

# Relative risk of intimate partner violence according to access to instrumental social support among pregnant women in Eswatini whose partners do and do not drink alcohol

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## Research article

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# Abstract

Background Intimate partner violence (IPV) affects 1 in 3 women around the world and is the 10th leading cause of death for women in the Africa region ages 15-29. Partner alcohol use, access to social support, and poverty all affect women's likelihood of experiencing violence. We sought to understand how partner alcohol use differentially affected instrumental social support's protective role against IPV for a clinic-based sample of women in the Kingdom of Eswatini (Swaziland).

Methods We recruited 406 pregnant women from one rural and one urban antenatal clinic in Eswatini. Women used audio computer assisted self-interview software to answer a 45 minute behavioral survey with items on IPV, partner alcohol use, and likelihood that they could access small cash loans, large cash loans, or food loans from their social network. We then calculated the relative risk of experiencing IPV based on access to different forms of loans for the full sample and stratified by partner alcohol use.

Results Confidence that she could access a fairly large loan (~\$40) was associated with significantly decreased relative risk of IPV for all women. Confidence that she could access a fairly small loan (~\$4) was associated with decreased relative risk of IPV for women whose partners did not drink but was insignificant for women whose partners did drink. Confidence that a friend or neighbor would lend her food was associated with decreased relative risk of IPV for women whose partners did drink.

Conclusion Access to instrumental support (loans of food or money) is protective against IPV, but there are differential effects according to the type of loan and whether or not a woman's partner drinks alcohol. Economic empowerment interventions to reduce IPV must be carefully tailored to ensure they are appropriate for a woman's specific individual, relationship, and community context.

## Background

Globally, just over 30% of ever-partnered women have experienced intimate partner violence (IPV) and over one third of female homicides are committed by an intimate partner [1, 2]. In the Africa region nearly 45% of ever-partnered women age 15–34 have experienced IPV—in 2016 partner violence was the 10<sup>th</sup> leading cause of death for women in Africa between the ages of 15 and 29 [2]. In addition to physical morbidity and mortality, IPV is strongly linked with major depressive disorders and postpartum depression [3], higher rates of suicidality [4], and increased prevalence of HIV [5]. Women's vulnerability to IPV is influenced by multiple factors across the social-ecology, including the characteristics of their partner, the type and quality of social support within their communities, and structural factors such as poverty, food security, and women's access to capital [6–9].

Within the relationship, a male partner's alcohol consumption is associated with increases in both the frequency and magnitude of male perpetrated IPV against women [10–12]. In sub-Saharan Africa, women with partners who drink alcohol are at significantly higher risk of sexual coercion and assault [13]. The stress which poverty can place on a relationship may also increase the risk of violent conflict, both by engendering partner conflict over scarce resources and by threatening a male partner's ability to enact the

traditional role of breadwinner and provider [14–16]. This association between poverty, problematic drinking, and sexually entitled hegemonic masculinity, creates a toxic syndemic that heightens women’s risk of IPV and other negative health outcomes [17–19].

Social and structural drivers also strongly influence women’s risk of experiencing IPV: Women in the Kingdom of Eswatini (Swaziland) and Botswana who reported food insufficiency were more likely to report forced sex in the previous 12 months [20], and a relatively large body of evidence from sub-Saharan Africa suggests that personal and familial food insecurity is associated with hazardous transactional sex, which in turn is frequently associated with higher rates of violence [5, 21–24].

Women’s access to social capital and instrumental support within their communities is likely an important protective factor that may buffer the relationship between food insecurity, poverty, and IPV [25–28]. Microfinance and similar financial empowerment-style interventions have gained a great deal of popularity in recent years as potential IPV interventions [29, 30] and research from South Africa suggests that it may even be possible to generate social support as an IPV intervention via microfinance and community-empowerment style interventions [8, 31]. However, the overall evidence base for a microfinance approach to reduce IPV is mixed, and these types of programs may have the potential to create additional violence and harm if they are not tailored to the community context and do not account for unique relationship dynamics, including partner alcohol and other substance use and family poverty [14, 32, 33].

