Temporary Acceleration or Long-Term Change? Experimental Evidence on Female Empowerment and Intimate Partner Violence in Urban Liberia*

David Sungho Park

June 22, 2025

Abstract

This paper examines the long-term impacts of a multifaceted female empowerment program in urban Liberia, using a randomized controlled trial with two follow-up surveys (1 year and 3.5 years post-treatment). The program intervention includes intensive psychosocial therapy and vocational skills training throughout 12 months. One year after the program had ended, women in the treatment group experienced significant reductions in intimate partner violence, increased labor supply, and higher total expenditures. However, by 3.5 years post-treatment, these effects have dissipated, with the control group catching up. An additional qualitative survey suggests that broader labor market disruptions and economic shifts triggered by COVID-19 increased economic pressures, leading both treatment and control women to intensify their labor supply. Meanwhile, the treatment group struggled to sustain their initial gains, largely because the initially promised business capital grants were not delivered due to budget constraints.

JEL Codes: D13, J12, J16, O12, O15, I38

Keywords: intimate partner violence, female empowerment, norms, long-term effects, Liberia

*Park: KDI School of Public Policy and Management (park@kdis.ac.kr). I am extremely grateful to Jonathan Robinson, my advisor, for his tireless support and mentoring over the course of this project. I also sincerely appreciate the guidance and encouragement from Natalia Lazzati, Ajay Shenoy, and Alan Spearot. For helpful discussions and comments, I also thank Shilpa Aggarwal, Dahyeon Jeong, Naresh Kumar, and seminar participants at the KDI School, UCSC Micro Workshop, UC Berkeley Development Lunch, NEUDC 2021, PacDev 2022, MIEDC 2022, and World Bank DIME-KDI School Development Impact Conference 2023. For organizing the data collection, we thank Arja Dayal, Dackermue Dolo, Wilson Dorleleay, Walker Higgins, Andreas Holzinger, Teresa Martens, and Camelia Vasilov at IPA Liberia and Joseph Kamara. We are extremely grateful to all the enumerators who collected this data, though there are too many to list individually. We thank Christopher Johnson, Johnny Jones, Ambullai Perry, and Sayba Tamba at Liberian Red Cross for their collaboration. Funding for this project was provided by the UK Foreign, Commonwealth & Development Office, awarded through the J-PAL Crime and Violence Initiative, UC Institute on Global Conflict and Cooperation, IPA IPV Initiative, UCSC Economics Department, UCSC Blum Center, and the KDI School of Public Policy and Management. This study has been approved by the UC Santa Cruz Institutional Review Board (Protocol 3307) and the University of Liberia Institutional Review Board (Protocol 19-02-156). Trial is registered at AEA RCT Registry under AEARCTR-0004488. Any error is our own.

1 Introduction

Intimate partner violence (IPV) is a serious public health problem that affects hundreds of millions of women globally. Worldwide, more than one in four women has experienced some form of physical or sexual IPV in their lifetime (Sardinha et al. 2022). IPV has severe consequences for physical and mental health (Bacchus et al. 2018; Smith et al. 2017) and imposes substantial economic costs on survivors and society (Peterson et al. 2018).[1] Given its complex and multifaceted nature, addressing IPV requires interventions that simultaneously target its economic, social, and psychological drivers (Ranganathan et al. 2021).

There is increasing interest in multifaceted female empowerment programs that combine economic interventions (e.g., vocational training, cash transfers) with psychosocial support (e.g., therapy, gender norm interventions). These programs target both economic and social barriers that prevent women from gaining financial independence or exiting abusive relationships. The underlying theory is that financial empowerment increases women's bargaining power, while psychosocial support shifts gender norms and improves mental well-being (Heise 1998; Ranganathan et al. 2021). However, while a number of studies find short-term benefits (Bandiera et al. 2020; Blattman et al. 2016), less is known about whether these effects persist in the long run.

This paper addresses this question by evaluating the short- and long-term impacts of a multifaceted female empowerment program in Monrovia, Liberia. The intervention includes intensive psychosocial therapy and vocational skills training throughout a full year. The program is highly intensive, requiring 4–5 hours of participation per day for 12 months. We evaluate the effectiveness of the program and address relevant research questions.

The main research question is whether intensive psychosocial therapy and vocational skills training can reduce IPV and improve economic well-being. Understanding this is critical, as many female empowerment programs aim to address both economic vulnerability and social outcomes. Another key question is whether these effects persist over time. While short-term improvements may be encouraging, the long-term sustainability of such interven-

[1] According to the U.S. Centers for Disease Control and Prevention (CDC), about 35% of female IPV survivors experience some form of physical injury related to IPV (Smith et al. 2017). In our study sample, about 25% of physical/sexual IPV survivors report a physical injury as a direct effect of the male partner's action of IPV.

tions is crucial for informing policy decisions and designing programs that generate lasting change. Finally, if the program did have an impact or lack thereof, what mechanisms explain these? Identifying the underlying drivers is essential for understanding whether the observed patterns result from the intervention itself, external economic shifts, or other broader social dynamics. This is particularly relevant in light of major economic disruptions such as the COVID-19 pandemic, which may have reshaped labor market opportunities, household bargaining power, or any other factors related to the intervention and outcome of the study.

To answer these questions, we conducted a randomized controlled trial (RCT) in partnership with the Liberia National Red Cross Society (LNRCS). The study sample consists of low-income women living in informal settlements in Monrovia, Liberia, a setting where IPV prevalence is among the highest in the world. The study design includes a baseline survey (April 2019), a first endline survey (April 2021, 12 months after the program ended), and a second endline survey (December 2023 – January 2024, 3.5 years after program completion). This allows us to assess both short-term and long-term effects of the program. In addition to survey data, we conducted focus group discussions (FGDs) in early 2023 to explore program participants' experiences, adding qualitative insights into the mechanisms behind the program's effects.

The intervention program was designed to empower women both economically and psychosocially. It included intensive psychosocial therapy and vocational skills training throughout a full year. The psychosocial component focused on group counseling, cognitive behavioral therapy (CBT), and relationship management, aiming to improve participants' mental health and social relationships. The economic component provided vocational training in tailoring, baking, or cosmetology, as well as financial literacy and business management training. The program was intensive, requiring 4–5 hours of attendance per day over a 12-month period, totaling approximately 1,200 hours of participation—substantially more than most existing female empowerment programs.

Access to the program was randomized, and treatment was stratified by baseline characteristics, including whether having experienced physical or sexual IPV past year. After conducting a baseline survey and randomizing the sample into treatment and control, the treatment group was invited to the program. This paper includes one cohort of the sample

with about 400 women.[2]

The primary outcome of our study is the prevalence of IPV. To measure IPV, we administered the WHO's Violence Against Women module, which is a standardized questionnaire that has been extensively used and vetted by large-scale, multi-country surveys like the Demographic and Health Surveys (DHS). The module consists of 20 questions, each describing a specific IPV incidence (e.g., "Did your man ever slap you or throw something at you that could hurt you in the past 12 months?").[3] To construct our primary outcomes, responses to each yes/no question are indexed into a binary variable for each of the four categories: controlling behavior, emotional IPV, physical IPV, and sexual IPV.[4]

We find three main results. First, we find that the program initially led to large and significant reductions in IPV. At the first endline (12 months after program completion), emotional IPV decreased by 17 percentage points (from a control mean of 62 percent), and physical IPV by 19 percentage points (from a control mean of 45 percent). Sexual IPV also declined, but the effect was smaller and not statistically significant. However, at the second endline (3.5 years later), these differences had disappeared, with IPV levels in the control group catching up with the treatment group. This suggests that while the program may have accelerated IPV reduction, longer-term declines, especially in the control group, appear to have been driven by broader social or economic changes.

Second, we find significant short-term improvements in economic livelihoods, which also dissipate over time. One year after the program, total expenditures increased by about 36 percent, and labor supply in self-employment increased by 41 percent. However, by 3.5 years post-program, treatment-control differences in business ownership and labor supply disappeared, as the control group caught up in economic activities.

Third, qualitative evidence from FGDs highlights capital constraints as a major challenge for program participants. Many treatment women struggled to sustain their businesses primarily due to the absence of promised capital grants, which were not delivered because

[2]While the original study design was to pool three cohorts (each including 400 women), due to COVID disruptions and related funding problems, our implementing partner Red Cross has been able to enroll only one cohort.

[3]See Appendix B for full description of the IPV questionnaire.

[4]For example, the Emotional IPV Index equals to one if the respondent said yes to at least one question under the category.

of budget constraints faced by the Red Cross. Women also reported experiencing increased economic pressure to engage in income-generating activities due to COVID-19. While we did not directly survey control group women, it is plausible that similar COVID-19-induced economic distress pushed both treatment and control women into the workforce, contributing to a convergence in economic outcomes between the two groups.

This study contributes to several strands of literature. First, we add to the literature on IPV and economic empowerment programs (Hidrobo et al. 2016; Bandiera et al. 2020; Haushofer et al. 2019). A growing body of research suggests that increasing women's financial autonomy through cash transfers or employment programs can reduce IPV, often by shifting household bargaining power (Bobonis et al. 2013; Heath et al. 2020). However, the persistence of these effects over time remains an open question. While previous studies have found that unconditional cash transfers lead to short-term reductions in IPV (Haushofer et al. 2019; Roy et al. 2019), evidence on whether these reductions are sustained once the financial support ends is mixed (Buller et al. 2018). Our study contributes to this debate by showing that short-term IPV reductions may not persist unless economic gains are sustained. One of the key findings is that IPV reductions in our study fade over time, with broader declines in IPV in the control group. This contrasts with studies showing that gender-transformative interventions, such as Bandiera et al. (2020), can lead to sustained reductions in gender-based violence when paired with economic training. A possible explanation is that while our program included intensive psychosocial therapy, it did not provide direct financial capital, making it difficult for women to sustain long-term economic independence.

