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Does Family Size Moderate the Relation between Resource Transfers and Intimate Partner Violence Rates?

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Abstract

Intimate partner violence (IPV) refers to physical, sexual, or psychological abuse within an intimate relationship. It is a global issue, particularly for women in developing countries where data show higher rates of IPV for these women than in developed countries. IPV can lead to physical harm, chronic health problems, and even death. It also has negative effects on mental health, economic stability, and the overall well-being of the woman and their children. Family size has been shown to be a predictor of IPV risk; women from larger families face a higher risk. Cash transfer programs in developing countries have been found to lead to reductions in rates of IPV experienced by women. This study analyzes data from one of these transfer programs in Ecuador to explore the relation between family size, IPV risk, and transfer efficacy. Logistic regression techniques are employed to determine how IPV risk changes with family size and whether scaled resource transfer distributions based on family size are beneficial. Women receiving resource transfers experienced greater reductions in IPV than women in the control group. Family size was found not to predict IPV risk, and also did not moderate the relation between transfers and IPV. The findings suggest that a scaled distribution of resource transfers might not be as critical when considering program design and implementation. This study demonstrates the complex nature of IPV, but more importantly sheds light on possible mechanisms for comprehensively addressing the issue and continuing research.

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Introduction

Approximately 30% of women globally over the age of 15 have experienced either physical or sexual partner violence in their life (Devries et al., 2013). This violence, often referred to as intimate partner violence (IPV), can typically be divided into three distinct categories: physical, sexual, or psychological violence (Breiding et al., 2015). These categories encompass many different forms of violence that are perpetrated at concerningly high rates against women, rates that also tend to be higher for women in developing countries (Devries et al., 2013). The consequences of IPV are well-documented across various sectors. The long-lasting psychological impacts can range from posttraumatic stress disorder (PTSD) to depression, with the most severe consequences of self-harm and even suicide (Devries et al., 2011; Dillon et al., 2013; Pico-Alfonso, 2005). These mental health issues often lead to physical health issues (Dillon et al., 2013). Consequently, this hinders a woman's ability to best take care of her children, go about her day normally and, from an economic perspective, contribute to the workforce. There is a growing body of research that seeks to understand the most important and influential risk factors in order to address IPV and its consequences.

Evidence has been growing of the impacts of cash transfer programs, targeted towards the poor, on IPV rates. A meta-analysis found that cash transfer programs tended to be associated with reductions in IPV, while also finding these impacts were most significant for controlling behaviors and emotional and physical violence (Baranov et al., 2021). Researchers in 2011 discovered that resource transfers (cash transfer, food voucher, or food transfer) of equivalent values originally intended to reduce poverty and food insecurity also reduced rates of IPV, specifically for low-level violence (Hidrobo et al., 2016). Current research seeks to explain these observed reductions by detailing three possible pathways: 1) economic security and emotional

well-being, 2) intrahousehold conflict, and 3) women's empowerment (Buller et al., 2018). The Hidrobo et al. (2016) study hypothesized that decision-making related to women's empowerment would be the functioning mechanism behind reductions in violence. However, that hypothesis did not hold true, and the researchers proposed the hypothesis that perhaps reduction of stress and conflict or increased economic/food security contributed more to the decrease in levels of IPV they observed (Hidrobo et al., 2016). The current study builds off of this proposed mechanism, choosing to focus on the different risk factors that can predict IPV in order to understand how they might influence both cash transfer interventions and other intervention methods.

There are numerous individual, family, and community level factors that interact with each other to make women more at risk for experiencing the three main types of intimate partner violence. An analysis of nine of these factors done by Flake (2005) is particularly instructive. Using a sample of 15,991 women from the 2000 Peru Demographic and Health Survey (DHS), Flake found that women with a low level of education, a low age at union, or a more violent family background are at an elevated risk for experiencing violence. He also discovered that women who cohabitated instead of marrying their partners, who had a higher level of status than their partners, who had a larger family, or whose partners consumed alcohol faced a higher risk of violence (Flake, 2005). Additionally, he found that women living in regions with high rates of poverty and unemployment were more at risk for violence while women living in big cities were statistically more at risk than women in rural regions (Flake, 2005). Two of these factors, poverty, and family size, are of particular interest for the study at hand.

