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Conditional Cash Transfers and Gender-Based Violence

Does the Type of Violence Matter?

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Abstract

The relationship between intimate partner violence and cash transfer programs has been extensively researched, with a consensus that cash transfers are most likely to reduce intimate partner violence. This study uses a regression discontinuity design to examine the effects of a conditional cash transfer program in the Philippines on three types of gender-based violence: (i) intimate partner violence, (ii) domestic violence by non-partners (such as husband's relatives), and (iii) violence outside home. Although the study finds no significant change in intimate partner violence or violence outside of home, it finds a measurable decline in non-partner domestic violence. The study also examines mediating channels through which conditional cash transfers may affect gender-based violence, proposed in earlier literature, namely: (i) stress reduction due to higher income, (ii) increase in women's empowerment, (iii) increase in women's bargaining power, and (iv) strengthened social networks. The findings provide suggestive evidence of changes in all four mitigating channels. This evidence confirms the potential of conditional cash transfer programs to mitigate gender-based violence beyond intimate partner violence, but indicate that depending on the context, additional interventions may be needed to address specific types of gender-based violence.

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Conditional Cash Transfers and Gender-Based Violence – Does the Type of Violence Matter?

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I. Introduction

There is increasing interest - among researchers and policy makers alike – in examining the role of social protection programs, especially cash transfers, in mitigating risk of gender-based violence (GBV). Recent scholarly evidence demonstrates that conditional cash transfer (CCT) programs hold promise in reducing intimate partner violence (IPV) (see Buller et al. 2018 for a systematic review). This is noteworthy, especially since most CCT interventions are essentially anti-poverty programs and do not envisage violence prevention as an explicit objective.

A growing body of work shows that cash transfers can reduce prevalence of physical IPV (Hidrobo and Fernald 2013 – Ecuador; Bobonis et al. 2013 – Mexico; Perova 2010 – Peru; Haushofer et al. 2016 - Kenya; Roy et al. 2019-Bangladesh). However, the evidence base on effect of CCTs on sexual and emotional IPV is relatively weak and mixed; while Hidrobo et al. (2012) find significant reduction in exposure to sexual abuse among CCT beneficiaries, Bobonis et al. (2013) and Perova (2010) find no significant effect. Similarly, while Hidrobo et al. (2012), Hidrobo and Fernald (2013) and Perova (2010) find significant reduction in controlling behavior (among husbands) and emotional abuse faced by women, Bobonis et al. (2013) find a significant increase in exposure to threats and insults among beneficiary women. Further, Haushofer et al. (2015) and Green et al. (2015) provide evidence from Kenya and Uganda, respectively, and find no significant effect on emotional abuse. In summary, the strength of the evidence base varies substantially based on the type of violence.

The literature identifies three key mechanisms through which CCTs could affect exposure to IPV, namely (i) economic security and emotional well-being, (ii) intra-household conflict, and (iii) women's empowerment (Buller et al. 2018). First, cash transfers can increase total household income and reduce poverty-related stress. Such positive effects on mental and emotional well-being could directly lead to reduction in IPV (Devries et al. 2013, Fulu et al. 2013, Machisa et al. 2017) or work indirectly through reduction in negative coping in response to poverty and financial stress, such as alcohol consumption (see Gil-Gonzalez et al. 2006 for a review on relation between men's alcohol consumption and women's risk of IPV). Second, influx of cash in the household can reduce intra-household conflict – stemming from disagreements on allocation of scarce resources – which could in turn reduce trigger points causing violence (Angeles 2012; Yildrim et al. 2014). On the other hand, such transfers could also trigger more points of conflicts – relating to how to spend the additional money – and may also increase men's spending on temptation goods such as alcohol and drugs. However, there is negligible evidence on CCT/UCT beneficiaries increasing spending on these goods (Evans and Popova 2017; Handa et al. 2017). Thus, this pathway lacks adequate empirical validation. Third, CCTs can empower women by increasing their direct access to cash, information (through trainings) and social networks (via group activities). Such improvements in empowerment can increase her bargaining power and reduce vulnerability to IPV (Ahmed 2005; Kim et al., 2007). At the same time, CCTs could also yield a backlash effect: the man could also feel threatened by his wife's empowerment and may inflict violence to reassert his dominance and

male authority (Maldonado, Najera and Segovia 2005, Eswaran and Malhotra 2011, Bloch and Rao 2002; Bobonis et al. 2013).

While past scholarship sheds important light on whether and how cash transfers can mitigate GBV, a few key knowledge gaps exist. First, what is the effect of cash transfers on *other* types of GBV, i.e., violence perpetrated by non-partners, such as in-laws, relatives, employers, or colleagues? Noticeably, most past studies have focused on IPV. Non-partner violence, especially non-partner sexual violence has garnered substantial attention owing to mounting prevalence rates; globally, 7.2 percent of women reported to have ever experienced non-partner sexual violence (Abrahams et al. 2014). Further, past scholarship has largely focused on physical and sexual IPV and we know relatively little about the effect of CCTs on economic abuse, i.e., violence that prevents women from engaging in income-generating activities and threatens her economic security. Notably, violence can manifest in multiple forms and each type could have distinct causes, consequences, and dynamics and thereby, merits a distinct discussion in the scholarship.

Second, do the above-discussed mechanisms continue to hold relevance in mediating the effect of CCTs on *non-partner* violence? For instance, can additional money in the hands of the woman increase her bargaining position with non-partners within the household (such as in-laws) as well as individuals from outside the household (such as employer, landlord), or is an increase in women's empowerment more likely to trigger backlash? The net effect of such competing mechanisms remains unclear - both for violence perpetrated by other household members and violence outside home.

Third, do existing findings hold across multiple contexts? While CCTs have now become a ubiquitous development strategy, the evidence base on its effects from Southeast Asia is relatively slim, as compared to other regions such as Latin America and Africa. Notably, the socio-economic dynamics of GBV could vary substantially across contexts and it is pertinent to examine whether the existing findings are generalizable.

This study attempts to fill these gaps. It investigates the effect of a CCT program in the Philippines – the Pantawid Pamilyang Pilipino Program (or 4P) – on multiple types of GBV, categorized by: (i) the form of violence inflicted, i.e. physical, sexual, emotional, and economic, and (ii) the relationship between the perpetrator and victim, i.e. intimate partner violence (IPV), non-partner domestic violence (NPDV) (perpetrated by family members such as in-laws, siblings), and non-domestic violence (NDV) (perpetrated by individuals outside the household such as friend, colleague, employer).

The 4P transfer was offered to households that were deemed eligible based on a poverty score, i.e., difference between the estimated household income and corresponding provincial poverty threshold.[3] Considering there is discontinuity in the probability of receipt of the cash transfer – based on a pre-determined poverty score threshold - we can identify the causal impact of the program using a regression discontinuity design (RDD). Essentially, we compare households that were marginally below the threshold

[3] The household income is estimated using Proxy Means Test (PMT) methodology where household income is predicted based on observable characteristics such as household composition, education, housing conditions, access to basic services, ownership of assets, etc.

(i.e., assigned beneficiary status) to those that were just above the cutoff (i.e., assigned non-beneficiary status).

We find no overall impact on prevalence of IPV and non-domestic violence. However, we find a significant reduction in exposure to non-partner domestic violence, specifically emotional NPDV, among women in beneficiary households as compared to women in non-beneficiary households. This finding is robust to using alternative measures of the running variable as well as alternative constructions of the GBV outcome (detailed in Section 6.3). To alleviate concerns on identification, we provide evidence that suggests that there was no significant difference between households marginally below and above the cutoff on a range of pre-determined covariates as well as placebo outcomes (Cattaneo, Idrobo and Titiunik 2018).

Suggestive evidence on mechanisms indicates that women in beneficiary households experienced improvements in well-being, bargaining power, empowerment, and social networks. At the same time, we do not find any evidence of deterioration in men's attitudes towards women's empowerment. These findings, while suggestive, provide evidence in support of all the mechanisms discussed above. Overall, the 4P cash transfer improved household well-being (both for men and women), enhanced women's bargaining power and empowerment - devoid of any male backlash- and bolstered women's social networks. All these changes could have in turn contributed towards the reduction in emotional NPDV.

The rest of the paper is structured as follows. Section II describes the context and the core intervention. Section III outlines the underlying conceptual framework. We describe the data and empirical strategy in sections IV and V, respectively. Section VI presents the key findings, and in section VII, we explore plausible mechanisms that underlie the estimated results. Finally, section VIII concludes. Additional material is available in appendices.

II. Context

2.1 Program Overview

The Pantawid Pamilyang Pilipino Program (or 4P) is a conditional cash transfer program in the Philippines, administered by the Department of Social Welfare and Development (DSWD).[4] Like most CCT programs, it seeks to break intergenerational transmission of poverty via investments in human capital. It provides cash incentives to poor households with children under the age of 18, on the condition that they invest in the health and education of their children and avail maternal health services.

The 4P program was initiated in February 2008 with 6,000 household beneficiaries in four pilot municipalities (Chaudhury et al. 2013). In succeeding years, the program continuously expanded its coverage and as of 2015, the program had reached 4.5 million poor households nationwide (DSWD, 2015). With the expansion in coverage, the budget allocated to this program has also increased; from 50 million pesos in 2008 to 78 billion pesos in 2017 (Orbeta et al. 2014). This constituted 0.5 percent of the nation's GDP (in 2017). With approximately 60 percent of the poorest quintile of households in the country covered, the program is a core pillar of the government's social protection strategy.

[4] DSWD is the nodal department of the Philippine government responsible for the protection of social welfare of rights of Filipinos and to promote social development.

