

Research Proposal

Goals for the Class

I am interested in impacts of unexpected socioeconomic shocks and violence on girls from disadvantaged family backgrounds, as well as female empowerment in reproductive healthcare, small business and education attainment. I am taking this class to get a comprehensive understanding of the data collection methodology used in DHS survey and wish to be able to use the surveys to conduct research on female empowerment-related topics in developing contexts. To be more specific, I want to:

- Understand data collection methods used by DHS and pros and cons of those questions being asked, i.e., why those are the most appropriate way to get the answer they want to know, why some questions may lead to potential reporting bias
- Enhance data analysis skills on social science research
- Improve my ability of interpreting data results with contextual understanding of the data
- Get exposure to demographic and sociology research, produce a research project related to female empowerment that could be used in the future

Research Question

I will analyze the effect of power base imbalance between partners on prevalence of IPV in Malawi for the final project. Specifically, I want to know whether women in an unbalanced relationship are more likely to suffer from IPV, and whether increased level of education could protect women in unbalanced relationships. Malawi is a small, landlocked country with high HIV rate and low female autonomy in Southeast Africa. I will choose education gap and income gap as indicators for power base as defined by Cromwell and Olson (1975), together with age gap as the independent variables. For the scope of the project, I will only look at physical IPV and sexual IPV in the past 12 months, i.e., psychological IPV and lifetime IPV won't be analyzed. I will use R to conduct the data analysis of MDHS 2015-16 with a multivariate logistic model and visualize results. Before conducting the analysis, I will clean the dataset and only keep those data which has valid answers in the domestic violence section.

To clean the data, I conducted the following steps. Table 1 provides detailed information about the summary statistics of all variables (*See Appendix for summary statistics of power imbalance indicators*).

- **Cleaning:** Remove responses from non-de jure residents
- **Cleaning:** Select responses with domestic violence section answers and not interrupted by any other person during the interview: 3626 observations
- **Cleaning:** Exclude responses which asked for translators to reduce potential unobservable variations
- **Cleaning:** Remove responses with unknown education level of the respondent or the respondent's partner
- **Cleaning:** Remove responses with age gap greater than 40, of which most men are above age 90
- **IPV indicator:** Combine responses on Physical IPV into one dummy variable. If the respondent answered yes to any question on *d105a* to *d105j*, the respondent will be marked as positive for Physical IPV; Use the same process to identify Sexual IPV with answers on *d105h* and *d105i*
- **Power Imbalance Indicator:** Categorize people who received secondary or higher education into one group; Calculate gaps in age, education and employment status

Table 1. Summary Statistics

	Related Survey Question/Calculation Method	Mean	Min	Max
Outcome				
Physical IPV	<i>d105a</i> -Ever been pushed, shook or had something thrown by husband/partner	6.73%	0.00	1.00
	<i>d105b</i> -Ever been slapped ...	19.1%	0.00	1.00
	<i>d105c</i> -Ever been punched with fist or hit by something harmful ...	7.67%	0.00	1.00
	<i>d105d</i> -Ever been kicked or dragged ...	7.39%	0.00	1.00
	<i>d105e</i> -Ever been strangled or burnt ...	2.32%	4.83	5.564
	<i>d105f</i> -Ever been threatened with knife/gun or other weapon ...	1.27%	5.221	5.778
	<i>d105j</i> -Ever had arm twisted or hair pulled ...	4.8%	5.304	5.892
Sexual IPV	<i>d105h</i> -Ever been physically forced into unwanted sex...	15.8%	15	96
	<i>d105i</i> -Ever been forced into other unwanted sexual acts ...	3.59%	0.00	1.00
Explanatory				
Age Gap	Male partner age – female respondent age			
	<i>v730</i> -Husband/partner's age	35.1	15	85
	<i>v012</i> -Respondent's current age	29.6	15	49
Education Gap	Both secondary or higher, Both no education, Women secondary, Men secondary, Women basic and men basic or no education, Men basic and women no education			
	<i>v106</i> -Education			
	No education	13.5%		
	Primary education	63.9%		
	Secondary or higher education	22.6%		
	<i>v701</i> -Husband/partner's education level			
	No education	9.16%		
Employ Gap	Both working, Both not working, Female working, Male working			
	<i>v731</i> -Respondent worked in last 12 months	72.2%	0.00	1.00
	<i>v704a</i> -Husband/partner work in last 7 days/12 months	91.4%	0.00	1.00
Control				
Demographic	<i>v024</i> -Region			
	Northern Region	17.3%		
	Central Region	36%		
	Southern Region	46.7%		
	<i>sdist</i> -District		NA	NA
	<i>v025</i> -Type of place of residence (Rural = 0)	81%		
	Rural	81%		
	Urban	19%		
	<i>v013</i> -Age in 5-year groups			
	15-19	7.25%		
	20-24	24.22%		
	25-29	22.76%		
	30-34	19.05%		
	35-39	12.68%		
	40-44	8.17%		
	45-49	5.87%		
	<i>v130</i> -Religion(Christian = 0)	88%	0.00	2.00
	<i>v131</i> -Ethnicity(Chewa = 0)	32.7%	1.00	10.00