People living in situations of poverty are disproportionately vulnerable to experiencing IPV (Gillum, 2019). Not only does poverty increase vulnerability, but it can also be described as

a chronic stressor (Hjelm et al., 2017). Most obviously, poverty leads to financial stress (Marks, 2007). Financial stress is defined as "the unpleasant feeling that one is unable to meet financial demands, afford the necessities of life, and have sufficient funds to make ends meet" (Davis & Mantler, 2004). Economic hardship is a more objective term that identifies the cause of the financial stress a person or family might be feeling (for example, poverty; Davis & Mantler, 2004). Financial stress can lead to a multitude of negative outcomes, one being IPV. It can be considered an antecedent to the violence, sometimes even the main trigger, or be associated with elevated levels of perpetration of the violence (Byun, 2012; Schwab-Reese et al., 2016). Other research has shown that income level is negatively correlated with rates of IPV, and that financial strain is positively correlated with IPV (Benson & Fox, 2002). Women in families that generate enough income to meet their household needs consistently experience less IPV (Benson & Fox, 2002). Women in households experiencing high levels of financial strain experience three times more violence than women in households with lower levels of financial strain (Benson & Fox, 2002).

The larger a family is, the greater the financial burden they undertake. The 2022 Federal Poverty guidelines confirm this: for a smaller family of three for example, the poverty line rests at $23,030 while for a larger family of six, the line is at $37,190 (Department of Health and Human Services, 2022). The cost of providing for two children is greater than the cost of providing for one child; the cost of providing for three children is greater than the cost of providing for two children, and so forth. Larger families simply incur more expenses. For a large family in poverty, they will not only have to deal with these expenses, but also the added burden and subsequent stress from knowing they are unable to sufficiently meet the needs of their family. Large families above the poverty line will not necessarily experience that stress, at least

not to the same degree. This means larger families living in situations of poverty deal with even more burden and therefore more financial stress than large families living above the poverty line. And where this burden and stress coexist, violence typically exists as well (Benson & Fox, 2002; Byun, 2012; Schwab-Reese et al., 2016). Here, family size is seen as a risk factor for violence, particularly when coupled with poverty. Family size may also predict greater IPV through mechanisms other than financial strain. A recent study found that the association between the marital instability in a household and IPV rates was moderated by number of children in the home (Chen & Ngoubene-Atioky, 2019). Family size may have influenced levels of marital instability directly or through its association with other variables such as IPV.

Purpose and Hypotheses

Research has demonstrated that resource transfers can reduce rates of IPV by up to 6-7 percentage points (Hidrobo et al., 2016). While that study provides evidence for an intervention to reduce IPV, the transfers were equivalent regardless of family size; there was no scaled distribution based on family size. There exists a basis for such scaling however, as the federal poverty guidelines have distinct levels for different family sizes (Department of Health and Human Services, 2022) and family size has been demonstrated to influence risk of IPV (Flake, 2005; Flake & Forste, 2006).

The study at hand was a secondary analysis of the data from Hidrobo et al. (2016). It sought to understand the relation between family size, resource transfers, and IPV to explore whether a scaled distribution based on family size would have been more beneficial than a flat (i.e., non-scaled) distribution. It was hypothesized that (H1) families who receive resource transfers will be at a lower risk for IPV than families who do not; (H2) as family size increases,

the risk of IPV will increase as well; and (H3) flat resource transfers will be more effective at reducing IPV for smaller families compared to larger families.

Method

Participants

This is a secondary analysis of the study done by Hidrobo et al. in 2016. The sample of this study was 1,238 women from the ages of 15-69, living in Ecuador, who were in a romantic relationship at baseline. They were also alone at the time of the interview at baseline and after the 6-month intervention, meaning they were able to be administered an IPV module twice. The majority of the women were Colombian immigrants.

Procedure

This study took its sample from two bordering provinces in Northern Ecuador. Despite sharing a border, the provinces have different geographical markers and economies. Carchi is situated in the highlands and its economy is industrial and agriculturally based. Sucumbios is found in the lowlands of the Amazon with an economy based on natural resource extraction that is vital to the region and Ecuador in general. Within these provinces, seven urban centers were identified based on the following criteria: a population with a percentage of refugees higher than 10%, a poverty index higher than 50%, the presence of partners/organizations who could distribute food, and the presence of financial institutions who were able to distribute cash via automatic teller machines (ATMs). Neighborhoods were then pre-selected for intervention and administered brief census surveys. Once clusters within neighborhoods had been identified and randomized into experimental or control groups, interviews were conducted. If the woman was not alone at the time of the interview, interviewers did not administer the IPV module.

