promoting Recovery after War in Northern Uganda: Reducing Daily Stressors by Alleviating Poverty," *Journal of Aggression, Maltreatment & Trauma* 22, no. 8 (2013/09/01 2013), accessed 2015/10/10, <http://dx.doi.org/10.1080/10926771.2013.823636>.

⁹ T. S. Betancourt, Shawna Pochan, and Marie De La Soudiere, *Psychosocial Adjustment and Social Reintegration of Child Ex-Soldiers* (New York: International Rescue Committee, 2006), 15.

¹⁰ Christopher Blattman and Jeannie Annan, "The Consequences of Child Soldiering," *Review of Economics and Statistics* 92, no. 4 (2010/11/01 2010): 881, accessed 2015/10/10, http://dx.doi.org/10.1162/REST_a_00036.

Literature Review

Previously published literature provides a basis for understanding the essential factors of successful reintegration. It demonstrates that in order to improve reintegration outcomes, aid organizations should target three areas of life: economic opportunity, social inclusion, and health. Economic opportunity is the ability of the former child soldier to find employment that pays a livable wage, which can be difficult in conflict or post-conflict economies. Social inclusion is participating and being accepted into the community, as many child soldiers face exclusion and stigma when they return home. Health can be split into two distinct areas: mental health and physical health. Studies have demonstrated that more violent abductions result in greater symptoms of mental distress, and that abductions often include debilitating physical harm or sexual assault that results in sexually transmitted infections.¹¹ While the health of the child must be addressed for successful reintegration to be achieved, this is not a factor examined in this study. Instead, we will examine the impacts of reintegration assistance on economic opportunity and social inclusion.

Economic Opportunity

Several DDR programs make economic opportunity their primary goal, and more programs are shifting towards this view. These programs generally focus on increasing schooling or providing vocational assistance. Some provide microfinance loans and business skills courses, coupled with follow up support. It should be noted that some programs that offer additional schooling are mainly using it as a means to improve social skills, rather than human capital. However, psychological counseling and medical assistance is also implemented, and can have positive externalities on the economic opportunity of former child soldiers.¹² Thus, we can see that reintegration assistance programs attempt to influence economic opportunity both directly, through schooling and vocational training, but also indirectly, through medical and mental health programs.

Some studies have explored the differences in economic opportunity between child soldiers and their noncombatant peers, using earnings per month as a dependent variable.¹³ However, no study has examined the differences between child soldiers who accept reintegration assistance and those who do not. Another study explored assistance for adult former combatants, once again using income as

¹¹ Ibid., 893; Graca Machel, *The Impact of War on Children* (New York: Palgrave, 2001), 13.

¹² M. Tonheim, "Genuine Social Inclusion or Superficial Co-Existence? Former Girl Soldiers in Eastern Congo Returning Home," *International Journal of Human Rights* 18, no. 6 (2014): 641, <http://dx.doi.org/10.1080/13642987.2014.944806>.

¹³ Blattman and Annan, "The Consequences of Child Soldiering."

a dependent variable, and found that assistance did not improve earnings potential.¹⁴ According to the literature, earnings is a good measurement of economic opportunity, and will be explored in this study.

There is substantial scholarship on labor market economics and the determinants of income. Both age and education are good indicators of potential earnings, as they capture the accumulation of human capital over time, through either formal education or work experience.¹⁵ Similarly, mother's education plays a strong role in the future earnings potential of their children, due to its impact on prenatal maternal behavior, as well as financial stability during childhood.¹⁶ Marital status is also both a strong predictor of the decision to work, as well as earnings potential.¹⁷ These variables are essential to labor market economics literature, and should be included in any study of income.

However, certain factors are unique to the context of conflict and post-conflict reconstruction. Refugee camps have unique labor markets, and scholars have noted that they reduce the potential for earnings.¹⁸ This is because work is both difficult to find, and jobs are low-skill, replacing workers daily. A construction site might hire the first 10 workers who show up for the day, and a new group for the next day, making finding work somewhat of a lottery in locations with a high population of displaced persons.

Other studies have demonstrated the damaging effects of distress on earnings.¹⁹ Because of the violent nature of abductions, former child soldiers often exhibit symptoms of distress. This distress is linked to violent experiences, specifically violence that was inflicted upon the child, as well as the violence the

¹⁴ Macartan Humphreys and Jeremy M Weinstein, "Demobilization and Reintegration," *Journal of Conflict Resolution* 51, no. 4 (2007).

¹⁵ Jacob A Mincer, "Age and Experience Profiles of Earnings," in *Schooling, Experience, and Earnings* (NBER, 1974), 82.

¹⁶ Janet Currie and Enrico Moretti, "Mother's Education and the Intergenerational Transmission of Human Capital: Evidence from College Openings," *The Quarterly Journal of Economics* (2003): 1526; Elizabeth King and Anne Hill, *Women's Education in Developing Countries* (Baltimore: The World Bank, 1993).

¹⁷ Greg Hundley, "Male/Female Earnings Differences in Self-Employment: The Effects of Marriage, Children, and the Household Division of Labor," *Industrial & Labor Relations Review* 54, no. 1 (2000): 111.

¹⁸ Christopher Blattman and Jeannie Annan, "Child Combatants in Northern Uganda: Reintegration Myths and Realities," in *Security and Post-Conflict Reconstruction: Dealing with Fighters in the Aftermath of War*, ed. Robert Muggah (London: Routledge, 2008), 20.

¹⁹ Mark W. Smith, Paula P. Schnurr, and Robert A. Rosenheck, "Employment Outcomes and PTSD Symptom Severity," *Mental Health Services Research* 7, no. 2 (89), <http://dx.doi.org/10.1007/s11020-005-3780-2>.

child inflicted on others.²⁰ Therefore, violence perpetrated and violence inflicted upon the child likely lowers earnings by causing greater symptoms of distress.

Abduction age and abduction length can also potentially diminish earnings by disrupting schooling or the occupational ladder. Annan and Blattman (2010) find that the greatest impact of child soldiering is a reduction in human capital, likely from interruptions to schooling.²¹ In Uganda, capital and skill accumulation occur in a linear fashion, and breaking this cycle can have large detriments to future earnings.²² Therefore, longer abductions would result in a greater disruption of the occupational cycle or the education of a child, depending on the age at abduction.

Both traditional economic variables and factors specific to the post-conflict context of reintegration are essential for understanding earnings in this environment. In our analysis, it will be important to include these variables as controls, to ensure that no confounding effect is causing the estimates to be biased. We can see that assistance programs attempt to influence economic opportunity through the aid offered, and that income is a good measure of economic opportunity. We therefore intend to examine the impact of assistance on economic opportunity through earnings, using the factors described above as control variables.