The complicated nexus of alcohol use, social capital, food security, and gendered violence suggests a need to understand how these issues play out concomitantly for women in sub-Saharan Africa. To address this, we analyzed a cross-sectional clinic-based sample of women receiving antenatal care in Eswatini to better understand how instrumental social support—specifically gifts of cash and food from community members—was differentially associated with IPV among women whose partners do and do not drink alcohol.

## Methods

### Sample and setting

We analyzed data from a cross-sectional sample of women attending one rural and one urban antenatal clinic in Eswatini (Swaziland). Data were collected between February and June of 2014. We recruited from antenatal clinics as this study was part of a larger project to understand Swazi women’s perceptions of HIV and risky transactional sex and all women attending antenatal care receive HIV testing and linkage to care at each appointment.

A female Swazi research assistant (RA) or the first author systematically sampled participants from the clinic line. Women were eligible to participate in the study if they were 18 or over, willing, comfortable taking a survey in siSwati, and were receiving antenatal services that day. Participants who agreed to participate after a brief explanation were then given a written explanation of the study and provided

written consent. No financial incentive was provided per the preferences of the Swaziland Scientific Ethics Committee (SEC). Refreshment and childcare were offered while participants completed the survey.

## Measures

The survey was administered using audio computer-assisted self-interview (ACASI) software on laptops. The survey instrument was developed in English, translated into siSwati, and translated back into English to check for accuracy. It was then pilot tested with a convenience sample of five clinic attendees at an urban antenatal clinic. Slight wording modifications for clarity were made based on informant feedback. The ACASI survey was administered in siSwati using a recording of a female Swazi research assistant who was familiar with the study protocol. RAs or the first author assisted survey participants with the first few demographic questions and then withdrew unless participants asked for assistance.

## Primary outcome: Intimate partner violence

Our main outcome of interest was intimate partner violence. We measured IPV using items from the revised Conflict Tactics Scale[34] as adapted in similar studies in South Africa [35]. The instrument measures emotional, physical, and sexual intimate partner violence through a series of behavioral questions. Women who reported that their most recent sexual partner had engaged in physical (slapping, pushing, hitting, shoving, or throwing something at them), or emotional (insulting, threatening, belittling, or intimidating) violence more than once in the past 12 months, or at least one incident of sexual violence (physically forced you to have sex when you did not want to) in the past 12 months were coded as having experienced IPV.

## Alcohol use

Participants completed the 10-item alcohol use disorder identification test (AUDIT) scale. Those who reported having any alcohol to drink in the past 12 months were coded as drinking alcohol. Participants were also asked “does your most recent sexual partner drink alcohol?” with the option to mark yes or no.

## Social Support

Access to instrumental social support was measured using three different items: (1) “If food were running short, do you know somebody who would be willing to lend you food?” Definitely yes, probably yes, probably no, or definitely no? (2) “If money were running short, do you know somebody who would be willing to give you a loan of 50 emalangeni (~\$4 USD)?” Yes, with no difficulty; Yes, with some difficulty; or No, it would be very difficult? and (3) “If money were running short, do you know somebody who would

be willing to give you a loan of 500 emalangeni (~\$40 USD)?” Yes, with no difficulty; Yes, with some difficulty; or No, it would be very difficult?

## Demographic covariates

Participants were asked to report their age in years, the number of children for whom they were currently responsible, whether they lived in an urban or rural area, their level of education (none, primary, secondary, or completion of grade 12 or beyond), and their partner’s level of education (none, primary, secondary, or completion of grade 12 or beyond).

## Analyses

We first conducted univariate analyses for the full sample and then stratified according to whether or not a participant’s partner drank alcohol. Student’s t-tests and chi-square tests were used to identify significant differences by partner alcohol use. We next build unadjusted generalized linear models using the log link and the assumption of a poisson distribution with robust standard errors to identify the relative risk of experiencing intimate partner violence across our main predictor of interest (partner alcohol use), each form of social support, and demographic confounders. In the third step, we built a series adjusted relative risk models to determine how each type of instrumental support affected the adjusted odds of intimate partner violence for the full sample, for women whose partners did drink alcohol, and for women whose partners did not drink alcohol. Covariates in the final adjusted models were chosen based on both theoretical considerations and variables that had the potential to confound the stratified analyses.