Measures

From April to September of 2011, families in the treatment conditions received a monthly transfer of one of the three types: cash transfers, food vouchers, or baskets of food. In order to ensure proper comparison of modalities, the cash transfer was $40, the food vouchers for specific foods totaled $40, and the value of the food transfers equaled $40. Participants also had to attend monthly nutrition trainings, or they would not receive the transfers. For the purposes of this study, all three experimental conditions were grouped together and were compared to a control group who received no transfer of any type.

To measure family size, researchers had the women fill out demographic information for each member of the household. The family size of each woman's family was gathered from the data set. This count included all members in the household, not just biological children or parents. This variable was continuous.

To measure IPV, the researchers gathered baseline data for the women and then after 6 months, the same IPV module was administered in order to compare to the baseline data. This IPV module contained five distinct indicators of IPV: controlling behaviors (4 questions), emotional violence (6 questions), moderate physical violence (2 questions), severe physical violence (5 questions), and sexual violence (2 questions). Each question was asked twice, once to see if the woman had experienced the violence, and then once more to see if it had occurred in the last 6 months (See Appendix for the full list of questions). For the purposes of this study, only the follow up responses corresponding to the last six months were analyzed. A response of "no" was coded as a 0, and a response of "yes" was coded as a 1. The incidences of IPV were also grouped into two levels. One level, the "yes" group, was comprised of women who answered yes to at least one of the IPV questions. The other level, the "no" group, was comprised of women who answered no to all of the IPV questions. Oftentimes underreporting or

biases can influence reported levels of violence, especially when combined with the complexity of IPV and differences in meanings and interpretations of words (Follingstad & Rogers, 2013). Therefore, the researchers partnered with local organizations to provide violence support services for the women involved, whether or not they disclosed IPV. This, coupled with strategies to maximize levels of disclosure, worked to increase accurate reporting of instances of violence.

Analytical Approach

The variables of this study are the resource transfers – a dichotomous independent variable, family size – a continuous independent/moderator variable, and IPV – a dichotomous dependent variable. The first hypothesis was analyzed with a chi-square test, while the second and third hypotheses were analyzed with logistic regressions, respectively.

Results

Of the 1,238 women, 512 (41%) reported experiencing a new IPV event in the 6 months of intervention. Of these 512, the most commonly reported type of IPV was emotional violence (32%), followed by controlling behaviors (31%), physical violence (15%), and finally sexual violence (.05%). 15% of women reported only experiencing one type of IPV, 14% of women reported experiencing two types of IPV, 9% of women reported experiencing three types of IPV, and 3% of women reported experiencing all four types of IPV.

The chi-square test for independence (with Yates Continuity Correction) used to analyze the first hypothesis indicated a small association between resource transfers and instances of IPV, $\chi 2$ (1, N = 1238) = 4.61, p = .032, φ= -.06. In total, 46% of women who did not receive a resource transfer experienced a new IPV event in the 6 months from pre to post intervention, whereas this percentage drops seven points, to 39%, for women who did receive a resource

transfer. This test confirms the original findings of the Hidrobo et. al. (2016) study and supports the first hypothesis.

A logistic regression was performed to determine if family size would predict intimate partner violence rates. Family size was found to not predict IPV rates, $\chi 2$ (1, N = 1238) = 2.56, p = .109. For every one person increase in family size, the risk of IPV remained stable (odds ratio = 1.06, 95% confidence interval: 0.99, 1.13). The second hypothesis was therefore not supported.

A second logistic regression was performed to determine if family size would moderate the relation between resource transfers and intimate partner violence rates. Contrary to the third hypothesis, the model did not indicate a moderating effect of family size on the relation between resource transfer and instances of new IPV events, $\chi 2$ (1, N = 1238) = 7.19, p = .066. Flat resource transfers were just as effective for larger families as they were for smaller families when it came to reducing rates of IPV (odds ratio = 1.04, 95% confidence interval: .91, 1.19). Despite the statistical insignificance, a visual tendency for flat transfers to be more effective for smaller families versus larger families can be observed (Figure 1).