Second, this study contributes to the broader literature on vocational training and female labor market participation. Many training programs report modest or short-lived impacts on employment (Mckenzie and Puerto 2017; Blattman and Ralston 2015; Attanasio et al. 2017; Alfonsi et al. 2020), particularly in settings where labor markets are constrained or financial capital is limited. Our findings are in alignment that while the program increased business ownership and labor supply in the short run, these effects disappeared by the 3.5-year follow-up as the control group caught up. A key explanation for the lack of sustained impact is capital constraints. Studies have shown that vocational training combined with cash grants or asset transfers generates more durable employment effects than training alone

(Blattman et al. 2014). This is supported by our qualitative findings: many treatment women reported that their businesses struggled to survive without the capital grants that were initially promised but never delivered. The absence of capital support in our study suggests that training alone may not be enough to sustain labor market gains, particularly in informal economies where access to credit is limited.

Third, we contribute to the literature on economic resilience and gendered labor market shocks, particularly in the context of COVID-19. The COVID-19 pandemic has been shown to have disproportionate economic effects on women, often leading to reductions in labor force participation due to increased household responsibilities (Alon et al. 2020; Dang and Viet Nguyen 2021). However, our study presents a contrasting narrative; in our setting, COVID-19 appears to have pushed women, more so in the control group, into the workforce, reducing treatment-control differences in economic outcomes. Economic distress induced by the pandemic could have led to a rise in female labor force participation, as households sought additional income sources. For example, Afridi et al. (2023) show that women in lower-income households in India entered the workforce as a crisis-coping mechanism during COVID-19. This pattern is consistent with historical evidence from Goldin (1994) and Bredtmann et al. (2018), who describe the "added worker effect," in which women join the labor force when male household members face employment shocks. Our findings suggest that the pandemic may have acted as a labor market equalizer, forcing both treatment and control women to participate more in economic activities over time.

The paper proceeds as follows. Section 2 describes the study setting, experimental design, and data collection. Section 3 presents the main results, and Section 4 discusses mechanisms. Section 5 concludes.

2 Study Design and Data

2.1 Setting

This study was conducted in Monrovia, Liberia, where IPV is highly prevalent. According to the 2019-2020 Liberia Demographic and Health Survey (DHS), 35% of ever-partnered

women aged 15-49 reported experiencing physical or sexual IPV in the past 12 months. This is significantly higher than the corresponding regional averages for Asian (16%), Latin American (12%), and other African (26%) countries.[5] The study population targeted by the Red Cross reports even higher levels of IPV. In our baseline survey (April 2019), 51% of respondents reported physical or sexual IPV in the past year.

There are several possible explanations for the persistently high IPV prevalence in Liberia. One key factor is economic vulnerability, as Liberia remains one of the world's poorest countries.[6] Another likely factor is historical exposure to violence during Liberia's civil wars (1989–1996 and 1999–2003), which resulted in approximately 250,000 deaths (around 10% of the population at the time) and displaced over one million people. During the war, widespread sexual violence against civilians was used as a weapon of war to terrorize communities (Omanyondo 2005).[7] A WHO report estimates that two in three Liberian women experienced sexual violence during the war. Research suggests that such entrenched norms of violence can persist over time (Steenkamp 2005).[8]

2.2 Intervention

The core intervention of this paper is a multifaceted female empowerment program called the Women Training and Integration (WIN) Program, which has been administered by the Liberian Red Cross since 2009. The program targets vulnerable women in informal settlements of Monrovia. Table A2 lists the selection criteria for the WIN program. To qualify, an applicant must belong to a minimum of three groups. LNRCS has a thorough process of selecting beneficiaries. They review the application packets carefully, pay visits to the communities, and interview friends or neighbors to verify the reported information in the applications.

[5] Unweighted averages are calculated across countries with available DHS data.

[6] Liberia's GDP per capita is among the lowest globally (CIA World Factbook) with weak institutions, and many lack access to formal education and sustainable economic activities. For example, per one of the UN's Millennium Development Goals, the net primary education enrollment in Liberia was 37% in 2016, while the average of Sub-Saharan African countries was 78% (UNESCO Institute for Statistics).

[7] Also see Domingo et al. (2013), Jones et al. (2014), and Women (2013).

[8] Steenkamp (2005) suggests that a prolonged exposure to violence can give rise to a "culture of violence," which can be defined as "the system of norms, values, or attitudes which allow, make possible or even stimulate the use of violence to resolve any conflict or relation with another person" (Moser and Winton 2002).

The program's main objective is to improve the participants' livelihoods in multiple dimensions. Specifically, the program aims at the following: 1. To economically empower women so that they can self-sustain themselves and their families; 2. To psychologically empower women so that they can better protect themselves from abuse; 3. To help establish and maintain positive relations with their families and communities; 4. To improve knowledge about and thus access to health care and psychological services.

The WIN program is very intensive and requires a 12-month commitment from participants, who need to be present at the WIN program center for 4-5 hours a day (either in a morning or afternoon session) for 5 days a week during the 12-month period.

The program has two major components. The first is psychosocial therapy, which includes one-to-one and group counseling sessions, thematic group discussions, cognitive behavioral therapy sessions, stress management, family/couple therapy, mediation, and conflict resolution. These aim to heal war-related trauma, reduce traumatic stress disorder, mediate family conflict situations, support coping mechanisms, build self-confidence, and promote social interaction and peaceful coexistence within their familes as well as communities.

The second is the vocational skills and business training. LNRCS offers three options for vocational skills: baking/catering, hairdressing/cosmetology, and tailoring. A participant can choose only one skill, and for those who do not have any preference, LNRCS assigns them one based on capacity constraints. The business training module provides training on handling day-to-day aspects of business, such as client interactions, sales-purchase bookkeeping, and inventory management. At the end of the program, the beneficiaries also receive business startup kits and cash grants to assist setting up their own businesses. However, due to financial constraints and COVID-related disruptions, LNRCS was not able to provide the business capital grants and cash grants for the cohort included in this paper.

The WIN program also includes several other components. The program provides routine health care check-ups and HIV/AIDS awareness and testing sessions in LNRCS's in-house clinic. Child care services are also provided when the beneficiary is at the program center. The adult literacy module targets unschooled participants and trains them in basic arithmetic, and English reading and writing skills. The curriculum is aligned with the Ministry of Education's Alternative Learning Curriculum.

The implementation of the program faced significant challenges, primarily due to capital constraints and disruptions caused by the COVID-19 pandemic. As mentioned above, although participants were initially promised business startup kits and cash grants to help establish their own ventures, these financial resources were never delivered due to unexpected funding shortfalls and logistical difficulties stemming from the pandemic. Additionally, the planned expansion of the program to furthers cohort was indefinitely suspended as a result of COVID-19-related restrictions and financial constraints. Consequently, the study sample was limited to a single cohort.

2.3 Experimental Design

The sampling frame consists of women who voluntarily applied to the WIN program and were screened for eligibility by the Red Cross. That is, our sample can be characterized by women who are disadvantaged enough for LNRCS to consider them as eligible for the program but at the same time are willing to improve their lives and have high enough agency to apply to such a program.

Several months before program start for every cohort, LNRCS advertises the program in target communities to encourage eligible women to apply. In February 2019, LNRCS received about 600-700 applications in total, and after background checks and verification of the applicants' information, it shared with us a list of 450 eligible applicants divided into the "main" list of 400 and a "backup" list of 50 ranked in the order of eligibility status determined by LNRCS. In conducting the baseline survey, for those we couldn't reach after numerous attempts, we drew from the backup list in order. At the end, we enrolled 395 respondents for the study and conducted baseline in April 2019,[9] and randomly assigned 198 to treatment and 197 to control.

Treatment assignment was stratified by two background characteristics collected in the baseline survey: (a) whether having experienced physical or sexual IPV in the past 12 months, and (b) having been affected by the civil war or having family members who have.[10]

[9] We had completed full interviews with 400 women, but LNRCS later decided to drop anyone under 17 from the sample due to potential conflict with school enrollment.

[10] Instances include: relocation, becoming disabled/amputated, family members being killed/dead.

Every woman in the treatment group was invited to the program, but some couldn't be reached or couldn't participate in the program for other reasons, and 152 women ultimately enrolled. Moreover, due to an administrative error, 2 people from the control group were invited and joined the program.

2.4 Data Collection

We collected survey data at three key time points to evaluate both the short-term and long-term effects of the program. The questionnaires for the three surveys had a similar structure, where we measured our primary outcomes, including IPV, labor supply, income, expenditure, psychological well-being, social norms around IPV, transfers, and savings.

The baseline survey, conducted in April 2019 before program implementation, gathered information on participants' socioeconomic status, labor market activities, and experiences of IPV. We mainly use this data to show baseline characteristics of the study sample and to include baseline measurement control in the main analysis.

The first endline survey, conducted in April 2021, took place approximately 12 months after program completion (about 24 months since the program had started). This survey was designed to measure the short-term effects of the intervention, capturing changes in IPV prevalence, economic livelihoods, labor force participation, psychological well-being, and social norms.

To assess the long-term sustainability of program impacts, we conducted a second endline survey between December 2023 and January 2024, approximately 3.5 years after the program concluded. This follow-up aimed to examine whether the initial gains observed in IPV reduction and economic well-being persisted over time or whether treatment and control outcomes converged. The long-term survey also allowed us to investigate broader economic and social changes that may have shaped women's labor market participation and IPV experiences beyond the program's direct influence.

