The role of family structure on experience of intimate partner violence in Uganda

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Introduction

Over the last two decades, an increased amount of attention and research has been devoted around the world to intimate partner violence (IPV). The growing consensus is that IPV constitutes a pandemic that needs to be addressed globally, Sexual assault against women is associated with multiple adverse health outcomes including physical morbidity such as injury, and lower self-rated health scores (Coker, 2002) and increased rates of sexually transmitted infections (Dunkle, 2004; Maman, 2000), mental disorders and illness (Rees, 2011), and adverse birth outcomes such as increased postnatal and maternal mortality (Garcia-Moreno, 2006). Many of these studies have indicated that adverse health outcomes often manifest long after the incident, making it difficult to account for the full impact of such events on the survivor. While IPV can affect both men and women, it consistently has a larger prevalence among females. This paper concerns itself specifically with women's experience of IPV.

The 2011 Uganda Demographic and Health Survey (DHS) illustrates the extent of the epidemic, in that of the respondents for those administered the IPV questionnaire, 27% of women reported experiencing physical violence in the 12 months prior. Similarly, 16% reported experiencing sexual violence and 33% emotional violence within the same timeframe. There have been a number of factors found to be significantly associated with IPV in both Uganda and across cultures. Chief among them are HIV positive status, drug or alcohol use, particularly by the

partner, controlling behavior, and family history of IPV (CDC, 2009; Michael, 2003; Stuart, 2006)

Further research into structural elements that may affect likelihood of experiencing IPV is needed. One area that has received some attention recently is that of the contextual role that other family members might play. It seems that this particular area's association might have different effects in different cultures. While some research has shown that living with extended family, particularly the woman's in-laws, might be associated with IPV victimization in diverse populations (Hyder, 2007; Chan, 2008; Yount, 2005), other research has thus far been mixed (Clark 2010) or viewed simply as a factor to control for (Stuart 2006). There is little current research revolving around how polygamy might be associated with IPV up to this point.

Uganda's high incidence of IPV is likely due to a multitude of factors, particularly the longstanding violence in areas of the country affecting acceptability of violence as well as the lack of legal framework or resources devoted to the IPV country epidemic. Due to the more easily identifiable factors however, the influence of family structure has thus far been ignored. Does living with extended family members increase likelihood of IPV victimization among women? In addition, in a country with a sizeable proportion of the population in polygamous unions, exploring the relationship between these forms of relationships and IPV is also worthwhile. In addition, perhaps number of children in the home is associated with IPV in some way. Data thus far has shown that increased number of children is protective. It is hypothesized that the number of wives is associated with increased

IPV rates due to an increased likelihood of dyadic tensions within the larger family network, whereas number of children is likely a protective factor.

Conceptual Framework

Existing conceptual theories about IPV posit that multiple distal factors such as personality traits, drinking patterns, and marital discord work together to increase the likelihood of aggression between partners. Dempsey (2006) posits that there are three primary elements facilitating IPV among partners, violence, structural inequality, and domesticity. In discussing family discord and structure, both structural inequality and domesticity must be discussed. Structural inequalities are generally built and enforced by groups and often, particularly within the family unit, perpetuate power imbalances that can cause frustration, conflict, or abuse of power. Domesticity can additionally add to the likelihood for violence in an imbalanced power structure when the arena of interaction is viewed as "private," discouraging help-seeking behavior and facilitating physical, sexual, or emotional abuse.

The most frequently used model for IPV approaches, and which fits quite well with Dempsey's theory, is the socio-ecological model, shown in Figure 1 (Heise, 1999). This model is appropriate in that it identifies the heirarchichal relationship between the various spheres of influence that seem to cause IPV. Society (i.e. laws, policies, and structures that can inhibit or facilitate IPV) influences the community in terms of norms developed around gender and IPV. In this research project, the primary sphere of interest is that of relationships, both the relationship between the

woman and the husband and the relationship between the woman and family members they cohabit with.

The theoretical model guiding this research can be found in Figure 2. Societal and community characteristics affect victim characteristics, partner characteristics, and family characteristics in multiple ways. The structural and informal frameworks a person is raised in affect norms in terms of family structure, acceptable types of unions (in terms of polygamy, unequal ages and number of children) and opportunity for women in terms of educational attainment and socioeconomic status. Partners selected are usually equivalent to women's characteristics such as education level and socioeconomic status, and can also affect their status after union. In addition, partner characteristics can affect women's future earnings or education. Both the characteristics of the women and the characteristics of their union, in terms of number of children, number of partners, whether it is a nuclear or extended family in the house as well, can affect likelihood of IPV victimization within the house, as IPV might be exacerbated by frustrations or unequal power within the household.

