Signed declaration

I, Seema Vyas, confirm that the work presented in the thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

Signed:.................................   Date:...............................

Seema Vyas, May 2012

Abstract

Sociological and economic bargaining theories have different predictions on how women's economic status – primarily women's employment – affects their risk of partner violence. These competing predictions were mirrored in a systematic review of published evidence from low and middle income countries. Increasingly researchers from North America and Europe are highlighting that there exists different forms of partner violence, and that the relationship with women's economic status may not be the same depending on the form.

Currently there is limited in-depth exploration of the forms of partner violence and their relationship with women's economic status in sub-Saharan Africa. This thesis fills this gap in knowledge by exploring this relationship in two contrasting Tanzania settings: Dar es Salaam and Mbeya. An existing household survey data and primary qualitative interviews with women market traders were analysed.

This study found that partner violence broadly divided into three groups that did not differ by study setting: moderate physical violence; sexual dominance; and severe abuse. Women who experienced severe abuse were most likely to have experienced high intensity emotional aggression, controlling behaviour, poorer health outcomes, and to have sought help. While there was no compelling evidence on the relationship between women's economic status and partner violence in Mbeya, there was suggestive evidence of an increased risk in Dar es Salaam. In both sites, partners' 'refusal to give their wives money' was the single most predictive risk factor of partner violence. Qualitative interviews found that men's insufficient financial provision for the household was a strong motive for women to enter into paid employment, and in doing so, mitigated one major source of conflict in the household – negotiating over money.

This thesis also sheds light on the limitations of current sociological and economic bargaining theories, suggests future research priorities, and discusses the implications for women's economic empowerment programmes.

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Acronyms

AOR	Adjusted Odds Ratio
ARR	Adjusted Rate Ratio
ATT	Average Treatment Effect on the Treated
BIC	Bayesian Information Criteria
CEDAW	Convention of Elimination of all Forms of Discrimination Against Women
CI	Confidence Interval
CIA	Common Independence Assumption
CTS	Conflict Tactics Scale
DHS	Demographic and Health Survey
DSM	Dar es Salaam
FGC	Female Genital Cutting
GBV	Gender-Based Violence
GDP	Gross Domestic Product
HBS	Household Budget Survey
ILFS	Integrated Labour Force Survey
IT	Intimate Terrorism
LCA	Latent Class Analysis
LMIC	Low and Middle Income Country
LSHTM	London School of Hygiene and Tropical Medicine
MDG	Millennium Development Goals
MKUKUTA	Mkakati wa Kukuza Uchumi na Kuondoa Umaskini Tanzania (Kiswahili for the National Strategy for Growth and Poverty Reduction)
MUHAS	Muhimbili University of Health and Allied Sciences
MVC	Mutual Violence Control
NSFH	National Survey of Families and Household
NVAWS	National Violence Against Women Survey
PCA	Principal Components Analysis
PSM	Propensity Score Matching
SCV	Situational Couple Violence
SES	Socioeconomic Status
SOSPA	Sexual Offenses Special Provisions Act
UN	United Nations

VAW	Violence Against Women
VR	Violence Resistance
WHO	World Health Organization

Acknowledgements

Chapter 1: Introduction and overview of thesis

1.1 Partner violence against women

At the World Conference on Human Rights, held in Vienna in 1993, violence against women (VAW) was declared a human rights issue by the international community. The United Nations (UN) defined VAW as

> "any act of gender-based violence that results in, or is likely to result in, physical, sexual, or psychological harm done towards women, including threats of such acts, coercion, or arbitrary deprivation of liberty, whether occurring in public or in private life" [1].

Since this declaration, globally, VAW has increasingly been recognised as an important public health and development issue that crosses regional, social and cultural boundaries [2-3].

Violence by an intimate partner is one of the most common forms of VAW and there exist a variety of 'types' including physical violence, sexual violence, and emotional abuse. Physical violence includes acts ranging from slaps and shoves (moderate physical violence), to kicks, assaults with a weapon, and in extreme cases homicide (severe physical violence); sexual violence documents acts including unwanted sexual touching, sexual assault, and forced or coerced sex, or forced participation in degrading sexual acts; and emotional abuse include acts such as insults or threats of harm [4-5]. The extent of the problem is vast. A review of 48 population-based studies from around the world documented that between 10% and 69% of women had been physically assaulted by a male partner at one point in their lifetime [6].[1] The World Health Organization's (WHO) multi-country study on women's health and domestic violence against women (WHO study) – a 15 site, ten country population-based survey conducted in Africa, Asia, Europe and Latin America – found that between 15% and 71% of ever partnered women had been physically and/or sexually assaulted by a male partner since the age of 15 [3, 7].

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[1] The majority of studies were conducted in the 1990's.

1.1.1 Partner violence as a health issue

The adverse effects of partner violence on women's health have been well documented [8]. Findings from analyses of cross-sectional population-based studies have found negative physical, mental, and reproductive and sexual health consequences associated with partner violence. For example, an analysis of nationally representative data from Egypt found higher self-reported illness or health problems that required medical attention among married women who had ever been beaten [9].[2] Analysis of the WHO study data found that in the pooled sample (all 15 sites combined) women who had ever experienced physical and/or sexual partner violence were significantly more likely to report their health status as 'poor or very poor', the lowest two categories on a five-point scale, compared with women who had never experienced partner violence [3, 10].[3] When considering each site separately this association was statistically significant in ten of the 15 sites [3, 10]. Pooled analysis of the WHO study data also revealed that women who experienced physical and/or sexual partner violence were more likely to report physical symptoms that included difficulty walking, difficulty with daily activities, pain, memory loss, dizziness, and vaginal discharge [3, 10].[4] In addition, across the study sites between 19% and 55% of ever partnered women reported that they had experienced injuries as a result of physical partner violence, and of these, between 23% and 80% reported that they needed health care as a result [3, 10].

Mental health consequences of partner violence include depression and attempted suicide [8, 10]. A study conducted in seven urban and rural sites in India found that women who experienced physical partner violence were over two times more likely to report poor mental health [11].[5] In the WHO study, mental health outcomes were consistently poorer for women who experienced physical and/or sexual partner violence [10]. Compared with women who had never experienced partner violence, women who experienced partner violence reported significantly greater symptoms of emotional

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[2] The study adjusted for socio-economic and socio-demographic characteristics, knowledge and practice of family planning, advice from clinic doctor, and attitudes towards wife beating.

[3] All multivariate analyses using the WHO data adjusted for women's age, education, and marital status.

[4] The number of sites, out of 15, with significant adverse physical symptoms are: difficulty with walking – 10, difficulty with daily activities - 11, pain - 13, memory loss – 12, dizziness - 13, and vaginal discharge – 14.

[5] Mental health was measured by a 20 item self-report questionnaire that asked respondents whether or not they were experiencing a range of anxiety or depressive disorders. A score of 7 or more was classified as poor mental health.

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distress in all sites, and a significantly greater proportion of women reported thoughts of suicide (14 of 15 sites), or to have tried to take their own lives (12 of 15 sites) [3, 10].

Partner violence is also associated with a range of reproductive and sexual health outcomes. Studies from Bangladesh, India and Egypt found abused women were less likely to use contraception [9, 12-13], were more likely to suffer from reproductive tract infections [12], or report an unwanted pregnancy [14]. Analysis of the WHO study data showed that a significantly greater proportion of women who experienced physical and/or sexual partner violence reported they had had an induced abortion (12 of 15 sites), or a miscarriage (5 of 15 sites) [3, 10]. A study conducted in Bangladesh, among women who reported that they had ever been pregnant, found those who had experienced partner violence were more likely to report pregnancy loss due to induced abortions or miscarriage [14].[6] In addition, studies from India have shown that women who have been abused by their partner are more likely than non-abused women to experience the death of an infant [15-16].

Evidence also exists of an increased risk of acquiring HIV/AIDS because of partner violence's association with male high risk behaviours, e.g., coerced sex and inability to negotiate condom use [3, 17-19]. Analysis of the WHO study data found that, in 14 out of 15 sites, a significantly higher proportion of women who experienced physical and/or sexual partner violence reported that they knew their partner had other sexual partners while with them – an indirect indicator of HIV or sexually transmitted infection risk [3, 10].

1.1.2 Partner violence as a development issue

Partner violence is also a major barrier to development and the costs for society are large [20-22]. A study in Nagpur, India, for example, found that women had to forgo, on average, seven days of paid work per violent incident [2]. In addition, partner violence can keep women from entering into employment, thus limiting the degree to which they are able to earn an independent income. In their study among married and cohabiting (living with partner and not married) women in Santiago, Chile, and in Managua, Nicaragua, Morrison & Orlando (1999), however, found mixed evidence to

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[6] The study adjusted for age and education, wealth, urban / rural setting, religion, and number of wives.

support this assertion [23]. Their analysis showed that in Santiago a lower, but not statistically significant, proportion of women who experienced domestic violence (defined as physical or sexual violence, or psychological abuse) were working outside the home, a finding that held true when partner violence was classified by type (moderate physical, severe physical, sexual, and psychological abuse). However, in Managua a significantly higher proportion of women who experienced partner violence were working, and this finding held true for sexual violence and psychological abuse [23]. Despite this mixed finding, in both settings, women who experienced partner violence earned significantly less than women who did not [23]. Women who experienced severe physical partner violence earned 61% less than women who did not in Santiago, and 43% less in Managua [23]. Extrapolating to national levels the sample proportion of working women and the calculated average income abused women and non-abused women earned, the authors estimated the 'lost earnings' to women because of domestic violence amounted to over US$1.5 billion (more than 2% of 1996 Gross Domestic Product (GDP)) in Chile and almost US$30 million (1.6% of 1996 GDP) in Nicaragua [23]. Therefore, the costs of partner violence for the economies of developing countries may be significant [24-26].

1.2 The role of economic status on partner violence

While empirical studies have explored and documented the role of partner violence as a potential causal factor in women's poverty, the relationship is further complicated by the role that poverty may play in exacerbating partner violence. An evolving body of sociological and economic bargaining theories, including feminist extensions of economic bargaining theory, have sought to explain how women's risk of partner violence may be affected by the level of individual or household economic 'resources' or status. These theories present competing predictions on how economic status influences women's risk of partner violence and it is this relationship that I explore in this thesis. For the purposes of this thesis, I define economic status to include measures of household socioeconomic status (SES), women's and men's educational level, employment and occupational status, and income. I provide an in-depth description of these sociological and economic bargaining theories in chapter 3 and an overview of these competing theories below.

1.2.1 Sociological theories of partner violence

Various sociological theories have addressed the question of how access to economic resources affects women's risk of partner violence. Resource theory, first proposed in the early 1970's by Goode (1971) and O'Brien (1971), states that within family settings individuals use violence (one type of resource that individuals possess) to compensate for their lack of economic or social resources [27-28]. Resource theory has since evolved into two strands – absolute resource theory and relative resource theory. While partner violence is not limited to poor men and women, absolute resource theory predicts that women in households with low economic status are at a higher risk of partner violence because of the stress arising from poverty, or because men with limited economic resources have fewer skills to deal with conflict [27-29]. Relative resource theory, predicts that women are at greater risk of partner violence if their economic status is higher than that of their partner [30-35]. This theory asserts that men may be more violent in situations where the 'normal' balance of power in the family is disrupted.

A second sociological theory, marital dependency theory, was first put forward in the 1970's by Gelles (1976) and Dobash and Dobash (1979) [27-28, 36-37]. This theory predicts that women with low economic status are at increased risk of partner violence. This is because their financial dependence on their partner limits their opportunity to leave the relationship, thus they remain trapped in the relationship [37-42].

1.2.2 Economic bargaining theories and implications for partner violence

Economic theory on household bargaining posits that the more economic resources a woman commands, the better able she is to negotiate on behalf of herself and her children [43-45]. As a result, women's improved economic status is hypothesized to reduce their risk of partner violence [46-47]. Sen (1999) put forward the argument that women's earning power, economic role outside of the household, literacy and property rights increase their agency [46].[7] This in turn enhances women's well-being both within the household, including their inter-personal relationships, as well as in broader society [46]. Women's waged employment, an important feature of women's economic status, allows them, in addition to becoming less dependent on others, to enhance their

[7] Agency is defined as the ability to bring about and to facilitate change [46].

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position within the household by their visible financial contribution. Women also gain access to support networks from their greater exposure to the community thus further strengthening the effectiveness within which they are able to act as agents [46-48].

1.2.3 Feminist economic theories and implications for partner violence

The empowering effect of women's economic status, and in particular their waged employment, however, is contested by many other researchers who question the effect it has to transform women's options. They argue that other factors such as cultural norms may limit women's ability to act in their own interests [49-55]. Therefore, positing a simple relationship between women's employment and women's bargaining power is problematic because contextual factors, gender ideologies, and cultural expectations vary so greatly between settings. It is also argued that the influence of women's employment is likely to have a different effect in a culture where women are traditionally secluded than in settings where women are not, and depends upon the different circumstances that lead women into employment [49, 56]. For example, the meaning and implications of entering employment will be different for women switching jobs for a more lucrative or satisfying career, than for a woman who must enter the labour force to feed her family after a family calamity [49, 57].

These competing predictions are evident in a 2000 report by the World Bank that sought to document the voices of the poor from Africa, Asia, Latin America and the Caribbean, and Eastern Europe and Central Asia [58][8]. The research highlighted that the changing roles of men and women was creating turmoil within the household. The report described how many women felt under greater pressure to seek paid work because of male unemployment and greater economic stresses, and that often this was in addition to their domestic responsibilities. In some settings women's increased earnings led to a reduction in domestic violence. However, other respondents in the World Bank study maintained that levels of tension in the household increased as women's earnings increased. As men talked about their humiliation and frustration over being unable to

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[8] Africa countries included: Ghana; Egypt; Ethiopia; Malawi; Nigeria; and Zambia. Asian countries included: Bangladesh; India; Indonesia; and Vietnam. Latin American and Caribbean countries included: Argentina; Brazil; Ecuador; and Jamaica. Eastern European and Central Asian countries included: Bulgaria; Kyrgyz Republic and Uzbekistan.

maintain their role as the household's main or sole breadwinner, many women reported increased domestic conflict that included violence [58].

These mixed findings are mirrored in a published systematic review of population-based studies in low and middle income country (LMIC) settings, and a review of qualitative studies that explored the implications of women's access to income. I conducted these reviews as part of this thesis and provide in-depth details of the findings in chapter 3 and the published systematic review in Appendix 1. In summary, these quantitative and qualitative studies all suggest conflicting empirical evidence on the relationship between women's economic status and partner violence.

1.3 Partner violence: A unitary phenomenon?

When reviewing the empirical population-based literature that explored women's economic status and partner violence, the vast majority of studies used a unitary conceptualisation of partner violence. This conceptualisation considers the presence or absence of acts that are then labelled by type e.g. physical violence, sexual violence, or physical and/or sexual partner violence. However, one study by Macmillan and Gartner (1999), among Canadian women, distinguished between three forms of partner violence that they termed: interpersonal conflict, non-systematic abuse, and systematic abuse [32]. While their study found no association between women's employment with any of the three forms of partner violence, partner unemployment and low levels of partner educational attainment were significantly associated with higher systematic and non-systematic abuse but not interpersonal conflict [32]. The findings from this study brought my attention to an additional reason that could explain the contradictory evidence on the relationship between economic status and partner violence, and that is how partner violence is conceptualised and measured.

This led me to review another body of violence research literature that highlights that increasingly, researchers from North America and the UK are positing that there are at different forms of partner violence. This assertion emerged from two different traditions in domestic violence research: the first has come to be known as the feminist perspective and the second has come to be known as the family violence perspective. Early feminist understanding of partner violence described the 'battering syndrome' in

which women experience repeated abuse by their male partner that often escalates in severity overtime. Feminists argued that patriarchal family traditions, the construction of masculinity and feminity, and structural power imbalances between men and women are among fundamental causes of abuse. In the family violence research tradition violence is conceptualised as arising from conflict, and where the abuse captured tends to be less frequent and less severe.

Resulting from these two debates, a small, but evolving, body of research from the US and the UK have used Latent Class Analysis (LCA) to explore whether or not these forms of partner violence exist in the population – including the study by Macmillan and Gartner (1999). In addition these studies have generally found different aetiologies and correlates with different outcomes including economic status, health, and women's responses to violence. In chapter 4 of this thesis I present a review of the theoretical literature and describe the methods used to identify different forms of partner violence in empirical studies. For the remainder of this thesis I use the term LCA-classes of partner violence to infer forms of partner violence derived using LCA.

1.4 Thesis justification

Given the important benefits of improving women's economic status, but the potential for such women to be at an increased risk of partner violence, it is important to understand the relationship between women's economic status and different forms partner violence in different settings. At the outset of this thesis research the current evidence from LMIC settings had not been systematically compiled, and most in-depth research on this issue came from South Asian settings e.g. India and Bangladesh [59-63]. There has been much less detailed research on the relationship between women's economic status and partner violence in sub-Saharan Africa. Tanzania in East Africa has high levels of gender inequality, and many forms of gender-based violence (GBV) are prevalent – including female genital cutting (FGC), forced early sex, and partner violence [3, 17, 64-65]. In addition, since the 1990's the lives of Tanzanian women are going through immense social and economic changes, and an increasing proportion of women are seeking paid work [66-67]. Given this context, this thesis aims to extend existing research from the US and Asia to the African continent. Using Tanzania as a case example, I explore the forms of partner violence that are occurring in this setting

and their relationship with women's economic status focussing on women's employment.

1.4.1 Thesis aims

The overall aim of this thesis is to explore the relationship between women's economic status and different forms of partner violence in two contrasting Tanzania settings, Dar es Salaam (DSM) and Mbeya, and to discuss the implications for economic theory, future research and policy.

1.4.2 Thesis objectives

- Objective 1: To use LCA to identify different forms of partner violence in DSM and Mbeya

- Objective 2: To examine the relationship between different indicators of women's economic status and past 12 month occurrence of physical and/or sexual partner violence, and to explore whether the findings differ for the LCA-classes of partner violence derived from objective 1, in DSM and Mbeya

- Objective 3: To qualitatively explore how women's access to income from informal sector employment influences their vulnerability and responses to partner violence in DSM and Mbeya

- Objective 4: To discuss the implications of the findings from objectives 1 – 3 for future research, theory and policy

1.4.3 Conceptual framework

Figure 1.1 represents the conceptual framework that displays how my thesis objectives are linked. At the centre of the framework are the LCA-classes of partner violence derived in objective 1. I explored each LCA-class of partner violence in-depth and assessed the extent to which they are different by analysing how they are situated within the context of emotional abuse and controlling behaviour. I then explored the extent to which each LCA-class of partner violence was associated with women's response to

violence and to health outcomes, as reflected in the bottom panel of the conceptual framework.

To address objective 2, reflected in the upper part of the framework, I used econometric analysis techniques to explore whether measures of household and individual economic status are differently associated with the LCA-classes of partner violence. In so doing, I drew upon the sociological and economic theories that predict how different measures of economic status are associated with partner violence. The upper part of the conceptual framework displays characteristics hypothesised by the different sociological and economic theories to affect risk of partner violence, including household SES and measures of male economic status as predicted by absolute resource theory; relative educational and employment status as predicted by relative resource theory; and finally, women's educational level and employment status as hypothesised by marital dependency and economic bargaining theory.

To address objective 3, I conducted and analysed qualitatively semi-structured interviews with women engaged in market trading activities in DSM and Mbeya. I explored the impact of women working and having an independent income on gender relations in the household. I concentrated especially on the issue of partner violence and women's responses to violence. Here I drew on different economic models of household bargaining and feminist extensions to these models that hypothesise different factors that influence women's ability to translate economic resources, e.g. employment, into bargaining power. Objective 3 is reflected by the vertical panel on the left hand side of the conceptual framework. While initially I didn't set out to qualitatively explore whether there exist different forms of partner violence, during the data analysis it became apparent to me that I was able to offer some commentary on the forms of partner violence women experience based on the interviewed women's accounts of their experiences.

Figure 1.1 Thesis conceptual framework
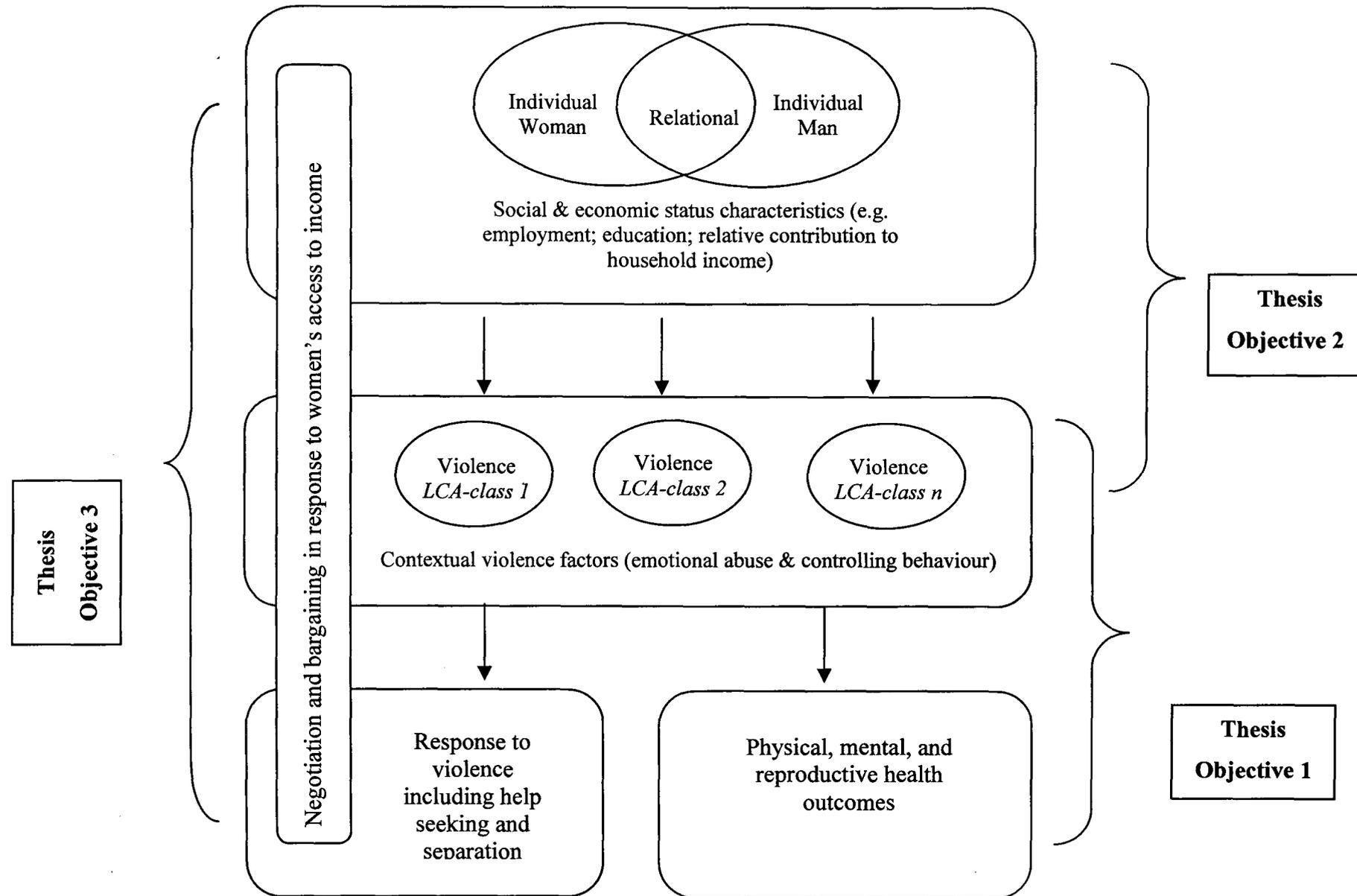
1.4.4 Study methods

To fulfil the thesis objectives, I used a mixed method approach with both quantitative and qualitative methods. The quantitative data I used was an existing Tanzanian household survey dataset collected as part of the WHO multi-country study on women's health and domestic violence conducted between November 2001 and March 2002. I used social epidemiology (objective 1) and econometric (objective 2) methods to analyse this data. The qualitative data I used were from 20 semi-structured interviews with ever partnered women engaged in income generating activities that were collected between January 2009 and April 2009. For all sources of data, information was gathered in two contrasting Tanzania settings: DSM – Tanzania's main city, and Mbeya – a provincial region. To address the first two objectives I used the household survey data and the third objective was addressed using the qualitative interviews.

1.4.5 Organisation of the thesis

This thesis is organised into ten chapters the contents of which I summarise below.

Chapter 2 provides background information on Tanzania demographic and development indicators, presents evidence on the prevalence and nature of partner violence, and describes the policies that exist to address this issue in the country.

Chapter 3 presents a review of the sociological and economic bargaining theories that seek to explain the relationship between different economic status measures and partner violence. I then present a summary of a published systematic literature review that I conducted, as part of this thesis, on the relationship between economic status and women's risk of partner violence from population-based evidence in LMIC settings. A review of feminist economics extensions to economic bargaining theory, that describe key features hypothesised to influence women's ability to translate economic resources into bargaining power within the household, is also presented in this chapter.

Chapter 4 presents a review of the theoretical literature, developed in the US, that has argued that there are different forms of partner violence. It also presents a summary of the empirical literature and the methods used to identify these distinctions. From this

summary two methodological approaches emerged that I define as 'acts-based' (using LCA) and 'control-based'.

Chapter 5 describes the thesis study settings – DSM and Mbeya, Tanzania – and all sources of data that I used: the WHO household survey and the qualitative interview data. I then present descriptive data on the prevalence and context of partner violence from the WHO study.

Chapter 6 describes the data analysis methods I used to address each of my thesis objectives.

Chapter 7 presents the results of the LCA findings on the forms of partner violence. I present findings on the extent to which these LCA-classes of partner violence are differently associated with emotional abuse, controlling behaviour, women's responses to violence, and health outcomes. Finally, I provide a discussion of the chapter results.

Chapter 8 presents the findings from econometric analyses of different indicators of economic status and partner violence including the LCA-classes of partner violence discussed in chapter 7. I also present findings from a propensity score matching (PSM) analysis that addresses the issue of selection bias, and discuss the extent to which my findings support or contradict the predictions made by the different sociological and economic bargaining theories.

Chapter 9 analyses the results of the semi-structured interview data with women engaged in income generating activities. The findings illustrate the implications of women's income on household gender relations including partner violence. I also discuss to what extent these findings are consistent with the factors hypothesised to influence bargaining and feminist economics theories.

Chapter 10 brings together the results from chapters 7-9 and discusses the key findings in terms of the overall aims of this thesis. In doing so, I consider the implications of the findings for future research priorities, theory and for policy. The chapter ends with an overall thesis conclusion.

Chapter 2: Gender and partner violence in Tanzania

This chapter provides background information on Tanzania's demographic and development indicators including social indicators on gender inequalities. It further presents evidence on the prevalence and nature of partner violence and describes the policies that exist in Tanzania to address this issue.

2.1 Tanzania economy and development indicators

Tanzania is the largest country in East Africa and is divided into 26 administrative regions (21 are in the mainland and five are in Zanzibar).[9] Figures from the last national census revealed the population to be 34.5 million in 2002, and estimates for 2008 reveal that the population of Tanzania is 42.5 million with an annual population growth rate of just below 3% [68-69]. The vast majority of Tanzania's population (75%) live in rural areas, 50% are women, and almost 45% of the population are under the age of 15. Life expectancy is 55 years for men and 56 years for women [68].

During the 1990's Tanzania's GDP grew steadily at an annual rate of between 3.6% (1995) to 4.8% (1999), and since then GDP has grown at an annual rate of between 4.9% (2000) to 7.4% (2008) peaking at 7.8% in 2004 [70]. The more recent GDP growth rate is attributed to increases in a number of subsectors, e.g. the service sector, construction, and manufacturing [70].[10] While the contribution to GDP from the agricultural sector, which is dominated by small-scale producers of cash crops such as coffee and cotton, has declined in recent years to 24% in 2008, it is still important to the Tanzanian economy accounting for over 75% of current employment [70-71]. Tanzania's GDP growth is high compared to that of other sub-Saharan Africa countries: in 2008 Tanzania ranked 8th out of 44 countries in sub-Saharan Africa, where data exists, and it remains within the target of 6-8%, identified by MKUKUTA (National Strategy for Growth and Reduction of Poverty in Tanzania), that is required to reduce income poverty [68, 70, 72].[11] Despite this impressive growth, Tanzania remains one of

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[9] East African community is formed of Burundi; Kenya; Rwanda; Tanzania; and Uganda.

[10] The service, construction, and manufacturing sectors have each grown by an average of 8% per year since 2000, and they account for 48%; 7% and 9% of Tanzania's GDP [70].

[11] MKUKUTA aims to reduce 'basic needs' income poverty to 24% in rural areas and to 12.9% in urban areas. In 2008 basic needs poverty measured 16% in DSM; 24% in other urban areas; and 38% in rural areas. The 'basic needs' poverty line is calculated by first identifying the cost of minimum adult calorific intake and inflating this figure by the percentage expenditure on non-food items by the poorest 25%.

the poorest developing countries and in 2007 approximately one-third (34%) of the population were living below the basic needs poverty line, only a slight decrease from 36% in 2000 [73-74]. In addition, the estimated Gross National Income per capita is estimated at US $460 (2008), ranking it 27th out of the 44 sub-Saharan African countries [68]. A survey conducted in 2007 that sought to capture the views from almost 8000 Tanzanian people about aspects of their lives, revealed that half of adults perceived that their personal economic situation had worsened in the three years to 2007 [75]. The reasons given were primarily due to the deteriorating availability of employment opportunities, and the rising cost of living which included basic needs such as food and medical treatment [75].

2.2 Tanzania gender development indicators and the status of women

2.2.1 Millennium Development Goals

In 2000 the General Assembly of the UN agreed upon development goals for the new millennium. Known as the Millennium Development Goals (MDG), these objectives call upon developed and developing countries to work in partnership in order to: 1) eradicate extreme poverty and hunger; 2) achieve universal primary education; 3) promote gender equality and empower women; 4) reduce child mortality; 5) improve maternal health; 6) combat HIV and AIDS, Malaria and other diseases; 7) ensure environmental sustainability; and 8) develop a global partnership for development [76]. In September 2000, Tanzania was one of 189 countries that signed up to the MDG. Promoting gender equality and empowering women, (goal 3), is one goal where Tanzania has been on course to achieve several of the targets: the ratio of girls to boys in primary and secondary education, and the proportion of seats held by women in national parliament [74]. Primary and secondary school enrolment rates for girls and boys are equal as of 2006 [74]. In addition, in 2000 the Tanzanian government set goals that women should make up 30% of national parliament seats and as of 2005 this figure was 30.2% [74].

2.2.2 Social changes in women's lives

These achievements also reflect the fact that in Tanzania women's lives are going through immense social and development changes as women gain more economic independence and become more autonomous. In a study conducted in rural Kilimanjaro, the researchers documented that as an increasing number of men migrated from their village, to earn a cash income, the wives they left behind became responsible for managing farming activities and selling the produce, raising their children, and ensuring the day to day functioning of the household [66-67]. The majority of women in Tanzania are economically active and figures from the most recent Tanzanian Integrated Labour Force Survey (ILFS) conducted in 2006 revealed that this proportion has steadily increased to 89% [71].[12] The main employment sector, though declining, is agriculture where 79% of economically active women were working, compared with 70% of men [71].

According to the Tanzania Household Budget Survey the proportion of female headed households has also increased from 18% in 1991 to 25% in 2007 [73]. While current levels have not changed much since 2001, when the proportion was 23%, what is documented is the rise in the proportion of female heads who are widowed from 34% in 1999 to 41% in 2005 possibly reflecting the impact of HIV/AIDS [73]. However, the total fertility rate, at 5.7 in 2005, has not changed since the mid 1990's, and, at its current level, is among one of the highest rates in sub-Saharan Africa [78].

2.2.3 Gender inequality

Gender inequality in human development

Despite this increased status and responsibility, women are still a vulnerable and marginalised group within Tanzanian society and high gender inequality exists. Tanzania has a very low gender-related development index ranking 125, out of 155, in the world, and is ranked 69, out of 109, on the gender empowerment score [72].[13] The

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[12] ILFS define economically active as all persons, age 15 or over, who supply their labour for the production of goods and services [71, 77].

[13] The gender related development index calculation is based on male and female life expectancy; adult literacy rates; enrolment ratio in education; and estimated earned income. The gender empowerment score calculation is based on the proportion of: seats in parliament held by women; female legislators, senior officials and managers; female professional and technical workers; and the ratio of estimated female to male income [72].

under privileged status of women in Tanzania is reflected in the country's nationally representative data. For example, while Tanzanian women are traditionally more educated than women in other sub-Saharan African countries, women's educational level is still low compared to that for men [68]. [14,15] The gains in primary school enrolment have yet to translate into the adult population as one-third of women, aged between 15-49, have never attended school compared with 25% of men – an inequality that exists in both urban and rural settings with rural women being the most likely to have never been to school [65]. Despite increasing access to primary and secondary education among girls, the enrolment rate for girls in post secondary education, though increasing, is very low compared to that of boys (0.34 in 2007) [74]. In addition, in the poorest households, boys are twice as likely to attend secondary school as girls [65]. Early research conducted in the late 1960's documented how parents favoured educating boys over girls [80]. The reasons for this have not changed as more recent qualitative studies conducted in the early 1990's and in 2005 highlight: first, especially in poor families, boys' education tends to be valued more than girls; second, girls are taken out of school to assist with domestic responsibilities or to care for sick relatives; and third, the girl becomes pregnant and therefore she is expelled from school or her family believes she is likely to get pregnant so there is no point to educate her [64, 80-83].

Gender inequality in marriage practices

A report by Tanzania Gender Networking Program documented that early marriage was a reason girls were deliberately withdrawn from school [81].[16] Therefore, early marriage can limit the extent to which women can continue in education and engage in paid employment activities [67]. While the extent to which girls are taken out of school because of early marriage is not documented, according to the 2005 Tanzania DHS, as many as one-half of women aged between 25-49 years were married before the age of 19, and a 2004 report by the UN suggests that 25% of girls in Tanzania between the

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[14]Tanzania ranks joint 7th in female: male primary school enrolment rates out of 44 sub-Saharan African countries [68].
[15]From the late 1960's through to the 1980's, the Tanzanian government adopted socialist policies of 'Ujamaa' that focused on redistribution to poor rural communities and fees for education were abolished. Since then, Tanzania adopted the Structural Adjustment Policies of the International Monetary Fund and the World Bank [79].
[16] Tanzania Gender Networking Program is a Tanzania non government organisation focussing on civil society and activism to achieve social and gender equity. www.tgnp.org accessed 18th January 2011.

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ages of 15 to 19 are either married, divorced or widowed [84].[17] Traditionally boys are considered marriageable only when they can financially provide for a family, and girls are considered mature enough to marry once they begin menstruating and in some cases girls are married to men much older than themselves [64]. The reasons for early marriage include parents not wanting their daughter to get pregnant before being formally married because this could diminish the 'bride price', a payment in cash or in kind made by the groom or the grooms family to the bride's family. While studies reveal that increasingly marriages are formed by free will, the practice of bride price is still widespread [66-67, 81]. In a study conducted in the Kaguru region of Tanzania, the researchers found how the practice of bride price weakened women's ties with their natal family because the bride price would need to be returned in the case of the marriage breaking down [82].

Other common marriage practices that prevail in Tanzania include polygamy with almost one-quarter of women in polygamous relationships in 2005, a figure that is only slightly lower than the 29% documented in 1996 [65, 78]. Harmful cultural and traditional practices that exist are widow inheritance, where a widow is inherited by her husband's family, or disinheritance, where a widow is disinherited of her marital property even if she has contributed to its accumulation [64, 81].

Gender inequality in economic opportunities

Despite women's dominance in agriculture they still own less than one-fifth of land and women's land holding size is, on average, less than one-half of men's (0.21–0.30 ha, compared to 0.61–0.70 ha for men) [86]. In addition, Warner & Campbell (2000) distinguish between food crops such as maize that are consumed in the home and that are primarily produced by women, and cash crops that, while are produced by both men and women, are primarily sold by men who also control the income raised [87].

High gender inequality in other sectors of the domestic economy also exists. Four percent of women were in paid jobs compared to 9.8% of men, and men represent over

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[17] According to the Tanzanian Law of Marriage Act 1971, the legal minimum age of marriage for women is 15 and for men is 18 [85].

71% of the formal work force, hold the majority of public offices, and men in paid labour occupations earn more than women [77].

Women are more likely to be represented in the informal sector where their participation has steadily increased from 35% (ILFS 2001) to 40% (ILFS 2006), with increases occurring particularly in rural areas [71, 73, 86]. Mbilinyi (1993) suggests that this increasing trend is a consequence of the Structural Adjustment Process that forced women and girls into low paid primarily informal sector work [88]. The majority of women in informal sector activities are self employed e.g. trading, and the ILFS (2001) estimates that the number of Tanzanian women entrepreneurs is in the range of 730,000 to 1.2 million (including women who count this as secondary activities to their agricultural work) (cited in [86]).

Gender inequality in the household

Gender inequalities also exist within the household as women's economic activities also tend to be in addition to full workloads at home, including fetching water and collecting firewood, and looking after elderly and sick relatives. Thus, women have little or no 'leisure' time and they form the largest part of the unpaid economy [71, 86-87]. Despite women's role as the primary domestic worker, where few men help with domestic chores, women have little influence in household decisions, with men making most of the decisions about health care and household expenditure. In addition, women often need permission from their husbands to leave the home, to visit family and friends, and to work outside of their domestic responsibilities [64-65, 74].

Thus strong patriarchal traditions and values continue to govern the lives of women in Tanzania, and within these systems the position of women is weak in relation to that of men.

2.3 Gender-based violence in Tanzania

2.3.1 Prevalence of partner violence

To date, four population based studies have estimated the prevalence of partner violence including the recently published 2010 Tanzania DHS that provides the first national

estimate.[18] All studies suggest that partner violence is pervasive in Tanzania. The 2010 Tanzania DHS found that among 15-49 year old women 45.4% had experienced physical and/or sexual partner violence [89]. Three studies, conducted between late 2001 and early 2003, have estimated the prevalence of partner violence in four settings. The study by the WHO, conducted between November 2001 to March 2002, revealed that 41% of ever partnered women in DSM and 56% of ever partnered women in Mbeya had experienced physical and/or sexual violence by an intimate partner at one point in their lives [3]. In a study conducted between November 2002 and March 2003, McCloskey et al. (2005) documented that 26% of currently partnered women in urban Moshi had ever experienced physical and/or sexual violence or physical threats by their current partner and this figure was 21.2% when considering past 12 month violence [90]. In a study by Gonzalez-Brenez (2003; 2004), conducted between June through to August 2002, among currently partnered women in Meatu, a rural district in Western Tanzania, lifetime prevalence of being beaten by a partner was 26% and past 12 month prevalence was 12% [91-92]. A clinic based study conducted in 1999 among 245 women who used voluntary counselling and testing services in DSM, found that 48% of women had one or more verbally abusive partners, 38% had one or more physically abusive partners, and 16% had one or more sexually abusive partners [17].

2.3.2 Nature of partner violence

Qualitative research spanning a decade also concludes that VAW and girls is a serious social problem. This qualitative research points to several underlying causes of partner violence [64, 75, 93].

In their case studies of women's experiences of partner violence in DSM, Sheikh-Hashim & Gabba (1992) documented that men condone the beating of wives and that in some cases, believe that women expect it [93]. Violence is also used by men as a means to punish women's 'errant or deviant' behaviour or to 'keep women in order' [93]. Causes of partner violence, including women in dating relationships, cited in their study include poverty, men's unemployment and women's economic dependency on men that led to disputes over money [93]. Marriage practices such as polygamy and bride price were also cited as reasons for partner violence [93]. Polygamous marriages were

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[18] The 2010 TDHS report was released in July 2011.

acknowledged as a risk of partner violence if, for example, other wives told tales to the husband. If a bride price was paid, a woman was shouted at, insulted, and was at risk of being beaten if she was not a virgin on her wedding night, or if she was unable to produce a child [93].

In a series of focus group studies with youth and adult men and women, conducted in DSM and Dodoma in 2005, these themes came through as perceived causes of domestic violence [64]. Partner violence was seen as acceptable particularly if used to punish or 'educate' women if they have done wrong. In addition, partner violence is often used within the context of men's controlling behaviour e.g. if women go to places that they were forbidden to go to by their partners, and if there are suspicions of women being with other men. Men's drunkenness also led to violence, as did men having other wives especially in situations when women asked questions about their partners' other women [64]. Forced sex within marriage was not recognised as rape as marriage itself implies that women have already agreed and understood the expectation that wives provide sex to their husbands. In addition, both women and men acknowledged that women who refuse sex to their husbands without an acceptable reason can expect to get beaten or raped by them [64].

A feature of Tanzanian society appears to be the normality and acceptance, by both men and women, of domestic violence and that partner violence that is considered mild or moderate and that does not injure or leave a physical mark is also considered justified under certain circumstances [17]. In their clinic based study in DSM, Maman et al. (2000) found that 41% of women identified at least one situation in which partner violence was justified, and figures from the 2005 Tanzania DHS revealed that proportionately more women than men (60% women and 42% men) believed that wife beating was justified under certain circumstances [17, 65].[19]

Thus partner violence in Tanzania has its roots in patriarchal traditions and values. Partner violence is often used by men against women as a 'legitimate' way to resolve

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[19] The 2005 TDHS asked women the following reasons: burning food/failing to perform household duties; arguing with their partner/disobedience; neglecting the children; sexual infidelity or refusing to have sex with her partner; going out without telling her partner; and Maman et al (2000) disobedience, infidelity, and non completion of household work [17, 65].

conflict and a mechanism through which men demonstrate their power and gain or maintain control over women.

2.3.3 Other forms of gender-based violence

It is not only violence by an intimate partner that is prevalent in Tanzania, as all forms of GBV are common and it often affects young girls. Fifteen percent of women have undergone FGC though the distribution varies highly by region e.g. in Manyara region 81% of women had undergone FGC [65]. Anecdotal evidence suggests as public acceptance of FGC declines it is conducted more secretly and at earlier ages to avoid being caught [64]. In the WHO study 15% of girls reported that their first sexual experience was forced, and in the study by Maman et al. (2000) 8.5% of women reported that they had been forced to have sex or to do something sexual by someone much older at least once before the age of 12 [3, 17]. Sexual violence perpetrated by adolescent men is often associated with teaching girls a lesson for refusing them sex or rejecting their proposal to have a relationship with them, and young women may also be coerced into having sex for potential economic gain [64, 93]. This lack of control of the terms of sex may have implications for HIV. The 2005 Tanzania 2005 DHS revealed that 6% of adult males and 8% of adult females were HIV positive [65], and a clinic-based study in Tanzania found that women who have had a history of physical and/or sexual violence are more likely to be infected with HIV [17]. Sexual violence against women is also pervasive and under certain circumstances it is considered acceptable by both men and women. Often the blame is placed on girls or women for provoking and causing men to rape them, e.g. by drinking alcohol or wearing revealing clothes. Many men believe that a woman is obliged to have sex if the woman accepts money or gifts from them. Accounts from male adolescents and adults tell of a practice called "mande" where a man, in some cases several men, traps a girl or a woman to have sex with her in order to teach her a lesson for refusing his initial advances or for accepting gifts from multiple men [64, 93].

2.3.4 Policy responses to gender-based violence

Violence against spouses is illegal, according to the 1971 Law of Marriage Act, and in 1998, the Tanzanian government passed a Sexual Offenses Special Provisions Act (SOSPA) that made rape, sexual assault and harassment, FGC and sex trafficking

criminal offences [85, 94]. The government has also passed laws to support women's economic and social welfare. The Land Act and the Village Land Act of 1999 established that women should be treated equally with men in terms of rights to acquire, hold, use, and deal with land [95-96]. The Employment and Labour Relations Act of 2004 prohibits discrimination in the workplace on the basis of gender [97]. However, in all these laws limitations exist. Women in cohabiting relationships are not included in the Law of Marriage act, and marital rape is excluded from the SOSPA except where the couple is separated. Moreover, tradition and culture undermine women's ability to acquire inherit, maintain and dispose of property [64, 81].

Despite laws against domestic and sexual violence and efforts by non-governmental organisations in Tanzania e.g. the Tanzania Media Women's Association and the Tanzania Gender Networking Program, to raise women's awareness of their legal rights, many women still keep silent about their experiences of partner violence. They are either unaware that the violence perpetrated against them is a crime, too ashamed to report it, afraid of the repercussions e.g. on their children and whether they would be able to keep and provide for them, and also because they have few places to go to as they are economically dependent on their partner [64, 93]. In addition, culture and traditional pressures condition women to accept violence by preventing them from speaking out and discussing their marital lives openly [64, 93].

As of 2005 there were two known established shelters for victims of GBV and both existed in DSM. In the past, shelters were closed down because women chose not to go there. This was because the shelters were considered places where 'women are taught bad things'[98].

A situation assessment conducted in 2008 documented that the police were ill equipped to deal with issues of domestic violence [64]. Women were also hesitant to go to the police because they believe the police are reluctant to pursue domestic violence cases. In addition, women who have sought help report varying experiences including questioning to the point of harassment [64].

The Tanzanian government has identified improving the status of women as a priority, seeking to increase women's political participation at both the local and the national

level. It has ratified international human rights legislation including the Convention of Elimination of all Forms of Discrimination Against Women (CEDAW) and the International Convention on the Rights of the Child. The Tanzania's Poverty Reduction Strategy Paper and the National Strategy for Growth and Poverty Reduction list VAW as one of their poverty indicators [72, 99-100]. In addition, institutional reforms have recently been introduced where each ministry has a gender focal point and gender mainstreaming is to be implemented.

Chapter 3: Economic status and partner violence: A review of sociological and economic theories and empirical evidence

In this chapter I present an in-depth review of the theoretical and empirical literature that seeks to explain the relationship between household and individual economic status and partner violence. I draw on each of these theories to address my main thesis aim – to explore the relationship between women's economic status and different forms of partner violence in DSM and Mbeya, Tanzania.

From the literature I reviewed, I classified the various theories into three major bodies of work: sociological theories; economic bargaining theories; and feminist economic theories. While reviewing the empirical literature it became apparent however, that these three theoretical perspectives do not take account of additional non-economic status factors that affect women's vulnerability to partner violence, e.g. experiencing or witnessing violence in childhood and alcohol use. Therefore, I drew on an additional theoretical framework – Heise's (1998) ecological model [101]. This framework enables the exploration of economic status variables and partner violence within a broader set of contextual factors. Figure 3.1 maps the theoretical literature I reviewed – the three main sociological and economic perspectives I identified, the different theories that fall within each perspective, and the ecological framework.

This chapter is structured as follows: the theories from the sociological and the economic bargaining perspective are described in sections 3.1 and 3.2 respectively. In section 3.3 I summarise the predictions made by these different sociological and economic bargaining theories, and then present the findings from a published systematic literature review of published evidence, that I conducted as part of this thesis, on the association between economic status and partner violence in LMIC settings. In section 3.4 I describe feminist economics extension of economic bargaining theory and present qualitative evidence on the implications of women's economic status on partner violence in LMIC settings. I then describe the ecological model in section 3.5, and finally, in section 3.6 I conclude this chapter.

Figure 3.1 Sociological, economic bargaining and feminist economic theories

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┌─────────────────┐        ┌─────────────────────┐        ┌──────────────────┐     ┌──────────────┐
│   Section 3.1   │        │     Section 3.2     │        │   Section 3.4    │     │ Section 3.5  │
│  Sociological   │        │ Economic bargaining │        │ Feminist economic│     │  Ecological  │
│    theories     │        │     theories        │        │    theories      │     │  framework   │
└─────────────────┘        └─────────────────────┘        └──────────────────┘     └──────────────┘
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Sub-section 3.1.1	Sub-section 3.1.2	Sub-section 3.2.1	Sub-section 3.2.2	Sub-section 3.4.1	Sub-section 3.4.1	Sub-section 3.4.3
Resource theory	Marital dependency theory	Unitary model	Economic bargaining models	Role of social norms	Cooperative conflict framework	Income management framework

Sub-section 3.1.1	Sub-section 3.1.1
Absolute resource theory	Relative resource theory

Section 3.3
Quantitative empirical literature supporting or refuting sociological and economic bargaining theories

Sub-section 3.4.4
Qualitative studies that explore the implications of women's access to money on gender relations including partner violence

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3.1 Sociological theories of partner violence

Much of the sociological theoretical literature linking household and individual economic status and partner violence has been developed and tested in high income countries, predominantly the USA. Gelles (1985) recounts that it was not until the 1970's that violence towards women received attention by the sociological research community [102]. Prior to that, family violence was discussed within a clinical setting where the violence was explained as delinquent behaviour and was not considered to be a common part of family life [28]. Since then, various theories have been advanced to explain violence in the home. In his review article on family violence, Gelles (1985) highlighted that while the research conducted pointed to a multitude of factors that were associated with domestic violence, low economic status had been consistently found to be related [102]. Other factors consistently related to partner violence were: witnessing violence in childhood; social isolation and low community embededness; low self-concept; personality problems and psychopathology [102]. An evolving body of sociological theories have sought to explain how women's risk of partner violence may be affected by the absolute and relative level of economic resources within a household, with the different theories suggesting different outcomes regarding how women's economic status may affect their risk. Below I describe in-depth the following theories: 1) resource theory within which there are two strands – absolute resource theory and relative resource theory; and 2) marital dependency theory.

3.1.1 Resource theories

Underlying the principle of resource theory is the premise of 'social exchange' where individuals' actions are guided by their pursuit of maximising 'benefits' and minimising 'costs' to achieve a desired outcome [103-104].[20] Within an interaction, if the exchange of benefits is reciprocal then the interaction continues, but it is terminated if the exchange of benefits is not reciprocal. However, within a family situation, terminating such an exchange is more complicated and sometimes not feasible. This is because of normative and structural constraints that put added pressure on individuals to maintain the exchange. This can result in increased anger, conflict, resentment and even violence [105].

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[20] Costs could include factors such as sacrifices of money or friendships and benefits could include material or financial gains, emotional security, or social status.

Three early resource theories attempt to explain the relationship between family power and violence within an exchange framework [27-29]. Goode (1971) views the family as a power system that is characterised by a set of four 'resources' of which three are classified as 'social resources': 1) economic (e.g. level of income); 2) prestige or respect (e.g. an individual's social status relative to their neighbours or the communities); and 3) likeability/attractiveness [27]. The fourth resource is force or threat of force which includes violence. Individuals within the family use these resources interchangeably in order to induce a desired effect, i.e. as a way of influencing others, and it is the members of the family with the greatest physical strength that are more able to command and draw on force as a resource [27].

This view is supported by O'Brien (1971) who defines the family as a social system and argues that individuals within that system are assigned to a structurally based status hierarchy that is based on, for example, gender and age [28]. The members of the higher status group possess superior skills, talents or resources. If the members of the higher status group lose their advantage in skills, talents or resources, then conflict and, in extreme cases violence, is likely to ensue [28]. Or if consensus between the superior and the subordinate group is not reached then the superior group will typically exert coercive power in order to influence that decision [28].

Allen & Straus (1980) put forward the 'ultimate resource theory'. This theory aims to understand culturally ascribed family power relations and violence, and argues that an individual's resource, e.g. occupational status or money, forms the basis of their power. Violence is used as an 'ultimate resource' by a person who lacks other resources that would maintain their power and validate their position, and who feels that they should be in a position of dominance [29].

These theories essentially predict that it is men who are more likely to use violence because they command more force, possess superior skills, talents or resources, and are ascribed power within society [27-29]. However, because the costs of violence (e.g. loss of respect and affection) are assumed to be high, men with more social resources are less likely to use partner violence. Therefore, women in households with low SES are more likely to experience partner violence (Absolute resource theory), and women

whose comparative resources are higher than their partners are more likely to experience partner violence (Relative resource theory).

Absolute resource theory

The first strand of resource theory suggests that partner violence is higher within households that are at the lower end of the socioeconomic scale, and that men who have low educational attainment, income or occupational status are more likely to use force than men with higher educational attainment, income or occupational status. Allen & Straus (1980) postulate that this may be because men from low SES households are more likely to hold traditional values, i.e. that they possess an ideology that emphasises male power [29]. However, they also have low levels of social and economic resources and job autonomy, and therefore use violence to redress the balance [106].

Another view highlights that the link between low SES, and in particular men's economic vulnerability, and family violence is mediated by the stress and frustration of poverty. Economic strain leads men to become increasingly hostile towards their wives or to become depressed [107-109]. In his study of 80 US families in the early 1970's, Gelles (1987) found that the lower the family's socioeconomic position within the social structure, the greater the stress and frustration suffered as men's unemployment or sporadic employment led to arguments over money and in turn violence [108]. Either the woman berated her husband for being a poor provider for the family, or the man felt his wife was to blame for the lack of money taking out his frustrations on his wife [108]. In addition to the frustration associated with low economic status, Gelles (1987) also asserted that such families have less ability to cope with stress [108]. This finding was echoed nationally, and using data from the 1975 family violence survey, Straus (1990) showed that men with low income or who were under employment stress (e.g. were laid off or fired from work) were more likely to assault their wives. In addition, Kaufman & Straus (1990) found in their study that men in blue-collar male dominated occupations were more violent than men in white collar occupations [110].

However, Melzer (2002) argues that the relationship between men's occupational status and domestic violence goes deeper than a blue-collar white-collar division [111]. Using data from the US National Survey of Families and Household (NSFH), gathered

between 1988-1989, his study found that while men in managerial occupations were among the least likely to be violent at home, possibly because they fulfil the cultural expectations of being able to provide for the household or that their occupational status provides them with greater self-esteem, men categorised as operators, assemblers, and labourers were the least likely to perpetrate violence [111]. Among those that were more likely to perpetrate violence in the home were men in physically violent occupations, such as police or military, and men in female dominated occupations e.g. clerical work [111]. The association between physically violent occupations and violence was linked to a possible spill-over effect of stress from the workplace, and given societal notions of what is traditionally male and what is traditionally female work, men in female dominated occupations may be compensating for their perceived emasculation [111]. Figure 3.2 summarises the relationship between the indicators of economic status and partner violence theorised in absolute resource theory.