Additional tests were run to further explore the results. Descriptive statistics were generated on family size and found a mean size of 5.38, with a greater presence of smaller families participating in the study than larger families (Figure 2). A Pearson's correlation test demonstrated a negative correlation between family size and whether or not families received a resource transfer, r = -.086, p = .002. Smaller families tended to be in the treatment group whereas larger families tended to be in the control group. Another logistic regression was performed without the interaction between resource transfers and family size. Results suggested that controlling for family size, transfers were still effective at reducing violence $\chi 2$ (1, N = 1238) = 6.87, p = .009. The presence of smaller families in the treatment group did not impact

the efficacy of the transfers on reducing rates of IPV (odds ratio = .77, 95% confidence interval: .60, .99). Analyses examining risk of specific types of IPV (controlling behaviors, physical violence, emotional violence, and sexual violence) suggested family size neither predicted nor moderated IPV (all *p* values > .05).

Discussion

Literature suggests that IPV has both economic and psychological consequences (Baranov et al., 2021; Dillon et al., 2013; Pico-Alfonso, 2005). And because IPV is so complex, there is no one solution to addressing it nor is it easy to predict, especially the more extreme types of IPV that tend to happen infrequently (base rates < 5%). Cash transfers appear to reduce levels of IPV experienced by women; however, these effects have been observed to be more short-term rather than long-term (Bobonis et al., 2015). Additionally, the mechanisms by which the transfers function can often times be complex and difficult to determine. There is extensive research on the factors that lead to increased risk of IPV for women, one of them being family size (Abramsky et al., 2011; Flake, 2005; Flake & Forste, 2006). This study, however, was unable to confirm this. Additionally, it was unable to identify family size as a moderator of the efficacy of transfers. This suggests that a scaled cash transfer distribution based on family size might not be necessary when seeking to reduce IPV.

The findings of this study, and the original Hidrobo et al. (2016) study, answer very specific questions for a very specific demographic. The majority of participants were immigrants, a demographic that tends to experience more stressors that lead to further vulnerability, and this must be considered when generalizing these results (Piedra & Engstrom, 2009). No data were collected on how long families had lived in the region. Families already receiving government assistance were not eligible to participate. Furthermore, no data were

collected on stress levels or household conflict, factors that underpin the theoretical relation between poverty, family size, and resource transfers which serve as the foundation for this study. Additionally, the intervention was only six months long, a relatively short time period for new instances of IPV to occur and for behaviors to change.

Ultimately, a more comprehensive approach towards reducing IPV would be required. The original study paired the intervention with nutritional trainings as the goal of the study was to reduce food insecurity. In order to determine if cash transfers are a viable option as a community-level intervention that can reduce IPV, future investigations should be designed with IPV in mind. Rather than combining the transfers with nutritional trainings, a more effective approach might be targeted educational programs for both men and women. Topics could range from financial management and healthy conflict resolution to gender equality trainings. These pairings should be adapted to local cultures and realities to allow for the best chance of success.

Other factors such as the length of intervention must be considered. Providing money to families and then taking that money away can have drastic consequences, particularly if families come to rely on the additional income. Programs that seek to prepare women and men for job opportunities as a way to increase their human capital, and thus their earning potential, might then be beneficial to combine with the intervention. This could work to offset the negative impacts of taking the additional income away. If the transfers do reduce levels of violence, then taking them away would most likely lead to that violence returning at the same rate, if not higher. Short-term interventions should ensure that support systems remain available for women after intervention concludes, and additional IPV data should be collected months after intervention concludes to determine if these adverse effects are observed. The impacts of resource transfers on IPV are promising, however there is still much research to be done to

determine their efficacy and feasibility for combating such a complex issue. More than likely, they make up one part of a much bigger and comprehensive intervention that combines both psychological theory and economic theory.

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Figures

Figure 1

Probability of a new IPV event by resource transfer condition (treatment vs. control) and family size (mean ≈ 5.5; -1 SD ≈ 3, +1 SD ≈ 8)