The 4P program primarily includes an education grant and a health grant. The education grant is provided to every child who complies with the education conditions of the program, i.e., child is enrolled in school and attends 85 percent of the school days every month. Children enrolled in daycare/kindergarten or elementary schools receive 300 pesos (approximately $6) per month while children enrolled in high school receive 500 pesos (approximately $10) per month. These grants are provided for a period of 10 months per year. The program maintains a limit of three child beneficiaries for the education grants. The health grant amounts to 500 pesos per month and is given to households subject to compliance of all health conditionalities. These conditionalities include, (i) all children under the age of five must regularly visit a health center or rural health unit for growth monitoring, vaccines and preventive health check-ups; (ii) pregnant women must visit their health center monthly for antenatal and postnatal care, and must deliver in a health facility attended by a trained health professional; (iii) all school-aged children (6-14 years old) are to comply with de-worming protocol at schools; and (iv) among households with children 0-14 years old, the household grantee (mother) and/or spouse must attend Family Development Sessions (FDS) at least once a month. The family development sessions include discussions on reproductive health, family planning and intra-household dynamics.

To be eligible for the program, households must be identified as poor by the *Listahanan,*[5] formerly known as National Household Targeting System for Poverty Reduction Program (NHTS-PR). They must also have a pregnant member in the household or at least one child aged 0-18 years old at the time of selection and must be willing to commit to meeting the program conditionalities. The *Listahanan* targets beneficiaries through a household assessment and application of a Proxy Means Test (PMT) methodology to predict income of households based on characteristics such as household composition, education, housing conditions, access to basic services, ownership of assets, etc. Predicted incomes are then compared with poverty thresholds at the provincial level to identify households below (poor) or above (non-poor) these thresholds. Households that are below (above) the threshold are assigned a beneficiary (non-beneficiary) status. We exploit this variation in eligibility to identify a causal effect of the CCT program on women's, i.e., the primary grantees', exposure to gender-based violence.

2.2 Gender Based Violence in the Philippines

GBV in the Philippines, like in several other countries, has surfaced as one of the most pervasive social problems. According to the 2017 National Demographic and Health Survey, 15 percent of ever-married/partnered women aged 15-49 years old reported to have ever experienced some form of physical or sexual violence by their intimate partner, and 7 percent reported to have experienced such violence in the past 12 months.[6] Further, 20 percent of the respondents reported to have experienced some form of

[5] *Listahanan* is an information management system developed by DSWD, which seeks to establish a database of poor households to serve as a basis for identifying beneficiaries of various social protection programs and services rolled out in the country.

[6] Physical violence includes slapping, pushing, kicking, punching, being threatened with a knife/gun or some other weapon. Sexual violence includes being forced or threatened into unwanted sex or performing an unwanted sexual act.

emotional violence[7] and 37 percent reported that their partner has a controlling behavior.[8] Notably, there is not much difference in prevalence of violence among younger or older women, or educated or uneducated women, or working or non-working women; thereby, indicating that the malaise of GBV is fairly pervasive and entrenched across all demographic structures. At the same time, the act of GBV is seemingly socially acceptable; 2%-12% of the respondents admitted that it is justified to beat the wife if she goes out without telling the husband, neglects the children, argues with the husband, refuses to have sex with the husband or burns food.

While most women reported that they are aware of measures taken by the government to mitigate GBV, such as protection orders, DSWD regional center for women and girls, etc., only 30 percent of the respondents who ever experienced violence reported to have sought help from someone; the remaining 70% of the sampled respondents did not seek help from anyone. Not seeking help or under-reporting violence could partly explain why GBV persists despite concerted efforts by institutions to combat GBV; lack of deterrence and punishment for such acts could perpetuate more violence.

Thereby, it is pertinent for policy to identify strategies that can effectively reduce women's risk of exposure to GBV. In recent years, cash transfer programs – like the one studied in this paper - have been considered as an important tool that could be leveraged to mitigate GBV via multiple mediating channels, as discussed in the next section.

III. Conceptual Framework

Cash transfer programs can affect the risk of GBV among beneficiary women through four key pathways: (i) enhanced well-being; (ii) changes in women's empowerment; (iii) improved bargaining power and (iv) formation of social networks (Buller et al. 2018). We discuss each of these channels below and describe the theory of change in Figure 1.

First, increased economic security and relaxation of financial constraints through CCT transfers can **enhance emotional and mental well-being** of all household members and reduce likelihood of intra-couple and intra-household conflict. Given that conflict is a key trigger of GBV, reduction of the possibility of conflict can mitigate risks of GBV (Buller et al. 2018, Angeles 2012; Yildrim et al. 2014).

Second, CCTs may also change women's status within the family and the community. Selection of women as primary grantees may affect the equilibrium of gender norms, community's views about women, women's self-perception and consequently, affect **women's empowerment**. However, the effect of increased women's empowerment on exposure to GBV is contingent on how this empowerment is viewed by the man and/or his relatives. If the increase in female empowerment is viewed positively, i.e., appreciates her competency and the added resources she brings to the household, then the likelihood of

[7] Emotional violence includes being humiliated or insulted, not allowed to engage in work activities, control respondent's money, destroy or threaten to destroy respondent's belongings or personal property or have other intimate relations.

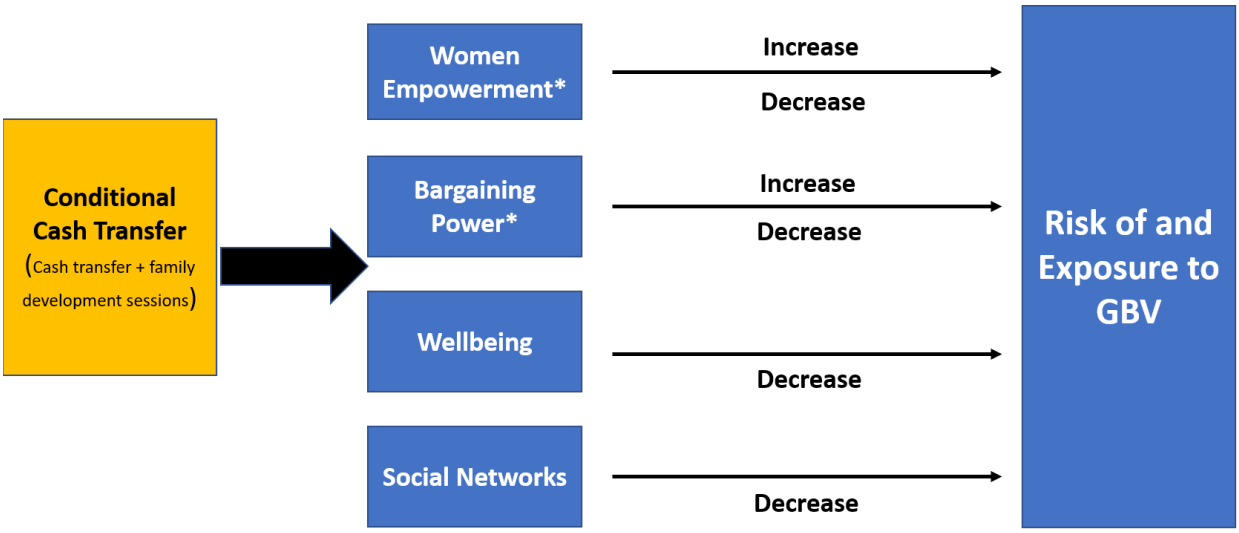
[8] Controlling behavior includes not allowing the respondent to meet her female friends, limits contact with family, insists on knowing where the respondent is or gets jealous if the respondent speaks to other men.

violence may reduce (Ahmed 2005; Kim et al., 2007). However, if increase in women's empowerment creates a backlash effect, likelihood of violence may increase in an attempt to re-assert authority and male dominance (Angelucci 2008, Eswaran and Malhotra 2011). Further, men could also exert violence to extract CCT resources from the woman (Bloch and Rao 2002; Bobonis et al. 2013). Notably, the effect on GBV through the female empowerment pathway is ambiguous and we plan to examine this by analyzing the effect of the CCT on women's empowerment as well as men's attitudes towards such empowerment (or men's attitudes towards gender norms and GBV).

Third, receipt of transfers by women may increase her **bargaining power** by improving her outside options (Manser and Brown, 1980). Receipt of cash can enhance a woman's threat point, which may reduce her exposure and tolerance towards violence. However, if the man perceives this increase in bargaining power as a threat to his male authority, he may inflict greater violence (Buller et al. 2018, Bobonis et al. 2013).

Lastly, CCTs can enhance women's **social capital and networks** through complementary activities such as attending trainings and workshops. Formation of these networks can increase the social cost of men's violent behavior and can also reduce women's tolerance towards violence through improved knowledge of opportunities for redress (Stets 1991, Benson et al. 2003).

Figure 1: Schematic Diagram of Theory of Change



Competing effects based on perpetrator's response

IV. Data

We collected the data from women (and their partners) who are currently eligible to receive the 4P cash transfer. The sample included 1,042 individuals; 521 individuals were below the pre-determined cutoff and were therefore assigned CCT beneficiary status and remaining 521 individuals were above the cutoff and were assigned non-beneficiary status.

To identify the target sample, we provided the survey firm a list of eligible households from barangays evenly spread out across the 3 islands, i.e., Luzon, Visayas and Mindanao. This list was derived from the

sampling frame of an impact evaluation (IE) study that was conducted in 2013-14 to assess the effect of the 4P program on children's health and education outcomes (Orbeta et al. 2014). This IE study also used the RDD method, and its data was collected between October-December 2013. To create the list of eligible households for our study, we identified households that had children in the age-group 0-12 years old in 2013, such that at the time of data collection for our IE study (i.e., 2019) – 6 years hence – these children would be in age group 6-18 years old and therefore, these households would still be eligible to get the 4P transfer. Therefore, the list of eligible households provided to the survey firm included a sub-set of households that were sampled in Orbeta et al. (2014), i.e., those that had children strictly below the age of 12 years (in 2013).

The firm randomly drew a required subsample of households and validated that the respondent households were indeed residents of the barangay via coordinating with barangay officials and local community leaders. If the household was not recognized by the local official, the household was replaced. The field team also validated the 4P status of the household by coordinating with barangay officials and local 4P leaders. They also checked whether the target female respondent/primary grantee were present in the barangay.