Social Inclusion

Some scholars have argued that social inclusion should be the primary goal of reintegration assistance, as it can have positive externalities for both mental health and economic opportunity.²³ Social capital scores, which center on social networks and trust, have been used to evaluate social inclusion previously.²⁴ Higher social capital has also been linked to higher earnings, and it is therefore an important indicator to examine the effects of assistance on economic outcomes.²⁵

Many NGOs focus specifically on social inclusion. In Uganda and Sierra Leone, massive sensitization efforts were implemented to persuade the populace that child soldiers were not responsible for their actions in the bush.²⁶ This effort

²⁰ Blattman and Annan, "The Consequences of Child Soldiering," 893.

²¹ *Ibid.*, 894.

²² Blattman and Annan, "Child Combatants in Northern Uganda: Reintegration Myths and Realities," in *Security and Post-Conflict Reconstruction: Dealing with Fighters in the Aftermath of War*, 20.

²³ Tonheim, "Genuine Social Inclusion or Superficial Co-Existence? Former Girl Soldiers in Eastern Congo Returning Home," 641-2.

²⁴ Annan et al., "Civil War, Reintegration, and Gender in Northern Uganda," 888-9.

²⁵ Michael Bernabé Aguilera, "The Impact of Social Capital on the Earnings of Puerto Rican Migrants," *The Sociological Quarterly* 46, no. 4 (2005).

²⁶ John Williamson, "The Disarmament, Demobilization and Reintegration of Child Soldiers: Social and Psychological Transformation in Sierra Leone," *Intervention* 4, no. 3 (2006): 192-3.

succeeded in increasing community acceptance. Originally, communities rejected returnees, worried they would “contaminate” other children and cause them to join armed groups. Due to sensitization efforts, they became more ready to accept child soldiers. Additionally, previous studies have attempted to understand outward sociality and hostility of former child soldiers, as these factors may have an impact on social inclusion.²⁷ The mental health services that aid organizations provide may have positive effects on the sociality of children, and should be studied further.

Traditional cleansing ceremonies, such as *mato oput* in Uganda, are forms of reconciliatory justice that can encourage community healing and increase social inclusion. These ceremonies have been linked to greater community acceptance among participants.²⁸ However, this must be examined with the cultural context in mind, as some cultures do not have these ceremonies.²⁹ Recent studies have criticized the use of reconciliatory justice, even in communities where they are culturally appropriate, as alienating to participants.³⁰ In Uganda, *mato oput* is an important part of the social reintegration process, and is essential to a study of social inclusion.

Age is also a factor in social inclusion. Those who have been abducted at earlier ages, especially during critical development periods, are likely to be more hostile and have greater flight or fight responses to environmental stimuli due to abnormalities in amygdala development.³¹ Older children, as well as those who have been back from the bush for longer, will have had more time to readjust to community life, improving their level of social inclusion. As mentioned previously, older children have also had more time to gain educational or occupational experience, which can raise social capital. One study found that education was an important factor in social inclusion, while another found that those who participated in the labor market experienced increased acceptance.³²

²⁷ Blattman and Annan, "The Consequences of Child Soldiering."

²⁸ Michael Wessells and Carlinda Monteiro, "Psychosocial Assistance for Youth: Toward Reconstruction for Peace in Angola," *Journal of Social Issues* 62, no. 1 (2006): 126, <http://dx.doi.org/10.1111/j.1540-4560.2006.00442.x>.

²⁹ *Ibid.*, 137.

³⁰ Coel Kirkby, "Rwanda's Gacaca Courts: A Preliminary Critique," *Journal of African Law* 50, no. 02 (2006).

³¹ P. Pechtel et al., "Sensitive Periods of Amygdala Development: The Role of Maltreatment in Preadolescence," *Neuroimage* 97 (Aug 15 2014): 2, <http://dx.doi.org/10.1016/j.neuroimage.2014.04.025>.

³² Theresa S Betancourt et al., "High Hopes, Grim Reality: Reintegration and the Education of Former Child Soldiers in Sierra Leone," *Comparative Education Review* 52, no. 4 (2008): 4; Veale et al., "Participation as Principle and Tool in Social Reintegration: Young Mothers Formerly Associated with Armed Groups in Sierra Leone, Liberia, and Northern Uganda," 845.

Violence to the family and to the child can also play a role in social inclusion. One study found that children who had more violent acts inflicted upon them were more likely to participate in the community, particularly politically.³³ Another study found that households that had experienced more violence were more likely to be involved in community activities.³⁴ While somewhat counterintuitive, this literature demonstrates that experiencing violence can make an individual more social, and is likely positively associated with social capital.

The presence of the parent, as well as parental understanding, have been linked to positive outcomes for former child soldiers.³⁵ Children with more understanding parents were more social and confident, which would likely increase social capital. The absence of parents, and therefore parental understanding, could be extremely detrimental to the social adjustment of the child, diminishing social inclusion. The violent indoctrinations that children undergo in the LRA have also been linked to exclusion from the community.³⁶ During these indoctrinations, children are often forced to harm their own families or neighbors, in order to sever ties to the community and prove their loyalty. Feeling loyal to the LRA, too, might have some impact on social inclusion. Children who felt loyal might not reintegrate as easily, or might feel more guilt about their abduction experiences. While no literature examines the phenomenon between loyalty and post-conflict reintegration, we expect this to negatively impact outcomes. However, it is possible that more social children would form bonds with their fellow abductees and commanders, thus feeling more loyal, while also being more social after returning home.

Lastly, the method of exit from the armed group may impact acceptance upon returning home. Those who have escaped from the LRA would likely be perceived as less culpable for their crimes, as they clearly do not wish to be attached to the group. Similarly, former child soldiers who are rescued from their captors could experience this same benefit, though likely to a lesser degree. Conversely, those who are released by their commanders would likely experience less

³³ Christopher Blattman, "From Violence to Voting: War and Political Participation in Uganda," *American Political Science Review* 103, no. 02 (2009): 238-9, accessed 2009, <http://dx.doi.org/doi:10.1017/S0003055409090212>.

³⁴ John Bellows and Edward Miguel, "War and Local Collective Action in Sierra Leone," *Journal of Public Economics* 93, no. 11 (2009): 1145.

³⁵ Ivelina I. Borisova, Theresa S. Betancourt, and John B. Willett, "Reintegration of Former Child Soldiers in Sierra Leone: The Role of Caregivers and Their Awareness of the Violence Adolescents Experienced During the War," *Journal of Aggression, Maltreatment & Trauma* 22, no. 8 (2013/09/01 2013): 816, accessed 2015/10/10, <http://dx.doi.org/10.1080/10926771.2013.824059>.

³⁶ Betancourt et al., "Sierra Leone's Former Child Soldiers: A Follow-up Study of Psychosocial Adjustment and Community Reintegration," 1078.

acceptance, due to altered perceptions based on their method of exit from the group. While no literature enumerates upon the relationship between exit method and acceptance, we expect perceptions to be more positive towards those who escaped or were rescued compared to those who were released.