Figure 3.2 Absolute resources and partner violence


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┌─────────────────────┐     ┌─────────────────────┐     ┌──────────┐
│ Low SES, partner    │     │ Poverty stress, fewer│     │ Partner  │
│ educational         │ ──► │ skills to deal with  │ ──► │ violence │
│ attainment,         │     │ stress               │     │          │
│ income; occupational│     │                      │     │          │
│ status              │     │                      │     │          │
└─────────────────────┘     └─────────────────────┘     └──────────┘
```
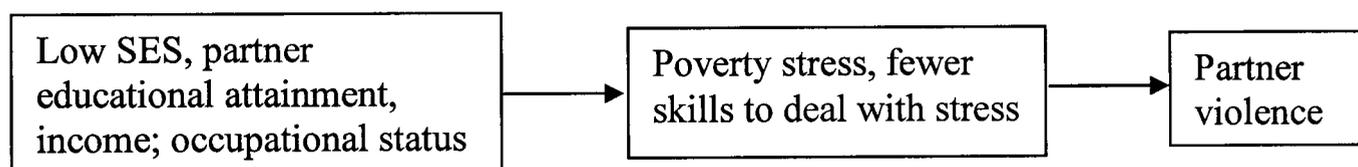
Relative resource theory

Resource theory also asserts that the balance of marital power is influenced by the interaction of comparative resources of a husband and wife, and therefore, the theory considers the relative distribution and differentials in economic status within a household – Relative resource theory. This theory suggests that women with higher economic status (i.e. women who are employed when their partner is not, have a higher income than their partner, or who have a higher educational level than their partner), are at an increased risk of violence as men are more likely to use violence in an effort to reaffirm their superior ascribed status [27-29].

Relative resource theory has received much support and has been further discussed within two frameworks: a structural framework and a gendered framework. The relationship between economic status indicators and partner violence these two frameworks predict is depicted in figure 3.3.

Relative resource theory - structural perspective

Within the structural perspective of relative resource theory, several factors are hypothesised to mediate violence within families. For example, it may be that stress and frustration increases in households when women are working and when they are also expected to fulfil their domestic role. In a study by Fox et al. (2002) using NSFH data they found that women who felt that working was a necessity, for example to meet household expenses, or who were working in low occupational status jobs had higher levels of irritability and exhaustion, which in turn was associated with an elevated risk of partner violence [30]. Fox et al (2002) propose that the carry over stress from work mediated their risk of partner violence [30]. The same study also found that where women felt their partner should be working more, this also increased their risk of partner violence suggesting women let their feelings known and further increasing arguments within the household [30].

Hornung et al. (1981) distinguish between status inconsistencies between men and women that do not conform to traditional social norms and expectations, arguing that this increases the risk of violence in relationships because of men's decreased psychological well-being [31]. In their random survey of 1553 married or cohabiting women (data gathered on both women and their partners) in Kentucky, USA, they found the highest prevalence of partner violence among women described as 'overachievers' (higher occupational status relative with their educational level) partnered with men described as 'low achievers' (lower occupational status relative to their educational level) [31].

Relative resource theory - gendered perspective

Gendered resource theorists argue that violence is a means for constructing masculinity and therefore, when men lack access to economic resources they may use violence to compensate for their threatened sense of masculine identity and attempt to re-establish their power at home. An increasing number of studies are finding support for this assertion.

For example Macmillan & Gartner (1999) argue that employment is a symbolic resource within relationships [32]. Using data from the Canadian National Violence

Against Women Survey (NVAWS), they found that the employment status of the partner, but not the woman, was associated with women's risk of violence (systematic and non-systematic abuse). Further investigation revealed that the risk of partner violence was higher for employed women partnered with unemployed husbands [32].

Using data from the NSFH, Anderson et al. (1997) explore the effect of status inconsistencies on both men's (n=2459) and women's (n=2489) perpetration of domestic violence [33]. They argue that socio-demographic factors influence violence perpetrated by men and women differently. Their study found some support for relative resource theory as men with lower relative income were more likely to use violence. The authors concluded that men's perpetration of violence was motivated by their need to express a masculine identity as their identity was challenged by lower relative earnings. They also found that while women with lower relative income were not more likely to perpetrate violence, women who earned 70% or more of the family income were more likely to perpetrate violence. However, the reasons for this are less well understood, and it may be that women with higher relative economic status were more likely to fight back [33].

In her study on the effects of status incompatibility and domestic violence among women in Canada, Kaukinen (2004) found that men in status reversal partnerships, an economic differential that favours women, chose to use emotional abuse to control their female partner [34]. This may be because, to some extent, women's higher economic status reduced the stress of the household's lack of economic resources. However, because the status inconsistency is not normative, instead of using physical violence men resorted to emotional abuse to reinstate power and dominance.[21]

Atkinson et al. (2005) refine gender resource theory and propose that the effect of relative resources on partner violence is moderated by men's gender ideologies [35]. Women's higher economic status will not be associated with an increased risk of partner violence if their partners hold more egalitarian views on gender roles, i.e. if they don't believe that men should be the primary breadwinner. Using data from 4296 couples from the NSFH (1987-1988) their study found that when status inconsistency was

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[21] Emotional abuse included behaviours such as sexual jealousy, social isolation and control, put-downs, and/or threats to others [34].

interacted with gender ideology, women were at higher risk of partner violence if they had higher economic status than their partner who held less progressive gender ideologies [35].

Figure 3.3 Relative resources and partner violence

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                        ┌─────────────────────────┐
                        │ Structural perspective  │
                    ┌──▶│ Household stress and     ├──┐
                    │   │ frustration             │  │
┌──────────────────┐│   └─────────────────────────┘  │  ┌──────────┐
│ Women's higher   ││                                 └─▶│ Partner  │
│ income, educational,│                               ┌─▶│ violence │
│ occupational status│                                │  └──────────┘
└──────────────────┘│   ┌─────────────────────────┐  │
                    │   │ Gendered perspective     │  │
                    └──▶│ Reassert notions of     ├──┘
                        │ masculinity             │
                        └─────────────────────────┘
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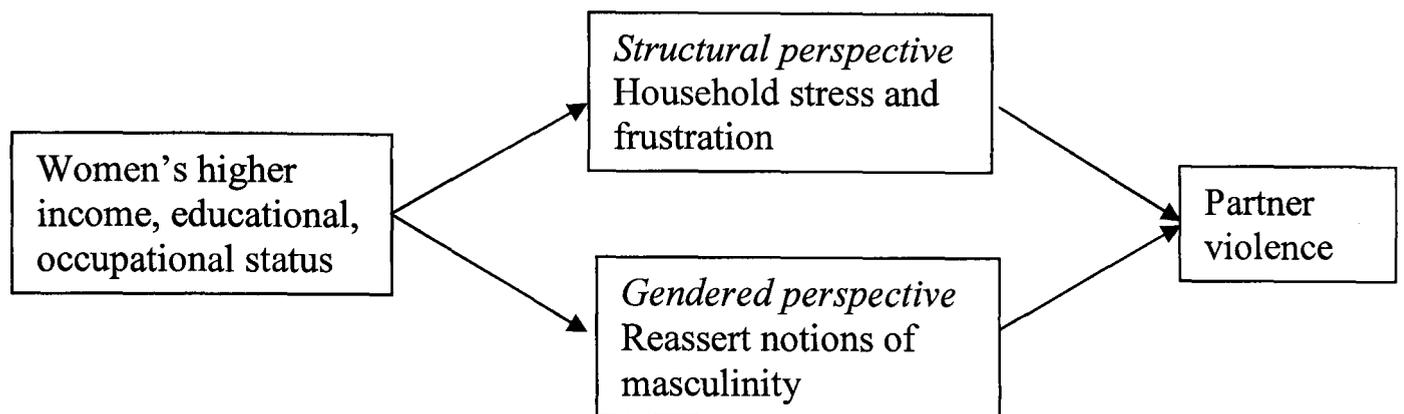
3.1.2 Marital dependency theory

In contrast, other family violence theorists from the feminist perspective argue that domestic violence is particularly acute among poor women who are economically dependent on their partner because they have fewer options to leave [40-41]. Unlike resource theories that assume a unidirectional relationship between economic status and partner violence, marital dependency theory argues that this relationship is cyclical. Partner violence perpetuates women's economic vulnerability, but also women's low economic status perpetuates abuse Figure 3.4.

Gelles (1976) hypothesised that the fewer economic and social resources women have the fewer alternatives they have to marriage and the less likely they are to be able to negotiate change within their marriage, seek outside intervention, or to leave [36]. In his study of 80 families in the US, Gelles (1976) revealed that abused women who took action, i.e. who initiated divorce proceeding or who went to the police were more likely to be employed than women who took no action at all [36].

Kalmuss & Straus (1982) also argue that women's economic dependency trap women in their marriage and forces them to tolerate abuse because they have fewer alternatives outside of the relationship [38]. In their analysis of 1183 women from a US national survey data, they found higher rates of severe marital violence among women who were

not employed or who had few financial resources or who had young children [38]. Pagelow (1981) argues that women's overwhelming responsibility of caring for children both during and after marital dissolution creates even more pressure for them to tolerate violence [112].

Strube & Barbour (1983) followed 98 abused women who had contacted a counselling unit in a US city [42]. Their study adds support to the theory that economically dependent women tolerate abuse. They found that a higher proportion of women who were employed had left their abusive relationship compared to women who were not employed [42]. The authors also concluded that traditional values that place the burden of family harmony on women also mediated women's tolerance of abuse through women's increased commitment to the relationship [42]. This is corroborated by Rusbult and Martz (1995) whose study among 100 women that sought refuge at a shelter for battered women found relationship commitment higher among women with less education and fewer financial resources [113].

Studies have also shown the lengths abusive men go to in order to prevent their partner from entering the workforce [40-41, 114]. In many cases, threatened by the independence of their partner or fear that the woman will meet another man, abusive men undermine women's employment by using violence or threats of violence and sabotage e.g. depriving them of transportation, harassing them at work, beating them before job interviews, and disappearing when they promised to provide child care [40, 114-116]. These tactics of isolating women from financial independence and the possible effects of past violence, including depression and anxiety, serve to keep women poor and dependent. In a study by Meisel et al. (2003), the trauma and stress that resulted from the abuse women experienced was inversely associated with their employment in California, US [117]. In addition, women who had been abused worked for a fewer number of weeks and were more likely to have lost a job than women who had not been abused [117]. This is echoed by Lloyd & Taluc (1999) and Lloyd (1997) who found that in Chicago, US, while experience of partner violence did not predict women's employment status, women who experienced domestic violence were more likely to have experienced unemployment, job turnover, to have lower personal incomes, and to be more likely to receive public assistance [115-116].

While much of the feminist literature has focused on violence as a barrier to women's entry into the workforce, studies have shown that abused women may be more likely to seek employment. In her study of 365 US women, sampled from both battered women's shelters and the community, McCloskey (1996) found that greater women's income (relative to their partners) increased their vulnerability to partner violence [118]. McCloskey (1996) argues that battered women may be more likely to seek work or financial independence because of the abuse they receive at the hands of men.

Figure 3.4: Women's economic dependency and partner violence
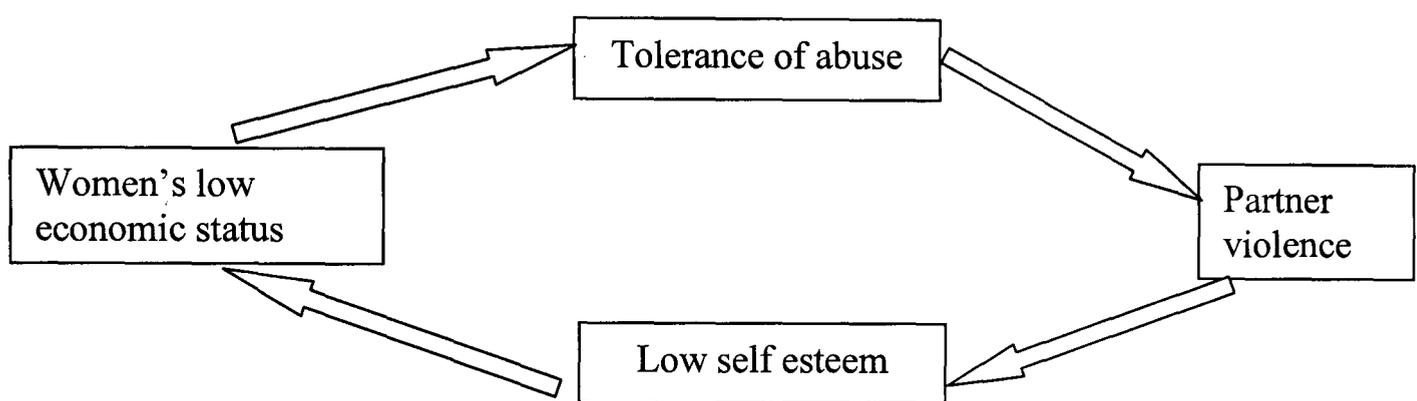
3.2 Economic bargaining theories and partner violence

The second main theoretical perspective I reviewed uses economic theory of household bargaining to predict the relationship between women's economic status and partner violence. Initially these theories were used by economists to develop family consumption demand and labour supply functions. More recently, they have been used to understand partner violence as a welfare outcome [119-122]. Early forms of these economic theories conceptualised the household as a single harmonious unit (unitary model) where each household member's economic resources and preferences are combined into a single budget constraint and a utility or welfare function.[22] However, this model has been criticised because it does not consider individuals or allow conflict, oppression or compromises within the household to be recognised [47, 123-125].[23]

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[22] Also known as common preference model or New Home Economics [53].
[23] Conflict within the economic bargaining framework means disagreement over how household resources should be allocated.

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In response to this criticism household bargaining models evolved to consider men and women as individuals within a household [126]. Within the economic bargaining framework, the basic proposition is that increasing women's economic status empowers them to negotiate for a better situation for themselves including reducing their risk of partner violence [119, 121, 127]. Below I describe these two models in more detail.

3.2.1 Unitary model

The most commonly applied unitary model is based on Becker's household production model [128-131]. Within this framework, the household members have a set of preferences that are easily aggregated into a single household utility or welfare function. The household members combine resources 'income pooling' derived from their: labour activities some of which are sold in the market and some of which are provided at home but that could be purchased on the market (e.g. child care and domestic work); and their non-labour activities e.g. welfare payments, to derive a single household budget constraint [130]. The household then agree on the optimal level of resource allocation or consumption that then maximises the household utility function.

The process by which each household member's preference is aggregated into a single household utility function, however, is not made explicit. It could be that either all household members share the same preferences. More commonly it is assumed that there exists an altruistic decision-maker (benevolent dictator) in the household who makes all the allocation decisions [131]. The additional assumptions of common preferences and income pooling imply that the distribution of resources, across the individual household members, remains the same regardless of who in the household contributes to it.

The model is acknowledged as innovative as it enabled economists to understand the division of labour in the household and the role of women who typically produce most non-market activities. However, men and women often have competing preferences and priorities and studies have found that men and women spend income under their control differently. For example, studies from Canada, Cote d'Ivoire and the Philippines have found that women are more likely to focus resources on children and the household, e.g. food expenditure, whereas men are more likely to divert needs away from the household

e.g. on their own personal use [132-135]. In addition, Pahl (1989) rejects the assumption of an altruistic decision maker. In her study of abused women in the UK, Pahl (1989) documented how some of the women came from marriages where their husbands had substantial earnings but that they and their children did not benefit from its distribution and were living in impoverished conditions [125].

3.2.2 Household bargaining models

A second type of household model that was developed in response to criticisms of the unitary model explains, more explicitly, decision making within the household as an interaction between the individual household members. These models allow for the fact that household members care about one another's welfare and that there are benefits to cooperating, while also allowing for the fact that the household may also be a site for conflict.

Known as the collective or individual preference models, these models allow differences in individual preferences. The household utility function is disaggregated into each individual's utility or welfare function. This enables each individual to make independent but interrelated production (including participating in waged employment) and consumption decisions. In these models, a resource allocation outcome that makes all household members better off is an interaction that is characterised as 'cooperative'. However, if an allocation outcome favours one individual more than the other, then the household interaction is 'conflicting'. Where preferences among household members are conflicting, then the mechanism to resolve the conflict occurs through a process of bargaining and negotiation.

Several collective preference models have been developed differing, for example, in their assumptions about the allocation mechanism. The two most common collective preference models use game theory approaches to describe household allocation decision making: the cooperative bargaining model proposed by Manser & Brown (1980) and McElroy & Horney (1981), and the noncooperative bargaining model proposed by Lundberg & Pollak (1993; 1994) [136-140]. In both models, the concept of an individual's fall-back position is introduced. In the cooperative model, the fall-back position is the level of each individual's utility outside of the household and it is what

determines the relative bargaining power of individuals. Within the cooperative model the fall-back position is conceptualised as the 'divorce' threat [137]. However, in the noncooperative model, the fall-back position does not necessarily imply dissolution of the household or divorce, but it is internal to the household and results in individuals no longer interacting and instead behaving as sub-autonomous units. What defines the fall-back position in the noncooperative framework is control over household finances and sources of independent income [138, 141].

Cooperative bargaining model

The assumptions that underlie the cooperative bargaining models are that individuals are fully and symmetrically informed about each other's preferences and resource endowments, and that the allocative solutions are binding [126]. Each individual household member's resources are still notionally pooled and individuals bargain over its allocation. The resulting outcome (who ends up with what amount) varies according to each individual's bargaining power. The derived solution is one in which the gains to cooperation (difference in each individual's utility inside and outside the household) is maximised, and therefore, the allocation is pareto optimal.[24] What drives the cooperative household model is the fall-back position of each individual which in turn is determined by their situation in the event of household dissolution (or divorce). The stronger the individual's fall-back position, the greater bargaining power they can muster. In earlier models, the factor that was initially considered to affect an individual's fall-back position was independent wealth e.g. non-wage income, parental wealth, and the market wage rate [137]. McElroy (1990) subsequently extended these to include an index of characteristics she termed 'extra environmental parameters'. These capture factors that exogenously affect the welfare of individuals outside marriage and include: the state of the marriage market; property rights legislation and enforcement; legal structure within marriage; labour or capital market discrimination; government taxes or private transfers that are conditioned on marital or family status; and other policy interventions [140].

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[24] Pareto optimal is defined as a situation where one person can't be made better off without making someone else worse off.

Thus, an implication of the cooperative bargaining model is that increasing women's economic options outside of marriage (including waged employment) is an extremely powerful way of enhancing their bargaining power within the relationship and therefore to negotiate less partner violence.

In their evaluation of two welfare to work programs, the Minnesota family investment program and the national welfare to work strategies, Gibson-Davis et al. (2005) found some evidence to support the cooperative bargaining model [142]. They found that a change in women's status, from not working to working, reduced the probability of reported incidences of domestic violence. The authors concluded that employment may have increased women's relative bargaining power in the relationship e.g. by boosting their self confidence, or that by providing them with a wider social network they gained an independent means of support if the relationship ended [142].[25]

Aizer (2010) argues that a more accurate measure of women's bargaining power, within a cooperative framework, is her potential wage or demand for her labour rather than her actual wage [143]. Using labour market data from California, US, Aizer (2010) found support for her assertion, as her results indicated that the decreasing wage differentials between men and women, from 1990 to 2003, explained a 9% reduction in violent assaults against women over that time [143].

Noncooperative bargaining models

Within the noncooperative framework the assumptions that individuals are fully informed of each other's preferences and resource endowments and that they enter into binding and costless enforceable contracts, assumed in the cooperative bargaining model, are relaxed [138-139]. The model also allows for the fact that divorce or dissolution of the household may not always be a viable option. In the case where a conflicting solution is reached – where bargaining has broken down – each individual household member retreats into their own 'separate sphere' and behaves sub-autonomously [139]. Incomes are no longer pooled and individuals make independent

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[25] The treatment group in the Minnesota family investment program received wage supplements and job-training services. The national evaluation of welfare to work strategy required treatment group members to participate in employment or education to receive full benefits [142].

production and consumption decisions. The noncooperative framework has been used in two studies to allow researchers to understand the transfer of resources within violent relationships.

In their study of 125 abused women in California, Tauchen et al. (1991) concluded that the role of monetary transfers between spouses explained the different effects of men's and women's economic resources on domestic violence at different socioeconomic levels [119]. The effect of income on partner violence was dependent on the level of household income and whether the man or the woman earned most of the family income. For example, within low and middle income households, increases in the man's income increased partner violence but increases in the woman's income led to decreases in partner violence. However, within higher income households, where the man contributes most to the family income, increases in either the man's or the woman's income reduces partner violence, but when the woman contributes most to family income, increases in either person's income increases the risk of violence. This latter finding, the authors conclude, suggested that violence was used 'instrumentally' by men to control their wives' income [119].

In a study investigating the relationship between dowry payments and partner violence in a poor potter community in Southern India, Bloch & Rao (2002) found an increased use of partner violence by men who had wives from richer natal families, in order to extract further dowry payments [120, 144].

3.3 Summary of sociological and economic bargaining theories and empirical evidence from LMIC

3.3.1 Sociological and economic bargaining theory predictions

Table 3.1 summarises the predictions that are made by the different sociological and economic bargaining theories that were reviewed in the previous sections. The Table shows that not only do the theories focus and conceptualise economic status measures differently, there are competing predictions on how economic factors affect women's risk of partner violence. For example, relative resource theory predicts that where women have greater economic status compared with their partner they are at increased risk of partner violence because of challenges to traditional gender roles. However,

marital dependency theory predicts that women with no or fewer economic resources than their partner are at increased of abuse, while economic bargaining theory argues that women's higher economic status reduces their risk of partner violence.

Table 3.1 Summary of sociological and economic bargaining theories predictions on partner violence

Theory	Mediating mechanisms	Economic status measure	Projected violence association
Absolute resource theory	Poverty stress & frustration, fewer interpersonal skills to deal with conflict	Household SES Household crowding Partner employed Partner occupational prestige Partner educational attainment	Negative Negative Negative Negative Negative
Relative resource theory	Challenge to men's status	Woman's relative education Woman's relative earning Woman employed (v partner not) Woman's relative occupational status	Positive Positive Positive Positive
Marital dependency theory	Tolerance of abuse because of fewer options and alternatives	*Objective dependency measure* Woman employed (v not employed) Woman's higher relative earning Dependent children (e.g. < 5 years) Little financial support *Subjective dependency measure* Woman's psychological dependence Woman's belief divorce hurts her more	Negative Negative Positive Positive Positive Positive
Economic theory (Bargaining models)	Strengthened bargaining position in the household	Household SES Woman employed Woman's relative earning Woman's educational attainment Woman's ownership assets	Negative Negative Negative Negative Negative

3.3.2 Evidence from a systematic review of population-based studies in LMIC

Previous sections reviewed predictions from different sociological and economic bargaining theories on the likelihood women experience partner violence. But what does the empirical research say? This section summarises the findings from a published systematic literature review that I conducted as part of this thesis. The published article is included as Appendix 1 [145].[26] The review focussed on population-based findings about the association between different indicators of women's economic status and partner violence. Studies that were included in the review were based on multivariate analyses that controlled for either women's age, length/duration of relationship, or age at union.

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[26] The article was published in the Journal of International Development 2009

Systematic review methods

I conducted the systematic review during January through to August 2007. The review first entailed a detailed search in PubMed using the following search terms [partner violence; IPV; spouse abuse; wife abuse, domestic violence AND survey; domestic violence AND low income; domestic violence and middle income; domestic violence AND developing country].[27] Using this strategy I identified 8969 articles of which 8194 remained after duplicates and articles with no author or were not in English were rejected. I then reviewed the titles of the studies and abstracts and rejected the vast majority (8131) based on the following exclusion criteria: they had an industrial country focus; were not population-based (e.g. clinic); focussed on childhood, elderly or same-sex couples abuse; or did not report risk or protective factors associated with partner violence. Sixty-three articles were then reviewed in full and of these 10 were rejected because they analysed data using a sample of men (nine) or a combined men and women sample (one). A further 24 were excluded because: 12 presented bivariate analyses only; seven reported prevalence of partner violence but not associated risk and protective factors; three were clinic based; one was a review article, and another presented qualitative research. A further three studies were identified from the grey literature search on the internet, and three additional articles were identified from the reference lists from journals/articles not picked up from the database search.

In total I reviewed 30 population-based studies that investigated risk and protective factors, including different indicators of economic status, associated with partner violence in LMIC settings.

Systematic review findings

Table 3.2 shows how many studies found significant (and suggestive) protective and risk associations between the different economic status indicators and past 12 month experience of partner violence, and how the findings relate to the different sociological and economic bargaining theories.

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[27] IPV is a short-hand for intimate partner violence

Table 3.2 Summary of systematic review findings

Theory Economic status indicator	Projected violence association	Total number of studies	Number of protective effect associations		Number of risk effect associations	
			Significant	Suggestive	Significant	Suggestive
Absolute resource						
Household asset wealth	Protective	**16**	8	7	0	1
Partner education-primary	Protective	**12**	0	10	0	2
Partner education-secondary	Protective	**13**	6	5	0	2
Relative resource						
Woman has greater education than man	Risk	**11**	0	4	5	2
Marital dependency/ economic bargaining						
Woman education-primary	Protective	**15**	3	8	1	3
Woman education-secondary	Protective	**14**	8	3	1	2
Woman earned income	Protective	**15**	2	5	4	4
Accessed microfinance	Protective	**8**	3	1	2	2

Source: Vyas and Watts (2009)
Suggestive implies non-significant

Empirical evidence supporting or refuting resource theory

Studies in the systematic review generally documented a significant protective effect of higher asset based household SES and higher education among men, lending support to resource theories that hypothesise that poverty impacts on levels of partner violence [61, 146-156]. More recent published evidence confirms this finding. Analysing cross-sectional data from the Demographic and Health Survey (DHS) from ten countries (DHS study), Hindin et al. (2008) found that higher asset based household SES and higher male education were both associated (either significantly or suggestively) with lower rates of partner violence in eight of the countries [157].[28] Studies conducted in rural Vietnam, urban Mongolia, and urban Calcutta all found low household monetary income to be associated with higher partner violence [158-160], and men's low educational attainment was associated with higher partner violence in rural Vietnam and rural Bangladesh [158, 161]. In addition, these findings also corroborate results from studies investigating men's reported use of partner violence in Vietnam, India, South

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[28] The countries were Bangladesh, Bolivia, Dominican Republic, Haiti, Kenya, Malawi, Moldova, Rwanda, Zambia and Zimbabwe. The multivariate analyses adjusted for women's and men's socio-demographic characteristics.

Africa, Colombia and Thailand that found that poverty, men's lower educational attainment and lower income were associated with higher perpetration of physical violence [162-167].

However, among more recent studies, the evidence on the association between men's employment status and partner violence was mixed. Men's unemployment, employment instability, or irregular contribution to family expenses were associated with higher partner violence in urban Mongolia, two studies in India and in four countries in the DHS study [157, 159-160, 168]. However, in the DHS study women whose partners were not working were less likely to experience partner violence in six countries (one significantly so) [157]. A study conducted in Lima, Peru, found that women partnered with employed men were significantly more likely to experience physical or psychological partner violence [169]. The authors argued that the unemployed men were less likely to use violence possibly because they have a greater incentive to keep the family intact arising from their own financial dependence [169]. Researchers in South Africa also found that more advantaged men were more likely to rape their intimate partner – suggesting that higher economic status gives men an "exaggerated sense of male entitlement" [170].

Empirical evidence supporting or refuting relative resource theory

The few studies in the systematic review that investigated the relationship between relative economic status and partner violence found that women with higher levels of education, or responsibility for meeting household expenses, or who contribute more to the household income, were at significantly higher risk of partner violence [60-61, 148, 152, 171]. Among more recent published evidence, a study conducted in China found that women who contributed more than 45% of household income were at higher risk of partner violence, and a study conducted in Kenya found women with higher occupational status compared with their partner were also at higher risk of partner violence [172-173]. Findings from the DHS study showed that women's higher educational attainment, relative to their partners, increased their likelihood of experiencing partner violence in five countries of the ten, but, however, decreased the likelihood of experiencing partner violence in five countries of the ten - only one of the associations reached statistical significance [157].

Empirical evidence supporting or refuting marital dependency/economic bargaining theory

The studies in the systematic review consistently found that lower women's educational attainment was significantly associated with partner violence [90, 149-150, 174].Therefore, using education as a proxy for women's economic status, there was evidence to support marital dependency theory. The fact that higher education, defined as secondary education or more, was found to be predominantly protective supports economic bargaining theory that maintains that women with higher economic status are able to negotiate for a better situation for themselves [61, 148, 151, 156, 171, 175-180]. More recent evidence from Vietnam, Bangladesh, Mongolia, Kenya and the DHS study generally corroborate this finding [158-159, 173, 181]. In addition, a study using the Indian National Family Health Survey explored the association between women's education, both individually and at the community level, and partner violence [182-183]. The study found a protective association with individual women's education and also with higher levels of education within the community [182-183].

A small number of studies have, however, found a risk relationship between women's education and partner violence. In more recently published studies, women in Chennai, India, with elementary or middle school education were at higher risk of partner violence compared with women who were illiterate, and women in Mexico who completed secondary education were at higher risk of physical partner violence than women with less than complete secondary education [184-185]. This may be because more schooling translates into greater personal independence for women leading men to want to "control" them [184].

Nevertheless the majority of studies in the review found women's secondary education to be protective. The reasons for this finding are likely to be complex. It may be that the achievement of secondary education gives women greater options to not marry men who they think may be violent, or to leave a violent relationship, or to marry men with similar levels of education [155, 179]. Alternatively, women with higher education may be more valued by their partner, have stronger bargaining power within their relationship, or improved spousal communication [90, 186].

However, the relationship between women's employment, autonomy, and financial empowerment interventions, e.g. microfinance, and partner violence found in the systematic review was mixed.

While being paid cash, earning an income or having an independent access to money were associated with lower partner violence in Egypt and Haiti, these same measures of financial independence were found to be associated with higher partner violence in India, Colombia, Peru and Bangladesh [148, 155, 171, 187-188]. In addition, while regular employment in India or being in productive activities for more than five years in Bangladesh were found to be associated with lower partner violence, in Albania being unemployed rather than a white collar worker also lowered women's risk of partner violence [152, 186, 189]. Likewise, being a housewife in Turkey was associated with lower partner violence [180]. More recent published evidence on this relationship is also mixed. In the DHS study women who were not working experienced less violence in five countries (in three countries this relationship was significant) but experienced more violence in five countries [157]. Using national survey data from Mexico, the authors found that women's employment reduced their risk of partner violence [190], and a study in South Africa found that women with no cash income or with low occupational status were at higher risk of partner violence [191].

However, a study in Bangladesh found that women's employment was associated with higher rates of partner violence [192]. In a prospective study that enrolled and interviewed women 12 months apart in Bangalore, India, the authors found that women whose employment status changed to being employed were more likely to experience partner violence [168]. Further analysis of the baseline data revealed that women who participated in social groups and vocational training were also more likely to experience partner violence [193]. A recent experimental study conducted in rural Ethiopia, where the owners of five flower farms agreed to randomise job offers to female applicants, found a 13% increase in physical violence among women 5-7 months after employment had commenced [194].

Women's autonomy and partner violence were assessed in two studies in Bangladesh. Using an autonomy index capturing aspects of women's mobility, decision making and control over resources, Koenig et al. (2003) found higher autonomy to be associated

with higher partner violence [156]. However, Hadi et al. (2005) found a lower association with partner violence [186].

To date, the majority of financial empowerment interventions have focussed on microfinance and one study has explored the association between a cash transfer program and partner violence. While a study in South Africa showed that women who accessed microfinance experienced reduced levels of partner violence, and a study in Bangladesh also found an inverse relationship with partner violence, two studies in Bangladesh have found a positive association [155-156, 195]. These mixed effects may come from the potentially different effects of women's income – on the one hand women's status within the household strengthens, but on the other hand, her greater financial status may challenge the status of her partner [62]. In addition, the differing results found in Bangladesh may reflect the settings in which microfinance programmes are implemented. Koenig et al (2003b) found increased partner violence being documented in the less progressive rural setting and lower partner violence in the urban setting with more progressive attitudes towards women working [156]. In addition, Ahmed argues that partner violence may decline with the duration of group membership [179]. The findings do however, need to be interpreted with caution as the studies have intrinsic methodological challenges, and in particular, issues of self-selection bias and what type of women may join microfinance programmes. One study found that abused women were more likely to join microfinance programmes, while another found some evidence – although the finding did not reach statistical significant – that women in violent partnerships were less likely to join [196-197].

A cash transfer program in rural Mexico, 'Oportunidades', that gave cash transfers to mothers of school children with the aim to improve the children's human development, found that women who received the transfer were 33% less likely to experience partner violence but were 60% more likely to experience threats and emotional abuse [198]. However, when evaluating the effect 5-9 years after the start of the programme, the authors found that there was no significant difference in reported rates of partner violence between beneficiary and non-beneficiary women [199].

3.4 Feminist economic theories

Having reviewed sociological and economic bargaining theories and the empirical literature, I now turn attention to feminist critiques of mainstream economic bargaining models. Feminist economists have criticised the restrictive econometric formulation of economic bargaining models arguing that they fail to take into account the full complexity of gender relations within the household and the extent to which household members are treated as separate gendered individuals [48-49, 51, 53].

For example, within the cooperative model Sen (1990) critiques the implicit assumption that individuals, motivated by self-interest, are fully aware of their own preferences and tastes and make choices based on these [48]. In addition, Katz (1997) critiques the assumption that individuals are equal in their ability to enter into the bargaining process (voice) or to leave (exit) [53]. Katz (1997) goes on to argue that noncooperative models go some way in addressing the limitations of the cooperative model. Social norms are often a way of enforcing a cooperative solution that may not be pareto efficient, and in some settings social sanctions preclude women from leaving even abusive relationships [53]. Agarwal (1997) however, argues that the noncooperative models still treat social norms as an exogenous variable [51].

In response to these short-comings, extensions to the bargaining model have been proposed that call on qualitative understanding of the determinants of bargaining power. These extensions argue that the effectiveness within which women are able to translate their improved economic status into effective bargaining power is influenced by factors such as social norms and perceptions [49, 51-53].

3.4.1 The role of social norms – 'the patriarchal bargain'

Kandiyoti (1988) put forward the idea of the 'patriarchal bargain' that describes how women face different 'rules of the game' because of different patriarchal systems [200]. These rules, in addition to influencing women's gendered subjectivity, shape the choices women can make, thus providing a framework within which women negotiate and evaluate their choices [200]. In accordance with this, Agarwal (1997) argues that there are implicit differences in bargaining power between men and women and that these differences are essentially governed by social norms [51]. Agarwal (1997)

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maintains that social norms determine: 1) what can be bargained about (some areas for women can't be challenged and that these are 'implicitly accepted' e.g. the division of labour both inside and outside of the home, participation in decision making, and providing sexual services to their husbands); 2) the constraints to bargaining (e.g. women's employment may be constrained by the type of employment they are able to undertake, hours worked, and the physical location; and 3) how bargaining is conducted (e.g. direct negotiation is often accepted among men but considered unseemly or inappropriate for women). In such circumstances women sometimes adopt subtle forms of contestations such as pleading ill health or withholding sex [51].

3.4.2 Cooperative conflict

In his extension of the cooperative bargaining model, the 'cooperative conflict' model, Sen (1990) identifies three additional features that influence the bargaining power of individuals: the 'breakdown well-being response'; 'perceived contribution'; and 'perceived needs or interest' [48].

The *breakdown well-being* response considers the relative levels of well-being of individuals in the event of a negotiation that breaks down. For example, an individual's bargaining power is weakened if that individual fears that they will face threats or possibly violence once bargaining has failed.[29]

Perceived contribution describes strengthened bargaining power if an individual's financial contribution to the household is perceived to be large by both the individual and other household members.[30] However, typically, in LMIC, women's contribution to the household is perceived by both women and the other members in that household to be more modest, despite the fact that the amount of time that women work, on market and non-market activities is large. This is either because the non-market activities (domestic labour, child care) that women carry out in the home is either undervalued

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[29] Within this depiction, violence is exogenous to the bargaining process i.e. it is not something the man usually does, it is outcome of a failed bargain.

[30] According to Sen (1990) what affects an individual's fall-back position is not only their sense of worth but other household member's sense of their worth and it is this distinction that matters in terms of the effectiveness with which the fall-back can be used in the bargaining process [48].

because there is no direct money earning associated with it, or simply because they are carried out by women [51].

Perceived interest describes a situation where an individual's bargaining power is strengthened because that individual attaches more value to their own well-being or interests. However, Sen (1990) argues that perceived self interest is gendered and that women in traditional societies are particularly prevented from acting as agents on their own behalf in the bargaining process by putting the needs of other household members before their own [48]. Women are socialised to consider collective needs and therefore, the welfare of the family is incorporated into their own welfare. Sen (1990) goes on to argue that, particularly where strong social conventions exist, elements of conflict may not be transparent and that women may be unaware of their relative deprivation [48]. However, Argawal (1997) argues that it is not necessarily the case that women do not acknowledge inequality or that they lack perception of their own needs or interests [51]. Rather, their actions may reflect the cultural constraints they face by acting more covertly and women may accept their situation out of fear or they invest in the family to gain longer term support [51].

Therefore, the assertion made in the cooperative conflict model is that women's outside income enhances their status within the household by: strengthening their fall-back position; increasing their visible contribution within the household; and possibly giving women a clearer perception of individuality and their well being [46, 48]. However, the combination of underestimating monetary contribution and self worth in the labour market would hamper women's bargaining power, and therefore their ability to negotiate less violence or to leave the relationship.

3.4.3 Income management framework

Another challenge to the 'unitary' economic model is Pahl's (1989) income management framework that distinguishes between earners and decision makers by exploring the processes that lie between earning an income and decision making [125, 201]. Within her framework, Pahl (1989) explored the features of income 'access' (the ability to earn an income); income 'control' (who makes decisions over the allocation of resources); and income 'management' (who within the household implements the

decisions made on how the income is to be allocated) [125]. An important distinction within this framework arises between the management and the control over income. For example, in her study of women's employment in Calcutta, Standing (1991) found that in households where women managed the pooled household income they either jointly decided with their husbands or they had little control over its disbursement. However, in households where men managed the income they were usually the sole decision maker [56]. In her review of studies exploring systems of money management in the UK, Pahl (1989) found that in relationships where women were beaten men tended to control the management of all household income [125].

3.4.4 Qualitative insights on the implications of women's economic status on household gender relations and partner violence

This section summarises qualitative findings from five studies conducted in three LMIC countries that have explored the implications of women's access to independent income on household gender relations including partner violence. Details of the study settings and type of employment are shown in Table 3.3. All the studies documented that partner violence was pervasive within their study setting [49, 52, 62, 202-203].

Table 3.3 Summary of qualitative studies examining the implications of women's income on partner violence

Author Year	Country & study location Urban/rural	Sample women employment/income source Domains of enquiry in study
Friedemann-Sanchez 2006	Colombia – Chia & Cajica *Rural*	Flori-cultural industry *Cooperative bargaining* *Cooperative conflict*
Sen 1998	India – Calcutta *Urban*	Domestic service; factory work; prostitution *Social norms/ patriarchal bargain* *Cooperative conflict*
Kabeer 1997	Bangladesh – Dhaka *Urban*	Garment industry *Social norms/ patriarchal bargain* *Cooperative conflict* *Income management*
Schuler et al. 1998	Bangladesh – 6 villages (4 with credit, 2 without) *Rural*	Microfinance programme *Social norms /patriarchal bargain* *Cooperative conflict* *Income management*
Salway et al. 2005	Bangladesh – Dhaka *Urban*	Domestic service; garment work; brick breaking *Social norms/ patriarchal bargain* *Cooperative conflict* *Income management*

In her study of women workers in the Colombian flori-cultural industry, Friedemann-Sanchez (2006) found that women's employment had a positive effect on their lives [203]. Women had strong bargaining power and were able to leverage this to negotiate freedom from partner violence. Either women threatened to leave the relationship, to withdraw their domestic services, or in some cases temporarily left their partner. The translation of employment into bargaining power was mediated through extra environmental parameters and enhanced perceived contributions and self interest that strengthened women's fall-back position. Friedemann-Sanchez (2006) described the Colombian flori-cultural industry as an employment sector that offers a stable and convenient source of waged income and where women have a long tradition of providing the majority of the workforce [203]. In addition, gender equity policies have eliminated wage disparities between men and women, strengthened tenant rights to live and work on farms, and have improved women's access to and ownership of property and land. Also, workers belonged to a national organisation, and within the study setting, working women were offered the opportunity to attend workshops on self-esteem and countering family violence that resulted in women greatly valuing their own reproductive roles [203].

By contrast, in her study of women workers in Calcultta, Sen (1999) documented that the vulnerability of women's employment situation coupled with rigid social norms meant women had little bargaining strength, and therefore little ability to negotiate less or no partner violence or to leave a violent relationship [52]. The occupational opportunities for women were limited and on gendered lines, requiring them to stay close to their home. Employment was characterised as insecure and informal, low paid, and with low level of skills required. In addition, few women had property and assets of their own. Therefore, many women had weak fall-back positions and were not able to support themselves or their children [52].

Three studies were conducted in Bangladesh. Kabeer (1997) interviewed women from Dhaka working in garment factories, an industry that has seen increases in women's participation in the paid workforce [49]. Schuler (1998) interviewed rural, largely landless, women enrolled in a microfinance scheme, and Salway (2005) interviewed mostly poor and vulnerable women in a range of generally low security employment

types, e.g. domestic work and brick breaking, among urban slum dwellers in Dhaka [62, 202].

The studies documented how rigid social norms defined women's conduct in terms of what they were able to bargain over and the constraints they faced. For example, women's access to employment was either overwhelmingly controlled or constrained by their partner. Women were generally only able to negotiate entry into employment in times of economic need or by promising greater investment in children [49, 202]. The main reason for men's resistance to women working was the threat to their masculinity as women's income earning conveyed to family and neighbours that men were not fulfilling their role as the household's main provider. Some men, likewise, believed that women working undermined traditional gender roles, or they preferred women to be financially dependent on them [49, 202]. In addition, Schuler (1998) found that despite women's access to money, social norms generally prevented them from speaking out more and if, they did they were beaten for encroaching into a traditionally male space [62].

Both Kabeer (1997) and Salway (2005) confirmed Sen's (1990) assertion that women considered their self-interest as part of their family's with few women keeping the money that they earned for themselves or for their own personal use [49, 202]. While Kabeer (1997) argued that women rationalised this as investing in their long term interests by securing their place in the family, Schuler (1998) argued that women considered their dependence on men and their relative deprivation as natural accepting the violence towards them because men were their guardians and had a right to beat them if they behaved in an unacceptable way [49, 62]. Salway (2005) and Schuler (1998) highlighted women's weakened breakdown well-being response as they reported fear of being abandoned or the risks to them outside of marriage if they argued with their husband [62, 202]. Despite this, there was evidence of women's enhanced perceived contribution from their husbands across the settings. Women's income introduced a stable component to household finances, particularly where male employment was vulnerable and therefore, husbands had a stronger reason to keep the family intact [49, 62, 202]. Schuler (1998) found that women who contributed more to the household income than their husbands were largely immune from partner violence [62]. In addition, the visibility of large numbers of women travelling to garment factory

work in Dhaka or attending microfinance meetings in rural Bangladesh also altered how women were perceived [49, 62]. Schuler documented that some women narrated how their husbands had stopped beating them for fear that program staff from a microfinance scheme would learn of it [62]. Kabeer (1997) also found that access to employment or income strengthened women's fall-back positions as they were able to leave violent relationships and return to their natal family [49].

When exploring financial flows within the household, Kabeer (1997) found heterogeneity in household money management [49]. Households were either characterised by income pooling (with women commonly giving their income to their husbands), or separate money management systems. However, Salway (2005) found that women would give their income to their husband in the majority of cases [202]. In both studies this form of income management was adopted so as not to destabilise household relations, to re-instate men's bread-winner status, or so as not to draw attention to their work status. Such rationalisations were a common feature in households where men initially opposed their wives entry into employment [49]. Thus this transfer of income to men was a strategy women would use to reduce conflict and mitigate their risk of violence [202].

Women keeping their money entirely separate was often a feature of highly conflicted and violent relationships [49, 62]. Despite the risk of violence some women concealed the full amount that they earned, either deliberately withholding or guarding their earnings, or giving half their income to their partners while leading them to believe they had given it all [49, 202]. This was a particularly risky strategy because men were more likely than women to know how much their spouse earned, mostly because they helped women enter into employment in the first place. In addition, where cultural norms suggest that men should be the household's main decision maker, either men felt that their partner's income was rightfully theirs or felt that their authority was undermined if they didn't have control [62]. In either situation men beat their wives to appropriate money if women tried to retain control over their income [62]. Interestingly, in her study in rural Bangladesh, Schuler (1998) found that women with very little income or assets were rarely beaten [62]. The studies also found examples of men totally withdrawing their income from the household leaving women to provide for the family alone [49, 202].

3.5 The ecological framework

While yielding interesting insights and predictions, sociological and economic theories focus on economic status and fail to address other aspects of theoretical and empirical evidence relating to domestic violence, e.g. the intergenerational influences of violence. Heise (1998) put forward an ecological framework that went beyond sociological and economic theory to incorporate different disciplinary perspectives e.g. developmental psychology, gender theory, and criminology [101].

Figure 3.5, depicts a revised ecological framework. The framework proposes that the factors associated with partner violence are multi-faceted, and that an interplay of individual, relationship, community and macro-social factors influences the likelihood of whether violence may occur within a household or not [101, 204]. Within this framework, the absolute or relative levels of education or employment that women and men have within a partnership are recognised as being potentially influential, but the role of other contextual factors is also more explicitly acknowledged. The development of the ecological framework was based on a review of published evidence that included aspects of resource theory and marital dependency theory, and broadly describes interconnected layers that consist of individual; relationship; community; and macro-social factors. Individual factors are related to the individual's development and experiences that have shaped their response. For example, the factors relating to the woman have been shown to increase women's risk of partner violence, and factors relating to the man have been shown to increase men's perpetration of violence toward their partners. Relationship factors are contexts where a person engages with others i.e. within the family and include male dominance in the family. Community factors represent social structures that impinge on the immediate setting, and macrosocial factors include a broad of cultural values that inform the other layers [101, 204].

In their US based study on factors that influence domestic violence, DeMaris et al (2003) support this framework finding that multiple factors converge to influence the risk of partner violence [205]. For example, younger age and formation of union at a younger age, substance use, and heated disagreements increased the risk of partner violence perpetrated by both men and women. Partner violence by men towards women was additionally influenced by having more children in the household, cohabiting

relationship status, living in an economically disadvantaged neighbourhood and disparities in traditional values held by the man and the woman. DeMaris et al. (2003) argue that younger age of union may imply a lack of maturity to deal with the relationship stresses of children, or employment difficulties, or financial difficulties, or that living in disadvantaged neighbourhoods may decrease the extent of social controls that stigmatises partner violence [205].

Figure 3.5 Revised ecological framework for partner violence (*Source:* Heise 2011)

Gender order

Lack of economic rights & entitlements for women

Discriminatory family law

Ease of divorce for women

Composite measures of gender inequality

Cultural factors

Collectivist versus individual cultural orientation

Emphasis on women's purity & family honour

Economic factors

Level of development

Women's access to formal wage employment

Norms

Acceptance of wife beating

Male right to discipline/ control female behaviour

Tolerance of harsh physical punishment of children

Stigma for divorced or single women

Norms linking male honour to female purity

Family privacy

Lack of sanctions

Lack of legal or moral sanction for violence

Others do not intervene

Neighbourhood

Community violence

High unemployment

Low social capital

Poverty

Violence in childhood

Harsh physical punishment

Witnessing parental violence

Other childhood traumas

Psychological dysfunction

Antisocial behavior

Adult attachment issues

Attitudes

Accepting of violence as a means to resolve conflict

Acceptance of partner violence

Gender hierarchical or transitional attitudes

Alcohol abuse

Gender role conflict

Delinquent peers

Sociodemographic

Young

Low educational level

Interaction

Non-equalitarian decision making

Poor communication

High relationship conflict

Conflict arena

Situational triggers

Sex/ infidelity

Money/distribution of family resources

Children or in-laws

Division of labor

Male drinking

Patriarchal triggers

Female challenge to male authority

Failure to meet gender role expectations

Assertions of female autonomy

Childhood violence

Child sexual abuse

Other childhood traumas

Witnessing mother being beaten

Attitudes

Tolerance of wife beating

Socio-demographic

Young age (for current violence)

High educational attainment (protective)

Low social support

Factors that operate differently in different settings:

Women's employment

Participation in credit schemes or other development programs

Asset ownership

Source: **Heise 2011**

3.5.2 Other covariates associated with partner violence

In addition to economic factors, the following covariates have been consistently found to be associated with partner violence in LMIC settings.

Younger women and women in cohabiting relationship, i.e. women who are living with their partner but are not married, appeared to be at higher risk of partner violence [61, 151-152, 171, 175]. Among women's behavioural characteristics, women's alcohol use has also been found to be associated with higher risk of partner violence [206-207]. However, it could be that women's drinking increases conflict, and therefore their risk of partner violence, or that women drink alcohol in order to cope with violence.

Increasingly studies are investigating the association between women's attitudes towards partner violence, and have found that women's acceptance of men's right to use violence increases their risk of partner violence [187].

Among women's early life characteristics, early onset of sexual activity has been found to be significantly related to experience of sexual violence [175]. Studies from LMIC have also documented that children who either experience violence themselves or who witness violence between their parents are more likely to use or experience violence in their adult relationships. Women who witnessed violence between their parents were more likely to experience partner violence [148, 184, 208] and men who witnessed their mothers being beaten were more likely to use a range of violent behaviours including physical violence in adulthood [167, 174, 209-211].

Among the most consistent predictors of women's risk of violence are men's behavioural characteristics such as increased or problematic alcohol use [59, 148, 163, 175], having relationships with other women, including polygamous relationships, and fights with other men [90, 158, 160-161, 175-176, 212].

3.6 Chapter summary

In this chapter I have described sociological, economic bargaining, and feminist economic theories, and the ecological framework that seek to explain how economic status affects women's risk of partner violence.

The different theories have different predictions on how women's economic status affects their risk of partner violence. Feminist sociological theories predict that increasing women's economic status reduces their vulnerability to abuse as women gain greater options to leave the relationship. However, sociological theories also predict that increasing women's economic status increases their risk of partner violence if they challenge socially ascribed norms or if their partners feel they are unable to fulfil their role as the main household provider.

Within economic bargaining theory, a woman's power in the household is determined by her 'fall-back' position that is reflected either by her options outside of marriage or her ability to control her economic resources. However, feminist economists contest the empowering effect of women's economic status, arguing that factors such as social and gender norms determine the extent to which women are able to translate their economic status into bargaining power.

The review of published evidence from LMIC was able to shed some light on the relationship between women's economic status and partner violence. The review found that higher household SES, measured by asset wealth, and women's and men's secondary education were generally protective. The review also found that the women's higher economic status relative to that of their partner may also increase their risk of partner violence. However, the relationship between women's employment and past 12 month partner violence was mixed – five studies documented a significant protective association and six studies documented a significant risk association. In addition, the findings from microfinance programmes also suggested either a positive or negative effect on women's risk of partner violence with three studies documenting a significant protective association and two studies a significant risk association.

Drawing comparisons from these studies, however, face methodological challenges. The vast majority of studies were cross-sectional making it difficult to draw causal inferences. Two very recent studies – a prospective study in India and a randomised controlled trial in Ethiopia – explored the effect of changing women's economic status on their risk of partner violence. Both studies found that women who were not employed at the outset of the study but who then became employed were at increased risk of partner violence [168, 193-194].

However, both studies explored the relationship in the short term, and the effects of women's employment on partner violence in the longer term require further investigation. For example, in my systematic review I conclude that "women's risk of partner violence may decline as the partner starts to recognise the benefits to the household of additional income; or as women develop strategies to decrease the perceived challenge that their employment poses to their partners; or as more women become engaged in the formal sector and broader social norms about the acceptability of women's employment change" [145].

The review of the qualitative empirical evidence highlighted that the relationship between women's employment or income and partner violence is not as straightforward as the 'input–output' conceptualisation of economic bargaining or sociological theories. The qualitative studies highlighted the potential for tensions to be raised in between the decision to earn an income and the decision to control it, and that this is heavily influenced by social expectations regarding gender roles. In the initial instance women negotiate entry into employment with their partner, which itself carries a risk of partner violence. Successful negotiation, free of partner violence, into employment does not, however, ensure enhanced bargaining power if, for example, women's activities are controlled and/or monitored by their partners. In addition, employment does not necessarily imply control over that income and can increase women's risk of partner violence if they refuse to disclose their income or to give it to their partners. In cases where women have control over their income, this could enhance their position within the household and mitigate their risk of partner violence if leaving the household is a viable option. However, too often strong social norms prevent this and women remain in abusive relationships.

In summary, the importance of longer term studies and also research that adopt mixed-methods to explore the relationship between women's economic status and partner violence are required. Another under-researched area in the violence field is how the measure of partner violence is conceptualised. Studies from North America and the UK are highlighting that not all partner violence is the same phenomenon, and that the relationship between women's economic status and partner violence may not be the same depending on the form of violence. In the next chapter I review a small, but evolving, body of literature that are identifying different forms of partner violence.

Chapter 4: Making distinctions: A review of the theoretical and empirical literature that identify different forms of partner violence

The first objective of this thesis is to use LCA to identify different forms of partner violence in DSM and Mbeya, Tanzania. A detailed description of LCA is provided in chapter 6. From this objective I identify the outcome variable (LCA-classes of partner violence) that I used to explore the relationship with economic status and partner violence in objective 2.

As background to this, I now turn my attention to how partner violence has been conceptualised and measured empirically. Section 4.1 presents a review of the theoretical literature that has defined the nature of partner violence and that led to the identification of different forms of partner violence in high income countries. I also present a summary of the empirical literature and the methods used to define these distinctions (section 4.2). From this I describe two primary approaches that have been used – one that I term 'act based' which uses LCA and one that I term 'control-based'. At the end of this review chapter I discuss why I chose to use the acts-based approach and LCA to derive the outcome variable for this thesis study.

4.1 Defining partner violence: The family violence and the feminist perspective

4.1.1 Family violence perspective

To document the prevalence of partner violence, studies have primarily followed the framework set out by 'family violence' researchers by gathering information on a range of acts of violence, and then considering the extent of violence as the presence of one or more of these acts. Current gold standard methods entail asking respondents a range of questions about whether a partner has perpetrated different acts of violence against them (such as being slapped or hit with a fist) [3, 213]. One established tool the Conflict Tactics Scale (CTS) – is, to date, the most widely used method to document the prevalence of partner violence.[31]

The CTS has its roots in the family conflict research agenda, and was developed during the 1970's in the US for use in large population-based surveys to examine responses to

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[31] Other scales have been developed e.g. Abuse Assessment Screen and the Sexual Experience Survey.

conflict situations within families [108, 214-215]. The CTS lists tactics (acts) that are grouped into three sub-scales: 1) the reasoning scale (characterised by the use of rational discussion or reasoning; 2) the verbal aggression scale (use of verbal and nonverbal acts in order to hurt the other); and 3) the violence scale (use of physical force). The list of acts start off low in coerciveness e.g. 'discussed the issue calmly' and becomes gradually more aggressive e.g. 'slapping', 'pushing' through to 'used a knife or gun' [213, 216-217]. Respondents are then asked about whether they or their partner have perpetrated any of the acts when they had a disagreement with their partner. Initially the CTS focused on asking about physical acts of violence and therefore, the prevalence of physical violence was most commonly documented [213-214]. However, a later revised CTS includes questions on sexual violence and emotional abuse enabling the prevalence of these types of violence to be explored [217].

4.1.2 Feminist perspective

The CTS is heavily criticised by feminist theorists who argue that it is narrow in definition and fundamentally ignores the context within which partner violence occurs, i.e. that it does not capture the on-going pattern of violence, abuse and control in the relationship [102].

Within the US feminist framework, domestic violence is a function of the patriarchal structure of the family and researchers are interested in understanding "why do men beat their wives" [218]. Early feminist work, which is still continuing, studied narratives of women recruited from rape crisis centres; hospitals; shelters for battered women and from women who had come into contact with law enforcement agencies. This literature described a 'battering syndrome' in which women experience repeated and severe abuse by their male partners within the context of emotional abuse and controlling behaviour, and sometimes accompanied by economic restrictions such as preventing women from working or confiscating earnings [6, 37, 112, 219]. All acts of violence by men towards their partners are assumed to share the underlying motive of men's desire to exert power and to control their partners [37, 39, 112, 220].

From a domestic abuse intervention study conducted in the US, the researchers, Pence and Paymar (1993), developed a 'power and control' wheel that captures control tactics

that although themselves are not violent, take on a violence meaning [221]. At the centre of the wheel is the underlying motivation of power and control, and the non-violent control tactics are summarised into seven broad themes: using intimidation; emotional abuse; isolation; minimizing; denying and blaming; using children; using male privilege; economic abuse; coercion and threats [221].

In a departure from using qualitative methods to understand the nature of abuse, Smith et al. (1995) developed the Women's Experiences with Battering framework, a scale that enables a quantitative description of women's violent relationships with their male partners. Within this framework, six domains of battering experience are postulated: perceived threat; managing; yearning; altered identity; entrapment; and disempowerment [222]. Their framework led the researchers to define battering as 'a process whereby one member of an intimate relationship experiences vulnerability, loss of power and control, and entrapment as a consequence of the other member's exercise of power through the patterned use of physical, sexual, psychological, and/or moral force' [223]. From a study conducted by Smith et al. (2002), using data from 2672 women, they identify women who have experienced battering (13.1%), physical assault (8.6%) and sexual assault (8.2%) [224]. All three categories of partner violence were associated with indicators of negative health status, however, battering was associated with more adverse health outcomes. For example, battering was associated with stress, having ever had a sexually transmitted infection, frequent urinary tract infections, gynaecological problems, and poor perceived health status. Physical assault was associated with increased stress, having had chronic pain in the past year, and lower perceived health status; and sexual assault was associated with increased stress, and having had chronic pain in the past year [224].

Therefore, within the feminist perspective, the violence that women experience is just one tactic used by men to control them and that control is exerted through multiple tactics not limited to physical or sexual assault. Stark (2007) takes this view to an extreme arguing that research should focus on control irrespective of whether physical assault occurred or not [225].

4.1.3 Situational couple violence and intimate partner terrorism: Two forms of partner violence?

After reviewing the methodological and empirical literature from these two research perspectives, Johnson (1995) proposed that these different sociological discourses in family violence research suggested that partner violence may have distinct forms [226]. Johnson therefore, proposed that both schools identified a distinct typology of partner violence: intimate partner terrorism (IT) born from the feminist perspective work, and situational couple violence (SCV) born from family conflict research. Johnson (1995) suggests that the motivation of control is the key factor distinguishing the two, with IT being a product of patriarchal traditions of 'men's right to control "their" wives [226]. Within IT, violence is predominantly perpetrated by men on their female partners, the frequency of violence is generally higher, more severe and more likely to escalate over time, and female victims are less likely to retaliate. The underlying conceptualisation of SCV is of an occasional outburst or an argument that just got out of hand and that usually leads to minor forms of violence. SCV is less a product of patriarchy, and therefore perpetrated by both men and women, and is generally associated with lower per-couple frequency, and is not as likely to involve severe violence or escalate over time [220, 226].

However, Johnson acknowledges that there may be an element of overlap in these characteristics in that there could be frequent SCV, where an area of conflict remains unresolved and one or more partner chooses to resort to violence to resolve that conflict and, there may be a case of infrequent IT in situations where dominance is established early in the relationship [227]. Therefore, IT and SCV are not defined by severity or frequency of violence but rather the intention to exert control that makes IT more likely than SCV to involve severe and more frequent violence [228].

In high income countries, Johnson's 1995 article has received much attention within the violence research community. Increasingly, researchers and advocates are convinced that varieties of violence exist in partner relationships, and that these different forms of partner violence may have different correlates and aetiologies.

4.2 Methodological approaches to conceptualising forms of partner violence

This section summarises the empirical evidence from studies that have made distinctions in forms of violence. I categorised the approaches used into two types: an acts-based approach where forms of violence are determined by different combinations of acts; and a control-based approach where relationships are distinguished in terms of the extent to which controlling behaviours are experienced and violence within each of these control groups define the form of violence.

4.2.1 Acts-based approaches

In empirical studies, the most common conceptualisation of partner violence is a unitary measure based on the presence or absence of at least one act. These have then been aggregated to consider different types of violence e.g. physical violence and sexual violence, or overlaps e.g. physical violence only, sexual violence, and both physical and sexual violence. However, the CTS was developed to measure family violence on a continuous scale, and early work summed the number of acts experienced [213]. Recently, studies have considered at least two acts of violence. In a longitudinal study among women aged between 15–26 years, Jewkes et al. (2010) found incidence of HIV infection significantly higher among those that experienced more than one episode of partner violence [229]. Researchers have also, a-priori, differentiated between less serious and more serious violence by collapsing acts that increase in severity. For example, Williams & Frieze (2005) defined two forms of partner violence in their study using data from the 1994 National Co-morbidity survey: mild violence that included threats (threatened to hit) and minor physical violence (pushed, grabbed, or shoved); and severe violence (beat up). While women who experienced either form of partner violence had higher levels of distress than women who had not experienced violence, women who experienced severe violence had the highest levels of distress [230].

However, a limitation of the continuous scale measure is that each act of violence is weighted equally. In addition, both the continuous scale measure and distinctions based on severity make it conceptually difficult to include acts of sexual violence. For example, including acts of sexual violence in a scale measurement would result in experience of one act of sexual violence being equated with one act of physical violence. While categorising violence in terms of overlap by types allows for the

inclusion of e.g. sexual violence and emotional abuse, it does not consider the range of acts experienced within each category.

A data driven approach researchers have used is to apply LCA in order to understand the patterns of violence within relationships. Within this method respondents are classified into groups based on significantly different combinations of violent acts experienced.

To date, four published studies have used LCA to explicitly model the patterns of acts of violence from population-based data (Table 4.1). Two studies were conducted in Canada: Macmillan & Gartner (1999) used data from the 1993 NVAWS, and Ansara & Hindin (2010) used data from the more recent General Social Survey on Victimisation conducted in 2004. One study by Carbone et al. (2005) was based in the US and used 1995-1996 NVAWS, and the fourth study used data from the National Study of Domestic Abuse from Ireland in 2003 [32, 231-234].[32]

All four studies used information on acts of physical and sexual violence. In addition, Carbone-Lopez et al (2005) included one act of power controlling aggression, stalking, Ansara & Hindin (2010) included acts of controlling behaviour, and Watson (2005) used information on 'impact' that captured the extent to which the violence had an effect on the respondents' lives.

Macmillan & Gartner (1999) and Carbone et al. (2005) both identified an overall four LCA-class solution that differentiated three forms of violence and one that was restricted to include women who had not experienced any act of violence. In these two studies the patterns of violence were similar and possibly reflected the high extent of overlap in the acts of violence included in their analyses. Ansara & Hindin (2010) identified a six class solution of which three did not involve acts of physical or sexual violence. Watson (2005) identified two classes of physical violence, two of emotional abuse and one sexual violence class.

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[32] The study by Carbone et al (2005) is an updated version of the study by Macmillan and Krutschnitt (2005) [235].

Generally, all the studies differentiated forms of partner violence that increased in severity and the range of violent acts experienced.