After the validation with barangay officials, the field team visited households with the objective of confirming that the female respondent: (i) was currently living in the barangay; (ii) has a child aged 0-18 years old, and (iii) was under the age limit of 50 years old.[9] If the household could not confirm that the target respondent's eligibility criteria as described above, the field team would replace this household.

Based on our power calculations, our target was to interview 1,124 individuals: 562 women and 562 men (partners of these women). Early stages of fieldwork proved that we had over-estimated the co-habitation rate in the Philippines (80% estimated, 55% actual). Therefore, while we met our target of interviewing female respondents (564 actual, 562 target), we were only able to reach 85% of our target of interviewing male respondents (478 actual, 562 target).

Table 1: Sample Summary

Respondents	**Treatment**	**Control**	**Total**
Male	237	241	478
Female	284	280	564
Total	521	521	1,042

We collected the data between November 7, 2019, and February 2, 2020, from 1,042 individuals, spread across 149 barangays. The survey data was collected using two types of questionnaire: the household questionnaire, which was administered to the most knowledgeable member of the household, and the individual questionnaire (administered to the target women and her partner). Each survey interview took

[9] The motivation for the third criterion is that most GBV studies focus on women in reproductive age, i.e., 15-50 years old.

about 1-1.5 hours (per person) to administer. The household questionnaire included modules on (i) basic demographic characteristics, (ii) economic participation, (iii) housing conditions, (iv) asset ownership, and (v) participation in the 4P program. The individual questionnaire includes modules on (i) decision making, (ii) time use, (iii) self-efficacy, (iv) well-being, (v) social capital, (vi) attitudes towards gender norms, violence against women and violence against children, (vii) pregnancy history, (viii) exposure to gender-based violence, and (ix) exposure to transactional sex. The last three modules are only administered to the women in the sample. The sub-sample of female respondents was randomly split in two groups for modules (viii) and (ix): half of the sample was interviewed using Face-to-Face Direct Questioning (FTFDQ) technique, another half responded to the same question via Audio Computer Assisted Self-Interview mode (ACASI). This was done to account for any social-desirability biases that may creep in while answering questions on socially sensitive topics like GBV and transactional sex in-person or face-to-face. Alternatively, the ACASI method, where respondents provide answers through a phone/tablet and not to the enumerator directly, helps in minimizing human interaction; thereby, increasing the respondents' perception of privacy protection and inducing self-disclosure. However, we do not find differences in the prevalence rate of violence as reported via FTFDQ versus ACASI in our sample; therefore, we pool the responses in the current analysis, but control for the type of the interview conducted. [10]

While collecting GBV data, we closely followed data collection protocols prescribed by the World Health Organization (WHO 2007), such as working with same-sex enumerators, providing specialized training to enumerators, developing protocol for potential interruptions, and providing information on support/referral services for GBV survivors. We received research ethics review approval from Health Media Labs IRB.

Further, we complemented the in-person data collection with a phone survey in April-May 2020 to collect appropriate data on receipt of the 4P benefits: in our initial round of data collection the question about receipt of 4P benefits was addressed to the respondent of the household questionnaire (i.e., the most knowledgeable person in the household), which resulted in high number of missing values and inconsistencies. To bridge this data gap and resolve data irregularities, the phone survey, which included a limited set of questions, was administered to the *target* respondents.

4.1 Primary Outcome of Interest

Violence against women is the primary outcome of interest. We record data on 12 types of violence, following 2 types of classification. The first classification categorizes violence by form of violence, namely

[10] Results available upon request.

(i) physical violence,[11] (ii) sexual violence,[12] (iii) emotional violence[13] and (iv) economic violence.[14] The second classification is based on survivor's relationship with the perpetrator, namely (i) intimate partner violence (IPV) or violence perpetrated by husband/partner, (ii) non-partner domestic violence (NPDV) or violence perpetrated by other household members,[15] and (iii) non-domestic violence (NDV) or violence perpetrated by non-household members.[16] For IPV, we collect data on lifetime incidence and frequency of exposure in the last 12 months preceding the survey.[17] For NPDV and NDV, we only administer questions about incidence in the last 12 months.

Questions on physical, emotional, and sexual violence were developed closely following the Demographic and Health Survey (DHS) instruments. Considering that economic violence is less frequently measured by secondary surveys such as DHS, we follow guidelines provided under the Anti-Violence Against Women and Their Children Act of 2004, issued by the Government of the Philippines, to develop questions on economic abuse. Notably, the resulting survey questions were similar to scales used in past studies; for instance, the checklist of controlling behaviors (CCB) - developed and tested by Lehmann et al. (2012). The full list of violent actions included in our survey instrument has been provided in Table A9.

4.2 Intermediary Outcomes

Alongside, we record data on a few intermediary outcomes to examine changes in channels or mechanisms through which cash transfers could impact exposure to GBV. We estimate the impact of CCTs on four indices – one corresponding to each mechanism. These indices are constructed using average z-scores based on Katz, Kling and Liebman (2007). Please refer to Table 2 below for more information on construction of each index. Considering that the CCT could have a distinct effect on women (primary grantees) and men (grantees' partners), we estimate these effects separately on female and male samples, respectively.

First, to examine the mechanism on well-being, we create an index using average z scores of the following outcomes: (i) patient health questionnaire (PHQ) index, which measures extent or severity of depression (construction closely follows Kroenke, Spitzer, Williams (2001)), and (ii) respondent's perception of their

[11] Physical violence includes the act of (i) push, shake or throw something at the victim, (ii) slap, (iii) punch, (iv) kick, (v) strangle or burn, (vi) twist arm or pull hair or (vii) threaten with knife/gun or other weapon.

[12] Sexual violence includes (i) physically forcing the victim for sexual intercourse or to perform unwanted sexual acts, (ii) force to do something sexual that is humiliating/denigrating, (iii) threatening the victim to engage in sexual intercourse.

[13] Emotional violence includes (i) insult or made you feel back about yourself, (ii) humiliate you in front of others and (iii) intimidate or threaten or directly or through a threat to someone you care about.

[14] Economic violence includes (i) not allowed to engage in legitimate work, (ii) deprive or threaten to deprive of financial resources and right to use conjugal or commonly owned property, (iii) control your money or properties or force you to work and (iv) destroy your personal property, pets or belongings, household property, or threaten to do so.

[15] Our questionnaire included the following options for other household members: (i) Mother/Stepmother/Mother-in-law; (ii) Father/step-father/father-in-law; (iii) sister/brother/sister-in-law/brother-in-law; (iv) Other relative (please specify).

[16] Our questionnaire included the following options for non-household members: (i) Employer/someone at workplace; (ii) Community leader; (iii) Health worker; (iv) Teacher; (v) Police/soldier.

[17] Frequency of violence is coded as a categorical variable. Response options include often=2; sometimes=1; not in the last 12 months=0.

as well as their family's quality of life in current day and five years hence. These outcomes are measured both for female (primary grantees) and male (grantees' partner) respondents.

Second, to measure bargaining power, we create an index, which encapsulates women's role in intra-household decision making. Specifically, we ask questions on decision making across 13 domains (such as decisions on large household purchases, using contraception, taking loan, etc.)[18] and evaluate the following outcomes: (i) fraction of domains for which respondent makes the decision (independent/joint); (ii) fraction of domains in which respondent's opinion is heard; (iii) fraction of domains in which respondent cares about making the decision; (iv) number of domains for which respondent cares AND makes decision; (v) absolute difference in number of domains for which respondent cares about making the decision and actually makes the decision.

Third, women's empowerment is measured using two outcomes. The first outcome measures self-efficacy among respondents (construction closely follows Schwarzer and Jerusalem (1995)) and the second outcome - relative autonomy index (RAI)- measures the extent to which a respondent has autonomy over her motivation in undertaking actions (construction closely follows Seymour and Peterman (2018)).

Fourth, to examine the pathway on social networks, we record information on whether the respondent receives information - on topics such as family planning, child health, education, government services and income earning opportunities - from a community worker/representative of the family development sessions (commissioned under the 4P program) or through some other source.

Finally, to encapsulate men's response to plausible increase in women's empowerment and bargaining power, we evaluate changes in men's personal attitudes towards gender equity. To measure these attitudes, we seek answers on respondent's personal attitude on 9 statements that relate to gender equality and assumed gender roles in the society (Dhar, Jain and Jayachandran 2018).

Table 2: Composition of Mechanisms Indices

Mechanism	**Summary Index**	**Outcomes Variables (Index components)**
Enhancement of emotional and mental well-being	Women and men's well-being	Patient health questionnaire index; respondents' perception of their own as well as their families' quality of life in current day, and 5 years ahead
Improvement in women's bargaining power	Bargaining Power	Fraction of domains for which respondent makes the decision (independent/joint); Fraction of domains in which respondent's opinion is heard; Fraction of domains in which respondent cares about making the decision; Number of domains for which respondent cares AND makes decision; Abs difference in number of

[18] These 13 domains are akin to those included in the Demographic and Health Survey.