Methods

The 2011 Uganda Demographic and Health Survey was the data set used for analysis of family structure's associations with IPV. The largely USAID-funded DHS is considered the gold standard of cross-sectional nationally representative studies and performed around every 5 years in almost all lesser-developed countries. It is a cluster design probability proportionate to size survey with stratification for nationally representative data. While the DHS is a robust survey capturing data on

multiple health indicators as diverse as malaria, HIV/AIDS, and infant mortality, the primary section of interest for this analysis is the domestic violence (DV) module. The DV module measures IPV as well as violence committed by individuals other than their primary partner, and measures both lifetime violence against women (since the age of 15) and past twelve months experience of violence. While the entire sample of women for the DHS was around 8,600, only a portion was administered the DV module, reducing the sample to a little over 2,000.

Four main outcome variables were selected for analysis:

- Emotional violence, which consisted of questions such as experiences of partners trivializing of women's emotions or opinions, or demeaning them in front of others.

- Sexual violence, which focused on coerced or forced sex.

- Less severe physical violence, which consisted or questions around pushing or tripping by the partner.

- Severe physical violence, such as punching, kicking, or burning by their partner.

Dummy variables were created for all four of these indices, where if a woman reported having experienced any of events characteristic of these types of violence over the prior twelve months, they were coded as responding yes, otherwise they were coded as no.

There were three primary independent variables of interest. The first was number of adults who normally reside in the household. Unfortunately, this question is not directly asked in the DHS survey. As a result, this variable was created using three

other questions. Number of sons and daughters were summed and that total was subtracted from the total number of people reported as usually residing within the household. The second variable of interest was total number of living children reported by the woman. The third variable was type of union, with categories for never married, married and only wife, in union and only partner, divorced or separated, married and more than one wife, and in union and more than one partner.

Multiple control variables were also included in the model, capturing demographic characteristics, particularly urban vs. rural, education gap between partners, whether the woman resided in the northern region of the country where ongoing conflict is most concentrated, age, type of work and payment, and socioeconomic status via the DHS's wealth quintile index. Other control variables included were multiple variables that have been strongly linked in prior research to IPV such as control issues the partner has, whether or not the man drinks, and whether the woman remembers her father beating her mother. The full econometric model is shown here.

$$y = \beta_0 + \beta_1 urbrur + \beta_2 edgap$$

$$+\beta_3 northreg + \beta_4 age + \beta_5 workpay + \beta_6 controliss + \beta_7 husalc + \beta_8 dadbt$$

$$mom + \beta_9 SES + \beta_{10} adults + \beta_{11} kidshome + \beta_{12} maritstat + u$$

The DHS DV module does not report on experience of IPV for women who report never having been in a union, the first question in the module. This removed

about 500 of the DV respondents from the sample. In addition, there were a few members of the sample who had missing data for other variables of interest, notably who did not know their husband's educational attainment, and were similarly excluded. These exclusions resulted in a final sample of 1,437 respondents.

Analysis was performed using Stata version 12 (Satacorp, College Station, TX.). All analysis was run using the DHS-provided weights for the DV module respondents and accounting for the cluster design. Characteristics of the sample population were analyzed via cross-tabs and means. Bivariate analysis and chi-squared tests were run between all independent and outcome variables. Finally, probit regressions were performed to accommodate the binary nature of the outcome variables. Margins were also run to obtain the relative association between each variable and the outcome. P-values of .05 and under were deemed significant.

Results

Table 1 shows the number and percentage of the final sample in each category of all variables of interest. 31.5% report experiencing emotional violence over the last 12 months and 21.6% report experiencing sexual violence over the same time period. For less severe and severe physical violence experience over the past 12 months, the incidence is 24.5% and 13.8% respectively.

The mean age of respondents was 29 years old and the average number of children was 2.7. 75% of the sample was rural. Half of the sample came from the poorest and richest wealth quintiles in the overall sample, with the other three quintiles being rather evenly distributed at around 17-18%. Only 10% of women reported having less education than their husband, with the majority reporting

equal education between the couple. 21% of women were not working, and 43% earned cash alone for their work. Only 2.85% of women reported receiving in-kind payment for their work.