Macmillan and Gartner (1999) identified the following three violence classes: *interpersonal conflict* where the pattern of violence was characterised by a moderately high probability of being pushed (an act of violence considered low in coerciveness according to the CTS), but low probability of all other acts of violence; *non-systematic abuse* where the violence experienced involved a wider range of acts but did not include acts of violence that required sustained force e.g. choking or forced sex; and *systematic abuse* where violence was characterised by high probabilities of all the acts of violence including severe acts that required sustained force.

In the study by Carbone-Lopez et al. (2005), the three violence classes were: *interpersonal conflict* where the acts of violence with any substantive probability were pushed and slapped; *physical aggression* that involved more varied acts of physical violence and virtually all women experienced pushed or slapped and had a high probability of choked or beaten up (i.e. required sustained use of force), however, the probabilities associated with sexual assault or stalking (acts that involve power controlling aggression) were very low; *systematic abuse* that involved a multi-faceted pattern of violence characterised by high probabilities of all forms of violence including power controlling aggression i.e. stalking.

Ansara & Hindin 2010 identified three non physical or sexual violence classes: *no violence*; *jealousy and verbal abuse*; and *control and verbal abuse* that included a more extensive range of controlling behaviours. The three classes that involved physical or sexual violence were: *physical aggression* that involved the least chronic and severe acts of physical violence and didn't involve coercive control; *physical aggression, control, verbal abuse* that was also characterised by less chronic and severe acts of physical violence but included control and verbal abuse; and *severe violence, control, verbal* that is characterised by all acts of physical violence including severe acts, different types of controlling behaviour and abuse and it contained the highest prevalence of forced sexual activity.

In a study on domestic abuse of men and women in Ireland, Watson (2005) identified classes of partner violence within three types: physical violence; sexual violence and emotional abuse. Physical violence was characterised by a three class solution: *not abused; minor abuse; severe abuse*. For sexual violence, an abused and not abused solution was identified, and emotional abuse was characterised by a three class solution consisting of *not abused; minor emotional abuse; severe emotional abuse*.

All studies investigated how the LCA-classes of partner violence were associated with different types of outcomes. For example, Macmillan & Gartner (1999) explored spousal employment and Carbone-Lopez et al. (2005) assessed a range of health outcomes and substance abuse, and Ansara & Hindin (2010) investigated women's help seeking behaviour.

Generally, the studies found that all LCA-classes of partner violence were adversely associated with all the types of outcomes. However, in each study, the strongest associations were found among women classified in the most severe abuse class. For example, Macmillan and Gartner (1999) found few correlates were associated with interpersonal conflict, however, male unemployment and lower educational attainment were significant predictors of both non-systematic and systematic abuse. In addition, Lopez-Carbone et al. (2005) found that women in the systematic abuse class experienced strongest adverse health outcomes, however, there were similar health consequences associated with women who experienced interpersonal conflict and physical aggression. In the study by Hindin & Ansara (2010), though women in all three violence classes (that included physical and/or sexual violence acts) reported talking about their experience, most commonly to a family or a friend, women who experienced severe abuse were more likely to tell someone and were most likely to contact and use services – most commonly health profession and police. In addition, women who experienced severe abuse were more likely to report fearing for their life, having been injured, having to take time off work or stay in bed, and partner alcohol use. Watson (2005) defined women as experiencing severe abuse if they experienced severe physical abuse, sexual abuse or severe emotional abuse. They found that women self reporting poor health or who were hampered by daily activities were more likely to have experienced severe abuse.

Table 4.1 Acts-based approach using LCA to making distinctions in partner violence

Author Publication Year	Country / *Year & name of study* Sample size / *Sampling method*	Violence measure / Methodological approach	Relationship Type	Violence %
Macmillan & Gartner *1999*	Canada / 1993 NVAWS 8461 women (current legal or common law spouses & 18+) / Representative probability sample	10 items: (threat; 8 physical; forced sex) from modified CTS. *Restricted LCA (1st LC restricted to no violence)*	No violence Interpersonal conflict Non-systematic abuse Systematic abuse	84.0 12.0 3.0 1.0
Carbone-Lopez et al. *2006*	US / 1995-1996 NVAWS 5626 women ever married / cohabited intimate partner <65 years Random sample (digit dialling)	9 items (7 physical violence; forced sex; stalking) from modified CTS[33] *Restricted LCA (1st LC restricted to no violence)*	No violence Interpersonal conflict Physical aggression Systematic abuse	77.0 11.3 8.2 3.5
Ansara & Hindin *2010*	Canada / 2004 General Social Survey on victimisation (Response rate 74.5%) 8360 women 15+ ever partnered	12 items: 5 physical; 1 sexual from modified CTS, 6 control	No violence Jealousy, verbal abuse Control, verbal abuse Physical aggression Intermediate (Physical aggression, control, verbal abuse) Severe violence, control, verbal abuse	85.1 8.1 1.1 2.6 1.3 1.8
Watson & Parsons *2005*	Ireland / 2003 National Study on Domestic Abuse survey 3077 men and women	3 separate LCA models for physical; sexual; and emotional abuse *Physical abuse:* 11 items physical & 'impact' comprising of whether: physical injury occurred or felt fear / distress; quite / very often frequency, and self report of major impact on life. *Sexual abuse:* 4 items & 'impact' *Emotional abuse:* 11 items & 'impact' For sexual and emotional abuse impact restricted to class 3	*Physical abuse* Not abused Minor abuse Severe abuse *Sexual abuse* Not abused Abused *Emotional abuse* Not abused Minor abuse Severe abuse	87.6 6.9 6.5 95.4 4.6 75.7 18.9 5.4

* Control tactics identified by 'Power and Control wheel' Pence & Paymar (1993)   **Controlling Behaviour Scale developed by the author

[33] Modified as NVAWS didn't ask respondents to reflect on ways they or their partner resolve conflict

4.2.2 Control-based approaches

The second body of empirical research that conceptualises forms of partner violence places controlling behaviour at the centre of characterising violent relationships. These studies are essentially a short hand to describing the 'feminist' approach to identifying distinctions in partner violence. That is, they aim to identify Johnson's (1995) typologies of SCV and IT. A summary of the studies' samples, methodology and key findings is shown in Table 4.2.

To date, two studies have attempted to validate the violence typologies theory asserted by Johnson (1995). The first study was conducted by Johnson (1999) and used information gathered in the US from the late 1970's [236]. The data set used was generated from a mixed sampling method where 'abused' women (identified from law courts and shelters) were matched with non-abused women from their neighbourhood. Data were collected from the woman on her perpetration and her partner's perpetration of physical violence and a variety of non-violent control tactics. Cluster analysis on the non-violent control tactics identified a two-cluster solution characterised by low control and high control. Johnson (1999) found that prevalence of violence was 52% in the low control (SCV) group and 98% in the high control group, thus confirming his view that violence occurs in both high and low controlling relationships [236]. Graham-Kevan & Archer (2003) replicate the study by Johnson, also using a mixed sampling method, using data from England [237]. Their study findings were similar to that of Johnson (1999), e.g., the prevalence of violence in low control and high control groups was 41% and 95% respectively [237].

Both studies found that when analysing the form of violence by gender, the vast majority of IT were perpetrated by men. 'Violence Resistance' (VR), which describes individuals who use non-controlling violence because they are in an abusive relationship that they can no longer endure and in extreme cases the abused individual finally murders their abusive partner, was mostly perpetrated by women. By contrast, SCV was gender symmetric. The prevalence of 'Mutual Violence Control' (MVC) describes individuals who are violent and controlling and whose partner is also violent and controlling – was very low in both studies. Johnson (1999) found evidence that SCV was associated with lower per-couple frequency of violence; and was less likely to

escalate and to involve severe acts of violence [236]. The majority of IT was identified from the shelter sample (74%) and the vast majority of SCV was identified from the matched 'survey' sample (90%). Johnson & Leone (2005) found IT to be associated with the use of more acts of violence including severe acts, escalation of violence, and non-reciprocity of violence [227]. In addition, while 70% of IT was identified from the shelter sample, virtually all SCV was identified from the 'non-violence selected' sample (mixed-sex student group) [227].

Three studies from the US used data from random sample surveys and attempted to validate Johnson's typologies by assessing their association with different health and socio-demographic outcomes [227-228, 238]. One study investigated whether Johnson's typologies could be applied using data gathered from rural Vietnam – to date the only empirical study that has used information on controlling behaviour to distinguish forms of partner violence in a LMIC setting [239].

In two of the studies from the US, relationships were classified from a cluster analysis on controlling behaviour. Leone et al. (2004) identified three types of violent relationships: *high control* (IT); *high control no threat* characterised by high verbal abuse and coercion but not threat; and *low control* (SCV) [228]. The emergence of the control/no threat cluster could be a result of violent partners who are unable to make threats credible, or that dominance in the relationship was established early so that violent threats are no longer necessary. However, in either scenario, Leone et al. (2004) argue this may be a variant of IT [228]. Johnson & Leone (2005) identified two types of controlling relationships: *low control;* and *high control.*

Frye et al. (2006) considered two scenarios of relationships characterised as IT, experience of one or more controlling behaviour, and then experience of three or more controlling behaviours [238]. Krantz & Vung (2009) characterised violent relationships into 1) physical and/or sexual violence and no control and 2) physical and/or sexual violence combined with experience of one or more controlling behaviour [239].

When considering outcomes by forms of violence, the studies found that women in violent high control relationships experienced the most adverse outcomes. For example, Leone et al (2004) and Johnson & Leone (2005) found that women who experienced IT

also experienced the most frequent violence and were more likely to experience severe violence, and women in the low control group (SCV) experienced the least frequent violence [227-228]. In addition, Leone et al. (2004) found that victims of IT were more likely to seek medical treatment for injury as a result of violence, to report poorer health and higher psychological distress, and were more likely to miss work activities due to injuries [228]. Johnson & Leone (2005) also found that women subjected to IT were more likely, than victims of SCV, to experience injuries, to have on average higher levels of post traumatic stress disorder (PTSD) and depressive symptoms, to use painkillers, and to miss work. They were similarly, on average, likely to have left their partner more times. However, Anderson (2008) replicates Johnson & Leone's (2005) analysis, using the same data, and compares the IT/SCV typology with a continuous measure of violence that summed across the 12 acts of physical violence [240]. She concluded, that IT/SCV measure does not out-perform the continuous scale measure in predicting adverse outcomes. The results from her study showed that the only outcome where the IT/SCV typology was a better predictor than the continuous scale measure was for PTSD. The scale measure was a better predictor of injury and leaving their partner [240].

While Frye et al (2006) also found that women who experienced IT experienced more adverse outcomes, their analysis revealed that correlates of IT were different for the two scenarios of high control violent relationships. Factors associated with women's experience of IT, defined as experiencing at least one controlling behaviour, included: partner had been arrested for domestic violence; access to a gun; partner's poor mental health, and partner threatened or attempted suicide. These women were also more likely to experience violence escalation than women who experienced SCV. The factors associated with IT, defined as experiencing three or more controlling behaviours included having a partner who was more likely to initiate violence and who was more likely to perpetrate 10 or more assaults in a two year period (Frye et al. 2006). Krantz & Vung (2009) found that women who experienced physical and/or sexual partner violence were significantly more likely to experience pain or discomfort; sadness or depression; or suicidal thoughts than women who experienced no partner violence [239]. However, women who experienced partner violence combined with one or more controlling behaviour were more likely to experience of adverse health outcomes than women who experienced partner violence but no controlling behaviour [239].

Table 4.2: Control based approach to making distinctions in partner violence

Author Publication Year	Country / *Year of study* *Sample size / Sampling methodology*	Control measure *Violence measure*	Relationship Type	Total % (N)		Perpetrator Male		Female	
Johnson 1999	US (Pennsylvania) / *Late 1970's*	Cluster analysis on 20 items measuring 7 dimensions of controlling behaviour* to derive:	Non violent	39	(543)				
			Violent	61	(543)				
	274 ever married women (data gathered on woman and her partner doubling sample size	low control group (80% n=434)							
	to 548 / *Non random 2 stage mixed sample.*	high control group (20% n=109)	Violent (low control)	52	(434)				
	1st shelter sample: Physically abused women		Violent (high control)	98	(109)				
	identified from courts, shelters & notice	*Single item measure, whether respondent or her*				%	(N)	%	(N)
	boards	*partner had 'slapped, pushed or used other*	SCV	27	(146)	56	(81)	45	(65)
	2nd survey sample: Shelter sample matched	*form of physical force'*	IT	18	(97)	97	(94)	3	(3)
	with women from the same neighbourhood		VR	14	(77)	4	(3)	96	(74)
			MVC	2	(10)	50	(5)	50	(5)
Graham-Kevan & Archer 2003	England / *Not specified*	Cluster analysis on 24 items measuring 5 dimensions of controlling behaviour** to derive:	Non violent	51	(496)				
			Violent	49	(496)				
	248 men and women and data on their partner / *Mixed sample:*	low control group (85% n=405)							
	1. Women from shelter (n=43)	high control group (15% n=69)	Violent (low control)	41	(405)				
	2. Mixed-sex student group (n=104)		Violent (high control)	95	(69)				
	3. Men in domestic violence treatment prg.	*8 (incl. 5 severe) items from CTS: Two*				%	(N)	%	(N)
	(n=4)	*variables created 1. Dichotomous 2.*	SCV	28	(140)	45	(63)	55	(77)
	4. Male prisoners (n=97)	*Frequencies for each item summed to create*	IT	11	(53)	87	(46)	13	(7)
		CTS score	VR	6	(30)	10	(3)	90	(27)
			MVC	3	(16)	50	(8)	50	(8)
Leone et al. 2004	US (Chicago) / 1994 - 1995	Cluster analysis on 8 items of controlling behaviour* to derive 3 clusters (based on sample experiencing violence only):	Non violent	80.3	(563)				
			Violent	19.7	(563)				
	563 poor ever partnered women aged 18 + / *Cross sectional random sample survey*	high control (n=19) (IT); high verbal abuse or coercion & no threats							
		(n=35);	IT	3.4					
		low control (n=57) (SCV)	Control/no threat	6.2					
			SCV	10.1					
		Physical violence scale: Sum of average score of 10 items from CTS in past 12 months							

Johnson & Leone 2005	US / *1994-1996* 4967 married women / *Cross sectional random sample: National Violence Against Women Survey (NVAWS)*	Partners' use of three or more (from 7 controlling behaviours) categorised as high control (4%), and use of two or fewer categorised as low control (96%) *12 (incl. 7 severe) items from CTS: Two variables created 1. Dichotomous 2. Continuous - the number of the 12 acts perpetrated*	Non violent SCV IT[34]	N=4967 95 3 2
Frye et al. 2006	US / *1999-2000* 331 physically assaulted women in past 2 years / *Taken from a random sample survey of 845 women* *5 items from CTS in past 2 years used to create dichotomous 'abused' variable*	Partners use of at least one or at least three (from 5 controlling behaviours) categorised as controlled (69% or 34%), and use of none categorised as non-controlled (31% or 66%)	Non violent Violent SCV IT (1+) SCV IT (3+)	N=845 60.8 39.2 12.1 27.2 25.8 13.4
Krantz & Vung 2009	Vietnam (Hatay Province) / *Not specified* 883 married or partnered women aged 17-60 years / *Cross section household survey*	Partners use of at least one (from six) controlling behaviours categorised as controlled *9 items(6 physical & 3 sexual)*	Non violent Violence & control Violence no control	N=883 90.5 2.9 6.2

* Control tactics identified by 'Power and Control wheel' Pence & Paymar (1993)   **Controlling Behaviour Scale developed by the author

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[34] The authors explain the high % of IT as partly being due to the wording of the question in the NVAWS which is framed as a crime rather than conflict and therefore, leading to more reporting of severe violence and less of situational violence.

4.3 Chapter summary

In this chapter I have reviewed the theoretical and empirical literature, from high income countries, that has conceptualised distinct forms of partner violence. The purpose of this review was to identify a methodological approach of identifying sub-categories of partner violence I could apply in a Tanzania setting. Despite the growing acceptance that there are different forms of partner violence, to date, there is no clear methodological approach to guide researchers on how to categorise partner violence into different forms. From the literature review two methodological approaches emerged: 'acts-based' (using LCA) and 'control-based'. The evidence from both approaches highlight that a unitary conceptualisation of partner violence may be too simplistic a formulation. Despite differences in methodology, both approaches found distinct forms of violence and that women who experienced the most severe form of abuse (defined by LCA) or who experience partner violence within a highly controlling relationship (control-based approach) also had the strongest adverse associations with different outcomes.

Within the acts-based approach I have focused on analyses that have used a data driven method, LCA, to conceptualise forms of violence. All studies that used LCA found significantly different patterns of violence that were generally differentiated by the level of severity. However, currently there is no consensus on indicators to include in LCA and therefore, the method of choosing variables is in itself arbitrary.

Within the control-based approach, the defining feature that differentiates forms of partner violence is the extent to which violence is accompanied by high or low controlling behaviour. However, there is limited evidence attempting to validate Johnson's typologies, and this may be because of the challenge of generating a study design that is able to capture the different sample populations that these high and low controlling forms of violence are hypothesised to emerge from.

As part of my in-depth enquiry into the relationship between economic status and partner violence, I wanted to explore whether or not there exist different forms of partner violence in Tanzania and whether the relationship between economic status differed by these forms. I chose not to use a control-based approach because within a

LMIC setting limited research has been conducted on aspects of non-physical violence, and where research has been conducted there exists various conceptualisations of what constitutes emotional abuse or controlling behaviour [3, 241]. In addition, it may be that Tanzanian women may not view some behaviours as controlling. For example, 'asking husband's permission before seeking health care', an aspect of controlling behaviour asked in the WHO study, may be considered the qualities of a 'good wife' [98]. Therefore, I chose to use an acts-based approach using LCA to model classes of partner violence in DSM and Mbeya. A description of the methodological approach I used is given in chapter 6.1 and the findings from my analysis are discussed in chapter 7.

Chapter 5: Study settings, data sources, and descriptive findings from the WHO study

Chapters 2, 3 and 4 have highlighted: that partner violence is pervasive in Tanzania; that the relationship between women's economic status and partner violence is complex; and that this relationship may vary by 'form' of violence. To date, very few studies have explored the relationship between economic status and different forms of partner violence in a sub-Saharan Africa setting. The aims and objectives of this thesis, detailed in chapter 1, set out to address this gap using quantitative household survey data collected as part of the WHO multi-country study on women's health and domestic violence, and qualitative, semi-structured interviews with women engaged in income generating activities. In this chapter I describe this thesis study setting in more detail (section 5.1) and the data sources used to address the thesis aims and objectives in section 5.2. In section 5.3 I document the ethics procedures. I then present descriptive findings from the WHO study on women's health and domestic violence in Tanzania in section 5.4. In chapter 6 I give an overview of the methodological approaches used to address each thesis objective and further detail on the methods is given at the beginning of each results chapter 7, 8 and 9.

5.1 Introduction to thesis study setting in Tanzania

This thesis study is situated in two contrasting Tanzania settings DSM and Mbeya. DSM is Tanzania's largest city with a population of 2.5 million, and Mbeya is a provincial region lying in the South West of the country and has a population of slightly over 2 million [69].[35] Mbeya is also the region with the highest HIV prevalence rate at 13% [65].

A summary of women's status, documented in the 2007 Household Budget Survey (HBS) and the 2005 Tanzania DHS, is shown in Table 5.1. The 2007 HBS is based on nationally representative sample of households. The 2005 Tanzania DHS data is based on representative sample of all women aged 15-49.

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[35] In terms of land area, at 60,350 Sq. Kms Mbeya is over 40 times larger than DSM (1,393 Sq. Kms) [69].

The proportion of households below the basic needs poverty line is over twice as high in rural Tanzania than it is in DSM. However the proportion of female headed households in the two sites is similar at almost one-quarter. Inequality in women's economic status is higher in Mbeya than it is in DSM. For example, almost one-third of women in Mbeya have never been to school and 40% can't read or write. This compares with women in DSM where 8% have never been to school and 13% can't read or write. While a much higher proportion of women in Mbeya were working, many were employed in the agricultural sector and were not earning a monetary income. In addition, of those who did earn a monetary income, a higher proportion of women in DSM decide by themselves how the income is used.

Table 5.1 Summary of women's socio-demographic characteristics in DSM and Mbeya: 2007 HBS and 2005 DHS

	DSM (%)	Mbeya/ rural Tanzania (%)
Household Budget Survey 2007[†]		
Households below basic needs poverty line	16.4	37.6
Female headed households	24.5	23.0
Women's demographic characteristics (Tanzania DHS 2005)		
Polygamous relationship *(as % of currently married women)*	12.0	30.1
Never been to school	7.6	30.9
Can't read or write	12.6	39.5
Access to media *(Newspaper; TV; radio)*	91.2	59.7
Working	45.3	86.6
Decides by herself how income is used	83.2	69.9
No decision making ability either by self or jointly[*]	24.6	19.6
Attitude to wife beating *(At least one specified reason husband is justified beating his wife)[ƚ]*	48.9	46.5
No justified reason a wife can refuse husband sex[+]	4.5	17.6

[†] Rural Tanzania.
[*] Decisions: own health care; make large purchases; daily purchases; visit family; what to cook)
[ƚ] Wife beating: burns food; argues with him; goes out without telling him; neglects the children; refuses sex
[+] Refuse sex: husband has sexually transmitted disease; husband has sex with other women; has recently given birth; tired/not in mood

5.2 Thesis data sources

5.2.1 WHO study on domestic violence and women's health

Between 2001 and 2002 the WHO conducted population-based household survey on

women's health and domestic violence 'WHO study'. The study included women of reproductive age in 15 sites in ten countries (Bangladesh, Brazil, Ethiopia, Japan, Namibia, Peru, Samoa, Serbia and Montenegro, Tanzania, Thailand). The goals of the study were to: 1) estimate the prevalence of different types of partner violence; 2) assess the health consequences of partner violence; 3) understand what factors may put women at risk or protect them from partner violence; and 4) document the strategies that women use to cope with partner violence [3]. In five countries (Bangladesh; Brazil; Peru; Tanzania and Thailand) data were collected from two sites, the capital or other large city and a largely rural province, to enable within country comparisons. In each country the survey was introduced as a survey of women's health and life experiences. While in-depth analyses have been done on the association between partner violence and women's physical and sexual health little in-depth analysis has been done on women's economic status and partner violence although data were collected on these aspects of women's lives [10, 242-243].

WHO study on domestic violence and women's health in Tanzania

Between November 6[th] 2001 and 20[th] March 2002 almost 4000 women from DSM and Mbeya were recruited into the study. DSM was chosen because it is Tanzania's largest city. Mbeya was chosen as the WHO Tanzania study co-ordinators perceived it to be a provincial region that did not have a higher than national average level of partner violence.

Below I summarise the WHO study sampling frame and strategy and the selection and training of field interviewers. Further details are documented in the WHO Tanzania study report that I edited as a consultant to Dr. Jessie Mbwambo – the WHO study Tanzania PI.

A multi-stage probability based sampling technique was used in both DSM and Mbeya. The sampling strategy was designed such that the sample was self-weighting with respect to the household. Sampling took place in all three DSM districts (Kinondoni, Ilala, and Temeke), and in two of the eight districts in Mbeya (Mbeya urban and Mbeya rural) [3, 244].

A total of 40 staff were recruited and trained by the WHO Tanzania research investigators to conduct the interviews. Training for all field staff took place at Muhimbili University of Health and Allied Sciences (MUHAS) over three weeks from October 15th–November 3rd 2001.[36] Pilot testing was conducted during the last week of the training and procedures were followed as if it were actual fieldwork. One of the core WHO study team attended the training sessions to provide technical assistance and to ensure data quality would meet the requirements for the multi-country study [244].

To maintain the psychological well-being of field staff in the face of repeated accounts of domestic violence, the study hosted regular counselling and 'de-briefing' sessions for field staff [244].

Response rate for WHO study

A total of 4397 households (2200 in DSM, and 2197 in Mbeya) were selected for the household interview (Table 5.2).

Table 5.2 Household and individual sample and response rates in DSM and Mbeya

	DSM	Mbeya
Household interview results		
Number of household interviews completed	2042	1950
Number of household interviews refused	22	7
Number of households empty/not found/destroyed/with information missing/not known	136	240
Total number of eligible households (interviews completed & refused)	2064	1957
Household response rate (%) *(household interviews completed/eligible households)*	*98.9*	*99.6*
Individual interview results		
Number of individual interviews completed^{+}	1820	1450
Number of individual interviews refused/not available/not completed	72	48
Number of households with no eligible women	150	452
Total number of households with eligible women	1892	1498
Individual response rate (%) *(individual interviews completed/households with eligible women)*	*96.2*	*96.8*

$^{+}$ Sample included women who: never have had a male intimate partner, were married/ cohabiting; were in short-term or dating relationships; and were widowed, separated or divorced

[36] At the time the WHO study was conducted MUHAS was named Muhimbili University College for Health Science (MUCHS).

The total number of interviewed women was 3270 (1820 DSM and 1450 Mbeya) and the overall individual response rate was very high at 96% for DSM and 97% for Mbeya. Excluding the 547 (362 DSM and 185 Mbeya) women who had never been partnered and the 25 (16 DSM and 9 Mbeya) women who did not respond to questions about partner violence, the final sample used for analysis totalled 2698 (1442 DSM and 1256 Mbeya).

Survey questionnaire for WHO Tanzania study

Two survey questionnaires were developed, a household questionnaire and a woman's questionnaire, in English by the core international research team, and was then translated into Kiswahili and then independently back-translated into English. The WHO generic core questionnaire version 9.9 was used and, adaptations and section by section corrections were made while the interviewers practiced mock interviews. Most of the Tanzanian adaptations involved minor changes to improve the wording or to add Tanzania specific options to core questions. The English version of the survey is included as Appendix 2.

Household questionnaire

The household questionnaire collected information on the number of people in the household, the age and relation to the household head of all female members, and questions on household ownership of durable assets and housing infrastructure characteristics.

Woman's questionnaire

The woman's questionnaire was divided into the following 11 sections: 1) respondent and her community; 2) general health; 3) reproductive health; 4) children; 5) current or most recent partner; 6) attitudes towards gender roles; 7) respondent and her partner; 8) injuries; 9) impact and coping; 10) other experiences; and 11) financial autonomy.

Measures of partner violence

Questions on violence were asked in section 7, 'respondent and her partner' and were asked later on in the survey so as to allow the interviewer time to build rapport with the respondent. Using a modified version of the CTS ever partnered women were asked

behaviourally explicit questions about their experiences of physical and sexual violence, a range of controlling behaviours and emotionally abusive acts.

The question was modified to capture women's experiences of different acts of violence and not only about violence in a situation of conflict as worded in the CTS. The question in the WHO study is as follows:

> "The next questions are about things that happen to many women, and that your partner may have done to you, has he ...."

The survey recorded responses of six different acts of physical violence and three different acts of sexual violence by an intimate partner (shown in Box 5.1).

Box 5.1 Questions on acts of physical and sexual violence

Has <u>he or any other partner</u> ever....

a) Slapped you or threw something at you that could hurt you?
b) Pushed you or shoved you?
c) Hit you with his fist or with something else that could hurt you?
d) Kicked you, dragged you or beat you up?
e) Choked or burnt you on purpose?
f) Threatened to use or actually used a gun, knife or other weapon against you?

Has <u>he or any other partner</u> ever....

a) Physically forced you to have sexual intercourse when you did not want to?
b) Did you ever have sexual intercourse you did not want because you were afraid of what he might do?
c) Did he ever force you to do something sexual that you found degrading or humiliating?

If a respondent reported that she had ever experienced any of these acts, she was then asked if it had happened in the past 12 months , and if she responded yes then she was asked if in the past 12 months the violence had happened 'once, a few times or many times'. If a respondent reported that she had ever experienced any of these acts of violence but not in the past 12 months, she was asked if before 12 months the violence occurred 'once, a few times or many times'. Prevalence of physical partner violence was identified if a woman reported yes to any of the six acts of physical violence and prevalence of sexual violence was identified if a woman reported yes to any of the three acts of sexual violence.

Women were also asked the number of times she had been married or lived together with a man. If a woman reported she had been married to or lived with more than one partner, for each partner, the respondent was asked whether he had physically or sexually mistreated her. This was asked for up to the woman's five most recent partners and the information recorded was summarised in an 'exposure' table.

Measures of emotional abuse and controlling behaviour

The WHO Study included four questions that aimed to measure emotional abuse and seven questions that aimed to inquire about controlling behaviour. The four questions on emotional abuse were whether the respondents partner had ever: a) insulted her or made her feel bad about herself; b) belittled or humiliated her in front of other people; c) did things to scare or intimidate her on purpose; and d) threatened to hurt her or someone she cares about. If the respondent replied yes she was asked whether she experienced it within the past 12 months.

The seven questions on controlling behaviour included whether the respondents current/most recent partner generally: a) tries to keep her from seeing her friends; b) tries to restrict contact with her family of birth; c) insists on knowing where she is at all times; d) ignores her and treats her indifferently; e) gets angry if she speaks with another man; f) is often suspicious that she is unfaithful; and g) expects her to ask his permission before seeking health care for herself.

Measures of women's socio-demographic characteristics

Women's socio-demographic characteristics captured in the study were: her age at last birthday; partnership status; religion; years of schooling; whether or not they earned money; and number of children alive (Table 5.3).

Two measures of household wealth were included in the analysis: household SES and an index measuring crowding in the household. I derived SES measures for all the WHO multi-country study sites in 2004 as a consultant to WHO. Therefore, I briefly describe the construction of the SES measure in this chapter and provide the more detailed analysis in Appendix 3. SES was measured, for each site, by creating an index combining indicators of household ownership of durable items (radio, television,

telephone, fridge, bicycle, motorcycle, car, land ownership) with housing characteristics (type of roofing material, source of water, sanitation facility). Weights for the individual variables were derived using principal components analysis (PCA) with the first principal component measuring household SES. The first principal component explained 19.3% of the variation in the original variables in DSM and 16.7% for Mbeya, a proportion that is similar to that in other studies [245-249]. Cluster analysis was used, on the value of the index for each household, to divide households into low, medium and high SES households [247]. A measure of household crowding was derived as the ratio between the total number of people in the household and the number of rooms in the household used for sleeping.

Other characteristics include frequent alcohol use, and the early life characteristics age of first sex and whether or not the respondent's mother had been hit by her father or mother's boyfriend. A binary measures of women's attitudes towards the acceptability of physical violence was based on the respondent's opinion that a man has a good reason to hit his wife under at least one the following circumstances: a) she does not complete her household work to his satisfaction; b) she disobeys him; c) she refuses to have sexual relations with him; d) she asks him whether he has other girlfriends; e) he suspects she is unfaithful; and f) he finds out that she has been unfaithful. A binary measure of women's attitude towards sexual violence was based on the belief that women can refuse to have sex with her husband with at least one of the following reasons if a) she does not want to; b) he is drunk; c) she is sick; and d) he mistreats her.

Two final measures are whether or not the respondent had a say in her choice of husband (asked to respondents who were married or cohabiting), and whether or not the marriage involved a bride price (asked to those who were married).

Measures of partner characteristics

The characteristics relating to the respondents partner included partner age, years of schooling and whether or not he was working (Table 5.3). Respondents who reported that they had ever been married or lived with a man were asked whether their partner had other wives and respondents who reported that their partner did not have other wives were classified as monogamous and respondents who reported their partner had

other wives as polygamous. All respondents were asked if their partners had a relationship with other women while being with the respondent. Additional characteristics include partner problematic alcohol use (assessed by the initial questions whether her partner drinks alcohol and whether money, family or other problems were experienced related to her partner drinking in the past 12 months), and if the respondents' partners had been involved in fights with other men. Early life variables included whether or not the respondent's partner was beaten as a child, and whether or not his mother had been beaten by her husband.

Table 5.3 Description of socio-demographic measures

Variable	Type of variable	Categories / Range
Respondent characteristics		
Age at last birthday	Continuous	15-49
Partnership status	Categorical	Currently married
		Cohabiting *(living together not married)*
		Regular partner *(not living together)*
		Not currently partnered
Religion	Categorical	No religion
		Muslim
		Christian
		Other
Years of schooling	Continuous	0-20
Earned money	Dichotomous	No
		Yes
Household SES	Categorical	Low
		Medium
		High
Household crowding	Continuous	0.25-9
Parity (no of children alive)	Continuous	0-7
Alcohol use	Dichotomous	Frequent *(everyday or nearly every day)*
		Rarely/never *(twice a week or less)*
Age at first sex	Continuous	4-35
Mother beaten by father	Dichotomous	No
		Yes
Attitude to wife beating	Dichotomous	No good reason to hit
		At least one good reason to hit
Attitude to sex	Dichotomous	No reason to refuse sex
		At least one reason can refuse sex
Choose partner	Dichotomous	She alone/both chose
		Someone else *(respondents family; partner alone; partner's family; someone else)*
Marriage involved bride price	Dichotomous	No
		Yes
Partner characteristics		
Age at last birthday	Continuous	17-85
Years of schooling	Continuous	0-22
Employment status	Dichotomous	Not employed
		Employed
Problematic alcohol use		No
		Yes
Partner has other women	Categorical	No
		Yes
		Don't know
Relationship type	Categorical	Monogamous
		Polygamous
		Don't know
Fights with other men	Dichotomous	No
		Yes
Beaten as a child	Categorical	No
		Yes
		Don't know
Mother hit by father	Categorical	No
		Yes
		Don't know

Sample and reporting bias in the WHO study

There are two main strengths of the WHO study, the first is that sample bias is minimised because of the very high participation rate.[37] Sample bias is prevalent in many population-based studies and in particular prevalent in studies conducted in developed country settings. While high response rates are typical of developing country settings, a second potential issue is reporting bias because of the sensitive nature of the topic. However, the core study PI's argue that the because of the rigorous methodological design of the WHO study, including careful pre-testing of survey instruments and extensive interviewer training, it is likely that reporting bias was minimised [3, 250-251].

5.2.2 Qualitative semi-structured interviews

Between January and March 2009, 20 semi-structured interviews were conducted, 10 in DSM and 10 in Mbeya, with women who were engaged in informal trading activities to earn a monetary income. Respondents were aged between 18–49 and five interviews with younger women (18–29) and five interviews with older women (30–49) were undertaken in each site. The age groups were aimed at reflecting generational diversity given that the past 12 month prevalence of partner violence documented from the WHO survey data. The prevalence of past 12 month partner violence was much higher among 18–29 year old women than among 30–49 year old women. For example, in DSM the prevalence of physical and/or sexual violence was 27% among 18–29 years olds compared with 21% among 30–49 year olds, and in Mbeya the comparison was 34% among 18–29 year olds and 23% among 30–49 year olds.

Semi-structured interview guide

The interview guide for the semi-structured interviews was informed by economic theory on household bargaining reviewed in Chapter 3 drawing in particular on the work of Agarwal (1997); Kabeer (1997); Sen (1990) and Pahl (1989). The interview guide consisted of open-ended questions and all respondents were asked the same questions, but interviewers probed on key responses. The interviews were introduced as

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[37] The response rate in this study is consistent with other studies conducted in LMIC e.g. in their prospective cohort study in Uganda, Koenig et al. (2004) reported a low refusal rate of 6%-7% [207].

being about the lives of women who work and their relationship with their partner. The interview guide was divided into the following topics:

- Why women enter into employment
- Good and bad things about working
- Household financial management, control over income, and decision making
- Partner violence
- Advice to other women on entering into employment

Drawing on Agarwal's (1997) description of the role of social norms in the bargaining process, I first asked about the context of women's entry into employment. My second topic guide, 'good and bad things about working', aimed to draw on women's perceptions of the effect their employment had on themselves and their contribution to the household. The third topic aimed to elicit how the money women brought into the household was managed, the extent to which they controlled the income that they earned, and their ability to make decisions. The sensitive issue of partner violence was brought up later in the interview so as to enable the interviewer to first establish rapport with the interviewee. However, the interviewee's relationship with their partner were explored within each of these topics and if they brought up the issue of conflict with their partner the interviewer probed further.

I drafted the consent form, interview guide and the information sheet and feedback on these instruments was given by the wider project team, Dr. Jessie Mbwambo at MUHAS and Dr. Karina Kielmann (PhD advisor) and Professor Charlotte Watts (associate supervisor), at the London School of Hygiene and Tropical Medicine (LSHTM). The interview guide was pilot tested in DSM during December 2008, before the main fieldwork, in order to help clarify the focus of the research, for assessing whether tools produced meaningful information and to provide input into ways to improve the guide and make amendments to the wording. English versions of the consent form, information sheet, and interview guide are included in Appendix 4.

Interviewer Training

Two female interviewers were selected to conduct the interviews and while both were graduates with a sociology degree, neither had any formal training in qualitative

research. Therefore, an intensive training scheme was devised by myself, Dr. Jessie Mbwambo and Dr. Samuel Likindikoki – our local collaborators. The interviewers were schooled on the study aims and conducting qualitative research, and were given a Kiswahili version of the interview guide and asked to back translate in order to familiarise themselves with the interview guide; they practised role plays with other staff members who agreed to participate; they transcribed the scripts and translated to English and these English versions of the practice interviews were discussed in-depth and areas where further probing could have been undertaken were pointed out.

Sampling and recruitment strategy of study participants

To limit the sample to market women, study participants were recruited from market places within each site. In DSM, a list of markets was drawn up (14 in total) and four markets were randomly selected for recruitment. In Mbeya, four markets were selected, two markets in Mbeya town and two in a peri-urban location. Women traders were then randomly selected within the market. This was achieved by the interviewer randomly selecting a row of stalls and then approaching the fifth woman along that stall. Information on the study was read to the woman and a form to screen the woman for eligibility was administered. Women were screened according to their age and partnership status and were included if they were aged between 15 and 49 and were currently married or cohabiting. If the woman was not eligible for study or she refused to participate then the interviewer counted five stalls on and administered the same screening questions to the woman. The interviewers continued with the process until the desired number of women by characteristics were recruited. The original criteria aimed to include currently partnered women and to exclude non-partnered women. However, it became clear as the process continued that many of the women were separated or widowed and that the inclusion of their perspectives would enable me to understand the role of women's employment in relationships that had ended. Therefore, the criteria was modified to include these women.

Data collection

Interviewers

Both female interviewers conducted interviews in DSM, but we later decided to limit the work done by one interviewer because of the quality of her interviewing based on a

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review of her first few interviews. In DSM six interviews were conducted by interviewer 1 and four by interviewer 2, and in Mbeya all ten interviews were conducted by interviewer 1. The implications of having poorer quality interviews from one interviewer on data quality and analysis are discussed in chapter 9.3.

Administering informed consent and screen

Before the interview screen was administered, all women who were approached were informed about the study. It was introduced as a study into the lives of women who work and how their work affects their relationship with their partner. The interviewer then stressed that any information would be treated in confidentiality, that participation was voluntary, that they did not have to answer any questions they did not want to, and that they were free to stop the interview at any time. A screen was then administered to identify eligible women who were then asked if they agreed to take part in the study and if so they were asked to sign the informed consent form. All women who agreed to take part in the study were given the option of being interviewed in the market or at a later time that was convenient to them. All women who participated were reimbursed for their time (5000Tshs – approximately $3 US) and travel expenses (if applicable).

Recording of interviews

All semi-structured interviews were conducted in Kiswahili and all participants agreed to their interviews being recorded. The recordings were kept with the Tanzania project PI, Dr Mbwambo, with all identifying information deleted. After each interview, the interviewers made field notes of the interview and debriefed me at the end of each day to discuss emerging themes and refine the instrument.

Interview setting

Nineteen of the 20 interviews were undertaken in the market manager's office that was located within the market, and one interview was conducted in a private office at MUHAS. The average length of the interviews was 29 minutes in DSM and 37 minutes in Mbeya. However, one interview in DSM was stopped after 11 minutes because the interviewee's mother entered the market manager's office. The interviewers transcribed the data verbatim and added any field notes that they had made. The transcripts were then translated from Kiswahili to English by two medical students at MUHAS. To

ensure quality of translation I read the English translations and any sought clarity on any areas that were not clear.

5.3 Ethics

Ethics for WHO study

As part of the WHO study, ethical and safety guidelines were developed and were adhered to in each country [251-252]. The ethical guidelines focussed on administering informed consent and on confidentiality and privacy to ensure the safety of the respondents. In addition to ethics permission from the WHO Secretariat Committee for Research in Human Subjects, local ethics approval was sought from MUHAS.

In Tanzania, women who reported symptoms in the past four weeks on a range of health related problems, and who reported that they had ever thought of ending their life were seen by the supervisor responsible for the group, and a decision made whether they needed to be referred for mental health assessment and care [244].

All interviews were conducted in Kiswahili and in the woman's home. A leaflet, "zawadi ya mama"(woman's present) listing women's organizations providing violence support and HIV counselling in their location was provided and was given to all women interviewed and who agree to take it [244].

Ethics for qualitative interviews

Ethics approval was sought and obtained by the LSHTM and also with Tanzanian institutions (MUHAS and the National Institute of Medical Research). Copies of ethics clearance is in Appendix 5. Permission to conduct the research was also sought from each of the district commissioners in DSM and in Mbeya and each was provided with copies of the aims of the research and the ethics approval. In addition, within each market, the market manager was approached and asked if it were possible to conduct the research in their market, and if so, if they could provide an office that was private to conduct the interviews. All district commissioners supported our research application and all market managers helped to provide a private office to conduct the interviews.

A list of local women's supporting organisations was prepared and was offered to any woman who wanted it. Support for the interviewees were also provided by the Tanzania PI as in one case one interviewee showed the scars from the abuse that she had experienced from her partner.

5.4 Prevalence and context of lifetime and past 12 month partner violence in DSM and Mbeya: Descriptive findings from the WHO study

This section presents descriptive information on the findings from the WHO study in DSM and Mbeya. While summaries on the prevalence of partner violence have been documented before [3, 7], this section provides greater detail on the sample characteristics of the respondents and their partners; the prevalence of physical and sexual partner violence; and the context within which this violence occur—emotional abuse and controlling behaviours.

5.4.1 Respondent and partner socio-demographic characteristics

Table 5.4 shows the respondents and their partners socio-demographic characteristics by study site. The characteristics measured in the WHO study are broadly consistent with comparable measures for other population-based studies. For example, respondents' educational attainment, whether or not they are working, whether or not they are in a polygamous relationship, and attitudes to wife beating and refusing sex are similar with that reported in the 2005 Tanzania DHS (Table 5.1). The descriptive findings also revealed that the vast majority of socio-demographic characteristics are significantly different between the two sites. Three, out of 24 measures, were not significantly different: household crowding; whether or not the marriage involved a bride price; and whether or not the respondents' partners had been involved in fights with other men.

The mean age of the respondents was 30.45 years in DSM and 29.70 in Mbeya. The majority of women in both sites were married (57.4% in DSM, 55.4% in Mbeya), however, while the proportion of women in a cohabiting relationship was higher in Mbeya (27.8%) than in DSM (17.5%), the proportion of women who reported having a regular partner but living apart was higher in DSM (17.4%) than in Mbeya (5.7%). The majority of respondents in DSM are Muslim (61.2%), and the majority of respondents in Mbeya are Christian (75.7%).

On average, respondents in DSM had 1.5 years more schooling than respondents in Mbeya. Almost 25% of women in Mbeya had no education compared with 13.2% in DSM. Also, fewer respondents in Mbeya had post primary school education (7.9%) compared with respondents in DSM (22.9%).[38] Less than half of the women in DSM reported that they earned money (49%) which compares with almost two-thirds of respondents in Mbeya (65%). Almost two-thirds of households in DSM were classified as having low SES compared with Mbeya where the vast majority of households were classified as having low SES (65% in DSM, 88% in Mbeya). In addition, the crowding index, measuring the average number of people per room for sleeping was slightly, but not significantly, higher in Mbeya than in DSM ($p=0.093$, F-test). The average number of children per respondent was slightly higher in Mbeya than in DSM (2.15 in DSM; 2.64 in Mbeya).

Though the proportion of women who reported that they drank alcohol was similar in both sites (32.4% in DSM & 38.1% in Mbeya), the proportion of women who reported frequent alcohol use (at least once a week) was much higher in Mbeya (26.5%) than in DSM (9.8%). Of the respondents who reported that they drank alcohol, 9.6% in DSM and 10.9% in Mbeya reported problems associated with their drinking and in most cases the problem related to the respondents health.[39] The reported mean age of first sex was 0.5 years higher in DSM (18.01 years) than in Mbeya (17.46), and 14.4% and 17.9% of respondents in DSM and Mbeya respectively reported age of first sex before they were 16. Thirty-seven percent of respondents in DSM reported that the first time they had sex they either did not want to but it happened anyway or that they were forced to have sex. While this overall figure was lower in Mbeya (29.1%) the proportion of women who reported forced first sex was higher (16.1% in Mbeya, 12.8% DSM).[40] Almost 30% of respondents in DSM reported that their mother had been hit by their father or their mother's boyfriend, compared with almost one-half of respondents in Mbeya.

In both sites, approximately two-thirds of respondents agreed with at least one (out of six) justifications for a man to hit his wife. The most common reasons were if a woman is unfaithful (52.9% in DSM & 56.2% in Mbeya) and if the woman disobeys her

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[38] Data shown in Table A6.1, Appendix 6
[39] Ibid
[40] Ibid

husband (45.9% in DSM & 49.4% in Mbeya). The least common reason was if a woman asks him whether he has other girlfriends, however, 14.3% in DSM and 20.2% in Mbeya reported this was a justifiable reason.[41] While the vast majority of women reported at least one reason (out of four) a woman could refuse her husband sex, 4.7% in DSM and 13.3% in Mbeya did not agree with any reason. In both sites, the majority of women did not agree that a woman could refuse her husband sex because she did not want to (60.9% in DSM, 73.6% in Mbeya), and while 'if the woman is sick' was the most common reason a woman could refuse her husband sex, 9.6% in DSM and 20.1% in Mbeya still did not agree with this reason. In addition, 33.7% of respondents in DSM and 43.8% in Mbeya reported that it was justifiable for a man to hit his wife if she refuses to have sex with him.[42]

Of the respondents who reported that they were married at time of interview (901 in DSM and 727 in Mbeya) the vast majority reported they had chosen their partner either by themselves or with their partner (87.2% in DSM and 91.5% in Mbeya), and of the remaining who did not choose, the majority reported that they been asked whether they wanted to marry him or not.[43] In addition, 94.8% of marriages in DSM and 94.1% of marriages in Mbeya involved either a dowry or a bride price and there was no significant difference in these proportions between the two sites (p=0.883, χ^2 test).[44] Of the marriages that involved a payment, the vast majority involved a bride price in DSM (92%) and virtually all involved a bride price in Mbeya (99%). Also, of the marriages that did involve a dowry or bride price very few respondents reported that this had had a negative impact on the way that their partner treats them.[45]

In terms of the respondents' partner characteristics, the mean age was 38.22 (Std, dev 10.74) in DSM and 36.89 (Std. dev 10.64) in Mbeya, and on average the respondents partner was older than the respondent by 7.80 years (Std. dev=5.96) in DSM and 7.16 years (Std. dev=6.02) in Mbeya.[46] The reported mean number of years of partners

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[41] Ibid
[42] Ibid
[43] Ibid
[44] In both sites, the vast majority of marital transactions were bride price e.g. in DSM 87.2% of marriages involved a bride price and 7.6% involved a dowry, and in Mbeya 93.8% of marriages involved a bride price and 0.8% involved a dowry.
[45] Data shown in Appendix 6, Table A6.1.
[46] Ibid

schooling was 8.58 years (Std. dev 3.81) in DSM and 6.77 (Std. dev 3.10) in Mbeya. In both sites, the majority had completed primary education or more (87.5% DSM; 78.3% Mbeya), however 5.5% in DSM and 8.3% in Mbeya had never been to school. While 16.6% completed secondary education or achieved higher in DSM, this proportion was 5.4% in Mbeya.[47] In both sites, the vast majority of women's partners were employed (87.1% in DSM and 94.7% in Mbeya) and very few were unemployed (5.7% in DSM and 2.0% in Mbeya), the remainder were either retired or students.

With regards to partners' behavioural and early life characteristics, 19.9% in DSM and 23% in Mbeya reported their partner had relationships with other women while being with them, and while the majority reported that their partner did not have other women, almost 30% in DSM and 20.4% in Mbeya did not know. A much higher proportion of respondents in Mbeya reported that they were in a polygamous relationship (23.3%) than respondents in DSM (14.0%). There was little overlap in the proportion of women reporting that their partner had other women and who were also in a polygamous relationship. While 40.6% in DSM and 47.1% reported that they were in a monogamous relationship and that their partner had not had other women, 6.8% in DSM and 11.0% in Mbeya reported that they were in both a polygamous relationship and that their partner did have other women. Seventeen percent in DSM and 23%% in Mbeya reported either they were in a polygamous relationship or their partner had other women but not both.[48]

Almost 9.0% of respondents in DSM and 13.6% in Mbeya reported they had experienced problems (mostly money or family) related to their partner's drinking. These proportions are considerable given that 57.2% in DSM and 48.4% in Mbeya reported that their partner never drank alcohol.[49] There was no significant difference between the sites in the proportion of men reported to have been involved in fights with other men (p=0.555, χ^2 test), and of those that had been involved in fights, in the vast majority of cases, in the 12 months to interview, this either hadn't happened or had happened once or twice (80.6% in DSM; 78.6% in Mbeya).[50] Slightly over 6% of respondents in DSM and 7.7% of respondents in Mbeya reported that their partners had

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[47] Ibid
[48] The remaining respondents reported that they did not know whether they were in a polygamous relationship or whether their partner had other women.
[49] Data shown in Appendix 6, Table A6.1
[50] Ibid

been beaten as a child, and almost 7.8% in DSM and almost 20% in Mbeya reported that their partner's mother had been beaten.

Table 5.4 Socio-demographic characteristics of women and their partners in DSM and Mbeya: ever partnered women

		DSM (N=1442)	Mbeya (N=1256)	χ^2/F-test p-value
Respondent characteristics				
Mean age *(Std. dev)*		30.45 *(8.52)*	29.70 *(7.99)*	0.019
Relationship status	*Married*	57.4	55.2	<0.001
	Cohabiting (not married)	17.5	27.8	
	Dating	17.4	5.9	
	Separated	7.7	11.2	
Religion	*No religion*	0.0	10.8	<0.001
	Muslim	61.2	3.7	
	Christian	37.5	75.7	
	Other	1.3	9.7	
Mean years education *(Std. dev)*		6.75 *(3.63)*	5.23 *(3.34)*	<0.001
Earns money		48.9	65.1	<0.001
Household SES	*Low*	64.6	87.6	<0.001
	Medium	23.4	9.1	
	High	12.0	3.3	
Household crowding index	*Mean number of people per room for sleeping (Std. dev)*	2.57 *(1.16)*	2.64 *(1.07)*	0.093
Mean number of children *(Std. dev)*		2.15 *(1.85)*	2.64 *(1.85)*	<0.001
Alcohol use		9.8	26.5	<0.001
Mean age 1st sex *(Std. dev)*		18.01	17.46 *(2.35)*	<0.001
Mother beaten by father	*No*	51.8	40.1	<0.001
	Yes	29.5	47.4	
	Don't know	18.7	12.5	
Attitude to wife beating	*At least one reason to hit*	64.7	69.9	0.004
Attitude to sex	*No reason to refuse sex*	4.7	13.3	<0.001
Chose her partner[†]	*She alone/both chose*	87.2	91.1	0.013
Marriage involved bride price[†]		94.8	94.6	0.883
Partner characteristics				
Mean age *(Std. dev)*		38.22 *(10.74)*	36.89 *(10.64)*	0.001
Mean years education *(Std. dev)*		8.58 *(3.81)*	6.77 *(3.10)*	<0.001
Partner employed		94.3	98	<0.001
Partner has other women	*No*	51.7	56.7	<0.001
	Yes	19.9	23	
	Don't know	28.4	20.4	
Relationship type	*Monogamous*	79.7	75.2	<0.001
	Polygamous	14	23.3	
	Don't know	6.3	1.5	
Problematic alcohol use		8.8	13.6	<0.001
Partner fights with other men	*No*	90.6	91.9	0.555
	Yes	5.1	5.6	
	Don't know	4.3	2.6	
Partner beaten as a child	*No*	64.5	59.7	0.031
	Yes	6.2	7.7	
	Don't know	29.3	32.6	
Partner mother hit by father	*No*	34	33.7	<0.001
	Yes	7.8	19.7	
	Don't know	58.2	46.7	

[†] asked of married/living together and respondents who reported that they had been through a marriage ceremony to formalise union

5.4.2 Prevalence of partner violence

This section presents the prevalence of lifetime and past 12 month physical and sexual partner violence among ever partnered women in DSM and Mbeya (Table 5.4). Forty-one percent in DSM and 55.9% in Mbeya reported that they had ever experienced physical and/or sexual violence by an intimate partner. In DSM one-third of respondents had ever experienced physical partner violence and 23.0% had ever experienced sexual partner violence. These figures were higher in Mbeya (46.7% physical partner violence and 30.7% sexual partner violence). When considering partner violence experienced within the 12 months to interview, the prevalence of physical and/or sexual violence was 21.5% in DSM and 29.1% in Mbeya. In DSM 14.8% experienced physical violence and 12.8% experienced sexual violence. In Mbeya 18.7% experienced physical violence and 18.3% experienced sexual violence.

When considering each act of violence, for both lifetime and past 12 month prevalence, the most common act of physical violence was slapped and was reported by the vast majority of women who reported experience of physical violence (lifetime: 89% in DSM and 90% in Mbeya; past 12 month: 83% in DSM and 78% in Mbeya). Of the respondents who reported experience of sexual violence, the most common act was physically forced sex (lifetime: 86% in DSM and 88% in Mbeya; past 12 month: 82% in DSM and 89% in Mbeya).

Physical partner violence was disaggregated into moderate physical violence (slapped or threw something that could hurt and pushed or shoved) and severe physical violence (hit with fist; kicked, dragged or beaten; choked or burnt; and threatened or used a gun, knife or other weapon). Respondents were classified as experiencing either moderate physical violence only or severe physical violence (that may or may not include acts of moderate physical violence). The results show that, in both sites and for both lifetime and past 12 month violence, prevalence is even between the two categories of physical partner violence. For example, when considering past 12 month violence, 16.3% of respondents in DSM reported that they experienced moderate physical violence only, and 16.5% reported that they experienced severe physical violence. In Mbeya, 8.8% reported that they had experienced moderate physical violence only and this figure was 10.0% for experience of severe physical violence.

Table 5.5 Prevalence of lifetime and past 12 month physical and sexual partner violence in DSM and Mbeya: ever partnered women

	DSM (N=1442)		Mbeya (N=1256)	
	Lifetime %	Past 12 month %	Lifetime %	Past 12 month %
Physical or sexual violence	41.3	21.5	55.9	29.1
Physical violence	32.9	14.8	46.7	18.7
Slapped or threw something that could hurt	29.1	12.3	41.8	14.7
Pushed or shoved	16.2	6.8	23.9	9.8
Hit with fist or something else that could hurt	12.8	5.2	19.5	7.2
Kicked, dragged or beaten	10.1	4.3	14.7	5.8
Choked or burnt	3.2	1.3	5.4	2.2
Threatened /used a gun, knife or other weapon	4.0	1.5	5.7	1.6
Moderate physical violence only	16.3	7.1	21.8	8.8
Severe physical violence (may or may not include moderate physical violence)	16.5	7.8	24.7	10.0
Sexual violence	23.0	12.8	30.7	18.3
Physically forced to have sex	19.7	10.6	27.2	16.3
Had sexual intercourse because afraid what he might do	12.1	6.8	17.7	10.0
Forced to engage in degrading sexual act	1.9	1.0	2.0	1.4

In many studies experience of physical and sexual violence is categorised into mutually exclusive types e.g. physical violence only, sexual violence only, and both physical and sexual violence [3, 19]. Table 5.5 presents the prevalence of partner violence using this overlap categorisation. For lifetime experience of violence, 14.5% in DSM reported that they had experienced both physical and sexual violence and this figure was 21.5% in Mbeya. In both sites, lifetime experience of sexual violence only was much lower than experience of physical violence only and experience of both physical and sexual violence. However, in the two sites, when considering past 12 month violence, experience of sexual violence only is similar in prevalence to experience of physical violence only and to experience of both physical and sexual violence.

Table 5.6 Prevalence of lifetime and past 12 month physical and sexual partner violence by overlap categorisation in DSM and Mbeya: ever partnered women

	DSM (N=1442)		Mbeya (N=1256)	
	Lifetime %	Past 12 month %	Lifetime %	Past 12 month %
No violence	58.7	78.3	44.1	70.9
Physical violence only	18.4	8.8	25.2	10.8
Sexual violence only	8.5	6.8	9.2	10.4
Both Physical & sexual violence	14.5	6.1	21.5	8.0

Table 5.6 shows the extent to which partner violence had permanently or temporarily ceased – defined as lifetime experience of physical or sexual violence but not in past 12 month. In DSM partner violence had ceased for: 56.2% of respondents who experienced physical violence only; 42.6% for respondents who experienced sexual violence only; and 39.2% of respondents who experienced both physical and sexual violence. However, of those who experienced both physical and sexual partner violence in their lifetime, 5.3% went on to experience physical violence only in the past 12 month and 13.4% went on to experience sexual violence only in the past 12 months. This pattern was similar in Mbeya where the rate of violence cessation was: 63.6% for respondents who experienced physical violence only; 37.1% for respondents who experienced sexual violence only; and 34.4% for respondents who experienced both physical and sexual violence. Of those who experienced both physical and sexual violence in their lifetime, 7.4% experienced physical violence only in the past 12 month and 21.1% experienced sexual violence only in the past 12 months.

Table 5.7 Rate of permanent or temporary cessation of partner violence in DSM and Mbeya: ever partnered women

	DSM Violence cessation %	Mbeya Violence cessation %
Lifetime physical violence only *(N)*	56.2 *(265)*	63.6 *(316)*
Lifetime sexual violence only *(N)*	42.6 *(122)*	37.1 *(116)*
Lifetime both physical and sexual violence *(N)*	39.2 *(209)*	34.4 *(270)*

5.4.3 Prevalence of emotional abuse and controlling behaviour

The prevalence of the acts of emotional abuse and controlling behaviour is shown in Table 5.7. Overall, 45% in DSM and 58.8% in Mbeya had experienced at least one act of emotional abuse in their lifetime. The most commonly reported act of emotional abuse in both sites was 'insulted or her partner said something to her that made her feel bad' where lifetime prevalence was 37.8% in DSM and 54.4% Mbeya.

Table 5.8 Prevalence of lifetime and past 12 month experience of emotional abuse in DSM and Mbeya: ever partnered women

	DSM (N=1442)		Mbeya (N=1256)	
	Lifetime %	Past 12 month %	Lifetime %	Past 12 month %
Any emotional abuse	45.0	25.5	58.8	32.1
Insulted or said things to make her feel bad	37.8	20.0	54.4	28.5
Belittled or humiliated her in front of Others	15.7	7.6	17.7	8.1
Scared or intimated her	22.2	12.1	25.2	13.6
Threatened to hurt her	12.4	6.5	13.3	6.4

Most women who had ever experienced physical and/or sexual partner violence had also experienced emotional abuse in their lifetime (74.7% in DSM, 80.1% in Mbeya). The prevalence of past 12 month emotional abuse among women who experienced physical and/or sexual partner violence in the past 12 month was lower, but still occurred in the majority of cases (61.7% in DSM, 65.8% in Mbeya) suggesting that physical or sexual partner violence often occur with emotional abuse.

In both sites, the vast majority of women reported that they had experienced one or more controlling behaviour (90.3% in DSM and 79.1% in Mbeya), and 25.2% in DSM and 16.6% in Mbeya reported that they experienced four or more controlling behaviours (Table 5.9). Women who experienced physical or sexual violence were more likely to also experience controlling behaviour. For example, virtually all women in DSM (97.1%) who experienced past 12 month physical or sexual violence also experienced at least one controlling behaviour and 42.5% experienced four or more. In Mbeya 88.2% of respondents who reported experience of past 12 month physical or sexual violence also reported at least one controlling behaviour and almost one-third reported four or more.

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Table 5.9 Prevalence of past 12 month experience of controlling behaviour in DSM and Mbeya: ever partnered women

	DSM (N=1442)		Mbeya (N=1256)	
	All women %	Who experienced Past 12 month physical/sexual %	All women %	Who experienced Past 12 month physical/sexual %
Any controlling behaviour	90.3	97.1	79.1	88.2
Keeps her from seeing friends	23.0	36.5	14.7	24.9
Restricts contact with her family	10.5	20.8	6.8	12.9
Wants to know where she is at all times	70.7	82.1	59.1	70.1
Ignores or treats her indifferently	10.6	17.6	13.5	23.3
Gets angry if she speaks with another man	58.2	75.1	49.0	62.5
Is suspicious she is unfaithful	18.1	35.5	13.8	23.1
Expects her to ask permission to seek health care	67.7	76.4	48.9	59.2
Experience of 1-3 controlling behaviours	65.1	54.6	62.4	57.3
Experience of 4-7 controlling behaviours	25.2	42.5	16.6	31.0

5.4.4 Summary of descriptive analysis of WHO study

The findings highlight that, in Tanzania, violence against women by an intimate partner is prevalent, and that for many women the physical violence that they experience is classified as severe physical violence. The findings also show that prevalence of all types of partner violence is higher in Mbeya than in DSM. This is consistent with findings in other countries that have used comparative methods in an urban and a rural site to establish prevalence. For example, research in Bangladesh, Brazil, Peru, India and Thailand reported higher lifetime and past 12 month violence in the rural sites than in the urban sites, [3, 189].

There is also a proportion of women who experience sexual partner violence only and prevalence of this group is not negligibly small. The descriptive findings suggest sexual partner violence to be a continuing type of violence, and that it is less likely to permanently or temporarily cease than physical partner violence.

For many women partner violence is within a context of emotional abuse and controlling behaviour. The extent to which women experienced emotional abuse and controlling behaviour is very high in both sites and consistent with findings that men who are violent towards their female partners often use other control tactics.

Chapter 6: Overview of study methods

In this chapter I give an overview of the research methods and analysis used to address each thesis objective. Further details of the application of these research methods are given at the beginning of each results chapter (7-9). The objectives, data source, and methodological approach used are summarised in Table 6.1. To address the first two objectives I used the WHO household survey data and the third objective was addressed using the qualitative interviews. The rest of this chapter describes the methodological approach used by thesis objective.

Table 6.1: Analysis method by thesis objective

Objective	Data source used	Methodological approach
1: To use LCA to identify forms of physical and sexual partner violence in DSM and Mbeya	WHO Household survey	1. LCA 2. Regression analyses: -Logit regression -Poisson model
2: To examine the relationship between different indicators of women's economic empowerment and past 12 month occurrence of partner violence, and explore whether the findings differ for the LCA patterns of violence derived from objective 1, in DSM and Mbeya	WHO Household survey	1. Multinomial logistic regression 2. Propensity score matching
3: To qualitatively explore how women's access to income from informal sector employment, influences their vulnerability and responses to partner violence, in DSM and Mbeya	Qualitative interviews	Framework analysis

6.1 Study methods used to address objective 1

To empirically model the patterns of violence I used exploratory LCA.[51] From the literature review presented in chapter 4 LCA has, to date, been used in four published studies [32, 231-234]. However, Rivera-Rivera (2004) used another latent variable method - factor analysis [151]. Both LCA and factor analysis are multivariate statistical methods that involve the simultaneous analysis of a set of related variables. That is, an

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[51] Given the limited literature about the specific nature of IPV in Tanzania, exploratory rather than confirmatory LCA was used [253-254].

original set of indicator variables are modelled as a function of a latent variable. The emphasis in LCA is on looking for sub-categories or groups of individuals that exhibit similar patterns of response characteristics. This implies a discrete latent variable capturing qualitative distinctions between groups of individuals or objects. In contrast, factor analysis defines a linear relationship among a set of indicator variables which is assumed to hold for all individuals or objects, and thus, the factor structure is continuous [253-257].

LCA was chosen to model the patterns of partner violence because I believe the phenomenon to be inherently categorical i.e. that the patterns are qualitatively distinct. However, it is conceivable that partner violence could be considered both continuous and discrete. For example, abuse can increase in severity but it can also be considered qualitatively distinct e.g. physical only and sexual only.

In this section I describe LCA and the regression analyses I use to address objective 1. I used LCA to explore how the different acts of physical and sexual violence gathered in the WHO household survey data cluster into different classes of partner violence. I then use regression analysis (logit regression and poisson regression) to explore how these LCA-classes of partner violence are differently associated with violence contextual factors (emotional abuse and controlling behaviour), responses to violence, and a range of physical, mental, and reproductive health outcomes.

6.1.1 Latent Class Analysis

Description of Latent Class Analysis

LCA is a multivariate statistical method that involves the simultaneous analysis of a set of related variables. An original set of observed indicator variables are modelled as a function of an unobserved latent variable. The observed indicator variables are discrete or categorical and they are assumed to be caused by the latent variable, therefore, the interrelationship between the observed indicators is only through the unobserved latent variable. The start point in a LCA is a contingency table i.e. a cross-tabulation of all the observed variables, and the emphasis is on looking for sub-categories or groups of individuals that exhibit similar patterns of response characteristics. This implies a discrete or mutually exclusive latent variable capturing qualitative distinctions between

groups of individuals or object [253-256]. The latent variable is made up of between a minimum of two and n mutually exclusive latent classes (c), that is, each individual is probabilistically assigned to one latent class.[52]

LCA estimates two types of probabilities: latent class probabilities (γ), and a conditional (or item response) probability (ρ). Latent class probabilities provide information on the proportion or relative frequency of the population associated with each latent class. Conditional (or item response) probabilities are derived for each response item (r_j) within each observed indicator variable (j) conditional on being within a latent class. Therefore, item response probabilities measure the degree of association between each response item and each latent class. A probability score is calculated for each individual for each latent class and an individual is then assigned to the class where it has the highest (modal) probability. The latent class probabilities and the conditional probabilities are used to construct an expected contingency table of the number of observations within each cell for each latent class. A well fitting model is identified if, for each latent class, the expected cell proportions are not statistically different from the observed cell proportions i.e. a non-significant chi-sq statistic.[53] A mathematical description of LCA is given in Box 6.1.

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[52] The minimum number of classes is two because a latent variable with one latent class is the same as the relationship of the original observed indicator variables

[53] This is the local independence assumption and refers to situations where the relationship observed among a set of indicator variables are zero within the categories of some other variable, that is the observed indicator variables are not related to each other but to the latent variable

Box 6.1: Description of LCA

From an initial set of N observed categorical indicator variables, each with m number of response items, there are m_1 x m_2 x .....m_n combination of responses within the overall contingency table. Each cell within the contingency table corresponds to a unique response pattern (y) to the N variables. Using maximum likelihood estimation, the latent class probabilities and the conditional probabilities are estimated such that, the likelihood function (the product of each observed response pattern within each latent class) is maximised.

In addition, because the latent classes are mutually exclusive the sum of the latent class probabilities equals one i.e.

$$\sum_{c=1}^{c} \gamma_c = 1$$

Because each individual provides one response to each indicator variable, the sum of the item response probabilities for a particular observed indicator variable, conditional on a particular latent class, will always sum to one i.e.

$$\sum_{rj=1}^{Rj} \rho_{j,r_j \mid c} = 1$$

A methodological issue of LCA is that it works best when the ratio of the total sample size and the number of response patterns is greater than five, i.e. that the contingency table is not characterised by sparseness [255]. A resulting contingency table that is characterised by sparseness compromises the ability to assess model fit via a Likelihood ratio chi-square test, thus, there is a trade-off in terms of the number of variables included in the model and the ability to derive a well fitting model [255].

Evaluation of latent class models

LCA models solutions are commonly evaluated by goodness of fit statistics and by assessing the quality of the model.

Evaluating goodness of fit

Common methods used to assess LCA fit include the L^2, Parametric Bootstrap L^2 p-value, and Information Criteria statistics.[54] Entropy R^2 and classification error are two indicators of the extent to which the model adequately assigns individual cases to the latent classes. The closer the Entropy R^2 is to 1 and the closer the classification error is to 0 the less uncertainty there is in classifying cases.

Assessing quality of models

Collins & Lanza (2010) suggest the quality of LCA models are evaluated by its homogeneity, separation and mean posterior probabilities. High levels of all imply the classes are conceptually distinct and are thus considered desirable characteristics [255].

Latent class homogeneity reflects the extent to which members of a latent class provide the same response patterns and perfect homogeneity is reflected by one response pattern characterising a single latent class. Latent class separation reflects the level of certainty in which a response pattern is assigned to a latent class, hence the extent to which it differentiates across the classes. A response pattern with a high probability of latent class assignment indicates higher latent class separation. Mean posterior probabilities calculate, for each latent class, the average probability with which an individual is assigned to each class.[55]

6.1.2 Regression methods

I then explore the extent to which each LCA-classes of partner violence are different by analysing how they are situated within the context of emotional abuse and controlling behaviour, women's response to violence, and to a range of different physical, mental and reproductive health outcomes.