## Ethics

The Swaziland Ministry of Health’s Scientific Ethics Committee (SEC) and the Emory University Institutional Review Board (IRB) both reviewed and approved this study. The first author sought and received permission for data collection from traditional leadership at the rural study site and presented the study and received an invitation to recruit at both the rural and urban antenatal clinics. Preliminary results were shared with the nursing staff at both clinics and with the National Emergency Response Council on HIV/AIDS (NERCHA). Overall results from the parent study were also shared at a national health science conference hosted by NERCHA and the Ministry of Health.

## Results

Four hundred and six women agreed to participate in the survey. The response rate was approximately 54% at the two antenatal clinics. Most women who declined to participate said that they were too busy for a 60–90 minute survey or were in a hurry that day. Of the 406 who participated, 399 (98.3%) provided

data on experiences of intimate partner violence with their most recent sexual partner and the partner's alcohol use, and 386 (95.1%) provided data on all outcomes and predictors of interest.

Thirty-nine percent of respondents (n = 155) reported experiencing past year intimate partner violence with their most recent sexual partner and 34% (n = 136) reported that their partner drank alcohol (Table 1). Access to loans of food or cash did not vary significantly according to whether or not a woman's partner drank alcohol. Mean participant age was 24.5 years (SD: 5, range 18–42), and the mean number of children they already cared for was 1.5 (SD: 1.4, range: 0–11). The majority (60%) of participants were in their 6<sup>th</sup>, 7<sup>th</sup>, or 8<sup>th</sup> month of pregnancy (mean: 6.3 months, SD: 1.9). Approximately 55% of the sample reported living in a rural area, nearly two-thirds had attained at least some secondary school, and the large majority (71.4%) had partners who had attained either secondary or tertiary education. IPV and the participant's probability of drinking alcohol were both significantly higher ( $p = 0.008$  and  $0.004$ , respectively) among women whose partner drank alcohol. Women with a tertiary level of education were significantly more likely to report drinking alcohol themselves ( $p = 0.004$ ).

[TABLE 1 ABOUT HERE]

Among all participants, women who reported that their partner drank alcohol were at 39.7% higher risk of experiencing intimate partner violence relative to women who reported that their partner did not drink alcohol (95% CI: 1.10–1.78) (Figure 1). Participants' own alcohol use was not significantly associated with IPV, nor was her education, the number of children cared for in the home, or living in a rural area. Access to all forms of instrumental social support in the form of loans of food or cash was associated with lower probability of IPV across the full sample, but the pattern varied in stratified analyses based on partner's drinking status. Among women whose partners drank alcohol, women who knew someone who could loan them food were at 43% less risk of experiencing IPV relative to women who did not feel they could easily access a food loan (RR 0.57, 95% CI: 0.41–0.78). However, access to food loans was not significantly associated with a lower relative risk for women who reported that their partners were non-drinkers (RR 0.75, 95% CI 0.52–1.09). Conversely, women who reported that their partners did not drink and that it would be relatively easy to secure a loan of 50 emalangeni were 41% less likely to be at risk of IPV (RR 0.59, 95% CI: 0.42–0.84), whereas the ability to secure a small loan was not significantly protective against IPV for women whose partners did drink alcohol (RR 0.86, 95% CI: 0.61–1.23). Larger loans had a similar effect: Women with non-drinking partners who felt they could easily access E500 were at a 54% lower risk of experiencing IPV (RR 0.46, 95% CI 0.26–0.84) but this association was not significant for women whose partners did drink alcohol (RR 0.62, 95% CI: 0.36–1.07)

[FIGURE 1 ABOUT HERE]

Similar trends remained in the fully adjusted models after adjusting for number of children, personal alcohol use, urban or rural residence, and participant education (Figure 2). The ability to access each form of loan of food or cash was associated with decreased odds of IPV across the full sample. Knowing somebody who would lend her food was associated with a 37% lower relative risk of experiencing IPV