In addition to survey data, we conducted Focus Group Discussions (FGDs) in February 2023 with a randomly selected subset of 20 treatment group participants to gain qualitative insights into the mechanisms underlying the program's effects. These discussions explored key themes such as capital constraints, business sustainability, labor market disruptions and

economic pressures due to COVID-19, as well as social norms around IPV and women's economic activities outside of the household.

2.5 IPV Measurement and Safety Protocols

We used the WHO's Violence Against Women module[11] to measure IPV outcomes. The module consists of a group of questions each describing an IPV-related episode, providing the respondents with multiple opportunities to report violence. These binary questions are later grouped into: controlling behavior, emotional, physical or sexual IPV. For all questions, we restrict the recall period to the past 12 months prior to the survey date. Appendix C provides a more comprehensive description of the questionnaire.

We instituted WHO's ethics protocol for IPV research (WHO 2016). Study protocols have been reviewed and approved by the institutional review boards (IRBs) of the University of California, Santa Cruz, and the University of Liberia, which is the relevant entity in Liberia. Second, we used the WHO's Violence Against Women module, which has been employed in multiple contexts and become a "gold standard" for IPV measurement. Third, we hired only female enumerators and provided special training both to safely conduct the interviews and to be prepared emotionally for the work. Fourth, as for the full survey itself, the survey was conducted privately without presence of anyone else than the enumerator and the respondent. Particularly for the IPV module, enumerators were trained to change questions to non-sensitive subjects in the event the survey is interrupted or eavesdropped by a third party. Fifth, while at the beginning of the whole survey respondents went through an informed consent procedure including information for the IPV, we reiterated informed consent right before the IPV module. Sixth, we prepared an information sheet that lists the services available for women experiencing IPV, including contact information for organizations where they can get help. This list was provided to every respondent who went through the IPV questionnaire, regardless of whether they reported any IPV experience.

[11] https://www.who.int/gender/violence/who_multicountry_study/Annex3-Annex4.pdf.

2.6 Baseline Summary Statistics

Table 1 presents baseline summary statistics. The average age of women in the control group is about 29 years. They completed 7 years of education, on average, and about two-third of our sample have completed only primary school, while only 25% women have completed secondary school.

For the IPV questions, we restrict the sample to those who are currently partnered or have had an intimate partner 12 months prior to the survey, and the mean for this indicator at baseline was 92%.[12]

In Panel B we find that our sample had minimal access to her own income source or labor force participation. Only 11% report to have any job, and 25% are self-employed. The average income is a mere $8 dollars per month, with many zeros in the extensive margin. The mean for spouse's income is twice as large ($19). While our measures of income might not be exhaustive itself, the mean differences suggest that the women in our sample were not financially independent at baseline.

The baseline prevalence of IPV is very high. About 59% women reported having experienced emotional IPV, while the figure for the more severe form of IPV (physical or sexual) is slightly smaller (51%). This rate much higher than the national average reported in the Liberia DHS surveys, where the corresponding figures are 35% and 35% respectively in the 2019-2020 report. There could be two possible explanations. One is that our sample was selected by Red Cross in a way to be characterized as vulnerable, and one eligibility criterion was having experienced domestic abuse (Table A2). Another is that the different survey tool between our baseline and Liberia DHS 2019-2020. While our study uses the identical questionnaire to the DHS's Domestic Violence Module, at our baseline IPV was measured solely in audio computer-assisted self interviewing (ACASI), and DHS data are measured via traditional face-to-face interviewing (FTFI). In light of the findings in our sister project in rural Liberia and Malawi (Park et al. 2024), the reported differences could be due to differing measurement modality, either through enhanced confidentiality or increased measurement error. Yet, the control group's IPV rates at our first endline measured in FTFI only are still

[12] We later show in Table A3 that this indicator is slightly unbalanced between treatment and control at endline (statistically insignificant), and also report the Lee (2009) bounds results in **??**.

high–62% for emotional IPV, 45% for physical IPV, and 23% for sexual IPV.

Table 1: Baseline Summary Statistics and Randomization Check

	(1) Control Mean [SD]	(2) Treatment - Control
Panel A: Demographics		
Age	28.98	1.36*
	[7.29]	(0.73)
Years of education	7.27	0.45
	[4.11]	(0.40)
=1 if completed primary school	0.66	0.06
		(0.05)
=1 if completed secondary school	0.25	0.01
		(0.04)
=1 if currently partnered or had partner past year	0.92	-0.00
		(0.03)
Panel B: Self income and labor supply		
=1 if has own income source	0.34	0.06
		(0.05)
=1 if operated own business	0.25	0.04
		(0.04)
=1 if had any other temporary/permanent job	0.11	0.01
		(0.03)
Total income (USD)	8.38	3.36
	[27.57]	(3.09)
Panel C: Household economic well being		
Spouse's income (USD)	19.06	2.11
	[39.56]	(4.05)
Per capita expenditure (monthly, USD)	26.76	1.65
	[25.54]	(2.63)
Net value of physical assets (USD)	316.32	80.88
	[1,282.83]	(133.55)
Panel D: Intimate partner violence		
=1 if experienced the following (past 12 months):		
Controlling behavior	0.83	0.03
		(0.04)
Emotional IPV	0.59	0.00
		(0.05)
Physical IPV	0.50	-0.01
		(0.05)
Sexual IPV	0.16	0.03
		(0.04)
Physical or sexual IPV	0.51	-0.01
		(0.05)
Emotional, Physical or Sexual IPV	0.67	-0.02
		(0.05)

Note: Observations = 395.

2.7 Attrition Balance

In Table A3, we check balance for two compliance measures: columns (1) and (3) show whether we were able to reach the respondent and complete the follow-up survey itself, and columns (2) and (4) refer to whether she was eligible for the IPV section at endline. Given our IPV questions have a recall period of 12 months, we administered the IPV module only to those who are currently partnered or have been so in the past 12 months. Since the IPV analysis is indeed constrained to only those who went through the IPV questionnaire at all, it is necessary to check for any differential attrition in partner status. In addition, given that often in developed countries, IPV survivors are encouraged to leave the violent partner, this is also a meaningful outcome that would show how women in our study select in or out of a relationship at all.

Overall, at the first endline (about 2 years since baseline), we successfully tracked about 91% of baselineed respondents, and find no significant differences between treatment and control either in survey completion or IPV module eligibility (columns 1 and 2). By the second endline (about 4.5 years since baseline), attrition rates increased to 30% overall, reflecting the longer time gap since the baseline. However, we don't find statistically significant differences between treatment and control (column 3). Similarly, eligibility for the IPV module remains balanced across groups, with only a 1 percentage point difference (column 4), which is also statistically insignificant.

3 Results

3.1 Progression of Primary Outcomes over Time

Understanding the evolution of key outcomes over time provides important insights into the program's short- and long-term effects. Figure 1 and Figure 2 illustrate how intimate partner violence (IPV), labor supply, and economic well-being changed from baseline to the first endline (one year after program completion) and to the second endline (3.5 years after program completion). These results reveal that while the program led to significant short-term improvements in IPV and economic outcomes, the long-term findings indicate a conver-

gence between the treatment and control groups. This suggests that external factors—such as broader economic trends, capital constraints, and the potential labor market effects of COVID-19—may have played an important role in shaping these long-term outcomes.

Figure 1 presents the trends in IPV over time, focusing on four measures: emotional IPV, physical IPV, sexual IPV, and any (emotional, physical, or sexual) IPV. At baseline, the treatment and control groups exhibited nearly identical levels of IPV, as expected given the randomized design. One year after program completion, the treatment group experienced significant reductions in emotional, physical, and any IPV, while the control group showed little change. These short-term declines suggest that the program was effective in reducing IPV in its immediate aftermath. However, at the second endline, 3.5 years later, IPV rates between treatment and control groups had converged. Notably, the IPV rates in the treatment group remained stable between the first and second endlines, while the control group experienced a gradual reduction in IPV, closing the gap.

The trend for sexual IPV follows a similar pattern, but the treatment-control differences are not statistically significant. While sexual IPV appeared to decline in the treatment group relative to the control group, the confidence intervals indicate that the difference was not large enough to be statistically meaningful. This finding suggests that the program's effects on sexual IPV may have been weaker or more difficult to detect compared to its effects on emotional and physical IPV.

A caveat in interpreting these trends is the measurement difference between baseline and follow-up surveys. IPV at baseline was measured using Audio Computer-Assisted Self-Interviewing (ACASI), which allows for greater privacy and may reduce underreporting but might introduce additional measurement error (Park et al. 2024). In contrast, IPV at both endline surveys was measured through Face-to-Face Interviewing (FTFI). While this difference does not affect comparisons between the first and second endlines—since both used FTFI—it does mean that baseline-to-endline comparisons should be interpreted with caution. Despite these potential measurement differences, the key finding remains that the initial treatment effects on IPV dissipated over time, as IPV rates in the control group gradually declined to match those of the treatment group.

Figure 2 presents the evolution of key economic outcomes, including business ownership,

labor supply, income, and expenditures. These trends provide additional evidence that while the program initially improved economic conditions for treatment women, the control group gradually caught up over time.

Panel (a) shows trends in business ownership over time. At baseline, around 25–30% of women reported operating their own business. One year after program completion, this proportion increased to 45–50%; while it's higher in the treatment group, the difference from control is not significant. By the second endline, business ownership remained stable for the treatment group, but the control group slightly surpassed them, reaching approximately 55%. While the differences remain statistically insignificant, this trend suggests that over time, control women were able to expand their business activities, possibly through external factors such as new economic opportunities or alternative entrepreneurship programs.