It is clear that reintegration assistance programs attempt to ease adjustment into society by increasing the community acceptance of former child soldiers. However, these children often experience stigma and exclusion, which can negatively impact their ability to participate in the community and the labor market. The scholarly literature on social inclusion has provided us with factors affecting social inclusion, and the method by which to measure it. We therefore examine the impact of assistance on social inclusion through social capital, while controlling for the factors, enumerated above, that might confound our results.

Hypotheses

The previous literature has demonstrated the importance of economic opportunity and social inclusion for former child soldiers, as well as several potential control variables that could affect the results. Additionally, it has demonstrated that earnings per month is a strong indicator of economic opportunity, and that social capital is a good measurement of social inclusion. NGOs aim to improve these outcomes, along with health. However, the effectiveness of these services has fallen into dispute. One study demonstrated that reintegration assistance improves mental health outcomes for former child soldiers, and another study found that services do not improve economic reintegration outcomes for adult former combatants.³⁷ Despite this, no statistical analysis has ever examined the relationship between assistance and economic outcomes for children. The literature acknowledges that services can be improved, but there seems to be the broad assumption that reintegration assistance aids former child soldiers. However, Shepler, using an ethnographic methodology, anecdotally suggests that those who accept assistance are not better off than their counterparts.³⁸ While there is a dearth of statistical evidence supporting either claim, we formulate the following hypotheses about the impact of assistance on economic opportunity and social inclusion:

Economic Opportunity

H₀: Assistance will not improve earnings per month for former child soldiers

³⁷ Betancourt, Pochan, and De La Soudiere, *Psychosocial Adjustment and Social Reintegration of Child Ex-Soldiers*, 15-16; Humphreys and Weinstein, "Demobilization and Reintegration."

³⁸ Susan Shepler, *Childhood Deployed: Remaking Child Soldiers in Sierra Leone* (New York: NYU Press, 2014), 17.

H_A: Assistance will improve earnings per month for former child soldiers

Social Inclusion

H₀: Assistance will not improve social capital for former child soldiers

H_A: Assistance will improve social capital for former child soldiers

Data

The data used to test these hypotheses comes from the Survey for War-Affected Youth Phase One (SWAY).³⁹ Phase One of SWAY is a simple random sample of households in two northern districts of Uganda—Kitgum and Pader—in 2005 and 2006, and includes 741 male youth. 462 respondents were abducted by the LRA, and represent the sample in this study. SWAY includes information on experiences during the conflict involving the Lord's Resistance Army (LRA) in Uganda, as well as reintegration experiences. The data includes indicators for all independent, dependent, and control variables. This survey involved extensive interviews with the subjects, and is potentially limited by response bias due to the sensitive nature of the topics probed.⁴⁰ However, this data set is reliable due to the simplicity of the questions and the size of the survey sample.

SWAY is also a compelling data source due to the nature of the conflict in Uganda. LRA abductions represent a quasi-natural experiment, in which there are no significant demographical differences between those abducted and those not abducted other than household size and age.⁴¹ Additionally, this dataset was generated through the random selection and tracing of numerous former child soldiers and their peers. The data is cross-sectional, and while panel data would have been preferred, SWAY is the best dataset currently available.

Of the 426 former male child soldiers in the sample, 203 received reintegration assistance services, or 43.9%. Five different types of assistance services were identified: medical assistance, psychological counseling, skills or vocational training, cash loan or grants, and reintegration assistance bundles, which are bundles of goods such as farming tools. Of all former child soldiers sampled, 25.1% accepted only one form of assistance, 8.9% accepted two types, 8.9% accepted three, 1.1% accepted four, and no former child soldier accepted all five.⁴² Of those who accepted services, 34.5% accepted medical assistance, 60.6%

³⁹ This survey was conducted by Jeannie Annan and Chris Blattman. Blattman and Annan, "The Consequences of Child Soldiering."

⁴⁰ *Ibid.*, 886.

⁴¹ *Ibid.*, 887. See Appendix I.

⁴² See Appendix II.

accepted psychological counseling, 2.5% accepted vocational or skills training, 3% accepted cash loans or grants, and 49.8% accepted reintegration assistance bundles.⁴³

This has two implications for this study. Firstly, it is difficult to examine each service for its individual effects, because such a large proportion of former child soldiers accepted multiple forms of assistance. Therefore, only the effects of services generally can be examined. Secondly, the percentage of child soldiers who accepted skills training and cash loans is extremely small, making it difficult to generalize the findings to those who accept this form of assistance. This is especially problematic because vocational training is the form of assistance of greatest interest in a study of the impact of services on earnings and social capital.

Empirical Methods

Using this data, two ordinary least squares regressions using Huber-White standard errors were performed. The earnings model takes the form:

$$\begin{aligned} EPM_i = & \beta_0 + \beta_1 SERVICES_i + \beta_2 AGE_i + \beta_3 ED_i + \beta_4 MTHRED_i + \beta_5 MAR_i + \\ & \beta_6 CAMP_i + \beta_7 RVIOL_i + \beta_7 PVIOL_i + \beta_8 ABDAGE_i + \beta_9 ABDLGTH_i \\ & + u_i \end{aligned}$$

where EPM is earnings per month in Ugandan Shillings; SERVICES is a binary variable expressing if assistance services were received; ED is education in years; MTHRED is mother's education in years; MAR is a binary variable expressing marriage status; CAMP is a binary variable expressing if the individual is displaced in a refugee camp; RVIOL is an additive index of 6 types of violent acts inflicted upon the child; PVIOL is an additive index of 8 types of violent acts the child inflicted on others; ABDAGE is the age in years at first abduction (some children were re-abducted); ABDLGTH is the total length in months of all abductions, and u is the error term. Services, age, education, mother's education, marital status, and abduction age are expected to be positively correlated with earnings, based on the literature detailed above. Displacement in a refugee camp, violence received, violence perpetrated, and abduction length are expected to be negatively correlated with earnings.

The social capital model takes the form:

$$\begin{aligned} SC_i = & \beta_0 + \beta_1 SERVICES_i + \beta_2 CLEANSE_i + \beta_3 AGE_i + \beta_4 ABDAGE_i + \beta_5 ED_i \\ & + \beta_6 RVIOL_i + \beta_7 FVIOL_i + \beta_8 NOMTHR_i + \beta_9 NOFTHR_i + \\ & \beta_{10} ORPHAN_i + \beta_{11} ESC_i + \beta_{12} RELEASE_i + \beta_{13} INDOC_i + \\ & \beta_{14} LOYAL_i + u_i \end{aligned}$$

⁴³ See Appendix III.