(aRR 0.63, 95% CI: 0.48–0.83) for all women, and a 43% lower relative risk among women whose partners did drink alcohol (aRR 0.57, 95% CI: 0.40–0.83), but was not significantly associated with IPV for women whose partners did not drink (aRR 0.70, 95% CI: 0.47–1.05). Access to a small loan (50 emalangeni) was not significantly associated with lower adjusted odds of IPV for women whose partners did drink (aRR 0.85, 95% CI: 0.59–1.23), however it was significantly associated with a 45% lower relative risk for women whose partners did not drink alcohol (aRR 0.55, 95% CI: 0.38–0.79). After adjusting for demographic factors, being able to access a large loan (500 emalangeni) was associated with 50% lower relative risk of IPV for all women (aRR 0.51, 95% CI: 0.33–0.77), and did not appear to differ significantly for women whose partners did not and did drink alcohol.

[FIGURE 2 ABOUT HERE]

## Discussion

Access to instrumental social support was associated with a lower relative risk of intimate partner violence for pregnant women living in Eswatini. The nature of this relationship varied according to the type of support provided (food, small financial loans, or large financial loans), and by whether or not a woman's partner drank alcohol. Reporting that it would be relatively easy to obtain food through her social network was associated with lower relative risk of IPV for women whose partners drank alcohol, but not for those women who reported that their partners did not drink. Conversely, access to small financial loans (~\$4 USD) was associated with lower relative risk of IPV for women whose partners did not drink, but not for those whose partners drank alcohol. Reporting that she knew somebody who could provide a large loan (~\$40 USD) was associated with lower levels of IPV risk for all women.

The variation in the role of access to instrumental social support by the type of support and partner's alcohol use may be due to a variety of contextual factors. Across much of sub-Saharan Africa, including Eswatini, women are primarily responsible for procuring and preparing food [36, 37]. Food loans may reduce conflict by precluding the need for a woman to ask her partner for money for the day's meal, or by allowing the couple to avoid conflicts over using scarce resources for food vs alcohol [15]. Gifts of food or meals from neighbors may also help women to fulfill gender normative behavior around preparing the evening meal, decreasing the likelihood of conflicts if food is not available when a partner returns home intoxicated [9, 38–40].

Small cash loans from friends or family were only associated with lower relative risk IPV among women whose partners do not drink alcohol. A number of reasons may explain this: While access to loans did not differ significantly if a woman's partner drank alcohol or not, women with partners who drink alcohol may experience more severe IPV [11, 40, 41] and/or higher rates of social isolation [25, 28]. Increased social isolation associated with IPV could in turn lead to a decreased ability to access small loans via social networks. Conversely, some research suggests that relatively small loans may lead to increased alcohol use and violence among male partners [42], or to conflict if the amount of the loan is not sufficient to ease household economic tensions [14].

Across the full sample, the ability to access large cash loans was significantly associated with a lower relative risk of IPV. Access to financial resources may be protective either by increasing women's autonomy within the relationship, or by decreasing economic tension [8, 14, 15, 29, 31, 43]. In previous work in Eswatini we found that the association between intimate partner violence and financial support was largely mediated by a woman's ability to exit the relationship [24]. While we found no association between whether the violent relationship was ongoing at the time of data collection and a participant's access to instrumental social support (analyses not shown), it is likely that the ability to access relatively large cash loans would increase a woman's ability to exit a violent relationship. Conversely, financial support from friends and family may ease tension resulting from economic hardship within a relationship, decreasing the likelihood or frequency of IPV.

This was a cross-sectional study, and as such it is impossible to know the direction of the link between intimate partner violence and social support among women whose partners do and do not drink alcohol. Moreover, the question about partner's alcohol use was broad and did not have a distinct time frame that could more directly link partner alcohol use to IPV. However, the associations we found between IPV, partner alcohol use, and social support were consistent with other research both regionally and globally [25, 31, 44–46]. Our results are consistent with other studies that suggest structural interventions such as cash transfers or micro-loans are an important component of any policy or programming effort to combat gender based violence. Moreover, our findings suggest two key issues when considering the design of cash transfers, micro-loans, or other programs designed to address women's economic vulnerability to IPV: The first, somewhat unsurprisingly, is that relatively large amounts are more likely to be effective for more women than relatively small amounts. While small loan amounts were not associated with higher rates of IPV among women whose partners drank alcohol, they were also not significantly protective. Given the real documented potential risk of cash transfers or microloans to increase the risk of gender based violence for some women [33], it is important for programs to ensure that the amount of cash offered is sufficient enough to be effective not to become a source of additional household conflict. Second, women were not asked to report on the frequency with which they were offered loans, simply their confidence that a loan would be available should they need one. Programs that focus on building social safety nets—such as saving clubs or semi-formal health or savings cooperatives—are relatively common local solutions to the problem of living in a context of high unemployment and economic uncertainty.