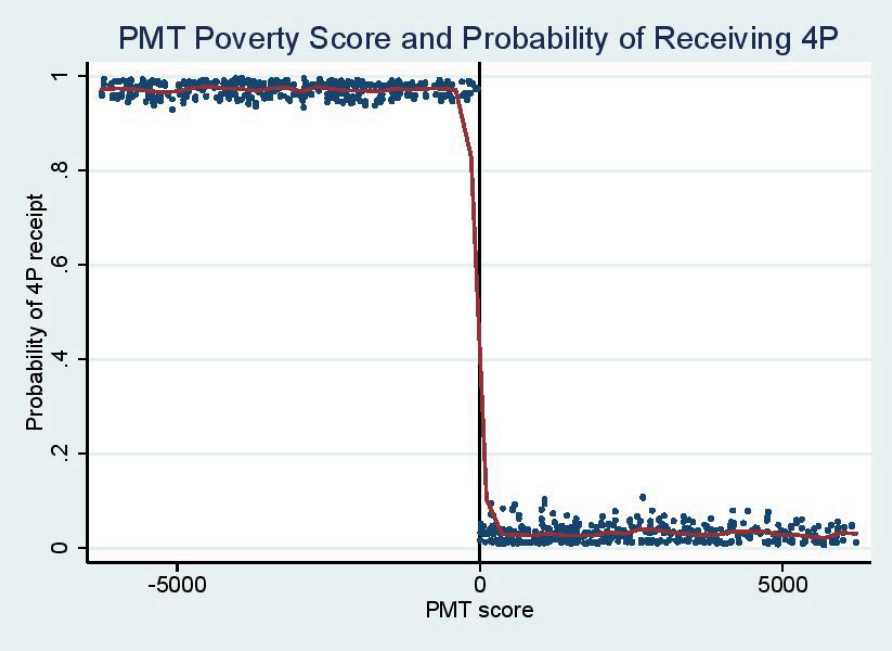
		domains for which respondent cares about making the decision and actually makes the decision
Improvement in women's empowerment	Empowerment	Generalized self-efficacy; relative autonomy index
Improvement in women's social capital	Social Networks	Records information on whether the respondent receives information from a community worker or a representation from the family development sessions (commissioned under the 4P program) on topics such as family planning, child health, education, govt. services and income earning opportunities.
Increase in male backlash	Men's attitudes towards gender norms	Index on agreement with gender equitable statements

V. Empirical Strategy

While the receipt of the 4P cash transfer was not random, the eligibility criteria to receive the transfer, i.e., being below a pre-determined poverty threshold, was as good as random. Before the roll-out of the 4P program, households were ordered by their expected incomes prior to program participation using a proxy means test (PMT). Program eligibility was determined using official province-specific poverty thresholds (Fernandez 2012). Households just below (above) the provincial poverty threshold were assigned treatment or beneficiary (control or non-beneficiary) status. Such cut-off-based assignment enabled us to utilize a regression-discontinuity design to estimate the causal effect of the CCT program. Notably, ineligible households that are just above the cutoff serve as a suitable comparison group for eligible households that are marginally below the cutoff.

Keeping in mind the possibility of non-compliance in program implementation, i.e., some eligible households may not receive transfers, and some ineligible households may receive transfers, we utilize a fuzzy RDD method. This method uses eligibility as an *instrument* for actual receipt of the cash transfer and requires that the probability of program receipt changes discontinuously at the threshold. Such discontinuity would confirm that the 4P program was implemented as intended and that the RDD method is a valid strategy to estimate the causal effect of this program. Figure 2 below clearly demonstrates such discontinuity at the poverty threshold; thereby, indicating high compliance. We present formal identification checks in Section 6.2.

Figure 2: Relationship between PMT Poverty Score and Probability of Receiving 4P Transfer



Note: This figure shows a scatterplot of the probability of 4P receipt against PMT scores. It depicts that the probability of receiving the 4P transfer changes discontinuously at the pre-defined PMT score cutoff (centered at zero).

We estimate the treatment effects using a weighted local linear regression. Such a regression model limits the observations to a specified bandwidth around the threshold where the functional form is *most likely* linear. The estimation strategy involves the approximation of a weighted regression on observations below and above the threshold, with weights being the distance of observations from the threshold. Hence, weights-based estimation requires a choice of appropriate bandwidth around a given threshold. To determine the appropriate bandwidth, we closely follow sampling recommendations provided in Grover (2013), which suggests that the highest optimal bandwidth interval for 4P estimate around the province-recentered PMT score is 6,250.[19] Thus, we select a sample of observations within the bandwidth of PhP6,250 below and above zero.

Given a threshold of $\bar{x} = 0$, the observed scales of re-centered PMT would therefore be -6,250 ≤ X≤ 0 and 0 < X ≤6,250 for treatment and control observations, respectively. The variables Yi(1) and Yi(0) – in Equation 1- denote outcomes corresponding to treatment and control observations, respectively. The parameter of interest is T, which is the average treatment effect at the cutoff point.$T =$

$$E[Y_i(1) - Y_i(0)] \,|X_i = \bar{x} \qquad \text{(Equation 1)}$$

Where estimator of T is constructed by using local regressions on either side of the threshold:

[19] Grover (2013) is a report, furnished as part of the Technical Working Group Discussions was supported by the Asian Development Bank (ADB) under Technical Assistance CDTA 7586-PHI: Capacity Development for Social Protection. The analysis conducted in this report empirically determines the sample size requirements to estimate the impact of the 4P transfer using the regression discontinuity design. These sampling recommendations were also used for the previous round of impact evaluation, i.e., Orbeta et al (2014).

$$\hat{T}(h) = m_{-}(h) - m_{+}(h) \; X_i = \bar{x} \qquad \text{(Equation 2)}$$

where $m_{-}(h)$ and $m_{+}(h)$ denote the intercepts at zero of weighted linear regressions for only treated and only control units, respectively, while h is the chosen bandwidth. To program the estimation strategy, we follow Calonico et al. (2014b) and use the rdrobust command in Stata.[20] In the preferred specification, we estimate the treatment effect with a vector of demeaned control variables, which includes variables on respondent's age, gender, religion, and ethnicity.

As discussed in Section 4.1, we examine the effect of the cash transfers on *multiple* GBV outcomes, based on type of violence inflicted and the relationship to the perpetrator. To adjust for multiple hypothesis testing and address the issue of over-rejection of the null hypothesis due to multiple inferences, we use summary index tests and false discovery rate adjusted p-values or FDR q-values (Anderson 2008).

VI. Results

6.1 Primary Findings

Estimates from the preferred specification are presented in Tables 3-6. Our key findings suggest no significant change in lifetime incidence and frequency of exposure to reported IPV among women who were assigned 4P beneficiary status compared to women who were assigned non-beneficiary status (please see Tables 3 and 4). Similarly, we do not find any change in incidence of reported non-domestic violence (refer to Table 6). To put these findings in perspective, it is worth noting that reported rates of GBV in the Philippines (14%) is lower than several of its counterparts in Africa (33%), South Asia (35%), and Latin America and the Caribbean (25%); thereby, making it more difficult to capture comparable impacts as the event of violence is relatively rare.[21]

At the same time, we find a measurable decline in reported emotional non-partner domestic violence, i.e., any form of humiliation or insult perpetrated by victim's family, her in-law's family, or other relatives (shown in Table 5). Notably, the effect size is substantial largely due to methodological reasons. The effect of treatment on emotional NPDV is presented graphically in Figure 3. In Figure 3, linear approximations for both treatment and control observations show that emotional NPDV is negatively correlated with income – as income falls, emotional NPDV tends to increase. Counterfactual for the treated group is captured by the dashed red line, i.e., we assume that without treatment the linear trend observed for control observations would continue to increase with falls in income. Considering that the effect of the program is captured by the difference in intercepts of local regressions for beneficiaries and non-beneficiaries as shown in Equation 2 ($m_{-}(h)$-$m_{+}(h)$), we find strong discontinuity at the threshold with a significant drop in reported emotional NPDV.

On investigating further, we find that the estimated reduction in NPDV is mainly confined to decline in violence perpetrated by sibling or sibling-in-law and not parents/parents-in-law or other relatives (shown in Table 5a). Interestingly, we find that household structure and co-location among household members

[20] Refer to Calonico et al. 2014a for a description of the command.

[21] GBV rates refer to lifetimes experience of intimate partner violence. Source: Global Database on Prevalence of Violence Against Women, The World Health Organization.

does not necessarily matter for infliction of violence. For instance, among all reported instances of violence by sibling or sibling-in-law we find that the perpetrator was not residing with the victim in the same household. Overall, the evidence is noteworthy and suggests that the 4P transfer helped in mitigating exposure to specific types and forms of violence rather than having an overarching impact on GBV exposure.

Further, we find a significant increase in help-seeking behavior among beneficiary women who faced any form of emotional violence compared to non-beneficiary women (refer to Table 7). These results provide pertinent evidence on how CCTs could be leveraged as an instrument not only to mitigate exposure to violence within households, but also encourage help-seeking and reporting behavior among survivors. We discuss potential mechanisms underlying these effects in Section 7. Additionally, estimates on the effect of CCT on individual acts of violence (i.e., slap, push, etc.) has been provided in Tables A1-A8 in the Appendix.

Table 3: Effect of CCT on Incidence of Intimate Partner Violence (IPV)

	(1)	(2)	(3)	(4)
	Incidence of physical IPV	Incidence of sexual IPV	Incidence of emotional IPV	Incidence of economic IPV
RD Effect	0.041	0.005	-0.077	0.014
	(0.57)	(0.75)	(0.22)	(0.86)
FDR q-values	0.98	0.98	0.87	0.98
Observations	563	563	563	563
Control mean	0.175	0.050	0.186	0.211
P-values in parentheses: * p<0.1 ** p<0.05 *** p<0.01				

Note: All regressions include a set of individual characteristics as control variables: age, ethnic background, and religious background. FDR q-values are computed using p-values for all IPV regressions in Tables 3 and 4.

Table 4: Effect of CCT on Frequency of Exposure to Intimate Partner Violence (IPV)

	(1)	(2)	(3)	(4)
	Frequency of physical IPV	Frequency of sexual IPV	Frequency of emotional IPV	Frequency of economic IPV
RD Effect	-0.002	0.019	-0.017	-0.052
	(0.98)	(0.18)	(0.75)	(0.50)
FDR q-values	0.98	0.87	0.98	0.98
Observations	563	563	563	563
Control mean	0.075	0.025	0.125	0.164
P-values in parentheses: * p<0.1 ** p<0.05 *** p<0.01				

Note: All regressions include a set of individual characteristics as control variables: age, ethnic background, and religious background. FDR q-values are computed using p-values for all IPV regressions in Tables 3 and 4.

Table 5: Effect of CCT on Incidence of Non-Partner Domestic Violence (NPDV)

	(1) Incidence of physical NPDV	(2) Incidence of sexual NPDV	(3) Incidence of emotional NPDV	(4) Incidence of economic NPDV
RD Effect	-0.011	-0.003	-0.112**	-0.056
	(0.69)	(0.29)	(0.02)	(0.14)
FDR q-values	0.69	0.38	0.09	0.28
Observations	564	564	564	564
Control mean	0.043	0.000	0.114	0.075
P-values in parentheses: * p<0.1 ** p<0.05 *** p<0.01				

Note: All regressions include a set of individual characteristics as control variables: age, ethnic background, and religious background. FDR q-values are computed using p-values for all NPDV regressions.