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[54] An acceptable fitting model is one with a non-significant p-value (i.e. p>0.05) as this indicates observed variables are not / no longer interrelated and therefore, no / no additional latent variables are needed. For parametric bootstrap L^2 p-value a specified number, e.g. 10,000, random data sets are generated (based on the parameters estimated from the empirical data), the model is fitted and a L^2 test statistic computed for each random data set, then the resulting distribution was used as the reference with which to compare the original L^2. *Information Criteria'* statistics are less computationally intensive approaches to assess relative model fit. These statistics compare competing models in terms of the balance between fit and parsimony and the model with the lowest Information Criteria is chosen.

[55] For further discussion of latent class homogeneity and latent class separation Collins & Lanza (2010) [255].

The majority of these outcomes are binary and therefore, I used logit regression to estimate adjusted odds ratios for the following model

$$Y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \ldots + \beta_n x_n$$

The logit model takes the form

$$\log \frac{p_i}{1 - p_i} = x_i'\beta$$

where $p_i = P\{y_i = 1 \mid x_i\}$ is the probability of observing outcome 1 and the left-hand side of the expression represents the log odds ratio.

The number of distress symptoms was analysed using the poisson regression that models the conditional probability a respondent has y number of distress symptoms.

$$P\{yi = y\, xi\} = \frac{\exp\{-\lambda_i\}\lambda_i^y}{y!} \quad y = 0, 1, 2 \ldots \ldots,$$

where $\lambda_i = \exp\{x_i'\beta\}$. The negative binomial regression model was not used because the results of a likelihood ratio test for over-dispersion was not significant.

6.2 Study methods used to address objective 2

To address objective 2 I used logit and multinomial logistic regression analyses and propensity score matching. These methods are now described in more detail.

6.2.1 Logit and multinomial logistic regression

To assess the relationship between partner violence and the different economic and social resource variables, I estimated the following equation

$$Y = \beta_0 + \beta_1 + \beta_2 x_2 + \cdots \beta_n x_n + \varepsilon$$

where Y is a variable indicating whether a woman had experienced violence by an intimate partner in the past 12 month, and the X's represents all economic and social resource variables described in chapter 8.1 (Table 8.1 and Table 8.2).

My first dependent variable, physical and/or sexual violence, is a binary variable with mutually exclusive outcomes. With binary dependent variables econometric methods focus on the determinants of the probability of the outcome occurring or not as a function of the regressors [258]. Therefore, I used binary logistic regression to estimate the effect of the covariates on the probability of having experienced physical or sexual violence in the past 12 month. The β coefficients are estimated using maximum likelihood estimation and the probability that $Y = 1$ is given by

$$P(Y = 1|X) = \frac{\exp{(x_i\beta)}}{1 + \exp{(x_i\beta)}}$$

Where $P(Y = 1|X)$ is the probability of experiencing physical or sexual violence, x_i is a vector of the economic and social resource variables and other covariates, and β_i is a vector of coefficients.

My second dependent variable is the LCA-classes of partner violence that I derive in chapter 7, and that has more than two discrete outcomes. Because the LCA-classes are not interval, I used multinomial logistic regression, an extended version of the logit regression model, to estimate the effects of the same covariates on the probability of membership within each violence class, relative to the baseline no violence class. The principle behind the multinomial logistic regression is therefore similar to that of the binary logistic regression in that in this case, I am fitting three separate logistic models for each of the violence outcomes relative to the no violence outcome. The formula for the multinomial logistic regression is:

$$P(Y = j|X) = \frac{\exp{(x_i\beta_j)}}{\sum_j^J \exp{(x_i\beta_j)}}$$

Where $P(Y = j|X)$ is the probability of belonging to group j violence outcome class, x_i is a vector of the economic and social resource variables and other covariates, and β_i is a vector of coefficients.

6.2.2 Econometric issues of endogeneity and selection bias

There are two important econometric issues that exist when investigating the effect of women's employment on their vulnerability to violence: endogeneity and selection bias.

Endogeneity or unobserved heterogeneity arises when characteristics of the respondent influences both the dependent and an explanatory variable, in this instance violence and whether or not the women earned an income. Because these influences are unobserved they are captured in the disturbance term thus yielding inconsistent regression estimates. Women who suffer violence may work longer hours in the labour market than women who do not or women choose not to work because of the threat of violence. So whether or not women earn an income may be determined endogenously with violence.

Self-selection bias. The second estimation challenge that arises with cross sectional data is the bias that may result from self-selection i.e. if women who earn money have characteristics that mean they self select themselves into employment status. More generally, selection bias is described by conceptualising treatment as a binary random variable taking the values 0 if not treated and 1 if treated i.e. $d_i = \{0,1\}$, and the alternatives of the outcome variable (Y_i) in the states where individual i is treated and where individual i is not treated i.e.

$$Y_i = \begin{cases} Y_{1i} & if\ d_i = 1 \\ Y_{0i} & if\ d_i = 0 \end{cases}$$

The question of interest is whether or not Y_i is affected by d_i and the difference between Y_{1i} and Y_{0i} is the causal effect of the treatment α (i.e. $Y_{1i} - Y_{0i} = \alpha$). However, calculating the treatment effect for an individual is not possible because of not being able to observe the two alternative outcomes for the same individual. Therefore, average population treatment effects are estimated. In the evaluation literature the treatment effect parameter that is most commonly of interest is the average treatment effect on the

treated (ATT) which is the difference between the mean outcome for individuals that were treated and the same individuals' alternative outcome i.e.

$$\alpha_{ATT} = E[Y_{1i}|d_i = 1] - E[Y_{0i}|d_i = 1]$$

However, given that it is not possible to observe the mean outcome of individuals who had been treated had they not been treated, i.e. $E[Y_{0i}|d_i = 1]$ is not observed, substitutes are considered. Naive estimators use the mean outcome for the non-treated. When assignment to treatment status is not random, however, bias is introduced because the components that determine the treatment decision also determine the outcome i.e. Y is not independent of d

$$E[Y_i|d_i = 1] - E[Y_i|d_i = 0]$$

$$= \underbrace{E[Y_{1i}|d_i = 1] - E[Y_{0i}|d_i = 1]}_{\textit{Average treatment effect on the treated}} + \underbrace{E[Y_{0i}|d_i = 1] - E[Y_{0i}|d_i = 0]}_{\textit{Selection bias}}$$

Therefore, the econometric challenge is how to overcome the selection bias in the absence of randomisation [259].

6.2.3 Methodological approaches to address endogeneity and selection bias

Instrumental variable approach

A methodological approach that would address both issues of endogeneity and selection bias is to use an instrumental variable. This requires the existence of a variable that is correlated with the endogenous explanatory (in this study whether or not the respondent earns money) but not with the dependent variable (partner violence). However, in this study, no such instrumental variable could be conceptualised or to even test for endogeneity [260].

Propensity score matching approach

Another approach that addresses the issue of selection bias, but does not however address the issue of endogeneity, is to use propensity score matching (PSM).

Matching is a method, that corrects for sample selection bias if participation into a treatment program is affected by a set of characteristics (X) that are directly observable and that these characteristics, X, are not themselves affected by treatment. Therefore, matching is a non parametric method that does not assume a distributional form for the outcome variable i.e. partner violence. A control group can then be selected so that the distribution of X in this Non-treated group is similar to the distribution of the treated group. Once these set of characteristics are conditioned on, the outcome Y_{0i} is assumed to be independent of treatment participation d_i i.e. that

$$Y_{0i} \perp d_i \mid X$$

and therefore,

$$E(Y_{0i} \mid X, d_i = 1) = E(Y_{0i} \mid X, d_i = 0)$$

This is known as the conditional independence assumption (CIA) and it ensures that the only remaining relevant difference between the two groups is program participation, and that the treated and non-treated individuals are comparable in terms of non-treated outcome Y_{0i}. Therefore, the average effect of treatment on the treated (ATT) is estimated in an unbiased way.[56]

With potentially many factors that could explain treatment participation, an issue is how to match on the range of different variables. PSM is a method that resolves this issue, reducing the dimensionality of the factors, by deriving the probability of treatment participation (the propensity score) which is then used to pair each treated group or individual with non-treated groups or individuals based on the degree of similarity in the estimated probability of participating in the program.[57] Rosenbaum and Rubin (1984) showed that if the CIA held for X then it also held for $P(X)$ i.e. that

$$Y_{0i} \perp d_i \mid P(X)_i$$

[56] For further explanation see Blundell and Costa Dias (undated) [261].
[57] A single treated group or individual can be matched with more than one comparison group or individual.

The most common method to derive a propensity score is to use probability models such as logit or probit [261-263]. However, the ability to match treated with non treated observations is only possible if X does not exactly predict the probability of participation so that matches can then be found for each program participant i.e. that there is common support.[58] The method has been validated and has been shown to closely replicate experimental results [262].

$$P(d_i = 1|X_i) < 1$$

Several matching algorithms exist that contrast the outcome of the treated with that of the non-treated. I used the following matching algorithms and compared the extent to which they provided consistent results:

1) Nearest neighbour matching: Individuals in the treated group are matched to an individual in the comparison group who has the closest observation in terms of propensity score. I used matching with replacement which means untreated observations can be used more than once. However, there is a trade-off in that replacement can increase the quality of matches and decrease bias, but the variance of the estimator increases if many untreated cases are discarded.

2) Kernal based matching: Involves matching individuals in the treated group with a weighted sum of individuals in the comparison group with greater weight given to individuals who have a closer score. By using more observations the standard errors of the estimator is decreased (when compared with nearest neighbour) thus decreasing bias.

3) Stratified matching: The area common support is partitioned into a set of intervals or strata and the impact within each strata is calculated

4) Radius matching: Involves imposing a restriction on how far away the match in the comparison group can be (calliper). Therefore, bad matches are avoided, however, if few matches are performed then the variance of the estimator increases. All the matches within the caliper are used.

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[58] For further explanation see Blundell and Costa Dias (undated) [261].

6.3 Study methods used to address objective 3

The literature review of the theoretical and empirical literature, presented in chapter 3, highlights that the relationship between women's monetary income and implications for gender relations is complex. Therefore, to illuminate this relationship further qualitative research was used.

The qualitative data source was described in chapter 5.2.2. Qualitative data analysis was carried using framework analysis, a methodological approach that starts deductively from pre-set aims and objectives, and an approach recommended where the data collection is more structured [264-265]. The framework for analysis was guided by the theoretical literature reviewed in chapter 3.2. I followed the five stages of analysis as set out by Ritchie and Spencer (1993) [264, 266]:

1. *Familiarisation* involves immersion in the raw data. The purpose of this is to get an overview of the material gathered and the range and the diversity of responses to the questions asked, and to conceptualise the thematic code.

2. *Identifying a thematic framework* is the second stage of framework analysis. The purpose is to identify issues, concepts and a-priori issues. Generally the thematic framework is informed by theories; research objectives and questions; and the topic guide.

3. *Indexing*, the third stage, is where the themes identified in stage 2 are systematically applied to the data by coding the data.

4. *Charting* involves arranging the coded data in accordance to the thematic framework.

5. *Mapping and interpretation*, the final stage, is the process of defining concepts and finding associations and involves interpreting the data as a whole.

Further details on the qualitative data analysis, including the thematic codes I developed, are provided in chapter 9.1.

Chapter 7: Findings on the LCA-classes of partner violence

The overall aim of this chapter is to use LCA to identify different forms of partner violence in DSM and Mbeya. This is the first application of this technique in a low income sub-Saharan Africa setting. Specifically the objectives are to:

1. empirically model the acts of physical and sexual violence into different classes of partner violence using LCA

2. determine the extent to which the different LCA-classes of partner violence are differently associated with contextual violence factors (frequency, emotional abuse, and controlling behaviour)

3. explore the extent to which women who experience partner violence stay within similar abuse patterns

4. assess how similar or how different the LCA-classes of partner violence compare with the overlap categorisation of partner violence (physical violence only, sexual violence only, both physical and sexual violence)

5. examine how the different LCA-classes of partner violence are associated with women's responses (fought back, ever left, and help seeking)

6. understand how the different LCA-classes of partner violence relate to a range of women's physical, mental, and reproductive health outcomes

7. assess to what extent these findings are similar or different between DSM and Mbeya

In this chapter I describe the methods used to address this objective in section 7.1 and present the findings in section 7.2. This is followed a discussion and conclusion in section 7.3.

7.1 Methods: LCA-classes of partner violence

This section describes in detail the methodological approaches I used to address objective 1. First I give a pictoral representation of how I conceptualised the LCA-classes of partner violence. Then I present the goodness of fit statistics for the latent class models and discuss the quality of the selected latent class solution. I then describe the variables that I used to assess the associations between the LCA-classes of partner

violence and contextual violence factors; traditional overlap categorisation of partner violence; responses to violence and physical and mental health outcomes.

7.1.1 Conceptualising LCA-classes of partner violence

Figure 7.1 is a pictoral representation of the relationship between the acts of physical and sexual violence and the unobserved latent violence structure. At the centre of the framework are the LCA-classes of partner violence, labelled LC_1 to LC_n, that are assumed to cause the acts of physical and sexual violence. In addition, the LCA-classes of partner violence and their relationship with different dimensions of contextual violence factors (emotional abuse and controlling behaviour), response to violence (fought back, ever left, and help seeking) and health outcomes are assessed. Conceptualising LCA-classes of partner violence

Figure 7.1 Conceptualising LCA-classes of partner violence

Acts of physical and sexual violence

LCA-classes of partner violence (Latent variable)

LCA-class (LC₁)   LCA-class (LC₂)   LCA-class (LC_n)

Emotional abuse; Controlling behaviours; Fought back; Ever left; Help seeking; Physical health; Mental health; Reproductive health
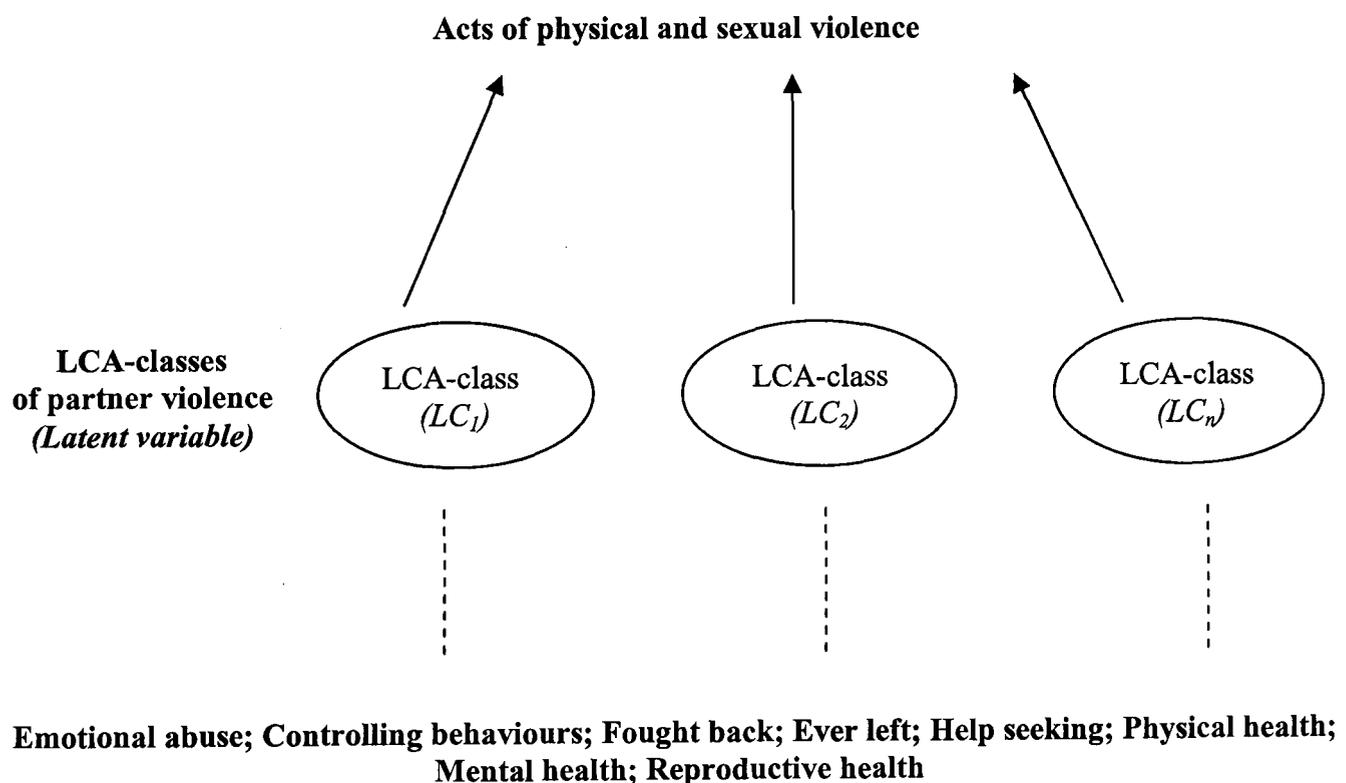
7.1.2 Selection of indicator variables

In this analysis I considered the six acts of physical violence and the three acts of sexual violence. I excluded acts of emotional abuse and controlling behaviour because of three reasons: 1) to avoid issues of sparseness (described in chapter 6.1.1); 2) questions on controlling behaviour are asked about the respondents current or most recent partner rather than any male partner; 3) questions on emotional abuse and controlling behaviour

in sub-Saharan Africa require further inquiry (discussed in chapter 4.3). Therefore, I chose to explore emotional abuse and controlling behaviour as violence contextual factors.

Because, as yet, no strong theory or empirical evidence exists to guide hypotheses about the LCA-classes of partner violence in Tanzania, I used exploratory LCA [253-254]. As yet, LCA is not available on the standard statistical software SPSS or STATA, therefore, I used latent gold (version 4.0) [267-268]. I modelled latent class solutions using all six acts of physical violence and the three acts of sexual violence, starting from a one class model and then adding an additional class up to eight classes. In both sites, a Wald test on the sexual violence act 'forced to do something degrading' was not significant and was therefore, I dropped this act from the analysis. I then modelled latent class solutions using the six acts of physical violence and two acts of sexual violence. An 8 item model with 2 response items each yields a contingency table of 256 response patterns. The ratio of the sample size to the number of response patterns was 5.6 in DSM and 4.9 in Mbey, given the sample size, in DSM this yields an average of 5.6 and 4.9 in Mbeya, therefore, just fulfilling the data limitation of non-sparseness.

7.1.3 Evaluation of model fit

Goodness of fit statistics

Goodness of fit statistics, for lifetime and past 12 month LCA models, are shown in Table 7.1. In DSM the Bayesian Information Criteria (BIC) and the Bootstrap L^2 pointed to a four or a six class solution for lifetime partner violence and a four class solution for past 12 month partner violence. In Mbeya, the same statistics pointed to a four or a six class solution for lifetime partner violence and a four or a five class solution for past 12 month partner violence – though the four class solution was beginning to become non-significant. Where there was divergence, I considered the entropy R^2 and Classification error statistics that suggested a four class solution for both lifetime and past 12 month partner violence in Mbeya. In DSM the entropy R^2 pointed to a six class solution and the classification error to a four class solution.

While, for lifetime partner violence in DSM and for both lifetime and past 12 month partner violence in Mbeya, this implies that the more statistically fit model was not

selected, model fit was compromised because of the interpretability of higher number class models. As a typical goal of LCA is to identify the smallest number of latent classes, therefore, I favoured the solutions with the fewer latent classes selecting four class solutions for both past 12 month and lifetime partner violence in DSM and Mbeya [233].

Table 7.1 Summary information for selecting number of latent classes of lifetime and past 12 month partner violence in DSM and Mbeya

DSM Model	LL	BIC LL	No. parameters estimated	DF	L²	Bootstrap L² p-value	Entropy R²	Classification error
Lifetime								
1-Class	-4151.51	8361.14	8	247	2312.05	0.00	1.00	0.00
2-Class	-3263.42	6650.36	17	238	535.87	0.00	0.87	0.02
3-Class	-3171.05	6531.03	26	229	351.14	0.00	0.71	0.10
4-Class	-3102.79	6459.89	35	220	214.61	0.00	0.75	0.08
5-Class	-3075.84	6471.40	44	211	160.72	0.00	0.78	0.09
6-Class	-3057.26	6499.62	53	202	123.55	0.07	0.77	0.09
4-Class[a]	-3158.83	6571.98	35	475	326.70	0.00	0.90	0.04
Past 12 month								
1-Class	-2445.44	4949.00	8	247	1442.10	0.00	1.00	0.00
2-Class	-1876.50	3876.52	17	238	304.23	0.00	0.87	0.01
3-Class	-1824.60	3838.12	26	229	200.43	0.00	0.81	0.03
4-Class	-1781.56	3817.44	35	220	114.36	0.17	0.80	0.04
5-Class	-1771.79	3863.29	44	211	94.81	0.23	0.81	0.04
6-Class	-1761.22	3907.55	53	202	73.68	0.37	0.81	0.05
4-Class[a]	-1822.77	3899.86	35	475	196.78	0.00	0.94	0.01

Mbeya Model	LL	BIC LL	No. parameters estimated	DF	L²	Bootstrap L² p-value	Entropy R²	Classification error
Lifetime								
1 Class	-4510.10	9077.24	8	247	2260.47	0.00	1.00	0.00
2 Class	-3674.55	7470.33	17	238	589.38	0.00	0.84	0.04
3 Class	-3573.50	7332.40	26	229	387.27	0.00	0.71	0.11
4 Class	-3489.44	7228.47	35	220	219.16	0.00	0.79	0.08
5 Class	-3462.23	7238.21	44	211	164.73	0.02	0.78	0.10
6 Class	-3448.20	7274.34	53	202	136.67	0.09	0.75	0.11
4 Class[a]	-3552.21	7353.99	35	475	344.69	0.00	0.90	0.05
Past 12 month								
1 Class	-2703.54	5464.12	8	247	1555.04	0.00	1.00	0.00
2 Class	-2134.60	4390.41	17	238	417.16	0.00	0.87	0.01
3 Class	-2042.98	4271.34	26	229	233.92	0.00	0.79	0.05
4 Class	-2000.74	4251.04	35	220	149.44	0.01	0.79	0.05
5 Class	-1987.07	4287.87	44	211	122.10	0.07	0.78	0.06
6 Class	-1977.59	4333.07	53	202	103.13	0.08	0.77	0.06
4 Class[a]	-2035.62	4320.80	35	475	219.20	0.00	0.94	0.02

[a] restricted model where item responses for first latent class restricted to zero.

7.1.4 Final latent class solution

For all four models the first latent class displayed very low probabilities for each act of violence (Appendix7, Table A7.1), so to ease interpretation, each model was then tested for the restriction that the parameter estimates for the first latent class equalled zero. The likelihood ratio statistic was not significant indicating that restricting the model led to no significant loss of model fit.

Latent class homogeneity

The findings from the analysis of the response patterns revealed that there are dominant and consistent patterns within each LCA-class of partner violence suggesting strong homogeneity. However, there is more variability in the response patterns within the LC_4 class suggesting weaker homogeneity.

Table 7.2 shows that in both sites, and for both lifetime and past 12 month LCA-classes of partner violence, the top five response patterns accounted for the majority of cases in LC_2 and LC_3. For example, in both sites the top five response patterns accounted for 90% of cases in the past 12 month LC_3. In LC_4, the top five response patterns accounted for approximately 50% of cases for both lifetime and for past 12 month partner violence in DSM and 39% of cases for both lifetime and past 12 month partner violence in Mbeya.

Table 7.2: Percentage of sample accounting for top five response patterns of partner violence within each LCA-class in DSM and Mbeya

	Lifetime violence			Past 12 month violence		
	LC_2 %	LC_3 %	LC_4 %	LC_2 %	LC_3 %	LC_4 %
DSM *(N)*	*263*	*186*	*136*	*137*	*125*	*43*
Top 5 response patterns	70.0	87.6	47.8	64.2	89.6	53.5
Mbeya *(N)*	*251*	*271*	*174*	*145*	*161*	*56*
Top 5 response patterns	78.9	67.9	38.5	60.7	91.3	39.3

Latent class separation

Despite weaker homogeneity in the LC_4 class, the classification of response probabilities is very high for the top five response patterns reflecting good latent class separation (Appendix 7, Table A7.2). In both sites, for lifetime partner violence, four of the five top response patterns displayed a probability of almost 1.00 indicating that these response patterns were assigned to the LC_4 class with almost certainty. In addition, for past 12 month partner violence, the classification probabilities for the top 5 response patterns are all above 0.90.

This is also reflected by the mean posterior probabilities that reflect the average probability with which an individual is assigned to each class. Table 7.3 reveals that the average probability of assignment is very high for each latent class. For example, when considering LCA-classes of lifetime partner violence in DSM individuals in LC_2 were assigned with an average probability of 0.921, in LC_3 the average probability of assignment was 0.892 and was 0.878 in LC_4. The figures were higher when considering past 12 month LCA-classes of partner violence. Similarly in Mbeya, for LCA-classes of lifetime partner violence, the average probability of assignment ranged from 0.875 (LC_2) to 0.970 (LC_3) and the probabilities were above 0.900 for all past 12 month LCA-classes of partner violence.

Table 7.3 Mean posterior probabilities of LCA-class assignment in DSM and Mbeya

	LC_1		LC_2		LC_3		LC_4	
DSM								
Lifetime (N)	846		263		186		136	
Mean (Std. dev)	1.000	(0.000)	0.921	(0.091)	0.892	(0.134)	0.878	(0.162)
Past 12 month (N)	1126		137		125		43	
Mean (Std. dev)	1.000	(0.000)	0.922	(0.094)	0.952	(0.073)	0.927	(0.125)
Mbeya								
Lifetime (N)	554		271		252		174	
Mean (Std. dev)	1.000	0.970	0.970	(0.063)	0.875	(0.063)	0.894	(0.147)
Past 12 month (N)	887		161		145		56	
Mean (Std. dev)	1.000	0.936	0.936	(0.129)	0.919	(0.129)	0.909	(0.149)

7.1.5 Measures

This sub-section describes the variables that were associated with both lifetime and past 12 month LCA-classes of partner violence: contextual violence factors; responses to violence; and a range of physical, mental, and reproductive health outcomes (Table 7.4).

Measure of contextual violence factors

Two measures of violence contextual factors were used in the analysis: presence of emotional abuse; and experience of controlling behaviour. To measure presence of emotional abuse, a variable measuring none/low intensity and high intensity emotional abuse was created by combining measures of the frequency of emotional abuse and the number of different acts of abuse experienced. Acts of emotional abuse experienced once or a few times were combined and considered infrequent and acts experienced many times were considered frequent. Respondents reporting experience of any act of emotional abuse frequently were categorised as high frequency and respondents reporting experience of emotionally abusive acts only infrequently were categorised as low frequency. Respondents reporting experience of three or more acts of emotional abuse were categorised as broad exposure. Information from these two measures was used to derive a dichotomous variable 'none/low intensity' (low frequency and narrow exposure) and 'high intensity' (high frequency and/or broad exposure).

Because the vast majority of respondents, in both sites, experienced at least one act of controlling behaviour, I used K-means cluster analysis to create a dichotomous variable reflecting no or low control and high control.[59]

Measure of women's responses to violence

Four measures of women's responses to partner violence were assessed, whether or not the respondents: 1) had ever left their partner, even if for only one night, because of the violence; 2) ever fought back physically (or defended themselves) during the times that they were hit by their partner; 3) physically mistreated their partner when he was not hitting or physically mistreating them; 4) went to the following for help police, hospital

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[59] I used K-means because I a-priori decided the number of clusters [269].

or health service, social services, legal advice centre, court, shelter, local leader, woman's organisation, priest/religious leader, anywhere else.

Measure of women's health outcomes

The WHO study asked a series of questions about the respondents' health that enabled an overall measure of health status, and that focussed on indicators of physical, mental and reproductive health.

To measure overall health, respondents were asked to rate their health on a 5-point scale from 1 (excellent) to 5 (very poor). Responses 1 – 2 (excellent and good) were combined and responses 3 – 4 (fair, poor and very poor) were combined.

Respondents' physical health was assessed by four indicators of functional limitations and use of medication. To assess functional limitations, four questions that examined respondent's experiences during the previous month were used: difficulty with walking; performing usual activities; memory; pain or discomfort; use of pain relief. Respondents rated the degree to which they experienced functional limitation for each question on a 5-point scale, ranging from 1 (no problem) to 5 (extreme problem). Responses 1 - 2 (no problem and very few problems) were combined as were responses to 3 – 5 (some, many and extreme problems). Use of medication was assessed by examining how frequently, using a 4-point scale, respondents used pain killers during the previous month. Responses 1-2 (never and once or twice) were combined as were responses 3-4 (a few times and many times).

Two measures of mental health were assessed: 1) suicidal ideation (whether or not respondents had ever thought about ending their own life); and 2) emotional distress (symptoms of emotional and physical distress were measured using scores from the self-report questionnaire - 20 component of the survey).[60]

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[60] The specific items were: has headaches; appetite is poor; sleeps badly; is easily frightened; hands shake; feels nervous, tense or worried; digestion is poor; has trouble thinking clearly; feels unhappy; cries more than usual; finds it difficult to enjoy daily activities; finds it difficult to make decisions; daily work is suffering; is unable to play a useful part in life; has lost interest in things; feels that she is a worthless person; the thoughts of ending her life are on her mind; feels tired all the time; has uncomfortable feelings in the stomach; is easily tired.

Four measures of reproductive health outcomes assessed were whether or not respondents: 1) used modern contraceptive methods[61]; 2) had ever had a pregnancy termination defined as miscarriage, abortion, or stillbirth; 3) had an unintended / mistimed pregnancy (had not wanted children or had wanted to wait till later) and 4) sought antenatal care (doctor/obstetrician/gynaecologist; nurse/midwife; or auxiliary nurse) during their last pregnancy.

7.1.6 Analysis sample

The sample used for the analysis included respondents who experienced partner violence in the past 12 month and excluded women who reported lifetime experience of violence but not in the past 12 months. This was because of the heterogenous nature of grouping women for whom partner violence had ceased in the past 12 months together with women who had never experienced partner violence.

Questions on women's responses were only asked to women who experienced physical partner violence. Women who experienced sexual violence but not physical violence were not asked these questions, therefore, limiting the analysis sample of women's responses.

All respondents were asked questions about their overall health, their physical and mental health, and their use of modern contraceptive methods. Analysis of pregnancy termination was limited to respondents who reported that they had ever been pregnant. Unintended pregnancy and antenatal care were asked to respondents who had given birth in the five years to interview and were not asked to women who were pregnant at time of interview or who had not given birth in the last five years.

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[61] Methods women use for family planning defined as not modern were: no method / traditional / calendar / mucus method / withdrawal / herbs / and other. Modern methods were defined as: pill / tablet / injectables / implants / Intrauterine Device / diaphragm / foam / jelly / female sterilisation / male sterilisation / condoms.

Table 7.4 Description of violence contextual factors, response to violence, and health outcomes measures

Variable	Type of variable	Codes / Range
Violence contextual factors		
Emotional abuse	Dichotomous	No/low intensity = 0 High intensity = 1
Controlling behaviour	Dichotomous	No/low control = 0 High control = 1
Responses to violence		
Ever left	Dichotomous	Never left = 0 Ever left = 1
Fought back	Dichotomous	Never fought back = 0 Ever fought back = 1
Mistreated partner	Dichotomous	Never mistreated partner = 0 Mistreated partner = 1
Help seeking	Dichotomous	Never sought help = 0 Sought help from at least one source= 1
Overall measure of health		
Self-reported health status	Dichotomous	Fair, poor, very poor=0 Good, excellent = 1
Mental health		
Suicidal ideation	Dichotomous	No = 0 Yes = 1
Emotional distress	Continuous	0 – 20 (most severe)
Physical health		
Difficulty walking	Dichotomous	No/very few problems = 0 Some/many/extreme problems = 1
Difficulty performing usual work, study, or household activities	Dichotomous	No/very few problems = 0 Some/many/extreme problems = 1
Physical pain or discomfort	Dichotomous	No/very few problems = 0 Some/many/extreme problems = 1
Difficulty with memory or concentration	Dichotomous	No/very few problems = 0 Some/many/extreme problems = 1
Use of medication	Dichotomous	Never/once or twice=0 A few/many times = 1
Reproductive health		
Modern contraceptive use	Dichotomous	No modern contraceptive use = 0 Modern contraceptive use = 1
Unintended / mistimed pregnancy	Dichotomous	Wanted pregnancy/ did not mind = 0 Not wanted pregnancy/ wait till later=1
Pregnancy termination	Dichotomous	No pregnancy termination= 0 Pregnancy termination = 1
Went to health professional during last pregnancy	Dichotomous	Didn't go to see health professional = 0 Did go to see health professional = 1

7.1.7 Data analysis

Logistic regression models were used to estimate the probability of each contextual, coping and health outcome (except for emotional distress) as a function of a set of covariates. Emotional distress was modelled using the poisson model (the negative binomial regression model was not used because the results of a likelihood ratio test for over-dispersion was not significant). All data analysis was carried out using STATA version 10.0.

To estimate the adjusted odds ratios (AOR – logit model) and the adjusted rate ratio (ARR – poisson model) all logistic regression models controlled for the respondent's age; marital status; years in education; whether she was employed or not, number of living children, and household SES. The analysis with health outcomes additionally controlled for childhood sex abuse and adult non partner sex abuse, and the analysis with reproductive health outcomes additionally controlled for number of children who had died. Cluster robust survey method that adjusts variance estimates to account for clustering in the sample design was also used [258]. Wald chi-square tests were conducted to assess the association of these outcomes across the LCA violence classes.

7.2 Results: LCA-classes of partner violence

This section presents the results of the LCA-classes of partner violence and is structured as follows: first, the LCA-classes of partner violence are presented, and this is followed by the analysis exploring the relationship between these LCA-classes and contextual violence factors (emotional abuse and controlling behaviour). Next the analysis exploring the continuity of the violence (from lifetime classification to that in the past 12 month) is documented, and this is followed by the comparison of the LCA-classes of partner violence with traditional overlap categorisation of partner violence. The association between the LCA-classes of partner violence and women's responses to violence is then described and this is followed by the analysis of the relationship between the LCA-classes of partner violence and physical, mental, and reproductive health outcomes.

7.2.1 LCA-classes of partner violence

Table 7.5 shows the findings from the LCA for lifetime and past 12 month partner violence in DSM and Mbeya. The estimated latent class prevalence and item response probabilities for each specific act of violence within each latent class are presented. The analysis revealed that, in DSM and Mbeya, for both lifetime and past 12 month patterns of violence four classes were identified. In each model, the first latent class (LC_1) was restricted to those respondents that reported they had never experienced an act of physical or sexual violence. Therefore the item response probabilities are zero for each act of physical and sexual violence. LC_2 to LC_4 represent the three classes where respondents experienced either physical or sexual violence.

LCA-classes of partner violence in DSM

For lifetime violence the largest violence class was LC_2 labelled "Moderate physical violence" and characterised 19% of the sample population. This type of violence involved a very high likelihood of being 'slapped' and a 0.36 probability of having been 'pushed', however, it generally did not involve severe acts of physical violence or acts of sexual violence. This is in contrast to LC_3, the second largest violence class (13% prevalence), which was labelled "Sexual dominant", as it was characterised by 'forced to have sex' and 'afraid what he might do', but, in general, it did not involve acts of either moderate or severe physical violence. The fourth latent class, LC_4, involved acts

of moderate and severe physical violence and sexual violence and was labelled "Severe abuse". While prevalence of this group was the smallest of the three violence classes it still represented 9% of the sample. In addition, the probability of all acts of moderate physical violence, severe physical violence and the sexual violent act 'afraid what he might do' were highest in this class. The probability of the sexual violent act 'forced sex' was highest in the sexual dominant class.

For past 12 month partner violence the item response probabilities were compared with those in the lifetime model. The findings revealed similar patterns of partner violence, and therefore, the LCA-classes were given the same labels as the lifetime LCA-classes. The only notable difference is that in the past 12 month severe abuse class (LC_4) there is an increased probability of both sexual violence acts and while the probability of the act 'afraid what he might do' is still highest across the classes, the probability of 'forced sex' is now similar to that in the sexual dominant class. The latent class prevalence is 9% for both the moderate physical and the sexual dominant violence classes, and it is 3% for the severe abuse class.

Table 7.5 Latent class prevalences and item response probabilities for four-latent class model of partner violence in DSM and Mbeya

DSM	Lifetime partner violence				Past 12 month partner violence			
	LC_1 No violence	LC_2 Moderate physical	LC_3 Sexual dominant	LC_4 Severe abuse	LC_1 No violence	LC_2 Moderate physical	LC_3 Sexual dominant	LC_4 Severe abuse
Latent Class Prevalence	0.59	0.19	0.13	0.09	0.79	0.09	0.09	0.03
Item response probabilities								
Physical violence								
Slapped	0.0	0.86	0.26	1.00	0.00	0.82	0.14	0.99
Pushed	0.0	0.36	0.10	0.87	0.00	0.38	0.06	0.83
Hit with fist	0.0	0.26	0.01	0.83	0.00	0.28	0.00	0.77
Kicked	0.0	0.13	0.01	0.78	0.00	0.19	0.04	0.64
Choked	0.0	0.02	0.00	0.30	0.00	0.01	0.00	0.34
Weapon	0.0	0.05	0.03	0.30	0.00	0.04	0.03	0.27
Sexual violence								
Forced Sex	0.0	0.12	0.85	0.71	0.00	0.07	0.83	0.82
Afraid what he might do	0.0	0.08	0.42	0.57	0.00	0.09	0.41	0.74

Mbeya	Lifetime partner violence				Past 12 month partner violence			
	LC_1 No violence	LC_2 Sexual dominant	LC_3 Moderate physical	LC_4 Severe abuse	LC_1 No violence	LC_2 Sexual dominant	LC_3 Moderate physical	LC_4 Severe abuse
Latent Class Prevalence	0.44	0.23	0.19	0.14	0.71	0.13	0.12	0.05
Item response probabilities								
Physical violence								
Slapped	0.0	0.51	0.88	0.95	0.00	0.12	0.72	0.97
Pushed	0.0	0.17	0.40	0.90	0.00	0.07	0.42	0.81
Hit with fist	0.0	0.11	0.28	0.85	0.00	0.00	0.26	0.86
Kicked	0.0	0.03	0.16	0.78	0.00	0.03	0.17	0.69
Choked	0.0	0.01	0.00	0.38	0.00	0.01	0.02	0.38
Weapon	0.0	0.01	0.05	0.32	0.00	0.00	0.04	0.24
Sexual violence								
Forced Sex	0.0	0.82	0.00	0.57	0.00	0.94	0.09	0.70
Afraid what he might do	0.0	0.44	0.01	0.51	0.00	0.43	0.10	0.67

LCA classes of partner violence in Mbeya

Four LCA-classes were derived when considering women's experiences of lifetime partner violence in Mbeya. The largest violence class, accounting for 23% of the sample, was characterised with a moderate probability of being 'slapped' (0.51) and very low probabilities of all other, including severe, acts of physical violence. However, it had the highest probability of 'forced sex' (0.82) across all three of the violence classes. This class was labelled "Sexual dominant".

In contrast, LC_3 was characterised by high moderate physical violence but the probability of either act of sexual violence was virtually zero. This class was labelled "Moderate physical violence" and characterised 19% of the sample.

The smallest latent class, LC_4, was characterised by a more extensive range of physical violence acts and with high probabilities of both sexual violence acts. Compared with the other two violence classes, all acts of moderate physical violence, severe physical violence and the sexual violence act 'afraid what he might do' had the highest probability in the severe abuse class - the probability of the sexual violence act 'forced sex' was highest in the sexual dominant class. Accounting for 14% of the sample this group was labelled "Severe abuse".

When considering LCA-classes of past 12 month partner violence, the patterns that emerged were similar to that for lifetime violence. The first violence class LC_2 is characterised by a very high probability of 'forced sex' (0.94), however, it is also characterised by a very low probability of 'slapped' which is where this class differs from the first lifetime violence class. Thirteen percent of women in the sample experienced this pattern of partner violence labelled "Sexual dominant". The second violence class was labelled "Moderate physical" where one act of violence displayed a high probability – 'slapped' (0.72). This pattern of partner violence was prevalent among 12% of the sample. The third pattern of violence was very similar to the lifetime severe abuse category, characterised by high probabilities of physical violence and sexual violence suggesting a pattern of violence that is multifaceted. Five percent of the sample were characterised in this group.

Physical and sexual violence response patterns by past 12 month LCA-classes of partner violence

Table 7.6a and 7.6b describe the top five past 12 month response patterns of violence within each latent class in DSM and in Mbeya. Lifetime response patterns of the LCA-classes of partner violence were similar to past 12 month response patterns and are shown in Appendix 7, Table A7.2a &b). In both sites, the most common pattern of partner violence in the moderate physical class was 'slapped' only, accounting for

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30.3% in Mbeya and 36.5% in DSM of all cases. In addition, in both sites, approximately 50% of respondents reported they experienced only acts of moderate physical violence e.g. 'slapped', 'pushed' or both (51.1% in DSM and 49.0% in Mbeya). The next most common patterns was experience of one act of severe violence with or without acts of moderate physical violence (25.5% in DSM and 23.4% in Mbeya).

The single most common pattern of violence in the sexual dominant class was 'forced sex' only accounting for 47.2% of cases in DSM and 46.0% of cases in Mbeya. In addition, in both sites, the vast majority of respondents experienced acts of sexual violence only (77.6% in DSM and 80.1% in Mbeya) and this was followed by either or both acts of sexual violence and one act of moderate physical violence (16.0% in DSM and 14.9% in Mbeya).

Of the women who experienced severe abuse, the vast majority experienced both physical and sexual violence acts (93% in DSM and 87.5% in Mbeya). All patterns of violence involved at least one act of moderate physical violence and almost one-third in DSM and 37.5% in Mbeya experienced three or all four acts of severe physical violence.

Table 7.6a Top five response patterns and frequencies for past 12 month LCA-classes of partner violence in DSM

Slapped	Pushed	Hit with fist	Kicked	Choked	Weapon	Forced Sex	Afraid	N
Moderate physical violence (N=137)								
yes	no	no	no	no	no	no	no	50
yes	yes	no	no	no	no	no	no	11
yes	no	yes	no	no	no	no	no	11
no	yes	no	no	no	no	no	no	9
yes	yes	yes	yes	no	no	no	no	7
Sexual dominant (N=125)								
no	no	no	no	no	no	yes	no	59
no	no	no	no	no	no	yes	yes	21
no	no	no	no	no	no	no	yes	17
yes	no	no	no	no	no	yes	no	9
yes	no	no	no	no	no	yes	yes	6
Severe abuse (N=43)								
yes	yes	yes	yes	yes	yes	yes	yes	7
yes	yes	yes	no	no	no	yes	yes	6
yes	yes	yes	yes	no	no	yes	no	4
yes	yes	yes	yes	no	no	yes	yes	3
yes	yes	no	yes	no	no	yes	yes	3

Table 7.6b Top five response patterns and frequencies for past 12 month LCA-classes of partner violence in Mbeya

Slapped	Pushed	Hit with fist	Kicked	Choked	Weapon	Forced Sex	Afraid	N
Moderate physical violence (N=145)								
yes	no	no	no	no	no	no	no	44
yes	yes	no	no	no	no	no	no	15
no	yes	no	no	no	no	no	no	12
yes	yes	yes	yes	no	no	no	no	9
yes	yes	yes	no	no	no	no	no	8
Sexual dominant (N=161)								
no	no	no	no	no	no	yes	no	74
no	no	no	no	no	no	yes	yes	45
yes	no	no	no	no	no	yes	no	12
no	no	no	no	no	no	no	yes	10
no	yes	no	no	no	no	yes	yes	6
Severe abuse (N=56)								
yes	yes	yes	yes	yes	no	yes	yes	8
yes	yes	yes	yes	no	no	yes	yes	4
yes	yes	yes	no	no	no	yes	yes	4
yes	yes	yes	yes	yes	no	no	no	3
yes	yes	yes	yes	no	yes	yes	yes	3

7.2.2 The association between the LCA-classes of partner violence and frequency of violence and violence contextual factors

LCA-classes of partner violence by frequency of physical and sexual violence acts

Table 7.7 presents a cross-tabulation of past 12 month LCA-classes of partner violence by low frequency (once/a few times) and high frequency (many times) of physical and sexual violence acts (analysis by lifetime partner violence revealed similar findings to that of past 12 month partner violence – results shown in Appendix 7, Table 7.3).[62]

In DSM and Mbeya, for both the moderate physical and the sexual dominant classes, most acts of violence were experienced with low frequency. By contrast, in the severe abuse class frequency of each violence act was more evenly split between low and high frequency. For example, in DSM, within the moderate physical violence class, each act of physical violence was experienced with high frequency in no greater than 15% of cases, however, within the severe abuse class, between 32% (used fist) and 44% (choked) of the physical violence acts were experienced with high frequency. In addition, within the sexual dominant violence class, while almost one-third of respondents who had experienced 'forced sex' reported high frequency, this compares with over one-half of the respondents in the severe abuse class.

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[62] In the survey questionnaire, respondents were asked if they had ever experienced each of the acts of violence and if the respondent answered yes she was asked if it had happened in the past 12 months. If the respondent answered she had experienced the act of violence in the past 12 months she was asked whether it had occurred once, a few times, or many times. Respondents who answered they had experienced violence but not in the past 12 months were asked about the frequency of violence before the past 12 months. Therefore, to derive frequency of violence for lifetime experience, responses to past 12 months were included with responses to before 12 months.

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Table 7.7 Percentage experiencing low and high frequency acts of partner violence in the past 12 months by LCA-class in DSM and Mbeya

		Moderate physical frequency			Sexual dominant frequency			Severe abuse frequency		
	N	Low %	High %	N	Low %	High %	N	Low %	High %	χ2 p-value
DSM										
Slapped	113	89.4	10.6	16	93.7	6.3	43	60.5	39.5	<0.001
Pushed	53	86.8	13.2	5	100.0	0.0	37	56.8	43.2	0.002
Used fist	39	84.6	15.4	0	0.0	0.0	34	67.6	32.4	0.087
Kicked	27	88.9	11.1	4	100.0	0.0	28	60.7	39.3	0.025
Choked	1	100.0	0.0	0	0.0	0.0	16	56.2	43.8	0.388
Weapon	5	100.0	0.0	0	0.0	0.0	12	66.7	33.3	0.157
Forced sex	5	80.0	20.0	108	68.5	31.5	38	47.4	52.6	0.049
Afraid	12	91.7	8.3	52	80.8	19.2	32	50.0	50.0	0.003
Mbeya										
Slapped	108	83.3	16.7	20	100.0	0.0	55	52.7	47.3	<0.001
Pushed	67	80.6	19.4	11	72.7	27.3	43	46.5	53.5	0.001
Used fist	42	88.1	11.9	0			49	63.3	36.7	0.007
Kicked	28	78.6	21.4	4	75.0	25.0	39	59.0	41.0	0.227
Choked	2	100.0	0.0	2	50.0	50.0	23	69.6	30.4	0.536
Weapon	5	80.0	20.0	0	0.0	0.0	15	60.0	40.6	0.417
Forced sex	8	75.0	25.0	151	74.2	25.8	43	53.5	46.5	0.032
Afraid	10	90.0	10.0	71	71.8	28.2	42	61.9	38.1	0.190

Within each LCA-class, the number of moderate physical violence acts experienced (slapped and pushed), severe physical violence (used fist, kicked, choked, used a weapon), and sexual violence acts (forced sex and afraid what he might do) were aggregated. Table 7.8 show the proportion of moderate physical violence acts, severe physical violence acts, and sexual violence acts experienced with high frequency by past 12 month LCA-classes of partner violence.

In both sites and among respondents in the moderate physical violence class, 30% of physical violence acts are acts labelled as severe (e.g. in DSM 72/(166+72)) and of these, 12.5% (DSM) and 15.6% (Mbeya) were experienced with high frequency. However, within the severe abuse violence class 53% in DSM and 56% in Mbeya of physical violence acts are labelled as severe, and of these, over one-third were experienced with high frequency. Within the sexual dominant violence class slightly over one-quarter of sexual violence acts were experienced with high frequency in both sites. This also contrasts with the severe abuse class where 51% (DSM) and 42% (Mbeya) of all sexual violence acts were experienced with high frequency.

Table 7.8 Percentage experiencing high frequency types of partner violence in the past 12 months by LCA-class in DSM and Mbeya

	Moderate physical high frequency		Sexual dominant high frequency		Severe abuse high frequency	
	N	%	N	%	N	%
DSM						
Acts of moderate physical violence (Slapped & Pushed)	166	11.4	21	4.8	80	41.3
Acts of severe physical violence (Used fist; Kicked; Choked; Weapon)	72	12.5	8	0.0	90	36.7
Acts of sexual violence (Forced sex & Afraid)	17	11.8	160	27.5	70	51.4
Mbeya						
Acts of moderate physical violence (Slapped & Pushed)	175	17.7	31	9.7	98	50.0
Acts of severe physical violence (Used fist; Kicked; Choked; Weapon)	77	15.6	6	33.3	126	37.3
Acts of sexual violence (Forced sex & Afraid)	18	16.7	222	26.6	85	42.4

The extent to which acts of moderate physical violence, severe physical violence, and sexual violence were experienced with high frequency by both lifetime and past 12 month LCA-class of partner violence is graphically represented in figures 7.1a to 7.1f.

Figure 7.2a-e Percentage experiencing high frequency types of partner violence by LCA-class in DSM and Mbeya

Figure 7.1a: Slapped & Pushed (DSM)
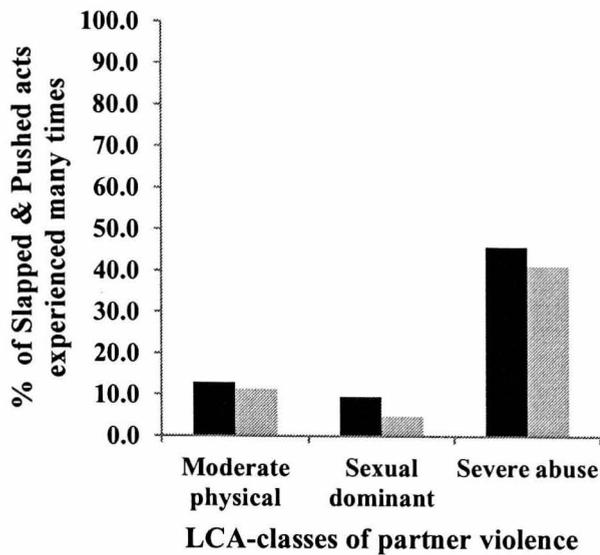
Figure 7.1d: Slapped & Pushed (Mbeya)
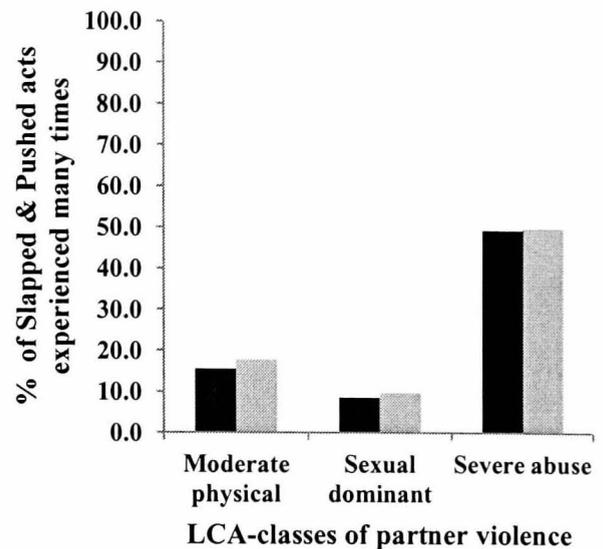
Figure 7.1b: Used fist; Kicked; Choked & Weapon (DSM)
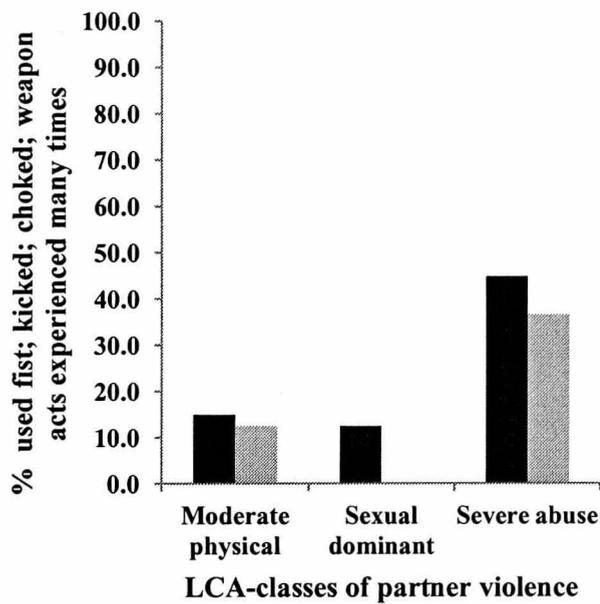
Figure 71e: Used fist; Kicked; Choked & Weapon (Mbeya)
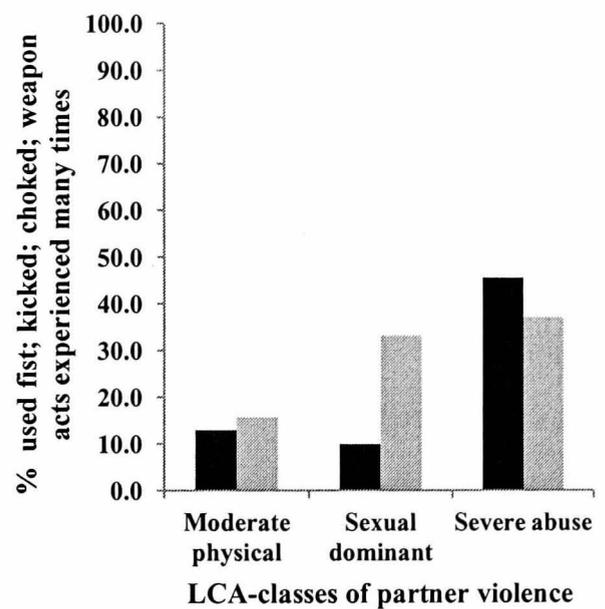
Figure 7.1c: Forced sex & Afraid what he might do (DSM)
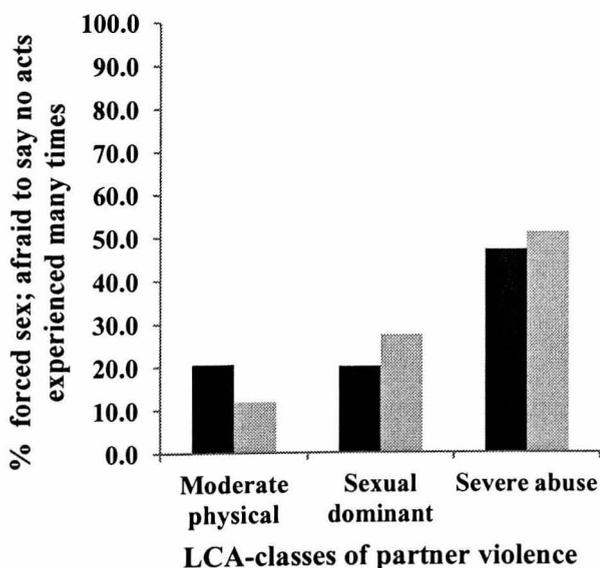
Figure 7.1f: Forced sex & Afraid what he might do (Mbeya)

■ Lifetime   ▨ Past 12 month

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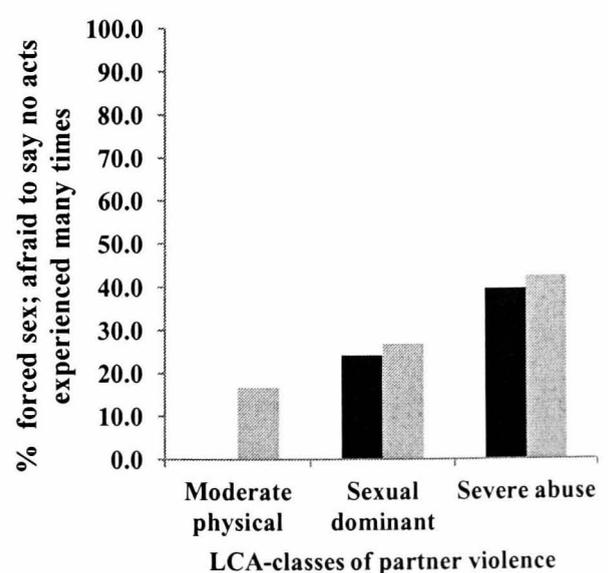
LCA-classes of partner violence and contextual violence factors

Table 7.9 describes the association between LCA-classes of partner violence by violence contextual factors (emotional abuse and controlling behaviour). The analysis was conducted for both lifetime and for past 12 month violence, however, the results were similar in both sites, and therefore, findings from the past 12 month analysis are presented. Results from the lifetime analysis are included in Appendix 7, Table 7.4.

LCA-classes of partner violence and emotional abuse

In both sites, respondents in the three LCA-classes experiencing partner violence were significantly more likely to experience each act of emotional abuse than respondents in the no violence class. The proportion of respondents reporting they experienced each act of emotional abuse was highest for women who experienced severe abuse. In most cases, women who experienced severe abuse were significantly more likely to experience each act of emotional abuse compared with women who experienced moderate physical violence and sexual dominant violence. In addition, compared with women who experienced sexual dominant violence, women who experienced moderate physical violence were significantly more likely to experience insults and threats in DSM and insults, being scared and threats in Mbeya. Few women in the no violence class experienced high intensity emotional abuse (3.4% DSM and 4.5% Mbeya) and this compares with the majority of women in the severe abuse class who experienced high intensity emotional abuse (61.0% DSM and 73.2% Mbeya).

LCA-classes of partner violence and controlling behaviour

In both sites, the probability of experiencing all acts of controlling behaviour was significantly higher for respondents in the three LCA-classes experiencing violence when compared with respondents in the no violence class. However, in DSM respondents in the moderate physical violence class were not significantly more likely to have reported that their partner expects them to ask permission to seek health care than respondents who had never experienced partner violence - this was the only non statistically significant result.

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In DSM 18.5% of women in the no violence class experienced high controlling behaviour from their partner and this compares with approximately 40% in both the moderate physical and the sexual dominant classes, and 60.5% for respondents in the severe abuse class. In addition, respondents in the three LCA-classes experiencing violence were significantly more likely to experience high controlling behaviour than women who had never experienced partner violence, and women in the severe abuse class were over six times more likely to experience high controlling behaviour (AOR 6.36 95% CI (3.20, 12.63)). While there was no significant difference in the likelihood of experiencing high controlling behaviour between respondents in the moderate physical and the sexual dominant classes, respondents in both classes were significantly less likely to experience high controlling behaviour than respondents in the severe abuse class.

The difference is even more pronounced in Mbeya where the proportion of women who experienced high controlling behaviour is highest among respondents in the severe abuse class (66%) and respondents were over 20 times more likely to experience high controlling behaviour than respondents who had never experienced violence (AOR 21.60 95% CI (11.43, 40.83)). In addition, respondents in the severe abuse class were significantly more likely to experience high controlling behaviour than respondents in the moderate physical and the sexual dominant classes (p<0.001). However, there was no significant difference in the likelihood of experiencing high controlling behaviour between the sexual dominant and the moderate physical classes (p=0.106).

Table 7.9 Adjusted odds ratios from multivariate regression for violence contextual factors and past 12 month partner violence in DSM and Mbeya

DSM past 12 month partner violence (reference category)	No violence % N=846	Moderate physical (a) % N=137	AOR	95% CI	Sexual dominant (b) % N=125	AOR	95% CI	Severe abuse (c.) % N=43	AOR	95% CI	Wald test p-value a vs. b	a vs. c	b vs. c
Emotional abuse													
Any emotional abuse	13.4	67.2	12.90	(8.37, 19.87)	48.0	6.14	(4.08, 9.24)	79.1	25.46	(11.74, 55.22)	0.004	0.106	0.001
Insulted or said things to make her feel bad	9.7	60.7	14.96	(9.65, 23.21)	32.3	4.55	(2.90, 7.15)	70.7	24.68	(12.37, 49.24)	<0.001	0.193	<0.001
Belittled or humiliated her in front of others	1.5	24.8	25.98	(12.63, 53.44)	18.4	16.56	(8.52, 33.24)	50.0	75.43	(31.75, 179.23)	0.166	0.005	<0.001
Scared or intimated her	5.6	26.5	5.68	(3.42, 9.44)	30.4	7.75	(4.77, 12.60)	54.8	20.36	(10.35, 40.04)	0.292	0.001	0.010
Threatened to hurt her	2.0	22.8	12.37	(6.35, 24.09)	8.8	4.54	(2.03, 10.14)	54.8	57.90	(26.65, 125.78)	0.011	<0.001	<0.001
High emotional abuse (v low /none)	3.4	28.9	12.60	(7.26, 21.88)	15.3	5.60	(3.14, 9.98)	61.0	49.26	(24.54, 99.22)	0.015	<0.001	<0.001
Control													
Keeps her from seeing friends	16.6	32.9	2.07	(1.35, 3.19)	36.0	2.69	(1.81, 4.01)	51.2	4.84	(2.58, 9.08)	0.345	0.017	0.112
Restricts contact with her family	5.3	14.6	2.99	(1.65, 5.40)	21.6	5.00	(2.89, 8.65)	34.9	9.10	(4.45, 18.61)	0.134	0.006	0.133
Wants to know where she is at all times	64.6	81.8	2.24	(1.42, 3.52)	81.5	2.28	(1.44, 3.60)	86.1	3.23	(1.34, 7.79)	0.961	0.461	0.491
Ignores or treats her indifferently	5.8	11.8	2.54	(1.36, 4.73)	14.4	3.04	(1.68, 5.52)	41.9	13.32	(6.32, 28.03)	0.632	<0.001	<0.001
Gets angry if she speaks with others	50.4	78.1	3.16	(2.07, 4.83)	70.4	2.26	(1.45, 3.52)	79.1	3.58	(1.62, 7.91)	0.267	0.780	0.302
Is suspicious she is unfaithful	9.9	32.1	4.57	(2.97, 7.04)	33.6	4.90	(3.06, 7.84)	46.5	8.01	(4.17, 15.36)	0.792	0.118	0.165
Expects permission to seek health care	65.2	72.3	1.26	(0.82, 1.92)	77.6	1.87	(1.19, 2.93)	86.1	3.01	(1.29, 7.03)	0.175	0.066	0.322
High control (no/low control)	18.5	40.2	2.66	(1.78, 3.98)	40.8	2.92	(1.94, 4.39)	60.5	6.36	(3.20, 12.63)	0.720	0.022	0.046

Mbeya past 12 month partner violence (reference category)	No violence % N=554	Moderate physical % N=145	AOR	95% CI	Sexual dominant % N=161	AOR	95% CI	Severe abuse % N=56	AOR	95% CI	Wald test p-value a vs. b	a vs. c	b vs. c
Emotional abuse													
Any emotional abuse	16.4	69.7	11.52	(6.90, 19.22)	54.0	5.80	(3.86, 8.71)	89.3	41.06	(16.83, 100.19)	0.011	0.011	<0.001
Insulted or said things to make her feel bad	14.3	62.1	9.76	(6.08, 15.66)	48.8	5.60	(3.85, 8.13)	82.1	27.06	(13.26, 55.24)	0.030	0.016	<0.001
Belittled or humiliated her in front of others	1.8	18.8	27.06	(5.74, 35.63)	15.5	12.19	(5.04, 29.46)	50.0	62.01	(24.91, 154.33)	0.628	<0.001	<0.001
Scared or intimated her	3.6	35.9	16.55	(8.64, 31.70)	22.4	8.22	(4.07, 16.63)	67.9	64.42	(31.16, 133.20)	0.011	<0.001	<0.001
Threatened to hurt her	1.3	16.1	17.99	(6.54, 49.50)	6.8	6.89	(2.61, 18.20)	50.0	94.96	(35.90, 251.20)	0.010	<0.001	<0.001
High emotional abuse (v low /none)	4.5	32.4	10.59	(6.10, 18.35)	16.3	4.23	(2.29, 7.78)	73.2	67.65	(35.51, 128.89)	0.004	<0.001	<0.001
Control													
Keeps her from seeing friends	6.5	22.8	4.73	(2.83, 7.91)	22.4	4.61	(2.68, 7.91)	39.3	10.92	(6.00, 21.29)	0.912	0.010	0.006
Restricts contact with her family	2.5	12.4	5.31	(2.54, 11.08)	9.3	4.49	(2.19, 9.19)	25.0	11.36	(5.32, 24.24)	0.656	0.066	0.020
Wants to know where she is at all times	50.5	71.7	2.73	(1.80, 4.15)	67.7	2.27	(1.64, 3.15)	73.2	2.97	(1.63, 5.43)	0.493	0.787	0.434
Ignores or treats her indifferently	6.0	20.0	4.78	(2.44, 9.36)	18.0	4.67	(2.49, 8.76)	48.2	20.71	(10.12, 42.40)	0.941	<0.001	<0.001
Gets angry if she speaks with others	36.8	67.6	3.72	(2.49, 5.56)	54.7	2.21	(1.54, 3.16)	75.0	5.07	(2.83, 9.08)	0.044	0.427	0.022

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Is suspicious she is unfaithful	6.2	24.1	4.96	(2.85, 8.64)	11.3	1.97	(1.05, 3.69)	56.4	19.87	(9.43, 41.86)	0.004	<0.001	<0.001
Expects permission to seek health care	41.4	53.8	1.52	(3.78, 9.63)	59.4	2.08	(1.44, 3.00)	70.9	3.02	(1.68, 5.44)	0.201	0.018	0.278
High control *(low control)*	9.2	35.9	6.04	(3.78, 9.63)	26.1	3.93	(2.33, 6.64)	66.1	21.60	(11.43, 40.83)	0.099	<0.001	<0.001

Adjusted for respondent age; partnership status; respondent years in education; whether respondent is employed or not; number of living children; and household SES

7.2.3 Continuity of LCA-classes of partner violence

Migration of respondents between lifetime and past 12 month LCA-classes

Figures 7.2a and 7.2b show the extent to which respondents, who experienced physical and/or sexual partner violence migrated between the lifetime and the past 12 month LCA-classes of partner violence in DSM and Mbeya. The findings revealed that the vast majority of women who had experienced partner violence in the past 12 months had remained in the same LCA-class. Also, of the women who had experienced physical and/or sexual partner violence in their lifetime, in both sites exactly the same proportion of women the violence had either permanently or temporarily ceased (48%).

Of the respondents in DSM who experienced partner violence in the past 12 months 87% (266/305) remained in the same past 12 month violence class; and of the remaining 13% (n=39), the majority (n=29) moved from the lifetime severe abuse class to either the past 12 month moderate physical violence class (n=17) or the sexual dominant violence class (n=12).[63]

Figure 7.3a Lifetime to past 12 month partner violence in DSM

		Lifetime LCA-class of partner violence				
		Never violence	Moderate physical	Sexual dominant	Severe abuse	
Past 12 month LCA-class of partner violence	No violence	846	139	77	64	Violence permanently or temporarily ceased
	Moderate physical	0	117	3	17	
	Sexual dominant	0	7	106	12	Stayed in the same LCA-class
	Severe abuse	0	0	0	43	

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[63] Of the 39 respondents that were categorised in different lifetime and past 12 month violence classes, five respondents reported more than one violent partner and all five were categorised in the lifetime severe abuse class, three were subsequently classified in the past 12 month moderate physical class and two in the past 12 month sexual dominant class

In Mbeya, of the 695 respondents who reported they had ever experienced physical and/or sexual partner violence, 48% (333) did not experience violence in the past year. Of the remaining 362 respondents who experienced physical and/or sexual partner violence in the past 12 months, 79% (287/362) remained in the same violence class.[64]

Figure 7.3b Lifetime to past 12 month partner violence in Mbeya

		Lifetime LCA-class of partner violence				
		Never violence	Moderate physical	Sexual dominant	Severe abuse	
Past 12 month LCA-class of partner violence	No violence	554	156	98	79	→ Violence permanently or temporarily ceased
	Moderate physical	0	95	27	23	
	Sexual dominant	0	0	141	20	→ Stayed in the same LCA-class
	Severe abuse	0	0	5	51	

Permanent or temporary partner violence cessation by LCA-class

Table 7.10 shows the association between the LCA-classes of partner violence and the rate of violence cessation by the respondent's partnership status in DSM and Mbeya. Across the LCA-classes, the rate of permanent or temporary partner violence cessation differed more strongly in Mbeya than it did in DSM. In addition, in both sites, women who had experienced severe abuse were not more likely to have separated or to have divorced their partner than women in either the moderate physical class or the sexual dominant class.

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[64] Of the 75 respondents that were categorised in different lifetime and past 12 month violence classes, seven respondents reported more than one violent partner. Six were categorised in lifetime severe abuse of which five migrated to the past 12 month sexual dominant class and one migrated to the past 12 month moderate physical violence class. One respondent was in the lifetime sexual dominant class and moved to past 12 month moderate physical class.

In DSM, of those who had experienced lifetime partner violence, 48% had not been abused in the past 12 months and the rate of cessation appeared relatively stable across the LCA-classes (p=0.056): 53% (139/263) moderate physical; 41% (77/186) sexual dominant; and 47% (64/136) severe abuse. Of the respondents for whom partner violence had ceased, 11% (15/139) of women in the moderate physical class were no longer partnered, and this figure was 23% (18/77) for women in the sexual dominant class, and 17% (11/64) for women in the severe abuse class (p=0.048). In all three LCA-classes of partner violence approximately 60% of women who were no longer partnered were either separated or divorced at the time of interview and the remaining 40% were widowed. Women in the severe abuse category were not significantly more likely to have separated/divorced than women in the other two violence classes.

In Mbeya partner violence had either permanently or temporarily ceased for 48% of respondents. The proportion of women for whom partner violence had ceased was significantly different across the violence classes (p<0.001): slightly over one-third (98/271) for women in the sexual dominant class; 62% (156/251) for women in the moderate physical violence class; and 46% (79/173) for women in the severe abuse class. Approximately one-fifth (22/98) of women who were classified in the lifetime sexual dominant class were no longer partnered, in the moderate physical violence class 14% (22/156) were no longer partnered; and in the severe abuse class 34% (27/79) of women were no longer partnered. Within each LCA-class of partner violence, approximately one-half were separated or divorced and there was no significant difference across the groups.

Table 7.10 Rate of permanent or temporary partner violence cessation by LCA-class in DSM and Mbeya

DSM	Moderate physical N=263 %	Sexual dominant N=186 %	Severe abuse N=136 %	χ2 p-value
Permanent or temporary cessation	52.9	41.4	47.1	0.056
N (violence ceased)	*139*	*77*	*64*	
Not currently partnered	11.0	23.4	17.2	0.048
N (violence ceased & not currently partnered)	*15*	*18*	*11*	
Separated/divorced	60.0	61.1	63.6	~1.000*

Mbeya	Moderate physical N=251 % (n)	Sexual dominant N=271 % (n)	Severe abuse N=173 % (n)	χ2 p-value
Permanent or temporary cessation	62.2	36.2	45.7	<0.001
N (violence ceased)	*156*	*98*	*79*	
Not currently partnered	14.1	22.4	34.2	0.002
N (violence ceased & not currently partnered)	*22*	*22*	*27*	
Separated/divorced	45.5	45.5	51.9	0.871

* Fisher's exact test

7.2.4 Comparing the LCA-classes of partner violence with traditional overlap categorisation of partner violence

On face value, the LCA-classes of partner violence appear similar to the traditional overlap categorisation of partner violence that was discussed in chapter 5 (shown in Box 7.1.) Therefore, the extent to which these two categorisations are similar was assessed.

Box 7.1 Description of latent class patterns of violence and overlap categorisation of violence

LCA-classes of partner violence	Overlap categorisation of partner violence
Moderate physical violence	Physical violence only
Sexual dominant	Sexual violence only
Severe abuse	Both physical and sexual violence

A cross tabulation of the LCA-classes of partner violence and the traditional overlap categories of partner violence overlap is shown in Table 7.11. The degree to which there was commonality was higher for past 12 month violence than for lifetime violence. In DSM 77% (lifetime) and 84% (past 12 month) were similarly classified, and in Mbeya

69% (lifetime) and 84% (past 12 month) were similarly classified. However, the LCA-classes and the traditional overlap categories for both lifetime and past 12 month partner violence were statistically different (χ^2, p<0.001).

In both sites, where there is divergence it is generally respondents categorised in the sexual dominant LCA-class who disaggregate into sexual only or both physical and sexual violence. In addition, respondents who are categorised in the severe abuse LCA-class who disaggregate into physical only or both physical and sexual violence categories. For example, in DSM, 65% of respondents in the lifetime sexual dominant class experienced sexual violence only and almost 35% experienced both physical and sexual violence. In Mbeya 64% of respondents in the lifetime severe abuse class experienced both physical and sexual violence while 36% experienced physical violence only.

Table 7.11 Comparison of LCA-class and overlap categorisation prevalence of partner violence in DSM and Mbeya

	Lifetime partner violence			Past 12 month partner violence		
	Moderate physical %	Sexual dominant %	Severe abuse %	Moderate physical %	Sexual dominant %	Severe abuse %
DSM *(N)*	*263*	*186*	*136*	*137*	*125*	*43*
Physical violence only	86.7		24.3	86.9		7.0
Sexual violence only		65.1			77.6	
Both physical & sexual violence	13.3	34.9	75.7	13.1	22.4	93.0
Mbeya *(N)*	*251*	*271*	*174*	*145*	*161*	*56*
Physical violence only	100.0		35.6	87.6		12.5
Sexual violence only		42.8			80.1	
Both physical & sexual violence		57.2	64.4	12.4	19.9	87.5

χ2<0.001 both DSM and Mbeya and lifetime and past 12 month comparisons

7.2.5 Past 12 month LCA-classes of partner violence and women's responses

Table 7.12 presents the analysis of the past 12 month moderate physical and severe abuse LCA-classes of partner violence and women's responses including: whether or not she fought back; whether the respondent had ever left the relationship because of violence; and whether or not the respondent sought help. The analysis was restricted to these two LCA-classes of partner violence because questions on women's responses were asked only to respondents who experienced acts of physical violence. The analysis was conducted for both lifetime and for past 12 month violence, however, in both sites, the results were similar and therefore, findings from the past 12 month analysis are presented. Results from the lifetime analysis are included in Appendix 7, Table 7.5.

In DSM, of those who experienced moderate physical violence a similar proportion of respondents (approximately one-third) reported that they had ever fought back, ever left, or sought help. However, the most common strategy used by women who experienced severe abuse was ever left (75.6%) and approximately 60% reported they had sought help or had fought back. By contrast, in Mbeya, the most common strategy women used in both the moderate physical and the severe abuse class was to seek help (44.1% moderate physical; 58.9% severe abuse), and the least likely strategy was to have fought back (18.8% moderate physical; 25.0% severe abuse).

In addition, in DSM 42.1% of respondents in the moderate physical class did not use any of the three strategies (fight back, ever leave or seek help). However, a significantly lower proportion (6.8%) of respondents who experienced severe abuse did not try any of the three strategies (p=<0.001) and 34.1% had tried all three strategies. In Mbeya, the difference was less marked with 40.4% of respondents who experienced moderate physical violence not reporting use of any strategy compared with 26.3% of respondents who experienced severe abuse (p=0.199) and 14.0% who experienced severe abuse had tried all three.

In DSM respondents in the severe abuse class were significantly and three times more likely to have fought back than respondents in the moderate physical class (AOR 2.91; 95% CI 1.34, 6.32). In Mbeya, there was no statistically significant difference in the proportion of women who fought back between the two LCA-classes. However, for

lifetime violence, respondents who experienced severe abuse were significantly more likely to have fought back than respondents who experienced moderate physical violence.

In DSM respondents who experienced severe abuse were significantly more likely to report that they had left their partner for at least one night than respondents who experienced moderate physical violence. In addition, of the respondents who reported that they had left their partner, the average number of times they reported they had left was 2.07 in the moderate physical class compared with almost 3.16 in the severe abuse class (p=0.118). In Mbeya, there was no significant difference in having ever left or in the reported average number of times the respondent left her partner (1.57 for moderate physical and 1.56 for severe abuse p=0.843) between the two LCA-classes of partner violence. In addition, in both sites of those that left, few women reported that they had left permanently and there was no significant difference in the proportion of women who had permanently separated by LCA-classes of partner violence in either site.

In DSM respondents in the severe abuse class were significantly more likely to report that they sought help, from any source, than women who experienced moderate physical violence. However, this relationship did not hold in Mbeya. In both sites, the most common sources where help was sought were police, hospital and local leader.[65] In DSM respondents in the severe abuse class were significantly more likely to have sought help from all three sources than respondents in the moderate physical class. However, in Mbeya, respondents who experienced severe abuse were not more likely to have sought help, from either the police or health centre, but they were almost two times more likely to have gone to a local leader (AOR 1.93, 95% CI 1.04, 3.59).

The most common reasons given why the respondent left her partner and why she went for help were because she could not endure the violence any longer and, particularly for respondents who experienced severe abuse, because she had been badly injured.

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[65] Very few respondents reported seeking help from legal services; shelters and women's organisations; or religious leaders.

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Table 7.12 Adjusted odds ratios from multivariate regression for women's responses and past 12 month partner violence in DSM and Mbeya

DSM past 12 month partner violence (reference category)	Moderate physical % (N=137)	Severe abuse % (N=43)	AOR	95% CI
Ever fought back *(Never fought back)*	33.6	58.1	2.91	(1.34, 6.32)
Ever left *(Never left)*	32.5	75.6	6.35	(2.83, 14.25)
Help seeking				
Any help seeking	30.9	62.8	3.61	(1.66, 7.83)
Police	10.3	28.6	4.24	(1.66, 10.83)
Hospital	17.8	34.9	2.50	(1.12, 5.58)
Local leader	13.2	31.0	2.70	(1.07, 6.78)
No of strategies used (ever fought back, ever left, help seeking)				
No strategy	42.1	6.8***		
At least one	31.4	27.3		
Two strategies	16.4	31.8		
All three	10.0	34.1		
N (Of those that left)				
Mean number of times left *Std. Dev*	2.07 *(2.11)*	3.16 *(3.79)*		
Permanently left	20.5	15.6		

Mbeya past 12 month partner violence (reference category)	Moderate physical % (N=145)	Severe abuse % (N=56)	AOR	95% CI
Ever fought back *(Never fought back)*	18.8	25.0	1.75	(0.87, 3.51)
Ever left *(Never left)*	36.2	48.2	1.56	(0.84, 2.92)
Help seeking				
Any help seeking	44.1	58.9	1.53	(0.82, 2.86)
Police	7.6	10.7	1.22	(0.37, 4.00)
Hospital	19.3	19.6	0.81	(0.29, 2.26)
Local leader	31.0	50.0	1.93	(1.04, 3.59)
No of strategies used (ever fought back, ever left, help seeking)				
No strategy	40.4	26.3		
At least one	29.5	31.6		
Two strategies	22.6	28.1		
All three	7.5	14.0		
N (Of those that left)				
Mean number of times left *Std. Dev*	1.51 *(0.97)*	1.56 *(0.97)*		
Permanently left	17.7	7.4		

Adjusted for respondent age; partnership status; respondent years in education; whether respondent is employed or not; number of living children; and household SES

* p<0.05 ** p<0.01 *** P<0.001

7.2.6 Past 12 month LCA-classes of partner violence and health outcomes

Table 7.13 summarises the relationship between the LCA-classes of partner violence and the respondent's overall health, and a range of physical, mental, and reproductive health outcomes. Results with lifetime LCA-classes of partner violence are shown in Appendix 7, Table A7.6.

In both sites, the proportion of women reporting fair to very poor health was higher in the three LCA-classes of partner violence than for women who had never experienced partner violence. In DSM women in the sexual dominant and the severe abuse classes were significantly more likely to report fair-very poor health compared with women who had never experienced partner violence. In addition, respondents in the severe abuse class were significantly more likely to report fair to very poor health status than respondents in both the moderate physical and the sexual dominant violence classes. This contrasts with respondents in Mbeya, where there was no significant difference between respondents who experienced moderate physical or severe abuse relative to women who had never experienced partner violence, and a borderline significant association between respondents who experienced sexual dominant violence (AOR 1.51, 95% CI 1.01, 2.27). In addition, there was no significant difference in respondents reporting fair to very poor health among the violence classes.

In both sites, there were strong and significant associations between severe abuse and suicidal ideation. Respondents were over seven times in DSM and ten times in Mbeya more likely to have thought about suicide when compared with women who had never experienced violence. In addition, thoughts about suicide were significantly higher for women who experienced severe abuse compared with women who experienced either moderate physical violence or sexual dominant violence. In Mbeya respondents who experienced moderate physical and sexual dominant were significantly more likely to have suicidal thoughts than women who had never experienced partner violence, however, this relationship did not hold in DSM.

In DSM and Mbeya, the number of distress symptoms reported was significantly higher in all three violence classes compared with respondents who had never experienced violence. The strongest associations were found between women who experienced

severe abuse where the mean number of distress symptoms was approximately 2.5 times higher than that for women who had never experienced violence (ARR 2.45, 95% CI 1.94, 3.09 in DSM and 2.42, 95% CI 1.92, 3.04 in Mbeya). In addition, the mean number of distress symptoms was significant higher for women who experienced severe abuse compared with women in either the moderate physical or sexual dominant class.

When assessing the associations between functional limitations and partner violence, there were contrasting findings between the two sites. In DSM, women in all three LCA-classes who experienced violence were significantly more likely to report having difficulty with walking, and having difficulty with memory compared with women who had never experienced partner violence. In addition, women who experienced moderate physical violence or severe abuse were significantly more likely to report they experienced pain or discomfort. However, in Mbeya, there were no significant associations between difficulty with walking, or with having experienced pain or discomfort with any of the LCA-classes of partner violence, though respondents who experienced severe abuse were significantly more likely to have difficulty with memory compared with women who had never experienced partner violence (AOR 3.09, 95% CI 1.59, 6.00). There were no significant associations between the LCA-classes of partner violence and respondents reporting difficulties with performing their usual activities in either site.

There was a similar association between the LCA-classes of partner violence and use of pain relief in DSM and Mbeya as women who experienced severe abuse were two times more likely to report having used pain relief when compared with women who had never experienced partner violence. In Mbeya, use of pain relief was significantly higher for women in the severe abuse category when compared with women the moderate physical and sexual dominant classes, however, there were no significant differences between the LCA-classes of partner violence in DSM.

When considering the relationship between modern contraceptive use and the LCA-classes of partner violence a slightly different association emerges between the two sites. In DSM, modern contraceptive use is highest among women who experienced sexual dominant violence and was significantly higher than for women who had never experienced partner violence. However, in Mbeya, modern contraceptive use was

highest among women who experienced severe abuse and was significantly higher than for women in the sexual dominant class.

In Mbeya, women who experienced sexual dominant violence were over two times more likely to report unintended pregnancy (mistimed or not wanted), compared with women who had never experienced partner violence, and this was the only statistically significant association across all the LCA-classes of partner violence.

In both sites, there was generally a positive, but not significant, relationship between pregnancy termination (miscarriage, stillbirth, or abortion) and the LCA-classes of partner violence. The vast majority of women who had given birth in the five years to interview had seen a health professional for an antenatal check. In DSM women who experienced sexual dominant violence were significantly less likely to have seen a health professional for antenatal care than women who had never experienced partner violence (AOR 0.26, 95% CI 0.07, 0.95). In Mbeya, women who experienced severe abuse were significantly less likely to have to have seen a health professional for antenatal care than women who had never experienced partner violence and women who experienced moderate physical violence.

Table 7.13 Adjusted odds ratios from multivariate regression for selected health outcomes and past 12 month partner violence in DSM and Mbeya

	No violence	Moderate physical			Sexual dominant			Severe abuse			Wald test p-value		
	% N=846	% N=137	AOR	95% CI	% N=125	AOR	95% CI	% N=43	AOR	95% CI	a vs. b	a vs. c	b vs. c
DSM													
Overall health													
Self rated health fair to very poor	30.6	35.8	1.34	(0.89, 2.01)	45.6	2.02	(1.35, 3.01)	62.8	4.03	(2.17, 7.48)	0.118	0.002	0.051
Mental health													
Thought about suicide	5.9	6.6	1.15	(0.53, 2.49)	8.8	1.39	(0.66, 2.95)	34.9	7.51	(3.40, 16.56)	0.697	<0.001	<0.001
Mean no. of distress symptoms[†]	2.53 *(3.11)*	4.59 *(3.89)*	1.83	(1.55, 2.16)	4.34 *(4.32)*	1.70	(1.40, 2.07)	6.81 *(5.66)*	2.45	(1.94, 3.09)	0.568	0.022	0.015
Physical health													
Difficulty walking	12.3	17.5	1.87	(1.10, 3.16)	21.6	2.26	(1.32, 3.89)	23.3	2.48	(1.15, 5.33)	0.576	0.532	0.850
Difficulty with usual activities	9.7	10.2	1.22	(0.67, 2.22)	14.4	1.60	(0.86, 2.95)	18.6	2.21	(0.93, 5.23)	0.494	0.233	0.522
Pain or discomfort	19.2	27.7	1.69	(1.10, 2.58)	26.4	1.55	(0.93, 2.22)	38.6	2.56	(1.16, 4.45)	0.545	0.421	0.218
Difficulty with memory	14.4	29.2	2.48	(1.62, 3.82)	26.4	2.16	(1.30, 3.18)	31.8	3.04	(1.37, 5.60)	0.459	0.774	0.435
Use of pain relief	23.2	28.5	1.47	(0.97, 2.23)	24.8	1.16	(0.74, 1.79)	36.4	2.20	(1.10, 4.17)	0.384	0.307	0.099
Reproductive health													
Modern contraceptive use	25.6	31.4	1.21	(0.79, 1.86)	37.5	1.61	(1.04, 2.51)	27.0	0.97	(0.45, 2.09)	0.310	0.592	0.231
Unwanted pregnancy[§‡]	29.5	34.3	1.13	(0.66, 1.96)	38.3	1.31	(0.76, 2.26)	45.8	1.74	(0.69, 4.36)	0.684	0.408	0.580
Terminated pregnancy[+]	28.7	33.9	1.25	(0.81, 1.92)	27.7	0.90	(0.56, 1.42)	31.7	1.05	(0.50, 2.19)	0.248	0.652	0.713
Antenatal care[§‡]	98.2	97.3	0.60	(0.13, 2.76)	93.4	0.26	(0.07, 0.95)	95.8	0.52	(0.05, 5.33)	0.326	0.921	0.579

	No violence	Moderate physical			Sexual dominant			Severe abuse			Wald test p-value		
	% N=554	% N=145	AOR	95% CI	% N=161	AOR	95% CI	% N=56	AOR	95% CI	a vs. b	a vs. c	b vs. c
Mbeya													
Overall health													
Self rated health fair to very poor	36.5	39.3	1.12	(0.75, 1.68)	46.0	1.51	(1.01, 2.27)	42.9	1.31	(0.76, 2.26)	0.278	0.623	0.654
Mental health													
Thought about suicide	4.5	12.4	2.88	(1.55, 5.32)	13.0	2.88	(1.37, 6.02)	30.4	10.08	(5.13, 19.80)	0.999	0.001	0.004