Labor supply trends, shown in panel (b), further illustrate these long-term shifts. At the first endline, treatment women reported working approximately 65 hours per month, compared to around 50 hours for the control group. Although this difference was not statistically significant, it suggested a positive trend in labor market engagement for treatment women. However, by the second endline, the labor supply of treatment women declined to around 45 hours per month, while the control group experienced a slight increase to slighly below 60 hours per month. This shift resulted in a statistically significant difference favoring the control group, reversing the earlier trend.

Panel (c) shows monthly income progression over time. Across all groups, income increased steadily from an average of $8–12 USD per month at baseline to $20 USD at the first endline and around $30 USD at the second endline. However, at no point were the treatment-control differences statistically significant. This suggests that while both groups experienced economic improvements over time, the program itself did not generate sustained differences in earnings between treatment and control women.

Panel (d) displays trends in total expenditures, which serve as a broader indicator of economic well-being. At the first endline, treatment women exhibited a statistically significant increase in expenditures. However, by the second endline, these effects disappeared as control women caught up in expenditures, mirroring the pattern observed in business ownership and labor supply. This convergence underscores the idea that while the program

may have provided an initial economic boost, control women were able to close the gap over time through alternative means.

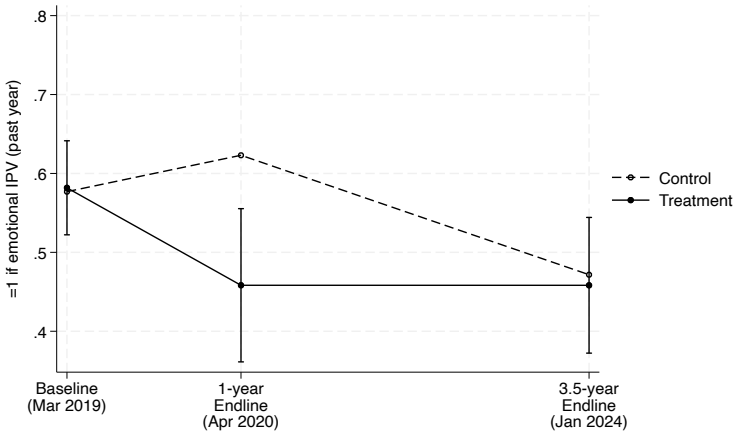
Taken together, these results indicate that the program had significant short-term impacts on both IPV and economic outcomes, but these effects did not persist in the long run. Instead, the control group caught up to the treatment group over time, leading to an eventual convergence in most outcomes. One possible explanation for this pattern is that control women may have found alternative pathways to improve their economic and social well-being. For instance, external economic shifts—such as the impact of COVID-19 on household income strategies—may have driven more control women into the workforce, as families sought additional income sources to cope with financial instability.

Another potential explanation is the lack of capital support for treatment women. Many participants in the treatment group reported in focus group discussions that they struggled to sustain their businesses due to the absence of promised capital grants. Without financial support, even the vocational training and business skills acquired through the program may have been insufficient to sustain long-term improvements.

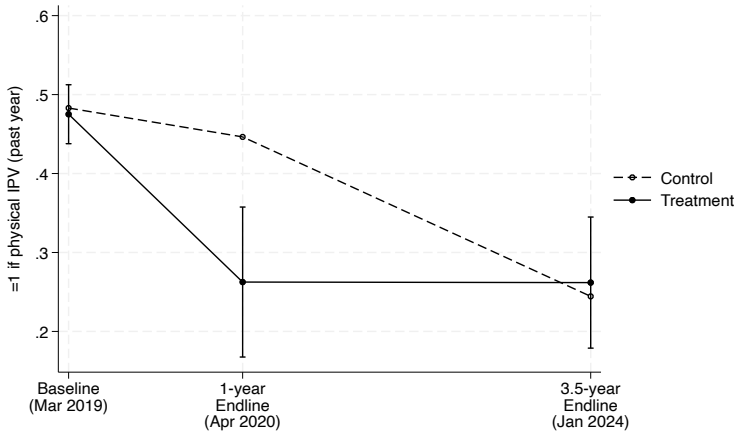
In the next sections, we further explore these mechanisms by analyzing labor market shocks, household economic dynamics, and potential alternative explanations for the observed treatment-control convergence.

Figure 1: Intimate Partner Violence (IPV) Indices across Time

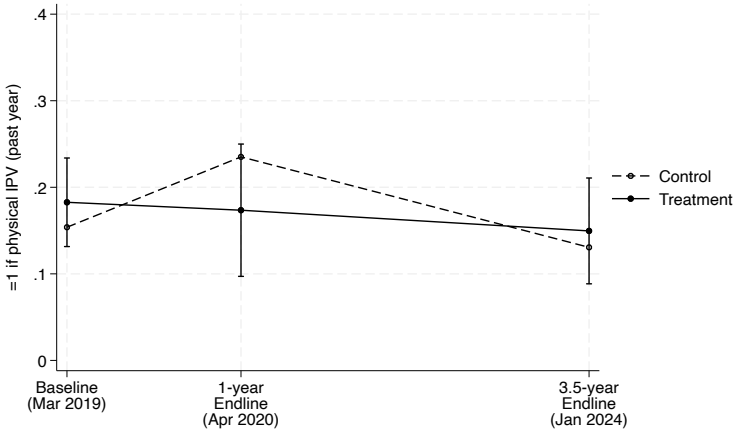
(a) Emotional IPV



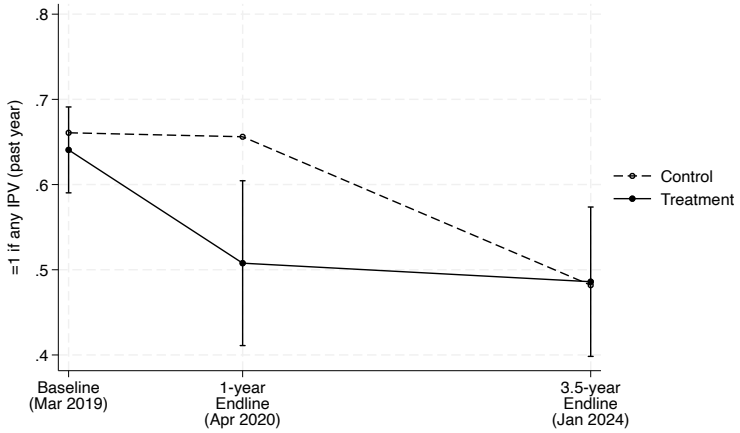
(b) Physical IPV



(c) Sexual IPV



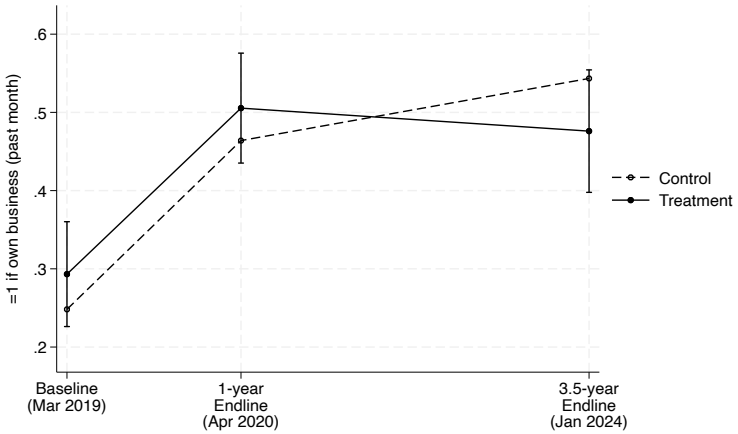
(d) Any IPV



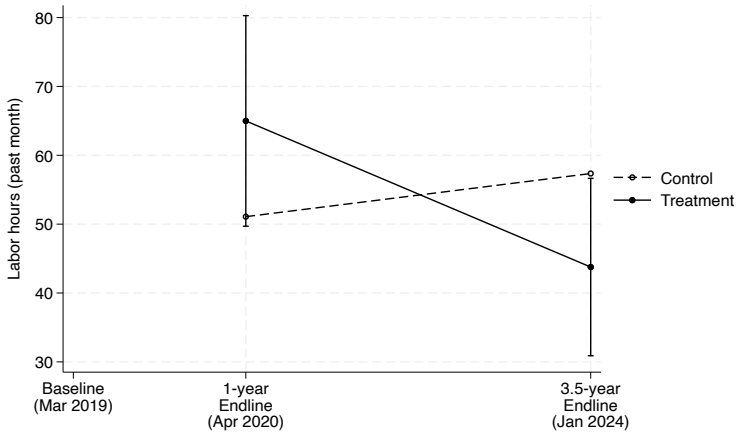
Note: Regressions include strata fixed effects. Standard errors clustered at individual level. Treatment intervention was during April 2019 to March 2020. For the first Endline, the random subsample for whom IPV was measured in self-interviewing is excluded.