Table 5a: Effect of CCT on Incidence of Non-Partner Domestic Violence (NPDV) by relationship to perpetrator

	(1) NPDV by mother/mother-in-law	(2) NPDV by father/father-in-law	(3) NPDV by sibling/sibling-in-law	(4) NPDV by other (aunt/uncle/cousin)
RD Effect	-0.018	-0.021	-0.102***	-0.016
	(0.25)	(0.42)	(0.00)	(0.69)
FDR q-values	0.50	0.56	0.01	0.69
Observations	518	517	537	527
Control mean	0.020	0.020	0.061	0.039
P-values in parentheses: * p<0.1 ** p<0.05 *** p<0.01				

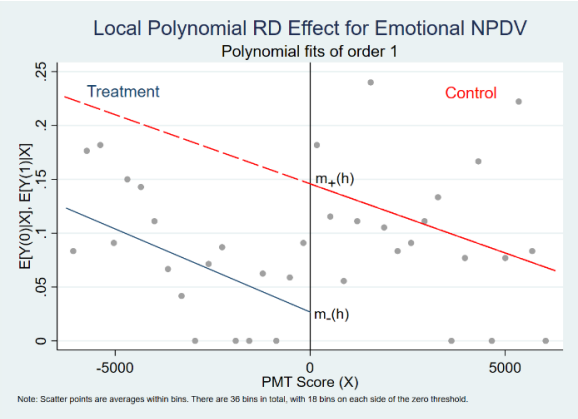
Note: All regressions include a set of individual characteristics as control variables: age, ethnic background, and religious background. FDR q-values are computed using p-values for all NPDV regressions.

Table 6: Effect of CCT on Incidence of Non-Domestic Violence (NDV)

	(1) Incidence of physical NDV	(2) Incidence of sexual NDV	(3) Incidence of emotional NDV	(4) Incidence of economic NDV
RD Effect	0.000	-0.003	0.015	-0.010
	(0.92)	(0.32)	(0.65)	(0.45)
FDR q-values	0.92	0.86	0.86	0.86
Observations	564	564	564	564
Control mean	0.011	0.000	0.029	0.007
P-values in parentheses: * p<0.1 ** p<0.05 *** p<0.01				

Note: All regressions include a set of individual characteristics as control variables: age, ethnic background, and religious background. FDR q-values are computed using p-values for all NDV regressions.

Figure 3: Local Polynomial RD Effect for Emotional NPDV



Notes: There are a total of 36 bins, 18 bins each for beneficiaries and non-beneficiaries. Graph shows polynomial fits of order 1.

Table 7: Effect of CCT on Help-Seeking Behavior

	(1) Did you seek help due to physical violence?	(2) Did you seek help due to emotional violence?	(3) Did you seek help due to economic violence?	(4) Did you seek help due to any violence?	(5) How many times did you seek help due to violence?
RD Effect	-0.127	0.294*	-0.065	0.002	0.015
	(0.25)	(0.07)	(0.56)	(0.99)	(0.93)
FDR q-values	0.62	0.36	0.93	0.99	0.99
Observations	132	159	141	263	263
Control mean	0.167	0.244	0.227	0.206	0.373
P-values in parentheses: * p<0.1 ** p<0.05 *** p<0.01					

Note: All regressions include a set of individual characteristics as control variables: age, ethnic background, and religious background. FDR q-values are computed using p-values for all help-seeking behavior regressions.

6. 2 Identification Checks

To test the validity of these results, we conduct three identification checks, following Cattaneo, Idrobo and Titiunik (2018). The first test checks for discontinuity in the density function of the running variable, i.e., income per capita, at the threshold that defines eligibility for participation in the CCT program. The second test is based on a falsification check, which examines the effect of the CCT program on pre-determined covariates, i.e., variables that are determined before the treatment is assigned. Finally, the third test checks for the effect of the CCT program on placebo outcomes, i.e., indicators that are unlikely to get affected by the CCT program.

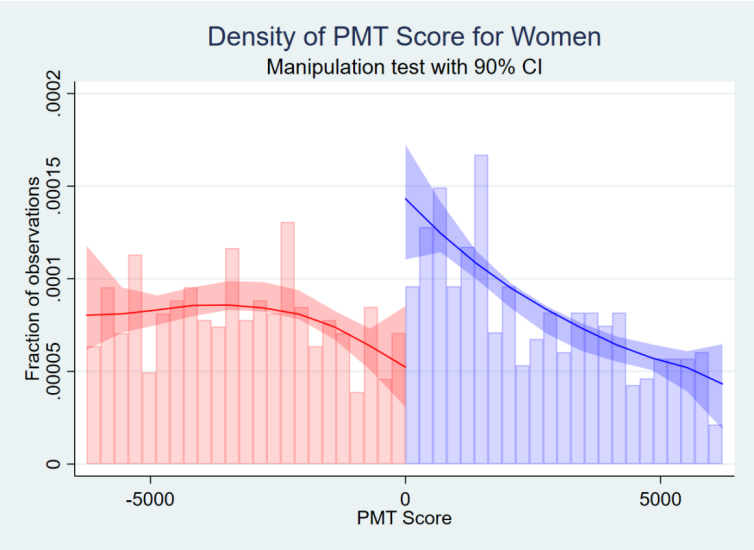
6.2.1. Discontinuity of the Running Variable

In this test, we examine whether the number of observations just above the cutoff is roughly similar to the number of observations below the cutoff. The idea underlying this test is that if individuals do not have precise control over the value of the income score they receive, they should be as likely to receive a score marginally above the cutoff as they are to receive a score marginally below the cutoff. Thus, lumping in the density graph of the running variable, especially near the threshold, may be indicative of manipulation by households. In particular, if we observe lumping just *below* the cutoff, which would yield beneficiary-status, we could suspect some manipulation by households to get selected into the cash transfer program.

At the same time, there is a growing body of work, which argues that continuity of the running variable's density function is neither necessary nor sufficient for regression discontinuity identification (McCrary 2008, Sekhon and Titiunik 2016, Dong 2018, and Frölich and Sperlich 2019, Choi and Lee 2020). "The score density continuity should not give a false sense of security when not rejected, and lack of it should not be taken as a reason to give upon the RD study hastily" (p.1. Choi and Lee 2020). In this light, we attempt to check the identifying assumptions of our empirical strategy through multiple tests.

As a first step, abiding by the conventional wisdom, we check the density of the running variable, i.e., the PMT score (see Figure 4). We find higher density just above the cutoff, i.e., lumping among ineligible households. This is intriguing and unlikely to be explained by intentional manipulation on behalf of 4P households - lest we would have observed lumping just below the cutoff which would have yielded beneficiary status. Still, this may indicate manipulation on behalf of program implementers. However, the income data used to determine eligibility of households was collected – as part of the *Listahanan*– much before the 4P program was conceived and implemented. Further, the sampling for this study was done *after* the scores had been determined and as described in Section 4, our sample was randomly drawn from the sampling frame used in Orbeta et al. 2014. In light of these considerations, it is unlikely that implementers could have exercised *precise* control over the estimated income, and we suspect that the observed discontinuity could instead be an artifact of the targeting formula (weights used to develop the poverty score could cause jumps in the distribution) or an upshot of a non-standard sampling procedure (Ambler and Brauw 2019).

Figure 4: Density of Income per Capita (Running Variable)



Note: This figure plots the density function of the running variable, i.e., income per capita. It demonstrates discontinuity at the threshold, albeit on the right-hand side, i.e., among ineligible households.

Next, considering we cannot draw conclusive insights on manipulation solely from the density figures, we conduct more formal checks to test the identifying assumptions. In doing so, we closely follow Gerard et al. (2020), which provides a test for potential one-sided manipulations and furnishes "manipulation-robust inference in settings where manipulation is conceivable, but not obvious from the data" (p.1. Gerard et al 2020). This approach estimates the discontinuity in the running variable as a proportion of the manipulated units close to the threshold and thereby, estimates the bounds on the treatment effect. Using the rdbounds package provided by Gerard et al. (2020), we find that the estimation of treatment effects is the same as the estimation under the assumption of no manipulation; thereby, yielding no evidence of manipulation.

6.2.2 Effect on Pre-determined Covariates

In the second identification check, we test whether there is any systematic difference between the treatment and control group at the cutoff with respect to predetermined covariates, within a window where the treatment is assumed to have been randomly assigned (Cattaneo et al 2018). Considering these covariates were pre-determined, they could not have been affected by the treatment; therefore, for the RD design to be valid, we should not find any significant difference - in-means - between the treatment and control groups.

Estimates from Column (4) in Table 8 confirm that the control and treatment means are not significantly different from zero for all covariates (except age, which is significant at 90% confidence). In other words, there is no statistical evidence of imbalance (in terms of means) within the tested window.[22]

[22] This estimation was performed using rdrandif command in Stata, as described in Cattaneo, Idrobo and Titiunik (2018).

Table 8: Falsification Test based on Pre-determined Covariates

	(1)	(2)	(3)	(4)	(5)
	Control Mean	**Treatment Mean**	**Diff in means (T-C)**	**P-value**	**Observations**
Age	38.776	40.162	1.386	0.084	208
Catholic	0.813	0.811	-0.002	1.000	208
Other Christian	0.104	0.149	0.045	0.372	208
Ilonggo ethnicity	0.104	0.122	0.018	0.800	208
Bisaya ethnicity	0.209	0.230	0.021	0.863	208
Bikolano ethnicity	0.149	0.122	-0.027	0.678	208
Waray ethnicity	0.112	0.068	-0.044	0.326	208
Tagalog ethnicity	0.112	0.162	0.050	0.380	208
Cebuano ethnicity	0.142	0.108	-0.034	0.515	208
Grantee's years of education	9.722	9.946	0.224	0.724	207
Partner's years of education	13.196	14.048	0.851	0.524	175
Years of marriage	13.328	13.297	-0.031	0.983	208
Recommended window is [-2021.9; 2021.9] with 208 observations (134 below, 74 above).					