where SC is an additive index of social support ranging from 0 to 13; SERVICES is a binary variable expressing if assistance services were received; CLEANSE is a binary variable expressing if the child underwent a traditional cleansing ceremony; AGE is age in years; ABDAGE is the age in years at first abduction; ED is years of education; RVIOL is an additive index of 6 types of violent acts inflicted upon the child; FVIOL is an additive index of 5 types of violent acts inflicted on the child's family; NOMTHR is a binary dependent variable expressing if the mother is not present; NOFTHR is a binary dependent variable expressing if the father is present; ORPHAN is an interaction term between NOMTHR and NOFTHR; ESC is a binary variable expressing if the child escaped the LRA after abduction; RELEASE is a binary variable expressing if the child was released by the LRA; INDOC is a binary variable expressing if the child was indoctrinated by the LRA; LOYAL is a binary variable expressing if the child ever felt loyal to the LRA, and u is the error term. ESC and RELEASE are being compared against being rescued from the LRA, and NOMTHR, NOFTHR, and ORPHAN are being compared against both parents being present. Based on previous scholarship, services, cleansing ceremonies, age, education, violence inflicted upon the family, violence inflicted upon the child, and escaping the LRA are expected to be positively correlated with social capital. Conversely, not having a mother, not having a father, being an orphan, being released from the LRA, indoctrination, abduction age, and loyalty are expected to be negatively correlated with social capital. However, ORPHAN may have a positive coefficient, as not having a father or mother could lead to being sent to other relatives. It is the total interaction term ($\beta_8\text{NOMTHR}_i + \beta_9\text{NOFTHR}_i + \beta_{10}\text{ORPHAN}_i$) that is expected to be negative.

Analysis

Comparative Statistics

In order to understand the impacts of reintegration assistance, it is important to know who receives services. It is possible that there are differences between the population that received assistance and the population that did not. Table 1.1 (below) sets out descriptive statistics and descriptions of all variables used in this study.

It is clear from these statistics that services are not accepted randomly, a certain degree of self-selection is present. Those who accept assistance are, on average, more likely to be displaced, take part in traditional cleansing ceremonies, have both parents alive, have more violence inflicted upon themselves and their families, have inflicted more violence upon others, have escaped the LRA or been rescued, and are more likely to have been indoctrinated. They are also more likely to have felt loyal to the LRA during their abduction, and have longer abductions, on average. Conversely, those who have not received assistance are more likely to be older, married, more educated, have returned from the bush for longer, have been

abducted at an older age, and are more likely to have been released by their LRA captors.

Table 1.1: Descriptive Statistics

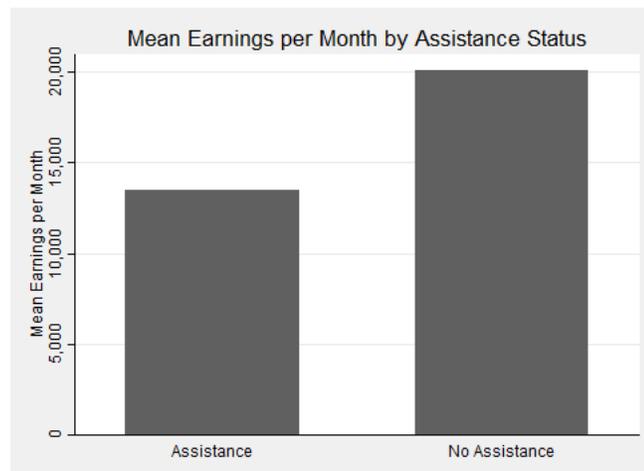
VARIABLES	Description	Range	Population Mean (std. deviation)	Assistance Mean (std. deviation)	No Assistance Mean (std. deviation)
<i>Dependent Variables</i>					
Earnings per Month	Earnings in Last 4 Weeks	Continuous	17200.54 (46556.57)	13506.9 (37681.32)	20095.56 (52365.28)
Social Capital	Social Support Index	0-13	5.560 (2.339)	5.576 (2.385)	5.546 (2.339)
<i>Independent Variable</i>					
Services	=1 if Assistance Received	0/1	43.9%		
<i>Demographic Controls</i>					
Age	Age in Years	Continuous	21.37 (5.013)	20.30 (5.494)	22.20 (5.175)
In Refugee Camp	=1 if in Camp	0/1	60.2%	66%	55.6%
Married	=1 if Married	0/1	43.7%	36%	49.8%
Education	Years of Education	Continuous	6.820 (2.791)	6.616 (2.576)	6.981 (2.943)
Mother's Education	Years of Education	Continuous	2.093 (2.771)	2.074 (2.729)	2.108 (2.808)
Length of Return	Years Since Return	Continuous	4.645 (3.356)	3.457 (2.526)	5.576 (3.626)
Cleanse	=1 if Cleansing Ceremony	0/1	42.8%	45.9%	38.2%
Both Parents Alive	Baseline, Parents Alive	0/1	37.2%	39.4%	35.5%
Both Parents Deceased	=1 if Parents Deceased	0/1	22.9%	19.7%	25.5%
Father Deceased	=1 if Father Deceased	0/1	56.1%	52.7%	55.7%
Mother Deceased	=1 if Father Decease	0/1	29.7%	27.6%	31.3%
<i>Abduction Experiences</i>					
Violence Received	Acts Inflicted on Child	0-6	3.561 (1.573)	3.985 (1.440)	3.232 (1.595)
Violence Perpetrated	Acts Child Inflicted	0-8	1.776 (1.876)	2.353 (2.039)	1.326 (1.603)
Violence to Family	Acts Inflicted on Family	0-5	2.191 (1.410)	2.292 (1.489)	2.112 (1.343)
Escaped	=1 if Escaped LRA	0/1	86.2%	93.6%	80.3%
Rescued	=1 if Rescued from LRA	0/1	4.1%	4.9%	3.5%
Released	Baseline, Released by LRA	0/1	8.9%	1.5%	14.7%
Age at Abduction	Age in Years	Continuous	15.52 (4.887)	15.14 (4.745)	15.81 (4.984)
Length of Abduction	Months of Abduction	Continuous	10.68 (18.36)	17.88 (22.87)	5.043 (10.95)
Indoctrination	=1 if Indoctrinated	0/1	50.1%	51.3%	48.7%
Loyal	=1 if Felt Loyal to LRA	0/1	47.3%	55.8%	36.4%

While this is clearly not a simple random sample, these variables can be controlled for. In the following regressions, we control for the variables that impact both the independent and dependent variable in an attempt to minimize the expected value of the error term u . We acknowledge the potential for unobservable, entity-fixed omitted variables in cross-sectional data, which will be discussed in more detail later.

Impact of Assistance on Economic Opportunity

It was hypothesized that receiving reintegration services would increase earnings per month in Ugandan Shillings (USh). \$1 USD had equivalent purchasing power to USH 512.18 in 2006, according to the World Bank.⁴⁴ The mean earnings per month of all former child soldiers was USH 17,200.54, roughly equivalent to \$33.58, well below the poverty line. The average earnings per month of abductees who received reintegration assistance services was USH 13,506.90, while the average for abductees who had not received services was USH 20,095.96 (see Figure 2.1).