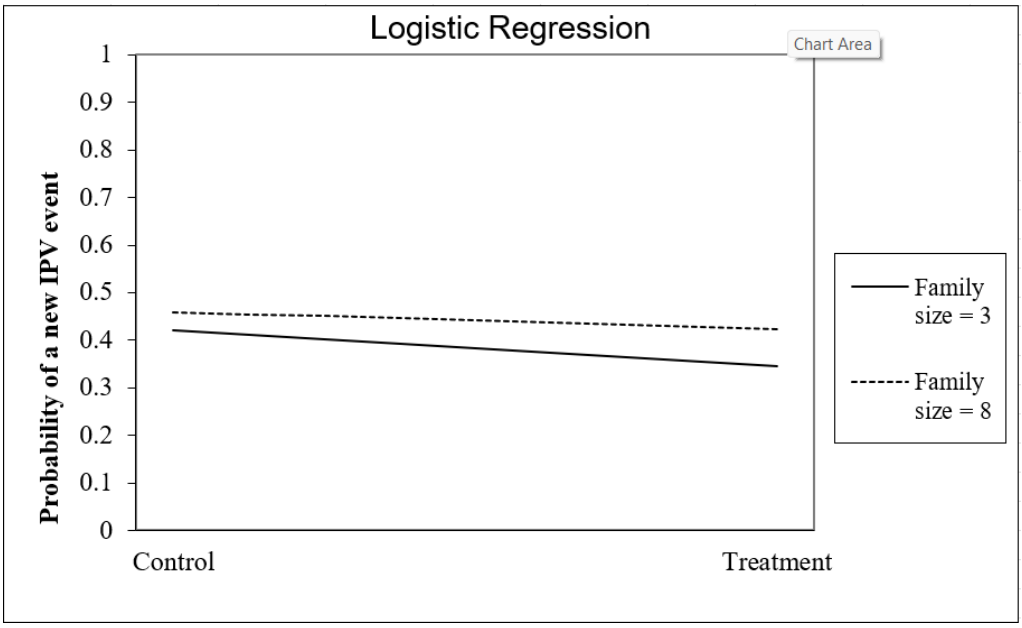
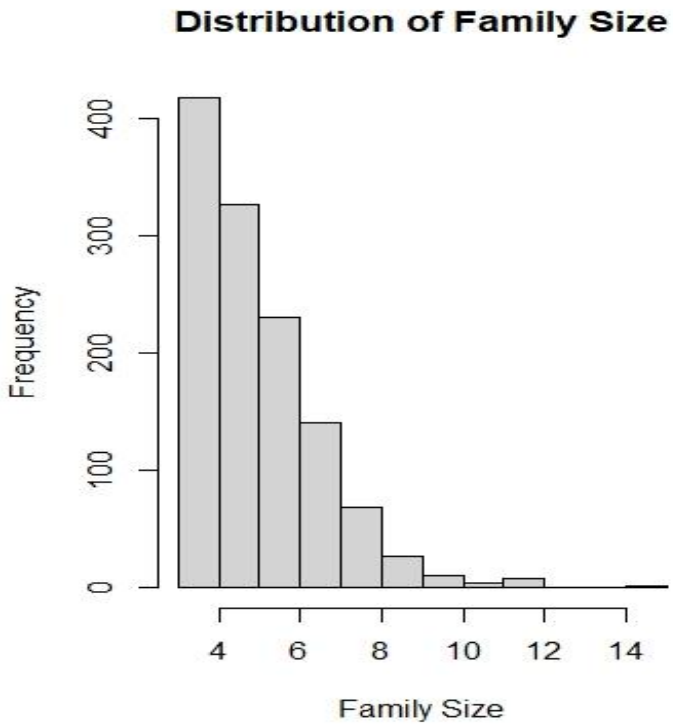


Figure 2


Distribution of Family Size
Frequency
0
100
200
300
400
4
6
8
10
12
14
Family Size

Appendix

Intimate Partner Violence Questions

Controlling behaviors

1. Has your partner accused you of being unfaithful?
2. Has your partner tried to limit your contact with your family in order to make you feel bad?
3. Has your partner tried to limit your contact with your friends?
4. Has your partner wanted to know where you are at all times?

Emotional violence

1. Has your partner humiliated or insulted you in front of others?
2. Has your partner humiliated or insulted you with phrases such as “you are useless,” “you never do anything,” or “you are stupid”?
3. Has your partner threatened to leave you?
4. Has your partner threatened to take your children away from you?
5. Has your partner threatened to harm you or someone important to you?
6. Has your partner ignored you or acted indifferently towards you?

Moderate physical violence

1. Has your partner pushed you, beaten you, or thrown something at you?
2. Has your partner struck you or twisted your arm?

Severe physical violence

1. Has your partner tried to strangle or burn you?
2. Has your partner attacked/assaulted you with a knife, pistol, or other weapon?
3. Has your partner threatened you with a knife, pistol, or other weapon?

4. Has your partner hit you with their fist or with something that could harm you?
5. Has your partner kicked or dragged you?

Sexual violence

1. Has your partner physically forced you to have sexual intercourse with them even though you did not want to?
2. Has your partner forced you to perform sexual acts that you did not endorse?