## Conclusion

Access to instrumental social support in the form of food and small and large cash loans is significantly associated with lower odds of intimate partner violence for ever-partnered women in Eswatini. Feeling confident that they could access fairly large loans (~\$40) through their social network was associated with significantly lower odds of IPV for all study participants. Confidence in their ability to access relatively small loans (~\$4) was protective only for women whose partners did not drink alcohol, whereas confidence that a friend or neighbor would loan food if necessary was protective only for women whose partners did drink alcohol. This differential effect may be due to the unique stressors that different types

of loans—large, small, or particular to women’s gendered domain in food preparation—ease or exacerbate. Our research reinforces both the importance of community-oriented microfinance style interventions, as well as the need to carefully tailor these approaches to the unique needs of women, their relationships, and their communities.

## List Of Abbreviations

*ACASI* audio computer-assisted self-interview

*aRR* adjusted Relative Risk

*AUDIT* Alcohol Use Disorder Identification Test

*CI* Confidence Interval

*IPV* Intimate Partner Violence

*IRB* Institutional Review Board

*NERCHA* National Emergency Response Council on HIV/AIDS

*RA* Research Assistant

*RR* Relative Risk

*SEC* Scientific Ethics Committee

## Declarations

*Ethics:*

The Swaziland Ministry of Health’s Scientific Ethics Committee (SEC) and the Emory University Institutional Review Board (IRB) both reviewed and approved this study. The first author sought and received permission for data collection from traditional leadership at the rural study site and presented the study and received an invitation to recruit at both the rural and urban antenatal clinics. Preliminary results were shared with the nursing staff at both clinics and with the National Emergency Response Council on HIV/AIDS (NERCHA). Overall results from the parent study were also shared at a national health science conference hosted by NERCHA and the Ministry of Health.

*Consent for publication:*

Not applicable

*Availability of data and materials:*

The datasets analysed during the current study are available from the corresponding author on reasonable request.

#### *Competing interests:*

Dr. Fielding-Miller is a member of the editorial board of BMC Public Health. KB and JW declare that they have no competing interests

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#### *Author's contributions:*

RFM designed the study, supervised field data collection, and conducted the initial analyses. JW and KB contributed to the discussion and analytic framework and provided comments. All authors have read and approved the final manuscript.

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## Table 1

Table 1: Descriptive statistics across full sample and stratified by partner alcohol use

	Full sample n=399	Partner does <u>not</u> drink alcohol n=263	Partner <u>does</u> drink alcohol n=136	p-value
>1 IPV incidents past 12 months %( <i>n</i> )	38.85% (155)	34.22% (90)	47.79% (65)	0.008
Age <i>mean (SD)</i>	24.52 (4.92)	24.55 (4.80)	24.48 (5.16)	0.88
Number of children <i>mean (SD)</i>	1.52 (1.38)	1.58 (1.41)	1.40 (1.17)	0.21
Participant drinks alcohol %( <i>n</i> )	14.86% (59)	11.45% (30)	21.48% (29)	0.008
Know somebody who would lend you food %( <i>n</i> )	79.04% (313)	79.23% (206)	78.68% (107)	0.90
Not at all difficult to get a loan of E50 (vs. a little or very difficult) %( <i>n</i> )	52.51% (209)	52.29% (137)	52.94% (72)	0.90
Not at all difficult to get a loan of E500 (vs. a little or very difficult) %( <i>n</i> )	22.03% (87)	21.62% (56)	22.79% (31)	0.79
Rural residence %( <i>n</i> )	54.39% (217)	57.79% (152)	47.79% (65)	0.057
Education %( <i>n</i> )				0.004
None	3.51% (14)	1.90% (5)	6.62% (9)	
Primary	24.31% (97)	25.86% (68)	21.32% (29)	
Secondary	64.41% (257)	66.92% (176)	59.56% (81)	
Grade 12 or tertiary	7.77% (31)	5.32% (14)	12.50% (17)	
Partner's education %( <i>n</i> )				0.49
None	4.33% (17)	4.62% (12)	3.76% (5)	
Primary	23.16% (91)	24.62% (64)	20.30% (27)	
Secondary	58.52% (230)	58.46% (152)	58.65% (78)	
Grade 12 or tertiary	13.99% (55)	12.31% (32)	17.29% (23)	