Mean no. of distress symptoms[†]	2.51 *(3.33)*	4.20 *(4.49)*	1.57	(1.33, 1.87)	4.01 *(4.11)*	1.53	(1.24, 1.88)	6.30 *(5.11)*	2.42	(1.92, 3.04)	0.808	0.000	0.000
Physical health													
Difficulty walking	13.4	14.5	1.17	(0.65, 2.11)	11.8	0.93	(0.55, 1.58)	14.3	1.33	(0.61, 2.91)	0.535	0.780	0.395
Difficulty with usual activities	12.7	16.6	1.32	(0.75, 2.31)	16.8	1.42	(0.83, 2.43)	16.1	1.37	(0.63, 2.99)	0.835	0.936	0.935
Pain or discomfort	21.5	24.8	1.20	(0.74, 1.94)	26.7	1.37	(0.91, 2.07)	30.4	1.60	(0.81, 3.17)	0.635	0.457	0.647
Difficulty with memory	11.6	12.4	1.20	(0.65, 2.19)	14.9	1.53	(0.92, 2.56)	25.0	3.09	(1.59, 6.00)	0.437	0.018	0.062
Use of pain relief	15.0	13.8	0.87	(0.46, 1.66)	14.9	0.94	(0.58, 1.52)	23.2	2.01	(1.11, 3.65)	0.824	0.043	0.024
Reproductive health													
Modern contraceptive use	24.3	27.6	1.17	(0.75, 1.85)	29.1	1.11	(0.72, 1.72)	38.5	2.44	(1.19, 4.98)	0.836	0.083	0.041

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Unwanted pregnancy[§‡]	26.0		29.7	1.25	(0.77, 2.04)	41.7	2.06	(1.19, 3.54)	34.1	1.77	(0.91, 3.41)	0.156	0.372	0.700
Terminated pregnancy[+]	20.9		24.5	1.24	(0.77, 2.01)	26.8	1.41	(0.91, 2.16)	25.5	1.49	(0.77, 2.86)	0.625	0.644	0.882
Antenatal care[§‡]	95.1		94.1	1.03	(0.40, 2.64)	91.7	0.73	(0.32, 1.71)	84.1	0.31	(0.11, 0.84)	0.565	0.044	0.109

Adjusted for respondent age; partnership status; respondent years in education; whether respondent is employed or not; number of living children; household SES; childhood sex abuse; adult non partner sex abuse. Reproductive health outcomes additionally adjusted for number of children who have died.

† Figures reported are mean number of distress symptoms and *(Std dev)* and adjusted rate ratio (ARR) ‡ excludes currently pregnant women; + ever pregnant women § women who had given birth in last five years

7.3 Discussion: LCA-classes of partner violence

7.3.1 Main chapter findings

In this chapter I described classes of partner violence derived from LCA. The overall aim of this analysis was to evaluate whether or not the different categories of partner violence, identified through LCA, are characterised by differing patterns of violence contextual factors (emotional abuse and controlling behaviour), responses to violence, and health impacts – as would be expected if the categories did indeed represent different 'forms' of partner violence.

LCA on the acts of physical and sexual violence, for both lifetime and past 12 month experience, in DSM and Mbeya suggested four classes, with similar patterns of partner violence in the two sites. In DSM the majority (59%) of women never experienced any act of physical or sexual violence, and while less than half (44%) of women had never experienced violence in Mbeya it is still the most prevalent class. In both sites, the patterns of partner violence broadly divided into three groups: low level frequency of a limited range of physical violence acts (labelled moderate physical); mid-frequency acts of sexual violence (that I labelled sexual dominant); and high frequency and wide-ranging acts of physical and sexual violence (labelled severe abuse).

The analysis with contextual violence factors revealed that repeated high intensity emotional aggression is a key component of partner violence but particularly of severe abuse. In both sites, less than 5% of women who had never experienced physical or sexual violence experienced high intensity emotional abuse compared with 61% (DSM) and 73% (Mbeya) of women who had experienced severe abuse. In addition, controlling behaviour increased with severity of violence. Nonetheless, of the women who reported that they had never experienced violence, 19% in DSM and 9% in Mbeya have high controlling partners. It is not clear why women who have never experienced partner violence have high controlling partners, however, one explanation could be that women may not view some behaviours asked about as controlling. For example, women may consider seeking their husband's permission their duty and the qualities of a 'good wife' [98].

Analysis of the continuity of violence suggests that there is stability in the LCA-classes of partner violence that women experience. Of the women that experienced lifetime partner violence, the majority who experienced partner violence in the past 12 month remained within the same LCA-class. The findings also showed that for many women (almost 50% in both sites), violence either permanently or temporarily ceased. While there was less statistical evidence in DSM compared to Mbeya, partner violence was more likely to have ceased for women who experienced moderate physical violence – supporting the contention of a pattern of violence involving occasional outbursts of physical aggression, and partner violence was least likely to have ceased for women who experienced sexual dominant – suggesting that this is a continuing form of violence.

A comparison of the LCA-classes of partner violence with the overlap categorisation of violence (physical violence only, sexual violence only, both physical and sexual violence), suggests that the overlap categorisation dilutes the severe abuse class by including cases of more moderate physical violence (e.g. sexual dominant cases with moderate physical violence) and by excluding cases of more severe physical violence (e.g. severe abuse cases experiencing a range of moderate and severe physical violence types). Therefore, in this analysis, a subtlety of LCA is that it was able to tease out response patterns consisting of only physical acts of violence into moderate physical violence (e.g. slapped) and into severe abuse (e.g. all six acts of physical violence experienced) and women who experience acts of sexual violence and type of moderate physical violence into sexual dominant.

The findings from the analyses relating the LCA-classes of partner violence with women's responses suggest that women who experience partner violence attempt to manage it. Consistent with a study by Ellsberg et al. (2001) in Nicaragua, women who experienced severe abuse use a greater range of strategies to deal with the violence and were more likely to leave the relationship or seek help than women who experience less severe partner violence [270]. However, in both sites, the majority (almost 60%) of women who experienced moderate physical violence used at least one strategy (fought back, ever left, or sought help). In addition, respondents in both the moderate physical and the severe abuse classes gave the same reasons, though with higher frequency in the severe abuse class, why they had ever left or sought help – that they could not endure

the violence any longer, and because they had been badly injured, thus, possibly reflecting that any partner violence can be serious.

The finding that negative health consequences associated with severe abuse are wide-ranging is consistent with other studies that have investigated co-morbidity and partner violence is [233-234]. In both sites, there were more significant associations with adverse health outcomes for women who experienced severe abuse then there were for women who experienced moderate physical violence or sexual dominant. However, within each LCA-class of partner violence, there were more significant association in DSM then there were in Mbeya. For example, within the moderate physical violence class there were four significant associations in DSM compared with two in Mbeya. While women who experienced severe abuse in DSM, in all but one case, had significantly poorer physical and mental health outcomes, compared with four significant associations in Mbeya. Given that the patterns of violence are similar in the two sites, it is not clear why there is such a disparity between the two sites – maybe women in Mbeya are less likely to report adverse health outcomes.

7.3.2 Limitations

While this analysis has provided insights into the different forms of partner violence that exist in DSM and Mbeya, it is important to note some of the limitations.

The main limitation of using LCA in this analysis is that due to software constraints of Latent Gold further diagnostic tests e.g. fixing of parameter estimates to assess whether item response probabilities are equal across the two sites could not be conducted. This would have enabled further assessment of whether the LCA-classes of partner violence were statistically the same in the two sites. However, when the acts of physical and sexual violence were empirically modelled using the data for DSM and Mbeya combined, a similar four class solution emerged for both lifetime and past 12 month violence. In both cases, a cross tabulation with the separate analyses revealed that over 95% of cases were consistently classified.[66]

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[66] DSM: lifetime 94.5% (552/585), past 12 month 99.7% (304/305). Mbeya: lifetime 97.8% (681/696), past 12 month 99.2% (359/362)

A second limitation is that because respondents were asked about their experience of each act of violence from any intimate partner an issue remains regarding the extent to which the LCA-classes of partner violence reflect the patterns women experience within one relationship or the patterns that they experience across several partnerships. An attempt was made to try to distinguish this by analysing data from the exposure table described in chapter 5.2.1. The table gathered information on the number of men the respondent had been married to or cohabited with (women who reported only ever having dating relationships were excluded), and whether he had been physically or sexually violent towards them. Respondents who reported more than one partner were asked about whether or not they experienced violence from up to their last five partners. The findings showed that of the women who reported that they had ever been married or lived with a man, the vast majority (91% in DSM and 88% Mbeya) reported that one partner had been violent towards them. In addition, in both sites, all respondents who experienced physical and/or sexual partner violence reported that one partner had been violent towards them in the past 12 months. This breakdown is as close as it is possible to get to understanding the experience of violence within a single partnership. Given the very high proportion of respondents reporting violence from one partner, the findings do not suggest that the LCA-classes of partner violence capture women's experiences of abuse across multiple partnerships. Asking about acts of violence from each individual partner or asking about violence experienced from the current/last partner only would enable an analysis of violence patterns within a single relationship or multiple partnerships.

Another limitation is that the analysis relating to women's responses to violence was restricted to women who experienced physical violence. Women who experienced sexual violence only were not asked these questions and therefore, women classified as experiencing sexual dominant were not included in the analysis.

7.3.3 Chapter conclusion

The findings from the analysis in this chapter suggests that LCA is a useful analytical approach that can tease out patterns of violence, thus, making them more meaningful in terms of violence categorisations than perhaps either unitary measures of violence by type e.g. physical violence or sexual violence or overlap categorisations of violence e.g.

physical only, sexual only, both physical and sexual. However, given the limitations that exist it is difficult to conclude whether the patterns found are distinct phenomena. Further research is required – a discussion of which is detailed in Chapter 10. In the next results chapter, I explore whether the relationship between economic status and partner violence differs by the LCA-classes of partner violence.

Chapter 8: Women's economic status and partner violence

In the previous chapter I used LCA to derive classes of partner violence in DSM and in Mbeya. The findings suggested a four class solution with three violence classes. This chapter addresses the second thesis objective. In this chapter I examine the relationship between different indicators of economic status (women's, partner's, household and relative economic status) and past 12 month occurrence of physical and/or sexual partner violence, and explore whether the findings differ for the LCA-classes of partner violence. To date, no published studies have looked at the association between economic status and LCA-classes of partner violence in a sub-Saharan Africa setting. The specific objectives are to:

1) document the prevalence of past 12 month LCA-classes of partner violence among currently married/cohabiting women

2) describe women's economic status including whether or not they earn money and the extent to which women are able to maintain control over the money they earn, and their asset wealth

3) examine the association between economic status and partner violence (physical and/or sexual partner violence and the LCA-classes of partner violence), and to assess the extent to which these associations support or contradict the different sociological and economic theories of economic resources and partner violence. Three hypotheses guided this analysis:

   H1: Women's economic status (including earns money, asset wealth and educational attainment) reduces dependency on their partner and are associated with lower partner violence

   H2: Low partner and household economic status (educational attainment, occupational status, SES, and household crowding) raise relationship stress and are associated with higher partner violence

   H3: Socio-economic status measures that favour women over their partner (higher educational attainment and higher contribution to household income) challenge traditional gender roles and are associated with higher partner violence

4) evaluate the impact of women earning money on their vulnerability to partner violence using PSM methodology to account for selection bias

5) assess to what extent these findings are similar or different between the urban and rural site

8.1 Methods: Women's economic status and partner violence

In this section I provide further details on the methodological approaches I used to address my thesis objective 2. I describe the analysis sample size; the variables included in the analysis; and the econometric analysis methods.

8.1.1 Analysis sample

The analysis for this objective is based on currently partnered women – currently married or cohabiting – aged between 15 and 49 (figure 8.1). The initial sample of eligible women included in the study was 1442 in DSM and 1256 in Mbeya. Three hundred and sixty two women in DSM and 214 women in Mbeya were dropped from the analysis because they were either not currently partnered or they were in dating relationships. Another 22 respondents in DSM and 14 respondents in Mbeya were dropped because the woman had experienced partner violence in the past 12 month but not by their current partner.[67] The final analysis sample size was 1058 in DSM and 1026 in Mbeya.

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[67] Sample size in DSM was 1059, however, for one respondent there was missing information on all her partner's socioeconomic and socio-demographic information and so was therefore, dropped from the analysis.

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Figure 8.1: Sample size of currently partnered women in DSM and Mbeya

DSM   MBEYA

| 1442 | Initial sample ever partnered women | 1256 |

| 1080 | Currently married/cohabiting | 1042 |
          (i.e. excludes women who are
          separated/in dating relationships - 362 in
          DSM & 214 in Mbeya)

| 1058 | Currently married/cohabiting, and | 1026 |
          never experienced violence or current
          partner violent. Hereafter labelled
          "currently partnered" sample *(i.e.*
          excludes women who experienced
          violence in past 12 month but not by
          their current partners – 22 in DSM &
          16 in Mbeya)

8.1.2 Variables used in analysis

Dependent variables – partner violence

This analysis focuses on two measures of partner violence. The first is a dichotomous variable that takes a value of 1 if the respondent experienced physical and/or sexual partner violence in the past 12 months and 0 if not. The second measure is the LCA-classes of partner violence that I described in chapter 7. For this measure, partner violence was classified into four categories: no violence (coded 0); moderate physical violence (coded 1); sexual dominant violence (coded 2); and severe abuse (coded 3).

Independent variables – women's, partner, household and relative economic status

Table 8.1 presents the economic status variables that I used in my analysis and details the questions from the WHO study questionnaire that they stem from and how I coded them.

Table 8.1 Description of household and individual economic status measures

Variable	Question / Description	Type of variable	Code
Woman's economic status			
Earns money	"Do you earn money?"	Dichotomous	No = 0 Yes = 1
Education [Years]	"NUMBER OF YEARS SCHOOLING [ ][ ]"	Continuous	
Raise cash in emergency	"In case of emergency, do you think that you alone could raise enough money to house and feed your family for four weeks? – this could be for example by selling things that you own, or by borrowing money from people you know, or from a bank or moneylender?"	Dichotomous	No = 0 Yes = 1
Owns capital assets	"Please tell me if you own any of the following, either by yourself or with someone else:" a) Land b) Your house c) A company or business	Categorical	Doesn't own = 0 Owns with someone else = 1 Owns alone = 2
Owns agricultural assets	d) Large animals (cows, horses etc.) e) Small animals (chickens, pigs, goats etc.) f) Produce or crops from certain fields or trees	Categorical	Doesn't own = 0 Owns with someone else = 1 Owns alone = 2
Owns household assets	g) Large household items (TV, bed, cooker, fridge) h) Jewellery, gold or other valuables j) Motor car x) Other property, specify	Categorical	Doesn't own = 0 Owns with someone else = 1 Owns alone = 2
Child under 5	Respondents were asked a series of questions about how many children they have that are alive; date of last child they gave birth to; whether or not that child is alive; and whether or not the respondent has children over five years of age to derive a variable indicating whether or not the respondent has a child under 5. This measure does not account for clustering within the two age groups.	Categorical	No children = 0 Child under 5 = 1 Child over 12 only = 2

Partner and household economic status

Partner occupational status	"Is he (husband/partner) currently working, looking for work or unemployed, retired or studying?" If working What kind of work does / did he normally do?" If working or retired the respondent was asked what type of work he does (did) that was then coded into eight categories: professional; business (medium/large); technical (or skilled); military/police; agriculture (e.g. fisherman; planter; farmer); taxi driver; small business/vendor; and unskilled/casual labourer.	Categorical	Professional, military/police, or student = 1 Business (medium/large)=2 Skilled worker, taxi driver=3 Agriculture; small business/ unskilled, unemployed=4
Partner education	"NUMBER OF YEARS SCHOOLING [ ][ ]"	Continuous	
Refused to give money	"Does your husband /partner ever refuse to give you money for household expenses, even when he has money for other things?"	Dichotomous	Never = 0 Once or twice/many times = 1
Household SES[68]	An index was created by combining indicators of household ownership of durable items with housing characteristics. Weights for individual variables were derived using PCA – details provided in chapter 5. Because of the low distribution of households in the high SES group, I combined the medium and high SES households to create a dichotomous SES variable	Dichotomous	Low = 0 Medium/High = 1
Household crowding	Derived as the ratio between the number of people in the household and the number of rooms in the house used for sleeping	Continuous	

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[68] Two of the questions asked in the household questionnaire were comparable to questions asked in the individual questionnaire, ownership of land, and car. Onwujekwe et al. (2006) highlight the issue of the reliability when collecting indicators of socio-economic status [271]. While it was not possible to examine the reliability of these two indicators, because of the slightly different wording of the questions in the two questionnaires and because the respondent was not necessarily who was interviewed for the household questionnaire, I cross tabulated the questions to assess whether there was a suggestion the indicators were not reliable. In both sites, there were few cases of no household member ownership of a car but a respondent reporting ownership, exclusively or partially, (n=7 in DSM and n=2 in Mbeya). The number of cases where no land ownership was reported in the household questionnaire but where the respondent reported, exclusive or partial, ownership was slightly higher (n=54 in DSM and n=21 in Mbeya).

Relative economic status

Contribution to household income	"Would you say that the money that you bring into the family is more than what your husband/partner contributes, less than what he contributes, or about the same as he contributes?" Asked to respondents who reported they earn money	Categorical	Neither working = 0 Woman contributes more = 1 Man contributes more =2 Both contribute the same = 3
Relative education	Each respondent and her partner were coded into one of six education categories based on the reported years of schooling: no education (0 years); incomplete primary (less than seven years schooling); complete primary (exactly seven years schooling); incomplete secondary (between eight and ten years schooling); complete secondary (exactly 11 years schooling); and higher education (12 years or more schooling).	Categorical	Neither attended school = 0 Partner has higher education = 1 Woman has higher education =2 Both have same level = 3

Source: WHO study questionnaire (Appendix 2).

Independent variables – additional socio-demographic covariates

Additional covariates used in the analyses were informed by the ecological model and based on previous research conducted in LMIC settings, described in chapter 3.5.2, and are shown in Table 8.2.

Table 8.2 Description of additional socio-demographic measures

Variable	Type of variable	Codes / Range
Respondent characteristics		
Partnership status	Dichotomous	Married = 0 Cohabiting = 1
Age	Continuous	16–49
Age at first sex	Continuous	4–35
Mother hit by father	Categorical	No = 0 Yes = 1 Don't know = 2
Frequent alcohol use	Dichotomous	Rarely/never = 0 At least once a month = 1
Attitude to physical violence *(Whether justified)*	Dichotomous	No reason to justify = 0 At least one reason = 1
Attitude to sex *(Whether can't refuse partner sex)*	Dichotomous	At least one reason can refuse = 0 Can't refuse sex = 1
Partner characteristics Age	Continuous	17–80
Has other women	Categorical	No = 0 Yes = 1 Don't know = 2
Polygamy	Categorical	No = 0 Yes = 1 Don't know = 2
Problematic alcohol use	Dichotomous	No = 0 Yes = 1
Fights with other men	Categorical	No = 0 Yes = 1 Don't know = 2
Beaten as a child	Categorical	No = 0 Yes = 1 Don't know = 2
Mother beaten	Categorical	No = 0 Yes = 1 Don't know = 2

8.1.3 Analytical methods

This section describes in detail the econometric analysis research methods I used, the data issues that arose and the approaches I used to deal with them. An overview of the methodological approaches is provided in chapter 6.2.

Multivariate analysis

To explore the relationship between partner violence and the different economic status variables I used logit and multinomial regression. All analyses were performed using STATA version 10.0. Model fit was assessed using Psuedo R^2 and McFadden R^2 [272]. Data issues that arose included: missing values; collinearity; within cluster correlation, heteroscedasticity, and omitted variable bias.

Missing values can lead to a loss of sample data and can bias results. Methods to deal with missing values include imputation methods. However, Cameron and Trivedi (2010) argue that cases with missing values should be excluded [258]. Though cumulatively dropping cases can cumulate, single imputation methods can lead to biased results, and multiple imputation was not possible in this analysis because the majority of the independent variables were binary or categorical in nature [258, 273]. Therefore, I chose to drop cases with missing values in the multivariate analysis. In addition, a missing values analysis revealed that for each variable there were few cases with missing values [274].

Two variables—whether or not the partnership involved a dowry or bride price and whether or not the respondent was able to choose her partner—were considered for inclusion in the multivariate analyses but were excluded because they were highly collinear with the variable partnership status. Both questions were only asked to married women. In almost all cases, they reported their marriage involved a bride price and that they had some say in their choice of partner.

To account for within cluster correlation of responses resulting from the multistage clustered sample design, and to account for heteroscedasticity, robust standard errors for model coefficients were estimated [250, 259, 275-276].[69]

Whether the woman's childhood residence was in an urban or rural location was considered for inclusion in the multivariate analyses. This is because the variable could reflect the possible differences in social norms associated with particular environments [177]. However, a test for omitted variable bias, where a model including childhood residence compared with a model excluding childhood residence, using the lrtest command with force in STATA because of robust cluster estimates, showed no significant difference [258, 278]. Religion was also considered for the analysis but not included because while there is variation between the sites, there is less variation within each site. The majority of women on the Tanzania coast are Muslim however, the main religion inland is Christian.

Addressing self-selection bias in estimating the relationship between women earning money and partner violence using propensity score matching

To address the issue of selection bias, described in chapter 6.1, I conducted PSM analysis. Morrison and Orlando (2004) used DHS data from Peru, Haiti, and Zambia and conducted PSM analyses to explore the impacts of partner violence on different development indicators including women's employment [279]. In my analysis I explore the impacts of women earning money on partner violence. The analysis steps I used were guided by Caliendo & Kopeinig and Khandker et al. 2010 [280-281]. First, I derived an equation that predicts whether or not women earned money and assigned each respondent a probability score by running a probit model. Choosing variables to determine the propensity score is challenged by the fact that PSM will be biased if factors that determine whether or not women earn money are not included in the probit

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[69] WHO data uses multi-stage cluster sampling and this implies that the observations drawn from within each cluster are not independent i.e. that observations from the same cluster are more like one another than are observations from different clusters [250, 277]. There is likely to be more homogeneity within clusters than there is across the population as a whole. Within clusters, correlation of both observable and unobservable factors across households can be expected. Although these correlations exist in the population the sample design increases their sample presence relative to that of a simple random sample [277]. If individuals within a cluster are more similar to each other (than to individuals in other clusters) then ignoring clusters will lead to standard errors that are too small and confidence intervals that are too narrow [276]. Therefore, analysis at the individual level should allow for clustering. The consequences and the remedies depend on the nature of the within-cluster correlation [277].

model. However, over-parameterising the model increases the risk that the common support assumption is not satisfied [280]. Therefore, I chose to construct the simplest model that predicts whether women earned money. Variables used in empirical studies to model women's participation in employment include women's age; whether or not she has a child less than six years of age; whether or not she has a child less than 16 years of age; partnership status; and ethnic group [282], and age; age^2; high school attendance; university attendance; technical school; years of schooling; whether the woman's partner is self-employed; and the number or children at home [23]. Therefore, I considered the following covariates: age; education years; partnership status; the number of children in the household; household SES; and whether or not the woman's partner was working. Combinations of these variables were run until the solution satisfied the balancing property.[70] The final model is shown in Table 8.3.

Table 8.3 Probit estimates of whether or not women earn money

| | DSM (N=1058) | | Mbeya (N=1026) | |
	Coefficient	SE	Coefficient	SE
Age	0.175	0.041	0.108	0.041
Age^2	-0.002	0.001	-0.001	0.001
Years in education	0.041	0.011	-0.008	0.013
Married	-0.078	0.099	0.079	0.087
Child less than 5	-0.041	0.101	-0.110	0.122
Child less than 12	-0.068	0.117	0.043	0.154
Psuedo R^2	0.05		0.02	
Correctly predicted (%)	60.6		66.2	

The area of common support was then determined by the overlap in the range of probabilities for women who earn money ('treatment group') and women who did not earn money ('control group'), and then visually assessed by plotting the distribution of the propensity score for both groups (Figure 8.2).

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[70] The balancing property is a situation where the covariates between the treated and the non-treated within different propensity score strata are statistically non-significant.

Figure 8.2: Distribution of estimated propensity score by whether or not respondent earns money
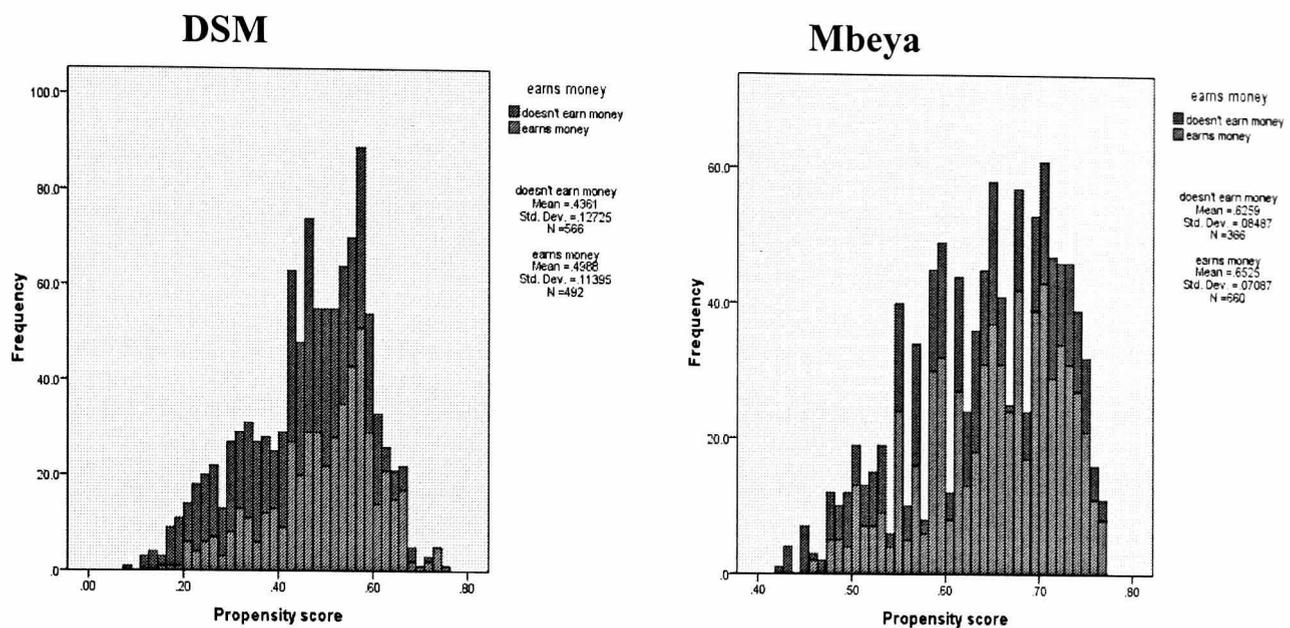
In both sites there appears to be considerable overlap in the propensity score between women who earn money and women who did not. However, at the very highest end of the propensity score, there are fewer control (did not earn money) observations relative to treated (earns money) observations. In DSM the propensity score for the currently partnered sample ranged from 0.0087 to 0.756 and the range was much smaller in Mbeya i.e. between 0.458 and 0.767. However, in both sites, the region of common support retained the vast majority of cases (99.1% in DSM and 99.8% in Mbeya).

Next I applied different matching methods (nearest neighbour; kernel; stratified; and radius) and calculated the ATT. The propensity score was used to match individual women from the treatment group with women from the control group. The means of the outcome variable, past 12 month experience of physical and/or sexual partner violence and the LCA-classes of partner violence, were then compared for the matched groups to yield unbiased estimates of the impact of women earning money. Heckman et al. (1998) specifies that PSM estimators work well when participants reside in same local labour market, therefore, I conducted separate analyses for DSM and Mbeya, i.e. I did not pool the data for the two sites [283].

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8.2 Results: Women's economic status and partner violence

In this section I discuss the findings from econometric analyses that explore the relationship between different indicators of women's and their partners economic status and past 12 month experience of partner violence. The relationships were explored using two measures of partner violence: experience of physical and/or sexual partner violence; and the LCA-classes of partner violence derived in chapter 7.

This section is structured as follows: sub-section 8.2.1 presents the prevalence of partner violence among the currently partnered (married or cohabiting) sample in both sites. A detailed description of household composition, SES and partner economic status is shown in sub-section 8.2.2, followed by a description of women's economic status. Sub-section 8.2.4 presents the findings from the bivariate and multivariate regression analyses, and the findings from the PSM analyses is presented in sub-section 8.2.5. This chapter concludes with a discussion in section 8.3.

8.2.1 Prevalence of partner violence

Of the currently partnered women in the sample, 21% in DSM and almost one-third in Mbeya experienced physical and/or sexual partner violence in the past 12 month (Table 8.4). Prevalence of all LCA-classes of partner violence was higher in Mbeya than in DSM, for example, 2.7% experienced severe abuse in DSM compared with 5.0% in Mbeya. In DSM the most common LCA-class of partner violence was moderate physical (9.8%). However, in Mbeya sexual dominant was the most, though slightly, prevalent LCA-class of partner violence (13.5%).

Table 8.4 Prevalence of past 12 month partner violence by LCA-class in DSM and Mbeya: currently partnered women

	DSM (N=1058) % (n)	Mbeya (N=1026) % (n)
Physical and/or sexual partner violence	20.8 (220)	30.9 (318)
LCA-classes of partner violence		
Moderate physical	9.8 (104)	12.5 (129)
Sexual dominant	8.2 (87)	13.5 (139)
Severe abuse	2.7 (29)	5.0 (51)

8.2.2 Household composition, household and partner economic status

Table 8.5 presents information on the average household size, SES and crowding, and partner economic status in the two sites. The findings suggest that the composition of the household is more diverse in DSM than it is in Mbeya where the household appears more homogenous.

The mean number of people in households was significantly higher in DSM than in Mbeya (5.58 in DSM and 4.90 in Mbeya; p<0.001). In DSM, the mean number of women per household eligible for interview was 1.71 and in 59.5% of households there was only one eligible woman.[71] Three-quarters of the respondents were either the wife or the partner of the head of the household, 9.0% were lodgers, 4.9% were the head of the household, and 4.2% were the households head's daughter. This is in contrast with the sample from Mbeya, where the mean number of women per household, eligible for interview, at 1.23, was significantly lower than in DSM (p<0.001). In the vast majority of households (83.2%) the respondent was the only eligible woman and almost all (95.1%) were either the wife or partner of the household head, (1.5% was herself the head of the household). Despite the average number of people in the household being higher in DSM than in Mbeya, the mean crowding index (ratio of number of people living in the household to the number of rooms for sleeping) was slightly, but not significantly, higher in Mbeya than in DSM (2.63 in DSM and 2.70 Mbeya; p=0.114).

The vast majority of households in Mbeya (87.7%) were classified as low SES reflecting the extent of asset ownership homogeneity within the site, e.g. 91% reported their type of sanitation was a pit latrine, and with the exception of electricity, radio and bicycle, ownership of household durable items was generally less than 5% (Appendix 8, Table A8.1). In DSM there was more variability in household SES, however, almost two-thirds were still classified as low SES. In both sites household crowding was inversely and significantly associated with household SES (Appendix 8, Table A8.2).

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[71] Eligible women were all those aged between 15-49 living in the household

Table 8.5 Household and partner economic status characteristics in DSM and Mbeya: currently partnered women

	DSM (N=1058)	Mbeya (N=1026)	χ^2/ F test p-value
Mean number of people in household *(Std. dev)*	5.58 *(2.91)*	4.90 *(2.10)*	<0.001
Mean number of eligible women in household *(Std. dev)*	1.71 *(1.11)*	1.23 *(0.56)*	<0.001
Crowding index *(Std. dev)*	2.63 *(1.13)*	2.70 *(1.03)*	0.114
Household SES			
Low	64.8	87.7	<0.001
Medium/High	35.2	12.3	
Partner education years *(Std. dev)*	8.32 (3.83)	6.60 (3.02)	<0.001
Partner occupational status			
Professional/formerly employed/student	22.0	7.0	<0.001
Medium scale business	15.8	5.4	
Skilled/taxi driver	33.2	15.2	
Agriculture	3.2	58.0	
Unskilled labourer/unemployed/street vendor	25.8	14.5	

The reported mean number of years of partner education was 8.32 years in DSM and was significantly higher than the 6.60 years in Mbeya. In both sites, the majority had completed primary education or more (86.2% in DSM and 77.2% in Mbeya) (Appendix 8, Table A8.2). While 15% percent completed secondary education or achieved higher in DSM, this proportion was 5% in Mbeya. In addition, in both sites, the average partner years of education was significantly higher in the medium /high SES group than in the low SES group.

The vast majority of women's partners were working (87.2% in DSM and 95.9% in Mbeya) and very few were unemployed (5.9% in DSM and 1.9% in Mbeya) (Appendix 8, Table A8.2). The remainder were either retired or students. The distribution of occupational types varied greatly between the sites. For example, in DSM while over one-fifth were either professional or in formal employment (e.g. military/police), this proportion was 7.0% in Mbeya. In addition, in DSM, very few were in agricultural work, compared with the majority of women's partners (58%) in Mbeya.

8.2.3 Women's economic status

Table 8.6 presents descriptive data on women's economic status in DSM and Mbeya. The findings reveal that women's economic status is varied between the two sites. While proportionately more women in Mbeya earn money, women in DSM who do earn money appear to have more control over what they earn. In addition, women's asset wealth, as reflected by their exclusive ownership of either capital, household or agricultural assets, is higher in DSM than in Mbeya. Despite these differences, in both sites, approximately one-third of the women both earn money and own at least one type of asset exclusively by themselves, and approximately one-quarter of women did not earn money or own any type of asset by themselves.

Women's monetary wealth and educational attainment

Earning money and contribution to household income

Slightly under one-half of the respondents earn money in DSM (46.5%) and almost two-thirds earn money in Mbeya (64.4%). In the majority of cases, the respondent sold or traded, most commonly food items, to earn money (70.9% in DSM and 68.1% in Mbeya). While the majority of respondents reported that their partner contributed all or most of the total household income, 9.2% in DSM and 9.9% in Mbeya reported that they contributed either all or more than their partner to the household income. In both sites the proportion of respondents who reported they often quarrelled with their partner, versus rarely or sometimes quarrelled, was slightly, but not significantly, higher among women who reported that they didn't earn money. However, in both sites, when frequency of quarrelling was cross-tabulated with relative contribution to household income, the highest proportion of respondents who reported they quarrelled often with their partner was among women who contributed all or more to the household income (Appendix 8, Table A8.3).

Women's control over money

Though proportionately more women in Mbeya, than women in DSM, earn money, of these, 37.8% reported that they gave at least part of the money they earn to their partner and 10.9% reported they gave all their money. This compares with 15.3% of women in DSM who reported they gave at least part of the money they earn to their partner and 2.0% who gave all their money. In addition, a slightly higher and significant proportion

of women in Mbeya reported that their partner had taken their earnings or savings against their will on at least one occasion (8.2% Mbeya, 5.7% DSM; p=0.045).

Proportionately more women in DSM, than women in Mbeya, reported that they had refused employment or given up work because their partner did not want them to. However, in Mbeya, more women reported that their partner had refused to give them money for household expenses even when they had money for other things. Slightly more women in Mbeya (62.4%) than in DSM (55.7%) reported that in an emergency they could raise enough money to feed their family for four weeks either by selling things that they owned or by borrowing money from people they know.

Women's education

Respondents in DSM had, on average, 1.5 years more schooling than respondents in Mbeya (p<0.001). In both sites, the mean number of years of schooling was less than the seven years required to complete primary education (6.60 years in DSM and 5.16 years Mbeya). However, the summary statistics masks the skewed distribution of the number of years in education. In both sites, the majority of respondents had completed primary education but no higher (55.0% DSM; 57.0% Mbeya). In addition, 21.6% in DSM and 7.1% in Mbeya had achieved higher than primary education, most of these cases were some but not completed secondary education. In DSM 14.1% of respondents reported that they had never been to school and this figure was much higher in Mbeya (24.7%). While in Mbeya, women in the younger cohort (<30 years) had significantly more education than women in the older cohort (30-49 years) (F-test for linearity p<0.001), this was not the case in DSM (F-test for linearity p=0.412) (Appendix 8, Table A8.3).

In both sites, a similar proportion of respondents reported that they had the same level of educational attainment as their partner (43.7% in DSM and 44.5% in Mbeya), and 12.2% in DSM and 13.0% in Mbeya reported that they had a higher level of education then their partner.

Women's social status

Characteristics of women's social status included counting on family support and whether or not the respondent has a child less than five years of age – an indicator of

marital dependency. In both sites, the vast majority of women reported that when they need help, they can usually count on family members for support. The majority of women had children and 51.6% percent of respondents in DSM and 68.5% of respondents in Mbeya had a child less than five years of age.

Women's asset wealth

In both sites, the vast majority of women owned at least one (of the ten) asset, either shared with someone else or exclusively by themselves (93.3% in DSM and 97.6% in Mbeya).[72] Almost two-thirds (63.6%) of women in DSM owned at least one asset exclusively by themselves, and in Mbeya less than one-half (41.9%) reported they owned at least one asset exclusively.

In DSM, the most common type of asset owned was a household asset and 54.9% reported they owned one or more exclusively by themselves – the most common items were either jewellery or durables e.g. TV. This is in contrast to respondents in Mbeya where 19.8% reported they owned a household asset exclusively by themselves, and of these, the vast majority owned one household asset most commonly a durable item.

Compared to women in DSM, proportionately more women in Mbeya either share or exclusively owned a capital asset or an agricultural asset, however, of these, proportionately fewer reported they owned the items exclusively. For example, of the respondents in Mbeya who reported shared ownership of an agricultural asset, 29.2% (24.5/84.0) reported exclusive ownership compared with 48.8% (16.9/34.6) in DSM.

When considering ownership of capital assets the most commonly owned was land, and almost twice as many women in Mbeya share or exclusively owned land compared with women in DSM. In both sites, the proportion of respondents who exclusively owned a house was low (7.4% in DSM and 5.4% in Mbeya), though women's shared ownership of housing was much higher in Mbeya (71.4%) than in DSM (33.9%). The proportion of women who exclusively owned a company or business was slightly higher in DSM (11.0%) than in Mbeya (7.9%).

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[72] Capital asset: land; house; company. Household asset: household item; jewellery; car; other property. Agricultural asset: large animal; small animal; produce.

There was a stronger association between women's asset wealth and household SES in DSM than in Mbeya. For example, in DSM there was an increasing and significant association between ownership of any asset item, either shared or exclusively, and household SES (p<0.001). However, this relationship did not hold in Mbeya. In DSM, women's exclusive ownership of at least one capital asset or household asset was positively and significantly associated with household SES. In Mbeya, while there was a significant association between ownership of a household asset and SES, there was no significant association with ownership of a capital asset. In addition, there was a significant and decreasing trend association with ownership of an agricultural asset (p<0.001) (Appendix 8, Table A8.3).

Table 8.6 Women's economic status characteristics in DSM and Mbeya: currently partnered women

	DSM (N=1058) %	Mbeya (N=1026) %	χ^2/ F test p-value
Earns money	46.5	64.4	<0.001
Contribution to household income			
Neither respondent or partner working	7.0	1.5	<0.001
Respondent contributes all/more	9.2	9.9	
Partner contributes all/more	77.2	74.7	
Respondent & partner contribute the same	6.6	14.0	
Control over money earned *(of women who earn)*	*490*	*659*	
Respondent own choice	84.7	62.2	<0.001
Give part to husband/partner	13.3	26.9	
Give all to husband/partner	2.0	10.9	
Partner ever taken earnings *(N)*	*826*	*856*	
Taken earnings	5.69	8.18	0.045
Ever given up/refused work because of partner *(N)*	*1052*	*1023*	
Yes given up/refused	11.0	2.93	<0.001
Partner refused to give money for household *(N)*	*1047*	*1010*	
Yes partner has refused	9.7	13.5	0.008
Raise enough money to feed family for 4 weeks in an emergency *(N)*	*1052*	*1024*	
Yes can raise enough money	55.7	62.4	0.020
Count on family for support if needed	*1039*	*1013*	
Yes can count on family	87.7	80.3	<0.001
Mean years of education *(Std. dev)*	6.60 *(3.64)*	5.16 *(3.36)*	<0.001
Relative education	*1036*	*1020*	
Both same	43.7	44.5	0.018
Partner has more	41.7	37.8	
Respondent has more	12.2	13.0	
Both have none	2.4	4.7	
Children			
No children	12.7	8.7	<0.001
Child less than 5	51.6	68.5	
Children over 5 only	35.7	22.9	
Ownership of any asset - exclusive or shared	93.1	97.6	<0.001
Ownership of any asset - exclusive	63.6	41.9	<0.001
Capital asset ownership - exclusive	21.5	25.6	<0.001
owns with others	40.7	61.3	
Agricultural asset ownership - exclusive	16.9	24.5	<0.001
owns with others	17.7	59.5	
Household asset ownership - exclusive	54.9	19.8	<0.001
owns with others	32.0	60.3	

8.2.4 Regression results: Women's economic status and partner violence

Additional sample characteristics

Table 8.7 presents the sample characteristics of the additional variables used in the regression analyses. The findings reveal that the distribution of all but one indicator was significantly different between the two sites. In addition, factors that are hypothesised and that are empirically found to be associated with higher partner violence – discussed in chapter 3.5.2 – were more prevalent in Mbeya than in DSM.

The mean age of respondents was slightly higher in DSM (31.27) than in Mbeya (29.60). While slightly over one-fifth of women were in a cohabiting relationship in DSM, this figure was almost one-third in Mbeya. The proportion of women who reported drinking alcohol at least once a week was much higher in Mbeya (26.4%) than in DSM (9.4%). Regarding early life characteristics, the reported mean age of first sex was slightly higher in DSM than in Mbeya. Just over one-quarter of respondents in DSM reported their mother had been hit by their father or mother's boyfriend compared with almost one-half of the respondents in Mbeya. In both sites, approximately two-thirds of the respondents reported at least one (out of six) reason a man is justified to hit his wife, and proportionately few women reported that a woman could refuse her husband sex, 4.9% in DSM and 12.9% in Mbeya.

In terms of the distribution of partner characteristics by site, the mean age was 39.27 in DSM and 36.70. In DSM 16.7% and in Mbeya 21.6% of respondents reported their partners had relationships with other women while being with them, and while, in both sites, the majority of respondents reported that their partner did not have other women, almost 29.1% in DSM and 19.8% in Mbeya did not know. Slightly over 4.0% in DSM and 5.0% in Mbeya reported that since they had known their partner he had been involved in fights with other men – and this was the only non-significant difference between the two sites. Seven percent of respondents in DSM and 8.1% in Mbeya reported their partners had been beaten as a child, and 8.7% in DSM and 20.7% in Mbeya reported their partners' mother had been beaten. Almost twice as many women in Mbeya reported that they were in polygamous relationship compared with women in DSM (21.3% and 11.8% respectively).

Table 8.7 Socio-demographic characteristics of women and their partners in DSM and Mbeya: currently partnered women

		DSM (N=1058) %	Mbeya (N=1028) %	χ^2/F test p-value
Respondent characteristics				
	Mean age (*Std. dev*)[+]	31.27 (8.13)	29.60 (7.76)	<0.001
Relationship status	Married	77.2	66.7	<0.001
	Cohabiting	22.8	33.3	
Alcohol use	Frequent alcohol use	9.4	26.4	<0.001
Attitude to physical violence	At least one good reason to hit	63.8	68.8	0.015
Attitude to sexual violence	Can't refuse sex	4.9	12.9	<0.001
	Mean age first sex (*Std. dev*)[+]	18.09 (2.67)	17.48 (2.34)	<0.001
Mother hit by father	No	53.8	38.3	<0.001
	Yes	28.0	49.4	
	Don't know	18.2	12.3	
Partner characteristics				
		39.27	36.70	<0.001
	Mean partner age (*Std. dev*)[+]	(10.07)	(10.32)	
Partner has other women	No	54.2	58.6	<0.001
	Yes	16.7	21.6	
	May have/don't know	29.1	19.8	
Partner alcohol use	Partner problematic alcohol use	7.8	13.8	<0.001
Partner fights with other men	No	92.1	93.1	0.085
	Yes	4.4	5.0	
	Don't know	3.5	2.0	
Partner beaten as a child	No	65.9	60.2	0.028
	Yes	7.0	8.1	
	Don't know	27.1	31.7	
Partner's mother beaten by father				<0.001
	No	36.0	33.1	
	Yes	8.7	20.7	
	Don't know	55.3	46.2	
Partnership characteristics				
Relationship type	Monogamous	81.6	77.4	<0.001
	Polygamous	11.8	21.3	
	Don't know	6.6	1.4	

Bivariate associations between economic status and socio-demographic characteristics and partner violence

Tables 8.8a and 8.8b present the bivariate, women's age adjusted, associations between partner violence—physical and/or sexual partner violence and the LCA-classes of partner violence—and each independent variable in DSM and Mbeya respectively.

Bivariate association between women's economic status and partner violence

In both sites, few indicators of women's economic status were significantly associated with partner violence.

In DSM, women's education was not significantly associated with partner violence. However, in Mbeya, a one year increase in respondent education significantly reduced the likelihood of experiencing moderate physical violence by 6%, and this was the only significant association found between women's economic status and partner violence in the site.

Two indicators of women's economic status were significantly and positively associated with partner violence in DSM—whether or not the woman earns money and exclusive ownership of capital assets. Women who earn money were 1.37 times (p=0.050) more likely to experience physical and/or sexual partner violence, and were 1.64 times (p=0.021) more likely to experience moderate physical violence than women who did not earn money. Ownership of a capital asset mirrored the significant associations with earning money and was more strongly associated with physical and/or sexual partner violence and with moderate physical violence. Neither of these indicators was significantly associated with sexual dominant violence or severe abuse.

In addition, in DSM, among the economic status variables that were not significantly associated with partner violence, there was generally suggestive evidence that higher women's economic status was associated with higher experience of partner violence. However, both years of education and earning money were suggestively associated with a reduced risk of severe abuse. Other suggestive protective associations that emerged were partial ownership of a household asset and presence of a child under five with moderate physical violence, and exclusive ownership of an agricultural asset and ability to raise cash in an emergency with sexual dominant violence and severe abuse.

By contrast, among the economic status variables that were not significant in Mbeya there was no clear suggestive trend. Higher years of respondent education was generally protective against partner violence, however, the only substantive association between

earns money and partner violence was with severe abuse which increased the likelihood by 45%.

Bivariate association between partner and household economic status and partner violence

In both sites, the strongest association found between partner economic status and partner violence was whether or not he had ever refused to give the respondent money. This indicator was significantly associated with higher physical and/or sexual partner violence and all the LCA-classes of partner violence. In addition, the strongest relationship was with severe abuse increasing the likelihood of violence by over ten times in both sites.

The other significant relationships found were a protective association with partner education in both sites, and a risk association with household crowding in DSM. A one year increase in partner education significantly reduced the likelihood of severe abuse by 11% in DSM, and reduced the likelihood of physical and/or sexual violence by 8% and severe abuse by 13% in Mbeya. In DSM, higher household crowding significantly increased the likelihood of physical and/or sexual partner violence, but not with any of the LCA-classes of partner violence.

In DSM, partner occupational status was not significantly associated with partner violence. However, there was generally a suggestive protective association between lower occupational status and partner violence – except with severe abuse where lower status occupations were generally associated with higher violence risk. This is in contrast to the findings in Mbeya where lower status occupations were suggestively associated with higher physical and/or sexual partner violence and with all three LCA-classes of partner violence.

Bivariate association between Relative economic status and partner violence

In DSM, with one exception, there were no significant associations between the relative economic status indicators with partner violence. The one exception is that, compared with neither the respondent or her partner working, contributing the same amount to

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household income was associated with a significantly higher likelihood of experiencing moderate physical violence.

In Mbeya, relative contribution to household income was not associated with partner violence. However, compared with both the respondent and her partner having the same level of education, higher respondent education was significantly associated with a higher likelihood of physical and/or sexual partner violence and with two LCA-classes of partner violence – sexual dominant and severe abuse. In addition, both the respondent and her partner having no education was associated with a higher likelihood of moderate physical and sexual dominant violence.

Bivariate association between respondent and partner socio-demographic characteristics and partner violence

When considering the relationship between partner violence and other covariates, in both sites, there were more significant associations found than with the economic status indicators.

In both sites, women in cohabiting relationships were significantly more likely to experience physical and/or sexual partner violence and, when considering the LCA-classes of partner violence, with moderate physical violence. In addition, in both sites, women who drank alcohol frequently were over twice as likely to have experienced physical and/or sexual partner violence. In DSM frequent alcohol use was significantly associated with higher moderate physical violence but not with sexual dominant or severe abuse. However, in Mbeya, frequent alcohol use was significantly positively associated with all three LCA-classes of partner violence.

The only significant protective socio-demographic variable was higher respondent mean age of first sex. In both sites, respondent mean age of first sex was significantly and inversely associated with physical and/or sexual partner violence. In addition, higher mean age of first sex significantly reduced the likelihood of severe abuse in both sites and with moderate physical violence in Mbeya. However, the lower likelihood of sexual dominant violence was not significant in either site. Respondents reporting that their mother was beaten by their father or their mother's partner were significantly more

likely to experience physical and/or sexual violence in both sites, with all three LCA-classes of partner violence in DSM, and with sexual dominant violence and severe abuse in Mbeya.

In both sites, there was a significant association between attitudes to wife beating – that it is justified under certain circumstances – and physical and/or sexual partner violence. Women who reported at least one reason wife beating was justified were significantly more likely to experience moderate physical violence in DSM and more likely to experience severe abuse in Mbeya. Women's belief that there was no justified reason a woman could refuse her partner sex were more likely to report experience of sexual dominant violence in DSM.

In both sites, two partner behavioural characteristics—problematic alcohol use and partner has other women—had the strongest positive and significant associations with partner violence. In DSM and Mbeya respectively, women who reported their partners alcohol use was problematic were over seven times and over three times more likely to experience physical and/or sexual partner violence. While all LCA-classes of partner violence were significantly associated with partner problematic alcohol use, in both sites, the strongest association was with severe abuse. Similarly partner having other women had the strongest significant associations with severe abuse. In both sites, partner fighting with other men was significantly associated with physical and/or sexual violence, and with the moderate physical violence and severe abuse.

There was a stronger association between polygamy and partner violence in Mbeya than there was in DSM. Polygamy significantly increased the likelihood of physical and/or sexual and all three LCA-classes of partner violence in Mbeya. In DSM, polygamy significantly increased the likelihood of moderate physical violence in DSM – the only significant association with this indicator in the site.

Partner early life characteristics that were associated with experience of partner violence were partner beaten as a child and partner mother beaten by her husband. However, neither factors were significantly associated with severe abuse in DSM, and partner mother beaten by father, was not significantly associated with moderate physical violence in Mbeya.

Table 8.8a Bivariate age adjusted odds ratios of economic status and socio-demographic characteristics and past 12 month partner violence in DSM: currently partnered women (N=1058)

	Reference category	Physical/sexual N=220		Moderate physical N=104		Sexual dominant N=87		Severe abuse N=29	
		Exp(B)	p-value	Exp(B)	p-value	Exp(B)	p-value	Exp(B)	p-value
Women's economic status	Education in years	1.01	0.727	1.00	0.983	1.04	0.126	0.95	0.165
	Earns income	1.37	0.050	1.64	0.021	1.37	0.168	0.72	0.434
	Owns capital assets *(Doesn't own)*								
	Owns by self	1.84	0.003	2.27	0.002	1.65	0.121	1.23	0.687
	Owns with others	1.16	0.400	1.34	0.250	1.04	0.888	1.01	0.977
	Owns agricultural assets *(Doesn't own)*								
	Owns by self	1.07	0.756	1.36	0.304	0.84	0.614	0.93	0.906
	Owns with others	1.47	0.045	1.63	0.070	1.42	0.221	1.09	0.861
	Owns household assets *(Doesn't own)*								
	Owns by self	1.22	0.415	1.12	0.721	1.49	0.292	1.11	0.851
	Owns with others	1.14	0.609	0.80	0.527	1.87	0.117	1.02	0.972
	Raise cash in emergency	1.01	0.953	1.32	0.177	0.88	0.569	0.59	0.186
	Children *(No children)*								
	Child less than 5	1.07	0.784	0.85	0.608	1.33	0.486	1.63	0.447
	Children over 5 only	1.50	0.163	1.08	0.827	2.31	0.084	1.61	0.534
Partner and household economic status	Education in years	0.99	0.596	1.04	0.133	0.97	0.178	0.89	0.025
	Occupational status (Professional/military/student)								
	Medium scale trader	0.90	0.691	0.98	0.962	0.65	0.303	1.41	0.561
	Skilled/taxi driver	0.86	0.493	0.76	0.366	0.97	0.934	0.88	0.829
	Agriculture	0.76	0.564	0.50	0.356	0.96	0.952	1.17	0.885
	Unskilled/street vendor/unemployed	0.84	0.843	0.73	0.277	0.87	0.678	1.22	0.723
	Partner refused to give money *(Never)*	4.37	<0.001	2.96	0.001	4.33	<0.001	11.46	<0.001
	Household SES *(Low)*								
	Medium/High	1.16	0.362	1.37	0.167	1.13	0.592	0.67	0.347
	Household crowding	1.14	0.022	1.10	0.226	1.16	0.109	1.29	0.099
Relative economic status	Relative education *(Both the same)*								
	Partner has more	1.02	0.889	1.52	0.078	0.63	0.080	1.02	0.957

	Respondent has more	1.16	0.555	1.39	0.364	1.04	0.912	0.94	0.920
	Both have none	0.81	0.711	0.52	0.547	0.83	0.805	1.47	0.709
	Contribution to income *(Neither work)*								
	All/most woman's income	1.77	0.156	1.52	0.539	1.82	0.052	2.46	0.408
	All/most man's income	1.10	0.761	1.53	0.425	1.71	0.580	1.75	0.143
	Both the same	1.96	0.105	4.46	0.011	2.07	0.743	3.13	0.324
	Cohabiting *(Married)*	1.44	0.039	2.06	0.002	0.86	0.603	1.43	0.214
	Frequent alcohol use *(Rarely/never)*	2.13	0.001	2.34	0.006	1.76	0.104	2.61	0.059
	Age of first sex	0.92	0.005	0.95	0.129	0.94	0.130	0.78	0.011
Women's	Mother hit by father *(No)*								
characteristics	Yes	2.36	<0.001	2.31	0.001	2.03	0.004	3.77	0.002
	Don't know	1.16	0.505	1.35	0.309	1.18	0.587	....	...
	At least once good reason to hit	1.51	0.027	1.69	0.032	1.26	0.370	1.77	0.212
	Can't refuse sex	1.60	0.162	1.34	0.521	2.49	0.032	.....	....
	Partner age	0.97	0.047	0.98	0.301	0.96	0.035	0.99	0.680
	Has other women *(No)*								
	Yes	3.43	<0.001	3.03	<0.001	2.91	0.001	8.59	<0.001
	May have/don't know	1.40	0.068	1.04	0.883	1.76	0.020	2.00	0.179
	Problematic alcohol use	7.33	<0.001	6.11	<0.001	6.31	<0.001	17.55	<0.001
	Partner fights with other men *(No)*								
	Yes	3.19	<0.001	3.52	<0.001	1.48	0.482	8.43	<0.001
	Don't know	0.70	0.445	0.24	0.161	0.88	0.835	2.16	0.304
Partner	Partner beaten as a child *(No)*								
characteristics	Yes	2.28	0.002	2.16	0.035	2.75	0.003	1.29	0.744
	Don't know	0.98	0.919	1.05	0.855	0.83	0.523	1.20	0.662
	Partner mother beaten by father *(No)*								
	Yes	2.27	0.002	2.47	0.013	2.04	0.051	2.44	0.152
	Don't know	0.96	0.821	1.15	0.541	0.75	0.245	1.13	0.786
	Relationship type *(Monogamous)*								
	Polygamous	1.36	0.212	1.87	0.047	0.81	0.629	1.55	0.445
	Don't know	2.21	0.003	1.88	0.095	2.65	0.004	2.02	0.249

Table 8.8b Bivariate age adjusted odds ratios of economic status and socio-demographic characteristics and past 12 month partner violence in Mbeya: currently partnered women (N=1026)

	Reference category	Physical and/or sexual N=318		Moderate physical N=128		Sexual dominant N=139		Severe abuse N=51	
		Exp(B)	p-value	Exp(B)	p-value	Exp(B)	p-value	Exp(B)	p-value
Women's economic status	Education in years	0.96	0.088	0.94	0.028	0.99	0.803	0.95	0.203
	Earns income	1.06	0.629	1.02	0.916	0.99	0.950	1.45	0.201
	Owns capital assets *(Doesn't own)*								
	Owns by self	1.18	0.540	1.06	0.855	1.44	0.274	1.09	0.860
	Owns with others	0.96	0.875	0.74	0.297	1.38	0.280	0.83	0.652
	Owns agricultural assets *(Doesn't own)*								
	Owns by self	1.02	0.943	1.04	0.890	0.95	0.869	1.13	0.728
	Owns with others	0.90	0.613	0.74	0.261	1.00	0.998	1.13	0.722
	Owns household assets *(Doesn't own)*								
	Owns by self	1.26	0.159	1.30	0.269	1.28	0.382	1.10	0.807
	Owns with others	0.88	0.386	0.78	0.312	0.96	0.840	0.93	0.825
	Raise cash in emergency	1.07	0.654	0.98	0.943	1.17	0.402	1.04	0.902
	Children *(No children)*								
	Child less than 5	1.22	0.452	1.31	0.434	1.04	0.914	1.67	0.373
	Children over 5 only	0.94	0.858	1.43	0.416	0.53	0.190	1.70	0.528
Partner and household economic status	Education (Years)	0.92	0.025	0.93	0.140	0.93	0.105	0.87	0.002
	Occupational status (Professional/military/student)								
	Medium scale trader	1.19	0.590	0.77	0.679	1.09	0.863	4.98	0.158
	Skilled/taxi driver	1.41	0.227	1.69	0.250	1.19	0.677	1.99	0.475
	Agriculture	1.24	0.328	1.22	0.594	1.02	0.949	3.60	0.212
	Unskilled /street vendor/unemployed	1.19	0.458	1.48	0.353	0.79	0.544	3.09	0.317
	Partner refused to give money *(Never)*	4.30	<0.001	2.93	<0.001	3.72	<0.001	13.16	<0.001
	Household SES *(Low)*								
	Medium/High	1.01	0.954	1.14	0.602	1.02	0.424	0.16	0.071
	Household crowding	1.12	0.095	1.09	0.286	1.09	0.403	1.28	0.082
Relative economic status	Relative education *(Both the same)*								
	Partner has more	1.26	0.188	1.40	0.156	1.17	0.450	1.15	0.671

		Model 1		Model 2		Model 3		Model 4
	Respondent has more	1.83	0.014	1.53	0.228	1.96	0.022	2.26	0.038
	Both have none	2.66	0.003	3.23	0.015	2.35	0.044	1.95	0.361
	Contribution to income *(Neither work)*								
	All/most woman's income	1.91	0.330	0.79	0.771	3.01	0.300	.	.
	All/most man's income	1.18	0.787	0.66	0.580	2.12	0.476	.	.
	Both the same	1.07	0.916	0.50	0.347	1.92	0.535	.	.
	Cohabiting *(Married)*	1.43	0.012	1.01	0.035	1.42	0.057	1.32	0.334
	Frequent alcohol use *(Rarely/never)*	2.17	<0.001	2.69	<0.001	1.71	0.011	2.51	0.018
	Age of first sex	0.92	0.018	0.90	0.024	0.96	0.272	0.87	0.001
Women's characteristics	Mother hit by father *(No)*								
	Yes	1.86	<0.001	1.51	0.062	1.75	0.011	4.47	<0.001
	Don't know	1.50	0.104	1.06	0.884	1.80	0.056	2.37	0.142
	At least once good reason to hit	1.49	0.010	1.14	0.478	1.52	0.070	3.56	0.005
	Can't refuse sex	0.92	0.675	1.08	0.777	0.69	0.141	1.19	0.655
	Partner age	1.02	0.154	1.02	0.374	1.03	0.096	0.98	0.457
	Has other women *(No)*								
	Yes	3.44	<0.001	3.45	<0.001	2.57	<0.001	7.90	<0.001
	May have/don't know	1.83	0.002	1.76	0.025	1.80	0.008	2.17	0.081
	Problematic alcohol use	3.60	<0.001	2.96	<0.001	2.11	0.008	17.20	<0.001
	Partner fights with other men *(No)*								
	Yes	2.62	0.001	2.18	0.036	1.49	0.345	8.26	<0.001
	Don't know	1.22	0.625	1.73	0.333	0.38	0.371	2.60	0.207
Partner characteristics	Partner beaten as a child *(No)*								
	Yes	2.68	<0.001	2.07	0.017	2.77	0.001	4.83	<0.001
	Don't know	1.28	0.054	1.05	0.806	1.24	0.285	2.33	0.004
	Partner mother beaten by father *(No)*								
	Yes	1.95	<0.001	1.12	0.673	1.88	0.012	7.70	<0.001
	Don't know	1.15	0.329	1.15	0.480	0.98	0.926	2.22	0.084
	Relationship type *(Monogamous)*								
	Polygamous	1.65	<0.001	1.79	0.009	1.40	0.115	2.18	0.033
	Don't know	1.22	0.720	1.24	0.801	0.56	0.584	2.94	0.154

Multivariate associations between economic status and socio-demographic characteristics and partner violence – combined sample

Tables 8.9a and 8.9b present the results of the full regression models assessing the relationships with absolute economic status measures (Table 8.6a) and relative economic status measures (Table 8.6b) for DSM and Mbeya combined.

Models 1 & 2, shown in Table 8.6a, present associations with absolute economic status measures and physical and/or sexual partner violence (model 1) and with the LCA-classes of partner violence (model 2). Only one indicator of women's economic status was significantly associated with physical and/or sexual partner violence – women's exclusive ownership of a capital asset increased women's likelihood of experiencing violence by 41% (p=0.050). However, no indicator of women's economic status was significantly associated with the LCA-classes of partner violence.

In the full model, women's education showed no significant associations with partner violence. However, in a model with only women's socio-economic characteristics (Appendix 8, Tables A8.4), there was a suggestive protective association of education with physical and/or sexual partner violence with a (p-value=0.190) and when partner years of education was introduced in the model, the p-value associated with women's years of education increased dramatically (p-value=0.972) – suggesting that partner education maybe a stronger predictor of partner violence than the respondents own education level.[73]

Whether or not the respondent earns money and ownership of household assets generally displayed suggestive risk associations with partner violence. In the descriptive analysis of women's asset wealth, presented in section 8.2, there was some evidence of a correlation between women's partial or exclusive ownership of household assets with household SES. However, in the multivariate analyses, including or excluding household SES in the models did not affect the sign, magnitude or level of significance associated with women's household asset ownership (Appendix 8, Table A8.5). The remaining two indicators of women's economic status, ability to raise cash in an

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[73] The spearman correlation coefficient associated with respondent and partner years of education was 0.502

emergency and the presence of children under five, both displayed suggestive protective associations with partner violence.

When considering partner economic status, by far the strongest association with partner violence was whether or not he had ever refused to give her money even though he had money for other things. The relationship was highly significant for all partner violence measures. The strongest association was with severe abuse which increased the likelihood by five times. Men's education significantly reduced the likelihood that women experienced sexual dominant or severe abuse. However, there was no significant association between the partner occupational status and partner violence – though the suggestion was that lower occupational status reduced women's risk of partner violence (compared with professional occupational status).

There was a positive and significant relationship between household SES and physical and/or sexual partner violence and with moderate physical violence. Respondents in medium/high SES households were 50% more likely to experience physical and/or sexual partner violence and almost 70% more likely to experience moderate physical violence compared with women in low SES households. However, there was a suggestive protective, but not significant, association between household SES and severe abuse. No significant association was found between household crowding and partner violence – though the findings suggested higher household crowding increased women's risk of partner violence.

Other covariates that were significantly and positively associated with partner violence were respondents frequent alcohol use, whether or not the respondent's mother had been hit by her father or mother's boyfriend and attitude to physical violence. Frequent alcohol use increased women's risk of physical and/or sexual partner violence and moderate physical violence and sexual dominant. Whether or not the woman's mother had been beaten by her father raised women's risk of all measures of partner violence with the strongest association being found with severe abuse. Women who believed wife beating to be justified were significantly more likely to experience physical and/or sexual partner violence and severe abuse. There were no significant relationships between women's cohabiting status or mean age of first sex and partner violence – though the coefficients were of the predicted sign i.e. cohabiting was associated with

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higher probabilities of partner violence, and higher mean age of first sex with lower probabilities of partner violence.

However, partner characteristics were more strongly associated with partner violence. For example, whether or not women's partners had other women and problematic alcohol use were significantly associated with all the measures of partner violence – for both indicators the strongest association found was with severe abuse. Partner age, polygamy and fights with other men were not significantly associated with partner violence.

Table 8.6b considers relative economic status. Model 3 presents the findings with physical and/or sexual partner violence, and model 4 with the LCA-classes of partner violence. The findings revealed no significant associations between relative education and relative contribution to household income and partner violence. However, there were suggestive associations of increased risk of all measures of partner violence when women had more education than their partner or if neither the respondent or her partner had been to school, compared to the respondent and her partner having the same level of education. In the model that only included economic variables, both the respondents and their partners having no education was positively and significantly associated with increased physical and/or sexual partner violence (Appendix 8, Table A8.6). All other covariates displayed similar associations to models 1 & 2 that considered absolute economic status measures.

Table 8.9a Multivariate adjusted odds ratios of absolute economic status and socio-demographic characteristics and past 12 month partner violence in DSM and Mbeya combined: currently partnered women (N=1933)

	Reference category	Model 1 (N=1933) Physical or sexual (n=501)		Model 2 (N=1933) Moderate physical (n=213)		Sexual dominant (n=209)		Severe abuse (n=79)	
		Exp(B)	p-value	Exp(B)	p-value	Exp(B)	p-value	Exp(B)	p-value
	Mbeya *(DSM)*	1.22	0.247	1.21	0.395	1.36	0.175	0.97	0.929
	Education in years	1.00	0.926	0.95	0.079	1.04	0.183	1.03	0.488
	Earns income	1.03	0.777	1.17	0.352	0.93	0.694	1.05	0.873
	Owns capital assets *(Doesn't own)*								
	Owns by self	1.41	0.050	1.44	0.111	1.52	0.089	0.91	0.835
	Owns with others	1.26	0.142	1.24	0.281	1.36	0.139	0.93	0.855
Women's	Owns household assets *(Doesn't own)*								
economic status	Owns by self	1.26	0.160	1.29	0.301	1.10	0.657	1.85	0.115
	Owns with others	1.10	0.569	0.93	0.772	1.17	0.470	1.62	0.206
	Raise cash in emergency	0.99	0.915	1.00	0.999	0.98	0.878	0.91	0.752
	Children *(No children)*								
	Child less than 5	0.88	0.512	0.79	0.330	0.96	0.906	0.94	0.894
	Children over 5 only	0.76	0.247	0.82	0.481	0.71	0.346	0.69	0.554
	Partner education in years	0.96	0.087	1.01	0.692	0.92	0.002	0.90	0.035
	Occupational status (Professional/military/student)								
	Medium scale trader	1.12	0.664	1.18	0.623	0.99	0.984	1.34	0.619
	Skilled/taxi driver	1.07	0.758	1.10	0.758	1.22	0.558	0.67	0.494
Partner and	Agriculture	0.78	0.310	0.80	0.470	0.82	0.542	0.61	0.377
household	Unskilled/street vendor/unemployed	0.84	0.463	0.97	0.913	0.79	0.467	0.63	0.448
economic status	Partner refused to give money *(Never)*	2.63	<0.001	1.88	0.008	2.93	<0.001	5.23	<0.001
	Household SES *(Low)*								
	Medium/High	1.50	0.011	1.69	0.014	1.47	0.082	0.89	0.801
	Household crowding	1.09	0.095	1.11	0.126	1.06	0.485	1.20	0.225
Women's	Cohabiting *(Married)*	1.26	0.096	1.41	0.051	1.18	0.375	1.01	0.965
characteristics	Frequent alcohol use *(Rarely/ never)*	1.94	<0.001	2.30	<0.001	1.66	0.010	1.64	0.181

Age of first sex	0.97	0.184	0.97	0.341	0.97	0.409	0.92	0.158
Mother hit by father *(No)*								
Yes	1.77	<0.001	1.62	0.007	1.65	0.009	3.49	<0.001
Don't know	1.09	0.668	1.01	0.953	1.29	0.341	0.67	0.435
At least once good reason to hit	1.32	0.036	1.13	0.444	1.39	0.088	2.15	0.031
Can't refuse sex	1.03	0.893	0.94	0.805	1.09	0.732	1.44	0.523
Partner age	0.99	0.175	0.98	0.127	1.00	0.787	0.97	0.117
Relationship type *(Monogamous)*								
Polygamous	1.30	0.598	1.43	0.086	0.81	0.365	1.10	0.795
Don't know	1.30	0.428	1.26	0.586	1.36	0.462	0.96	0.949
Partner has other women *(No)*								
Yes	2.44	<0.001	2.57	<0.001	2.12	0.001	3.46	<0.001
May have/don't know	1.35	0.056	1.17	0.451	1.51	0.029	1.74	0.118
Partner problematic alcohol use	2.60	<0.001	2.41	<0.001	1.84	0.019	6.98	<0.001
Partner fights with other men *(No)*								
Yes	1.15	0.551	1.40	0.280	0.68	0.264	1.86	0.095
Don't know	0.64	0.230	0.73	0.612	0.38	0.114	1.28	0.673
Partner beaten as a child *(No)*								
Yes	2.05	<0.001	1.70	0.058	2.51	<0.001	1.57	0.258
Don't know	1.16	0.228	1.02	0.905	1.18	0.373	1.70	0.043
Partner mother beaten by father *(No)*								
Yes	1.14	0.465	0.88	0.619	1.18	0.449	2.12	0.044
Don't know	0.88	0.322	1.03	0.840	0.71	0.056	1.17	0.683

(Row label at left, spanning the partner rows: **Partner characteristics**)

LOGIT MODEL (Physical and/or sexual partner violence): Psuedo R^2 0.161; correctly predicted – 77.8%

MULTINOMIAL LOGIT MODEL (LCA-classes of partner violence): Psuedo R^2 0.153

Table 8.9b Multivariate adjusted odds ratios of relative economic status and socio-demographic characteristics and past 12 month partner violence in DSM and Mbeya combined: currently partnered women (N=1944)

	Reference category	Model 3 (N=1944) Physical or sexual (n=504)		Moderate physical (n=215)		Model 4 (N=1944) Sexual dominant (n=210)		Severe abuse (n=79)	
		Exp(B)	p-value	Exp(B)	p-value	Exp(B)	p-value	Exp(B)	p-value
	Mbeya *(DSM)*	1.11	0.503	1.05	0.810	1.27	0.237	0.85	0.597
	Owns capital assets *(Doesn't own)*								
	Owns by self	1.38	0.057	1.46	0.081	1.42	0.133	0.99	0.983
	Owns with others	1.23	0.180	1.21	0.338	1.30	0.204	0.98	0.967
	Owns household assets *(Doesn't own)*								
Women's	Owns by self	1.30	0.106	1.41	0.152	1.06	0.780	1.90	0.094
economic status	Owns with others	1.05	0.401	1.02	0.950	1.16	0.482	1.68	0.182
	Raise cash in emergency	0.98	0.871	1.07	0.721	0.92	0.625	0.85	0.595
	Children *(No children)*								
	Child less than 5	0.89	0.552	0.82	0.396	0.97	0.924	0.95	0.900
	Children over 5 only	0.79	0.319	0.85	0.566	0.75	0.425	0.70	0.551
	Partner refused to give money *(Never)*	2.61	<0.001	1.94	0.006	2.73	<0.001	5.55	<0.001
Partner and	Household SES *(Low)*								
household	Medium/High	1.40	0.009	1.64	0.010	1.42	0.071	0.92	0.841
economic status	Household crowding	1.09	0.094	1.11	0.121	1.06	0.518	1.21	0.202
	Relative education *(Both the same)*								
	Partner has more	1.06	0.684	1.40	0.065	0.82	0.271	0.89	0.700
	Respondent has more	1.39	0.112	1.37	0.283	1.38	0.185	1.54	0.247
Relative	Both have none	1.77	0.069	2.24	0.069	1.48	0.342	1.54	0.573
economic status	Contribution to income *(Neither work)*								
	All/most woman's income	1.23	0.614	0.90	0.880	2.05	0.227	0.76	0.758
	All/most man's income	1.20	0.582	1.32	0.632	1.62	0.374	0.45	0.286
	Both contribute the same	1.21	0.610	1.45	0.540	1.38	0.589	0.69	0.650

Women's characteristics	Cohabiting *(Married)*	1.26	0.087	1.43	0.045	1.18	0.364	1.02	0.929
	Frequent alcohol use *(Rarely/never)*	1.88	<0.001	2.23	<0.001	1.62	0.014	1.52	0.266
	Age of first sex	0.96	0.116	0.96	0.200	0.97	0.396	0.40	0.127
	Mother hit by father *(No)*								
	Yes	1.75	<0.001	1.60	0.009	1.65	0.008	3.25	<0.001
	Don't know	1.09	0.654	0.99	0.965	1.33	0.274	0.64	0.395
	At least once good reason to hit	1.35	0.022	1.18	0.305	1.40	0.078	2.20	0.029
	Can't refuse sex	1.02	0.917	0.97	0.922	1.04	0.879	1.36	0.584
Partner characteristics	Partner age	0.98	0.134	0.98	0.015	1.00	0.766	0.97	0.108
	Relationship type *(Monogamous)*								
	Polygamous	1.10	0.522	1.43	0.086	0.83	0.421	1.14	0.743
	Don't know	1.34	0.369	1.34	0.479	1.37	0.436	1.00	0.996
	Partner has other women *(No)*								
	Yes	2.42	<0.001	2.54	<0.001	2.13	0.001	3.29	<0.001
	May have/don't know	1.37	0.041	1.17	0.455	1.56	0.017	1.70	0.136
	Partner problematic alcohol use	2.58	<0.001	2.35	<0.001	1.92	0.009	6.76	<0.001
	Partner fights with other men *(No)*								
	Yes	1.18	0.488	1.42	0.261	0.69	0.297	1.96	0.067
	Don't know	0.63	0.227	0.72	0.609	0.37	0.108	1.21	0.752
	Partner beaten as a child *(No)*								
	Yes	1.97	0.001	1.73	0.041	2.33	0.001	1.62	0.240
	Don't know	1.15	0.279	1.00	0.998	1.18	0.362	1.68	0.051
	Partner mother beaten by father *(No)*								
	Yes	1.13	0.488	0.84	0.501	1.21	0.380	2.12	0.043
	Don't know	0.86	0.231	0.98	0.911	0.70	0.045	1.13	0.749

LOGIT MODEL (Physical and/or sexual partner violence): Psuedo R^2 0.161; correctly predicted – 77.9%
MULTINOMIAL LOGIT MODEL (LCA-classes of partner violence): Psuedo R^2 0.153

The relationship between the different indicators of economic status and partner violence were then assessed separately for DSM and Mbeya.

Multivariate associations between economic status and partner violence in DSM

Table 8.10a presents the multivariate results of the absolute economic status measures and partner violence in DSM – model 5 with physical and/or sexual partner violence and model 6 with the LCA-classes of partner violence. In the multivariate models very few indicators of women's economic status were significantly associated with partner violence, and in general, most indicators displayed a suggestive risk association.

The significant relationship found in the bivariate analyses between earns money and physical and/or sexual partner violence and moderate physical violence disappears in the multivariate model. However, the positive and significant relationship between women's exclusive ownership of capital assets and physical and/or sexual partner violence remains – the only significant indicator of women's economic status.

The relationships between partner violence and women's education though not significant were mixed. Women's higher education decreased the likelihood of moderate physical violence but increased the likelihood of sexual dominant and severe abuse. Women's ability to raise cash in an emergency was suggestively associated with a lower likelihood of partner violence – the only indicator of women's economic status to consistently show a protective relationship with partner violence.

The strongest predictor of partner economic status associated partner violence was partner's refusal to give the respondent money - significant with all measures of partner violence and with the strongest association found with severe abuse. However, the protective association found in the bivariate analysis between partner education and severe abuse disappears in the multivariate models – though has a marginally insignificant (p=0.051) protective association with sexual dominant violence. The significant risk association between household crowding and physical and sexual partner violence remains and in addition, becomes significantly associated with a higher risk of moderate physical violence.

The only other respondent covariate significantly associated with a higher risk of partner violence was the respondent's mother being hit by her father or mother's boyfriend – a finding that was only just not significant with moderate physical violence. Significant partner covariates include partner age; partner has other women and partner problematic alcohol use. Higher partner age significantly reduced the likelihood of physical and/or sexual violence and sexual dominant, and this was the only significant protective indicator. Partner has other women and partner problematic alcohol use both were significantly associated with higher partner violence with the strongest associations found with severe abuse.

In the multivariate model that considers relative economic resources (Table 8.10b; Models 7 & 8), the only significant association found was that, compared to neither the respondents or their partners working, both contributing the same amount to household income were five times more likely to experience moderate physical violence.

The other covariates that were significantly associated with partner violence showed very similar results to that in the absolute economic status model. The only notable difference being that women's uncertainty about whether or not they were in a monogamous relationship was significantly associated with higher physical and/or sexual partner violence and with sexual dominant violence.

Table 8.10a Multivariate adjusted odds ratios of absolute economic status and socio-demographic characteristics and past 12 month partner violence in DSM: currently partnered women (N=980)