Figure 2: Labor Supply and Economic Welfare across Time

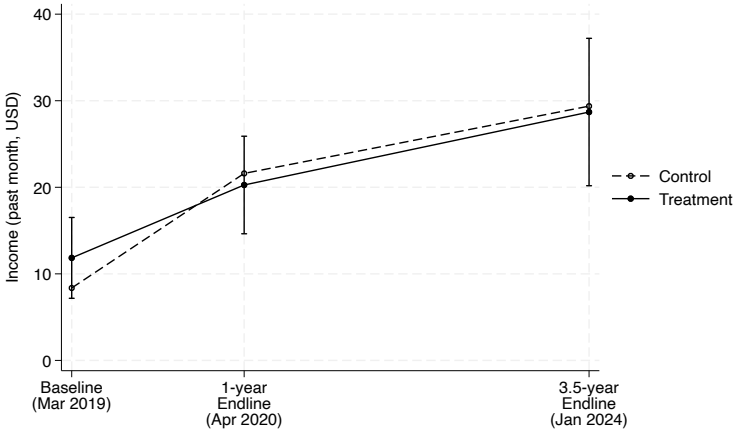
(a) Operating own business



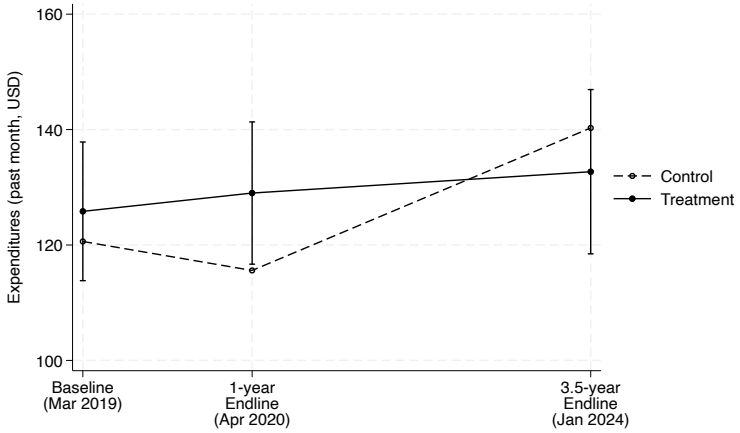
(b) Labor hours



(c) Income



(d) Expenditures



Note: Regressions include strata fixed effects. Standard errors clustered at individual level. Treatment intervention was during April 2019 to March 2020.

3.2 Program Effects on IPV

To estimate the program's impact on IPV, we use the following regression specification:

$$Y_i = \beta Program_i + \gamma Y_{0i} + \delta phone_i + \phi_s + \varepsilon_i, \tag{1}$$

where Y_i is the outcome of interest for individual i, $Program_i$ treatment assignment, Y_{0i} baseline measurement of the outcome, $phone_i$ is a dummy for whether the survey was conducted over the phone,[13] and ϕ_s strata fixed effects. The coefficient of interest is β, which is the intention-to-treat (ITT) estimates for the effects of the female empowerment program. For the first endline observations, we exclude the random subsample for whom IPV was measured in self-interviewing modules.

Table 2 presents the short-term (April 2020, 1 year post-program) and long-term (Dec 2023–Jan 2024, 3.5 years post-program) effects of the program on IPV outcomes.

In Panel A, one year after the program ended, women in the treatment group experienced substantial declines in IPV relative to the control group. Emotional IPV significantly decreased by 17 percentage points, and physical IPV by 19 percentage points. These effects represent large reductions from the control group's mean IPV prevalence, 62 percent and 45 percent, respectively. The estimated impact on sexual IPV was smaller and not statistically significant. The program also led to significant reductions in overall IPV prevalence, defined as experiencing any form of emotional, physical, or sexual violence, by 14 percentage points from a control mean of 66 percent.

The effect sizes we find are very large in comparison to the previous literature. Lighter-touch though similar interventions have shown to have null to modest effects on IPV (Green et al. 2015; Blattman et al. 2016; Bandiera et al. 2020). The cash transfer literature finds that physical violence reduces by 0-11 percentage points during the period the female receives the transfers (Buller et al. 2018).

[13] In cases where we couldn't reach the respondent for an in-person survey after multiple visits, we attempted to call them and conduct the survey over the phone.

These findings suggest that the program was successful in reducing IPV in the short term, particularly emotional and physical forms of violence. The results align with theories suggesting that economic and psychosocial empowerment can shift intra-household bargaining power (Bobonis et al. 2013; Heath et al. 2020), leading to lower IPV. The psychosocial therapy component, which emphasized cognitive behavioral therapy (CBT) and peer support networks, may have further strengthened women's ability to challenge violence and seek alternatives (Bandiera et al. 2020).

In Panel B though, by the 3.5-year follow-up, all treatment-control differences had disappeared. None of the estimated treatment effects at the second endline are statistically significant. Interestingly, the IPV prevalence in the treatment group remained stable between the first and second endline surveys, suggesting that the reductions achieved immediately after the program did not reverse. Instead, the control group caught up to the treatment group's lower IPV levels over time. For example, the control mean for emotional IPV decreased from 62 percent at the first endline to 46 percent at the second endline, and for physical IPV, the control mean dropped from 45 percent to 23 percent.

This convergence in IPV rates suggests that broader external forces, rather than the program itself, were responsible for the long-term declines in IPV. One potential explanation is that the economic disruptions of COVID-19 played a role in reshaping gender dynamics. As economic distress increased, more control group women entered the labor force out of necessity, strengthening their economic independence and bargaining power in a way that paralleled the short-term benefits seen among treatment women. This is consistent with historical evidence of the "added worker effect," where economic shocks increase female labor force participation (Goldin 1994; Bredtmann et al. 2018).

Table 2: Program Effects on IPV Indices

	(1) Controlling Behavior	(2) Emotional Violence	(3) Physical Violence	(4) Sexual Violence	(5) Any IPV
Panel A. 1st Follow-up (1 year post program end)					
WIN treatment	-0.02	-0.17**	-0.19***	-0.07	-0.14**
	(0.06)	(0.07)	(0.07)	(0.06)	(0.07)
Control mean	0.80	0.62	0.45	0.24	0.66
Observations	169	169	169	169	169
Panel B. 2nd Follow-up (3.5 years post program end)					
WIN treatment	-0.06	-0.01	0.01	0.01	0.01
	(0.05)	(0.06)	(0.06)	(0.04)	(0.06)
Control mean	0.80	0.46	0.23	0.12	0.47
Observations	245	245	245	245	245

Note: Recall period is past 12 months prior to the survey. Regressions include baseline measurement of outcome, strata fixed effects, and control for whether the survey was conducted over the phone instead of face-to-face. Heteroskedascity-robust standard errors in parentheses.

Qualitative Evidence and Mechanisms behind IPV Trends

Focus group discussions (FGDs) conducted in early 2023 provide additional insights into why the IPV reductions observed in the treatment group did not translate into long-term treatment effects. A key theme emerging from these discussions was the lack of financial capital to sustain economic independence. Many women in the treatment group started small businesses immediately after program completion, but these businesses struggled to survive due to capital constraints and lack of access to credit.

The capital constraints were particularly acute because the business startup grants originally promised as part of the program were not delivered, due to COVID-19 disruptions and Red Cross funding shortfalls. Without financial support, many women were unable to sustain the income gains that initially contributed to their improved bargaining power, possibly weakening their ability to resist IPV over time.

Moreover, while the program's psychosocial therapy component initially helped women build self-confidence and social networks, many of these support systems weakened over time as participants stopped attending regular group meetings. Several FGD participants described how economic hardship and social pressure led them back into situations of economic dependence, potentially making them more vulnerable to IPV again.

3.3 Social Norms around IPV

One potential mechanism through which the program could have affected IPV outcomes is by shifting social norms related to the acceptability of IPV. In the public health literature, normative beliefs about IPV have been identified as a key target for behavioral interventions (Ranganathan et al. 2021). According to the social ecology framework (Heise 1998), IPV is embedded within broader community norms, meaning that even if an individual woman rejects IPV, prevailing attitudes within her community can still influence IPV prevalence.

To examine changes in social norms, we measured attitudes toward IPV acceptability using a series of survey questions. Respondents were asked whether they believed a husband is justified in hitting or beating his wife under seven different circumstances (e.g., if she argues with him, if she refuses sex, if she neglects the children). The same set of questions was also asked in reference to community norms—i.e., what respondents believed most people in their community think. We constructed summary indices of IPV acceptability following the approach of Anderson (2008).

Table 3 shows that the program significantly reduced IPV justification norms in the short term. One year after the program, women in the treatment group were 5 percentage points less likely to justify IPV in cases where the wife argues with the husband, and 7 percentage points less likely to justify IPV when the wife neglects the children. When aggregated into a summary index, justifiability of physical or sexual IPV decreases by 0.20 standard deviations, suggesting a meaningful shift in personal attitudes toward IPV. These reductions are consistent with the program's psychosocial therapy component, which explicitly engaged

women in discussions about IPV, self-worth, and healthy relationships.

It is important to note that the control group already had low acceptance of IPV in most cases. Very few women in the control group found IPV justified in situations such as burning food or refusing sex (2–3%). The highest levels of acceptance were observed for neglecting children (12%), arguing with the husband (8%), and going out without informing the husband (7%). The program closed this gap, making even these cases less acceptable among treatment women.

At the 3.5-year follow-up, however, these effects disappear, and in some cases, the treatment group reports slightly higher acceptance of IPV than the control group (though not significantly so). In Panel B of Table 3, there are no statistically significant treatment-control differences in justifiability of IPV at the 2nd endline, with the exception of "burning food" and "financial pressure," where treatment women are marginally more likely to report IPV as justifiable. These findings suggest that initial shifts in IPV norms may not have been deeply entrenched, or that broader community norms ultimately shaped women's attitudes back toward baseline over time.

The responses to community-level IPV norms—where women were asked whether they believed others in their community viewed IPV as acceptable—paint a somewhat different picture. As shown in Table A4, reported community acceptance of IPV was significantly higher than personal acceptance. In the control group, 30% of women believed that most people in their community justified IPV in cases of arguing with the husband or going out without permission, compared to only 7–8% when asked about their own beliefs.

One potential explanation is social desirability bias—women may be reluctant to admit their own endorsement of IPV but feel more comfortable reporting what they believe others think. Another possibility is that respondents accurately perceive that IPV is more widely tolerated in their communities than they personally believe it should be.