Overall, the mean number of partner control issues reported by women was about 2. 48% of the respondents reported having a spouse that drinks alcohol and half of the sample recalled witnessing their father beating their mother. 62% of respondents reported being in a monogamous union while a still sizeable 26% were in a polygamous one. 62% of respondents reported that 2 adults normally lived in the home and 38% said there were three or more adults living there, likely indicating the permanent presence of another family member.

Table 2 shows the bivariate analysis of percentage of respondents reporting experience of the four types of violence by the independent variables of interest. There were significant differences between rural and urban populations with rural respondents reporting higher incidence of emotional violence as well as both types of physical violence. Differences in incidence by work status and type of payment were only significant for less severe physical violence, with women not working and women receiving cash and in-kind payments having the highest reported rates. Women who lived in the northern region of Uganda were much more likely to report having experienced all four types of IPV. The rates were almost three times as high for women reporting severe physical violence in particular. Wealth quintile was similarly significant across all four IPV forms. While the relationships were not a straight positive relationship from quintile to quintile, overall richer respondents reported less experience of IPV than poorer.

Number of control issues the husband has was highly significant and positively correlated across all four types of IPV. Marital status and type of union was only significant for emotional violence, with the highest rates for women in polygamous unions (42% and 47%). Partner alcohol use was significant for all types of IPV except sexual violence, and women's experience of their father beating their mother was highly significant across all four forms. Education gap and age were not found to be significantly related to any of the types of IPV.

Table 3 shows the coefficients and p-values for the four probit models. In all four models for the different types of IPV the number of control issues and whether or not they witnessed their father beating their mother were found to be significant factors that were associated with higher likelihood of experiencing IPV. Each increase of one of control issue identified was associated with marginal effects increasing likelihood of experience by 8.7% for emotional violence, 6.7% for sexual violence, 6.8% for less severe physical violence, and 4.4% for severe physical violence. Women who remembered seeing their father beat their mother were more likely to have experienced emotional violence by 8.2%, sexual violence by 6.4%, less severe physical violence by 10%, and severe physical violence by 4%. Conversely, women in the richest quintile were less likely to experience all four types of IPV. For them the marginal affects decreased their likelihood of experiencing violence (when using the poorest quintile as the reference group) by 9.3% for emotional violence, 12.5% for sexual violence, 16.8% for less severe physical violence, and 11.1% for severe physical violence.

Women who lived in the northern region of Uganda were 11.6% more likely to experience emotional IPV, 13.9% more likely to have experienced less severe physical violence, and 11.31% more likely to have experienced severe physical violence. Women who were divorced, separated, or no longer living with their spouse saw a protective effect against emotional violence (-18.3%) and sexual violence (-7.1%) but were not significantly different from women in a monogamous married relationship in experience of physical violence. Women living in a polygamous union, on the other hand, had significantly higher likelihood of experiencing emotional or sexual IPV, at 12.9% and 9.8% increases in likelihood, respectively. In addition, women who lived in households with only two adults had a 7.7% higher likelihood of experiencing sexual IPV.

For the two types of physical violence, none of the primary variables of interest, number of children, number of adults in the home, and type of union, were significant. Husband alcohol use was, increasing likelihood of less severe physical violence by 11.3% and severe physical violence by 7.7%. In addition, women in the second highest wealth quintile were less likely to experience both types of physical violence much like the richest women, with likelihood of experiencing less severe physical violence being 13% less than the lowest quintile and severe physical violence being 9.8% less. Women who were paid cash only for their work also were 11.4% less likely to experience less severe physical violence than women who did not work.

Discussion

Number of children was not significant in any of the models, indicating that there seems to be no relationship with IPV in Uganda. Given the significant association between increased number of children being a protective factor against IPV in other settings, this is somewhat surprising. However, it may be that the relationship between children in Uganda and IPV is different for some contextual reason. It might also be that the protective effects of number of children are masked in this analysis by the other family structure variables analyzed.

Number of adults living in the house was only significantly associated with increased likelihood of sexual IPV for women who lived in a household with 2 adults. Three or more adults did not significantly affect IPV in any direction for any of the four forms. This is not totally unsurprising, due to the complicated contextual nature of living with extended family under one roof. Unfortunately the DHS does not ask questions relating to the quality of the relationship with other family members, which might have been more enlightening. After all, a good relationship with one's in-laws, or living with the woman's parents may have a protective effect. If the relationship is more combative, having extended family in the household might increase likelihood of experiencing IPV. Without data on the nature of the woman's relationship with the other adults, there is little to discuss with the present results.