		Model 5 (N=980) Physical or sexual (n=204)		Moderate physical (n=94)		Model 6 (N=980) Sexual dominant (n=81)		Severe abuse (n=29)	
	Reference category	Exp(B)	p-value	Exp(B)	p-value	Exp(B)	p-value	Exp(B)	p-value
	Education in years	1.02	0.494	0.97	0.451	1.09	0.098	1.07	0.465
	Earns income	1.17	0.458	1.41	0.221	1.11	0.717	0.69	0.532
	Owns capital assets *(Doesn't own)*								
	Owns by self	1.71	0.050	1.65	0.170	1.94	0.106	1.07	0.914
	Owns with others	1.42	0.107	1.75	0.057	1.20	0.569	1.28	0.675
Women's	Owns household assets *(Doesn't own)*								
economic status	Owns by self	1.34	0.340	1.09	0.820	1.43	0.446	2.82	0.134
	Owns with others	1.22	0.521	0.78	0.559	1.78	0.200	1.83	0.382
	Raise cash in emergency	0.90	0.611	0.93	0.803	0.85	0.590	0.77	0.646
	Children *(No children)*								
	Child less than 5	0.86	0.518	0.65	0.165	1.19	0.734	1.65	0.481
	Children over 5 only	1.12	0.743	0.85	0.678	1.80	0.333	1.46	0.657
	Partner education in years	0.99	0.747	1.08	0.085	0.93	0.051	0.87	0.100
	Occupational status (Professional/military/student)								
	Medium scale trader	0.93	0.812	1.25	0.594	0.65	0.353	0.93	0.921
	Skilled/taxi driver	0.92	0.792	0.95	0.905	1.03	0.940	0.63	0.493
Partner and	Agriculture	0.68	0.475	0.71	0.685	0.77	0.753	0.42	0.396
household	Unskilled /street vendor/unemployed	0.77	0.396	0.82	0.619	0.81	0.608	0.55	0.435
economic status	Partner refused to give money *(Never)*	2.92	<0.001	2.26	0.044	3.15	0.002	4.87	0.001
	Household SES *(Low)*								
	Medium/High	1.37	0.200	1.50	0.215	1.22	0.550	1.08	0.912
	Household crowding	1.20	0.019	1.21	0.044	1.16	0.194	1.33	0.222
	Cohabiting *(Married)*	0.97	0.853	1.42	0.214	0.57	0.097	0.71	0.542
Women's	Frequent alcohol use *(Rarely/never)*	1.66	0.082	1.69	0.170	1.48	0.362	2.14	0.237
characteristics	Age of first sex	0.95	0.220	0.97	0.602	0.95	0.437	0.83	0.083

Mother hit by father *(No)*									
Yes	2.06	0.002	1.71	0.053	2.25	0.007	2.98	0.016
Don't know	1.27	0.389	1.59	0.180	1.31	0.526	0.23	0.182
At least once good reason to hit	1.43	0.115	1.58	0.113	1.30	0.433	1.57	0.398
Can't refuse sex	0.76	0.517	0.84	0.781	0.48	0.161	.....	....
Partner age	0.96	0.015	0.95	0.047	0.95	0.054	0.98	0.460
Relationship type *(Monogamous)*									
Polygamous	1.06	0.854	1.52	0.297	0.66	0.472	0.81	0.730
Don't know	1.86	0.058	1.65	0.243	2.21	0.054	1.30	0.732
Partner has other women *(No)*									
Yes	2.66	<0.001	2.79	0.001	2.27	0.022	4.93	0.007
May have/don't know	1.25	0.333	1.01	0.969	1.48	0.202	1.73	0.370
Partner problematic alcohol use	5.32	<0.001	4.02	0.001	5.50	<0.001	9.61	<0.001
Partner fights with other men *(No)*									
Yes	1.23	0.571	1.86	0.170	0.51	0.222	2.34	0.128
Don't know	0.47	0.121	0.24	0.111	0.49	0.397	1.59	0.628
Partner beaten as a child *(No)*									
Yes	1.43	0.235	1.31	0.560	1.98	0.112	0.65	0.520
Don't know	1.09	0.691	1.15	0.654	1.02	0.956	1.17	0.780
Partner mother beaten by father *(No)*									
Yes	1.05	0.901	1.29	0.611	0.89	0.812	0.93	0.912
Don't know	0.71	0.095	0.88	0.666	0.55	0.052	0.62	0.358

(row label at left: **Partner characteristics**)

LOGIT MODEL (Physical and/or sexual partner violence): Psuedo R^2 0.195; correctly predicted – 82.0%

MULTINOMIAL LOGIT MODEL (LCA-classes of partner violence): Psuedo R^2 0.200

Table 8.10b Multivariate adjusted odds ratios of relative economic status and socio-demographic characteristics and past 12 month partner violence in DSM: currently partnered women (N=987)

	Reference category	Model 7 (N=987) Physical or sexual (n=206)		Moderate physical (n=96)		Model 8 (N=987) Sexual dominant (n=81)		Severe abuse (n=29)	
		Exp(B)	p-value	Exp(B)	p-value	Exp(B)	p-value	Exp(B)	p-value
Women's economic status	Owns capital assets *(Doesn't own)*								
	Owns by self	1.76	0.029	1.80	0.068	1.93	0.086	1.00	0.999
	Owns with others	1.40	0.117	1.72	0.059	1.18	0.606	1.19	0.764
	Owns household assets *(Doesn't own)*								
	Owns by self	1.34	0.269	1.24	0.589	1.32	0.554	2.61	0.166
	Owns with others	1.24	0.491	0.87	0.736	1.68	0.250	1.49	0.588
	Raise cash in emergency	0.93	0.707	1.04	0.885	0.83	0.528	0.76	0.595
	Children *(No children)*								
	Child less than 5	0.88	0.632	0.70	0.256	1.18	0.739	1.58	0.495
	Children over 5 only	1.11	0.759	0.83	0.617	1.85	0.300	1.38	0.674
Partner and household economic status	Partner refused to give money *(Never)*	2.93	<0.001	2.21	0.054	2.84	0.005	6.22	<0.001
	Household SES *(Low)*								
	Medium/High	1.46	0.103	1.70	0.074	1.25	0.459	1.09	0.879
	Household crowding	1.20	0.200	1.20	0.041	1.14	0.259	1.34	0.223
Relative economic status	Relative education *(Both the same)*								
	Partner has more	0.98	0.927	1.46	0.191	0.61	0.129	0.97	0.952
	Respondent has more	1.15	0.625	1.29	0.540	1.10	0.818	1.25	0.754
	Both have none	0.80	0.753	0.53	0.577	0.75	0.808	1.74	0.544
	Contribution to income *(Neither work)*								
	All/most woman's income	1.54	0.399	1.16	0.864	3.54	0.086	0.26	0.278
	All/most man's income	1.36	0.466	1.91	0.317	1.68	0.439	0.47	0.368
	Both contribute the same	1.98	0.200	5.00	0.024	0.96	0.965	0.38	0.432
Women's characteristics	Cohabiting *(Married)*	0.95	0.803	1.36	0.275	0.59	0.114	0.67	0.473
	Frequent alcohol use *(Rarely/never)*	1.67	0.079	1.67	0.189	1.55	0.293	2.11	0.261
	Age of first sex	0.95	0.251	0.97	0.574	0.97	0.602	0.85	0.136

	Mother hit by father *(No)*							
	Yes	2.10	0.001	1.72	0.051	2.29	0.005	2.89	0.015
	Don't know	1.25	0.412	1.47	0.253	1.36	0.448	0.22	0.181
	At least once good reason to hit	1.41	0.139	1.62	0.098	1.20	0.575	1.64	0.352
	Can't refuse sex	0.78	0.560	1.00	0.997	0.44	0.108	1.00	
	Partner age	0.96	0.019	0.96	0.123	0.95	0.044	0.98	0.517
	Relationship type *(Monogamous)*								
	Polygamous	1.07	0.838	1.51	0.292	0.67	0.467	0.80	0.736
	Don't know	1.94	0.041	1.81	0.163	2.18	0.043	1.34	0.693
	Partner has other women *(No)*								
	Yes	2.66	<0.001	2.67	0.001	2.42	0.012	4.63	0.008
	May have/don't know	1.24	0.341	0.93	0.832	1.60	0.122	1.77	0.334
Partner characteristics	Partner problematic alcohol use	5.22	<0.001	3.90	0.001	5.33	<0.001	8.97	<0.001
	Partner fights with other men *(No)*								
	Yes	1.23	0.575	1.83	0.171	0.47	0.198	2.71	0.083
	Don't know	0.47	0.129	0.23	0.058	0.49	0.339	1.72	0.575
	Partner beaten as a child *(No)*								
	Yes	1.52	0.206	1.44	0.413	1.86	0.164	0.71	0.636
	Don't know	1.06	0.791	1.06	0.857	1.05	0.885	1.08	0.897
	Partner mother beaten by father *(No)*								
	Yes	1.03	0.936	1.26	0.629	0.89	0.817	0.94	0.922
	Don't know	0.71	0.087	0.90	0.719	0.54	0.051	0.58	0.270

LOGIT MODEL (Physical and/or sexual partner violence): Psuedo R^2 0.197; correctly predicted – 81.9%
MULTINOMIAL LOGIT MODEL (LCA-classes of partner violence): Psuedo R^2 0.204

Multivariate associations between women's and partner economic status and partner violence in Mbeya

The multivariate results of absolute economic status measures and partner violence in Mbeya are shown in Table 8.11a. Model 9 presents the results with physical and/or sexual partner violence and model 10 with the LCA-classes of partner violence.

The significant protective association found in the bivariate analyses between women's education and moderate physical violence disappears. However, new significant associations emerge – partial ownership of capital assets reduces women's risk of severe abuse, however, women's exclusive ownership of household assets raises their risk of physical and/or sexual partner violence. The relationships between education and earns and income and partner violence, though not significant, is mixed. While both indicators display a suggestive protective association with physical and/or sexual partner violence, there is a suggestive risk association between educational attainment and sexual dominant and severe abuse, and between earns income and severe abuse.

While there is no significant relationship between presence of a child under five and violence, presence of a child only over 12 years showed a significant protective association with physical and/or sexual partner violence and with sexual dominant.

When considering the partner characteristics, the protective association between partner educational level and physical and/or sexual partner violence found in the bivariate analyses remains, however, the protective and significant association found with severe abuse disappears – though the finding is suggestive protective. Despite this, the strong and significant risk association between partner refusing to give the respondent money and all measures of partner violence remains and with the strongest association found with severe abuse. There was also a significant positive relationship between household SES and moderate physical violence, and a suggestive risk association between higher household crowding and all measures of partner violence.

When considering other covariates, women's frequent alcohol was significantly associated with higher partner violence – the relationship with severe abuse being the only non-significant one. Being in a cohabiting relationship was associated with higher

partner violence – the relationship with severe abuse being the only significant one, and mean age of first sex displayed a suggestive protective association with all measures of partner violence. Mother hit by father was associated with higher partner violence and significantly with physical and/or sexual partner violence and severe abuse.

Partner characteristics significantly and strongly associated with higher partner violence were: partner has other women; problematic alcohol use; and beaten as a child.

In the multivariate model that considers relative economic status, there were no significant associations between relative contribution to household income with any of the measures of partner violence (Table 8.11b). However, where both women and their partner have no education, the risk of physical and/or sexual violence was 2.5 times higher when compared with both having some and the same level of education. The relationship held for moderate physical violence but not for sexual dominant or severe abuse.

Table 8.11a Multivariate adjusted odds ratios of absolute economic status and socio-demographic characteristics and past 12 month partner violence in Mbeya: currently partnered women (N=953)

		Model 9 (N=953) Physical or sexual (n=297)		Moderate physical (n=119)		Model 10 (N=953) Sexual dominant (n=128)		Severe abuse (n=50)	
	Reference category	Exp(B)	p-value	Exp(B)	p-value	Exp(B)	p-value	Exp(B)	p-value
	Education in years	0.98	0.444	0.94	0.097	1.01	0.695	1.03	0.609
	Earns income	0.95	0.745	1.01	0.965	0.78	0.401	1.68	0.187
	Owns capital assets *(Doesn't own)*								
	Owns by self	1.09	0.764	0.99	0.982	1.46	0.307	0.43	0.166
	Owns with others	1.07	0.805	0.86	0.606	1.69	0.148	0.38	0.045
Women's	Owns household assets *(Doesn't own)*								
economic status	Owns by self	1.49	0.029	1.60	0.110	1.36	0.253	1.34	0.577
	Owns with others	1.12	0.601	1.07	0.843	1.02	0.933	2.11	0.128
	Raise cash in emergency	1.12	0.501	1.04	0.886	1.20	0.396	1.15	0.728
	Children *(No children)*								
	Child less than 5	0.92	0.774	1.22	0.631	0.75	0.484	0.55	0.350
	Children over 5 only	0.49	0.062	0.99	0.980	0.26	0.010	0.25	0.160
	Partner education (Years)	0.93	0.105	0.96	0.468	0.91	0.061	0.89	0.192
	Occupational status (Professional/military/student)								
	Medium scale trader	1.42	0.425	0.85	0.822	1.68	0.448	7.06	0.097
	Skilled/taxi driver	1.17	0.688	1.31	0.578	1.26	0.687	0.63	0.641
Partner and	Agriculture	0.78	0.494	0.81	0.658	0.81	0.689	0.80	0.827
household	Unskilled /street								
economic status	vendor/unemployed	0.77	0.501	1.01	0.985	0.64	0.402	0.71	0.762
	Partner refused to give money *(Never)*	2.84	<0.001	1.92	0.024	3.33	<0.001	5.58	<0.001
	Household SES *(Low)*								
	Medium/High	1.61	0.056	1.95	0.041	1.70	0.137	0.25	0.209
	Household crowding	1.03	0.731	1.03	0.758	1.00	0.982	1.14	0.558
	Cohabiting *(Married)*	1.37	0.066	1.24	0.349	1.56	0.051	1.76	0.080
Women's	Frequent alcohol use *(Rarely/never)*	2.07	<0.001	2.58	0.001	1.70	0.042	1.51	0.415
characteristics	Age of first sex	0.94	0.441	0.97	0.454	0.98	0.658	1.01	0.885

Mother hit by father *(No)*								
Yes	1.65	0.013	1.47	0.111	1.62	0.067	5.20	0.001
Don't know	1.00	0.978	0.65	0.262	1.42	0.400	1.60	0.517
At least once good reason to hit	1.14	0.220	0.92	0.676	1.38	0.207	3.89	0.010
Can't refuse sex	1.18	0.459	1.05	0.883	1.54	0.100	0.96	0.956
Partner age	1.00	0.916	0.99	0.488	1.02	0.402	0.97	0.369
Relationship type *(Monogamous)*								
Polygamous	1.14	0.493	1.49	0.130	0.84	0.510	1.19	0.731
Don't know	0.55	0.444	0.64	0.681	0.31	0.327	0.51	0.483
Partner has other women *(No)*								
Yes	2.23	<0.001	2.47	0.002	1.96	0.019	2.50	0.009
May have/don't know	1.46	0.098	1.31	0.409	1.61	0.075	2.20	0.064
Partner problematic alcohol use	1.76	0.012	1.78	0.011	0.96	0.911	8.36	<0.001
Partner fights with other men *(No)*								
Yes	0.97	0.015	0.88	0.786	0.76	0.567	1.68	0.357
Don't know	0.97	0.956	1.80	0.472	0.27	0.193	1.23	0.814
Partner beaten as a child *(No)*								
Yes	2.30	0.002	1.91	0.071	2.64	0.010	2.42	0.172
Don't know	1.24	0.186	0.99	0.968	1.31	0.252	2.39	0.011
Partner mother beaten by father *(No)*								
Yes	1.36	0.152	0.81	0.484	1.52	0.130	5.87	0.002
Don't know	1.05	0.761	1.13	0.547	0.82	0.410	2.97	0.044

(Row group label at left: **Partner characteristics**)

LOGIT MODEL (Physical and/or sexual partner violence): Psuedo R^2 0.149; correctly predicted – 74.5%

MULTINOMIAL LOGIT MODEL (LCA-classes of partner violence): Psuedo R^2 0.174

Table 8.11b Multivariate adjusted odds ratios of relative economic status and socio-demographic characteristics and past 12 month partner violence in Mbeya: currently partnered women (N=957

	Reference category	Model 11 (N=957) Physical or sexual (n=298)		Moderate physical (n=119)		Model 12 (N=957) Sexual dominant (n=129)		Severe abuse (n=50)	
		Exp(B)	p-value	Exp(B)	p-value	Exp(B)	p-value	Exp(B)	p-value
Women's economic status	Owns capital assets *(Doesn't own)*								
	Owns by self	1.04	0.880	0.80	0.954	1.09	0.491	0.37	0.215
	Owns with others	1.02	0.928	0.65	0.479	1.23	0.260	0.41	0.137
	Owns household assets *(Doesn't own)*								
	Owns by self	1.45	0.040	1.81	0.092	1.33	0.406	1.57	0.496
	Owns with others	1.17	0.462	1.13	0.676	1.02	0.898	1.92	0.133
	Raise cash in emergency	1.09	0.573	1.16	0.745	1.12	0.605	1.07	0.710
	Children *(No children)*								
	Child less than 5	0.90	0.722	1.05	0.735	0.73	0.496	0.63	0.494
	Children over 5 only	0.50	0.060	0.81	0.858	0.26	0.013	0.35	0.245
Partner and household economic status	Partner refused to give money *(Never)*	2.79	<0.001	1.81	0.026	2.88	<0.001	6.34	<0.001
	Household SES *(Low)*								
	Medium/High	1.59	0.042	1.39	0.038	1.26	0.060	0.25	0.300
	Household crowding	1.03	0.695	1.04	0.785	1.01	0.962	1.22	0.479
Relative economic status	Relative education *(Both the same)*								
	Partner has more	1.21	0.340	1.41	0.204	1.03	0.758	0.95	0.972
	Respondent has more	1.68	0.057	1.67	0.227	1.76	0.114	2.60	0.099
	Both have none	2.46	0.025	2.77	0.036	2.06	0.124	1.63	0.597
	Contribution to income *(Neither work)*								
	All/most woman's income	0.78	0.759	0.47	0.432	1.09	0.966		
	All/most man's income	0.78	0.729	0.57	0.529	1.06	0.987		
	Both contribute the same	0.72	0.653	0.42	0.365	0.94	0.948		
Women's characteristics	Cohabiting *(Married)*	1.40	0.041	1.47	0.214	1.73	0.040	1.69	0.198
	Frequent alcohol use *(Rarely/never)*	2.09	<0.001	2.67	<0.001	1.67	0.032	1.64	0.359
	Age of first sex	0.97	0.298	0.93	0.227	0.97	0.642	0.98	0.982

		OR	p	OR	p	OR	p	OR	p
	Mother hit by father *(No)*								
	Yes	1.62	0.016	1.46	0.111	1.63	0.072	5.30	0.005
	Don't know	1.01	0.970	0.67	0.292	1.45	0.398	1.55	0.620
	At least once good reason to hit	1.27	0.154	0.99	0.817	1.48	0.155	3.04	0.010
	Can't refuse sex	1.16	0.481	1.04	0.991	1.53	0.115	1.16	0.889
	Partner age	1.00	0.843	0.98	0.397	1.02	0.342	0.97	0.315
	Relationship type *(Monogamous)*								
	Polygamous	1.17	0.391	1.71	0.138	0.95	0.581	1.52	0.525
	Don't know	0.56	0.461	0.68	0.756	0.33	0.369	0.51	0.523
	Partner has other women *(No)*								
	Yes	2.15	<0.001	2.57	0.002	1.99	0.022	2.36	0.047
	May have/don't know	1.53	0.066	1.55	0.269	1.80	0.046	1.76	0.230
Partner	Partner problematic alcohol use	1.70	0.013	1.68	0.025	1.03	0.985	5.68	<0.001
characteristics	Partner fights with other men *(No)*								
	Yes	1.05	0.884	0.97	0.914	0.85	0.673	2.04	0.180
	Don't know	1.03	0.963	3.00	0.470	0.39	0.262	1.82	0.763
	Partner beaten as a child *(No)*								
	Yes	2.21	0.002	1.81	0.080	2.39	0.008	2.53	0.103
	Don't know	1.23	0.201	1.07	0.954	1.42	0.258	2.64	0.018
	Partner mother beaten by father *(No)*								
	Yes	1.38	0.129	0.80	0.514	1.57	0.102	5.21	0.005
	Don't know	1.01	0.929	1.05	0.720	0.80	0.340	2.58	0.072

LOGIT MODEL (Physical and/or sexual partner violence): Psuedo R^2 0.147; correctly predicted – 73.5%

MULTINOMIAL LOGIT MODEL (LCA-classes of partner violence): Psuedo R^2 0.168

8.2.5 Exploring the effect of women earning money on partner violence using propensity score matching

In this sub-section, I present findings from the PSM analysis I conducted to estimate an unbiased effect of women earning money on their vulnerability to partner violence.

Table 8.12 provides a summary of the sample characteristics by whether or not the respondents earn money (treatment and control group). The findings reveal that, in DSM, women who earn money are on average slightly more than three years older and have almost one more year of schooling than women who do not earn money, and the difference between the two groups for both variables is significant. In addition, proportionately fewer women who earn money have a child less than five years of age (p=0.014). However, there were no significant differences in the proportion of women married or who had a child less than 12 years of age.

In Mbeya the only covariates that were significantly different between women who earn money and women who do not were women's age and presence of a child under five. Women who earn money were on average slightly more than two years older and were less likely to have a child under five than women who did not earn money.

Table 8.12 Descriptive characteristics by whether or not women earn money in DSM and Mbeya

DSM	Total	Earns money (N=492)	Doesn't earn money (N=566)	p-value
Age Mean *(Std. dev)*	31.27 *(8.13)*	32.91 *(7.71)*	29.85 *(8.22)*	<0.001
Education years Mean *(Std. dev)*	6.60 *(3.64)*	7.07 *(3.05)*	6.20 *(3.40)*	<0.001
Married (%)	77.2	79.1	75.6	0.182
Child <5 (%)	51.6	47.6	55.1	0.014
Child < 12 (%)	77.7	77.0	78.3	0.63
Mbeya	**Total**	**Earns money (N=366)**	**Doesn't earn money (N=660)**	**p-value**
Age Mean *(Std. dev)*	29.59 *(7.76)*	30.40 *(7.74)*	28.13 *(7.59)*	<0.001
Education years Mean *(Std. dev)*	5.16 *(3.34)*	5.07 *(3.36)*	5.34 *(3.30)*	0.216
Married (%)	66.7	68.2	63.9	0.167
Child <5 (%)	68.6	66.2	73.0	0.026
Child < 12 (%)	86.7	86.5	86.9	0.867

Table 8.13 displays the propensity scores for the treated and control group within the region of common support. In both sites, there was a highly significant difference in the

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mean propensity score between women who earn money and women who did not (p<0.001), confirming that women who earn money are different to women who do not earn money.

Table 8.13 Summary statistics of propensity score

DSM	Total (N=1049)	Earns money (N=992)	Doesn't earn money (N=557)
Mean propensity score *(Std. dev)*	0.468 *(0.122)*	0.499 *(0.114)*	0.441 *(0.122)* ***
Min	0.087	0.087	0.162
Max	0.756	0.718	0.756

Mbeya	Total (N=1014)	Earns money (N=660)	Doesn't earn money (N=354)
Mean propensity score *(Std. dev)*	0.645 *(0.074)*	0.653 *(0.071)*	0.632 *(0.079)* ***
Min	0.458	0.458	0.460
Max	0.767	0.767	0.765

***p<0.001

Table 8.14 shows the results of estimated treatment effect on the treated of whether or not women earn money on partner violence. The analysis used the four matching algorithms (Nearest neighbour, Kernal, Stratified and Radius) described in Chapter 6.2. In DSM there was a positive effect of earning money on women's experience of physical and/or sexual partner violence. The treatment effect ranged from 3.4% (Nearest neighbour estimator) to 7.6% (Radius estimator=0.00005). The effect was significant for two Radius estimates r=00001 (p<0.1) and r=0.000005 (p<0.05). However, in Mbeya, no significant effect was found with any of the PSM algorithms and the magnitude of all estimated effects was less than 2%.

The results of the estimated treatment effects on the treated of earning money on the LCA-classes of partner violence are shown in Table 8.15. The analysis used three of the matching algorithms (Nearest neighbour, Kernal and Stratified). Estimates using the Radius algorithm were not calculated because the reduced sample sizes made matching within the radius computationally difficult. In DSM, the findings from all three estimators show a positive and significant impact of earning money on women's experience of moderate physical violence. The impact of earning money ranged from between 4% (Kernal estimator) to 6% (Nearest neighbour) on the likelihood of experiencing moderate physical violence. However, there was no significant impact of earning money on women's experience of sexual dominant violence or severe abuse. In

Mbeya, the estimated effects of earning money on all three LCA-classes of partner violence were negligible – most estimates showed a less than 1% effect. In addition, all the estimated impacts for all LCA-classes of partner violence were highly insignificant.

Table 8.14 Estimated treatment effect of earning money on past 12 month physical or sexual violence in DSM and Mbeya

	Earns money N	Doesn't earn money N	Treatment Effect (Difference in %)	SE
DSM				
% Physical and/or sexual violence	21.95	20.11	1.84	
PSM algorithm[§]				
Nearest neighbour	492	414	0.034	0.033
Kernel	492	557	0.038	0.029
Stratified	491	558	0.038	0.024
Radius (=0.001)	431	490	0.038	0.029
Radius (=0.0001)	281	355	0.063*	0.036
Radius (=0.00005)	269	350	0.076**	0.037
Mbeya				
% Physical and/or sexual violence	30.91	30.51	0.40	
PSM algorithm[§]				
Nearest neighbour	660	304	-0.015	0.037
Kernel	660	354	0.013	0.030
Stratified	660	354	0.016	0.031
Radius (=0.001)	594	343	0.002	0.036
Radius (=0.0001)	412	282	-0.009	0.043
Radius (=0.00005)	394	273	-0.017	0.044

§ With replacement   * p<0.1 ** p<0.05

Table 8.15 Estimated treatment effect of earning money on past 12 month LCA-classes of partner violence in DSM and Mbeya

	Moderate physical				Sexual dominant				Severe abuse			
	Earns money N	Doesn't N	Treatment Effect (Difference in %)	SE	Earns money N	Doesn't N	Treatment Effect (Difference in %)	SE	Earns money N	Doesn't N	Treatment Effect (Difference in %)	SE
DSM												
% experiencing partner violence	10.98	8.98	2.00		8.94	7.72	1.22		2.03	3.41	-1.38	
PSM algorithm[§]												
Nearest neighbour	492	367	0.058**	0.025	492	366	0.009	0.023	492	347	-0.027	0.015
Kernal	492	557	0.039*	0.023	492	557	0.019	0.018	492	557	-0.012	0.015
Stratified	491	558	0.044**	0.021	491	558	0.021	0.019	491	558	-0.008	0.013
Mbeya												
% experiencing partner violence	12.3	13.0	-0.7		13.3	13.6	-0.2		5.3	4.0	1.4	
PSM algorithm[§]												
Nearest neighbour	660	245	0.007	0.031	660	247	-0.017	0.032	660	216	0.007	0.020
Kernal	660	354	0.007	0.027	660	354	-0.003	0.028	660	354	0.016	0.016
Stratified	660	354	0.013	0.023	660	354	-0.001	0.029	660	354	0.016	0.017

§ With replacement   * p<0.1 ** p<0.05

8.3 Discussion: Women's economic status and partner violence

8.3.1 Main chapter findings

In this chapter I presented the findings from econometric analyses on the relationship between different measures of economic status and partner violence in DSM and Mbeya.

Different sociological and economic theories posit that different indicators of men's and women's economic status may either increase or reduce women's risk of partner violence. However, my detailed multivariate analyses of two population-based survey data from DSM and Mbeya could not clearly support one theory over another – very few indicators of economic status displayed a statistically significant association with partner violence.

Hypothesis 1: With regards to the first hypothesis, contrary to marital dependency theory, (that predicts an increase in partner violence with women's low economic status), and economic bargaining theory, (that predicts women's higher economic status decreases their vulnerability to partner violence), I did not find evidence that women's economic status was associated with lower probabilities of partner violence.

By contrast, in DSM, there was a suggestion that women's higher economic status increased their risk of partner violence. In the multivariate models, women's exclusive ownership of capital assets was significantly and positively associated with physical and/or sexual partner violence. While earns money was associated with higher partner violence in the multivariate analyses the results were not significant. However, a PSM analysis revealed that the proportion of women who experienced moderate physical violence was between 4–6% higher among women who earn money compared with women who do not earn money. In addition, in the multivariate analyses, with the exception of raising money in an emergency, all other indicators of women's economic status generally displayed associations suggestive of increased risk of partner violence.

The evidence from Mbeya was less clear. Exclusive ownership of household assets was associated with higher physical and/or sexual partner violence, and this was the only positive and significant association found in the multivariate analyses. However, shared

ownership of a capital asset significantly reduced women's vulnerability of severe abuse. In addition, the PSM analysis found no evidence of a significant impact of women earning money on any measure of partner violence.

The positive association found with earning money (in DSM) and asset ownership (capital asset ownership in DSM and household asset ownership in Mbeya) may reflect the disempowering effect women's economic status has on men, thus increasing women's risk of partner violence. In addition, the descriptive analysis, presented in chapter 8.2.3, found that while proportionately fewer women in DSM earn money, they are also less likely to give at least some of that money to their partner. This may be because men in DSM do not ask their wives for money, or it could be because women refuse to give their partner money thus possibly leading to conflict in the household.

Women's educational attainment was also not significantly associated with partner violence in either site. The finding that may reflect the generally low educational attainment levels in the population. My systematic review of published evidence generally found that the protective effect of women's education does not kick in until women have completed secondary or higher education [145]. However, the multivariate analyses that combined data for DSM and Mbeya, that aimed in part to increase the variation in the sample, did not result in any significant associations.

Hypothesis 2: Neither indicator of partner economic status (educational level and occupational status) was significantly associated with partner violence – though partner education generally displayed a suggestive protective association. However, 'refusal to give money even though he has money for other things', was positively and significantly associated with all measures of partner violence. In addition, in both sites, this indicator came through as the single most predictive economic risk factor with the strongest association being found with severe abuse. The reason for this relationship may be because asking for money causes conflict and arguments in the household and that the respondent's partner does not have the money and therefore, feels his role as the household's main provider is undermined.

Contrary to existing empirical findings, there was some evidence that when compared to women in low household SES households, women in medium/high SES households

were at higher risk of moderate physical violence in Mbeya. One possible explanation for this finding is if women in low SES households consider partner violence to be a normal part of marital relations and therefore, do not consider and therefore report their experiences as violent. However, my systematic review documented that women in higher SES households were less likely to document partner violence and that this may be because of the stigma and shame associated with it [145]. In DSM higher household crowding was associated with higher partner violence and in particular moderate physical violence – possibly reflecting the more heterogenous nature of households in DSM.

Hypothesis 3: There was no significant evidence to support the third hypothesis that economic status inconsistencies that favour women, as measured by contribution to household income and educational level, are associated with higher partner violence. Instead the significant associations found were that: compared with both men and women having some and the same educational level, both having no education increased women's risk of partner violence in Mbeya; and compared with neither men or women working, both contributing the same level to household income increased women's risk of partner violence in DSM – a finding that contradicts relative resource theory. Again the explanations for these findings are not clear and it could reflect either the generally low level of educational attainment in both sites.

Other covariates: Although in my analyses I did not find clear associations between indicators of women's, their partners', and relative economic status, and partner violence, additional socio-demographic factors relating to the respondents and their partners were consistently associated with partner violence in both sites. In addition, these findings conformed to the associations found in empirical studies reviewed in chapter 3.5.2.

In both sites, the factors most consistently associated with a significantly increased risk of all measures of partner violence were partner's relationship with other women and partner's problematic alcohol use. Partner relationships with other women could raise marital conflict as women become confrontational [90, 158, 160-161, 176]. Partner's alcohol use is hypothesised to increase women's risk of partner violence because it may reduce men's inhibitions and they become violent, or because a woman criticises her

partner when he is drunk resulting in fights, or because alcohol mediates the effects of male underemployment and poverty [159]. In addition the respondent's mother having been hit by her father was significantly associated with higher physical and/or sexual partner violence and severe abuse in both sites and additionally with sexual dominant in Mbeya – possibly teaching women to tolerate abuse.

However, there were differences between the study sites. In Mbeya, respondent's frequent alcohol use was significantly and strongly associated with higher partner violence (suggestive risk association with severe abuse), but while there was a risk association with partner violence in DSM, the results were not significant. The association between respondent alcohol use and partner violence is however, interpreted with caution. This is because establishing the causal relationship between the factors is difficult. Respondent alcohol use may precede violence or it may be used as a mechanism to cope with repeated experience of violence.

In addition, partner's early life characteristics, beaten as a child and mother beaten were associated with partner violence in Mbeya, but these indicators were not significant in DSM. Also while higher partner age significantly reduced women's risk of partner violence in DSM, the result was not significant in Mbeya.

Women in cohabiting relationships in Mbeya were at increased risk of sexual dominant violence, a finding that is consistent with a study in Lesotho where women who experienced sexual violence were less likely to be married [177]. The reasons for this relationship could be that marriage gives women some protection because of its greater status, or because women who have experienced forced sex may no longer be considered marriageable and that she is devalued irrespective of whether she had consented to sex [177]. Women's belief that there is at least one justifiable reason for a husband to beat his wife was associated with higher severe abuse. This less progressive attitude may be linked with women's more traditional belief of men's rights and privileges and that they are more likely to be married or remain married to men who hold traditional gender roles. Again however, this association is interpreted with caution because of the difficulty in establishing a causal relationship. Women's acceptance of wife beating may be more likely to be victims of partner violence or partner violence may alter women's beliefs about wife beating.

8.3.2 Limitations

The reasons for the limited statistically significant relationships between economic status factors and partner violence could be because the sociological and economic theories may not be entirely adaptable to LMIC settings. Another possibility, however, could be the limitations of the WHO study and that the questions on economic status asked in the survey may have hampered the quantitative analysis: first, the questions asked may have been too crude and potentially not sensitive enough to measure economic status; and second, the survey was not designed to answer economic questions or to use econometric methodological approaches, thus possibly yielding biased and inconclusive results. Below I discuss these potential limitations, and I discuss the implications of the findings from this chapter on theory and on future research in the overall discussion in chapter 10.

Measures of economic status

One of the main measures of economic status that I aimed to test in my analyses was an indicator of women's employment and occupational status. In the WHO study, to measure women's employment respondents were asked whether they 'earn money', and of those that answered in the affirmative a follow up question 'what exactly do you do to earn money' was asked with the following options provided: a) Job; b) Selling things, trading; c) Doing seasonal work; and d) Any other activity. For each option respondents were asked to specify the exact source (Table 8.1). Initially I had wanted to use the information gathered from the four options to construct a variable indicating occupational type. However, when reviewing the information collected, it became apparent to me that I would not be able to come up with a meaningful categorical list. The quality of the responses recorded varied and in many cases did not give clear information. In addition, the wording of the question may have been confusing. In some cases it was recorded that the respondents source of money was from a 'Job' – the option that attempted to capture more formal waged employment – however, many respondents specified 'trading and selling' for this option.

The interviewers also asked respondents to report on their partners educational attainment and whether or not their partners worked and if so, the type of work that they did by probing eight different occupational types (Table 8.1). In my analyses, the vast

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majority of respondents reported that their partners were working and so I chose to use the information gathered on type of work. Almost 22% of respondents in DSM and 11% of respondents in Mbeya reported their partner occupational type as 'other' and provided some description and so I coded this category by hand. This may have had an effect on quality because the detail of the descriptions varied. It was also difficult to assess the distribution of male occupational types because the categories were not directly comparable to any of the Tanzania national surveys that invest in collecting this data.

While evidence on the quality and reliability of collecting employment data in LMIC settings is limited, in their survey experiment on how labour force participation data is gathered in Tanzania, Bardasi et al. (2010) found that responses varied greatly depending on the survey design [284]. For example, short modules on labour and collecting information by proxy, where a respondent provides information on behalf of someone else in the household, led to significantly different results when compared with a longer more detailed labour module and asking each household member individually. Therefore, the combination of a very short labour module in the WHO survey, gathering proxy information from women on their partners' economic status, the wording of questions, and limited training to interviewers on recording labour information, may have affected the quality of the data.

The indicator 'partner's refusal to give the respondent money', while providing the strongest and most consistent associations with partner violence in both sites, also needs to be interpreted with caution. The question wording implies two questions that perhaps would have been more appropriate to separate: the first a statement on partner refusal to give money, and the second a subjective question on whether he has money for other things. This may have shed light on whether there is a difference in relationship stress among women who believe their partner does not have money for other things and women who believe that their partner does.

Economic status and endogeneity

The second issue is that the WHO study, in hindsight, was not designed to answer economic questions and limited my options to use econometric approaches to address

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the issues of endogeneity and self-selection bias. I describe these issues in chapter 6.2.2. The first issue, endogeneity, arises because the indicators of women's economic status – whether or not women earn money, ability to raise cash in an emergency, and possibly ownership of assets – are determined within partnerships. For example, factors that influence whether or not women earn money may also influence women's vulnerability to partner violence, thus challenging the ability to make causal inferences. The second issue relates to the extent to which women who self-select into earning money are different to women who do not (are these women drawn from separate distribution). A methodological approach that would have addressed both these issues is to use an instrumental variable. This would involve identifying a variable that is correlated with whether or not women earn money – the measure of women's economic status of particular interest in my thesis – but not with partner violence. In his study on the effects of dowry payments on newly married women in Taiwan, Zhang & Chan (1999) used parents educational attainment as instruments to identify the effect of dowries [285]. However, for my analyses, I could not conceptualise such a variable.

To some extent I was able to address the issue of self-selection bias by using PSM. My analyses confirmed that women who earn money are drawn from a statistically different population from women who don't earn money. However, PSM has its limitations because it does not account for the fact that women who earn money and women who don't may differ in unmeasured ways (unobserved heterogeneity). In addition, PSM relies on large sample sizes, and the ability to interpret the findings depends on the extent of common support.

8.3.3 Chapter conclusion

The findings from this chapter found limited support for theories that predict the relationship between economic status and partner violence. However, I conclude that the economic module asked in the WHO study survey severely limited the quantitative analysis. While studies that research the prevalence and determinants of partner violence, such as the WHO study, focus on minimising reporting bias of women's experiences of partner violence, in order to examine the association between partner violence and economic status, equal attention needs to be given to capturing measures

of economic status. In chapter 10, I discuss implications of the findings from this chapter for future research.

To further explore the relationship between women's access to a monetary income and partner violence, I conducted qualitative semi-structured interviews among women market traders in DSM and Mbeya. I present and discuss the findings from this qualitative exploration in the next chapter (chapter 9).

Chapter 9: Women's paid employment and household gender relations

That waged employment empowers women is an argument put forward by many gender and development researchers [46-47]. However, the transformatory role of women's waged employment is contested by many other researchers who highlight that it does not address or explain the vast variation in gender inequalities that exists [51-53]. This competing view was apparent in the literature review I presented in chapter 3.3 that found that some studies documented women's employment to have a protective association against partner violence, while other studies documented a risk association. My extensive analysis of the household survey data presented in chapter 8 showed no conclusive evidence on the association between women earning an income and partner violence in either DSM or Mbeya. As part of this study, to investigate the relevance of these competing arguments in the Tanzanian context, qualitative research was undertaken among a group of women in DSM and Mbeya to address the third thesis objective: to explore the implication of women's paid employment on their vulnerability to partner violence, and to assess whether there is evidence to support the finding from chapter 8 of no relationship. Given informal sector employment comprises an increasing majority of total waged employment for women in Tanzania, the qualitative study was focused among women engaged in informal sector market trading activities.

Specifically, this chapter seeks to:

- document how women working in informal sector trading activities describe their experiences of partner violence and their responses
- explore how women describe the impact their work has on intra-household gender relations using insights from the different economic and sociological theories of bargaining power
- investigate the extent to which women's income enables them to have more say in household decision making

9.1 Methods: Women's paid employment and household gender relations

The methods for the participant sample selection, interviews and transcription were detailed in chapter 5.3. I used framework analysis to code and analyse the data

following the five stages, that I described in chapter 6.3, set out by Richie and Spencer [266].

First I immersed myself in the data by reading all 20 transcripts, the field notes the interviewers made after each interview, and the notes that I made as I was debriefed after each interview. The transcripts were translated from Kiswahili to English, and it was at this stage I sought clarity on any verbatim translations that I did not understand and meanings behind some of the phrases.

Then I developed the thematic framework informed by the theories I reviewed, described in chapter 3; the research objectives; and the topic guide. The theories that I drew on included Pahl's (1989) income management framework [125], Agarwal's (1997) description of the role of social norms in the bargaining process [51]; Sen's (1990) cooperative conflict model [48]; and the cooperative and noncooperative economic bargaining models [136-140]. While none of these theories explicitly address the issue of partner violence, they are, nonetheless, useful for exploring this issue.

Pahl's (1989) framework focuses on the flow of income in three stages where household gender and power relations can be assessed: access (ability to earn an income); management (who holds the income within the household e.g. pooled or separate); and control (who in the household makes the decisions). As this framework enables an exploration of gender relations from entry into employment through to the control and allocation of household money, I focus on this framework as a structure. I broaden the framework by considering features of the cooperative and noncooperative models with regards to fall-back positions and whether women leave or remain in violent relationships. I also consider features of bargaining power as described by Agarwal (1997) and Sen (1990). Agarwal (1997) provides a useful addition by considering the role of social norms in the bargaining process. This includes considering what can be bargained about; constraints to bargaining; and how bargaining is conducted. I also considered features of Sen's (1990) cooperative conflict model that incorporates individual's gendered perceptions of their contribution; self-interests; and well-being, to understand how these translate employment and income into bargaining power. Table 9.1 show the thematic code structure that I developed.

Table 9.1: Description of thematic codes

Primary code	Sub-code	Description
Entry to work	Context	History of employment including types of income earning activities; chronology of earning activities; barriers to entering employment; sources of start up capital
	Motive	Factors driving women to enter/continue employment
	Partner reaction	When deciding to enter into employment; since entering into employment; strategies men use to support or obstruct their partner entering into work
Resource Management	Context	What happens to the money women and men bring into the household e.g. pooled or separate; what money women and men earn gets spent on; extent to which information on money is shared or kept hidden
	Decision making	Who decides what happens to the money that is brought into the household; who manages the money that is brought into the household
	Control	To what extent can women access and control the money they bring into the household
	Dynamics	Changes in these (contextual and decision making) factors with women's continued engagement in employment
	Contribution	How women perceive their contribution to household income
Decision Making	General	Decisions making within the household (general)
	Sex	Decision making within the household – sex
Violence	Conflict	Conflict in the household or with partner; sources of conflict; how conflict manifests itself; strategies used to avoid conflict
	Violence	Experience of violence; causes of violence; range of strategies women undertake in responses to violence
	Relationship Characteristics	Relationship with their partner; partner attributes including employment status
Advice to other women	Start business	
	Violence	

I coded (indexed) all the data according to the thematic framework that I had set up. Many of the passages were assigned to multiple themes and as the coding process continued I developed new sub-codes.

The fourth stage of framework analysis, charting, is where I arranged the data into each theme for all the respondents. Within each theme I then grouped cases according to common characteristics to support the interpretation of the data as a whole. For the analysis, I first describe women's experiences of partner violence then situate this within the thematic framework.

All data were entered and coded using Nvivo v8 textual analysis software package. Respondent anonymity is preserved by using pseudonyms for women who reported they had experienced partner violence and numbers for women who reported they had not experienced partner violence.

9.2 Results: Women's paid employment and household gender relations

This section presents the findings of the semi-structured interviews that aimed to explore the implications of women's paid employment on household gender relations and women's vulnerability to partner violence, using the accounts of women who were engaged in market trading activities in DSM and Mbeya.

After a brief description of the partnership status of the respondents, I describe the sample women's experiences of partner violence in section 9.2.2. The context behind women's entry into informal sector employment is then described in sub-section 9.2.3, followed by an analysis of income management systems in sub-section 9.2.4. A description of women's voice in decision making is presented in sub-section 9.2.5 and a summary of how women perceive their independent income earning has affected them is given in sub-section 9.2.6.

9.2.1 Partnership status of respondents

In both sites, almost half the women were either separated, divorced or widowed at the time the interviews were conducted. In DSM, four women were separated, including one from a polygamous relationship, and one had been widowed. Of the separated women, one respondent in DSM lived with her father and children, and the remaining lived with their children. In Mbeya two of the respondents were widowed and one was

separated. One married woman in Mbeya reported that she was in a polygamous marriage.

9.2.2 Partner violence

This section describes the violence that the women in this sample experienced from their partner, their perceived reasons for the violence, and how the women responded to violence. The purpose of exploring women's experiences of partner violence first is to assist in understanding how violence is situated in the lives of women who earn a waged income.

Experiences of partner violence

In DSM two women confirmed that they had experienced physical and/or sexual violence by their partner (current or last) and seven responded that they had never experienced violence – one interview finished half way through and the respondent had not been asked yet about violence. In Mbeya five women reported experience of partner violence and of the five who reported they had never experienced physical or sexual violence, two reported verbal abuse. Though many women reported that they had never been physically hit or beaten by their partner, many still reported that they knew or had seen it happen to other women. Table 9.2 displays the names (pseudonym) of the women who experienced physical and/or sexual partner violence.

Table 9.2: Women who experienced partner violence

Partner violence	DSM	Mbeya
Moderate physical	*Yovita*	*Ida*
Physical & sexual		*Joyce*
Severe abuse	*Neema*	*Lilly* *Rose* *Agatha*

The experience of partner violence two women described (Yovita in DSM and Ida in Mbeya) resembled the LCA-class of partner violence that I termed moderate physical, and one woman (Joyce) in Mbeya experienced physical and sexual partner violence. Neither of the women who experienced moderate physical violence reported any injury

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as a result of the violence they experienced and generally described that the incidences were infrequent. Four women (Neema in DSM and Lilly, Rose, and Agatha in Mbeya) talked about their experiences of violence in a way that resembled the LCA-class of partner violence that I termed severe abuse. They had experienced frequent 'beatings' and had experienced debilitating injuries as a result. Lilly and Agatha described swelling to the point of being bed-ridden, and another example of the extent of negative health consequences experienced is illustrated by Rose, now widowed, whose husband severely abused her up until his death.

> *I was just keeping the secret, when I go out I just go out nicely looking good, but the things going on in my house. No-one was able to know. It was my secret but I was hurt so much. Every morning I was grieving. I mean I was affected psychologically (Rose, Mbeya)*

Perceived reasons for partner violence

From the descriptions of violent incidents women recounted it appeared that men used violence as a form of correction, that is when women have *done something wrong*, and also instrumentally i.e. as a mechanism to displace their anger or frustration. One of the precipitating factors women reported that preceded incidents of partner violence was male drunkenness. Either the man would say things that would cause an argument or he was violent without a reason. However, a major source of conflict many women talked about stemmed from negotiating money from their partner. In a culture where both men and women believe that it is the man's responsibility to provide financially for the household and the family, it was not uncommon to hear women express their frustration that their husband would have money for alcohol but not for their children. Many women reported that their continuous requests for money from their partner caused *chaos* for him and in addition, some women believed that their financial dependency on their partner meant that they were not valued by them. For example, the experiences of Joyce, from Mbeya, who experienced physical and sexual violence from her husband reflects the power struggle between men and women over resources.

> *You know a man if you keep on begging for money all the time he sees you as useless.... If you ask him for money everyday you get problems..... But you have got to ask him because the children need food. He answers the way that he wants and you get upset, looking at the children, their eyes are on you. So I pressurised him.... 'hey the children'...it reached the point we got angry to the maximum...... a fight happened (Joyce, Mbeya)*

Rose, who experienced severe abuse from her husband explained that

If I go to him and say I need money for the needs, he responds harshly and beats me (Rose, Mbeya)

One of the shared features of women's experience of severe abuse was related to their husband's relationships with other women – either extra-marital or polygamy. For example, Lilly, from Mbeya, described how her brother found out her husband was having an affair and decided to confront the other woman. Upon hearing about Lilly's brother's interference, Lilly's husband beat her. Agatha, also from Mbeya, described an occasion when her husband misplaced a picture of his other wife which she later found in his bag – he beat Agatha for touching the picture.

Some women also perceived violence to be a "normal" part of family life and that men are allowed to hit their wives as long as it is for an infraction that is seen as legitimate and with a severity that does not cross the line into abuse. For example, *f a man beats his wife until she is disabled, or if he mistreats her in public, or deliberately tears off her clothes in front of the children*, then the man has exceeded his limits.[74] However, despite women's acceptance that violence is normal within marital relations, some were aware of the injustice and acknowledged that men were able to use violence, mostly without sanction, because of women's lack of rights.

We women are powerless and the government should protect us as we are people who are supposed to have rights (Joyce, Mbeya)

Responses to violence

The range of strategies women used in response to incidences of partner violence varied but most commonly women would revert to their ascribed gendered status and seek forgiveness for having *done something wrong*. In addition, many women intimated that it was the woman's place to be the one to *come down* in an argument. However, Joyce who experienced both physical and sexual violence, said that when she and her husband fought they would either ignore the situation or that they would forgive each other, but

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[74] One of the interviewers explained that the deliberate tearing of clothes indicated a cultural and symbolic form of violence.

at other times they would involve her father in-law who then helped to solve their problem. This behaviour of seeking help from relatives and in particular women's in-laws is not uncommon where women wish to remain in the relationship, believing that involving his family is more likely to result in resolution.

In situations where women wanted to leave their relationship, more common among women who experienced severe abuse, they would involve their own family. However, the data from the interviews suggest that among the participants in this study, women in Mbeya found it harder than the woman in DSM to leave their abusive relationship as two of the respondents were still married to their partner. The third respondent, Rose, who suffered at the hands of her abusive husband is now widowed and described her attempts to escape.

> *So many times he beat me, there was a time I had to escape and he found me on a Dar es Salaam bus. I was escaping and he got me out of the bus. He found me and dragged me out, it was really fighting, fighting, and fighting. I mean terribly..... I found that now the water has reached my neck* (Kiswahili phrase meaning could not tolerate anymore) *(Rose, Mbeya)*

Since she became widowed Rose has consciously opted out of being in a relationship, describing how she has decided to live only with her son.

Despite Rose's experiences, there were examples of women who experienced severe abuse and who successfully managed the transition into violence free lives. The two examples from Neema and Lilly illustrate how they exercised their agency by utilising their fall-back position successfully leading to violence cessation.

Example 1

The experiences of Neema, from DSM, illustrates an example of someone who was motivated to protect her self-interest and with a relatively strong fall-back position, exemplified by the combination of her employment and her natal support, was able to leave her abusive husband. Neema is divorced and has children and grand-children to support – her ex-husband died some years after they separated. She works as a vegetable seller in one of DSM's main markets and had worked in trading activities with her mother before she got married. After marriage she moved to DSM and according to Neema life, at first, was good. However, things changed – there were times

when her husband wouldn't come back home and he would lie that he was on a work trip. Later she found out he was seeing other women. She also started to notice that things started to go missing from the home and he was not providing as much money as she needed. It was at this point that Neema decided to start her own business. However, though she faced difficulties in her marriage, Neema still reverted to gender norms, that determined what she was able to bargain about, and asked her husband's permission – *that was when I asked him politely....... The first thing you must ask for is permission from your husband. You cannot start business without asking his permission. If he disagrees then you leave it. You can't insist.* According to Neema when the problems started they were fighting until they separated. His relationship with other women was a major source of conflict in their relationship and Neema experienced frequent beatings and on one occasion to such an extent that her brother was concerned her life was in danger.[75] Motivated to separate from her husband because she wanted to protect herself from sexual infections – *you shouldn't waste your life, protect yourself. Tell him with his habit you have to separate* – and encouraged by her natal family including her extended family, she went back to her natal home (outside of DSM) and eventually returned to DSM to stay with her niece and continue with her business. Neema successfully managed to separate from her husband and was later granted a divorce by the magistrate.

Example 2

The case of Lilly, from Mbeya, is another example of someone who managed to successfully negotiate violence cessation. Lilly, a mother of one small child and who is in the younger age group, initially leveraged her natal support to leave her abusive husband and return to her family. When she married Lilly gave up her small business to become a house mother. However, conditions were difficult and often her husband would disappear and not leave her money to feed her or their child. According to Lilly a major source of conflict in the relationship stemmed from attempts to negotiate money from her husband at a time when she had no waged income of her own. An example is typified when her child was sick and her husband refused to provide money for Lilly to take the child to hospital. This single incident led Lilly to leave her husband temporarily and return to her family. While she was separated she borrowed money from a friend

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[75] Neema also showed the scars resulting from the violence she experienced form her husband to the interviewer

and started her own business and later she returned to her husband. With a strengthened bargaining position that was also signalled by her ability to leave, Lilly returned to her husband and she narrated how her marriage was much calmer and her husband does not beat her anymore – *Since then or when I ran away and came back I think he has learned a lot and he has changed...He has become a very nice person.*

From the accounts of the women interviewed an important finding was that women's income dependency, before they had started their own business, was associated with a weak bargaining position within which they could negotiate resources from their partner. For Joyce, this was linked with her partner's low perception of her value. Among the women who experienced severe abuse, to some extent, cultural and religious norms hampered their ability to exercise their exit options and to leave their relationship. However, the narratives of Neema and Lilly are two examples of women who were able to exercise their fall-back position, as captured by the strong natal support that they could leverage. In addition, Lilly was able to leverage her independent income that she established when she was temporarily separated.

The next sub-sections explore whether women's independent income altered some of the features assumed to influence bargaining power and subsequently the effect on conjugal relations in particular vulnerability to partner violence. I explicitly explore: women's entry into employment; their ability to manage and control their income; and their voice in decision making.

9.2.3 Entry into income generating activities

Reasons why women enter into employment

In both sites, the dominant reason why women, in violent and non-violent relationships, entered into paid employment was because of economic hardship. For some women it was because of a sudden change in life circumstances e.g. the respondent had become widowed or their partner had left them, and the fact they had dependents e.g. children and/or younger siblings was the key push factor for them to earn money.

> *I started this activity because of ...... of income. Because I don't have any body, so when I do a business it is because I rely on it for eating with the children.*

Because I don't have anybody to bring me some money for eating, you see!
(DSM_02)

For example the way I am, my husband passed away since June last year and I am the first born in our family and we are three of us. There are three after me, and all of them depend on me (Mbeya_22)

Women who were partnered at the time of interview entered into employment for their household's daily needs and in particular the needs of their children. While many women reported their partner worked and earned an income, in DSM this income was not enough.

I started this business after noticing the life situation. you must be helping each other even if I am married I must work because we need to educate our kids so therefore, it is must that we help each other, you cannot depend on one person's (husband) income alone.....these days life has become tough, so I thought that I also should start a business (DSM_03)

Yovita, from DSM, first explained her reasons by suggesting she was motivated by her upbringing because both her parents worked. In addition, she had worked as a food vendor in a mining town before she got married. However, the issue of uncertain and limited partner income was also a factor in her decision to start her business when they moved to DSM. Yovita also discussed what a few other women mentioned – that the only other alternative was to obtain money from other men.

I learnt from my parents.....My father works and my mother owns a business. So I challenged myself to do business and be like them since they were busy and they are still together...... And also because life is tough now. You as a woman stay at home with no work, when the man comes home and he has no money, you can't just sit there when the children go hungry. You may end up doing bad things like agreeing to be approached by other men just so you can get money for food (Yovita, DSM)

For women in Mbeya, many of whom were in violent relationships, the futility over bargaining over their husband's income and resources was key to their decision to enter into employment. Women in Mbeya talked more openly about how they felt frustrated at their partner's reluctance to give them money and that they did not want to be dependent on them any longer.

I thought if I just stay as a house mother and with small problems... I ask my husband (for money) and he does not have. He answers 'I don't have' I think he has money, and I feel as if he is humiliating me... and that is why I decided to open this business so that I can come up with small things (Ida, Mbeya)

The reason that made me start the business is the issue of depending on a man (husband), it becomes difficult. Sometimes he gets out from the house without leaving anything and I am left struggling, seeing that I am a house mother! ......my child is crying wanting to eat and I don't even have money..... I thought that, the important thing to think is that it is better that I also should have my business, the issue of relying on a man is very tough (Lilly, Mbeya)

From these accounts, women appeared to be pushed into informal sector employment because of economic necessity and because, whether separated or partnered, they had dependents they were and felt responsible for. Thus their entry into employment was attached to enhancing the welfare of the family and in particular their childrens and thus, possibly hampering their ability to act as agents on their own behalf.

Negotiating entry into employment

This section describes the constraints within which women make their choice to enter into employment by documenting the context of their engagement, including the extent to which they were able to negotiate employment with their partner and his reaction. While some women described their partners as supportive, others described how their partners were not and that they either had to persist to finally obtain permission or were not able to start business until after they were separated. One separated woman in DSM reported that *it was not possible* for her to even bring the subject up with her partner. However, despite the varying reactions of the respondents' partners, the extent of independence and control over their business, for women who were partnered at the time of interview, was compromised. Either their partner provided the start up capital for the woman to start her business, therefore controlling the means of production, or he exercised a strategic control deciding the conditions for her business. For example one woman from Mbeya reported that her husband closed her business down because he didn't feel it was doing well enough. Supportive or not the respondents partner's influence was abundantly evident and could therefore, be an influence on weakening women's bargaining position within the household.

He believed that we should help each other in life and because it pleased him he even gave me a capital and I started a business (DSM_03)

For real he was happy and he gave me a little capital to start with (Mbeya_25)

Another example of a strategic form of control was experienced by a respondent in Mbeya who was only allowed to enter into business to augment the family income during a time of financial difficulty.

He said if he would have money he wouldn't allow me to do business, but because of his economic hardship he allowed me (Mbeya_27)

Women in Mbeya, and particularly those in conflicting and violent relationships, appeared to face more opposition to starting a business. Lilly narrated how her partner continuously stalled giving her money to start the business.

He was talking so nicely saying okay you will start tomorrow, tomorrow, wait a bit next month. I was astonished by his many words...he was saying tomorrow, tomorrow, tomorrow ((with a loud voice)) then you will know if that is a truth person, or he has a good intention with you? (Lilly, Mbeya)

A major source of conflict relating to women's initial, and also post, entry into employment related to the issue of partner jealousy and suspicions of infidelity, possibly reflecting the nature of the type of work in that the market place in that it is perceived to be where women receive many propositions from other men, sometimes to have sex. The comments from Rose and Joyce, both who experienced violence in Mbeya, illustrate this difficulty. Despite experiencing resistance from their partner, Lilly, Rose, and Joyce started their business anyway.

Once she goes to the market and once she is enlightened then maybe she will get another man. Men think that when a woman gets out to the market, the way she gets out from her home .... she has two businesses (Rose, Mbeya)

Men are suspicious they take infidelity easily. They are jealous maybe this woman wasn't at her business. He doesn't know how you struggle to earn a living. They are jealous, 100% men are jealous (Joyce, Mbeya)

In addition, societal interference in each other's lives mean that suspicions of infidelity continue after women started their business. One woman in Mbeya, who experienced a

seamless and resistant free entry into business commented that since she had started her business, she had endured new conflicts in her relationship.

> *When I was at the shop things were happening, they were bringing words to him, 'she leaves the shop and goes' things which were not true........ The way he is.... he does not have that act of being able to talk ... it was difficult for him (Mbeya_35)*

However, even when women had successfully negotiated entry into employment some continued to face suspicions and jealousy over infidelity. One woman described how the food business she initially started angered her partner because of its location that meant many of her customers were men. She closed down the business and later opened another business selling food and drinks in the market and her partner has no problem now.

> *First I was doing small business of making chapatti (Indian bread eaten at breakfast) only, you know he urged me to stop doing it, you see? Seeing that I was selling there, suddenly he came and broke the box (container), you see? Yes so I just cooled down and I stopped doing business (DSM_19)*

Yovita, who experienced moderate physical violence from her husband, illustrates an example of how negotiation was conducted in the context of attempting to work out the potential conflict, resulting from suspicions and infidelity, and threat of violence. Yovita described how she was able to able to negotiate with persistent reasoning that her partner's fear was unfounded and she continuously reassured him that she was working to 'help him'.

> *Honestly in the beginning when I got a chance to do business, he was worried. Every time I got back home he would insist that there are many temptations my wife, this is a big city. I tell him that I understand. If I could live in the mining areas, why can't I be able to live here? I can, because in the mines there are just as many temptations as here! ...... I just do my business and come back. Why shouldn't I respect myself? The first thing I am glad of is that you have allowed me to do this business because many men don't allow their wives because they are jealous. But since you have allowed me to work, so that we both succeed, then there is no need to embarrass you (Yovita, DSM)*

9.2.4 Management and control over income

What happened to the respondents' and their partners incomes that they brought into the household and the effect this had on marital relations was also explored. An interesting finding was that among the women that were interviewed all kept the money that they earned and there were no reported cases of men appropriating their money. In some cases the woman's husband gave her his entire or part of his income into a 'pooled' management system. However, in other cases each individual kept their incomes either partially or wholly separate – a feature of Pahl's income management system that is hypothesised to strengthen their bargaining power.

Income pooling was largely a feature within harmonious relationships where women had not experienced physical or sexual violence. Within these relationships, women started business to help their family and with the permission of their partner. The two examples below illustrate how in non conflicting relationships, the status quo was maintained by women being open about their income

> *We keep together. We collect the money and at the end of the month we see what we have. This is how we live, you cannot keep your own money, it is not possible because we are one. We help each other with that (DSM_09)*

> *My husband understands how much I get and when I do not have... For real me and my husband we understand each other, if the children miss something for school I can contribute. If my husband gives me some money for rice I can add some and buy rice (Mbeya_25)*

However, in some cases, the respondents described an independent management system that was characterised by partial income separation. Often the respondent's partner gave the respondent some money, usually to buy food on the basis that women are 'house mothers' and they look after the family. Within this system women sometimes gave their partner some of their money.

In other cases, women occasionally gave their partners money. Yovita, from DSM, had to reassure her husband of her intentions when she wanted to start a business and gave her husband money when he had none from his work. By doing so Yovita was building *good faith in her marriage.* However, some women reported that they would give their

partner money if they asked for it because of the potential conflict that could arise by refusing.

He might have thought I have some while I did not – he would have complained that I have refused to give him (Mbeya_26)

There were also instances of almost complete separation where each individual kept their own money and didn't know of each other's income. This was a feature in mostly conflicting and also violent relationships. Within this money management system, women commonly spoke about how initially they had openly put their income forward but that their partner would not. For example, Rose, from Mbeya and who experienced severe abuse until she was widowed, reported how her husband stopped providing money for the household. Therefore, the women changed tactics and decided to keep their money separate and often the women provide for the whole family. For example, Joyce from Mbeya and whose relationship with her partner was conflicting and included physical violence that stemmed from money issues, used to give her income to her husband. Now, Joyce provides for the whole family without any negotiation with her partner. According to Joyce, her husband has never shown her the income that he earns, and she herself doesn't know when he receives money, how much money he gets, or how it uses it. Despite this, Joyce continues to revert to gender norms and gives her husband money if he needs it *if he gets sick, I have to provide, don't I. He is my husband. God gave him to me. What can I do?*

Sometimes he works in a garden you find that there is no fertilizer, I myself give him; but him when he starts selling and do his business, then the money you gave him no matter how much it is you will not be able to know how much income he has got, but if he is bankrupt you will know. He says please give me. I give him ..... I feel peaceful. I give him thinking maybe he will come to his senses and say my wife here is the money, but for him he never thinks of giving me some (Joyce, Mbeya)

9.2.5 Voice in decision making

Women's ability to retain and manage their income is theorised to be an important element in enhancing women's bargaining power. Therefore, this section explores the influence of women's independent income on their voice in two areas of decision

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making within the household. The first is decision making generally within the household and the second area is on their sexual rights.

Voice in decision making generally

Despite women having responsibility for money management, rigid cultural norms, that the male is the head of the household, meant that women overwhelmingly reported that their waged income did not give them any more say or 'voice' in household decision making. This was the case in relationships that involved violence and also in relationships that women described as harmonious and where there was no violence. This view was rationalised by referring to roles within the household – *the husband is the head of the household* and that he was and should be responsible for all decision making. The only situation where women were able to exercise decision making were generally related to small household needs, children, or if the matter was the 'woman's concern'. In Ida's case, her husband delegated household decision making to her. However, the household income was so small that the vast majority of their combined income went on daily survival, e.g. food, and depended on who had more income at the time. Ida would decide who spent money on the more expensive produce e.g. maize and who spent money on cheaper produce e.g. beans.

Though some would have liked to have a relationship with their partner where they shared and exchanged ideas about how to spend their income, women generally acknowledged that if they were to assert themselves because they earned an income, this would become a source of tension with their partner and they would be seen as having *money arrogance*. This issue of the potential destabilising effect of women's independent income came through in many of the interviews. It was not uncommon to hear the respondents talk about their perceptions of women who do earn money and who provide for the family becoming disrespectful and starting to undermine their husbands. The possible effects being that the husband starts to feel weak and loses confidence, and also how these women were potentially putting women more generally at raised risk of conflict in the household. In addition, women talked about the men's fears that women with money had more options to meet other men and maybe to leave. Women also recognised that another potential consequence of their assertiveness might be that their partner would stop them from working or withdraw some of his income

that was used for household expenditure. Therefore, in order not to destabilize the basis of their gendered relationship because of their independent income, the respondents narrated how women should respect their partner and many women described how they acted submissively i.e. they didn't initiate decisions and waited for their partner.

It's not true because I believe I am his woman. Though we are encouraged these days that women and men are equal and have equal opportunities, but I have to respect my husband. I can't raise my voice on him to an extent that he looks like a child (Yovita, DSM)

If I will make myself that I have a voice, it normally brings problems to him... that's why some men forbid their wives to do business seeing that she is getting money that is why we are competing in the house. So it is better if I humble myself so that he feels that he is the father of the house, there is respect but when I have a voice it can bring in some problems, he may stop me from doing business. Men always like to feel that they are the heads of the house and you are under him (DSM_)

In one case, a woman's husband ceased to involve her in any further decision when she challenged him on the purchase of a car.

I asked him how will you buy a car while we are in the rented house and I think he found as if I went against him and he made a direct decision of going to buy a car. After that, he wasn't involving me in any decisions (Mbeya_35)

Despite the potential consequences of earning an independent income, by acting submissively to ensure re-instated gender hierarchy, women were able to maintain non-conflicting relationship with their partner. In addition, women's income stabilised the relationship in that they no longer had to ask their partner for money thus mitigating a major source of tension in the household. For example, Lilly in Mbeya who experienced severe abuse reported that her relationship was now much improved because she was earning her own income. Yovita, from DSM, whose partner expressed concerns over her starting a business because of dealing with men, also continuously reassured her partner that the money that she earned was to help the household.

My husband wondered if I was getting any profit from this business, but I told him to wait, he will see profit. He asked what do I want to do when I get money?.... I told him I want us to buy another plot to build a house. He said that was a good idea and that he will help me build the house (Yovita, DSM)

Voice in decision making over sex

Women were asked about who made the decision to have sex within their relationship. The overall finding, in both sites and within both age groups, was women's sexuality is interlinked with their gendered subordinate position within the household. Virtually all the women intimated that it was her husband who made the decision regarding sex and that a woman's marital duty was to go ahead with their husband's wishes, and generally women did not question this. Women commonly held the view that men needed sex. For example Yovita said *why should I deny him the pleasure?* Another woman reported that her husband's work, as a night security guard, meant that he came back from work when she had to leave for hers, and that sometimes he would call her at her place of work demanding that she come home for sex.

There were circumstances when a respondent could say no and the most commonly cited reasons were if she genuinely was tired or if she was sick in which case the woman could only remain sick for a night or two – after that she would have to agree the next day. Only one woman openly admitted to a strategy to avoid having sex – that she sometimes pretended to be sick.

> *I have to make all means so that he won't discover that I am not sick...... Yah I must try very hard (DSM_03)*

Women documented three main consequences that they feared if they refused their husband sex: that their husband may go to other women for sex and therefore mitigate this risk by doing their best to please him.

> *He has the power to go anywhere you see. If you don't satisfy him then you should know that he may go to another place and find another woman..... Once he finds that he has money in his pocket he will look for a woman... women these days if she gets three schillings she says ok let us go (DSM_19)*

> *He might come and say that these days my wife doesn't want to have sex with me, so who will? So it means that you are having an affair, because if you can't have sex with me then who can you have it with? (Yovita, DSM)*

Women also feared accusations that they themselves were having relationships with other men or that their

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The conflict I fear fight will break. He may say why are you refusing.. .Maybe you are seeing other men. That is what I am worried about (Mbeya_28)

On one occasion Joyce had refused *that is why I am saying it. He forced his way and just continued.*

or women feared their partner would become violent towards them.

> *You might find he has come with anger he wants to punch you, you find that it is hard, you will do it to avoid his anger (Mbeya_25)*

> *Because just like that he can beat you, yah he is strong he is a man you cannot refuse him.... if he uses his power you will be hurt (Rose, Mbeya)*

9.2.6 Perceptions of employment status

The accounts described in the above sections highlight the challenges women face when they have no independent income, negotiate entry into employment, manage the money that they bring into the household, and their role in household decision making and ability to negotiate sexual relations with their partner. In addition, some women talked about the challenges they faced in their businesses as market trading became increasingly competitive in harsher economic conditions.