Figure 2.1: Mean Earnings per Month by Assistance Status



Those who did not receive services, on average, earned USH 6,588.66 more than those who did. A t -test reveals that this difference, which is opposite the hypothesized direction, is significant at the 10% level ($p=0.0584$). This directly refutes the hypothesis that receiving services increases earnings per month, but it is potentially confounded by age, educational attainment, and other variables. To

⁴⁴ The World Bank, *World Development Indicators: Ppp Conversion Factor, Gdp* (Washington, DC: 2006).

control for this, we performed a regression analysis with heteroscedastic robust stand errors using multiple demographic control variables (see Figure 2.2).

Figure 2.2: Earnings per Month Regression

VARIABLES	(1) Earnings per Month	(2) Earnings per Month
Received Services	-268.7 (3,152)	417.3 (2,937)
Age	1,679* (868.5)	1,426** (645.4)
Education	3,016** (1,464)	2,920** (1,399)
Mother's Education	2,257** (897.1)	2,248** (897.1)
Married	15,809** (6,836)	15,896** (6,666)
In Refugee Camp	-6,847* (3,684)	-7,072* (3,687)
Violent Acts Received	-2,383** (1,039)	-2,307** (1,068)
Violent Acts Perpetrated	1,316 (1,710)	1,352 (1,704)
Age at Abduction	-350.1 (616.1)	
Length of Abduction	79.55 (110.3)	
Constant	-35,850** (17,388)	-34,885** (17,325)
Observations	458	458
Adjusted R-squared	0.108	0.110

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

In the first model, violent acts perpetrated, age at abduction, and length of abduction were not significant. An f-test demonstrates that age at abduction and length of abduction were not jointly significant ($p=0.48$), and so these variables were excluded from the final model despite Annan and Blattman's theory that longer abductions lower human capital due to time spent away from education.⁴⁵ Additionally, violence received loses significance when violence perpetrated is removed as a variable. Together the two terms are jointly significant ($p<0.1$), and

⁴⁵ Blattman and Annan, "The Consequences of Child Soldiering," 894.

were therefore not excluded from the final model.

In the second model, we can see that assistance has no significant correlation with earnings. We therefore cannot reject the null hypothesis. Additionally, interactions terms between services and violence received, as well as services and displacement, did not demonstrate any significant remedial effect. This is a disheartening finding, as it indicates that these services do not make former child soldiers economically better off than their peers, despite the millions of dollars spent on assistance. However, it is noteworthy that reducing displacement and increasing access to education, including for the mother of the child, significantly raised earnings, because these are factors which governments and aid organizations could potentially improve upon. While this was not unexpected, given the literature discussed, it has important implications for aid organizations that wish to improve the assistance they offer.

All of the control variables have the expected signs, with the exception of violence acts perpetrated. We assumed that violence perpetrated would be negatively correlated with earnings because more traumatized youth would likely earn less. However, it is likely that this positive relationship stems from being more able-bodied. It stands to reason that those with greater physical abilities would be asked by their commanders to perpetrate more violence. Based on interviews with former child soldiers, we know that the LRA deemed those who perpetrated more violence as having more merit.⁴⁶ It is therefore logical that this correlation stems from those who are the most meritorious, and thus having perpetrated the most violence, doing better in the labor market. However, the coefficient is not statistically significant from zero on its own, making interpretation difficult.

While accepting assistance did not lead to greater earnings over peers, there is the potential that it could lead to greater social capital. Higher social capital now could lead to greater future earnings, according to some studies.⁴⁷ So while assistance may not improve earnings shortly after receiving it, it may raise the potential for greater future earnings through increased social capital. We therefore turn to an examination of the impacts of assistance on social capital, with the knowledge that it has the potential to raise future earnings.

Impact of Assistance on Social Inclusion

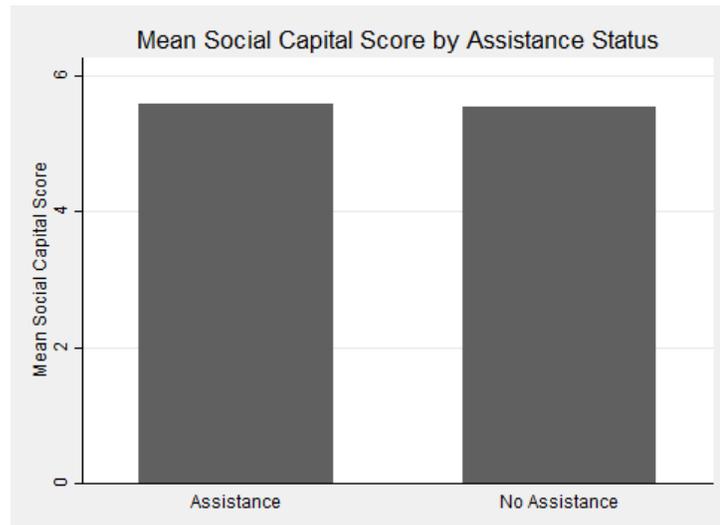
It was hypothesized that receiving reintegration assistance improved social capital. The mean score on the social capital index was 5.56. For those who had

⁴⁶ Will Storr, "Kony's Child Soldiers: "When You Kill for the First Time, You Change"," *The Telegraph*, 12 February, 2014, 2014, accessed 5 March, 2015, <http://www.telegraph.co.uk/news/worldnews/africaandindianocean/uganda/10621792/Konys-child-soldiers-When-you-kill-for-the-first-time-you-change.html>.

⁴⁷ Aguilera, "The Impact of Social Capital on the Earnings of Puerto Rican Migrants," 585.

received assistance services, the mean score was 5.58, while the mean score for those who had not was 5.55 (see Figure 3.1).

Figure 3.1: Mean Social Capital Score by Assistance Status



Those who did receive assistance, on average, scored 0.03 points higher on the social capital index than those who did not. A t-test demonstrates that this relationship is not significant. However, this uncontrolled analysis could be confounded by intervening variables, such as abduction experiences and demographic indicators. A regression analysis was performed to determine the impacts of reintegration assistance on the social capital of former child soldiers (see Figure 3.2).

In this model, reintegration assistance has no significant effect on the social capital of former child soldiers. We therefore cannot reject the null hypothesis that assistance has no impact on social capital. Additionally, interactions terms between services, indoctrination, not having a mother, and abduction age demonstrated no significant remedial effect. Once again, assistance has failed to lead to improved outcomes over peers. However, it is noteworthy that cleansing ceremonies and education are correlated with greater social capital. As suggested previously, the effects of cleansing ceremonies have become a subject of debate in the scholarly community. However, this analysis demonstrates an extremely strong positive relationship between *mato oput* and social capital, significant at 99%. This study confirms previous findings that promoting reconciliatory justice processes and increasing access to education will improve social capital, and they are therefore methods by which aid organizations

can improve assistance.