Type of relationship, is significant for two particular groups. Women who are divorced, separated, or otherwise not living with their partner are significantly less likely to experience emotional and sexual IPV. This seems rather intuitive, as their living without a spouse could presumably reduce their exposure to abusive behavior

by their partner or ex-partner. Of course, due to the cross-sectional nature of the data one cannot infer causation, that leaving a spouse leads to lower sexual or emotional IPV. But the protective association between divorce or separation and reduced non-physical IPV rates seems to make sense.

Women in a non-married polygamous union conversely have increased likelihood of experiencing IPV of both an emotional and sexual nature. Again, the pathways make sense from our model. The nature of this type of relationship seems to be uneven, with multiple women for the man in the union. In addition, the lack of marital status for these women might further undermine the their status in this type of union, leading to increased incidences that might further marginalize them and increase their risk of IPV experience.

Unsurprisingly, the three well-documented variables closely associated with IPV, number of control issues, partner alcohol use, and whether or not the woman recalled witnessing physical abuse among her parents were quite significant in the modeling. This set of variables seems a to be better, more consistent measures of likelihood of IPV for women. This largely could be due to the selection issues around choosing whether to be in a union as well as who to partner with. Women with a family history of IPV seem to enter into similar unions themselves, selecting partners with characteristics that facilitate IPV.

It is worth noting that the variable measuring whether or not women were from the northern region of Uganda was a late addition to this analysis. The probit modeling done prior to its inclusion showed more significance among the primary independent variables of interest, particularly for physical violence, where divorced

and separated women and women in polygamous unions saw similar relationships to those found in sexual and emotional IPV. This may indicate that polygamous non-marital unions or women not living with their partner are concentrated within that province, which might make sense. Due to the conflict in that region, women might be more likely to be physically, not legally, separated from their partners which would still likely put them in this category. In addition, perhaps the tumultuous aspect of that region contributes to attitudes that marginalize female gender roles and lead to more uneven partnerships.

There are some limitations to this study. Firstly, there were a number of variables that were close to the .05 level of significance. More variables might have been found to be significant with a larger sample size. Another related limitation has to do with ethnicity. Bivariate analysis showed that there were particular ethnic groups that had significant associations with increased IPV. However, there are a large number of ethnicities in Uganda, and the DHS had over 15 groups listed. In the sample, many of these groups, including many of those with increased rates of IPV, had very small sample sizes of under 20 observations. As a result, this variable was left out of the final analysis. Increasing the number of observations per group or finding an appropriate way to compile them in future analysis are two possible options for further research. It is feasible, however, that those groups with higher levels of IPV might also be the groups geographically located in areas with higher incidence, such as the northern province.

There are limitations to the created variable, number of adults in the home, that should be mentioned as well. To compensate for the lack of an appropriate

variable in the DHS study, this was created in the best way possible, removing the number of children reported to be living at home from the total number of people who usually resided there. While this workaround was acceptable for this analysis, there was one observation that initially was coded as -3 when the variable was created, indicating the imprecise nature of the measure. In addition, information as to who the other adults not in the union are in the house would provide much more robust information for this analysis.

In addition, the sensitive nature of IPV questions always makes response bias a major concern. It is likely that incidence is higher than was measured in this survey as women might not want to share that they have experienced IPV. If this is so, some of the associations that were barely insignificant might become significant with a more accurate sampling. Regardless, when discussing self-reported experience of IPV it is always important to acknowledge the likely presence of response bias.

Conclusion

This analysis explored the relationship between family structure and IPV in Uganda, a relatioship has been explored with mixed results in other settings. Polygamous non-marital unions were associated with higher likelihood of emotional and sexual IPV. Women who no longer lived with their partners saw an associated protective effect with those same types of IPV.

This analysis illustrates a particular association between women in non-marital polygamous unions and increased likelihood of experiencing IPV. This relationship merits further analysis, as there has been little to no research of this

group up to this point. Causes for entering into these types of unions, the mechanism by which these women experience increased IPV, and the characteristics of both women and men in these unions merit further study. In addition, policymakers would be advised to consider this particular group when discussing further IPV legislation in Uganda.