Despite these challenges, women overwhelmingly reported that earning an income had a positive influence on their lives. In addition, women generally agreed that having an income would generally protect women from violence

> *If you look at us who have work though a small business, even the man when he wants to mistreat you while knowing you can stand on your own he will be afraid of doing things. I can say working or doings business helps me not to be mistreated (DSM_01)*

Women who earned little money were still able to acknowledge that with what they earned, they were able to feed their children and provide small things for the household. Other women described their ambitions that while they were not able to have an

education, they were determined that their children would, in many cases, the respondent was able to either contribute or pay entirely for their children's school fees.

> *In my life I thank God for this business, the big profit that I see from doing this business is the issue of sending the children to school because I know if I would not be doing this business it would be so difficult to send them to school... they are at the secondary school. So therefore, I find that there a relief* **(DSM_03)**

In addition women talked about an increased sense of confidence and satisfaction as a result of their employment.

> *Eeeh it's true that I have changed, when you are busy all the time, all your thoughts are on how you are going to make more money and you don't get time to think about stupid things. And also when you earn you use it for anything, you feel good and feel free to use money because it is yours and you haven't taken or stolen it from anyone. You can walk confidently* **(Yovita, DSM)**

> *Life is becoming good. If you are just idle at home you spouse gets tired. You are there just depending on him. You will both be happy if everyone goes to work and contributes something at home. When you get out of the home and meet with other people you get prospering ideas. You find that you change in your thinking* **(DSM_09)**

> *I feel so happy.... I wasn't happy when I wasn't working, because most of the time the money that a husband gives you is not satisfactory, he will just give you so that you can look after important needs. If you just wait for his money you feel humiliated for that money is not enough... So therefore, it's good that I am doing business. I feel so free* **(Mbeya_)**

Women in Mbeya who had experienced violence reported that their relationship with their partner was much improved since they had started their business.

> *Now I don't bother, I don't beg for money every now and then. So now it's all about working and problems of begging him for money are no longer there – so we live in peace and he lives in peace too* **(Joyce, Mbeya)**

> *He feels really good, because it can happen that the day he does not have money, he tells me he doesn't have money and he comes back in the evening and found me already cooked* **(Ida, Mbeya)**

9.3 Discussion: Women's paid employment and household gender relations

9.3.1 Main chapter findings

In this chapter I explored the implications of women's income earning from market trading activities on household gender relations and in particular on their vulnerability to partner violence. As discussed in chapter 2, the proportion of women engaged in informal sector activities has been increasing and it is one of the main sources of women's independent monetary income in Tanzania. Thus there has been a steady shift in women's productive roles from the traditional unpaid or paid in kind agricultural work, most commonly on family land, to women's waged employment. To explore the implications of this shift, using insights from economic theories on intra-household bargaining and feminist economics, I examined qualitative interview data conducted among ever partnered women engaged in trading activities.

The data I presented in this chapter highlights the highly influential role of social norms in influencing bargaining power, a feature that Agarwal (1997) argues has been absent in many studies [51]. One salient finding is the extent to which women accepted their gendered subordinate position within the household. Therefore, as conforming to Agarwal's description of the role of social norms and Kandiyoti's 'patriarchal bargain', women's options and visions of what are possible were constrained by gender ideology [200]. Women's awareness of cultural norms and values determined the way they conducted themselves in their decision to enter into employment, manage household income, and engage in household decision making. Often this was so as not to destabilise their partner's ascribed status as the head of the household and prime decision maker. A conduct that could also be explained by one of Sen's (1990) feature of cooperative conflict – breakdown well being response – where bargaining power is weakened if an individual fears violence or the threat of violence [48].

An expression of women's acceptance of their subordinate status was highlighted by their acceptance of partner violence as a normal part of marital relations, including in some instances of severe abuse, or they acknowledged that they were powerless against it. In this respect, women's access to money did not necessarily strengthen their fall-back position in terms of empowering women to negotiate for the violence to stop or even to leave a violent relationship. One of the main factors that facilitated women's

ability to either permanently or temporarily leave the home was their strong social, especially natal, support as illustrated in the cases of Neema and Lilly who both experienced severe abuse. In other cases where women were separated either she had become widowed or it was the partner who had left them.

Consistent with other studies in Brazil, Uganda and Nigeria women's access to money did not translate into sexual empowerment [286-288]. From the evidence presented, sexual negation was one arena where women were not able to exercise any decision making power. Only under certain and isolated instances were women able to refuse their partner sex – illness, menstruation and occasionally when they were tired. However, one woman used this to her advantage, possibly reflecting the 'patriarchal' framework within which she could strategise her actions as proposed by Kandiyoti (1988) [200]. Despite this, the respondent acknowledged the consequences of what might happen if her husband were to uncover her pretence. For many women, their prolonged refusals would have threatened their relationship possibly leading to violence, accusations of infidelity, or their partner having affairs and the potential consequences of exposure to sexual infections.

Consistent with findings from the literature review presented in chapter 3.4.4 was the constrained and controlled context within which women entered into employment. One of the main reasons why women entered into employment was because of economic necessity. Sen (1990) argues that attaching less value to one's self weakens negotiation and bargaining power [48]. However, I found that women's attachment of their 'self-interest' with that of their family served to enable them to exercise a form of agency, and that women were able to identify strategies to start their own business. For some women, their entry into employment was a relatively smooth negotiation with their partner, or negotiation took the form of calm persistence. For others, particularly those in highly conflicting and violent relationships, women actively engaged in employment irrespective of their partner's wishes.

Another encouraging finding is that there were no accounts of women reporting that their husband appropriated their money e.g. by using violence and women were not pressured to keep their income a secret. Thus women had a degree of autonomy in the management and use of their income. This is a finding that is different from the

accounts of women in Bangladesh where men commonly believed their wives resources rightfully belonged to them [62]. I found that some households fitted the 'cooperative' framework where incomes were commonly pooled and under women's management, and largely the gendered relationship was harmonious with a shared understanding of how the income should be distributed. I also found households that fitted the noncooperative and conflicting framework, where women kept their income separate from their partner and in many cases they did not know the extent of their partner's income. Within these households, women's partners usually kept the money themselves and did not give money to the family. Despite this separation of income, women would occasionally give their husband money either to maintain good relations or to avoid conflict.

However, irrespective of the household money management system, women's independent income introduced a stabilising component both to household needs and also to aspects of their relationship, in that it did not appear to increase women's vulnerability to partner violence. In households characterised as cooperative – e.g. Yovita in DSM and Ida in Mbeya who both experienced moderate physical violence – women's income enhanced women's perceived contribution and women appeared to be more appreciated by their husbands. In conflicting households, e.g. Joyce in Mbeya, women's income reduced an important conflict area – women continuously asking men for money. In this respect, women's income had a positive effect on their lives and mitigated one potential cause of violence in the household.

9.3.2 Chapter limitations

Initially I had envisaged that the research would involve women who were currently partnered (married or cohabiting) and this criteria was part of the screening process. At the beginning of data collection, a few respondents first reported that they were married when the screen was administered but then later in the interview revealed that they were either separated or widowed. In addition, the interviewers commented that during recruitment many of the women in the market places were either separated or widowed. This finding is consistent with a study conducted by Nyanzi et al. (2005) among market trading women in Uganda where there was also a disproportionately high number of

separated/widowed women [286].[76] Also, when reviewing the cases of these women, it became clear that the ability to analyse the accounts from women who were not partnered at the time of interview enabled me to gain an insight into some women's account of how it was impossible to negotiate entry into employment when partnered. Therefore, I decided to broaden the criteria to include separated/widowed women.

A second limitation of this research was that I was not able to attend the interviews and this may have compromised the depth and detail of the data. Initially I had intended to be present at the interviews with simultaneous translation in order to facilitate the converstaion. However, the Tanzania PI, Dr. Jessie Mbwambo, advised that because of the nature of the subject and because of cultural sensitivities women would be less likely to feel able to speak freely about their experiences if I were present.

Another limitation of the study is the quality of the interviews that was conducted by the second interviewer. This may have led to loss of information in identifying additional themes. However, the majority of interviews (16/20) were conducted by interviewer 1 and within her interviews similar themes emerged and with the interviews of interviewer 2.

A fourth limitation was that I was analysing translated data and it is possible that ideas and meaning get lost in translation possibly compromising the validity of the data [289-290]. A method that would potentially have controlled for this was to have had a Tanzanian native speaker code the data, and then for us to compare codes. However, due to financial and time constraints, this was not possible. Finally, because the majority of interviews were conducted in the place where women work, there were occasional interruptions that may have disrupted the flow of the conversation. In addition, the interviewer reported that for some interviews, the respondent was keen to get back to work.

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[76] Ideally the sample would have contained a greater number of currently partnered women in order to gain futher insights on the impact of their work on household gender relations and decision making. However, sampling from this group was difficult because of the disproportionately high number of non partnered women in the markets. While gathering information from separated/widowed women provide understanding of an additional push factor into employment, their inclusion may have added potential bias to the results.

9.3.3 Chapter conclusion

The findings from this chapter have highlighted the complexity of understanding the implications of women's paid employment. Women's income did provide a form of empowerment as women reported, with a sense of pride, how they were able to provide for themselves and their children's needs, some women reported that they had been able to save, support their extended family and to buy land/plots. In addition, women generally were able to keep the money that they earned and there was not one account of women reporting that their money had been appropriated from them. From the findings in this chapter, I conclude that women's employment had a positive effect on the sample women's lives I interviewed and importantly, served to mitigate one potential source of conflict in the household – negotiating over money. However, rigid social and cultural norms constrained women's decision making ability.

Chapter 10: Discussion and Conclusion

The overall aim of this thesis was to explore the relationship between women's economic status and different forms of partner violence in two contrasting Tanzanian settings. In doing so, this thesis has made several empirical and methodological contributions to this field. In previous results chapters I included detailed discussions of the specific chapter findings and limitations. For this reason, in this final chapter I focus on describing the contributions that my thesis has made in section 10.1 and assess the limitations of this thesis in section 10.2. From this I make recommendations for future research in 10.3, economic theory in section 10.4, and policy in section 10.5. Finally, I provide an overall thesis conclusion in section in 10.6.

10.1 Thesis contribution and overview of key findings

In this section I describe three broad contributions that this thesis has made to understanding the relationship between women's economic status and partner violence in Tanzania. The first is a systematic review of published evidence; the second thesis contribution is both empirical and methodological – understanding different forms of partner violence in DSM and Mbeya using LCA; the third thesis contribution is the new knowledge gained on partner violence and economic status in DSM and Mbeya

Systematic review of published evidence

The first empirical contribution this thesis research has made is a systematic review of published evidence, largely from cross-sectional studies, on the relationship between different measures of economic status and partner violence in LMIC. At the outset of this thesis research, existing published evidence had not been systematically compiled. Therefore, I conducted a systematic review in order to assess the current body of evidence, and the extent to which the evidence lends support to the different economic and sociological theories that proposed different predictions. In my systematic review, summarised in chapter 3 and included in Appendix 1, I found that that while SES, primarily measured by asset wealth, and women's and men's secondary education were generally protective against partner violence, the evidence regarding women's employment status was mixed. I found five studies that documented a significant protective association between women's employment and past 12 month partner violence, and six studies that documented a significant risk association.

In addition, I found that the evidence from microfinance interventions was also mixed with a significant protective association found in three sites and significant risk association found in two sites.

From the review, I conclude: first that the differing relationships seen between women's employment and risk of partner violence is likely to be influenced by contextual factors that require further exploration; and second, that the methodological limitations of the studies included in the review – that the vast majority were cross-sectional and could not distinguish causality – require advances in how this relationship is researched. The difficulty in establishing a causal relationship between women's employment and partner violence is also an issue in this thesis research, and exists in cross-sectional studies wherever there is an absence of a good instrumental variable.

In addition, to reviewing population-based studies from LMIC, I reviewed qualitative studies that explored the implications of women's access to monetary income on partner violence. Most of this in-depth exploration had been conducted in South Asia especially India and Bangladesh [49, 51-52, 62-63, 156, 189, 202]. This helped motivate the decision to conduct an in-depth exploration of this issue in Tanzania where there has been little previous research. Tanzania makes an interesting case study because it is a setting where high gender inequality exists, all forms of GBV including partner violence are prevalent, and women's participation in waged employment is increasing (chapter 2). In addition, I was able to take advantage of an existing household survey that was conducted by the WHO.

While I was reviewing the theoretical and empirical literature on economic status and partner violence, what became apparent was that there is a small, but evolving, body of work suggesting that there exist different forms of partner violence. This leads to the second thesis contribution where I explored whether such distinctions in partner violence exist in Tanzania.

Is partner violence the same phenomenon in Tanzania?

The second thesis contribution is both empirical and methodological, using LCA to explore patterns of partner violence in DSM and Mbeya. Descriptive analysis of the

WHO survey data, presented in chapter 5.3, confirmed that partner violence against women in both study sites is pervasive. Lifetime prevalence of physical and/or sexual violence was 41% in DSM and 56% in Mbeya, and past 12 month prevalence was 22% in DSM and 29% in Mbeya. Further descriptive analysis revealed that there was variation in terms of the acts of violence that were experienced. Among all women who experienced acts of physical violence, many experienced slaps only, a moderate form of physical violence, while others experienced a range of physical violence acts along with acts of sexual violence.

This raised the foundational question of whether it was appropriate to conceptualise partner violence as a unitary measure, as considered in the majority of studies – where all women experiencing any act of physical or sexual violence are grouped as 'abused' regardless of the acts experienced – and if not, what would be an appropriate method for identifying cases. To answer this question I considered the theoretical and empirical literature on making distinctions in forms of partner violence emerging from North America and the UK, and assessed the different methodological strategies the different studies used to identify forms of partner violence. This literature was presented in chapter 4.

While the importance of conceptualising different forms of partner violence is not contested, as yet, there has been limited research into how this should be done. From the empirical literature I was able to group the methodological approaches used to identify forms of partner violence into 1) an acts-based approach using LCA and 2) a control-based approach.

Using LCA I found that, in both DSM and Mbeya, cases of partner violence broadly divided into three groups: 1) women who experienced infrequent acts of physical violence – a form of partner violence I termed "moderate physical violence"; 2) women who experienced moderately frequent acts of sexual violence – a form of partner violence I termed "sexual dominant violence"; and 3) women who experienced frequent acts of physical and sexual violence – a form of partner violence I termed "severe abuse". I also found that these three LCA-classes of partner violence did not differ between DSM and Mbeya. To some extent the findings are consistent with other studies that have used LCA in that my classes of moderate physical violence and severe abuse

were differentiated by severity and also by the increased likelihood of sexual violence. The emergence of a "sexual dominant" class, however, has not been documented in other studies and suggests that within the partner violence structure that I found, at least two of the patterns of partner violence, moderate physical and sexual dominant are, on face value, conceptually distinct. To date, this is the first piece of research that has explored patterns of violence using LCA in a sub-Saharan Africa setting.

Having defined my LCA-classes of partner violence outcome variable, I was then able to conduct an in-depth exploration of the association between women's economic status and partner violence, and this leads to the third thesis contribution.

Women's economic status and partner violence

The third thesis contribution is the knowledge gained on the relationship between women's economic status and partner violence in Tanzania. To explore this relationship, I drew on the economic and sociological theories, presented in chapter 3, that relate different indicators of economic status with women's vulnerability to partner violence. The extensive econometric analyses of the WHO survey data, presented in chapter 8, however, did not find any consistent significant associations between women's economic status and partner violence – using two measures of partner violence physical and/or sexual (unitary conceptualisation) and the LCA-classes of partner violence. However, 'partner refusing to give money, even though he had money for other things' was a consistently significant factor that increased women's risk of partner violence in both sites – most considerably with severe abuse.

This was corroborated by the qualitative analysis, presented in chapter 9, that provided an in-depth insight into the implications of women's employment in market trading activities on household gender relations including partner violence. By drawing on economic bargaining models and feminist extensions of economic bargaining theory, reviewed in chapter 3, I explored the relationship between women's paid employment and partner violence at different stages – the decision to enter into employment, what happens once the money is brought into the household, and women's voice in decision making. I found that a major source of conflict within the household arose from the insufficient income provided by the respondents' partners and subsequently asking their

partner to provide more. The lack of money provided by women's partners and their sense of obligation to their family, and in particular their children, was a strong motivation for women to exercise their agency and enter into employment. I also found no instances of women reporting that their partners appropriated their money by, e.g., using violence. This finding contrasts with many of the studies that have been conducted in South Asia. However, while women valued their work, they also accepted the established gender hierarchy and their ability to earn money did not translate into sexual empowerment, i.e. their ability to negotiate sex with their partner. In addition, I found that being engaged in market trading activities did not necessarily mean women would leave a violent partner, rather it was strong natal family support that strengthened women's fall-back position.

Finally, this thesis research has also highlighted the complexity of understanding women's vulnerability to partner violence, and that factors such as early life characteristics and alcohol use play an important role in understanding women's risk.

10.2 Limitations

While this thesis has made several contributions to the understanding of the relationship between women's economic status and partner violence in a sub-Saharan Africa setting, there were several limitations to this research. At the end of each results chapter I discussed limitations that are specific to the analyses I presented. Below I briefly summarise the limitations discussed at the end of each results chapter and this is followed by a discussion of the broader limitations of this thesis research.

In chapters 7 and 8 I discussed the limits imposed by the WHO survey. First, respondents were asked about their experience of acts of violence from all partners, thus implying that the LCA-classes of partner violence reflect forms of violence across multiple partnerships. However, further analysis of the WHO data revealed that the vast majority of women reported experiencing violence from only one male partner and therefore I conclude that the LCA-classes of partner violence I found are reflections of violence women experience within a relationship. Second, questions relating to women's responses to partner violence – fighting back, leaving the relationship, and help seeking – were only asked to women who experienced acts of physical violence

and therefore, I could not explore the responses of women allocated to the "sexual dominant" violence class.

However, an important limitation to this thesis research is the measures of economic status available in the WHO household survey. In chapter 8 I concluded that the WHO survey module that collected information on economic status were: first quite crude and potentially not sensitive enough to measure e.g. women's employment; and second not designed to answer economic questions or enable an in-depth econometric exploration of the relationship between economic status and partner violence and that this limitation hampered the quantitative findings.

In my final results chapter that presented qualitative findings, I highlighted the limitations of the qualitative research that I undertook and that in particular I was essentially analysing secondary (translated) data.

In addition to these results specific limitations, there are several more broad limitations relating to the thesis research. The first relates to the lack of comprehensive understanding of forms of partner violence in sub-Saharan Africa that stem not only from insufficient theoretical formulations but also from limited methodological approaches to understanding the nature of partner violence. In addition, there is a lack of understanding in LMIC on understanding the role of controlling behaviour and emotional abuse and on how this plays out in different forms of partner violence. While I used LCA to advance the current evidence on conceptualising forms of partner violence in Tanzania, the analysis relied in part on face validity.

A second limitation is that the qualitative study that I undertook was conducted approximately seven years after the WHO study survey was administered. While combining qualitative and quantitative methods adds strength to this thesis, the different timings means that the findings of each are not directly comparable. Despite this, the findings from the qualitative study did help understand some of the potential findings from the quantitative analysis.

10.3 Implications for future research

This section proposes future research issues that stems from this thesis. First, more research is needed to address the lack of comprehensive understanding of whether different forms of partner violence exist in sub-Saharan Africa. This thesis research suggests three forms of partner violence but further research is required to validate this typology in Tanzania. In addition, further research is required to understand what constitutes emotional abuse and controlling behaviour in a sub-Saharan Africa setting, and the role that these play in partner violence. Johnson (1995) theorises that the motivation of relationship power and control distinguishes different forms of partner violence. However, whether this assertion translates into a sub-Saharan Africa setting is not yet clear. This research could involve in-depth interviews and focus group discussions with women who have experienced violence; men who have perpetrated violence against their female partner, a focus of research that has been under researched; and key informants e.g. health workers and community leaders.

A second area for further research is to advance analytically the evidence presented in this thesis on the relationship between women's economic status and partner violence in Tanzania. While this thesis research has provided some insights into this relationship, the results need to be interpreted within the limited context the WHO captured indicators of women's and men's economic status. Additional, questions that need to be addressed are the extent to which types of employment, (formal/waged versus informal/self-employed); employment stability (e.g. spells of unemployment; number of jobs lost; difficulty finding or keeping a job; the number of days or hours a week worked); and wage differentials between women and their partners, render women vulnerable to partner violence. Additional questions should assess the relationship between women's role in decision making and their vulnerability to partner violence. In addition, further enquiry should explore how community level factors influence women's vulnerability to partner violence. For example, societal levels of poverty and male unemployment, social norms and acceptance to women working, and the level of women engaged in employment.

This research could use two recently released population-based data, the 2008-2009 Tanzania Living Standards Measurement Survey (LSMS) and the 2010 Tanzania DHS.

Both surveys collect information on acts of physical and sexual partner violence and therefore, provide an opportunity to investigate the LCA-classes of partner violence and whether the findings I describe are maintained in other regions of Tanzania and even nationally. The 2010 Tanzania DHS also gathers information on women's experiences of violence with the current or last partner, thus enabling patterns of partner violence to be derived over a single partnership rather than over multiple partnerships.

In addition, both the 2008-2009 Tanzania LSMS and the 2010 Tanzania DHS collect more refined information, compared with the WHO study, on women's economic status. The 2010 Tanzania DHS gathers information on women's employment including distinguishing between informal and formal sector employment and participation in decision making [89]. The 2009 LSMS gathers information, on all household members, asking explicit questions on unemployment, waged jobs (including employment sector, income received, and hours worked), and self employment (type of self employment; size of business e.g. value of capital assets, number of employees; income; and source of start up capital).

Both the 2008-2009 Tanzania LSMS and the 2010 Tanzania DHS would enable multi-level analyses addressing questions such as the role of community level factors on women's vulnerability to partner violence. I couldn't do this analysis using the WHO data because of the small cluster sizes.

While the LSMS has the advantage of collecting data from men and women about their labour force participation, thus reducing the measurement error that is inherent in gathering proxy data, it does have limitations. Asking questions on the number of hours worked is subject to recall error and could be challenging if there are irregular or multiple income earning activities [284], It should also be borne in mind that DHS and LSMS data may underestimate prevalence of partner violence when compared to the more specialised surveys that focus on asking questions about partner violence [291].

Future research should also consider prospective studies that allow a change in men and women's employment status to be assessed in the long-term. The vast majority of current body population-based evidence that assesses the relationship between women's economic status and partner violence come from cross-sectional studies. To date, two

prospective studies have been conducted, in India and in Ethiopia, have assessed the effect of a change in men and women's employment on partner violence in the short-term.

Women's access to formalised employment outside of the home that provides regular income is an important strategy for enhancing women's empowerment and building more equitable relationships between men and women [204]. Therefore, an additional research enquiry is to expand the qualitative research, I presented in this thesis, to women working in different employment sectors, and to assess the extent to which the findings are similar or different within these categories. Are women in formalised employment better able to leave an abusive partner? Research should also focus on gathering information from men to understand the extent to which they support women taking on new economic roles.

10.4 Implications for theory

The findings from this thesis have highlighted the limitations of current sociological and economic bargaining theories. Sociological theories predict that increasing women's access to economic resources could either increase their risk of partner violence if it poses a challenge to gender norms, or could reduce their risk of partner violence by reducing dependency on their partner and providing them with options to leave an abusive relationship. However, both viewpoints focus on relationship characteristics that exist within the household and ignore the broader social context and norms.

Economic bargaining theory, that predicts that increasing women's access to economic resources enhances their power within relationships, to some extent, address the limitations of sociological theories. The cooperative bargaining framework allows for the incorporation of extra environmental parameters in econometric models. The noncooperative bargaining framework acknowledges, that in some contexts, leaving even an abusive relationship is not always a viable option. In addition, feminist economists have focussed their attentions on factors, such as social norms and individual gendered perceptions, to understand how women are able to translate economic resources into bargaining power within the household. These frameworks, therefore, enable an understanding of the different meaning women's access to

economic resources may have, and subsequently on their vulnerability to partner violence in different settings.

However, a limitation of economic bargaining theory is that additional socio-demographic factors that have consistently been found to play a role in partner violence are still ignored. For example, two important factors in this thesis study that determined women's vulnerability of abuse was the intergenerational cycle of violence and problematic partner alcohol use. The intergenerational cycle of violence, witnessing or experiencing violence in childhood for both the respondent and her partner, may lead to the acceptance of partner violence as normal family behaviour, or reduce women's self-esteem, thereby reducing her ability to leave potentially violent relationships. Partner alcohol use may lead to raised tensions in the household, or lower men's inhibitions or ability to resolve conflict more rationally. Therefore, women's ability to translate their economic resources into household bargaining power and negotiating a better situation for themselves is additionally influenced by the broader social context.

In addition, current conceptual models do not explain why differing patterns of risk may be documented for women's access to monetary resources, compared to other aspects of economic resources. Similarly, they do not explain how women's risk of partner violence may potentially evolve as the household financial situation improves. Conceptual models also have limitations in explaining how women's relative power or ability to resolve conflict increases as they develop social and economic empowerment skills.

These limitations highlight the need to bring together sociological and economic theories, which largely focus on the household, with broader sociological findings. This means understanding the ways in which gender relations at the micro-level interact and are affected by a range of cultural, institutional and political influences acting in different spheres of men and women's lives.

10.5 Implications for policy

The findings from this thesis highlighted the heterogeneous nature of partner violence that women experience in their intimate relationships with men. It also reinforced, from

the qualitative study, the increasing importance of women's economic contribution to the household and the consequences of women's dependency on their risk of partner violence in DSM and Mbeya. Therefore, along with reducing the normative use of VAW, developing appropriate services that address different forms of partner violence, and promoting women's and girl's economic empowerment to reduce their socioeconomic dependence on marriage and men is needed and requires engagement across sectors.

Women's access to money is an increasingly important part of household survival with women increasingly taking on economic responsibilities in Tanzania. While in the longer term this may help to break down rigid gender-based roles and cultural norms that are deeply entrenched, interventions in the immediate term could facilitate this process. One of the obstacles that women face when deciding to enter into informal sector trading activities is the capital that they require to start up their business. Women frequently must rely on their partner and sometimes their family to begin businesses – possibly reducing the effectiveness within which they are able to negotiate change. Microfinance schemes that target women could be an effective source of providing women with start-up capital that is independent from their partner. However empirical findings, primarily from Bangladesh, suggest conflicting evidence of the effect of microfinance on partner violence. More recent evidence increasingly recognises that training components that are combined with microfinance facilities have significant and empowering effects [292-294].

For example the IMAGE intervention in South Africa that combined a series of 10 learning and action training sessions on gender related issues, "Sister for Life", on to an existing microfinance scheme found health and social benefits including a reduction in the level of partner violence by one-half after two years [295-296]. Interventions aimed at adolescent girls may also be an important time to enhance their empowerment [297] In addition, a pilot intervention implemented by CAMFED (Campaign for Female Education) that provided non-repayable seed money loans to young women to start up businesses, found that the group solidarity and business training skills women gained had a positive effect on their lives [298].

However, while increasing women's access to credit and microfinance can play an important part in improving the lives of women, gender and development activists are proposing microfinance as one tool in women's empowerment and poverty reduction strategies [299]. Encouraging women's entry into informal sector activities should not mask the fact that small business enterprise does not necessarily provide regular secure income. Accounts from women in this thesis research highlighted the vulnerability of market trading that is also heavily tied with social structures, and that many women felt that their businesses were threatened by the increasing numbers of women starting businesses. Therefore, policies should also focus on improving other aspects of women's economic status. While Tanzania has made improvements in female education enrolment rates, much still needs to be done to ensure boys and girls are enrolled and stay in secondary and higher education. In addition, interventions to improve and promote women's formal sector waged employment should also be considered.

Interventions should also be introduced that strengthen women's fall-back positions including strengthening their rights and protection through legal aid. Establishing formal and community sources of support are required particularly for women who live far from their natal family or who aren't able to draw on family support. Currently in Tanzania there are few shelters and trained counsellors and social workers that deal with domestic violence cases. However, the setting up of shelters would require addressing the common perception that shelters are a place that teaches women 'bad things'. This sentiment was a reason the few shelters that had previously existed in Tanzania had to close.

The high prevalence of sexual violence found and women's inability to negotiate sexual relations and the established evidence of this link with HIV also points to integrating GBV into national HIV policies. Programmes are needed that address women's limited ability to negotiate their sexual rights and that challenge not only sexual violence but also the norms and beliefs that condone it. Communities should also be sensitised to the adverse effects of sexual violence. Studies also show that engaging with men, transforming their behaviour and challenging norms of masculinity, is a key strategy to prevent GBV [300]. In 2009 Engender Health Tanzania embarked on a five year program to increase men's involvement in the prevention of HIV/AIDS. By tackling

male gender norms within communities, one of the project's aims is to reduce gender-based violence and to redress the power imbalance in sexual relations [301].

In addition to women's empowerment programmes, the findings from this thesis highlight the need to address other areas that affect women's risk of partner violence. For example addressing problematic alcohol use and witnessing and/or experiencing violence in childhood.

10.6 Conclusion

The CEDAW challenges governments and the international community to address VAW. This has helped put renewed emphasis on the importance of enrolling girls in school, and improving women's access to resources and their economic empowerment. Although there has been some discussion about the ways in which partner violence may compromise governments' ability to achieve the MDG, there has been limited exploration on the potential impact of making progress towards these goals [3].

Further research is needed to better understand the ways in which women's economic status impacts on their relationships and risk of partner violence, and their strategic responses to the violence in different settings. The current intervention literature focuses on microfinance, and there is a need for research on the benefits of other forms of intervention that aim to increase women's access to financial resources or empower them socially.

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Appendix 1: Published paper from this thesis

HOW DOES ECONOMIC EMPOWERMENT AFFECT WOMEN'S RISK OF INTIMATE PARTNER VIOLENCE IN LOW AND MIDDLE INCOME COUNTRIES? A SYSTEMATIC REVIEW OF PUBLISHED EVIDENCE[†]

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Abstract: *Objectives:* To identify whether individual and household economic empowerment is associated with lower intimate partner violence in low and middle income country settings. *Methods:* Systematic PubMed and internet searches. *Results:* Published data from 41 sites were reviewed. Household assets and women's higher education were generally protective. Evidence about women's involvement in income generation and experience of past year violence was mixed, with five finding a protective association and six documenting a risk association. *Conclusion:* At an individual and household level, economic development and poverty reduction may have protective impacts on IPV. Context specific factors influence whether financial autonomy is protective or associated with increased risk. Copyright © 2008 John Wiley & Sons, Ltd.

Keywords: intimate partner violence; poverty; education; women's empowerment; micro-credit; women's employment; low and middle income countries

1 INTRODUCTION

Globally, gender-based violence is increasingly recognised as an important social, health and human rights problem crossing regional, social and cultural boundaries (Krug *et al.*, 2002; WHO, 2005). Violence by an intimate partner is one of the most common forms of gender-based violence, with population surveys suggesting that between 15 and 71 per cent of ever partnered women globally have been physically or sexually assaulted by an intimate partner at sometime in their lives (Garcia-Moreno *et al.*, 2006).

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Intimate partner violence (IPV) has been shown to adversely affect women's health, with evidence of an increased risk of HIV/AIDS, peri-natal and neonatal mortality, and a range of reproductive, mental and physical health outcomes (Jejeebhoy, 1998; Campbell, 2002; Ahmed *et al.*, 2006; Dunkle *et al.*, 2006). Violence has also been shown to limit the degree to which women are able to work, earn an income or independently make decisions about their health and their children's schooling and use of health services (Krug *et al.*, 2002; Gibson-Davis *et al.*, 2005), and so is an important barrier to development.

Within the development literature, the economic and social empowerment of women is recognised as a central strategy to help address poverty, and many development strategies target poor women (WHO, 2005). The rationale for women's economic and social empowerment is well established, with evidence from a range of settings finding that when given access to financial resources, women are more likely to invest in their children's education and nutrition (Quisumbing and Maluccio, 2003; Kabeer and Mahmud, 2004; Roushdy, 2004), have improved health seeking behaviour, and improved antenatal attendance and reduced fertility (Schultz, 1990; Kadir *et al.*, 2003).

Theoretically also, the economic empowerment of women has the potential to have a positive or negative impact on women's risk of violence. Women with education or who contribute financially may have a higher status in their household, and be less vulnerable to abuse. Conversely, this may challenge the established status quo and power balance with her partner, and so be associated with an increased risk of violence. Given the important benefits of economic empowerment, it is important to understand the relationship between economic empowerment and women's risk of violence in different settings.

After a discussion of the theoretical models of the relationship between economic empowerment and IPV, this paper presents a review of existing published evidence on the relationship between different forms of economic empowerment and women's risk of IPV. The implications for social and development policy are then discussed.

1.1   Theoretical Models of the Relationship Between Economic Empowerment and Risk of IPV

An evolving body of economic and sociological theories have sought to explain how women's risk of IPV may be affected by the absolute and relative level of resources within a household, with different theories having different conclusions about the way in which women's economic empowerment may affect women's risk of IPV.

Framed around the sociological perspective of social exchange theory, where social interactions are governed when the benefits of the interaction outweigh the costs, resource theory asserts that the family is a power system and that men with few economic resources (earnings, social status, education attainment) may use violence as an alternative form of resource to control their partner. This theory sees violence as an additional resource that men can use to maintain dominance within the family, and that there will be a correlation between poverty and IPV (Goode, 1971).

This has been expanded to more explicitly to consider the relative distribution and differentials in resources (Relative resource theory) (McCloskey, 1996; Macmillan and Gartner, 1999). This theory suggests that where status inconsistency exists (i.e. women who are employed when their partner is not, have a higher income than their partner, or have more education than their partner), women with higher status are at an increased risk of violence, because they are challenging men's status as head of the household. However, such assumptions have been critiqued by gendered resource theorists. They highlight that this

ignores cultural variables and gender ideologies, with relative resource theory assuming that all men want to be the main income earner and dominate decision making. They further propose that women's higher status will not be associated with an increased risk of violence if the partner holds more egalitarian views on gender ideologies (Atkinson and Greenstein, 2005).

In contrast, marital dependency theory argue that women who are economically dependent on their partner are at greater risk of IPV (Dobash and Dobash, 1979; Kalmuss and Straus, 1982; Hornung *et al.*, 1981; Gelles, 1976). They argue that women with few economic resources cannot easily leave their partner, and are less able to negotiate change, leading to higher endurance for IPV. Economists have used household models to understand women's risk of IPV, and propose that increasing women's economic resources empowers her to bargain for a better situation for herself or to leave, therefore, reducing her risk of abuse (Tauchen *et al.*, 1991; Tauchen and Witte, 1995; Holvoet, 2005).

In addition, the ecological model proposes that the factors associated with IPV is multi-faceted, and that it is an interplay of individual, family and community factors that influences the likelihood of whether violence may occur within a household or not (Heise, 1998). Within this framework, the absolute or relative levels of education or employment that women and men have within a partnership are recognised as being potentially influential, but the role of other contextual factors is also more explicitly acknowledged.

2 METHODS

The search strategy aimed to identify papers that presented empirical population-based quantitative findings about the association between different indicators of women's economic and social empowerment and women's reported experience of IPV in low and middle income countries (LMICs, as defined by the World Bank classifications[1]). As it was recognised that women's risk of violence would be strongly influenced by a woman's age (with younger women being at greater risk of ongoing violence, and older women potentially having greater risk of ever having experienced violence), our review only included findings from multivariate analyses that had controlled for age-related variables (age of woman or length/duration of relationship; age at union). Also included in the review were the results from intervention studies that sought to economically or socially empower women.

Between January and August 2007 a PubMed search was conducted using the terms [partner violence; IPV; spouse abuse; wife abuse, domestic violence AND survey; domestic violence AND low income; domestic violence AND middle income; domestic violence AND developing country]. In total almost 9000 (8969) articles were identified. Articles (8194) remained after duplicates and articles with either no author or that were not in English were rejected. Based on titles and abstracts, the vast majority of articles were rejected because they had an industrial country focus; were not population based (e.g. clinic); focussed on childhood, elderly or same-sex couple abuse or did not report risk or protective factors associated with violence.

Sixty-three articles were then reviewed in full (note one article could not be obtained but we contacted the author who sent us the masters thesis the article was based on). Ten articles either analysed data using a sample of men (nine) or a combined men and women sample (one). Of the remaining 53 articles a further 24 were excluded: twelve presented bi-variate analyses only; seven reported IPV prevalence but not associated risk and protective

factors; three were clinic based; one was a review article and another presented qualitative research. Of the remaining 29 articles five used the same data reporting the same findings. Therefore, 24 articles were included from the PubMed search.

A further three studies were identified from a grey literature search on the internet, and three additional articles were identified from the reference lists from journals/articles not picked up from the database search. In total, this gave 30 studies included for this review, with four presenting intervention data.

Data extracted included country/location of study, year of data collection, characteristics of sampled women, measure of violence and prevalence of violence (ever and past year). Evidence presented on the association between different indicators of women's empowerment and women's ever and past year experience of IPV were both summarised.

3 RESULTS

Thirty articles were included in the study, analysing data from LMICs and yielding results from 41 sites (Table 1).[2] Most studies analysed population-based cross-sectional data from 40 sites, and one analysed the impact of an empowerment interventions on women's risk of violence (South Africa). The study years (data collection) ranged from 1992 (Schuler *et al.*, 1996; Oropesa, 1997) to 2005 (Aekplakorn and Kongsakon, 2007). Data had been collected before 2000 in 17 sites and from 2000 in 24. Most (38) specified the age of the woman sampled, with the most common age range being 15–49 (23 sites). Thirty-six sites specified the status of the women sampled, with 16 being ever married or ever partnered women, and 17 currently married or partnered women. Of the remaining three the sampling criteria were women who were sexually active, women with a child less than one year of age and women representing the family. Fifteen sites asked a number of questions about specific acts of violence based on established tools and questionnaires, for example the Conflict Tactics Scale (CTS), and in another 15 sites one broad question was asked about physical violence (most commonly whether the woman had been beaten, others were whether the woman had been hit, assaulted mistreated or hurt). Of these, in three sites an additional question on whether the respondent had experienced sexual violence was asked. In a further eight sites, either three or four questions were asked. One study in Turkey (Kocacik and Dogan, 2006) reported prevalence of physical violence, but did not specify how violence was measured, one study asked about experience of physical and or sexual violence (Pronyk *et al.*, 2006) and one study asked about sexual violence only (Brown *et al.*, 2006).[3]

Twenty-two sites documented ever physical violence, and prevalence ranged between 13 and 67 per cent. Ever physical/sexual violence was documented in eight sites (prevalence range of 17.5–54.3 per cent (includes threat)), past year physical violence was documented in 24 sites (prevalence range of 7.2–46.8 per cent) and past year physical/ sexual violence in 10 sites (prevalence range of 11.0–30.9 per cent (includes threat)). The intervention study measured the levels of violence among intervention recipients. Five sites recorded ever experience of sexual violence (prevalence range of 3.4–37 per cent) and four

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[2]India urban and rural combined in multivariate analysis (Panda and Agarwal).

[3]Separate acts of violence were considered in the following groups:

Threat: threaten with violence/to kill; threaten to hurt family/friends; use threatening gestures; use insults sworn. Physical: kick, drag, pull, held down; push, shake; slap; burnt, scalded; beaten, hurt; punch, hit with fists, hit; hit with weapon, blow with an object; threw object; bitten; choke, strangled; threaten with a weapon; other for example locked up.

Sexual: forced to have sex; had sex when did not want to.

Table 1. Population studies and prevalence of IPV

Country	Author/year	Location	Setting	Study year	Sample women Age/status	Violence measure no. acts/ Source of questions	% experienced ever violence		% experienced past year violence	
							Physical (sexual only)	Physical and sexual	Physical (sexual only)	Physical and sexual
Egypt	Kishor and Johnson (2004)	National	Mixed	1995–1996	15–49 ever married	1 physical	34.4		12.5	
Egypt	Yount (2005)	Minya	Mixed	1995–1997	15–54 currently married	1 physical			9.0	
Lesotho	Brown et al. (2006)	Maseru; Maputsoe	Urban	2003	18–35	1 sexual	(18.3)			
Nigeria	Okemgbo et al. (2002)	Imo State Oweri; Orlu	Urban Rural	2000 2000	15–49 15–49	1 physical 1 physical	Not stated Not stated			
South Africa	Jewkes et al. (2002)	Eastern Cape; Mpumalanga; Northern Province	Mixed	1998	18–49 ever partnered	8 physical, 1 threat CTS	24.6		9.5 11.6[1]	
South Africa	Pronyk et al. (2006) Intervention	Limpopo	Rural	2001–2005	Currently or living as married	'Experience' (B-line;F-up) intervention				11.0; 6.0
Tanzania	McCloskey et al. (2005)	Moshi	Urban	2002–2003	20–44 currently partnered	4 physical, 1 sexual, 2 threat CTS, AAS, SES	19.7 (3.4)	26.1[1]	16.2 (1.4)	21.2[1]
Uganda	Koenig et al. (2003a)	Rakai	Rural	2000–2001	15–59 sexually active	9 physical, 2 threat CTS	24.8 30.4[1]		15.1[1] (19.9)	
Uganda	Karamagi et al. (2006)	Mbale	Mixed	2003	18+ has child <1	1 physical, 1 sexual	37.2 (37.0)	54.3[1]	13.6	
Zambia	Kishor and Johnson (2004)	National	Mixed	2001–2002	15–49 ever married	1 physical, 1 sexual		48.4		26.5
Bangladesh	Bates et al. (2004)	Rangpur; Faridpur; Magural	Rural	2001–2002	15–49 currently married	6 physical CTS	67.0 33.4[2]		34.6 17.3[2]	
Bangladesh	Koenig et al. (2003b)	Sirajgonj	Rural	1993	15–49 currently married	1 physical			46.8[3]	
		Jessore	Rural	1993	15–49 currently married	1 physical			39.0[3]	

[Corrections made here after online publication].

(*Continues*)

Table 1. (Continued)

Country	Author/year	Location	Setting	Study year	Sample women Age/status	Violence measure no. acts/ Source of questions	% experienced ever violence		% experienced past year violence	
							Physical (sexual only)	Physical and sexual	Physical (sexual only)	Physical and sexual
Bangladesh	Naved and Persson (2005)	Dhaka	Urban	2001	15–49 ever married	10 physical CTS			19.0	
		Matlab	Rural	2001	15–49 ever married	10 physical CTS			16.0	
Bangladesh	Hadi (2005)	10 districts	Rural	1996	<50 currently married	4 physical			22.0	
Bangladesh	Schuler et al. (1996)	Chittagong; Dhaka; Kulna; Rajshahi	Mixed	1992	<50 currently married	1 physical	47.0		19.0	
Bangladesh	Ahmed (2005)	Matlab	Rural	1999	15–49 currently married	3 physical			14.5[1] (4 month)	
Cambodia	Kishor and Johnson, 2004	National	Mixed	2000	15–49 ever married	9 physical, 2 sexual CTS		17.5		15.4
Cambodia	Yount and Carrera (2006)	National	Mixed	2000	15–49 currently married	9 physical, 2 sexual CTS			14.9	15.8
India	Krishnan (2005)	Karnataka	Rural	1999	15–50 currently married	2 physical	29.0 (12)	34.1		
India	Rao (1997)	Karnataka	Rural	Not stated	15+	1 physical	22.1			
India	Kishor and Johnson (2004)	National	Mixed	1998–2000	15–49 ever married	1 physical	18.9		10.3	
India	Panda and Agarwal (2005)	Kerala	Urban	2001	15–49 ever married	4 physical, 1 sexual, 1 threat	27.0		(15.8)	25.1[1]
			Rural				41.4		(14.0)	30.9[1]
Iran	Ghazizadeh (2005)	Sanandaj city	Urban	2000	<20–50+ currently married	1 physical	38.0		15.0	
Philippines	Hindin and Adair (2002)	Cebu	Mixed	1994	currently married	1 physical	13.0			
Thailand	Aekplakorn and Kongsakon (2007)	Bangkok	Urban	2005	15+ currently married	4 physical, 1 sexual, 1 threat				27.2[5]
Columbia	Kishor and Johnson (2004)	National	Mixed	2000	15–49 ever married	9 physical, 1 sexual CTS		44.1		

[Corrections made here after online publication].

Dominican Republic	Kishor and Johnson (2004)	National	Mixed	2002	15–49 ever married	9 physical, 2 sexual CTS		22.3		11.0
Haiti	Gage (2005)	National	Mixed	2000	15–49 ever married	10 physical, 2 sexual, 2 threat CTS			17.2 (17.0)	
Haiti	Kishor and Johnson (2004)	National	Mixed	2000	15–49 ever married	9 physical CTS	28.8		21.0	
Mexico	Oropesa (1997)	National	Mixed	1992	25–31; 40–49	1 physical	19.9			
Mexico	Rivera-Rivera et al. (2004)	Cuernavaca Morelos	Urban	1998	15–49 currently partnered	8 physical, 6 threat CTS			35.8[4] / 9.5[2]	
Nicaragua	Ellsberg et al. (1999)	Leon	Urban	1995	15–49 ever married	8 physical CTS	52		27	
Nicaragua	Kishor and Johnson (2004)	National	Mixed	1997–1998	15–49 ever married	8 physical, 3 sexual CTS		30.2		13.2
Peru	Flake (2005)	National	Mixed	2000	15–49 currently partnered	3 physical	38.9			
Peru	Kishor and Johnson (2004)	National	Mixed	2000	15–49 ever married	4 physical	42.4			
Albania	Burazeri et al. (2005)	Tirana	Urban	2003	25–65 currently married	4 physical			37.0	
Turkey	Kocacik and Dogan (2006)	Sivas	Rural	2004	Representing family	Physical, sexual, verbal	38.3[3] (7.9)			
Ukraine	Dude (2007)	National	Mixed	1999	15–44 ever married	5 physical	38.6		7.2	

CTS, conflict tactic scale; AAS, abuse assessment screen; SES, sexual experience survey.

Two Haiti studies and two Cambodia studies use same DHS data.

[1]Includes threat; [2]Severe; [3]Domestic violence by any family member; [4]Low/moderate; [5]Includes psychological.

sites recorded past year experience of sexual violence (prevalence range of 1.4–17 per cent). One study investigated correlates with IPV in two Nigeria sites but did not provide data on the prevalence of violence.

The most common measure of poverty used was based on ownership of assets (23) either classified into socioeconomic categories or developed into a scale, land ownership was used in three sites and housing characteristics in one site. Nine sites used monetary measures of poverty either household income (six) or expenditure (two) and one site used both (note in two separate models). The remaining two sites used a self-perceived poverty status measure, or a measure based on access to basic needs. Two measures of education attainment were commonly used, level of achievement (e.g. none, primary, secondary or more) and years in school (generally 5 or more years). Higher education was compared in three sites (e.g. education beyond the age of 16 or university), two compared some schooling with no schooling (we assume primary with none) and one compared high education with low education. Relative education mostly compared more women's education with equal or less than men's education. Economic empowerment was defined as women's access to resources either through income generating activities (employment or credit programmes). Additional measures of economic empowerment included a woman's ownership of land or property, control over her resources or decision-making power (autonomy) or her contribution to the household expenses.

3.1 Violence and Poverty

The relationship between violence and poverty was examined in 34 of the 41 sites (Table 2). Fifteen sites investigated the association between ever violence and asset wealth, with a significant protective association being found in five settings, including a significant decreasing trend association in India, the Philippines and Ukraine (Hindin and Adair, 2002; Kishor and Johnson, 2004; Dude, 2007). When compared to the poorest socioeconomic group, the highest asset quintile was associated with significantly lower physical violence in Egypt and in Peru (Kishor and Johnson, 2004). In three sites (Zambia, Cambodia and Columbia), the association between socioeconomic status (SES) and physical/sexual violence was not trended (Kishor and Johnson, 2004). The other seven studies showed no significant association. A further five sites investigated whether physical violence was associated with monetary measures of household SES. Higher income was associated with significantly higher physical violence in two Nigerian sites (Okemgbo *et al.*, 2002). Higher household income and monthly expenditure was slightly but significantly associated with lower physical violence in India (Rao, 1997; Panda and Agarwal, 2005) and in Turkey income was significantly associated with physical violence but it is not clear in which direction as the comparison group was not stated (Kocacik and Dogan, 2006).

Sixteen sites investigated the association between past year violence and asset wealth. There was a significant decreasing association in three Bangladesh sites, Egypt and Ukraine (Koenig *et al.*, 2003b; Bates *et al.*, 2004; Yount, 2005; Dude, 2007) and a decreasing trend by socioeconomic group in India, Egypt and Cambodia (Kishor and Johnson, 2004; Yount and Carrera, 2006). Severe physical violence was significantly lower in high SES households compared with low SES in Mexico though there was no significant association between moderate physical violence and SES (Rivera-Rivera *et al.*, 2004). There were significant protective relationships between asset wealth and physical and/or sexual violence in Zambia and Cambodia (Kishor and Johnson, 2004) though a trend was not clear, and no significant association in the other five sites. Of the seven sites using non-

Table 2. Association between IPV and household socioeconomic status and income

Study	Violence measure	SES level compared *Reference group*	Ever violence odds ratio (CI)	Past year violence odds ratio (CI)
Egypt	Physical	Asset quintiles		
Kishor and		*1 poor,* 2	1.07	0.93
Johnson (2004)		3	0.88	0.70**
		4	0.71*	0.58**
		5	0.51**	0.41**
Egypt	Physical	Asset wealth		0.83*
Yount (2005)		index		
Lesotho	Sexual	Mean number	0.95 (0.83–1.08)	
Brown *et al.* (2006)		of assets		
Uganda	Physical/sexual/	Asset quintiles	Data not	
Karamagi *et al.* (2006)	threat	*1–3 poor,*	shown NS	
		4–5 least poor		
Zambia	Physical/sexual	Asset quintiles		
Kishor and Johnson (2004)		*1 poor,* 2	0.77*	0.76*
		3	0.90	0.83
		4	0.93	0.69*
		5	1.11	0.97
Bangladesh	Physical	Asset scale (0–7)		0.81*** (0.73–0.89)
Bates *et al.* (2004)				
Bangladesh	Physical	*No land ownership,*		0.93***
Sirajgonj		land ownership		
Bangladesh Jessore	Physical	*No land ownership,*		0.94***
Koenig *et al.* (2003b)		land ownership		
Bangladesh	Physical	Housing material		0.89 (0.64–1.23)
Schuler *et al.* (1996)		*poor, less poor*		
Cambodia	Physical/sexual	Asset quintiles		
Kishor and Johnson (2004)		*1 poor,* 2	0.85	0.84
		3	0.66**	0.57*
		4	0.76	0.85
		5	0.77	0.82
Cambodia	Physical	Asset quartiles		
Yount (2006)		*1 poor,* 2nd quartile		0.79 (0.57–1.09)
		Upper 50%		0.55*** (0.39–0.76)
India	Physical	Asset quintiles		
Kishor and Johnson (2004)		*1 poor,* 2	0.87**	0.86**
		3	0.72**	0.68**
		4	0.54**	0.49**
		5	0.30**	0.26**
India	Physical	*No land ownership,*		
Krishnan (2005)		land ownership	0.79 (0.50–1.23)	
		No TV ownership,		
		TV ownership	0.78 (0.34–1.80)	
Columbia	Physical/sexual	Asset quintiles		
Kishor and Johnson (2004)		*1 poor,* 2	1.16	
		3	1.43**	
		4	1.21	
		5	1.08	
Dominican Republic	Physical/sexual	Asset quintiles		
Kishor and Johnson (2004)		*1 poor,* 2	0.96	0.93
		3	0.93	0.88
		4	0.83	0.84
		5	0.72	0.86
Mexico	Physical low/	Assets *low,* medium		0.99 (0.72–1.36)
Rivera-Rivera *et al.* (2004)	moderate	high+		0.83 (0.62–1.10)
	Physical severe	Assets *low,* medium		1.09 (0.65–1.83)
		high+		0.57 (0.34–0.95)

[Corrections made here after online publication].

(Continues)

Table 2. (Continued)

Study	Violence measure	SES level compared *Reference group*	Ever violence odds ratio (CI)	Past year violence odds ratio (CI)
Nicaragua Kishor and Johnson (2004)	Physical/sexual	Asset quintiles *1 poor*, 2	1.05	0.89
		3	1.03	0.95
		4	1.02	1.13
		5	0.89	0.85
Peru Flake (2005)	Physical	Asset scale (0–7)	1.01	
Peru Kishor and Johnson (2004)	Physical	Asset quintiles *1 poor*, 2	1.08	
		3	1.06	
		4	0.87	
		5	0.63**	
Philippines Hindin and Adair (2002)	Physical	Number of assets owned	0.91*	
Haiti	Physical	Assets *non-poor*, poor		0.96
Gage (2005)	Sexual	Assets *non-poor*, poor		0.88
	Emotional	Assets *non-poor*, poor		0.87
Haiti Kishor and Johnson (2004)	Physical	Asset quintiles *1 poor*, 2	1.12	1.14
		3	1.19	1.20
		4	0.82	0.81
		5	0.86	0.80
Ukraine Dude (2007)	Physical	Asset index score	0.78***	0.75*
Bangladesh Ahmed (2005)	Physical p4m	Self-rated poverty status *non-deficit*, deficit		1.38‡ (1.05–1.82)
Nicaragua Ellsberg *et al.* (1999)	Physical	Access basic needs (sanitation; education; economic conditions) *all three non-poor*, poor		1.82 (1.03–3.23)
Nigeria urban	Physical	*Low income*, high income	1.11*	
Nigeria rural Okemgbo *et al.* (2002)	Physical	*Low income*, high income	1.10*	
Bangladesh urban Naved and Persson (2005)	Physical	Income quartile *1 poor*, 2		0.90
		3		0.72
		4		0.64
Bangladesh rural Naved and Persson (2005)	Physical	Income quartile *1 poor*, 2		0.69
		3		1.13
		4		0.75
Bangladesh Hadi (2005)	Physical	Household expenditure *poor*, non-poor		0.63
India (model 1)	Physical	Household monthly expenditure	1.00***	
India (model 2) Rao (1997)	Physical	Household monthly income	1.00***	
India Panda and Agarwal (2005)	Physical	Per capita expenditure *<6000*, 6000–11 999	0.09*	
		12 000 & above	0.10*	
	Physical/sexual/ threat	*<6000*, 6000–11999		0.17*
		12 000 & above		0.15*
Albania Burazeri *et al.* (2005)	Physical	Household monthly income Low <80; mid 150; h+		Data not shown NS
Turkey Kocacik and Dogan (2006)	Physical	*(Not stated)* 5000–9999 USD	7.47 (2.74–20.38)	

+, significant trend relationship; *<0.01; **p < 0.005; ***<0.001; †<0.1; ‡<0.05.
NS: Not significant
[Corrections made here after online publication].

asset measures of wealth, per capita expenditure was significantly inversely associated with physical and/or sexual violence in India (Panda and Agarwal, 2005) and higher self-rated poverty in Bangladesh (Ahmed, 2005) and poorer access to basic needs in Nicaragua were significantly associated with higher physical violence.

3.2 Violence and Education

Thirty-three sites measured the association between IPV and women's education attainment (Table 3), with a mixed range of patterns. Twenty-three sites investigated the relationship between women's education attainment and ever violence, of which nine showed a significant protective association, two a significant risk relationship and twelve no significant relationship. Of the nine sites showing a protective effect, the association between higher education and lower IPV held only for secondary or more schooling, compared to women with no education in Egypt, India and Cambodia (Kishor and Johnson, 2004) and post-secondary education in Peru (Flake, 2005). More than 8 years of schooling, compared with 0–7 years, was protective in Uganda (Karamagi *et al.*, 2006). Significant protective effects of schooling were also documented in South Africa comparing post-school education with no post-school education (Jewkes *et al.*, 2002), in Mexico where education was categorised in an ordinal scale (Oropesa, 1997), and in Turkey where illiterate and non-illiterate women were compared (Kocacik and Dogan, 2006). Secondary education was protective against ever experience of sexual violence in Lesotho (Brown *et al.*, 2006). However, in Peru and Haiti (Kishor and Johnson, 2004) ever physical violence was significantly higher among women with primary schooling compared to women with no schooling.

Twenty sites investigated the association between past year violence and women's education attainment, with eleven finding a significant protective association and two a significant risk association. When compared with no education, significantly lower physical violence was found for women with secondary or more education, but not primary, in Egypt and India (Kishor and Johnson, 2004), with 5+ years, but not 1–5 years, in Bangladesh (Bates *et al.*, 2004), with 8 or more years of schooling, but not 1–7 years, in Uganda (includes threat) (Koenig *et al.*, 2003a) and secondary or more education in Cambodia (includes sexual violence) (Kishor and Johnson, 2004). Some education was associated with significantly lower past 4-month physical violence in Bangladesh compared with no education and there was also a significant decreasing trend associated with physical violence in rural Bangladesh (Koenig *et al.*, 2003b; Ahmed, 2005). In Mexico, more than 10 years of education was associated with significantly lower moderate and severe physical violence compared with only 6 years of education (Rivera-Rivera *et al.*, 2004) and in South Africa, post-school education was associated with significantly lower physical violence and physical violence and threat (Jewkes *et al.*, 2002). Less than complete primary was associated with significantly higher physical and sexual violence and threat when compared with some secondary education in Tanzania (McCloskey *et al.*, 2005). In two sites a higher education attainment was associated with significantly higher violence: Albania (Burazeri *et al.*, 2005) and incomplete primary compared with no education was associated with significantly higher physical, sexual and emotional violence in Haiti (Gage, 2005). No significant association was found between education attainment and past year violence in the other seven sites.

Fifteen sites looked at the association between ever violence and men's education. Women's risk of physical violence was significantly lower when their partner had secondary or more education compared with no schooling in Egypt and India (Kishor and

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Table 3. Association between IPV and social power? Measured by education

Study	Violence measure	Education reference group		Woman		Partner		Woman's education relative to man		
				Ever violence odds ratio (CI)	Past year violence odds ratio (CI)	Ever violence odds ratio (CI)	Past year violence odds ratio (CI)	Reference group	Ever violence odds ratio	Past year violence odds ratio (CI)
Egypt Kishor and Johnson (2004)	Physical	*None*	primary secondary+	1.04 0.57**	0.92 0.53**	0.89 0.63**	0.77 0.69	*More* both none Same Less	0.96 0.96 1.09	0.65 0.93‡ 0.85
Egypt Yount (2005)	Physical							*Same* more 1–5 years less 6–17 years less		0.60 1.04 1.49‡
Lesotho Brown *et al.* (2006)	Sexual	*Primary* secondary		0.70‡ (0.49–1.00)						
Nigeria urban	Physical	*Low*	high	0.80		0.63				
Nigeria rural Okemgbo *et al.* (2002)	Physical	*Low*	high	1.25		0.30*				
South Africa Jewkes *et al.* (2002)	Physical Physical/threat	*No post-school* post-school *No post-school* post-school		0.29** (0.13–0.65)	0.11‡ (0.01–0.91) 0.33† (0.09–1.16)					
Tanzania McCloskey *et al.* (2005)	Physical/ sexual/threat	*Some secondary* ≤complete primary			1.70 (1.13–2.58)					
Uganda Koenig *et al.* (2003a)	Physical/threat	*0 years* 1–7 years ≥8 years			0.83 (0.63–1.10) 0.66 (0.47–0.92)					
Uganda Karamagi *et al.* (2006)	Physical/ sexual/threat	*0–7 years* ≥8 years		0.30 (0.10–0.70)		Data not shown NS				
Zambia Kishor and Johnson (2004)	Physical/sexual	*None* primary ≥secondary		1.10 0.90	1.05 0.97	0.91 0.87	0.86 0.71	*More* both none Same Less	0.85 1.08 1.08	0.89 1.15 1.12
Bangladesh Bates *et al.* (2004)	Physical	*0 year* 1–5 years >5 years			0.78 (0.56–1.08) 0.62‡ (0.40–0.97)					
Bangladesh Sirajgonj Koenig *et al.* (2003b)	Physical	*0 years* 1–5 years ≥ 6 years			0.71*** 0.29***		0.90 0.84			
Bangladesh Jessore Koenig *et al.* (2003b)	Physical	*0 years* 1–5 years ≥6 years			0.77*** 0.53***		0.98 0.68*			
Bangladesh urban Naved and Persson (2005)	Physical	*0 years* 1–5 years 6–10 years ≥11 years					0.97 0.53‡ 0.49‡			
Bangladesh rural Naved and Persson (2005)	Physical	*0 years* 1–5 years 6–10 years ≥11 years					0.78 1.15 0.41‡			

[Corrections made here after online publication].

Study	Violence	Education					Relative		
Bangladesh Ahmed (2005)	Physical	*None* some		0.59* (0.42–0.83)		1.00 (0.74–1.38)			
Bangladesh Schuler *et al.* (1996)	Physical	*No schooling* some schooling		0.70 (0.46–1.05)					
Cambodia Kishor and Johnson (2004)	Physical/sexual	*None* primary	0.78	0.75	1.04	0.93	*More* both none	0.67	0.55
		≥secondary	0.41†	0.42†	0.79	0.72	Same	0.93	0.98
							Less	0.81	0.83
Cambodia Yount (2007)	Physical						*0–7 fewer* more		(0.99–1.88)
							8–13 fewer years		1.48† (0.83–2.63)
India Kishor and Johnson (2004)	Physical	*None* primary	1.05	0.94	1.01	0.91	*More* both none	0.89‡	0.88
		≥secondary	0.74**	0.70**	0.83**	0.79**	Same	0.78**	0.81‡
							Less	0.90‡	0.93
India (model 1)	Physical	Years in school	0.87		1.17†				
India (model 2) Rao (1997)	Physical	Years in school	0.86		1.26†				
India Panda and Agarwal (2005)	Physical (ever)	*0–6 years* 6–12 years	0.67	0.55			*Same* less	1.18	1.36
	Physical/ sexual/threat	>12 years	1.09	1.43			More	0.63	0.83
Iran Ghazizadeh (2005)	Physical		Data not shown NS		0.79†				
Philippines Hindin and Adair (2002)	Physical	Grades completed	1.00		0.96				
Thailand Aekplakorn and Kongsakon (2007)	Physical/sexual/ psychological	*Secondary* none primary	1.93 (0.95–3.94) 2.05 (0.95–4.45)						
Columbia Kishor and Johnson (2004)	Physical/ sexual	*None* primary	1.18		1.04		*More* both none	1.29	
		≥secondary	1.00		0.94		Same	0.82‡	
							Less	1.10	
Dominican Republic Kishor and Johnson (2004)	Physical/ sexual	*None* primary	1.18	1.26	1.01	1.21	*More* both none	0.77	1.53
		≥secondary	1.33	1.29	0.93	1.03	Same	0.95	1.01
							Less	0.97	0.85
Mexico Rivera-Rivera *et al.* (2004)	Physical low/ moderate*	*6 years* 7–9 years		0.89 (0.66–1.19)		0.91 (0.67–1.24)			
		≥10 years		0.71‡ (0.53–0.96)		0.63 (0.47–0.85)			
Mexico Rivera-Rivera *et al.* (2004)	Physical severe*	*6 years* 7–9 years		0.99 (0.60–1.62)		0.67 (0.40–1.11)			
		≥10 years		0.58 (0.40–1.00)		0.37 (0.22–0.63)			
Mexico Oropesa (1997)	Physical	5 scale (none, **primary**, middle, high, college)	0.64*				Difference based on interval scale	1.07	
Nicaragua Kishor and Johnson (2004)	Physical/ sexual	*None* primary	0.93	0.76	0.96	1.04	*More* both none	0.95	0.88
		≥secondary	0.95	0.69	0.69‡	0.81	Same	0.94	0.74†
							less	1.00	0.99
Peru Kishor and Johnson (2004)	Physical	*None* primary	1.22*		1.51‡		*More* both none	1.12	
		≥secondary	1.15		1.52‡		Same	0.78**	
							Less	0.82**	

[Corrections made here after online publication].

(Continues)

Table 3. (Continued)

Study	Violence measure	Education reference group		Woman		Partner		Woman's education relative to man		
				Ever violence odds ratio (CI)	Past year violence odds ratio (CI)	Ever violence odds ratio (CI)	Past year violence odds ratio (CI)	Reference group	Ever violence odds ratio	Past year violence odds ratio (CI)
Peru Flake (2005)	Physical	None	incomplete primary	1.01				Same more	1.49***	
			complete primary	1.04				Less	0.96	
			incomplete secondary	1.01						
			complete secondary	0.85						
			post-secondary	0.61***						
Haiti Kishor and Johnson (2004)	Physical	None,	primary	1.46†	1.37	1.26	0.98	More both none	1.20	1.05
			≥secondary	1.18	1.13	1.25	1.02	Same	0.86	0.94
								Less	1.05	1.22
Haiti Gage (2005)	Physical	None	incomplete primary		2.21‡			Less more		0.62
			complete primary		1.78					
Haiti Gage (2005)	Sexual	None	incomplete primary		1.83*			Less more		0.54†
			complete primary		1.76					
Haiti Gage (2005)	Emotional	None	incomplete primary		1.90†			Less more		0.79
			complete primary		0.96					
Albania Burazeri et al. (2005)	Physical	>12 years	9–12 years		0.45*** (0.27–0.74)		1.90* (1.17–3.08)	More both equal, less (model 2)		0.40* (0.28–0.58)
			0–8 years		0.27*** (0.15–0.49)		5.01* (2.91–8.64)			0.21* (0.11–0.39)
Turkey Kocacik and Dogan (2006)	Physical	Literate	illiterate	17.12 (5.42–54.10)						
Ukraine Dude (2007)	Physical	<Secondary	complete secondary	0.74	0.88					
			technical	0.75	0.63					
			higher	0.70	0.80					

*<0.01; **p < 0.005; ***<0.001; †<0.1; ‡<0.05.
NS: Not significant
[Corrections made here after online publication].

Johnson, 2004), high education compared with low education in rural Nigeria (Okemgbo *et al.*, 2002) and higher education in Iran ((Ghazizadeh, 2005)—results not shown). Secondary or more education was also associated with lower physical and/or sexual violence in Nicaragua (Kishor and Johnson, 2004). However, higher men's education as measured by years in school was significantly associated with higher perpetration of physical violence in India and Peru (Rao, 1997; Kishor and Johnson, 2004).

Fourteen sites investigated the association between past year violence and men's education of which six found a significant inverse association and eight no association. When compared with no schooling, physical violence was significantly lower for women whose husbands had 6–10 years or 11 or more years of schooling in urban Bangladesh (Naved and Persson, 2005), 11 or more years of schooling in rural Bangladesh (Naved and Persson, 2005), 6 or more years in rural Bangladesh (Koenig *et al.*, 2003b) and secondary or more schooling in India (Kishor and Johnson, 2004). There was a significant inverse trend relationship between physical violence and education in Albania (Burazeri *et al.*, 2005) and 10+ years of education was associated with significantly lower moderate physical and severe physical violence in Mexico (Rivera-Rivera *et al.*, 2004).

In Egypt, India and Peru, a woman with a higher education attainment than her partner experienced significantly higher ever physical violence compared with women who either had the same or less education than their partner (Kishor and Johnson, 2004; Flake, 2005). Ever physical and/or sexual violence was higher for women with more education than her partner in Columbia (Kishor and Johnson, 2004). No significant association between more women's education and ever violence were found in seven sites that investigated the relationship between ever violence and relative education.

Twelve sites investigated past year violence and relative education. Compared with equal education level, greater women's education was associated with significantly higher violence in Egypt, India, Nicaragua and Albania (Kishor and Johnson, 2004; Burazeri *et al.*, 2005). Less education was associated with higher violence in Egypt and Cambodia (Yount, 2005; Yount and Carrera, 2006) and in Haiti, more women's education was significantly associated with lower sexual violence (Gage, 2005). There was no association with relative education and violence in the other five sites.

3.3 Violence and Economic Empowerment

When comparing being paid cash (with not working) and ever experience of violence (Table 4), physical violence was significantly lower in Egypt (Kishor and Johnson, 2004) but significantly higher in India, Peru and Iran (Kishor and Johnson, 2004; Flake, 2005), and physical and/or sexual violence was significantly higher in Columbia, Dominican Republic and Nicaragua (Kishor and Johnson, 2004). Regular employment, compared with being unemployed, was associated with significantly lower violence in India but not irregular or seasonal employment (Panda and Agarwal, 2005). In Turkey, women who were housewives had significantly lower physical and sexual violence compared with other women. There were no significant associations between physical violence and earning an income in Haiti (Kishor and Johnson, 2004) or the Philippines (Hindin and Adair, 2002), with years in employment either during the partnership or prior to union in Mexico (Oropesa, 1997), with the woman's monthly income in India (Rao, 1997) or being employed in the Ukraine (Dude, 2007). There was also no significant association between physical and/or sexual violence and earning an income in Zambia or Cambodia (Kishor and Johnson, 2004) or with being employed and sexual violence in Lesotho (Brown *et al.*, 2006).