At the 1-year follow-up, the program significantly reduced perceived community-level IPV acceptance, with a 0.21 standard deviation reduction in the community norms index. This

effect is driven by reductions in perceived norms for neglecting children (11%p reduction), refusing sex (-7%p), and burning food (-9%p). These findings suggest that the program may have had some spillover effects on how women perceive societal attitudes toward IPV, potentially reinforcing their own beliefs that IPV is unacceptable.

Interestingly, while individual attitudes toward IPV regressed to baseline levels by the 3.5-year follow-up, the perceived acceptability of IPV in the community remains lower in the treatment group. The 0.24 standard deviation reduction in perceived community norms persists, suggesting that even if individual-level beliefs reverted to baseline, treatment women still perceived a shift in broader societal norms.

These results align with qualitative findings from the FGDs, where several women mentioned that they had become more vocal in opposing IPV within their communities. Some women reported intervening in cases of IPV or challenging justifications for violence. Others suggested that while their own views had changed, they did not believe others in their community had changed as much, reflecting the persistence of deeply rooted cultural norms.

Table 3: Program Effects on Perceived Justifiability of Physical/Sexual IPV

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	=1 if husband is justified to beat/hit wife when she:						=1 if husband is justified to force sex	Z-score
	Argues w/ husband	Goes out w/o telling	Doesn't care children	Burns food	Financial pressure	Refuses sex		
Panel A. 1st Follow-up (1 year post program end)								
WIN treatment	-0.05*	-0.03	-0.07**	-0.01	-0.02	-0.01	0.01	-0.20**
	(0.03)	(0.02)	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)	(0.09)
Control mean	0.08	0.07	0.12	0.03	0.03	0.02	0.02	-0.03
Observations	359	359	359	359	359	359	359	359
Panel B. 2nd Follow-up (3.5 years post program end)								
WIN treatment	0.04	0.02	-0.01	0.05*	0.06**	0.02	0.02	0.04
	(0.04)	(0.04)	(0.04)	(0.03)	(0.03)	(0.03)	(0.02)	(0.13)
Control mean	0.09	0.09	0.12	0.04	0.04	0.04	0.04	0.02
Observations	283	283	283	283	283	283	283	283

Note: Regressions include strata fixed effects and control for whether the survey was conducted over the phone instead of face-to-face. Heteroskedascity-robust standard errors in parentheses.

3.4 Business Ownership, Labor Supply, and Income

This section examines the program's impact on key economic indicators. We run the same regression specification as Equation 1, and the results are presented in Table 4 and Table 5.

One year after program completion (Panels A), women in the treatment group experienced improvements in self-employment and expenditures. Participation in self-employment increased by two percentage points, while hours spent on self-employment rose by approximately 16 hours per month, although these effects were not statistically significant. Importantly, the increase in total labor supply was driven entirely by self-employment, with no significant changes in casual labor or other income-generating activities.

Total labor hours worked per month increased by 13 hours in the treatment group, from a control mean of 51 hours per month. This effect was largely driven by the business training component of the program, which encouraged self-employment as a primary avenue for economic empowerment. These results align with previous research showing that vocational training programs can increase self-employment (Blattman and Ralston 2015; Mckenzie and Puerto 2017).

Household expenditures increased significantly, rising by \$8.90 (or 36%) relative to a control mean of \$24.81 per month. However, there was no significant effect on reported income, indicating that the observed expenditure increases may have been financed through other means, or other form of earnings that were not fully captured in survey responses. These short-term improvements are consistent with the program's design in that the combination of vocational training and psychosocial therapy may have helped women establish small businesses and increase their household consumption. However, the long-term sustainability of these gains remains uncertain.

In Panels B, at 3.5-year follow-up, the economic advantages observed in the treatment group had entirely dissipated, with several indicators showing a convergence between treatment and control groups. In some cases, the control group even surpassed the treatment group, suggesting that broader labor market trends played a role in shaping long-term tra-

jectories.

Self-employment participation and labor supply fell among treatment women. While self-employment rates in the treatment group had increased in the short term, by the second endline, treatment women were 8 percentage points less likely to be self-employed than the control group, though this effect was not statistically significant. Similarly, total labor hours worked declined by 15 hours per month among the treatment group, compared to a control mean of 57 hours per month. This is a striking reversal of the short-term trends, where treatment women had higher labor supply than the control group.

The control group's economic activity increased over time, which may explain why treatment effects faded. By the second endline, business ownership had equalized across groups, with approximately 50 percent of women in both treatment and control engaged in self-employment. This suggests that women in the control group eventually entered self-employment on their own, potentially as a response to economic necessity following the COVID-19 pandemic.

Additionally, expenditure gains observed at the first endline fully disappeared, with treatment women reporting $7.70 lower monthly expenditures than the control group. While not as large as the initial expenditure increase at Endline 1, this negative effect is statistically significant, further reinforcing the pattern of treatment-control convergence over time.

Income levels increased modestly for both treatment and control groups over time, but there were no significant treatment-control differences at any point. At Endline 2, mean monthly income was approximately $30 in both groups, up from $22 at Endline 1. This increase reflects overall economic improvements, but it does not appear that the program provided a long-term advantage in earnings.

Table 4: Program Effects on Labor Supply

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Self employment		Casual labor		Other income		Total	
	=1 if any	hours	=1 if any	hours	=1 if any	hours	=1 if any	hours
Panel A. 1st Follow-up (1 year post program end)								
WIN treatment	0.02	15.70	-0.03	1.36	-0.05	-3.65	-0.05	13.18
	(0.05)	(9.71)	(0.03)	(1.69)	(0.03)	(4.69)	(0.05)	(10.22)
Control mean	0.46	38.38	0.08	1.34	0.12	11.36	0.63	51.08
Observations	359	359	359	359	359	359	359	359
Panel B. 2nd Follow-up (3.5 years post program end)								
WIN treatment	-0.08	-7.52	0.04	0.87	-0.05	-7.92*	-0.05	-15.28
	(0.06)	(9.80)	(0.04)	(0.80)	(0.04)	(4.21)	(0.06)	(10.27)
Control mean	0.54	44.66	0.09	1.20	0.14	11.55	0.67	57.40
Observations	283	283	282	283	282	283	283	283

Note: Regressions include baseline measurement of outcome, strata fixed effects, and control for whether the survey was conducted over the phone instead of face-to-face. Heteroskedascity-robust standard errors in parentheses.

Table 5: Program Effects on Labor Supply

	(1) Expenditures	(2) Income	(3) Net Wealth
Panel A. 1st Follow-up (1 year post program end)			
WIN treatment	8.90***	-2.80	58.43
	(2.69)	(4.07)	(100.41)
Control mean	24.81	21.71	453.37
Observations	359	359	359
Panel B. 2nd Follow-up (3.5 years post program end)			
WIN treatment	-7.70**	-0.54	165.91
	(3.83)	(6.11)	(165.02)
Control mean	36.37	29.65	580.75
Observations	283	283	283

Note: Regressions include baseline measurement of outcome, strata fixed effects, and control for whether the survey was conducted over the phone instead of face-to-face. Heteroskedascity-robust standard errors in parentheses.

The patterns observed in both labor supply and expenditures suggest that initial gains in economic well-being were not sustained. One likely explanation is capital constraints: although participants were trained in vocational skills and business management, the promised startup capital grants were never delivered due to COVID-19 disruptions and funding shortfalls. FGDs conducted in 2023 confirmed that many treatment women struggled to keep their businesses running without external financial support.

These results align with prior research indicating that vocational training alone is insufficient to generate sustained labor market gains without access to credit or startup capital (Blattman et al. 2014; Attanasio et al. 2017). Studies that have combined vocational training with cash grants or asset transfers have found more durable employment effects (Bandiera et al. 2020; Mckenzie and Puerto 2017). The absence of capital support in our study suggests that the training was not enough to maintain long-term business sustainability, particularly in an informal labor market with limited financial access.

Additionally, broader labor market shifts due to COVID-19 may have influenced these patterns. The economic distress caused by the pandemic may have pushed control group women into self-employment, as households sought additional income sources. This aligns with historical evidence on countercyclical female labor force participation during economic downturns (Goldin 1994; Bredtmann et al. 2018). If control women entered the labor force out of necessity, this could explain why treatment-control differences disappeared over time.

Taken together, these findings highlight the importance of financial support mechanisms for ensuring long-term economic empowerment. While the program initially helped women transition into self-employment and improve their household welfare, without access to startup capital, these gains were not sustainable. The next section explores potential mechanisms underlying these results, including capital constraints, COVID-19 labor market shifts, and broader economic resilience factors.

4 Discussion of Mechanisms

The patterns observed in both IPV and economic outcomes suggest that while the program led to initial improvements in women's economic empowerment and safety, these effects did not persist in the long run. To understand why, this section explores three key mechanisms that likely contributed to the convergence in treatment and control outcomes: (i) capital constraints that limited the sustainability of self-employment, (ii) labor market disruptions and shifts caused by COVID-19, and (iii) broader economic trends affecting women's labor force participation in Liberia.

4.1 Capital Constraints and Business Sustainability

One of the primary challenges to sustaining economic gains was the lack of promised capital grants and startup kits, which were initially intended to help women establish businesses after completing vocational training. Due to budgetary constraints and the disruptions caused by

the COVID-19 pandemic, the Red Cross was unable to provide these financial resources to program participants.

The focus group discussions (FGDs) conducted in 2023 provide qualitative evidence of capital constraints as a major barrier to long-term self-employment. Many treatment women reported that while they successfully launched small businesses after the program, they struggled to expand or maintain them due to lack of capital, limited access to credit, and external economic shocks. Some women described how initial enthusiasm for self-employment faded as they depleted their limited startup funds, forcing them to reduce operations or exit self-employment altogether.