Household	v190-Wealth index (Poorest = 0)			
	Poorest	18.1%		
	Poorer	21.3%		
	Middle	20.7%		
	Richer	19.0%		
	Richest	20.9%		
	v218-Number of living children	2.93	0.00	10.00
Personal History	d121-Respondent's father ever beat her mother	28%	0.00	1.00
	d127-Person who forced respondent into first sexual act	4.1%	0.00	1.00
Attitude toward Beating	v744a-Beating justified if wife goes out without telling husband	6.68%	0.00	1.00
	v744b-Beating justified if wife neglects the children	7.41%	0.00	1.00
	v744c-Beating justified if wife argues with husband	6.05%	0.00	1.00
	v744d-Beating justified if wife refuses to have sex with husband	7.92%	0.00	1.00
	v744e-Being justified if wife burns the food	4.47%	0.00	1.00

Challenges¹

The first challenge is that the proportion of women who answered questions related to domestic violence only accounts for 27% of the total sample. It potentially limits the representativeness of our dataset and the ability to analyze correlated factors of IPV, as some questions about partners were still not answered. I wanted to use the income level gap between partners as suggested in literature (Conroy, 2014) to analyze economic imbalance. However, for the related survey question², after cleaning the data, 73.9% of women did not answer this question. Therefore, I chose to use employment status during the last year to represent income imbalance per DHS survey's guideline instead.

Another major challenge is to find the appropriate indicators for power imbalance. I used the model suggested by Cromwell and Olson (1975) and chose education level, economic status and age as indicators for power imbalance. To further decide the subtypes of each indicators and define the magnitude of imbalance, I referred to literatures analyzing partner power interactions and the data distribution patterns to decide disaggregation groups. For example, I used the definition of power relation in education level proposed by Kulczycki (2008), and checked the distribution of each group to combine groups with very few observations. I combined the group of males with primary school or lower degree who were married to females with primary education, as less than 10% of women with a primary school degree were married to men with no education. I also combined people without a secondary degree as "lower" if they were married to partners with a secondary or higher degree, as less than 1% of women who hold a secondary or higher degree were married to partners without education. For men that percentage is also only 3.26%.

Lastly, due to the self-reporting nature of DHS and sensitive nature of intimate partner violence, reporting of IPV is likely to be affected by the quality of interviewers and the privacy during the interview. If we do not recognize it, the data is likely to suffer from bias. To avoid this, I filtered out responses which were interrupted by others or having any other person in the same space during the interview except the respondent herself. The reporting of IPV may also be affected by females' education level and working status, especially for sexual IPV, as the definition of inappropriate actions vary across individuals. I added a set of control variables on demographic, household, personal history and women

¹ As I already did the analysis, I wrote the challenges I faced here.

² v746: Respondent earns more than husband/partner

empowerment indicators to reduce the bias, but the potential bias still exists, and it will be the limitation of the study.