## Figures

Figure 1: Unadjusted relative risk of IPV

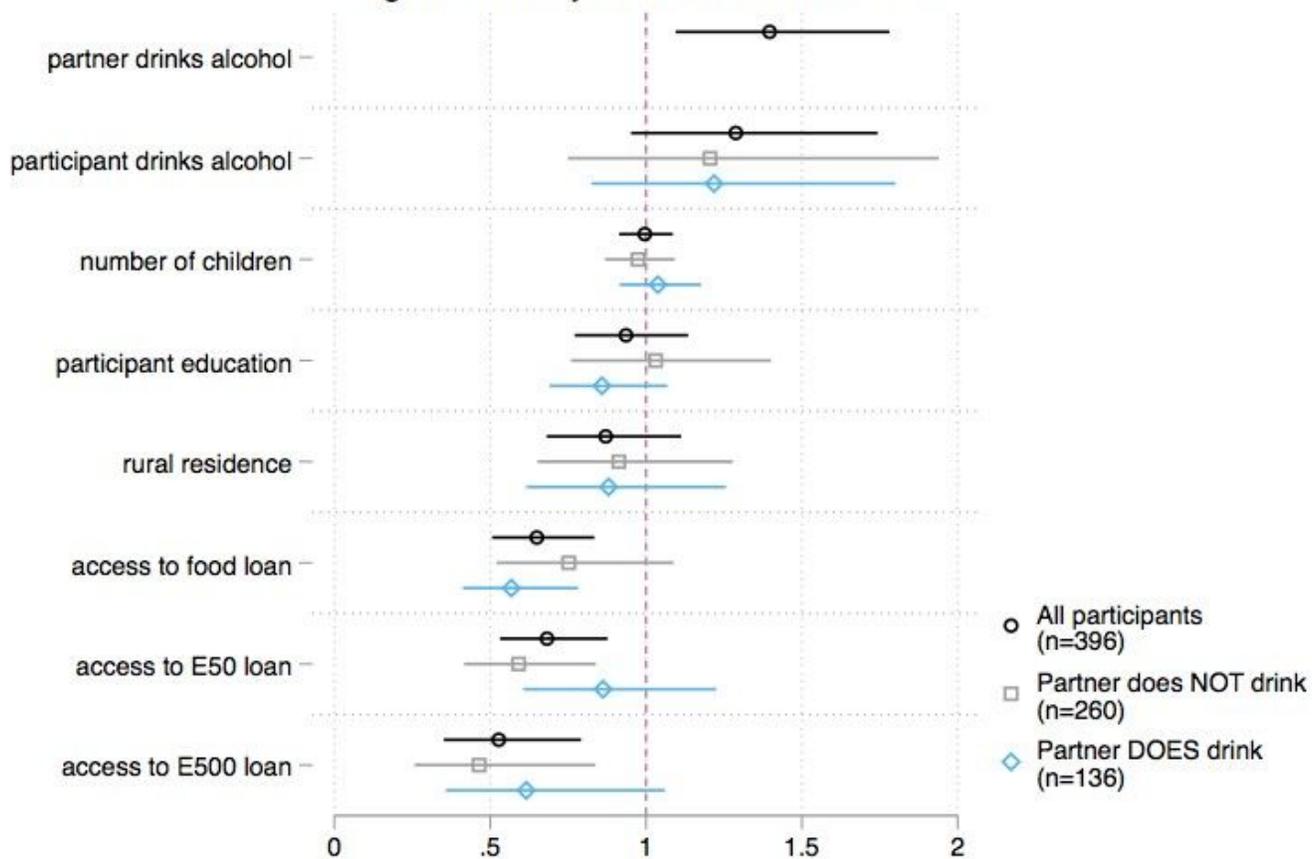


Figure 1

Relative risk of experiencing IPV by bivariate factors