This aligns with previous research showing that vocational training alone is often insufficient for sustained economic empowerment, particularly in low-income settings where access to finance is limited (Blattman et al. 2014; Mckenzie and Puerto 2017). Studies have found that combining business training with cash grants or asset transfers generates more durable employment effects than training alone (Bandiera et al. 2017; Attanasio et al. 2017). The fact that the control group caught up in business ownership and surpassed the treatment group in labor supply suggests that initial economic gains from training were not self-sustaining in the absence of financial support.

4.2 COVID-19 and Labor Market Dynamics

The COVID-19 pandemic, which occurred between the first and second endlines, likely played a significant role in reshaping labor market outcomes for both treatment and control groups. While existing literature suggests that economic crises tend to reduce female labor force participation due to increased household responsibilities (Alon et al. 2020; Dang and Viet Nguyen 2021), our findings suggest a different dynamic in this context. Instead of withdrawing from the workforce, women in the control group increased their labor supply, narrowing the treatment-control gap in employment outcomes.

One possible explanation is that COVID-19-induced economic distress may have pushed

more women into the labor force out of financial necessity. Studies have documented similar trends in other developing countries, where households facing economic shocks increase female workforce participation as a coping mechanism (Afridi et al. 2023). This aligns with historical evidence on the "added worker effect" (Goldin 1994; Bredtmann et al. 2018), which suggests that women often enter the labor market in response to negative income shocks affecting their households.

The pandemic may have eroded treatment effects by equalizing economic pressures between treatment and control groups. In the short term, women in the treatment group may have had an initial advantage due to their vocational training, but over time, control group women may have been forced into economic activity at similar or even higher rates than treatment women. The fact that treatment women reported a decline in labor hours by the second endline, while control women slightly increased their labor supply, suggests that external factors—not just program participation—shaped long-term employment trajectories.

4.3 Broader Economic Trends in Women's Employment

Beyond COVID-19, other labor market trends may have influenced the observed treatment-control convergence. While there is limited data on women's labor force participation trends in Liberia over this period, preliminary evidence suggests that there may have been broader improvements in economic opportunities for women. If labor markets became more accessible over time, this could explain why control women caught up in business ownership and labor supply even without program participation.

Additionally, anecdotal reports from program implementers suggest that a World Bank-funded female entrepreneurship program was introduced in the study area between the two endlines, potentially providing alternative support to control women while systematically excluding treatment women (who had already benefited from a similar program). While we lack direct documentation of this program's impact, its presence may have contributed to control women's economic catch-up, reducing the program's long-term effects.

Overall, these findings suggest that the initial economic and IPV improvements observed in the treatment group were not entirely self-sustaining. Capital constraints limited long-term business survival, while COVID-19 pushed control group women into economic activity, reducing treatment-control differences over time. The broader economic environment—including potential exposure to other entrepreneurship programs—may have further contributed to this convergence.

Taken together, these mechanisms highlight the importance of long-term financial support and access to capital for sustaining the benefits of economic empowerment programs. While vocational training and psychosocial support provided short-term gains, without structural economic support, many women struggled to maintain their progress in the long run. The next section explores the psychological and social outcomes of the program, providing further insights into its long-term impacts.

5 Conclusion

This paper presents evidence from a randomized controlled trial evaluating the short- and long-term impacts of an intensive female empowerment program in Liberia. The intervention combined psychosocial therapy and vocational skills training, aiming to reduce intimate partner violence (IPV) and improve economic well-being. Our findings suggest that while the program led to substantial short-term reductions in IPV and economic improvements, these effects did not persist over time. By 3.5 years post-program, IPV rates between treatment and control groups had converged, and the initial economic gains in labor supply and expenditures had dissipated.

The short-term results demonstrate that the program successfully reduced emotional and physical IPV, with treatment women experiencing significantly lower rates of violence one year after program completion. At the same time, economic well-being improved, with increased self-employment, labor supply, and household expenditures. These findings are

consistent with the idea that economic empowerment can enhance women's bargaining power in relationships, while psychosocial therapy may strengthen their ability to resist violence.

However, long-term effects tell a different story. By 3.5 years after the program, IPV rates in the treatment group remained low, but the control group had caught up, suggesting that broader social or economic factors contributed to the longer-term decline in IPV. Similarly, while the program initially improved women's labor force participation and expenditures, treatment effects disappeared as control women increased their economic activity over time.

Several mechanisms likely explain this treatment-control convergence. First, capital constraints prevented many treatment women from sustaining their businesses, limiting the long-term economic impact of the program. The absence of promised capital grants due to funding shortages further exacerbated this challenge. Second, COVID-19-related economic shocks appear to have accelerated control group women's entry into the workforce, reducing the program's relative effects. Finally, broader labor market trends and potential exposure to other entrepreneurship programs may have contributed to economic catch-up among control women.

To the existing literature, these findings first highlight that while economic and psychosocial interventions can reduce IPV in the short term, these effects may fade unless sustained economic independence is achieved. Second, they align with evidence from vocational training studies, which often find short-lived employment effects unless training is complemented by capital support. Third, they contribute to research on gender and labor market shocks, demonstrating how external economic shifts, such as those induced by COVID-19, can shape women's workforce participation and economic resilience.

From a policy perspective, these results underscore the importance of sustained financial support mechanisms for economic empowerment programs. Training alone may not be sufficient; access to capital and ongoing support are crucial to ensuring that initial gains translate into long-term improvements. Additionally, interventions targeting IPV should consider longer-term engagement strategies, as one-time interventions may not permanently

shift social norms.

Future research should explore ways to sustain the economic benefits of female empowerment programs. This could include integrating capital grants or microfinance components, evaluating programs that involve male partners or broader community engagement, and studying the long-term interactions between economic shocks and gender-based violence. Understanding these dynamics will be essential for designing programs that deliver lasting economic and social empowerment for women in high-IPV settings.

References

Afridi, Farzana, Amrita Dhillon, and Sanchari Roy (3, 2023). "The Gendered Crisis: Livelihoods and Well-Being in India During COVID-19". *Feminist Economics* 29 (3): 40–74.

Alfonsi, Livia, Oriana Bandiera, Vittorio Bassi, Robin Burgess, Imran Rasul, Munshi Sulaiman, and Anna Vitali (2020). "Tackling Youth Unemployment: Evidence From a Labor Market Experiment in Uganda". *Econometrica* 88 (6): 2369–2414.

Alon, Titan, Matthias Doepke, Jane Olmstead-Rumsey, and Michèle Tertilt (2020). "The Impact of COVID-19 on Gender Equality".

Anderson, Michael L. (1, 2008). "Multiple Inference and Gender Differences in the Effects of Early Intervention: A Reevaluation of the Abecedarian, Perry Preschool, and Early Training Projects". *Journal of the American Statistical Association* 103 (484): 1481–1495.

Attanasio, Orazio, Arlen Guarín, Carlos Medina, and Costas Meghir (2017). "Vocational Training for Disadvantaged Youth in Colombia: A Long-Term Follow-Up". *American Economic Journal: Applied Economics* 9 (2): 131–143.

Bacchus, Loraine J., Meghna Ranganathan, Charlotte Watts, and Karen Devries (1, 2018). "Recent intimate partner violence against women and health: a systematic review and meta-analysis of cohort studies". *BMJ Open* 8 (7): e019995.

Bandiera, Oriana, Niklas Buehren, Robin Burgess, Markus Goldstein, Selim Gulesci, Imran Rasul, and Munshi Sulaiman (2020). "Women's Empowerment in Action: Evidence from a Randomized Control Trial in Africa". *American Economic Journal: Applied Economics* 12 (1): 210–259.

Bandiera, Oriana, Robin Burgess, Narayan Das, Selim Gulesci, Imran Rasul, and Munshi Sulaiman (1, 2017). "Labor Markets and Poverty in Village Economies". *The Quarterly Journal of Economics* 132 (2): 811–870.

Blattman, Christopher, Nathan Fiala, and Sebastian Martinez (1, 2014). "Generating Skilled Self-Employment in Developing Countries: Experimental Evidence from Uganda". *The Quarterly Journal of Economics* 129 (2): 697–752.

Blattman, Christopher, Eric P. Green, Julian Jamison, M. Christian Lehmann, and Jeannie Annan (2016). "The Returns to Microenterprise Support among the Ultrapoor: A Field Experiment in Postwar Uganda". *American Economic Journal: Applied Economics* 8 (2): 35–64.

Blattman, Christopher and Laura Ralston (19, 2015). "Generating Employment in Poor and Fragile States: Evidence from Labor Market and Entrepreneurship Programs". Rochester, NY.

Bobonis, Gustavo J., Melissa Gonzalez-Brenes, and Roberto Castro (2013). "Public Transfers and Domestic Violence: The Roles of Private Information and Spousal Control". *American Economic Journal: Economic Policy* 5 (1): 179–205.

Bredtmann, Julia, Sebastian Otten, and Christian Rulff (2018). "Husband's Unemployment and Wife's Labor Supply: The Added Worker Effect Across Europe". *ILR Review* 71 (5): 1201–1231.

Buller, Ana Maria, Amber Peterman, Meghna Ranganathan, Alexandra Bleile, Melissa Hidrobo, and Lori Heise (1, 2018). "A Mixed-Method Review of Cash Transfers and Intimate Partner Violence in Low- and Middle-Income Countries". *The World Bank Research Observer* 33 (2): 218–258.

Dang, Hai-Anh H. and Cuong Viet Nguyen (1, 2021). "Gender inequality during the COVID-19 pandemic: Income, expenditure, savings, and job loss". *World Development* 140: 105296.

Domingo, Pilar, Rebecca Holmes, Alina Rocha Menocal, and Nicola Jones (2013). "Assessment of the evidence of links between gender equality, peacebuilding and statebuilding". ODI (Overseas Development Institute) Report.