In addition, as alluded to in the discussion, qualitative analysis needs to be done to further understand how household structure might be associated with IPV. As robust as DHS data is, it fails us in this regard, as much of the relationship is likely based on individual household dynamics that quantitative cross-sectional studies of this nature have a hard time getting at without a narrow focus on household determinants. In-depth personal interviews would likely shed light on what forms of household relationships facilitate IPV perpetration, particularly when involving extended family.

In reducing IPV, this study shows a number of areas where Uganda would be well advised to focus their attentions. Firstly, the northern region of Uganda has high overall rates that indicate a particular need for services and prevention programs. In addition, in treating and serving the women who seek services for IPV victimization, it is important to find ways to access their children as well, as they are exposed to higher rates of all types of IPV in the future.

As prevalent as IPV is in Uganda, this study does show that there are associations that can be identified as possible indicators to prevent further escalation of incidence. Continued work in identifying significant factors and developing evidence-based intervention programs to reduce exposure to risk

factors can likely serve to reduce future IPV in the country, reducing morbidity and improving quality of life for Ugandan women.

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Figures and Tables

Figure 1: The socio-ecological model for intimate partner violence

Society
- Norms granting men control over female behavior
- Acceptance of violence as a way to resolve conflict
- Notion of masculinity linked to dominance, honor, or aggression
- Rigid gender roles

Community
- Poverty, low socioeconomic status, unemployment
- Associating with delinquent peers
- Isolation of women and family

Relationship
- Marital conflict
- Male control of wealth and decision-making in the family

Individual Perpetrator
- Being male
- Witnessing marital violence as a child
- Absent or rejecting father
- Being abused as a child
- Alcohol use

Source: Adapted from Heise 1998 (210)
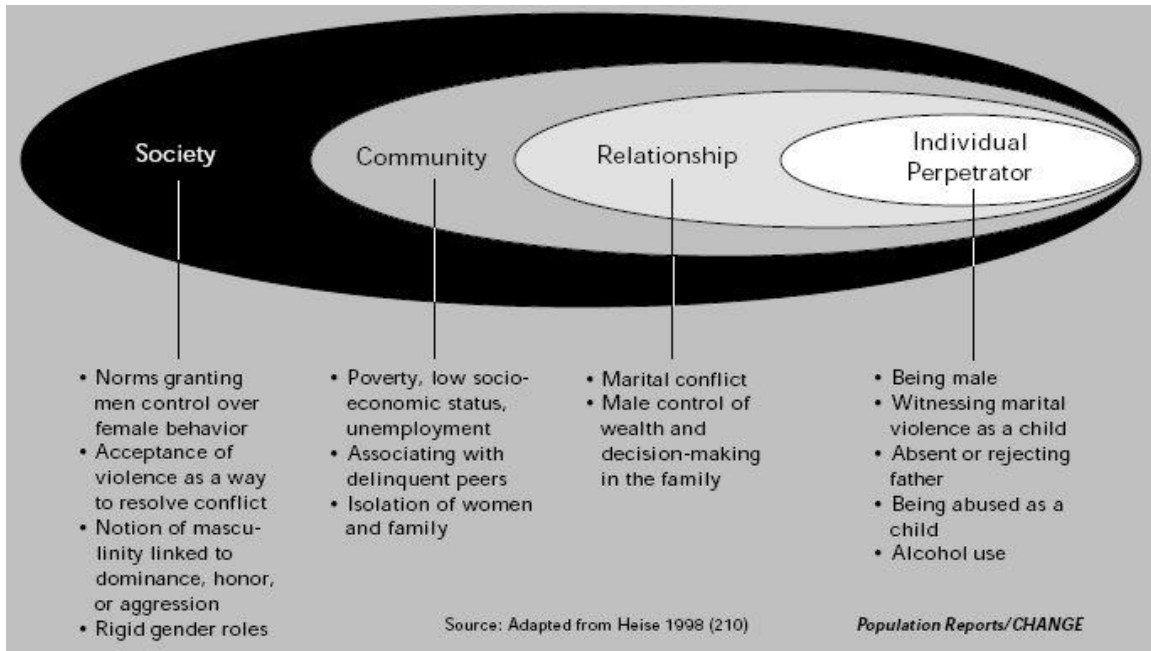
Population Reports/CHANGE

Figure 2: Conceptual model, role of family structure in intimate partner violence perpetration and victimization