For the research result, the challenge is that although there are differences in IPV rate between groups with different power balance relationships, most are not statistically significant at 5% level. And there is evidence supporting both the dependency theory and transgression of gender roles theory especially for sexual IPV. As suggested in multi-country level study of IPV (Abramsky et al., 2011; De Vargas Nunes Coll et al., 2021), childhood IPV exposure and supportive attitude toward violence are still the strongest predictors for both physical IPV and sexual IPV. However, different from previous studies, I did not notice significant difference between urban and rural areas.

References

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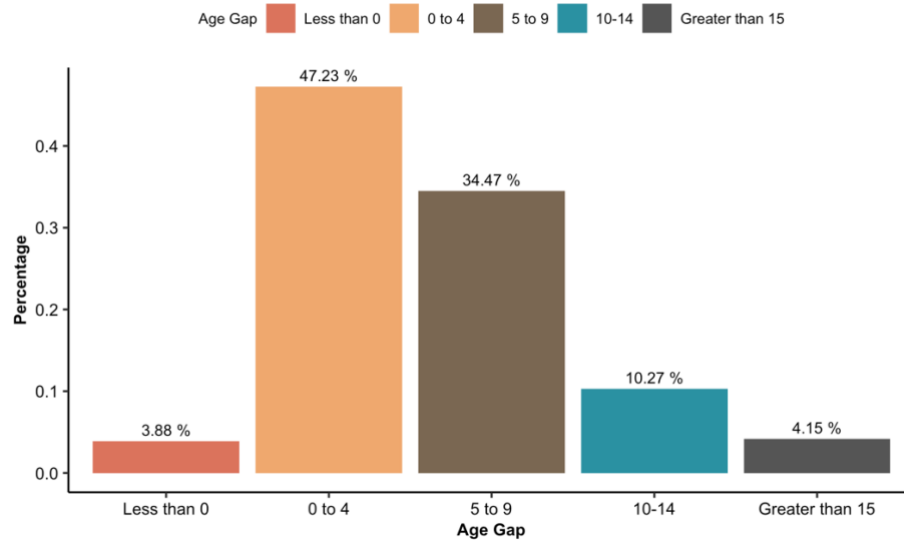
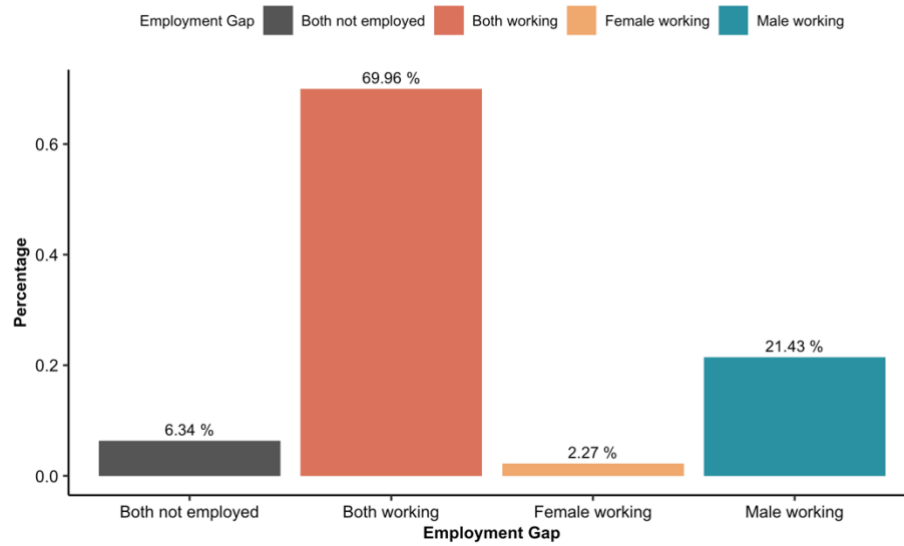
*Appendix***Figure A1. Distribution of Couple Age Gap Group****Figure A2. Distribution of Couple Employment Status Gap Group**

Figure A3. Distribution of Couple Education Gap Group