Note: Recommended window for local randomization tests based on Cattaneo et al. (2018)

6.2.3 Effect on Placebo Outcomes

Finally, we conduct a falsification test to investigate whether the CCT program had any effect on placebo outcomes. Considering that CCT programs can have an overarching effect on a multitude of outcomes, it is rather difficult to identify suitable placebo outcomes. Nonetheless, after careful consideration we identified a few placebo outcomes via utilizing a list randomization measurement experiment that was embedded as a part of the IE study to measure GBV.

Under the list randomization (LR) method, we divided the study sample into two groups, i.e., treatment and control. From the control group, we asked questions on innocuous topics (i.e., on topics that are unrelated to the CCT program and exposure to GBV), whereas from the treatment group, we asked the same innocuous questions and a few questions on GBV. Notably, both the treatment and control group included equal number of respondents that were assigned beneficiary and non-beneficiary status. Each respondent, in both LR treatment and control group, was asked 8 set of questions - one corresponding to the 8 different types of GBV, namely physical IPV, emotional IPV, economic IPV, sexual IPV, physical NPV, emotional NPV, sexual NPV and economic NPV.[23] Each set included 4 statements (one on GBV and three on innocuous topics) for the treatment group and 3 statements (all three on innocuous topics) for the control group. The respondents were then asked to report the total number of statements they agree or disagree with and not whether they individually agree or disagree with each statement. Notably, the list

[23] NPV refers to non-partner violence. This could take place either within the household (i.e., NPDV) or outside the household (i.e., NDV). Due to budget and sample size restrictions, we asked questions on 8 types of GBV (instead of 12) under the LR method.

randomization method provides high degree of anonymity to the respondent by masking individual responses through aggregation. Further, this anonymity is fairly intuitive for the respondent to feel that the responses would be kept confidential. A few examples of the innocuous statements include "my friends respect me", "I have been in an earthquake", "I feel lonely on most days", and "I am jealous of my neighbor". Please refer to Table A10 in for full list of innocuous statements.

To conceptualize and conduct a befitting placebo check, we estimate the effect of the 4P program on responses provided by the LR control group (i.e., respondents who were only asked the innocuous questions). Estimates from Table 9 demonstrate satisfaction of the falsification test; we find no significant effect of the CCT program on placebo outcomes.

Table 9: Effect of CCT on Placebo Outcomes (innocuous questions for LR control group)

	(1) LR Control group 1 *(control for physical IPV)*	(2) LR Control group 2 *(control for emotional IPV)*	(3) LR Control group 4 *(control for economic NPV)*	(4) LR Control group 6 *(control for economic IPV)*	(5) LR Control group 8 *(control for emotional NPV)*
RD Effect	0.016	0.137	-0.136	0.154	0.153
	(0.91)	(0.35)	(0.19)	(0.41)	(0.34)
FDR q-values	0.91	0.61	0.61	0.61	0.73
Observations	278	278	278	278	278
Control mean	1.463	1.382	1.000	1.824	1.169
P-values in parentheses: * p<0.1 ** p<0.05 *** p<0.01					

Note: This table provides estimates for 5 of the 8 set of questions asked from each respondent in the LR control group. While conducting ID checks for the LR method for each set of questions/type of GBV, we found that the identifying assumption was not satisfied for the remaining three groups, i.e. sexual NPV, sexual IPV and physical NPV (results available on request). Therefore, we test the validity of the primary treatment effect by estimating the effect of the CCT program only for the 5 outcomes that satisfied the LR identification check.

6.3 Robustness Tests

6.3.1. Alternative Running Variable

Following Choi and Lee (2020), we use ranks of households (ranked by income) as the running variable instead of income itself. The thought experiment underlying this test is that since households cannot observe who else would have been considered for the CCT program or their relative positioning w.r.t other households, the likelihood of manipulation while using household ranks as the eligibility criteria (instead of an absolute income cutoff point) is quite low. Thus, we replicate the primary analysis by defining using *rank* of households as an alternative running variable. Estimates from Tables 10-13 indicate that the primary estimates found in Section 6.1 are robust.

Table 10: Effect of CCT on Incidence of IPV (Ranking PMT)

	(1)	(2)	(3)	(4)
	Incidence of physical IPV	Incidence of sexual IPV	Incidence of emotional IPV	Incidence of economic IPV
RD Effect	0.035	0.011	-0.056	0.001
	(0.60)	(0.64)	(0.36)	(0.98)
FDR q-val	0.99	0.99	0.95	0.99
Observations	563	563	563	563
Control mean	0.175	0.050	0.186	0.211
P-values in parentheses: * p<0.1 ** p<0.05 *** p<0.01				

Note: All regressions include a set of individual characteristics as control variables: age, ethnic background, and religious background. FDR q-values are computed using p-values for all IPV regressions in Tables 10 and 11.

Table 11: Effect of CCT on Frequency of Exposure to Intimate Partner Violence (Ranking PMT)

	(1)	(2)	(3)	(4)
	Frequency of physical IPV	Frequency of sexual IPV	Frequency of emotional IPV	Frequency of economic IPV
RD Effect	0.001	0.023	-0.007	-0.067
	(0.99)	(0.24)	(0.89)	(0.34)
FDR q-val	0.99	0.95	0.99	0.95
Observations	563	563	563	563
Control mean	0.075	0.025	0.125	0.164
P-values in parentheses: * p<0.1 ** p<0.05 *** p<0.01				

Note: All regressions include a set of individual characteristics as control variables: age, ethnic background, and religious background. FDR q-values are computed using p-values for all IPV regressions in Tables 10 and 11.

Table 12: Effect of CCT on Incidence of Non-Domestic Violence (Ranking PMT)

	(1) Incidence of physical NPDV	(2) Incidence of sexual NPDV	(3) Incidence of emotional NPDV	(4) Incidence of economic NPDV
RD Effect	0.012	-0.004	-0.123**	-0.060
	(0.69)	(0.27)	(0.01)	(0.13)
FDR q-val	0.69	0.36	0.05	0.26
Observations	564	564	564	564
Control mean	0.043	0.000	0.114	0.075
P-values in parentheses: * p<0.1 ** p<0.05 *** p<0.01				

Note: All regressions include a set of individual characteristics as control variables: age, ethnic background, and religious background. FDR q-values are computed using p-values for all NPDV regressions.

Table 13: Effect of CCT on Incidence of Non-Domestic Violence (Ranking PMT)

	(1) Incidence of physical NDV	(2) Incidence of sexual NDV	(3) Incidence of emotional NDV	(4) Incidence of economic NDV
RD Effect	0.004	-0.001	0.008	-0.002
	(0.56)	(0.41)	(0.81)	(0.91)
FDR q-val	0.91	0.91	0.91	0.91
Observations	564	564	564	564
Control mean	0.011	0.000	0.029	0.007
P-values in parentheses: * p<0.1 ** p<0.05 *** p<0.01				

Note: All regressions include a set of individual characteristics as control variables: age, ethnic background, and religious background. FDR q-values are computed using p-values for all NDV regressions.

Table 14: Effect of CCT on Help-Seeking Behavior (Ranking PMT)

	(1) Did you seek help due to physical violence?	(2) Did you seek help due to emotional violence?	(3) Did you seek help due to economic violence?	(4) Did you seek help due to any violence?	(5) How many times did you seek help due to violence?
RD Effect	0.040	0.283**	-0.004	0.074	0.133
	(0.77)	(0.05)	(0.97)	(0.43)	(0.46)
FDR q-values	0.96	0.25	0.97	0.77	0.77
Observations	132	159	141	263	263
Control mean	0.167	0.244	0.227	0.206	0.373
P-values in parentheses: * p<0.1 ** p<0.05 *** p<0.01					

Note: All regressions include a set of individual characteristics as control variables: age, ethnic background, and religious background. FDR q-values are computed using p-values for all regressions in the table.

6.3.2 Alternative Measure of Exposure to GBV

In this robustness check, we examine the effect of the CCT program on an alternative measure of GBV outcome. In the primary analysis (described in Section 4), we defined GBV incidence as a dummy variable, which took value 1 if the respondent experienced ANY act of violence, and 0 otherwise. For instance, to measure physical IPV, if the respondent had experienced ANY of the following 7 acts – (i) push/shake, (ii) slap, (iii) punch, (iv) kick/drag, (v) strangle or burn, (vi) twist arm/pull hair, or (vii) threaten with knife/gun – then the outcome will take value 1 (irrespective of how many violent acts the respondent experienced). In the alternative measure, we utilize a continuous measure of exposure and evaluate the sum of all acts that the respondent may have experienced. Thus, in the above example, the alternative measure of physical IPV could take discrete values ranging between 0 to 7. Tables 15-18 present the estimates using this alternative measure of GBV and we find that the results are consistent with the primary analysis. Like before, we find that the CCT program significantly reduced incidence of emotional NPDV.

Table 15: Effect of CCT on Incidence of IPV (continuous measure of exposure to violence)

	(1)	(2)	(3)	(4)
	Incd. of physical IPV: Sum of 7 answers	Incd. of sexual IPV: Sum of 3 answers	Incd. of emotional IPV: Sum of 3 answers	Incd. of economic IPV: Sum of 4 answers
RD Effect	-0.027	0.025	0.016	-0.059
	(0.88)	(0.29)	(0.83)	(0.46)
FDR q-val	0.88	0.88	0.88	0.88
Observations	562	562	562	562
Control mean	0.208	0.025	0.158	0.201
P-values in parentheses: * p<0.1 ** p<0.05 *** p<0.01				

Note: All regressions include a set of individual characteristics as control variables: age, ethnic background, and religious background. FDR q-values are computed using p-values for all IPV regressions in the table.