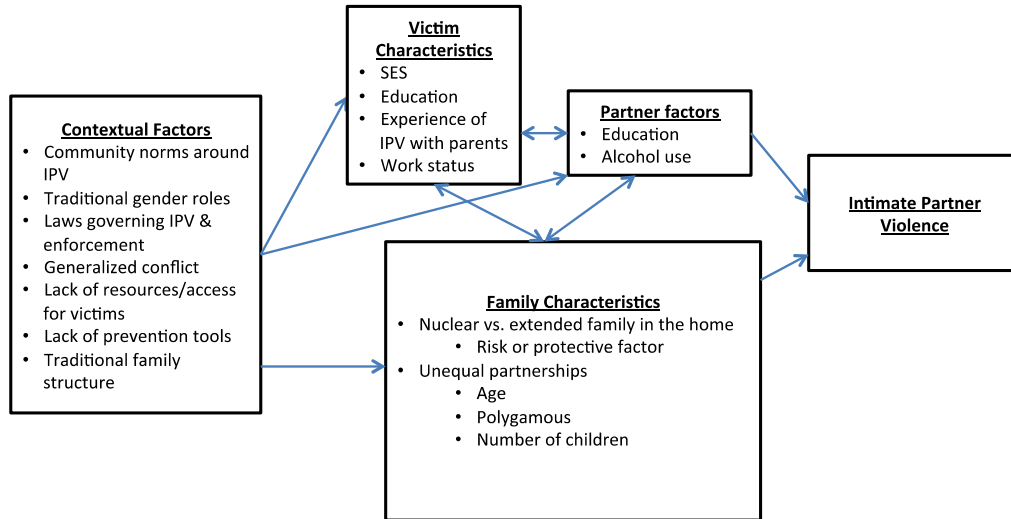## Table 1: Characteristics of the survey population

Means response and confidence intervals		
	Mean	**CI**
Age	29.211	(29.490, 30.332)
Number of control issues partner has	1.909	(1.825, 1.993)
Number of children at home	2.660	(2.557, 2.763)
Number of responses in each category, and percent of total sample		
	Frequency	**Percent**
Type of place of residence		
Urban	352	24.50%
Rural	1085	75.50%
Education gap		
Man has more education	135	9.39%
Same amount of education	810	56.37%
Woman has more education	492	34.24%
Partner drinks alcohol		
No	747	51.98%
Yes	690	48.02%
Remembers witnessing her father beat her mother		
No	719	50.03
Yes	718	49.97
Wealth Quintile		
Poorest	342	23.80%
Poorer	267	18.58%
Middle	236	16.42%
Richer	243	16.91%
Richest	349	24.29%
Marital status and polygamy status		
Married, only wife	533	37.09%
Living with partner, only partner	372	25.89%
Divorced/separated	155	10.79%
Married, more than one wife	190	13.22%
Living with partner, more than one partner	187	13.01%
Live in the northern region of Uganda?		
No	1286	89.49%
Yes	151	10.51%
Work status and type of payment		
No work	300	20.88
Not paid	284	19.76
Cash only	614	42.73
Cash and in-kind	198	13.78
In-kind only	41	2.85
Number of adults living in the household		
1	158	11.00%
2	737	62.28%
3 or more	542	37.72%
Experienced emotional violence in last 12 months		
No	984	68.48%
Yes	453	31.52%
Experienced sexual violence in last 12 months		
No	1124	78.44%
Yes	309	21.56%
Experienced less severe physical violence in last 12 months		
No	1085	75.50%
Yes	352	24.50%
Experienced severe physical violence in last 12 months		
No	1239	86.22%
Yes	198	13.78%

Table 2: Bivariate analysis of variables of interest, by four different types of IPV