Figure 3.2: Social Capital Regression

VARIABLES	(1) Social Capital Index
Received Assistance	0.358 (0.244)
Cleansing Ceremony	0.643*** (0.248)
Age	0.142*** (0.0379)
Abduction Age	-0.0826** (0.0388)
Education	0.306*** (0.0892)
Violence Received	0.204** (0.0830)
Violence to Family	0.116** (0.0461)
No Mother	-1.117* (0.572)
No Father	-0.269 (0.278)
Orphan	0.899 (0.642)
Escaped	1.071* (0.578)
Released	-0.566 (0.953)
Indoctrinate	-0.750*** (0.231)
Loyal	0.516** (0.249)
Constant	0.393 (0.990)
Observations	329
Adjusted R-squared	0.184

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

While most of the variables expressed the expected coefficients, there was one notable exception: loyalty. While loyalty was assumed to be negatively correlated to social capital, the model demonstrates a strong positive relationship, significant at 95%. There is a dearth of literature that would suggest any relationship, but logic implies that those who feel loyal to a violent rebel group like

the LRA would be rejected by society. However, this is not the case. There are a few possible explanations. There could be some relationship between sociality and loyalty to an armed group, in that more social children are more likely to form bonds with their captors and fellow abductees, and therefore more likely to feel loyal. While there is no statistical evidence to support this theory, there is evidence to suggest another. Loyalty might be an indicator of Stockholm syndrome, which lessens the incidence of PTSD, thus positively impacting social capital.⁴⁸ We therefore recognize the possibility that loyalty could lessen symptoms of PTSD, which would in turn increase social capital.

Discussion

This analysis reveals that reintegration assistance does not improve economic reintegration outcomes. No statistically significant relationship exists between assistance and earnings or social capital. This has dramatic implications for aid organizations, who have continuously implemented these services across contexts, without substantially altering them.⁴⁹ However, there are several ways that reintegration assistance services could improve upon the aid they offer. This study confirms the findings of King and Hill (1993), as well as Currie and Moretti (2003), that mother's education has a significant effect on the future earnings of their children.⁵⁰ Similarly, we see a positive relationship between traditional cleansing ceremonies and the social relationships a child soldier is able to form, as described in Boothby et al (2006).⁵¹ In the future, aid organizations can focus on these societal aspects—increasing access to education for women and promoting traditional cleansing ceremonies—in order to improve reintegration outcomes. Many studies have highlighted the effectiveness of societal interventions as opposed to individual ones. Betancourt et al (2010) found that societal protective factors were superior to individual ones.⁵² Similarly, Boothby et al suggests that any assistance taking place in an interim center would likely be just as effective if

⁴⁸Rebecca A Demarest, "The Relationship between Stockholm Syndrome and Post-Traumatic Stress Disorder in Battered Women," *Student Pulse* 1, no. 11 (2009): 6.

⁴⁹ Jean-Claude Legrand, *Lessons Learned from the Unicef Field Programmes for the Prevention of Recruitment, Demobilization, and Reintegration of Child Soldiers* (New York: UNICEF, 1999), 30.

⁵⁰ King and Hill, *Women's Education in Developing Countries*; Currie and Moretti, "Mother's Education and the Intergenerational Transmission of Human Capital: Evidence from College Openings."

⁵¹ Neil Boothby, Jennifer Crawford, and Jason Halperin, "Mozambique Child Soldier Life Outcome Study: Lessons Learned in Rehabilitation and Reintegration Efforts," *Global public health* 1, no. 1 (2006): 105.

⁵² Betancourt et al., "Sierra Leone's Former Child Soldiers: A Follow-up Study of Psychosocial Adjustment and Community Reintegration," 1090.

implemented at home.⁵³ Our findings support this research, which situates reintegration outcomes in the broader context of the community.

However, there are several potential critiques of these results that should be addressed. Firstly, the data is cross-sectional, presenting several potential limitations. The first of which is that no causality can be established. We merely can observe that no correlation exists, which is a suggestive result. Secondly, we cannot say that reintegration assistance has no positive effect, just that it does not improve outcomes over those who did not accept assistance. This critique, then, hinges on a self-selection or endogeneity argument, by claiming people who are worse off seek assistance and become just as well off as their peers.

First, we address self-selection. We know that there is self-selection into reintegration assistance, but this selection seems to be predicated, based on the descriptive statistics, on traumatic experience rather than earnings or social relations. Those with substantially greater traumatic experience are likely going to be those who seek assistance. Indeed, this fits with the forms of assistance offered.⁵⁴ Former child soldiers are receiving medical assistance and psychological counseling, which fits this trauma narrative. Those with more violent abductions seek assistance for their trauma in order to fix their physical or mental problems. This also refutes the potential for endogeneity, that those with lower earnings seek assistance in order to raise their earnings. Especially given the types of assistance offered, this narrative of endogeneity seems high unlikely.

However, it is impossible to rule out entity-fixed unobservable effects using cross-sectional data. We recognize the possibility that an unobservable variable, such as merit, could influence the decision to accept services and alter earnings or social capital. We cannot control for these variables, though we can say that the unobservable is not trauma. While trauma is likely to influence earnings or social capital, as well as accepting assistance, our models include experiences that would cause trauma. Given that we can control for traumatic experiences, it is exceedingly unlikely that trauma is this unobservable variable.

Conclusion

This research builds on existing literature that demonstrates the inefficacy of assistance services by demonstrating no significant relationship between services and improved economic outcomes. However, this conclusion is limited in that we cannot address unobservable entity-fixed factors, such as merit. A logistic regression should be employed to demonstrate the determinants of seeking assistance, which we expect is trauma-driven. Additionally, future studies should

⁵³ Boothby, Crawford, and Halperin, "Mozambique Child Soldier Life Outcome Study: Lessons Learned in Rehabilitation and Reintegration Efforts," 104.

⁵⁴ See Appendix III

examine this question with panel data that includes surveys before and after assistance, to control for entity-fixed effects.

We can easily generalize these results to the Ugandan context, due to the reliability and generalizability of SWAY. Assistance has remained largely the same across conflicts and years, despite the criticisms of services.⁵⁵ Because of this, along with a lack of superior data, we tentatively generalize this finding to the larger population of former child soldiers, until superior data is available. Our findings are confirmed by Shepler, who observed no difference in former child soldiers who received assistance and those who did not.⁵⁶ Similarly, Humphreys and Weinstein found that assistance did not improve economic outcomes for former adult combatants.⁵⁷

This research is limited in that it only explores male former child soldiers, and future studies should focus on females, who have unique abduction and reintegration experiences. Additionally, this study is unable to explore the efficacy of vocational training or cash grants, because these services were not frequently accepted among the sample population. Exploring microlending and vocational training specifically, in conjunction with panel data, would be the best avenue for future research.

We provide new insights into the effectiveness of reintegration assistance: namely, it has no correlation with economic outcomes. We also demonstrated the importance of access to education, particularly for women, and traditional cleansing ceremonies. Given the wealth of literature that support the importance of these factors, we can conclude that focusing on these elements should improve reintegration outcomes. Our findings confirm other studies that indicate societally focused interventions garner greater success than individually focused ones. The low participation in assistance among former child soldiers only exacerbates the issues with individual-focused interventions. In the future, aid organizations should work to enhance their services by focusing on societal interventions, with the hopes of improving outcomes for all.