Table 16: Effect of CCT on Incidence of NPDV (continuous measure of exposure to violence)

	(1)	(2)	(3)	(4)
	Incd. of physical NPDV: Sum of 7 answers	Incd. of sexual NPDV: 1 answer	Incd. of emotional NPDV: Sum of 3 answers	Incd. of economic NPDV: Sum of 4 answers
RD Effect	-0.029	-0.003	-0.156**	-0.088*
	(0.37)	(0.29)	(0.03)	(0.06)
FDR q-val	0.37	0.37	0.13	0.13
Observations	564	564	564	564
Control mean	0.057	0.000	0.154	0.089
P-values in parentheses: * p<0.1 ** p<0.05 *** p<0.01				

Note: All regressions include a set of individual characteristics as control variables: age, ethnic background, and religious background. FDR q-values are computed using p-values for all NPDV regressions in the table.

Table 17: Effect of CCT on Incidence of NDV (continuous measure of exposure to violence)

	(1)	(2)	(3)	(4)
	Incd. of physical NDV: Sum of 6 answers	Incd. of sexual NDV: Sum of 2 answers	Incd. of emotional NDV: Sum of 3 answers	Incd. of economic NDV: Sum of 4 answers
RD Effect	-0.013	-0.006	0.017	-0.013
	(0.47)	(0.32)	(0.68)	(0.37)
FDR q-val	0.63	0.63	0.68	0.63
Observations	564	564	564	564
Control mean	0.014	0.000	0.036	0.007
P-values in parentheses: * p<0.1 ** p<0.05 *** p<0.01				

Note: All regressions include a set of individual characteristics as control variables: age, ethnic background, and religious background. FDR q-values are computed using p-values for all NDV regressions in the table.

Table 18: Effect of CCT on Frequency of Exposure to IPV (continuous measure of exposure to violence)

	(1)	(2)	(3)	(4)
	Incd. of physical IPV (freq): Sum of 7 answers	Incd. of sexual IPV (freq): Sum of 3 answers	Incd. of emotional IPV (freq): Sum of 3 answers	Incd. of economic IPV (freq): Sum of 4 answers
RD Effect	-0.011	0.012	-0.024	-0.112
	(0.98)	(0.81)	(0.88)	(0.54)
FDR q-val	0.98	0.98	0.98	0.98
Observations	562	562	562	562
Control mean	0.642	0.090	0.441	0.527
P-values in parentheses: * p<0.1 ** p<0.05 *** p<0.01				

Note: All regressions include a set of individual characteristics as control variables: age, ethnic background, and religious background. FDR q-values are computed using p-values for all regressions in the table.

VII. Mechanisms of Impact

As described in Section 3, there could be multiple pathways underlying the effect of CCT on GBV. In this section, we examine the effect of the 4P program on an array of intermediate outcomes (as described in Section 4.2) to furnish evidence on plausible mechanisms of impact. Table 19a and Table 19b provide estimates on women's and men's outcomes, respectively.

We first test whether the 4P program had any effect on men's and women's well-being. Estimates from table 19a (column 4) as well as table 19b (column 1) indicate improvements in well-being (significantly so for men). Improved well-being within the household could have contributed towards lower likelihood of domestic violence perpetrated by intimate partner or non-intimate partner.

Notably, we find significant improvement in women's bargaining power and empowerment (column 1 and 2 in Table 19a). At the same time, we find no evidence of deterioration (or backlash) in men's

attitudes towards gender equity; instead, we find a marginal improvement (although insignificant) in men's attitudes (please see column 2 in Table 19b). This is indicative of an overall improvement in women's empowerment and bargaining power devoid of backlash by men; thereby, decreasing the likelihood of exposure to violence.

Finally, we also find an improvement in women's social networks, possibly due to the 4P family development sessions (FDS). Some of these sessions had explicit discussions on intrahousehold dynamics, which could have discouraged men from perpetrating violence and women from tolerating violence. Further, development of social capital among women via attending FDS could have also emboldened women to not tolerate violence and seek help in the eventuality of experiencing violence.

Overall, we find evidence in support of all the channels. The reduction in emotional NPDV could be associated with one or more of these mechanisms or their interplay. Admittedly, since we do not have any baseline data on the intermediary outcomes and each of these outcomes could have in turn been affected by the CCT program, we cannot draw any causal inference from these estimates. These results are at best suggestive. Nonetheless, these findings provide important evidence on pathways through which inflow of cash within the household in the hands of the woman could mitigate her risks of experiencing violence.

Table 19a: Effect of CCT on Intermediate Outcomes (female respondents)

	(1) Bargaining Power Index	(2) Empowerment Index	(3) Social networks Index	(4) Well-being Index
RD Effect	0.206**	0.164*	0.181*	0.071
	(0.02)	(0.06)	(0.07)	(0.51)
FDR q-val	0.07	0.10	0.10	0.51
Observations	564	564	564	564
Control mean	0.000	0.000	0.032	0.001
P-values in parentheses: * p<0.1 ** p<0.05 *** p<0.01				

Note: All regressions include a set of individual characteristics as control variables: age, ethnic background, and religious background. FDR q-values are computed using p-values for all regressions in the table.

Table 19b: Effect of CCT on Intermediate Outcomes (male respondents)

	(1)	(2)
	Well-being Index	Attitude towards gender equity Index
RD Effect	0.222*	0.071
	(0.08)	(0.32)
FDR q-val	0.16	0.32
Observations	478	478
Control mean	0.002	0.000
P-values in parentheses: * p<0.1 ** p<0.05 *** p<0.01		

Note: All regressions include a set of individual characteristics as control variables: age, ethnic background, and religious background. FDR q-values are computed using p-values for all regressions in the table.

VIII. Conclusion

Our results show that while the grantees of the 4P conditional cash transfer program did not experience any change in exposure to violence - perpetrated by an intimate partner or non-family members – they did face significantly lower emotional violence perpetrated by non-partner family members. This result is robust to an array of sensitivity checks. We present suggestive evidence, which indicates that the effects of the 4P transfer could be mediated through improvements in household well-being, women's empowerment and bargaining power and their social networks.

At the same time, the study has a few key limitations. First, considering that the two elements of the 4P program – the cash transfer and monthly family development sessions - were bundled, we cannot decipher whether the estimated results are driven by an individual component or a combination of the two. Second, because this study is one of the first to examine the effect on non-partner violence, we are unable to provide evidence on mediating factors that could have exclusively affected non-partner violence. Notably, the key mechanisms assessed in this study – well-being, women's empowerment and bargaining power and social networks - were originally theorized in the context of IPV (Buller et al. 2016). Nonetheless, we believe – as also indicated by our results – that these mechanisms also hold relevance for non-partner domestic violence and that such cash transfers can influence intra-household dynamics among both, intimate and non-intimate household members. Still, more research is needed to adequately understand the mechanisms through which cash transfers could influence violence perpetrated by non-partners. Finally, we cannot empirically distinguish the effect mediated by each individual channel; our results – consistent with past scholarship – suggest that all four mechanisms could have played a complementary role in impacting violence (Roy et al. 2019).

Accounting for these caveats, the results from this study offer pertinent policy implications. While our findings uphold the promise of CCT programs in mitigating violence, it also cautions us against considering CCTs as a panacea for GBV prevention. Our results demonstrate that the effect of cash transfers can vary based on type and form of violence and therefore, a more a targeted, *fit-to-size* approach needs to be adopted. It is noteworthy that we find a significant reduction in emotional abuse, which is arguably a *less severe* form of violence, i.e., entailing verbal remarks or gestures, but we do not find any effect on more severe forms of physical or sexual violence, which often entail violation of the victim's bodily integrity.

Further, we find an effect for a type of violence that has relatively low incidence, i.e., incidence of NPDV among grantees in the control group was 17.1%, while incidence of IPV among the same group was 26.2%.[24] Thus, while the 4P transfer helped in mitigating less severe and relatively rare forms of violence, it did not have an impact on more grave and predominant forms. Furthermore, we observe that the estimated reduction in violence is mostly confined to violence perpetrated by siblings or siblings-in-law. Notably, the relationship shared between the grantee and her siblings/siblings-in-law could be less hierarchical and unequal than say, a relationship with her parents/parents-in-law where the power dynamic is salient. In other words, we find that the cash transfer helped in reducing violence perpetrated by family members with whom the grantee shares a less contentious relationship, but it did not affect violence perpetrated by someone in a position of power and with whom the grantee may be more vulnerable to controlling behavior. This reiterates the need to adopt a more targeted approach, possibly with complementary interventions that embody explicit objectives on GBV prevention and accounts for how cash transfers can impact different manifestations of violence by different people within or outside the household.

[24] These numbers encapsulate prevalence of ANY form of violence experienced by women in the control group, i.e., physical, sexual, emotional, or economic.

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Appendix

Table A1: Effect of CCT on Incidence of physical IPV

	Incidence of physical IPV						
	Push/shake/throw something at you?	Slap you?	Punch you with fist/hit you?	Kick/drag you?	Strangled/burnt you?	Twist your harm/pull you by hair?	Threaten you with knife/gun or other weapon?
RD Effect	-0.005	0.019	0.005	0.014	-0.023*	-0.031	-0.005
	(0.93)	(0.60)	(0.93)	(0.58)	(0.07)	(0.15)	(0.63)
FDR q-values	0.93	0.88	0.93	0.88	0.50	0.52	0.88
Observations	562	562	561	562	562	562	562
Control mean	0.057	0.047	0.036	0.014	0.018	0.022	0.014

P-values in parentheses: * p<0.1 ** p<0.05 *** p<0.01

Note: All regressions include a set of individual characteristics as control variables: age, ethnic background, and religious background. FDR q-values are computed using p-values for each group of outcomes.