Figure 2: Relative Risk of Experiencing IPV

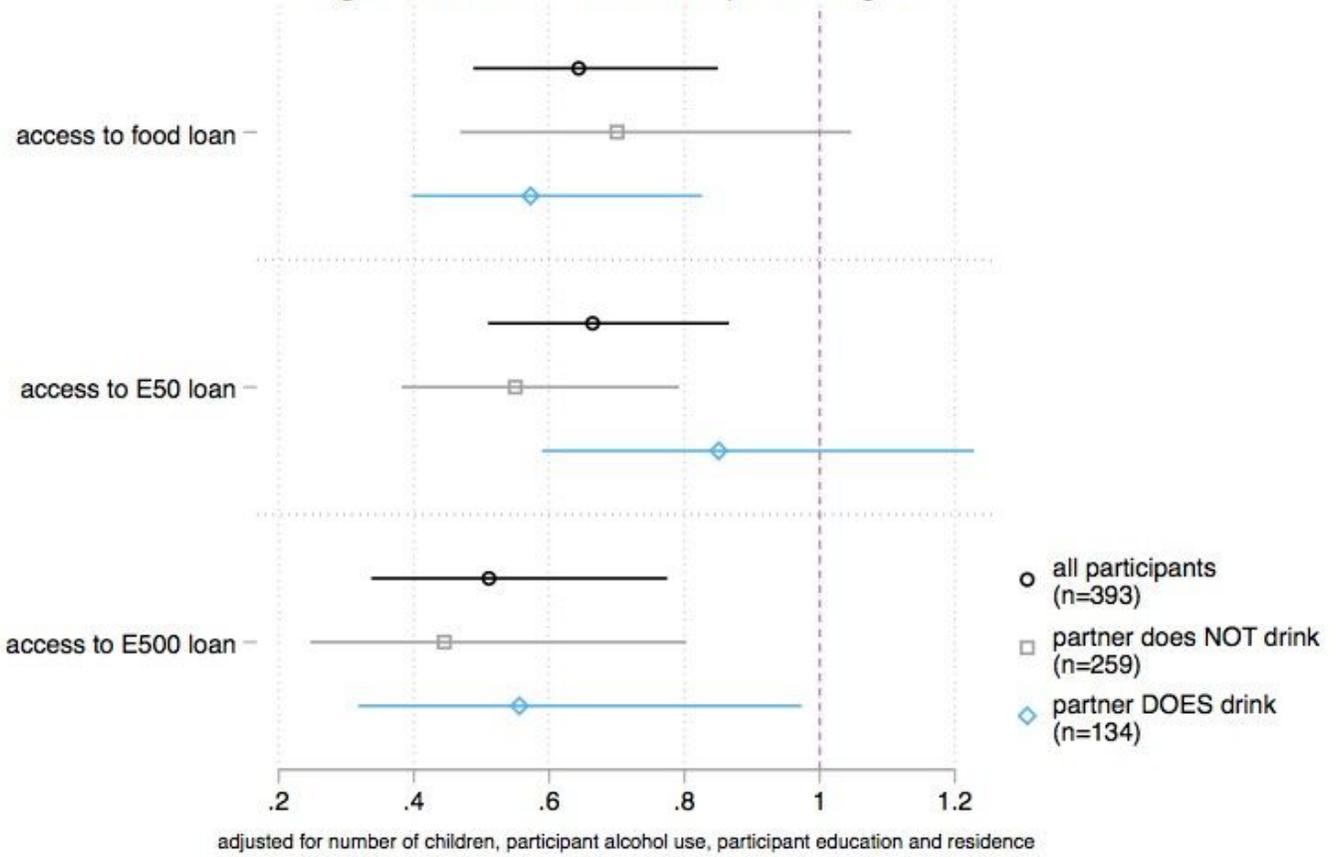


Figure 2

Adjusted relative risk of experiencing IPV