Goldin, Claudia (1994). "The U-Shaped Female Labor Force Function in Economic Development and Economic History".

Green, Eric P., Christopher Blattman, Julian Jamison, and Jeannie Annan (1, 2015). "Women's entrepreneurship and intimate partner violence: A cluster randomized trial of microenterprise assistance and partner participation in post-conflict Uganda (SSM-D-14-01580R1)". *Social Science & Medicine* 133: 177–188.

Haushofer, Johannes, Charlotte Ringdal, Jeremy P Shapiro, and Xiao Yu Wang (2019). "Income Changes and Intimate Partner Violence: Evidence from Unconditional Cash Transfers in Kenya". Working Paper 25627. National Bureau of Economic Research.

Heath, Rachel, Melissa Hidrobo, and Shalini Roy (1, 2020). "Cash transfers, polygamy, and intimate partner violence: Experimental evidence from Mali". *Journal of Development Economics* 143: 102410.

Heise, Lori (1, 1998). "Violence Against Women: An Integrated, Ecological Framework". *Violence Against Women* 4 (3): 262–290.

Hidrobo, Melissa, Amber Peterman, and Lori Heise (2016). "The Effect of Cash, Vouchers, and Food Transfers on Intimate Partner Violence: Evidence from a Randomized Experiment in Northern Ecuador". *American Economic Journal: Applied Economics* 8 (3): 284–303.

Jones, Nicola, Janice Cooper, Elizabeth Presler-Marshall, and David Walker (2014). "The fallout of rape as a weapon of war". ODI (Overseas Development Institute) Report.

Lee, David S. (1, 2009). "Training, Wages, and Sample Selection: Estimating Sharp Bounds on Treatment Effects". *The Review of Economic Studies* 76 (3): 1071–1102.

Mckenzie, David J. and Susana Puerto (3, 2017). "Growing markets through business training for female entrepreneurs : a market-level randomized experiment in Kenya". WPS7993. The World Bank: 1–55.

Moser, Caroline and Ailsa Winton (2002). "Violence in the Central American Region: Towards an Integrated Framework for Violence Reduction". ODI (Overseas Development Institute) Working Paper.

Omanyondo, Marie-Claire (2005). "Sexual Gender-based Violence and Health Facility Needs Assessment". WHO Report.

Park, David Sungho, Shilpa Aggarwal, Dahyeon Jeong, Naresh Kumar, Jonathan Robinson, and Alan Spearot (5, 2024). "Private but Misunderstood? Evidence on Measuring Intimate Partner Violence via Self-Interviewing in Rural Liberia and Malawi". *The World Bank Economic Review*: lhae040.

Peterson, Cora, Megan C. Kearns, Wendy LiKamWa McIntosh, Lianne Fuino Estefan, Christina Nicolaidis, Kathryn E. McCollister, Amy Gordon, and Curtis Florence (2018). "Lifetime Economic Burden of Intimate Partner Violence Among U.S. Adults". *American Journal of Preventive Medicine* 55 (4): 433–444.

Ranganathan, Meghna, Lori Heise, Amber Peterman, Shalini Roy, and Melissa Hidrobo (1, 2021). "Cross-disciplinary intersections between public health and economics in intimate partner violence research". *SSM - Population Health* 14: 100822.

Roy, Shalini, Melissa Hidrobo, John Hoddinott, and Akhter Ahmed (1, 2019). "Transfers, Behavior Change Communication, and Intimate Partner Violence: Postprogram Evidence from Rural Bangladesh". *The Review of Economics and Statistics* 101 (5): 865–877.

Sardinha, Lynnmarie, Mathieu Maheu-Giroux, Heidi Stöckl, Sarah Rachel Meyer, and Claudia García-Moreno (2022). "Global, regional, and national prevalence estimates of phys-

ical or sexual, or both, intimate partner violence against women in 2018". *Lancet* 399 (10327): 803–813.

Smith, S.G., J. Chen, K.C. Basile, L.K. Gilbert, M.T. Merrick, N. Patel, M. Walling, and A. Jain (2017). "The National Intimate Partner and Sexual Violence Survey (NISVS): 2010-2012 State Report".

Steenkamp, Chrissie (1, 2005). "The Legacy of War: Conceptualizing a 'Culture of Violence' to Explain Violence after Peace Accords". *The Round Table* 94 (379): 253–267.

WHO (2016). "Ethical and safety recommendations for intervention research on violence against women".

Women, UN (2013). "The Contribution of UN Women to Increasing Women's Leadership and Participation in Peace and Security and in Humanitarian Response". UN Women Evaluation Report.

Appendix A

Table A1: WIN Program Components

Program Component	Description
Psychological support	One-to-one and group counselling, stress management, family/couple therapy
Literacy classes	Reading and writing curriculum by Ministry of Education
Child care	During program participation
Medical checkups	Free primary medical check-ups at Red Cross clinic
Vocational skills training	Baking, cosmetology, and tailoring
Entrepreneurship training	Financial literacy, business planning/management, etc.
Business start-up capital	250 USD worth of capital along with 30 USD cash grant

Table A2: Selection Criteria of WIN Program

1. Ex-combatant	5. Single mother/self-supported
2. Previous commercial sex worker	6. Illiterate
3. Victims of rape/domestic violence	7. Economically vulnerable
4. Witness of extreme violence	8. Drug user

Table A3: Attrition Balance

	(1)	(2)	(3)	(4)
	Endline 1 (April 2021)		Endline 2 (Dec 2023-Jan 2024)	
	=1 if completed endline survey	=1 if completed IPV module[a]	=1 if completed endline survey	=1 if completed IPV module[a]
Treatment	0.00	-0.02	0.03	0.01
	(0.03)	(0.04)	(0.05)	(0.05)
Control mean	0.91	0.81	0.70	0.62
Overall mean	0.91	0.79	0.72	0.62
Observations	395	395	395	395

Note: Regressions include strata fixed effects. Robust standard errors in parentheses.
[a] IPV questionnaire is administered to only those who are currently married or has an intimate partner, or have been so in the 12 months prior to the survey.

Table A4: Program Effects on Perceived Others' Justifiability of Physical/Sexual IPV

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	=1 if husband is justified to beat/hit wife when she:						=1 if husband is justified to force sex	Z-score
	Argues w/ husband	Goes out w/o telling	Doesn't care children	Burns food	Financial pressure	Refuses sex		
Panel A. 1st Follow-up (1 year post program end)								
WIN treatment	-0.04	-0.06	-0.11**	-0.09**	-0.02	-0.07*	-0.06**	-0.21**
	(0.05)	(0.05)	(0.04)	(0.03)	(0.03)	(0.04)	(0.03)	(0.09)
Control mean	0.30	0.30	0.27	0.17	0.13	0.16	0.14	-0.02
Observations	359	359	359	359	359	359	359	359
Panel B. 2nd Follow-up (3.5 years post program end)								
WIN treatment	-0.10	-0.03	-0.09	-0.07*	-0.07	-0.07	-0.08*	-0.24**
	(0.06)	(0.06)	(0.05)	(0.04)	(0.05)	(0.05)	(0.05)	(0.11)
Control mean	0.47	0.40	0.33	0.20	0.22	0.25	0.22	-0.03
Observations	283	283	283	283	283	283	283	283

Note: . and include strata fixed effects. Standard errors in parentheses.

Appendix B: Survey instrument

Controlling behavior

1. Did your man ever try to keep you from seeing your friends in the past 12 months?
2. Did your man ever try to stop you from meeting or speaking to your family of birth in the past 12 months?
3. Did your man ever need to know where you are all the time in the past 12 months?
4. Did your man ever stop talking to you or treat you with no interest in the past 12 months?
5. Did your man ever get angry if you speak with another man in the past 12 months?
6. Did your man often think that you are unfaithful in the past 12 months?
7. In the past 12 months, did your man ever expect you to ask for his approval before you go to a health clinic or hospital?

Emotional IPV[14]

1. Did your man ever insult you or make you feel bad about yourself in the past 12 months?
2. Did your man ever make you feel small in front of other people in the past 12 months?
3. Did your man ever mean to scare you (for example, by the way he looked at you, by yelling and bursting things) in the past 12 months?
4. Did your man ever threaten to hurt you or someone you care about in the past 12 months?

Physical IPV[14]

1. Did your man ever slap you or throw something at you that could hurt you in the past 12 months?
2. Did your man ever push you, shove you, or pull your hair in the past 12 months?
3. Did your man ever hit you with his hand or with something else that could hurt you in the past 12 months?
4. Did your man ever kick you, drag you or beat you up in the past 12 months?
5. Did your man ever mean to choke or burn you in the past 12 months?

[14] For each IPV question, if the answer is "yes", a follow-up question about frequency appears, asking whether it happened (i) one or two times, (ii) three to five times, or (iii) more than five times.

6. Did your man ever threaten to use or actually use a gun, knife or other weapon against you in the past 12 months?

Sexual IPV[14]

1. Did your man ever physically force you to do man and woman business when you did not want to in the past 12 months?
2. Did you ever do man and woman business when you did not want to because you were afraid of what your man might do in the past 12 months?
3. In the past 12 months, while doing man and woman business, did your man ever force you to do something that made you feel small or bad about yourself?

Non-sensitive placebo questions

1. Did it rain in your village one time or more in the past year?
2. Did you do any farm work in the past year?
3. Did you sleep in the past week, during day or night?
4. Did you go to the market in the past week?
5. Did you travel outside of Liberia in the past week?
6. Will you, or anyone in your household, eat any rice next week, one time or more?
7. Will you, or anyone in your household, eat any type of meat next week, one time or more?