Number of respondents who reported experiencing each type of intimate partner violence in the past 12 months				
		Experienced emotional violence	Experienced sexual violence	Experienced less severe physical violence	Experienced severe physical violence
Urban vs. Rural					
Urban	Did Not Experience	76.20%	82.14%	85.42%	95.39%
	Experienced	23.80%	17.86%	14.58%	4.61%
Rural	Did Not Experience	65.42%	77.61%	72.76%	86.06%
	Experienced	34.58%	22.39%	27.24%	13.94%
	p-value	0.027	0.209	0.023	0.000
Education Gap					
Husband has more	Did Not Experience	67.18%	76.82%	74.88%	86.71%
	Experienced	32.82%	23.18%	25.12%	13.29%
Same level	Did Not Experience	64.92%	78.39%	73.02%	87.16%
	Experienced	35.08%	21.61%	26.98%	12.84%
Wife has more	Did Not Experience	71.03%	78.84%	77.19%	88.74%
	Experienced	28.97%	21.16%	22.01%	11.26%
	p-value	0.185	0.920	0.262	0.748
Age					
	p-value	0.370	0.070	0.071	0.515
Number of husband control issues respondent answered "yes" to (0-5)					
0	Did Not Experience	87.11%	93.41%	91.50%	95.42%
	Experienced	12.89%	6.59%	8.50%	4.58%
1	Did Not Experience	71.88%	82.79%	82.68%	92.97%
	Experienced	28.12%	17.21%	17.32%	7.03%
2	Did Not Experience	69.48%	82.43%	72.69%	90.96%
	Experienced	30.52%	17.57%	27.31%	9.04%
3	Did Not Experience	54.69%	70.82%	71.77%	84.04%
	Experienced	45.31%	29.18%	28.23%	15.96%
4	Did Not Experience	56.82%	60.47%	53.32%	79.25%
	Experienced	43.18%	39.53%	46.68%	20.75%
5	Did Not Experience	37.52%	59.15%	52.21%	66.36%
	Experienced	62.48%	40.85%	47.79%	33.64%
	p-value	0.000	0.000	0.000	0.000
Number of children in household					
	p-value	0.001	0.626	0.849	0.049
Work status and type of payment					
Does not work	Did Not Experience	62.28%	78.85%	66.67%	85.82%
	Experienced	37.72%	21.15%	33.33%	14.18%
Not paid	Did Not Experience	67.42%	80.90%	78.48%	88.41%
	Experienced	32.58%	19.10%	21.52%	11.59%
Cash only	Did Not Experience	69.94%	76.92%	81.50%	89.42%
	Experienced	30.06%	23.08%	18.50%	10.58%
Cash and In-kind	Did Not Experience	67.01%	78.35%	64.94%	84.93%
	Experienced	32.99%	21.65%	35.06%	15.07%
In-kind only	Did Not Experience	68.57%	80.05%	79.63%	88.17%
	Experienced	31.43%	19.95%	20.37%	11.83%
	p-value	0.542	0.889	<0.001	0.593
Marital status and whether in a polygamous union					
Married, one wife	Did Not Experience	67.71%	81.13%	78.14%	88.44%
	Experienced	32.29%	18.87%	21.86%	11.56%
In union, one partner	Did Not Experience	69.80%	76.24%	70.15%	89.13%
	Experienced	30.20%	23.76%	29.85%	10.87%
Divorced or separated	Did Not Experience	82.75%	85.27%	80.34%	89.57%
	Experienced	17.25%	14.73%	19.66%	10.43%
Married, more than one wife	Did Not Experience	58.18%	75.49%	72.84%	81.54%
	Experienced	41.82%	24.51%	27.16%	18.46%
In union, more than one	Did Not Experience	53.10%	69.86%	71.26%	86.01%

Number of respondents who reported experiencing each type of intimate partner violence in the past 12 months					
		Experienced emotional violence	Experienced sexual violence	Experienced less severe physical violence	Experienced severe physical violence
partner	Experienced	46.90%	30.14%	28.74%	13.99%
	p-value	0.000	0.059	0.254	0.239
Live in Northern Region of Uganda?					
	Did Not Experience	59.55%	84.26%	76.89%	89.54%
No	Experienced	40.45%	15.74%	23.11%	10.46%
	Did Not Experience	49.78%	89.36%	56.78%	70.22%
Yes	Experienced	50.22%	20.64%	43.22%	29.78%
	p-value	0.000	0.000	0.000	0.000
Does Partner drink?					
	Did Not Experience	72.42%	80.71%	82.81%	93.96%
Partner does not drink	Experienced	27.58%	19.29%	17.19%	6.04%
	Did Not Experience	61.09%	75.58%	65.47%	80.10%
Partner drinks	Experienced	38.91%	24.42%	34.53%	19.90%
	p-value	0.000	0.061	0.000	0.000
Did respondent's father beat her mother?					
	Did Not Experience	74.10%	83.19%	82.79%	91.65%
Father did not beat mother	Experienced	25.90%	16.81%	17.21%	8.35%
	Did Not Experience	60.89%	73.85%	67.60%	83.95%
Father did beat mother	Experienced	39.11%	26.15%	32.40%	16.05%
	p-value	0.000	0.002	0.000	0.000
Wealth Quintile					
	Did Not Experience	60.85%	72.76%	64.00%	77.17%
Poorest	Experienced	39.15%	27.24%	36.00%	22.83%
	Did Not Experience	60.03%	76.90%	67.23%	80.68%
Poorer	Experienced	39.97%	23.10%	32.77%	19.32%
	Did Not Experience	68.63%	77.14%	70.46%	88.58%
Middle	Experienced	31.37%	22.86%	29.54%	11.42%
	Did Not Experience	64.07%	78.07%	83.27%	93.93%
Richer	Experienced	35.93%	21.93%	16.73%	6.07%
	Did Not Experience	80.64%	85.86%	87.54%	96.39%
Richest	Experienced	19.36%	14.14%	12.46%	3.61%
	p-value	0.000	0.048	0.000	0.000