Table A2: Effect of CCT on Incidence of sexual, emotional, and economic IPV

	Incidence of sexual IPV			Incidence of emotional IPV			Incidence of economic IPV			
	Force sexual intercourse/perform other sexual acts?	Force something sexual and degrading/humiliating?	Did have intercourse because afraid of what partner may do?	Insult you/made you feel bad?	Humiliate you in front of others?	Intimidate/threaten/threat to someone you care about?	Did not allow you legitimate work/practice profession?	Deprive you/threaten to deprive financial resources?	Control your own money or properties/force you to share?	Destroy your property/belongings/threaten to do so?
RD Effect	0.012	0.001	0.012	-0.018	0.028	0.006	-0.108	0.024	0.006	0.018
	(0.30)	(0.91)	(0.24)	(0.70)	(0.42)	(0.37)	(0.13)	(0.27)	(0.77)	(0.17)
FDR q-values	0.46	0.91	0.46	0.70	0.63	0.63	0.35	0.36	0.77	0.35
Observations	562	562	562	562	562	562	562	561	562	562
Control mean	0.022	0.000	0.004	0.111	0.043	0.004	0.136	0.029	0.025	0.011
P-values in parentheses: * p<0.1 ** p<0.05 *** p<0.01										

Note: All regressions include a set of individual characteristics as control variables: age, ethnic background, and religious background. FDR q-values are computed using p-values for each group of outcomes.

Table A3: Effect of CCT on Incidence of NPDV

	Incidence of physical NPDV						
	Push/shake/throw something at you?	Slap you?	Punch you with fist/hit you?	Kick/drag you?	Strangled/burnt you?	Twist your harm/pull you by hair?	Threaten you with knife/gun or other weapon?
RD Effect	-0.004	-0.010	-0.002	-0.005	-0.001	-0.001	-0.005
	(0.86)	(0.35)	(0.84)	(0.22)	(0.62)	(0.62)	(0.40)
FDR q-values	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Observations	564	564	564	564	564	564	564
Control mean	0.018	0.007	0.014	0.004	0.004	0.004	0.007

P-values in parentheses: * p<0.1 ** p<0.05 *** p<0.01

Note: All regressions include a set of individual characteristics as control variables: age, ethnic background, and religious background. FDR q-values are computed using p-values for each group of outcomes.

Table A4: Effect of CCT on Incidence of sexual, emotional, and economic NPDV

	Incidence of sexual NPDV	Incidence of emotional NPDV			Incidence of economic NPDV			
	Force something sexual and degrading/humiliating?	Insult you/made you feel bad?	Humiliate you in front of others?	Intimidate/threaten/threat to someone you care about?	Did not allow you legitimate work/practice profession?	Deprive you/threaten to deprive financial resources?	Control your own money or properties/force you to share?	Destroy your property/belongings/threaten to do so?
RD Effect	-0.003	-0.104**	-0.030	-0.022	-0.026	-0.002	-0.003	-0.056**
	(0.29)	(0.01)	(0.33)	(0.44)	(0.43)	(0.85)	(0.34)	(0.02)
FDR q-values	0.29	0.04	0.44	0.44	0.58	0.85	0.58	0.09
Observations	564	564	564	564	564	564	564	564
Control mean	0.000	0.089	0.043	0.021	0.057	0.004	0.004	0.025

P-values in parentheses: * p<0.1 ** p<0.05 *** p<0.01

Note: All regressions include a set of individual characteristics as control variables: age, ethnic background, and religious background. Excluded are outcomes for which there are no reported occurrences of NPDV. FDR q-values are computed using p-values for each group of outcomes.

Table A5: Effect of CCT on Incidence of NDV

	Incidence of physical NDV					
	Push/shake/throw something at you?	Slap you?	Punch you with fist/hit you?	Kick/drag you?	Strangled/burnt you?	Twist your harm/pull you by hair?
RD Effect	-0.000	-0.001	-0.003	-0.003	-0.003	-0.003
	(0.89)	(0.85)	(0.32)	(0.32)	(0.32)	(0.32)
FDR q-values	0.89	0.89	0.48	0.48	0.48	0.48
Observations	564	564	564	564	564	564
Control mean	0.007	0.007	0.000	0.000	0.000	0.000
P-values in parentheses: * p<0.1 ** p<0.05 *** p<0.01						

Note: All regressions include a set of individual characteristics as control variables: age, ethnic background, and religious background. Excluded are outcomes for which there are no reported occurrences of NPDV. FDR q-values are computed using p-values for each group of outcomes.

Table A6: Effect of CCT on Incidence of sexual, emotional, and economic NDV

	Incidence of sexual NDV		Incidence of emotional NDV			Incidence of economic NDV			
	Force something sexual and degrading/ humiliating ?	Did have intercourse because afraid of what partner may do?	Insult you/made you feel bad?	Humiliate you in front of others?	Intimidate/ threaten/threat to someone you care about?	Did not allow you legitimate work/practice profession?	Deprive you/threaten to deprive financial resources?	Control your own money or properties/ force you to share?	Destroy your property/belongings/threaten to do so?
RD Effect	-0.003	-0.003	0.012	-0.011	0.015	-0.005	0.005	-0.003	-0.010
	(0.32)	(0.32)	(0.68)	(0.43)	(0.28)	(0.21)	(0.24)	(0.32)	(0.41)
FDR q-values	0.32	0.32	0.68	0.64	0.64	0.41	0.41	0.41	0.41
Observations	564	564	564	564	564	564	564	564	564
Control mean	0.000	0.000	0.021	0.007	0.007	0.000	0.000	0.000	0.007
P-values in parentheses: * p<0.1 ** p<0.05 *** p<0.01									

Note: All regressions include a set of individual characteristics as control variables: age, ethnic background, and religious background. Excluded are outcomes for which there are no reported occurrences of NPDV. FDR q-values are computed using p-values for each group of outcomes.

Table A7: Effect of CCT on Frequency of Exposure to IPV

	Frequency of physical IPV						
	Push/shake/throw something at you?	Slap you?	Punch you with fist/hit you?	Kick/drag you?	Strangled/burnt you?	Twist your harm/pull you by hair?	Threaten you with knife/gun or other weapon?
RD Effect	-0.011	0.079	0.021	0.024	-0.039	-0.064	-0.022
	(0.93)	(0.32)	(0.84)	(0.65)	(0.18)	(0.16)	(0.52)
FDR q-values	0.93	0.76	0.93	0.91	0.62	0.62	0.91
Observations	562	562	561	562	562	562	562
Control mean	0.186	0.147	0.094	0.047	0.047	0.075	0.047

P-values in parentheses: * p<0.1 ** p<0.05 *** p<0.01

Note: All regressions include a set of individual characteristics as control variables: age, ethnic background, and religious background. FDR q-values are computed using p-values for each group of outcomes.

Table A8: Effect of CCT on Frequency of Exposure to sexual, emotional, and economic IPV

	Frequency of sexual IPV			Frequency of emotional IPV			Frequency of economic IPV			
	Force sexual intercourse/perform other sexual acts?	Force something sexual and degrading/humiliating?	Did have intercourse because afraid of what partner may do?	Insult you/made you feel bad?	Humiliate you in front of others?	Intimidate/threaten/threat to someone you care about?	Did not allow you legitimate work/practice profession?	Deprive you/threaten to deprive financial resources?	Control your own money or properties/force you to share?	Destroy your property/belongings/threaten to do so?
RD Effect	0.010	-0.010	0.012	-0.059	0.024	0.011	-0.253	0.054	0.015	0.072*
	(0.69)	(0.55)	(0.57)	(0.57)	(0.74)	(0.71)	(0.12)	(0.24)	(0.74)	(0.10)
FDR q-values	0.69	0.69	0.69	0.74	0.74	0.74	0.24	0.33	0.74	0.24
Observations	562	562	562	562	562	562	562	561	562	562
Control mean	0.061	0.011	0.018	0.280	0.129	0.032	0.348	0.075	0.061	0.043
P-values in parentheses: * p<0.1 ** p<0.05 *** p<0.01										

Note: All regressions include a set of individual characteristics as control variables: age, ethnic background, and religious background. FDR q-values are computed using p-values for each group of outcomes.

Table A9: Type of actions considered under gender-based violence

Physical Violence
Push, shake or throw something at you?
Slap you?
Punch you with fist or hit you by something harmful?
Kick or drag you?
Strangled or burnt you?
Twist your harm or pull you by your hair?
Threaten you with knife/gun or another weapon?
Sexual Violence
Physically force you for sexual intercourse or perform any other sexual acts that you did not want to
Force you to do something sexual, which you found degrading/humiliating
Did you have an intercourse because afraid of what partner/his relative might do?
Emotional Violence
Insult you or made you feel bad about oneself
Humiliate you in front of others
Intimidate or threaten you directly, or through a threat to someone you care about
Economic Violence
Did not allow you to engage in legitimate work nor practice your profession
Deprive you or threaten to deprive you of financial resources and the right to use and enjoy, conjugal or commonly owned property
Control your own money or properties or force you to work
Destroy your personal property, pets or belongings, household property, or threaten to do so

Table A10: Survey Instrument for Control Group under List Randomization Method

S.No	Statements	No. of true statements
LR01	Please tell me how many of the following statements you regard as true: 1) I have faced severe economic hardships in life 2) I want to open a new business 3) I want to have children/more children	
LR02	Please tell me how many of the following statements you regard as true: 1) I am jealous of my neighbor 2) My friends respect me 3) I feel depressed on most days	
LR03	Please tell me how many of the following statements you regard as true: 1) I feel loved by my family 2) I fear death 3) I feel free to decide for myself how to lead my life.	
LR04	Please tell me how many of the following statements you regard as true: 1) People in my life care about me 2) I am jealous of my neighbor 3) I want to have children/more children	
LR05	Please tell me how many of the following statements you regard as true: 1) I have been in an earthquake 2) My friends respect me 3) I feel healthy	
LR06	Please tell me how many of the following statements you regard as true: 1) I feel lonely on most days 2) My husband and I are currently using contraception 3) I wish I could be more successful	
LR07	Please tell me how many of the following statements you regard as true: 1) I generally feel free to express my ideas and opinions 2) I believe in saving money for future 3) I feel lonely on most days	
LR08	Please tell me how many of the following statements you regard as true: 1) I feel free to decide for myself how to lead my life 2) I am jealous of my neighbor 3) I know someone suffering through cancer	