⁵⁵ Legrand, *Lessons Learned from the Unicef Field Programmes for the Prevention of Recruitment, Demobilization, and Reintegration of Child Soldiers*, 30.

⁵⁶ Shepler, *Childhood Deployed: Remaking Child Soldiers in Sierra Leone*, 17.

⁵⁷ Humphreys and Weinstein, "Demobilization and Reintegration," 560.

References

- "Child Soldiers around the World." Council on Foreign Relations. Last modified Accessed September 10, 2015, 2015. <http://www.cfr.org/human-rights/child-soldiers-around-world/p9331#p2>.
- "Disarmament, Demobilization, and Reintegration." United Nations. Last modified 2005. Accessed December 12, 2015. <http://www.un.org/en/peacekeeping/issues/ddr.shtml>.
- World Development Indicators: Ppp Conversion Factor, Gdp*. Edited by The World Bank. Washington, DC, 2006.
- Aguilera, Michael Bernabé. "The Impact of Social Capital on the Earnings of Puerto Rican Migrants." *The Sociological Quarterly* 46, no. 4 (2005): 569-92.
- Annan, Jeannie, Christopher Blattman, Dyan Mazurana, and Khristopher Carlson. "Civil War, Reintegration, and Gender in Northern Uganda." *Journal of Conflict Resolution* 55, no. 6 (December 1, 2011 2011): 877-908. <http://dx.doi.org/10.1177/0022002711408013>.
- Annan, Jeannie, Moriah Brier, and Filder Aryemo. "From "Rebel" to "Returnee": Daily Life and Reintegration for Young Soldiers in Northern Uganda." *Journal of Adolescent Research* 24, no. 6 (November 1, 2009 2009): 639-67. <http://dx.doi.org/10.1177/0743558409350499>.
- Annan, Jeannie, Eric P. Green, and Moriah Brier. "Promoting Recovery after War in Northern Uganda: Reducing Daily Stressors by Alleviating Poverty." *Journal of Aggression, Maltreatment & Trauma* 22, no. 8 (2013/09/01 2013): 849-68. Accessed 2015/10/10. <http://dx.doi.org/10.1080/10926771.2013.823636>.
- Bellows, John and Edward Miguel. "War and Local Collective Action in Sierra Leone." *Journal of Public Economics* 93, no. 11 (2009): 1144-57.

- Betancourt, T. S., Shawna Pochan, and Marie De La Soudiere. *Psychosocial Adjustment and Social Reintegration of Child Ex-Soldiers*. New York: International Rescue Committee, 2006.
- Betancourt, Theresa S, Stephanie Simmons, Ivelina Borisova, Stephanie E Brewer, Uzo Iweala, and Marie De La Soudière. "High Hopes, Grim Reality: Reintegration and the Education of Former Child Soldiers in Sierra Leone." *Comparative Education Review* 52, no. 4 (2008): 565.
- Betancourt, Theresa Stichick, Ivelina Ivanova Borisova, Timothy Philip Williams, Robert T. Brennan, Theodore H. Whitfield, Marie De La Soudiere, John Williamson, and Stephen E. Gilman. "Sierra Leone's Former Child Soldiers: A Follow-up Study of Psychosocial Adjustment and Community Reintegration." *Child Development* 81, no. 4 (2010): 1077-95.
<http://dx.doi.org/10.1111/j.1467-8624.2010.01455.x>.
- Blattman, Christopher. "From Violence to Voting: War and Political Participation in Uganda." *American Political Science Review* 103, no. 02 (2009): 231-47. Accessed 2009. <http://dx.doi.org/doi:10.1017/S0003055409090212>.
- Blattman, Christopher and Jeannie Annan. "Child Combatants in Northern Uganda: Reintegration Myths and Realities." In *Security and Post-Conflict Reconstruction: Dealing with Fighters in the Aftermath of War*, edited by Robert Muggah, 103-26. London: Routledge, 2008.
- Blattman, Christopher and Jeannie Annan. "The Consequences of Child Soldiering." *Review of Economics and Statistics* 92, no. 4 (2010/11/01 2010): 882-98. Accessed 2015/10/10.
http://dx.doi.org/10.1162/REST_a_00036.
- Boothby, Neil, Jennifer Crawford, and Jason Halperin. "Mozambique Child Soldier Life Outcome Study: Lessons Learned in Rehabilitation and Reintegration Efforts." *Global public health* 1, no. 1 (2006): 87-107.
- Borisova, Ivelina I., Theresa S. Betancourt, and John B. Willett. "Reintegration of Former Child Soldiers in Sierra Leone: The Role of Caregivers and Their Awareness of the Violence Adolescents Experienced During the War."

Journal of Aggression, Maltreatment & Trauma 22, no. 8 (2013/09/01 2013): 803-28. Accessed 2015/10/10.
<http://dx.doi.org/10.1080/10926771.2013.824059>.

Chrobok, V. *Demobilizing and Reintegrating Afghanistan's Young Soldiers: A Review and Assessment of Program Planning and Implementation*. . BICC: Bonn International Center for Conversion, 2005.

Currie, Janet and Enrico Moretti. "Mother's Education and the Intergenerational Transmission of Human Capital: Evidence from College Openings." *The Quarterly Journal of Economics* (2003): 1495-532.

Demarest, Rebecca A. "The Relationship between Stockholm Syndrome and Post-Traumatic Stress Disorder in Battered Women." *Student Pulse* 1, no. 11 (2009).

Guyen, Ozen, Amy Kapit-Spitalny, and Dana Burde. *The Education of Former Child Soldiers: Finding a Way Back to Civilian Identity*. PEIC: Protect Education in Insecurity and Conflict, 2014.

Humphreys, Macartan and Jeremy M Weinstein. "Demobilization and Reintegration." *Journal of Conflict Resolution* 51, no. 4 (2007): 531-67.

Hundley, Greg. "Male/Female Earnings Differences in Self-Employment: The Effects of Marriage, Children, and the Household Division of Labor." *Industrial & Labor Relations Review* 54, no. 1 (2000): 95-114.

King, Elizabeth and Anne Hill. *Women's Education in Developing Countries*. Baltimore: The World Bank, 1993.

Kirkby, Coel. "Rwanda's Gacaca Courts: A Preliminary Critique." *Journal of African Law* 50, no. 02 (2006): 94-117.

Legrand, Jean-Claude. *Lessons Learned from the Unicef Field Programmes for the Prevention of Recruitment, Demobilization, and Reintegration of Child Soldiers*. New York: UNICEF, 1999.