Table 3: Probit modeling coefficients for the four outcome variables of interest

Independent Variable	Emotional Violence		Sexual Violence		Less Severe Physical Violence		Severe Physical Violence	
	Coef.	P-value	Coef.	P-value	Coef.	P-value	Coef.	P-value
Urban/rural								
Urban	Ref		Ref		Ref		Ref	
Rural	-0.125	0.441	-0.129	0.432	-0.135	0.481	-0.015	0.942
Education Gap								
Man has more	Ref		Ref		Ref		Ref	
Same level	-0.060	0.713	-0.125	0.486	-0.125	0.467	-0.353	0.057
Woman has more	-0.163	0.322	-0.026	0.890	-0.109	0.522	-0.234	0.242
Age	0.004	0.954	-0.004	0.616	-0.011	0.225	-0.008	0.484
Live in Northern Region?								
No	Ref		Ref		Ref		Ref	
Yes	**0.372**	**0.013**	0.209	0.168	**0.481**	**0.001**	**0.537**	**0.001**
Work status & type of payment								
Not working	Ref		Ref		Ref		Ref	
Not paid	-0.135	0.483	-0.009	0.963	**-0.390**	**0.028**	-0.226	0.245
Cash only	-0.193	0.209	0.133	0.371	**-0.502**	**0.001**	-0.139	0.447
Cash & in-kind	-0.158	0.356	0.071	0.696	0.189	0.302	0.084	0.688
In-kind only	-0.161	0.522	0.038	0.899	-0.456	0.103	0.008	0.983
Number of control issues husband has	**0.283**	**0.000**	**0.270**	**0.000**	**0.281**	**0.000**	**0.263**	**0.000**
Does husband drink?								
No	Ref		Ref		Ref		Ref	
Yes	0.166	0.099	0.030	0.763	**0.489**	**0.000**	**0.552**	**0.000**
Did father beat mother?								
No	Ref		Ref		Ref		Ref	
Yes	**0.296**	**0.001**	**0.251**	**0.012**	**0.399**	**0.000**	**0.274**	**0.018**
Wealth quintile								
Poorest	Ref		Ref		Ref		Ref	
Poorer	-0.22	0.870	-0.220	0.121	-0.087	0.557	-0.158	0.354
Middle	-0.204	0.260	-0.170	0.311	-0.074	0.663	-0.342	0.073
Richer	-0..18	0.905	-0.224	0.207	**-0.540**	**0.002**	**-0.765**	**0.000**
Richest	**-0.472**	**0.009**	**-0.545**	**0.005**	**-0.750**	**0.000**	**-0.949**	**0.000**
Number of adults who live in house								
1	Ref		Ref		Ref		Ref	
2	-0.004	0.980	**0.341**	**0.048**	0.314	0.109	-0.52	0.792
3 or more	-0.107	0.563	0.156	0.378	0.266	0.146	-0.310	0.159
Number of children living at home	0.041	0.161	0.009	0.764	-0.021	0.497	0.014	0.720
Marital status								
Married, one wife	Ref		Ref		Ref		Ref	
Living w/ partner, one wife	-0.043	0.745	0.166	0.248	0.302	0.061	-0.020	0.899
Divorced, separated	**-0.711**	**0.001**	**-0.307**	**0.149**	-0.167	0.518	-0.158	0.511

Married, more than one wife	0.182	0.236	0.151	0.366	0.080	0.671	0.236	0.246
Living w/ partner, more than one wife	**0.414**	**0.009**	**0.364**	**0.034**	0.314	0.125	0.144	0.449