- Machel, Graca. *The Impact of War on Children*. New York: Palgrave, 2001.
- Mincer, Jacob A. "Age and Experience Profiles of Earnings." In *Schooling, Experience, and Earnings*, 64-82: NBER, 1974.
- Pechtel, P., K. Lyons-Ruth, C. M. Anderson, and M. H. Teicher. "Sensitive Periods of Amygdala Development: The Role of Maltreatment in Preadolescence." *Neuroimage* 97 (Aug 15 2014): 236-44.
<http://dx.doi.org/10.1016/j.neuroimage.2014.04.025>.
- Shepler, Susan. *Childhood Deployed: Remaking Child Soldiers in Sierra Leone*. New York: NYU Press, 2014.
- Smith, Mark W., Paula P. Schnurr, and Robert A. Rosenheck. "Employment Outcomes and Ptsd Symptom Severity." *Mental Health Services Research* 7, no. 2 (89-101). <http://dx.doi.org/10.1007/s11020-005-3780-2>.
- Spitzer, H. and J. M. Twikirize. "War-Affected Children in Northern Uganda: No Easy Path to Normality." *International Social Work* 56, no. 1 (2013): 67-79. <http://dx.doi.org/10.1177/0020872812459067>.
- Storr, Will. "Kony's Child Soldiers: "When You Kill for the First Time, You Change"." *The Telegraph*. 12 February, 2014, 2014. Accessed 5 March, 2015,
<http://www.telegraph.co.uk/news/worldnews/africaandindianocean/uganda/10621792/Konys-child-soldiers-When-you-kill-for-the-first-time-you-change.html>.
- Tonheim, M. "Genuine Social Inclusion or Superficial Co-Existence? Former Girl Soldiers in Eastern Congo Returning Home." *International Journal of Human Rights* 18, no. 6 (2014): 634-45.
<http://dx.doi.org/10.1080/13642987.2014.944806>.
- Veale, Angela, Susan McKay, Miranda Worthen, and Michael G. Wessells. "Participation as Principle and Tool in Social Reintegration: Young Mothers Formerly Associated with Armed Groups in Sierra Leone,

Liberia, and Northern Uganda." *Journal of Aggression, Maltreatment & Trauma* 22, no. 8 (2013/09/01 2013): 829-48. Accessed 2015/10/10. <http://dx.doi.org/10.1080/10926771.2013.823635>.

Wessells, Michael and Carlinda Monteiro. "Psychosocial Assistance for Youth: Toward Reconstruction for Peace in Angola." *Journal of Social Issues* 62, no. 1 (2006): 121-39. <http://dx.doi.org/10.1111/j.1540-4560.2006.00442.x>.

Williamson, John. "The Disarmament, Demobilization and Reintegration of Child Soldiers: Social and Psychological Transformation in Sierra Leone." *Intervention* 4, no. 3 (2006): 185-205.

Appendices

Appendix I: Comparison of Means⁵⁸

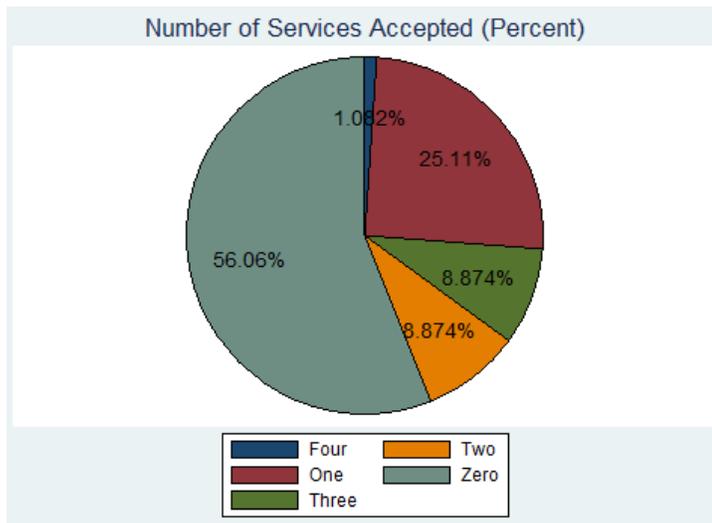
Pretreatment Covariate	(1)		(2)		(3)		(4)	
	Abducted versus Nonabducted				Militia versus Nonmilitia Members			
	Difference in Means ^b				Difference in Means ^b			
	Unconditional	Conditional	Unconditional	Conditional	Unconditional	Conditional	Unconditional	Conditional
Year of birth ^a	1.02 [0.44]**	1.27 [0.51]**	2.76 [0.82]***	2.31 [0.65]***				
Indicator for father a farmer ^a	0.01 [0.02]	-0.01 [0.02]	0.06 [0.04]	0.05 [0.04]				
Household size in 1996 ^a	-0.33 [0.41]	-1.51 [0.32]***	0.34 [1.01]	1.32 [0.54]**				
Landholdings in 1996 ^a	0.57 [2.09]	-1.46 [2.72]	-6.69 [4.13]	-7.12 [4.28]				
Indicator for top 10% of landholdings ^a	0.00 [0.03]	-0.02 [0.03]	-0.10 [0.04]**	-0.12 [0.05]**				
Cattle in 1996 ^a	5.12 [4.14]	6.21 [4.98]	-10.07 [6.18]	-4.51 [3.51]				
Other livestock in 1996 ^a	0.96 [2.72]	2.07 [1.66]	-6.25 [2.60]**	-1.94 [2.38]				
Indicator for plow ownership in 1996 ^a	0.03 [0.07]	-0.01 [0.04]	-0.18 [0.08]**	-0.06 [0.04]				
Indicator for uneducated father	0.01 [0.02]	0.02 [0.02]	-0.05 [0.03]	-0.12 [0.04]***				
Father's years of schooling	-0.05 [0.28]	-0.06 [0.30]	-0.04 [0.44]	0.41 [0.43]				
Indicator for uneducated mother	-0.01 [0.03]	-0.01 [0.04]	0.09 [0.08]	0.05 [0.10]				
Mother's years of schooling	-0.10 [0.26]	-0.12 [0.34]	-0.44 [0.41]	-0.14 [0.65]				
Indicator for paternal death before 1996	0.02 [0.04]	0.03 [0.05]	0.04 [0.13]	0.05 [0.11]				
Indicator for maternal death before 1996	0.01 [0.02]	0.02 [0.02]	-0.07 [0.04]*	-0.03 [0.03]				
Indicator for orphaning before 1996	0.00 [0.02]	-0.02 [0.02]	-0.05 [0.02]**	-0.01 [0.02]				

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

^aMean differences include data from unfound and nonsurviving youth, and omit inverse attrition weights.

^bThe unconditional difference is a simple difference in means, while the conditional difference is the coefficient on abduction from a weighted least squares regression of the covariate on abduction and all other prewar covariates (weighted by inverse sampling and attrition probabilities).

Appendix II: Number of Services Accepted (Percent)



⁵⁸ Blattman and Annan, "The Consequences of Child Soldiering," 887.

Appendix III: Services Accepted by Type (Percent)