The association between women's economic empowerment and past year violence was documented in 22 sites. Women earning an income was associated with significantly lower violence in one site Egypt (Kishor and Johnson, 2004). However, it was associated with higher physical violence in India (Kishor and Johnson, 2004) and rural Bangladesh (Naved and Persson, 2005), and higher physical and/or sexual violence in the Dominican Republic and Nicaragua (Kishor and Johnson, 2004). It was not significantly associated with physical violence in Haiti (Kishor and Johnson, 2004) or urban Bangladesh (Naved and Persson, 2005) or with physical and or sexual violence in Zambia or Cambodia (Kishor and Johnson, 2004). Neither regular or irregular/seasonal employment were significantly associated with physical and or sexual violence in India (Panda and Agarwal, 2005). While being in productive activities for less than 5 years was not associated with physical violence, being in productive activities for greater than 5 years was associated with significantly lower violence (Hadi, 2005), and in Albania being unemployed was associated with significantly lower violence when compared with women in white collar employment. Independent access to money was associated with significantly lower physical violence and emotional violence but not sexual violence in Haiti (Gage, 2005).

The association between being a member of a credit programme and past year physical violence was investigated in seven sites in Bangladesh which analysed cross-sectional data, of which one used a quasi-experimental design, and one site in rural South Africa, which used a cluster randomised trial design to assess the impact on past year levels of partner violence of a micro-finance and gender training intervention (The IMAGE study). The IMAGE study showed a 55 per cent reduction in women's past year experience of violence, with the change seeming to be a result both of women's economic and social empowerment (Kim et al., 2007). Two studies in rural Bangladesh showed micro-credit membership to be associated with significantly lower violence (Schuler et al., 1996). A higher association was found in one urban site (Naved and Persson, 2005) and in one rural site which measured membership of less than 2 years (Koenig et al., 2003b). No significant association was found in the other three rural sites (Koenig et al., 2003b; Ahmed, 2005; Naved and Persson, 2005).

In India, when compared with male partner responsible for household expenses, women who were responsible for household expenses had significantly higher levels of ever physical violence, whereas joint responsibility was associated with significantly lower violence (Krishnan, 2005). Higher women's economic contribution to the household was associated with significantly higher past year physical violence in one study in Bangladesh (Bates et al., 2004), but no significant association was found in two other Bangladesh sites (Schuler et al., 1996; Ahmed, 2005) or with ever physical violence in the Philippines (Hindin and Adair, 2002). Dowry payments were examined in four Bangladesh and India sites and dowry agreement, demand or payment was associated with significantly higher ever physical violence (data not shown). Higher women's autonomy index was associated with significantly higher past year physical violence in urban and rural Bangladesh (Koenig et al., 2003b), but associated with lower past year physical violence in another Bangladesh site (Hadi, 2005). Women who controlled their income experienced significantly higher levels of ever violence in India (Rao, 1997), and female dominated decision making was associated with significantly higher ever physical violence in Peru (Flake, 2005), and past year physical, emotional and sexual violence in Haiti (Gage, 2005).

Women's ownership of property was evaluated in India, and ownership of a house or a house and land were significantly associated with lower ever violence and lower past year

Table 4.   Association between IPV and women's economic empowerment

Study	Violence measure	Independent access to resources reference group	Ever violence odds ratio (CI)	Past year violence odds ratio (CI)
Egypt Kishor and Johnson (2004)	Physical	*Not working,* working paid cash working no pay	0.78[‡] 1.79**	0.62* 1.76**
Egypt Yount (2005)	Physical	*Never worked for cash,* worked for cash *Paid less of marital expenses,* paid same/more of marital expenses		0.95 0.91
Lesotho Brown *et al.* (2006)	Sexual	*Unemployed,* employed	0.85 (0.59–1.22)	
South Africa Pronyk *et al.* (2006)	Physical/ sexual	*Intervention,* comparison		0.45 (0.23–0.91)
Zambia Kishor and Johnson (2004)	Physical/ sexual	*Not working,* working paid cash working paid in kind working no pay	1.11 0.84 1.06	0.96 0.94 1.08
Bangladesh urban Naved and Persson (2005)	Physical	*Not earning income,* earns income *Non-member of credit group,* member of credit group		1.08 1.83[‡]
Bangladesh rural Naved and Persson (2005)	Physical	*Not earning income,* earns income *Non-member of credit group,* member of credit group		1.73[†] 1.08
Bangladesh Sirajgonj Koenig *et al.* (2003b)	Physical	*Non-member of credit group,* member of credit group < 2 years, member of credit group > 2 years Women's autonomy index		1.26‡ 1.01 1.57***
Banglades Jessore Koenig *et al.* (2003b)	Physical	*Non-member of credit group,* member of credit group < 2 years, member of credit group > 2 years Women's autonomy index		*0.89* *0.74* 0.88[†]
Bangladesh Bates *et al.* (2004)	Physical	*Non-member of credit group,* member of credit group *No/nominal contribution to household,* more than nominal		0.75[‡] (0.56–1.00) 1.79* (1.26–2.54)
Bangladesh Ahmed (2005)	Physical (past 4 months)	*Eligible non-member of credit group,* passive member, active member of credit group, skilled member of credit group Contribution to household income		1.36 (0.79–2.36) 1.47 (0.93–2.33) 0.64 (0.25–1.66) 1.86 (0.98–3.53)
Bangladesh Schuler *et al.* (1996)	Physical	*No credit in village,* GB member, BRAC member, non-member in village with credit group *Little or no contribution to family support,* substantial contribution		0.30 (0.18–0.51) 0.44 (0.28–0.70) 0.66 (0.45–0.96) 0.93 (0.65–1.33)
Bangladesh Hadi (2005	Physical	*Domestic, productive activities < 5 years,* productive activities > 5 years Women's position index		0.78 0.33* 0.56[‡] 0.96
Cambodia Kishor and Johnson (2004)	Physical/sexual	*Not working,* working paid cash working paid in kind working no pay	1.01 0.71 1.07	0.73 1.14
India Kishor and Johnson (2004)	Physical	*Not working,* working paid cash working no pay	1.57** 1.25**	1.40** 1.09*
India Krishnan (2005)	Physical	*Does not earn income,* woman controls her income, woman gives income to spouse	2.66 (1.38–5.13) 1.46 (0.85–2.51)	
India Krishnan (2005)	Physical	*Spouse responsible for household expenses,* woman responsible both responsible for household expenses	2.01 (1.09–3.70) 0.46 (0.23–0.89)	
India Rao (1997)	Physical	Woman's monthly income	1.00***	
India Panda and Agarwal (2005)	Physical (ever) Physical/sexual/ threat	*Unemployed* regular work Seasonal/irregular work *Ownership property none,* land only house only house and land	0.41[‡] 0.76 0.13* 0.09* 0.05*	0.63 0.55 0.39 0.15* 0.05*
Iran Ghazizadeh (2005)	Physical	*Housewife,* employed	1.80[†]	
Philippines Hindin and Adair (2002)	Physical	*Does not work for pay,* works for pay *No one dominates decision making,* woman dominates decision, partner dominates decision making *Woman does not earn > 50% of household income,* does	1.00 3.82*** 2.72* 1.24	

[Corrections made here after online publication].

(Continues)

Table 4. (Continued)

Study	Violence measure	Independent access to resources *reference group*	Ever violence odds ratio (CI)	Past year violence odds ratio (CI)
Thailand Aekplakorn and Kongsakon (2005)	Physical/sexual/ psychological	Adequate income for expenses *Yes* No	2.00 (1.22–3.27)	
Columbia Kishor and Johnson (2004)	Physical/sexual	*Not working* working paid cash working paid in kind working no pay	1.44** 1.32 1.55**	
Dominican Republic Kishor and Johnson (2004)	Physical/sexual	*Not working* working paid cash working paid in kind working no pay	1.37** 1.49 0.74	1.41** 1.54 0.73
Mexico Oropesa (1997)	Physical	Years in employment in partnership,	1.02	
Mexico Oropesa (1997)	Physical	Years in employment prior to union	0.99	
Mexico Oropesa (1997)	Physical	*Husband bread winner,* neither employed, wife/dual earner	1.53‡ 0.80	
Nicaragua Kishor and Johnson (2004)	Physical/sexual	*Not working* working paid cash working no pay	1.41** 1.17	1.28* 1.06
Peru Kishor and Johnson (2004)	Physical	*Not working* working paid cash working paid in kind working no pay	1.32** 1.17 1.16*	
Peru Flake (2005)	Physical	*Unemployed,* employed in agriculture, service, professional *Egalitarian decision making,* divided decision making, female dominated decision making, male dominated decision making	1.17* 1.47*** 1.33*** 1.20*** 1.32*** 1.08	
Haiti Kishor and Johnson (2004)	Physical	*Not working* working paid cash working paid in kind working no pay	1.10 0.81 0.28	1.11 1.01 0.34
Haiti Gage (2005)	Physical	*No independent access to money,* independent access to money *Joint household decision making,* woman dominates purchases, man dominates household purchases others say on household purchase		0.56‡ 1.68* 1.51 1.13
Haiti Gage (2005)	Sexual	*No independent access to money,* independent access to money *Joint household decision making,* woman dominates purchases, man dominates household purchases others say on household purchase		0.90 1.66‡ 2.51‡ 1.20
Haiti Gage (2005)	Emotional	*No independent access to money,* independent access to money *Joint household decision making,* woman dominates purchases, man dominates household purchases others say on household purchase		0.52* 2.67*** 2.64 1.34
Albania Burazeri et al. (2005) (model 1)	Physical	*White collar,* blue collar, housekeeper, unemployed		0.64‡ (0.41–1.00) 0.36‡ (0.14–0.96) 0.25* (0.10–0.63)
Albania Burazeri et al. (2005) (model 2)	Physical	*White collar,* blue collar, housekeeper, unemployed		0.97 (0.52–1.80) 0.89 (0.52–1.50) 0.55*** (0.36–0.86)
Turkey Kocacik and Dogan (2006)	Physical Sexual	*Not stated,* housewife	0.17 (0.06–0.52) 0.17 (0.04–0.81)	
Ukraine Dude (2007)	Physical	*Not employed* currently employed	1.04	1.30

*<0.01; **p < 0.005; ***<0.001; ‡<0.1; ‡<0.05. [Corrections made here after online publication].

physical and or sexual violence. Ownership of land only, compared with no ownership of capital assets, was associated with significantly lower ever physical violence (Panda and Agarwal, 2005).

To illustrate this existing evidence about the relationship between different indicators of economic empowerment and risk of ever and past year IPV across LMICs, 1a and b summarise the number of sites where significant protective (left side bar dark shading) and indicative but not significant protective (left side bar light shading) associations were

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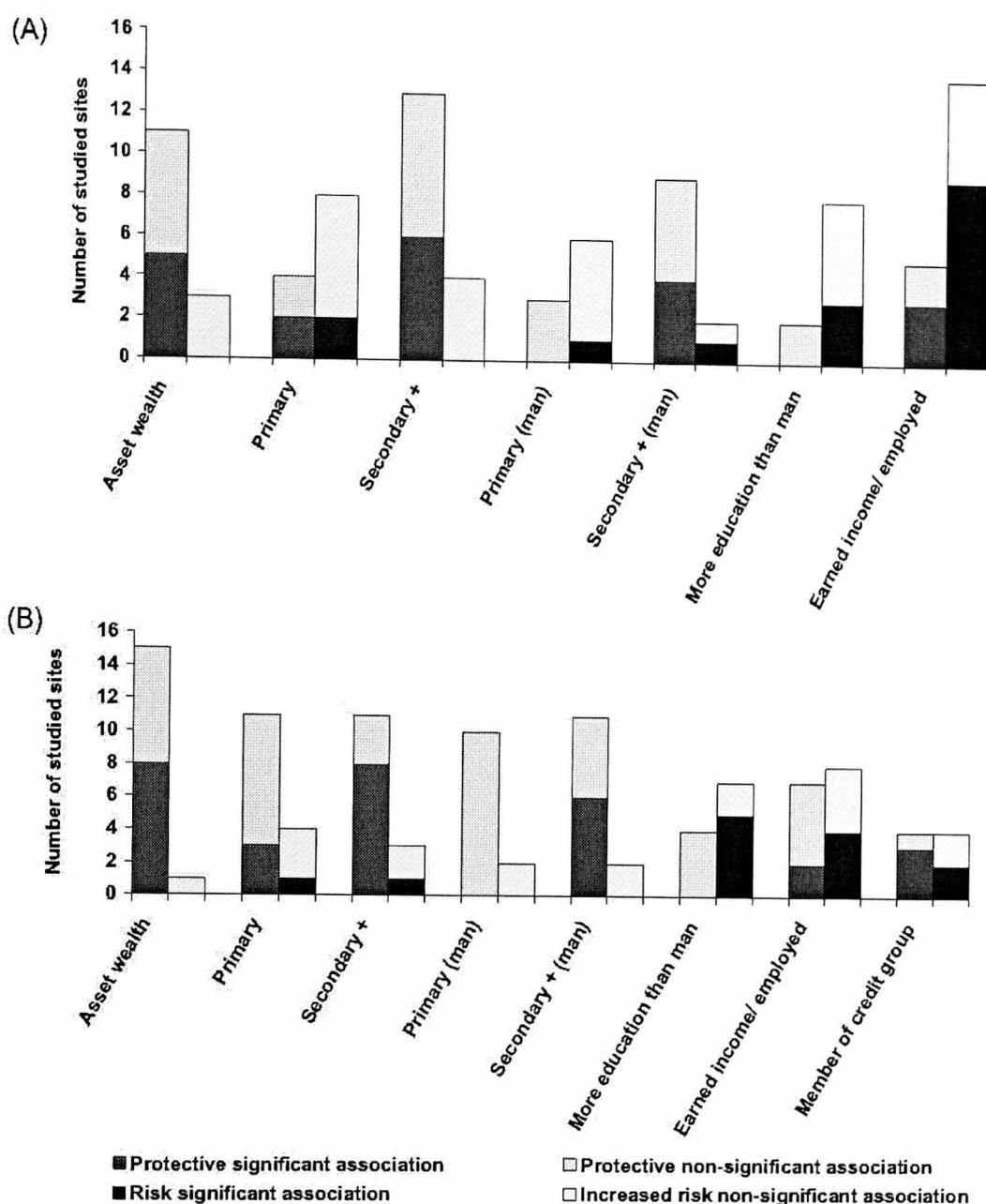
Figure 1. (a) Number of studied sites documenting either a reduced or increased risk of IPV ever violence and indicator of economic empowerment. (b) Number of studied sites documenting either a reduced or increased risk of IPV past year violence and indicator of economic empowerment. [Correction made here after initial online publication]. This figure is available in colour online at www.interscience.wiley.com/journal/jid

documented, and where significant risk and indicative but not significant risk associations were documented (right side bar dark shading and right side bar light shading, respectively).

This illustrates that there are both clear and contradictory trends. Household asset wealth seems largely protective, with several studies finding a significant or non-significant protective association with ever or past year partner violence, and only a few finding negative, but not significant, associations. Few studies appear to find women's primary

education to be significantly protective, with an equal number of studies finding a significant negative association with ever violence, but most studies not finding any significant associations. The evidence on women's secondary education points much more to a protective effect, with several studies finding a reduced risk of ever and/or past year violence, and only one finding a significant negative impact with past year violence. The findings are similar when we look at the relationship between male education and perpetration of IPV—one study of nine finds a significant association between men's primary education and an increased risk of perpetrating violence, with most finding no association. Likewise, four studies document a protective effect of men's secondary education on the likelihood of men's perpetration of violence, with five additional studies also finding suggestive but non-significant results. Inequality in education also appear to be associated with increased risk, although there was a limited number of studies that had explore this issue. Three studies of ten find that women with a higher level of education than her partner were significantly more likely to report ever violence with a further five indicating a suggestive increased risk of violence. When considering past year violence, five studies of eleven find women with a higher level of education than her partner experience significantly higher violence, although there were four studies finding this was associated with decreased, but not significant, risk.

Evidence about the relationship between women's access to an independent source of income and risk of violence is more complex. Women's access to income was generally associated with a higher lifetime history of assault by a partner, although three studies document a significant protective association. However, considering women's risk of violence in the past year, a similar (but smaller) number of studies find a protective association as those that find an association with higher risk. Although the differences may be due to social and cultural factors, with the limited body of evidence available, it is not possible to identify any geographic patterns—the two studies finding a protective effect were Egypt and Haiti, and the four studies finding increased risk were from Bangladesh, Dominican Republic, India and Nicaragua.

4 DISCUSSION

The purpose of this review is to summarise the current body of quantitative evidence, largely from cross-sectional surveys, that explore the relationship between different indicators of women's economic empowerment and their risk of violence from their partner. Drawing lessons from these studies is complicated by the different sampling methods, and the measures of violence, household SES and women's access to resources used. Fear, blame and stigma may have also made some respondents reluctant to disclose IPV, potentially weakening some studies ability to identify factors significantly associated with violence. The cross-sectional nature of most studies reviewed also means that we cannot establish causality with any of the factors, and can largely only discuss the nature of associations.

Nevertheless, the findings do illustrate the degree to which socioeconomic factors are associated with violence. Higher household SES (when measured by assets) is predominantly protective, somewhat lending support to resource theories that hypothesise that poverty impacts on levels of IPV. However, there may be the potential for bias, if, for example, due to the stigma associated with IPV, higher SES groups are less likely to disclose violence (Rao, 1997; Ellsberg *et al.*, 1999; Rivera-Rivera *et al.*, 2004; Flake, 2005; Panda and Agarwal, 2005). In some cases also, the study design may have limited the extent to which an association could be detected quantitatively—for example, in one study in Uganda, poverty

was not shown to be significant in the quantitative study, but arguments over money was identified as a major theme in focus group discussions (Karamagi *et al.*, 2006).

Women's secondary education, and to some extent men's secondary education, was generally found to be protective for both ever and past year violence. There was less strong evidence of a protective effect of primary education. The reasons for this are likely to be complex—it may be that the achievement of secondary education or higher may give women greater options to not marry a man who she thinks may be violent or to leave a violent relationship, and to marry men with similar levels of education (Sen, 1999; Jewkes *et al.*, 2002; Ahmed, 2005; Naved and Persson, 2005). Alternatively, women with higher education may also be more valued by their partner (McCloskey *et al.*, 2005), have a stronger bargaining power within their relationship, or improved spousal communication (Hadi, 2005). Lending support to relative resource theories of violence, there was some evidence that women were at increased risk of IPV when they had a higher educational attainment than their partner.

The findings above also corroborate with studies investigating men's reported use of IPV against women in India, South Africa and Thailand that find that poverty, men's lower education attainment and lower income are associated with higher perpetration of IPV (Hoffman *et al.*, 1994; Martin *et al.*, 2002; Abrahams *et al.*, 2006; Koenig *et al.*, 2006).

The mixed findings about the relationship between women's employment and IPV risk illustrate the limitations of using simple sociological and economic theories to predict how women's access to resources may affect her risk. While marital dependency theory and economic theory would predict that increasing women's access to resources would enable her to negotiate for a more favourable situation for herself, this was not always supported by the data. In some settings, particularly where women's income may be subject to uncertainty (such as in poor rural communities where earning may be seasonal), this may not provide women with the opportunity to challenge or leave an abusive partner. In some cases also, employment was associated with increased risk, which may reflect either that men feel challenged by this, or that women with an income may be more vocal and challenge their husbands authority and experience violence (Krishnan, 2005).

While micro-finance combined with participatory gender training halved the level of IPV in South Africa (Pronyk *et al.*, 2006), the findings associating micro-credit membership and IPV in Bangladesh were mixed. Current data suggest that financial empowerment interventions may have either a positive and negative effects on women's risk of IPV. These mixed findings may come from the potentially different effects of women's income—on the one hand women's status and economic position within the household strengthens, but on the other hand, her greater financial status may challenge the status of her partner (Schuler *et al.*, 1998). The findings do however, need to be interpreted with caution, as most come from research in Bangladesh, which had intrinsic methodological challenges, and in particular, issues of self-selection, and what type of women may join micro-credit programmes. One study in Bangladesh found that abused women were more likely to join micro-credit programmes (Mahmud, 2000), while another found some evidence, though not significant, that women in violent partnerships were less likely to join (Steele *et al.*, 2001). As all of the studies from Bangladesh analyse cross-sectional data, and so cannot control for the timing of events, this bias may lead to misleading conclusions about the effect of micro-credit on women's risk of violence.

Despite these methodological constraints, the studies raise important questions that require further investigation. The differing results found in Bangladesh may reflect the settings in which micro-credit programmes were implemented, with increased violence

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being documented in the less progressive setting (Koenig *et al.*, 2003b). However, other studies in Bangladesh have shown some evidence that IPV may decline with the duration of group membership (Ahmed, 2005). This suggests that the relationship seen between the past year and lifetime risk of violence, and between women who have been engaged in micro-credit for different lengths of time may be due to temporal and contextual factors, and merits further explanation. For example, it can be hypothesised that in settings where it is not common for women to work outside the home, as women initially enter into income generating activities this may lead to tensions with her partner, and so increase her risk of violence, and that women who pioneer change within a community may be at greatest risk of violence. However, this risk may decline over time, potentially as the partner starts to recognise the benefits to the household of this additional income; as women develop strategies to decrease the perceived challenge that her employment poses to her partner; or as more women start to be engaged in the formal sector; and broader social norms about the acceptability of women's employment change.

Each of these may be equally plausible. For example, some participants in the South African IMAGE intervention reported no conflict with their partner, as he was grateful for the additional household income and that there were reduced economic stresses; some chose to give their partners some of their income for alcohol or cigarettes, to reduce the potential for conflict; whilst others reported that the increased self-confidence, social support and communication skills gained from being part of a micro-finance initiative resulted in improved partner communication, so preventing any conflict escalating into violence (Kim *et al.*, 2007).

5 CONCLUSION

The Millennium Development Goals challenge governments and the international community to address poverty, provide universal access to primary education, and to promote gender equality and address gender inequalities in access to secondary education. This has helped put renewed emphasis on the importance of enroling girls in school, and improving women's access to resources. Although there has been some discussion about the ways in which IPV may compromise government's ability to achieve the MDGs, the potential impact of making progress towards these goals has not been explored (WHO 2005).

The evidence from our review suggests that poverty reduction; male and female access to secondary education and reductions in inequality in education may have important protective impacts on the levels of IPV. The success of the IMAGE intervention study in halving the level of IPV in South Africa, and the positive benefits attributed to some micro-finance interventions in Bangladesh illustrate the potential benefits of women's economic and social empowerment. However, our findings also show that we cannot guarantee that women's empowerment will always reduce risk. Further research is needed to better understand the ways in which women's empowerment impacts on their relationships and risk of violence, and their strategic responses to violence in different settings. The current intervention literature focusses on micro-finance, and there is a need for research on the benefits of other forms of intervention that aim to increase women's access to financial resources or empower them socially.

Finally, our review illustrates the limitations of current economic theories on violence. Current conceptual models do not explain why differing patterns of risk may be

documented for women's access to monetary resources compared to other aspects of empowerment. Similarly, they do not explain how women's risk of IPV is influenced by broader social contexts and norms; how this risk of IPV may potentially evolve as the household financial situation improves. Conceptual models also have limitations in explaining how women's relative power or ability to resolve conflict increases as they develop social and economic empowerment skills. These limitations highlight the need to bring together economic theories, which largely focus on the household, with broader sociological findings on the ways in which gender relations at a micro-level are affected by a range of cultural, institutional and political influences acting in different spheres of men and women's lives.

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Appendix 2: WHO study questionnaire

APPENDIX F: QUESTIONNAIRES

ENGLISH QUESTIONNAIRE FINAL TANZANIAN VERSION : 6 Nov. 2001

**WHO Multi-Country Study
On Women's Health And
Life Events**

TANZANIA

*QUESTIONNAIRE
(Version 9.9)*

November 2001

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**Survey on women's health and life events
in TANZANIA**

ADMINISTRATION
HOUSEHOLD SELECTION FORM
HOUSEHOLD QUESTIONNAIRE

STUDY CONDUCTED
BY
1. MUHIMBILI UNIVERSITY COLLEGE OF HEALTH SCIENCES
2. WOMEN'S RESEARCH AND DOCUMENTATION PROJECT

Confidential

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ADMINISTRATION

		IDENTIFICATION		

COUNTRY CODE
LOCATION (DAR ES SALAAM = 1, MBEYA = 2)
WARD (KATA) NAME AND NUMBER _____
STREET/VILLAGE: _____
MJUMBE (CLUSTER) NAME AND NUMBER: _____
HOUSE NUMBER ....

NAME OF HEAD OF HOUSE ....

TZA
[ ]
[ ][ ]

[ ][ ]
[ ][ ]

	INTERVIEWER VISITS			
	1	2	3	FINAL VISIT
DATE INTERVIEWERS NAME RESULT***	_____ _____	_____ _____	_____ _____	DAY [ ][ ] MONTH [ ][ ] YEAR [ ][ ][ ][ ] INTERVIEWER [ ][ ] RESULT [ ][ ]
NEXT VISIT DATE TIME LOCATION	_____ _____ _____	_____ _____ _____		TOTAL NUMBER OF VISITS [ ]

QUESTIONNAIRES COMPLETED? [ ] 1. None completed ⇒	*** RESULT CODES Refused (specify): _____ _____ ....11 Dwelling vacant or address not a dwelling ....12 Dwelling destroyed...13 Dwelling not found, not accessible..................14 Entire hh absent for extended period.................15 No hh member at home at time of visit.............16 Hh respondent postponed interview..................17	 ⇒Need to return ⇒Need to return	NUMBER OF HHS IN HOUSE [ ][ ] TOTAL IN HOUSEHOLD OF SELECTED WOMAN (HH FORM, Q1) [ ][ ] TOTAL ELIGIBLE WOMEN (HH FORM,
[ ] 2. HH questionnaire only ⇒	Selected woman refused (specify): ____ _____ ....21 No eligible woman in household ....22 Selected woman not at home............................23 Selected woman postponed interview...............24 Selected woman incapacitated.........................25	 ⇒Need to return ⇒Need to return	Q3, total with YES) [ ][ ] LINE NUMBER OF SELECTED FEMALE RESPONDENT
[ ] 3. Female questionnaire partly ⇒	Does not want to continue (specify) : ____ _____ ....31 Rest of interview postponed to next visit..........32	 ⇒Need to return	(HHFORM, Q3) [ ][ ]
[ ] 4. Female questionnair completed ⇒	41		

LANGUAGE OF QUESTIONNAIRE LANGUAGE INTERVIEW CONDUCTED IN QUALITY CONTROL PROCEDURE CONDUCTED (1 = yes, 2 = no)	(English = 1; Kiswahili = 8)	[ ][ ] [ ][ ] [ ]

FIELD SUPERVISOR	QUESTIONNAIRE CHECKED BY	OFFICE EDITOR	ENTERED BY
NAME [ ][ ] DAY [ ][ ] MONTH [ ][ ] YEAR [ ][ ][ ][ ]	NAME [ ][ ] DAY [ ][ ] MONTH [ ][ ] YEAR [ ][ ][ ][ ]	NAME [ ][ ]	ENTRY 1: _____ ENTRY 2: _____

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HOUSEHOLD SELECTION FORM

	Hello, my name is _____ . I am calling on behalf of Muhimbili College of Health Sciences. We are conducting a survey in STUDY LOCATION to learn about women's health and life experiences.				
1.	Please can you tell me how many people live here, and share food? PROBE: Does this include children (including infants) living here? Does it include any other people who may not be members of your family, such as domestic servants, lodgers or friends who live here and share food? MAKE SURE THESE PEOPLE ARE INCLUDED IN THE TOTAL			TOTAL NUMBER OF PEOPLE IN HOUSEHOLD [ ][ ]	
2.	Is the head of the household male or female?			MALE .... 1 FEMALE .... 2 BOTH 3	

	FEMALE HOUSEHOLD MEMBERS	RELATIONSHIP TO HEAD OF HH	RESIDENCE		AGE	ELIGIBLE	
3 LINE NUM.	Today we would like to talk to one woman from your household. To enable me to identify whom I should talk to, would you please give me the first names of all girls or women who usually live in your household (and share food).	What is the relationship of NAME to the head of the household.* (USE CODES BELOW)	Does NAME usually live here? CHECK SPECIAL CASES. SEE (A) BELOW. YES	NO	How old is NAME? (YEARS, more or less)	SEE CRITERIA BELOW (A +B) YES	NO
1			1	2		1	2
2			1	2		1	2
3			1	2		1	2
4			1	2		1	2
5			1	2		1	2
6			1	2		1	2
7			1	2		1	2
8			1	2		1	2
9			1	2		1	2
10			1	2		1	2

CODES
01 HEAD
02 WIFE (PARTNER)
03 DAUGHTER
04 DAUGHTER IN LAW
05 GRANDDAUGHTER
06 MOTHER
07 MOTHER IN LAW
08 SISTER
09 SISTER IN LAW
10 OTHER RELATIVE
11 ADOPTED/FOSTER/STEP DAUGHTER
12 DOMESTIC SERVANT
13 LODGER
14 FRIEND
98 OTHER NOT RELATIVE:
_____

USE ONE FORM FOR EACH HH IN HOUSING UNIT. NUMBER THE FORMS "HH1" "HH2", ETC.

(A) SPECIAL CASES TO BE CONSIDERED MEMBER OF HH :
- DOMESTIC SERVANTS IF THEY SLEEP 5 NIGHTS A WEEK OR MORE IN THE HOUSEHOLD.
- VISITORS IF THEY HAVE SLEPT IN THE HOUSEHOLD FOR THE PAST 4 WEEKS.
(B) ELIGIBLE: ANY WOMAN BETWEEN 15 AND 49 LIVING IN HOUSEHOLD.

RANDOMLY SELECT ONE ELIGIBLE WOMAN FOR INTERVIEW.
TO DO THIS, WRITE THE LINE NUMBERS OF ELIGIBLE WOMEN ON PIECES OF PAPER, AND PUT IN A BAG.
ASK A HOUSEHOLD MEMBER TO PICK OUT A NUMBER – SO SELECTING THE PERSON TO BE INTERVIEWED.

PUT CIRCLE AROUND LINE NUMBER OF WOMAN SELECTED. ASK IF YOU CAN TALK WITH THE SELECTED WOMAN. IF SHE IS NOT AT HOME, AGREE ON DATE FOR RETURN VISIT.

CONTINUE WITH HOUSEHOLD QUESTIONNAIRE FOR HH OF SELECTED WOMAN.

* If both (Male and Female) are the head, refer to the Male

ADMINISTERED TO ANY RESPONSIBLE ADULT IN HOUSEHOLD

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HOUSEHOLD QUESTIONNAIRE

	QUESTIONS & FILTERS	CODING CATEGORIES	
1.	If you don't mind, I would like to ask you a few questions about your household. What is the main source of drinking water for your household?	TAP/PIPED WATER IN RESIDENCE ....1 OUTSIDE TAP ON HH PREMISES..............................2 PUBLIC TAP ....3 WELL WATER, ON HH PREMISES ....4 OUTSIDE / PUBLIC WELL ....5 SPRING WATER ....6 RIVER / STREAM / POND / LAKE / DAM ....8 RAINWATER..9 TANKER / TRUCK / WATER VENDOR ....10 OTHER: _____ 96	
2.	What kind of toilet facility does your household have?	OWN FLUSH TOILET ....1 SHARED FLUSH TOILET ....2 VENTILATED IMPROVED PIT LATRINE ....3 TRADITIONAL PIT TOILET / LATRINE ....4 RIVER/CANAL...5 NO FACILITY / BUSH / FIELD ....6 OTHER: _____ 8	
3.	What are the main materials used in the roof? RECORD OBSERVATION	ROOF FROM NATURAL MATERIALS ....1 PLASTIC/CARTON...2 TILED OR CONCRETE ROOF ....3 CORRUGATED IRON...4 OTHER: _____ 8	
4.	Does your household have: a) Electricity b) A radio c) A television d) A telephone e) A refrigerator	YES NO a) ELECTRICITY 1 2 b) RADIO 1 2 c) TELEVISION 1 2 d) TELEPHONE 1 2 e) REFRIGERATOR 1 2	
5.	Does any member of your household own: a) A bicycle? b) A motorcycle? c) A car?	YES NO a) BICYCLE 1 2 b) MOTORCYCLE 1 2 c) CAR 1 2	
6.	Do people in your household own any land?	YES...1 NO...2 DON'T KNOW...8	
7.	How many rooms in your household are used for sleeping?	NUMBER OF ROOMS ....[ ][ ]	
8.	Are you concerned about the levels of crime in your neighbourhood (like robberies or assaults)? Would you say that you are not at all concerned, a little concerned, or very concerned?	NOT CONCERNED ....1 A LITTLE CONCERNED...2 VERY CONCERNED..3	
9.	In the past four weeks, has someone from this household been the victim of a crime in this neighbourhood, such as a robbery or assault?	YES...1 NO...2	
10.	NOTE SEX OF RESPONDENT	MALE ....1 FEMALE 2	

Thank you very much for your assistance.

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Survey on women's health and life events
in TANZANIA

FEMALE QUESTIONNAIRE

STUDY CONDUCTED
BY
1. MUHIMBILE COLLEGY OF HEALTH SCIENCES
2. WOMEN'S RESEARCH AND DOCUMENTATION PROJECT

Confidential

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INDIVIDUAL CONSENT FORM

Hello, my name is *. I work for *. We are conducting a survey in Dar es Salaam/Mbeya to learn about women's health and life experiences. You have been chosen by chance (as in a lottery / raffle) to participate in the study.

I want to assure you that all of your answers will be kept strictly secret. I will not keep a record of your name or address. You have the right to stop the interview at any time, or to skip any questions that you don't want to answer. There are no right or wrong answers. Some of the topics may be difficult to discuss, but many women have found it useful to have the opportunity to talk.

Your participation is completely voluntary but your experiences could be very helpful to other women in Tanzania.

Do you have any questions?

(The interview takes approximately one hour to complete). Do you agree to be interviewed?

NOTE WHETHER RESPONDENT AGREES TO INTERVIEW OR NOT

[ ] DOES NOT AGREE TO BE INTERVIEWED THANK PARTICIPANT FOR HER TIME AND END

[ ] AGREES TO BE INTERVIEWED

Is now a good time to talk?
It's very important that we talk in private. Is this a good place to hold the interview, or is there somewhere else that you would like to go?

TO BE COMPLETED BY INTERVIEWER

I certify that I have read the above consent procedure to the participant.

Signed: _____

Date: _____

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DATE INTERVIEW: day [ ][ ] month [ ][ ] year [ ][ ][ ][ ]

100. RECORD THE TIME	Hour [ ] [ ] (24 h) Minutes [ ] [ ]	

SECTION 1	RESPONDENT AND HER COMMUNITY	

	QUESTIONS & FILTERS	CODING CATEGORIES	SKIP TO
	If you don't mind, I would like to start by asking you a little about <COMMUNITY NAME>. *INSERT NAME OF COMMUNITY / VILLAGE / NEIGHBOURHOOD ABOVE AND IN QUESTIONS BELOW.*		
101	Do neighbours in COMMUNITY NAME generally tend to know each other well?	YES..............1 NO..............2 DON'T KNOW..............8	
102	If there were a streetfight in COMMUNITY NAME would people generally do something to stop it?	YES..............1 NO..............2 DON'T KNOW..............8	
103	If someone in COMMUNITY NAME decided to undertake a community project, would most people be willing to contribute time, labor or money?	YES..............1 NO..............2 DON'T KNOW..............8	
104	In this neighbourhood do most people generally trust one another in matters of lending and borrowing things?	a) YES..............1 NO..............2 DON'T KNOW..............8	
105	If someone in your family suddenly fell ill or had an accident, would your neighbours offer to help?	YES..............1 NO..............2 DON'T KNOW..............8	
106	I would now like to ask you some questions about yourself. What is your date of birth (day, month and year that you were born)?	DAY .... [ ][ ] MONTH .... [ ][ ] YEAR .... [ ][ ][ ][ ] DON'T KNOW YEAR..............9998	
107	How old were you on your last birthday? (MORE OR LESS)	AGE (YEARS) .... [ ][ ]	
108	How long have you been living continuously in COMMUNITY NAME?	NUMBER OF YEARS .... [ ][ ] LESS THAN 1 YEAR ....00 LIVED ALL HER LIFE ....95 VISITOR (AT LEAST 4 WEEKS IN HOUSEHOLD) 96	
TZA 108a	What is your religion?	ISLAM..............1 CHRISTIAN: CATHOLIC..............2 CHRISTIAN: PROTESTANT (ANGELIC, LUTHERIAN, MORMON, ETC) SPECIFY _____ ....3 TRADITIONAL RELIGION..............4 NO RELIGION..............5 OTHER: _____ 8	
109	Can you read and write?	YES..............1 NO 2	
110	Have you ever attended school?	YES ....1 NO..............2	⇒112

8

111	What is the highest level of education that you achieved? MARK HIGHEST LEVEL.	PRIMARY _____ year....................................1
		SECONDARY _____ year...............................2
	CALCULATE TOTAL YEARS IN SCHOOL	HIGHER _____ year....................................3
		TECHNICAL/VOCATIONAL ____years.................5
		ADULT EDUCATION _____years.......................6
		OTHER (specify) _____ yrs...............7
		NUMBER OF YEARS SCHOOLING [ ][ ]

112	Where did you grow up? PROBE: Before age 12 where did you live longest?	THIS COMMUNITY / TOWN...............................1 ANOTHER RURAL AREA / VILLAGE..................2 ANOTHER TOWN / CITY ....3 ANOTHER COUNTRY 4	
113	Do any of your family of birth live close enough by that you can easily see/visit them?	YES..1 NO...2 LIVING WITH FAMILY OF BIRTH 3	=> 115
114	How often do you see or talk to a member of your family of birth? Would you say at least once a week, once a month, once a year, or never?	AT LEAST ONCE A WEEK....................................1 AT LEAST ONCE A MONTH ....2 AT LEAST ONCE A YEAR ....3 NEVER (HARDLY EVER)......................................4	
115	When you need help or have a problem, can you usually count on family members for support?	YES..1 NO...2	

116 a	Do you regularly attend a group or organisation? IF YES: What kind of group or association? IF NO, PROMPT: Organizations like women's or community groups, religious groups or political associations. MARK ALL THAT MENTIONED PROBE IF NECESSARY TO IDENTIFY TYPE OF GROUP	NONE .... A CIVIC / POLITICAL/ UNION ....B SOCIAL WORK / CHARITABLE..........C SPORTS / ARTS / CRAFTS.................. D ECONOMIC / SAVINGS CLUB ....E WOMEN'S ORGANISATION ....F RELIGIOUS ORGANISATION............. G OTHER:_____ _____ X	⇒ IF NONE GO TO 118

116b. How often do you attend? (ASK ONLY FOR EACH MARKED IN 116a)

	At least once a week	At least once a month	At least once a year	Never (hardly ever)
	1	2	3	4
	1	2	3	4
	1	2	3	4
	1	2	3	4
	1	2	3	4
	1	2	3	4
	1	2	3	4

117	Are any of these groups attended by women only? (REFER TO THE ATTENDED GROUPS ONLY)	YES..1 NO...2	
118	Has anyone ever prevented you from attending a meeting or participating in an organisation? IF YES, ASK Who prevented you? MARK ALL THAT APPLY	NOT PREVENTED.. A PARTNER / HUSBAND .... B PARENTS... C PARENTS IN LAW/PARENTS OF PARTNER ....D OTHER:_____ X	

119	Are you currently married or do you have a male partner? IF RESPONDENT HAS A MALE PARTNER ASK Do you and your partner live together?	CURRENTLY MARRIED 1 LIVING WITH MAN, NOT MARRIED ....3 *CURRENTLY HAVING A REGULAR PARTNER (SEXUAL RELATIONSHIP), LIVING APART..4* NOT CURRENTLY MARRIED OR LIVING WITH A MAN *(NOT INVOLVED IN A SEXUAL RELATIONSHIP)* 5	⇒123 ⇒123 ⇒123
120	Have you ever been married or lived with a male partner?	YES ....1 NO 2	⇒S2
121	Did the last partnership end in divorce or separation, or were you widowed?	DIVORCED ....1 SEPARATED / BROKEN UP ....2 WIDOWED 3	⇒123
122	Was the divorce / separation initiated by you, by your husband / partner, or did you both decide that you should separate?	RESPONDENT...1 HUSBAND / PARTNER ....2 BOTH (RESPONDENT AND PARTNER).............3 OTHER: _____ 6	
123	How many times in your life have you been married, or lived together with a man? (INCLUDE CURRENT PARTNER IF LIVE TOGETHER)	NUMBER OF TIMES MARRIED ....[ ][ ] ....IF "00"	⇒S2
124	The next few questions are about your current or most recent partnership. Do / did you live with your husband / partner's parents or any of his relatives?	YES..1 NO...2	
125	IF CURRENTLY WITH PARTNER: Do you presently live with your parents or any of your relatives? IF NOT CURRENTLY WITH PARTNER: Were you living with your parents or relatives during your last relationship?	YES..1 NO...2	
126	Does / did your husband / partner have any other wives while being married (having a relationship) with you?	YES..1 NO ....2 DON'T KNOW...8	⇒129 ⇒129
127	How many wives does / did he have (including yourself)?	NUMBER OF WIVES ....[ ][ ] DON'T KNOW...98	⇒129
128	Are / were you the first, second..... wife? *CHECK THAT THIS REFERS TO THE OTHER WIVES HE HAD AT SAME TIME WHILE BEING WITH RESPONDENT*	NUMBER /POSITION ....[ ][ ]	
129	Did you have any kind of marriage ceremony to formalise the union? What type of ceremony did you have? MARK ALL THAT APPLY	NONE ....A CIVIL MARRIAGE.......................................B RELIGIOUS MARRIAGE ....C CUSTOMARY MARRIAGE ....D OTHER: _____ X	⇒S.2
130	In what year was the (first) ceremony performed? (THIS REFERS TO CURRENT/LAST RELATIONSHIP)	YEAR ....[ ][ ][ ][ ] DON'T KNOW...9998	

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131	Did you yourself choose your <u>current</u> / <u>most recent</u> husband, did someone else choose him for you, or did he choose you? IF SHE DID NOT CHOOSE HERSELF, PROBE: Who chose your <u>current</u> / <u>most recent</u> husband for you?	BOTH CHOSE ....1 RESPONDENT CHOSE...............................2 RESPONDENT'S FAMILY CHOSE ....3 PARTNER CHOSE ....4 PARTNER'S FAMILY CHOSE..................5 OTHER: _____ 6	⇒133* ⇒133*
132	Before the marriage with your <u>current</u> /<u>most recent</u> husband, were you asked whether you wanted to marry him or not?	YES 1 NO..2	
133	Did your marriage involve dowry / brideprice payment?	YES / PAID BY PARENTS OF WOMAN.................1 YES / PAID BY PARENTS OF MAN ....2 NO ....3 DON'T KNOW 8	⇒S.2 ⇒S.2
134	Has all of the dowry/ brideprice been paid for, or does some part still remain to be paid?	ALL PAID ....1 PARTIALLY PAID ....2 NONE PAID...3 DON'T KNOW.......................................8	
135	Overall, do you think that the amount of dowry / brideprice payment has had a positive impact on how you are treated by your husband and his family, a negative impact, or no particular impact?	POSITIVE IMPACT.................................1 NEGATIVE IMPACT ....2 NO IMPACT..3	

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	SECTION 2 GENERAL HEALTH

BEFORE STARTING WITH SECTION 2:
REVIEW RESPONSES IN SECTION 1 AND MARK MARITAL STATUS ON REFERENCE SHEET, BOX A.

201	I would now like to ask a few questions about your health and use of health services. In general, would you describe your overall health as excellent, good, fair, poor or very poor?	EXCELLENT .... 1 GOOD... 2 FAIR.. 3 POOR... 4 VERY POOR.. 5	
202	Now I would like to ask you about your health in the past 4 weeks. How would you describe your ability to walk around? Would you say that you have no problems, very few problems, some problems, many problems or that you are unable to walk at all?	NO PROBLEMS.. 1 VERY FEW PROBLEMS.. 2 SOME PROBLEMS .... 3 MANY PROBLEMS .... 4 UNABLE TO WALK AT ALL 5	
203	In the past 4 weeks did you have problems with performing usual activities, such as work, study, household, family or social activities? Would you say no problems, very few problems, some problems, many problems or unable to perform usual activities?	NO PROBLEMS.. 1 VERY FEW PROBLEMS.. 2 SOME PROBLEMS .... 3 MANY PROBLEMS .... 4 UNABLE TO PERFORM USUAL ACTIVITIES................. 5	
204	In the past 4 weeks have you been in pain or discomfort? Would you say not at all, light pain or discomfort, moderate, severe or extreme pain or discomfort?	NO PAIN OR DISCOMFORT .... 1 LIGHT PAIN OR DISCOMFORT .... 2 MODERATE PAIN OR DISCOMFORT .... 3 SEVERE PAIN OR DISCOMFORT...................................... 4 EXTREME PAIN OR DISCOMFORT 5	
205	In the past 4 weeks have you had problems with your memory or concentration? Would you say no problems, very few problems, some problems, many problems or extreme memory or concentration problems?	NO PROBLEMS.. 1 VERY FEW PROBLEMS.. 2 SOME PROBLEMS .... 3 MANY PROBLEMS .... 4 EXTREME MEMORY PROBLEMS..................................... 5	

206	In the past 4 weeks have you had....:		YES	NO	
	a) Dizziness b) Vaginal discharge	a) DIZZINESS b) VAGINAL DISCHARGE	1 1	2 2	

207	In the past 4 weeks, have you taken medication:		NO	ONCE OR TWICE	A FEW TIMES	MANY TIMES
	a) To help you calm down or sleep? b) To relieve pain? c) To help you not feel sad or depressed? FOR EACH, IF YES PROBE: How often? Once or twice, a few times or many times?	a) FOR SLEEP b) FOR PAIN c) FOR SAD	1 1 1	2 2 2	3 3 3	4 4 4

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208	In the past 4 weeks, did you consult with a doctor or other professional or traditional health worker because you yourself were sick? IF YES: Whom did you consult? PROBE: did you also see anyone else?	NO ONE CONSULTED..A DOCTOR..B NURSE (AUXILIARY) ....C MIDWIFE ....D COUNSELLOR..E PHARMACIST..F TRADITIONAL HEALER ....G TRADITIONAL BIRTH ATTENDANT ....H OTHER: _____ X	

209	The next questions are related to other common problems that may have bothered you in the past 4 weeks. If you had the problem in the past four weeks, answer yes. If you have not had the problem in the past four weeks, answer no.			
			YES	NO
	a) Do you often have headaches?	a) HEADACHES	1	2
	b) Is your appetite poor?	b) APPETITE	1	2
	c) Do you sleep badly?	c) SLEEP BADLY	1	2
	d) Are you easily frightened?	d) FRIGHTENED	1	2
	e) Do your hands shake?	e) HANDS SHAKE	1	2
	f) Do you feel nervous, tense or worried?	f) NERVOUS	1	2
	g) Is your digestion poor?	g) DIGESTION	1	2
	h) Do you have trouble thinking clearly?	h) THINKING	1	2
	i) Do you feel unhappy?	i) UNHAPPY	1	2
	j) Do you cry more than usual?	j) CRY MORE	1	2
	k) Do you find it difficult to enjoy your daily activities?	k) NOT ENJOY	1	2
	l) Do you find it difficult to make decisions?	l) DECISIONS	1	2
	m) Is your daily work suffering?	m) WORK SUFFER	1	2
	n) Are you unable to play a useful part in life?	n) USEFUL PART	1	2
	o) Have you lost interest in things?	o) LOST INTEREST	1	2
	p) Do you feel that you are a worthless person?	p) WORTHLESS	1	2
	q) Has the thought of ending your life been on your mind?	q) ENDING LIFE	1	2
	r) Do you feel tired all the time?	r) FEEL TIRED	1	2
	s) Do you have uncomfortable feelings in your stomach?	s) STOMACH	1	2
	t) Are you easily tired?	t) EASILY TIRED	1	2

210	Just now we talked about problems that may have bothered you in the past 4 weeks. I would like to ask you now if, in your life, have you ever thought about ending your life?	YES ....1 NO 2	⇒212
211	Have you ever tried to take your life? (IF YES, INFORM YOUR SUPERVISOR)	YES ....1 NO 2	
212	In the past 12 months, have you had an operation (other than a caesarean section)?	YES...1 NO 2	
213	In the past 12 months, did you have to spend any nights in a hospital because you were sick (other than to give birth)? IF YES, How many nights in the past twelve months?	NIGHTS IN HOSPITAL ....[ ][ ] NONE 00	
213a TZA	Many people in Tanzania are getting tested for HIV. Have you had an HIV/AIDS test? We do not want to know the result, only if you ever had the test.	YES ....1 NO...2 NO ANSWER..5 DON'T KNOW 8	⇒213h ⇒213h ⇒213h

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213b TZA	What were the main reasons for you having the HIV/AIDS test? PROBE: any other reason? MARK ALL THAT APPLY	OWN PAST SEXUAL BEHAVIOUR .... A PARTNER'S PAST SEXUAL BEHAVIOUR .... B PARTNER TOLD HER TO GET TESTED .... C PARTNER (FORMER OR CURRENT) IS SICK OR DIED .... D HER EXPOSURE TO HIV AT WORK .... E SHE HAD A BLOOD TRANSFUSION .... F SHE IS TAKING CARE OF PEOPLE WITH HIV/AIDS .... G SHE WANTED TO KNOW HER SEROSTATUS .... H SHE WAS SICK .... I HER WORKPLACE REQUIRES TESTING .... J SHE WAS PLANNING TO GET MARRIED .... K PREMARITAL TESTING REQUIRED BY CHURCH .... L PLANNING ON HAVING CHILDREN .... M PLANNING FOR THE FUTURE .... N INJECTED OR CUT HERSELF; FEAR OF INFECTION (NEEDLE, BLADE, ETC) .... O FEAR OF HAVING BEEN BEWITCHED .... P TEST WAS DONE DURING ANTENATAL VISIT .... Q OTHER, SPECIFY: _____ _____ X	
213c TZA	Before having the test did you discuss getting tested for HIV/AIDS with your husband/partner?	YES .... 1 NO .... 2 N/A (NO PARTNER AT TIME OF TESTING) .... 7 DON'T KNOW 8	⇒213h
213d TZA	Did you and your partner have an HIV/AIDS test together?	YES .... 1 NO .... 2 DON'T KNOW 8	
213e TZA	Did you talk about the result of your HIV/AIDS test with your husband/partner? I want to repeat that we do not want to know the result.	YES .... 1 NO .... 2 NO ANSWER .... 5 DID NOT GET TEST RESULT 7	⇒213g ⇒213h ⇒213h
213f TZA	Why did you not talk about the test results? I want to repeat that we do not want to know the result. MARK ALL THAT APPLY AND GO TO 213h	NO ANSWER .... A AFRAID THAT HE WOULD BEAT HER .... B AFRAID THAT HE WOULD CHASE HER AWAY .... C AFRAID HE WOULD ABANDON HER .... D NOT SURE ABOUT HOW HE WOULD REACT .... E OTHER, SPECIFY: _____ _____ X	For all go to 213h
213g TZA	How did your husband/partner react when you first told him the results of the test? PROBE: Did he do or say anything else? MARK ALL THAT APPLY	HE WAS HELPFUL/ HE SHOWED UNDERSTANDING .... A HE ALSO WANTS TO BE TESTED .... B HE DID NOT CARE (INDIFFERENT) .... C HE WAS NOT HAPPY / HE WAS ANGRY .... D HE WAS WORRIED .... E HE ACCUSED HER OF BEING UNFAITHFUL .... F HE BEAT HER .... G HE ASSAULTED HER SEXUALLY .... H HE CHASED HER FROM THE HOUSE .... I HE ABANDONED HER .... J OTHER, SPECIFY: _____ _____ X	

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213h TZA	How likely do you think it is you have been exposed to HIV (virus that causes AIDS)? Very likely, somewhat likely, unlikely or not at all?	VERY LIKELY...1 SOMEWHAT LIKELY....................................2 UNLIKELY...3 NOT AT ALL..4 DON'T KNOW..8	
214	Do you now smoke........ 1. Daily? 2. Occasionally? 3. Not at all?	DAILY..1 OCCASIONALLY ....2 NOT AT ALL 3	⇒216 ⇒216
215	Have you ever smoked in your life? Did you ever smoke.... 1. Daily? (smoking at least once a day) 2. Occasionally? (at least 100 cigarettes, but never daily) 3. Not at all? (not at all, or less than 100 cigarettes in your life time)	DAILY..1 OCCASIONALLY ....2 NOT AT ALL 3	
216	How often do you drink alcohol? Would you say: 1. Every day or nearly every day 2. Once or twice a week 3. 1 – 3 times a month 4. Occasionally, less than once a month 5. Never	EVERY DAY OR NEARLY EVERY DAY ....1 ONCE OR TWICE A WEEK ....2 1 – 3 TIMES IN A MONTH..............................3 LESS THAN ONCE A MONTH ....4 NEVER 5	 ⇒S.3
217	On the days that you drank in the past 4 weeks, about how many alcoholic drinks did you usually have a day? WRITE HOW MANY DRINKS AND SPECIFY (GLASS, BOTTLE , CUP, ETC.)	USUAL NUMBER OF DRINKS ....[ ][ ] NO ALCOHOLIC DRINKS IN PAST 4 WEEKS..............00	

218	In the past 12 months, have you experienced any of the following problems, related to your drinking?
	a) money problems
	b) health problems
	c) conflict with family or friends
	d) problems with authorities (bar owner/police, etc)
	x) other, specify.
		YES NO
		a) MONEY ROBLEMS 1 2
		b) HEALTH PROBLEMS 1 2
		c) CONFLICT WITH FAMILY
		   OR FRIENDS 1 2
		d) PROBLEMS WITH
		   AUTHORITIES 1 2
		x) OTHER: _____ 1 2	

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	SECTION 3 REPRODUCTIVE HEALTH		
	Now I would like to ask about all of the children that you have given birth to during your life.		
301	Have you ever given birth? How many children have you given birth to that were alive when they were born? (INCLUDE BIRTHS WHERE THE BABY DIDN'T LIVE FOR LONG)	NUMBER OF CHILDREN BORN .... [ ][ ] IF 1 OR MORE ....⇒ NONE 00	⇒303
302	Have you ever been pregnant?	YES...1 NO...2 MAYBE/NOT SURE 3	⇒304 ⇒310 ⇒310
303	How many children do you have, who are alive now? RECORD NUMBER	CHILDREN .... [ ][ ] NONE 00	
304	Have you ever given birth to a boy or a girl who was born alive, but later died? This could be any age. IF NO, PROBE: Any baby who cried or showed signs of life but survived for only a few hours or days?	YES 1 NO 2	⇒306
305	a) How many sons have died? b) How many daughters have died? (THIS IS ABOUT ALL AGES)	a) SONS DEAD .... [ ][ ] b) DAUGHTERS DEAD................................ [ ][ ] IF NONE ENTER '00'	
306	Do (did) all your children have the same biological father, or more than one father?	ONE FATHER..1 MORE THAN ONE FATHER...............................2 N/A (NEVER HAD LIVE BIRTH)........................7 DON'T KNOW, NO ANSWER 8	=> 308
307	How many of your children receive financial support from their father(s)? Would you say none, some or all?	NONE...1 SOME...2 ALL..3 N/A 7	
308	How many times have you been pregnant – include pregnancies that did not end up in a live birth, and current pregnacies? PROBE: How many pregnancies were with twins, triplets?	a) **TOTAL** NUMB.OF PREGNANC............. [ ][ ] b) PREGNANCIES WITH TWINS .... [ ] c) PREGNANCIES WITH TRIPLETS .... [ ]	
309	Have you ever had a pregnancy that miscarried, or ended in a stillbirth? PROBE: How many times did you miscarry, how many times did you have a still birth, and how many times did you abort? PROBE MAY NEED TO BE LOCALLY ADAPTED	a) MISCARRIAGES .... [ ][ ] b) STILLBIRTHS .... [ ][ ] c) ABORTIONS.. [ ][ ] IF NONE ENTER '00'	
310	Are you pregnant now?	YES..1 NO...2 MAYBE..3	⇒ A ⇒ B ⇒ B
DO EITHER A OR B: **VERIFY THAT ANSWERS FOR BOTH LINES ADD UP TO THE SAME FIGURE.** **IF NOT, PROBE AGAIN AND CORRECT.**		A. [301] ____ + [309 a+b+c] ____ + 1 = [308a] ____ + [308b] ____ + [2x308c] ____ = ___ B. [301] ____ + [309 a+b+c] ____ = [308a] ____ + [308b] ____ + [2x308c] ____ = ___	
311	Have you <u>ever</u> used anything, or tried in any way to delay or avoid getting pregnant?	YES..1 NO ....2 NEVER HAD INTERCOURSE 3	⇒315 ⇒S.5
312	Are you <u>currently</u> doing something, or using any method, to avoid getting pregnant?	YES..1 NO...2	⇒315

313	What (main) method are you <u>currently</u> using? IF MORE THAN ONE, ONLY MARK MAIN METHOD	PILL / TABLETS.......................................1 INJECTABLES...2 IMPLANTS (NORPLANT) ....3 IUD..4 DIAFRAGM / FOAM / JELLY...............5 CALENDER/MUCUS METHOD..............6 FEMALE STERILIZATION.....................7 CONDOMS...8 MALE STERILIZATION ....9 WITHDRAWAL.....................................10 HERBS...11 OTHER:_____.........96	 ⇒315 ⇒315 ⇒315
314	Does your <u>current</u> husband/partner know that you are using a method of family planning?	YES...1 NO...2 N/A: NO CURRENT PARTNER 8	
315	Has / did your <u>current</u> / <u>most recent</u> husband/partner ever refuse to use a method or try to stop you from using a method to avoid getting pregnant?	YES...1 NO **2**	 ⇒317
316	In what ways did he let you know that he disapproved of using methods to avoid getting pregnant? MARK ALL THAT APPLY	TOLD ME THAT DID NOT APPROVE..............A SHOUTED / GOT ANGRY ....B THREATENED TO BEAT ME ....C THREATENED TO LEAVE / THROW ME OUT OF HOME..D BEAT ME / PHYSICALLY ASSAULTED.............E TOOK OR DESTROYED METHOD ....F OTHER _____ X	
317	Have you ever used a condom with your <u>current</u> / <u>most recent</u> partner <u>to prevent disease</u>?	YES...1 NO...2	
318	Have you ever asked your <u>current</u> / <u>most recent</u> partner to use a condom <u>to prevent disease</u>?	YES...1 NO...2	
319	Has / did your <u>current</u> / <u>most recent</u> husband/partner ever refuse to use a condom <u>to prevent disease</u>?	YES...1 NO **2**	 ⇒S.4
320	In what ways did he let you know that he disapproved of using a condom? MARK ALL THAT APPLY	TOLD ME THAT DID NOT APPROVE..............A SHOUTED / GOT ANGRY ....B THREATENED TO BEAT ME ....C THREATENED TO LEAVE / THROW ME OUT OF HOME.......................................D BEAT ME / PHYSICALLY ASSAULTED.............E TOOK OR DESTROYED METHOD ....F ACCUSED ME OF BEING UNFAITHFUL/ NOT A GOOD WOMAN.......................G LAUGHED AT ME/NOT TAKE SERIOUS ....H SAID IT IS NOT NECESSARY ....I OTHER _____ X	

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SECTION 4 CHILDREN

BEFORE STARTING WITH SECTION 4:
REVIEW RESPONSES AND MARK REPRODUCTIVE HISTORY ON REFERENCE SHEET, BOX B.

CHECK: (Ref. Sheet, box B, point 2)		ANY LIVE BIRTHS [ ] ⇓	NO LIVE BIRTHS [ ] ⇒	⇒S.5
401	I would like to ask about the <u>last time</u> that you gave birth (regardless of whether the child is still alive or not)? What is the date of birth of this child?		DAY ....[ ][ ] MONTH ....[ ][ ] YEAR ....[ ][ ][ ][ ]	
402	What name was given to your last born child? Is (NAME) a boy or a girl?		NAME: _____ BOY...1 GIRL..2	
403	Is your last born child (NAME) still alive?		YES...1 NO...2	⇒405
404	How old was (NAME) at his/her last birthday? RECORD AGE IN COMPLETED YEARS CHECK AGE WITH BIRTH DATE		AGE IN YEARS ....[ ][ ] IF NOT YET COMPLETED ONE YEAR 00	⇒406 ⇒406
405	How old was (NAME) when he/she died?		YEARS ....[ ][ ] MONTHS (IF LESS THAN ONE YEAR) ....[ ][ ] DAYS (IF LESS THAN ONE MONTH)................[ ][ ]	
406	CHECK IF DATE OF BIRTH OF LAST CHILD (IN Q401) IS MORE OR LESS THAN FIVE YEARS AGO		FIVE OR MORE YEARS AGO ....1 LESS THAN FIVE YEARS AGO............................2	⇒417
407	I would like to ask you about your <u>last pregnancy</u>. At the time you became pregnant with this child (NAME), did you want to become pregnant then, did you want to wait until later, did you want no (more) children, or did you not mind either way?		BECOME PREGNANT THEN ....1 WAIT UNTIL LATER ....2 NOT WANT CHILDREN ....3 NOT MIND EITHER WAY 4	
408	At the time you became pregnant with this child (NAME), did your husband / partner want you to become pregnant then, did he want to wait until later, did he want no (more) children at all, or did he not mind either way?		BECOME PREGNANT THEN ....1 WAIT UNTIL LATER ....2 NOT WANT CHILDREN ....3 NOT MIND EITHER WAY ....4 DON'T KNOW..8	
409	When you were pregnant with this child (NAME), did you see anyone for an antenatal check? If yes, Whom did you see? Anyone else? MARK ALL THAT APPLY		NO ONE ....A DOCTOR..B OBSTETRICIAN / GYNAECOLOGIST ....C NURSE / MIDWIFE...D AUXILIARY NURSE.......................................E TRADITIONAL BIRTH ATTENDANT...................F OTHER:_____ _____.....................X	
410	Did your husband / partner stop you, encourage you, or have no interest in whether you received antenatal care for your pregnancy?		STOP..1 ENCOURAGE...2 NO INTEREST..3	
411	When you were pregnant with this child, did your husband / partner have preference for a son, a daughter or did it not matter to him whether it was a boy or a girl?		SON ....1 DAUGHTER ....2 DID NOT MATTER..3	
412	During this pregnancy, did you consume any alcoholic drinks?		YES ....1 NO ....2 DON'T KNOW / DON'T REMEMBER....................8	
413	During this pregnancy, did you smoke any cigarettes or use tobacco?		YES ....1 NO ....2 DON'T KNOW / DON'T REMEMBER....................8	

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414	Were you given a (postnatal) check-up at any time during the six weeks after delivery?	YES...1 NO ....2 NO, CHILD NOT YET SIX WEEKS OLD.................3 DON'T KNOW...8	
415	Was this child (NAME) weighed at birth?	YES...1 NO ....2 DON'T KNOW 8	⇒417 ⇒417
416	How much did he/she weigh? RECORD FROM HEALTH CARD WHERE POSSIBLE	KG FROM CARD [ ].[ ]..1 KG FROM RECALL [ ].[ ]...2 DON'T KNOW / DON'T REMEMBER 8	
417	Do you have any children with ages <u>five to twelve</u> years? How many? (INCLUDING 12 YEAR OLD CHILDREN)	NUMBER ....[ ][ ] NONE 00	⇒S.5
418	a) How many are boys? b) How many are girls?	a) BOYS..[ ] b) GIRLS ....[ ]	
419	How many of these children currently live with you? PROBE: a) How many boys? b) How many girls?	a) BOYS..[ ] b) GIRLS ....[ ] IF "0" FOR BOTH SEXES ══ GO TO ⇒	⇒S.5
420	Do any of these children (ages 5 to 12): a) Have frequent nightmares? b) Suck their thumbs or fingers? c) Often wet their bed? d) Are any of these children very timid or withdrawn? e) Are any of them aggressive with you or other children?	YES NO a) NIGHTMARES 1 2 b) SUCK THUMB 1 2 c) WET BED 1 2 d) TIMID 1 2 e) AGGRESSIVE 1 2	
421	Of these children (ages 5 to 12), how many of your boys and how many of your girls have ever run away from home?	a) NUMBER OF BOYS RUN AWAY ....[ ] b) NUMBER OF GIRLS RUN AWAY ....[ ] IF NONE ENTER '0'	
422	Of these children (ages 5 to 12), how many of your boys and how many of your girls are studying/ in school?	a) BOYS..[ ] b) GIRLS ....[ ] IF "0" FOR BOTH SEXES ══ GO TO ⇒	⇒S.5
423	Have any of these children had to repeat (failed) a year at school? MAKE SURE ONLY CHILDREN AGED 5 TO 12.	YES...1 NO ....2 DON'T KNOW...8	
424	Have any of these children stopped school for a while or dropped out of school? MAKE SURE ONLY CHILDREN AGED 5 TO 12.	YES...1 NO ....2 DON'T KNOW...8	

	SECTION 5 CURRENT OR MOST RECENT PARTNER			

CHECK (Ref. Sheet, box A)	CURRENTLY MARRIED / LIVING WITH A MAN / WITH SEXUAL PARTNER (Option 1) [ ] (Option 5) ⇓	FORMERLY MARRIED / LIVED WITH A MAN / (Option 2) [ ] ⇓	NEVER MARRIED / LIVED WITH A MAN / (Option 4) [ ] ⇒	⇒S.6
501	I would now like you to tell me a little about your current / most recent husband / partner. How old was your husband / partner on his last birthday? PROBE: MORE OR LESS IF MOST RECENT PARTNER DIED: How old would he have been if he would have been alive?		AGE (YEARS) .... [ ][ ]	
502	In what year was he born?		YEAR ....[ ][ ][ ][ ] DON'T KNOW..9998	
503	Can he read and write?		YES...1 NO 2	
504	Did he ever attend school?		YES ....1 NO 2	⇒506
505	What is the highest level of education that he achieved? MARK HIGHEST LEVEL. *CALCULATE TOTAL YEARS IN SCHOOL*		PRIMARY _____ year.................................1 SECONDARY _____ year...........................2 HIGHER _____ year.................................3 TECHNICAL/VOCATIONAL ____years...............5 ADULT EDUCATION _____years.....................6 OTHER (specify) _____...........7 DON'T KNOW..8 NUMBER OF YEARS SCHOOLING...............[ ][ ]	
506	IF CURRENTLY WITH PARTNER: Is he currently working, looking for work or unemployed, retired or studying? IF NOT CURRENTLY WITH PARTNER: Towards the end of your relationship was he working, looking for work or unemployed, retired or studying?		WORKING ....1 LOOKING FOR WORK/UNEMPLOYED ....2 RETIRED ....3 STUDENT 4	⇒508 ⇒508 ⇒509
507	When did his last job finish? Was it in the past four weeks, between 4 weeks and 12 months ago, or before that? (FOR MOST RECENT HUSBAND / PARTNER: in the last 4 weeks or in the last 12 months of your relationship)?		IN THE PAST FOUR WEEKS...............................1 4 WKS - 12 MONTHS AGO ....2 MORE THAN 12 MONTHS AGO.......................3 NEVER HAD A JOB...4	⇒509
508	What kind of work does / did he normally do? SPECIFY KIND OF WORK		PROFESSIONAL: _____.........1 BUSINESS (LARGE)_____...........2 TECHNICAL _____.........3 MILITARY/POLICE: ....4 AGRICULTURE ....5 (TAXI) DRIVER ....6 SMALL BUSINESS/ VENDOR ....7 OTHER: _____.........8	
509	How often does/did your husband/partner drink alcohol? 1. Every day or nearly every day 2. Once or twice a week 3. 1 – 3 times a month 4. Occasionally, less than once a month 5. Never		EVERY DAY OR NEARLY EVERY DAY ....1 ONCE OR TWICE A WEEK................................2 1 – 3 TIMES IN A MONTH..............................3 LESS THAN ONCE A MONTH ....4 NEVER ....5 DON'T KNOW...8	⇒512
510	In the past 12 months (During the last 12 months of your relationship), how often have you seen (did you see) your husband / partner drunk? Would you say most days, weekly, once a month, less than once a month, or never?		MOST DAYS..1 WEEKLY...2 ONCE A MONTH ....3 LESS THAN ONCE A MONTH ....4 NEVER 5	

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511	In the past 12 months (During the last 12 months of your relationship), have you experienced any of the following problems, related to your husband/partner's drinking? a) Money problems b) Family problems x) any other problems, specify.		YES	NO	
		a) MONEY PROBLEMS	1	2	
		b) FAMILY PROBLEMS	1	2	
		x) OTHER: _____	1	2	
TZA 511	When you and your partner have sex, has he drunk alcohol before sex? Would you say almost always, often, rarely or never?	(ALMOST) ALWAYS .... 1 OFTEN .... 2 RARELY .... 3 NEVER 4			
512	How often does/did your husband/partner use drugs? 1. Every day or nearly every day 2. Once or twice a week 3. 1 – 3 times a month 4. Occasionally, less than once a month 5. Never	EVERY DAY OR NEARLY EVERY DAY .... 1 ONCE OR TWICE A WEEK .... 2 1 – 3 TIMES IN A MONTH .... 3 LESS THAN ONCE A MONTH .... 4 NEVER .... 5 DON'T KNOW 8			
513	Since you have known him, has he ever been involved in a physical fight with another man?	YES .... 1 NO .... 2 DON'T KNOW 8			⇒515 ⇒515
514	In the past 12 months (in the last 12 months of the relationship), has this happened never, once or twice, a few times or many times?	NEVER .... 1 ONCE OR TWICE .... 2 A FEW (3-5) TIMES .... 3 MANY (MORE THAN 5) TIMES .... 4 DON'T KNOW 8			
515	Has your current / most recent husband / partner had a relationship with any other women while being with you?	YES .... 1 NO .... 2 MAY HAVE .... 3 DON'T KNOW 8			⇒517 ⇒517
516	Has your current / most recent husband / partner had children with any other woman while being with you?	YES 1 NO .... 2 MAY HAVE .... 3 DON'T KNOW 8			
517 TZA	How likely do you think it is your current / most recent partner has been exposed to HIV (virus that causes AIDS)? Very likely, somewhat likely, unlikely or not at all?	VERY LIKELY .... 1 SOMEWHAT LIKELY .... 2 UNLIKELY .... 3 NOT AT ALL .... 4 DON'T KNOW 8			

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SECTION 6 ATTITUDES TOWARDS GENDER ROLES

	In this community and elsewhere, people have different ideas about families and what is acceptable behavior for men and women in the home. I am going to read you a list of statements, and I would like you to tell me whether you generally agree or disagree with the statement. There are no right or wrong answers.				
601	A good wife obeys her husband even if she disagrees	AGREE...............1 DISAGREE ....2 DON'T KNOW 8			
602	Family problems should only be discussed with people in the family.	AGREE...............1 DISAGREE ....2 DON'T KNOW 8			
603	It is important for a man to show his wife/partner who is the boss	AGREE...............1 DISAGREE ....2 DON'T KNOW 8			
604	A woman should be able to choose her own friends even if her husband disapproves	AGREE...............1 DISAGREE ....2 DON'T KNOW 8			
605	It's a wife's obligation to have sex with her husband even if she doesn't feel like it	AGREE...............1 DISAGREE ....2 DON'T KNOW 8			
606	If a man mistreats his wife, others outside of the family should intervene.	AGREE...............1 DISAGREE ....2 DON'T KNOW 8			
607	In your opinion, does a man have a good reason to hit his wife if: a) She does not complete her household work to his satisfaction b) She disobeys him c) She refuses to have sexual relations with him d) She asks him whether he has other girlfriends e) He suspects that she is unfaithful f) He finds out that she has been unfaithful		YES	NO	DK
		a) HOUSEHOLD	1	2	8
		b) DISOBEYS	1	2	8
		c) NO SEX	1	2	8
		d) GIRLFRIENDS	1	2	8
		e) SUSPECTS	1	2	8
		f) UNFAITHFUL	1	2	8
608	In your opinion, can a married woman refuse to have sex with her husband if: a) She doesn't want to b) He is drunk c) She is sick d) He mistreats her.		YES	NO	DK
		a) NOT WANT	1	2	8
		b) DRUNK	1	2	8
		c) SICK	1	2	8
		d) MISTREAT	1	2	8

SECTION 7 RESPONDENT AND HER PARTNER					

CHECK (Ref. Sheet, box A)	EVER MARRIED / LIVING WITH A MAN / CURRENT *SEXUAL PARTNER* (Options 1, 2) [ ] *(Option 5)* ⇓	NEVER MARRIED / LIVED WITH A MAN / (Option 4) [ ] ⇒	⇒S.10

When two people marry or live together, they usually share both good and bad moments. I would now like to ask you some questions about your current and past relationships and how your husband / partner treats (treated) you. If anyone interrupts us I will change the topic of conversation. I would again like to assure you that your answers will be kept secret, and that you do not have to answer any questions that you do not want to. May I continue?

701	In general, do (did) you and your (current or most recent) husband / partner discuss the following topics together: a) Things that have happened to him in the day b) Things happen to you during the day c) Your worries or feelings d) His worries or feelings		YES	NO
		a) HIS DAY	1	2
		b) YOUR DAY	1	2
		c) YOUR WORRIES	1	2
		d) HIS WORRIES	1	2

702	In your relationship with your (current or most recent) husband / partner, how often would you say that you quarrelled? Would you say rarely, sometimes or often? NOTE: QUARELLING WITH WORDS, NOT BEATING	RARELY ....1 SOMETIMES.........2 OFTEN.........3

703	I am now going to ask you about some situations that are true for many women. Thinking about your (current or most recent) husband / partner, would you say it is generally true that he: a) tries to keep you from seeing your friends b) tries to restrict contact with your family of birth c) insists on knowing where you are at all times d) ignores you and treats you indifferently e) gets angry if you speak with another man f) is often suspicious that you are unfaithful g) expects you to ask his permission before seeking health care for yourself		YES	NO
		a) SEEING FRIENDS	1	2
		b) CONTACT FAMILY	1	2
		c) WANTS TO KNOW	1	2
		d) IGNORES YOU	1	2
		e) GETS ANGRY	1	2
		f) SUSPICIOUS	1	2
		g) HEALTH CENTRE	1	2

704	The next questions are about things that happen to many women, and that your current partner, or any other partner may have done to you. I want you to tell me if your current husband / partner, or any other partner, has ever done the following things to you.	A) (If YES continue with B. If NO skip to next item)	B) Has this happened in the past 12 months? (If YES ask C only. If NO ask D only)	C) In the past 12 months would you say that this has happened once, a few times or many times? (after answering C, skip D)	D) Before the past 12 months would you say that this has happened once, a few times or many times?
		YES NO	YES NO	One Few Many	One Few Many
	a) Insulted you or made you feel bad about yourself?	1 2	1 2	1 2 3	1 2 3
	b) Belittled or humiliated you in front of other people?	1 2	1 2	1 2 3	1 2 3
	c) Did things to scare or intimidate you on purpose (e.g. by the way he looked at you, by yelling and smashing things)?	1 2	1 2	1 2 3	1 2 3
	d) Threatened to hurt you or someone you care about?	1 2	1 2	1 2 3	1 2 3

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705	Has he or any other partner ever....	A) (If YES continue with B. If NO skip to next item)		B) Has this happened in the past 12 months? (If YES ask C only. If NO ask D only)		C) In the past 12 months would you say that this has happened once, a few times or many times? (after answering C, skip D)			D) Before the past 12 months would you say that this has happened once, a few times or many times?		
		YES	NO	YES	NO	One	Few	Many	One	Few	Many
	a) Slapped you or threw something at you that could hurt you?	1	2	1	2	1	2	3	1	2	3
	b) Pushed you or shoved you?	1	2	1	2	1	2	3	1	2	3
	c) Hit you with his fist or with something else that could hurt you?	1	2	1	2	1	2	3	1	2	3
	d) Kicked you, dragged you or beat you up?	1	2	1	2	1	2	3	1	2	3
	e) Choked or burnt you on purpose?	1	2	1	2	1	2	3	1	2	3
	f) Threatened to use or actually used a gun, knife or other weapon against you?	1	2	1	2	1	2	3	1	2	3

706	Has he or any other partner ever....	A) (If YES continue with B. If NO skip to next item)		B) Has this happened in the past 12 months? (If YES ask C only. If NO ask D only)		C) In the past 12 months would you say that this has happened once, a few times or many times? (after answering C, skip D)			D) Before the past 12 months would you say that this has happened once, a few times or many times?		
		YES	NO	YES	NO	One	Few	Many	One	Few	Many
	a) Physically forced you to have sexual intercourse when you did not want to?	1	2	1	2	1	2	3	1	2	3
	b) Did you ever have sexual intercourse you did not want because you were afraid of what he might do?	1	2	1	2	1	2	3	1	2	3
	c) Did he ever force you to do something sexual that you found degrading or humiliating? [TZAc] IF YES: Would you mind telling me what it was: _____ _____ _____	1	2	1	2	1	2	3	1	2	3

707	VERIFY WHETHER ANSWERED YES TO ANY QUESTION ON PHYSICAL VIOLENCE, SEE QUESTION 705	YES, PHYSICAL VIOLENCE .... 1 NO PHYSICAL VIOLENCE 2	MARK IN BOX C
708	VERIFY WHETHER ANSWERED YES TO ANY QUESTION ON SEXUAL VIOLENCE, SEE QUESTION 706	YES, SEXUAL VIOLENCE .... 1 NO SEXUAL VIOLENCE 2	MARK IN BOX C

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CHECK (Ref. Sheet, box B, option 1)	EVER BEEN PREGNANT [ ] ⇓ NUMBER OF PREGNANCIES (option 5) [ ] [ ] ⇓ CURRENTLY PREGNANT? (option 4) YES....1 ⇓ NO.... 2	NEVER PREGNANT [ ] ⇒	⇒716*
709	You said that you have been pregnant TOTAL times. Was there ever a time when you were beaten or physically assaulted by (any of) your partner(s) whilst you were pregnant?	YES..1 NO...2	⇒716*
710	IF RESPONDENT WAS PREGNANT ONCE, ENTER 1 AND GO TO 711 IF RESPONDENT WAS PREGNANT MORE THAN ONCE: Did this happen in one pregnancy, or more than one pregnancy? In how many pregnancies were you beaten?	NUMBER OF PREGNANCIES BEATEN .... [ ][ ]	
711	Were you ever punched or kicked in the abdomen whilst you were pregnant?	YES..1 NO...2	
IF VIOLENCE REPORTED IN MORE THAN ONE PREGNANCY, THE FOLLOWING QUESTIONS REFER TO THE LAST / MOST RECENT PREGNANCY IN WHICH VIOLENCE REPORTED			
712	During the most recent pregnancy in which you were beaten, was the person who beat you the father of the child?	YES ....1 NO ....2 DON'T KNOW...8	
713	Were you living with this person when it happened?	YES 1 NO ....2 DON'T KNOW...8	
714	Had the same person beaten you before you were pregnant?	YES 1 NO 2	⇒716*
715	Compared to before you were pregnant, did the violence get less, stay about the same, or get worse whilst you were pregnant?	GOT LESS..1 STAYED ABOUT THE SAME....................................2 GOT WORSE ....3 DON'T KNOW...8	

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* CHECK Ref. Sheet Box A.	Option 1: CURRENTY MARRIED AND/OR LIVING WITH MAN: YES [ ] NO [ ] Option 6: NUMBER OF TIMES MARRIED/LIVED TOGETHER WITH A MAN? [ ][ ] *If 00 ⇒ S 8*				
CHECK Ref. Sheet Box C.	**WOMAN HAS NOT EXPRIENCED PHYSICAL OR SEXUAL VIOLENCE** ("NO" TO BOTH Options 1 and 2) ASK ONLY COLUMNS a AND b ⇓ [ ]		**WOMAN EXPERIENCED VIOLENCE** ("YES" TO Option 1 AND/OR Option 2) ASK COLUMNS a TO e [ ] (FOR ALL PARTNERS) ⇓		
716	IF RESPONDENT *LIVED WITH MORE THAN ONE PARTNER*, ASK: You told me you have been married or lived with a man TOTAL times. Could you now please tell me a little about your husband / partner(s)? (Starting with your current or most recent partner):				
	a) When did you start living together? IF CURRENTLY MARRIED OR LIVING TOGETHER START WITH 1. IF NOT, START WITH 2.	b) When did the relationship end?	c) Did he physically or sexually mistreat you?* IF NO, SKIP TO NEXT PARTNER, IF YES CONTINUE	d) When was the first incident?	e) When was the last incident?
1.	[ ][ ] MONTH [ ][ ][ ][ ] YEAR		YES ......1 ⇒ NO ......2 ⇓	[ ][ ] MONTH [ ][ ][ ][ ] YEAR	[ ][ ] MONTH [ ][ ][ ][ ] YEAR
2.	[ ][ ] MONTH [ ][ ][ ][ ] YEAR	[ ][ ] MONTH [ ][ ][ ][ ] YEAR	YES ......1 ⇒ NO ......2 ⇓	[ ][ ] MONTH [ ][ ][ ][ ] YEAR	[ ][ ] MONTH [ ][ ][ ][ ] YEAR
3.	[ ][ ] MONTH [ ][ ][ ][ ] YEAR	[ ][ ] MONTH [ ][ ][ ][ ] YEAR	YES ......1 ⇒ NO ......2 ⇓	[ ][ ] MONTH [ ][ ][ ][ ] YEAR	[ ][ ] MONTH [ ][ ][ ][ ] YEAR
4.	[ ][ ] MONTH [ ][ ][ ][ ] YEAR	[ ][ ] MONTH [ ][ ][ ][ ] YEAR	YES ......1 ⇒ NO ......2 ⇓	[ ][ ] MONTH [ ][ ][ ][ ] YEAR	[ ][ ] MONTH [ ][ ][ ][ ] YEAR
5.	[ ][ ] MONTH [ ][ ][ ][ ] YEAR	[ ][ ] MONTH [ ][ ][ ][ ] YEAR	YES ......1 ⇒ NO 2	[ ][ ] MONTH [ ][ ][ ][ ] YEAR	[ ][ ] MONTH [ ][ ][ ][ ] YEAR

CHECK WHETHER ALL PARTNERS INCLUDED.

*PROBE USING ACTS THAT RESPONDENT MENTIONED IN 705 AND/OR 706

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	SECTION 8 INJURIES			
CHECK Ref. Sheet Box C	**WOMAN EXPERIENCED PHYSICAL VIOLENCE ("YES" TO Option 1) [ ]** ⇩		**WOMAN HAS NOT EXEPRIENCED PHYSICAL VIOLENCE ("NO" TO Option 1)** [ ] ⇒	⇒S.10
	I would now like to learn more about the injuries that you experienced from (any of) your partner's violence. By injury, I mean any form of physical harm, including cuts, sprains, burns, broken bones or broken teeth, or other things like this.			
801	Have you <u>ever</u> been injured as a result of violence/abuse by (one of) your (current or former) husband / partner(s)		YES...1 NO..2	⇒S.9
802 a	<u>In your life</u>, how many times were you injured by (any of) your husband / partner(s)? Would you say once or twice, several times or many times?		ONCE/TWICE ....1 SEVERAL (3-5) TIMES.............................2 MANY (MORE THAN 5) TIMES...............3	
802 b				
803 a	What type of injury did you have? MARK ALL PROBE: Any other injury?	CUTS, PUNCTURES, BITES................................A SCRATCH, ABRASION, BRUISES.....................B SPRAINS, DISLOCATIONS................................C BURNS ....D PENETRATING INJURY, DEEP CUTS, GASHES E BROKEN EARDRUM, EYE INJURIES.................F FRACTURES, BROKEN BONES.........................G BROKEN TEETH..H OTHER: X	**b) ONLY ASK FOR RESPONSES MARKED IN 803a:** Has this happened <u>in the past 12 months?</u> YES NO 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2	
804 a	Did you <u>ever</u> lose consciousness? IF YES For how long? More or less than one hour?		YES, LESS THAN 1 HOUR....................................1 YES, MORE THAN 1 HOUR ....2 NO...3	⇒805
804 b	Has this happened <u>in the past 12 months</u>?		YES...1 NO...2	
805	Were you <u>ever</u> hurt badly enough that you needed health care? IF YES: How many times?		TIMES NEEDED HEALTH CARE ....[ ][ ] YES, BUT DON'T KNOW ....98 NOT NEEDED 00	⇒S.9
806	Did you <u>ever</u> receive health care for your injury? IF YES All of the time, or sometimes?		YES SOMETIMES...1 YES ALWAYS...2 NO 3	⇒S.9
807	For your injury, did you have to spend any nights in a hospital? IF YES: How many nights?		NUMBER OF NIGHTS IN HOSPITAL..............[ ][ ] IF NONE ENTER '00'	
808	Did you tell a healthworker the real cause of your injury?		YES...1 NO...2	

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SECTION 9 IMPACT AND COPING

I would now like to ask you some questions about what usually happened when your partner was violent. IF REPORTED MORE THAN ONE PARTNER VIOLENCE, ADD: I would like you to answer these questions for the most recent (last) partner who used violence.

901	Are there any particular situations that tend to lead to violence? PROBE: Any other situation? MARK ALL THAT MENTIONED	NO PARTICULAR REASON .... A WHEN MAN DRUNK .... B MONEY PROBLEMS .... C DIFFICULTIES AT HIS WORK .... D WHEN HE IS UNEMPLOYED .... E NO FOOD AT HOME .... F PROBLEMS WITH HIS OR HER FAMILY .... G SHE IS PREGNANT .... H HE IS JEALOUS OF HER .... I SHE REFUSES SEX .... J SHE IS DISOBEDIENT .... K OTHER _____ X	

CHECK: (Ref. Sheet, box B, point 3)	CHILDREN LIVING [ ] ⇓	NO CHILDREN ALIVE [ ] ⇒	⇒903
902	For any of these incidents of physical violence, were your children present or did they overhear you being beaten? IF YES: How often? Would you say once or twice, several times or most of the time?	NEVER.. 1 ONCE OR TWICE .... 2 SEVERAL TIMES .... 3 MANY TIMES/MOST OF THE TIME .... 4 DON'T KNOW.. 8	
903	During or after a violent incident, does (did) he ever force you to have sex? PROBE: Make you have sex with him against your will? IF YES: How often? Would you say once or twice, several times or most of the time?	NEVER .... 1 ONCE OR TWICE... 2 SEVERAL TIMES... 3 MANY TIMES/MOST OF THE TIME 4	
904	During the times that you were hit, did you ever fight back physically (or to defend yourself)? IF YES: How often? Would you say once or twice, several times or most of the time?	NEVER.. 1 ONCE OR TWICE .... 2 SEVERAL TIMES .... 3 MANY TIMES/MOST OF THE TIME........................... 4	
905	Have you ever hit or physically mistreated your husband/partner when he was not hitting or physically mistreating you? IF YES: How often? Would you say once or twice, several times or many times?	NEVER.. 1 ONCE OR TWICE .... 2 SEVERAL TIMES .... 3 MANY TIMES 4	
906	Would you say that your husband /partner's violence towards you has affected your physical or mental health? PROBE: Has it affected your health a little, or a lot?	NO EFFECT... 1 A LITTLE .... 2 A LOT 3	
907	In what way, if any, has the violence disrupted your work or other income generating activities? MARK ALL THAT APPLY	N/A (NO WORK FOR MONEY) .... A WORK NOT DISRUPTED... B PARTNER INTERUPTED WORK .... C UNABLE TO CONCENTRATE .... D UNABLE TO WORK / SICK LEAVE .... E LOST CONFIDENCE IN OWN ABILITY .... F OTHER: _____ X	

908	Who have you told about the physical violence? MARK ALL MENTIONED PROBE: Anyone else?	NO ONE .... A FRIENDS .... B PARENTS .... C BROTHER OR SISTER .... D UNCLE OR AUNT .... E HUSBAND / PARTNER'S FAMILY .... F CHILDREN .... G NEIGHBOURS .... H POLICE .... I DOCTOR / HEALTH WORKER .... J PRIEST .... K COUNSELLOR .... L NGO / WOMAN'S ORGANISATION .... M LOCAL LEADER .... N OTHER _____ X	
909	Did anyone ever try to help you? IF YES, Who helped you? MARK ALL MENTIONED PROBE: Anyone else?	NO ONE .... A FRIENDS .... B PARENTS .... C BROTHER OR SISTER .... D UNCLE OR AUNT .... E HUSBAND / PARTNER'S FAMILY .... F CHILDREN .... G NEIGHBOURS .... H POLICE .... I DOCTOR / HEALTH WORKER .... J PRIEST .... K COUNSELLOR .... L NGO / WOMAN'S ORGANISATION .... M LOCAL LEADER .... N OTHER _____ X	
910	Did you ever go to any of the following for help? READ EACH ONE a) Police b) Hospital or health centre c) Social services d) Legal advice centre e) Court f) Shelter g) Local leader h) Woman's organisation (Use name) j) Priest/Religious leader x) Anywhere else? Where?	<table><tr><td></td><td></td><td>YES</td><td>NO</td></tr><tr><td>a)</td><td>POLICE</td><td>1</td><td>2</td></tr><tr><td>b)</td><td>HOSPITAL/ HEALTH CENTRE</td><td>1</td><td>2</td></tr><tr><td>c)</td><td>SOCIAL SERVICES</td><td>1</td><td>2</td></tr><tr><td>d)</td><td>LEGAL ADVICE CENTRE</td><td>1</td><td>2</td></tr><tr><td>e)</td><td>COURT</td><td>1</td><td>2</td></tr><tr><td>f)</td><td>SHELTER</td><td>1</td><td>2</td></tr><tr><td>g)</td><td>LOCAL LEADER</td><td>1</td><td>2</td></tr><tr><td>h)</td><td>WOMAN'S ORGANISATION: _____</td><td>1</td><td>2</td></tr><tr><td>j)</td><td>PRIEST/RELIGIOUS LEADER</td><td>1</td><td>2</td></tr><tr><td>x)</td><td>ELSEWHERE:_____ _____</td><td>1</td><td>2</td></tr></table>	

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CHECK Question 910	MARK WHEN WOMAN ANSWERED YES ON ANY QUESTION (AT LEAST ONE "1" CIRCLED) [ ] ⇓	MARK WHEN ALL ANSWERS NO (ONLY "2" CIRCLED) [ ]	⇒912
911	What were the reasons that made you go for help? **MARK ALL MENTIONED AND GO TO 913**	ENCOURAGED BY FRIENDS / FAMILY .... A COULD NOT ENDURE MORE..B BADLY INJURED / AFRAID HE WOULD KILL HER ....C HE THREATENED OR TRIED TO KILL HER .... D HE THREATENED OR HIT CHILDREN ....E SAW THAT CHILDREN SUFFERING...F THROWN OUT OF THE HOME ....G AFRAID SHE WOULD KILL HIM ....H OTHER _____ X	**FOR ALL OPTIONS GO TO 913**

912	Why did you not go to any of these?
	
	MARK ALL RESPONSES GIVEN
		DON'T KNOW / NO ANSWER ....A
		FEAR OF THREATS / CONSEQUENCES / MORE ...... VIOLENCE B
		VIOLENCE NORMAL / NOT SERIOUS.......................................C
		EMBARRASSED / ASHAMED / AFRAID WOULD NOT
		   BE BELIEVED OR WOULD BE BLAMED ....D
		BELIEVED NOT HELP / KNOW OTHER WOMEN NOT
		   HELPED .... E
		AFRAID WOULD END RELATIONSHIP .... F
		AFRAID WOULD LOSE CHILDREN ....G
		BRING BAD NAME TO FAMILY ....H
		
		OTHER _____ X	

913	Is there anyone that you would like to receive (more) help from? Who? MARK ALL RESPONSES GIVEN *CAN ADD COUNTRY SPECIFIC OPTIONS*	NO-ONE MENTIONED.. A FAMILY B HER MOTHER..C HIS MOTHER .... D HEALTH CENTER ....E POLICE ....F PRIEST / RELIGIOUS LEADER... G OTHER: _____ X	
914	Did you ever leave, even if only overnight, because of the violence? IF YES, How many times?	NUMBER OF TIMES LEFT ....[ ][ ] NEVER .... 00 N.A. (NOT LIVING TOGETHER) 97	⇒919 ⇒S.10
915	What were the reasons why you left <u>the last time</u>? MARK ALL MENTIONED	NO PARTICULAR INCIDENT .... A ENCOURAGED BY FRIENDS / FAMILY ....B COULD NOT ENDURE MORE ....C BADLY INJURED / AFRAID HE WOULD KILL HER... D HE THREATENED OR TRIED TO KILL HER..............................E HE THREATENED OR HIT CHILDREN ....F SAW THAT CHILDREN SUFFERING.. G THROWN OUT OF THE HOME.. H AFRAID SHE WOULD KILL HIM..I ENCOURAGED BY ORGANIZATION: _____ ....J OTHER_____ X	

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916	Where did you go the last time? MARK ONE	HER RELATIVES .... 1 HIS RELATIVES .... 2 HER FRIENDS / NEIGHBOURS .... 3 HOTEL / LODGINGS .... 4 STREET .... 5 CHURCH / TEMPLE .... 6 SHELTER .... 7 OTHER _____ 8	
917	How long did you stay away the last time? RECORD NUMBER OF DAYS OR MONTHS	NUMBER OF DAYS (IF LESS THAN ONE MONTH) .... [ ][ ] 1 NUMBER OF MONTHS (IF ONE MONTH OR MORE) .... [ ][ ] 2 LEFT PARTNER/DID NOT RETURN / NOT WITH PARTNER 3	⇒S.10
918	Why did you return? MARK ALL MENTIONED AND GO TO SECTION 10	DIDN'T WANT TO LEAVE CHILDREN .... A SANCTITY OF MARRIAGE .... B FOR SAKE OF FAMILY / CHILDREN .... C COULDN'T SUPPORT CHILDREN .... D LOVED HIM .... E HE ASKED HER TO GO BACK .... F FAMILY SAID TO RETURN .... G FORGAVE HIM .... H THOUGHT HE WOULD CHANGE .... I THREATENED HER / CHILDREN .... J COULD NOT STAY THERE (WHERE SHE WENT) .... K OTHER _____ X	**FOR ALL OPTIONS GO TO Section 10**
919	What were the reasons that made you stay? MARK ALL MENTIONED	DIDN'T WANT TO LEAVE CHILDREN .... A SANCTITY OF MARRIAGE .... B DIDN'T WANT TO BRING SHAME ON FAMILY .... C COULDN'T SUPPORT CHILDREN .... D LOVED HIM .... E DIDN'T WANT TO BE SINGLE .... F FAMILY SAID TO STAY .... G FORGAVE HIM .... H THOUGHT HE WOULD CHANGE .... I THREATENED HER / CHILDREN .... J NO WHERE TO GO .... K OTHER _____ X	

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SECTION 10 OTHER EXPERIENCES

In their lives, many women experience different forms of violence from relatives, other people that they know, and/or from strangers. If you don't mind, I would like to briefly ask you about some of these situations. Everything that you say will be kept private. May I continue?

1001 a	Since the age of 15, has anyone (FOR WOMEN WITH CURRENT OR PAST PARTNER: other than your partner/husband) ever beaten or physcally mistreated you in any way? IF YES: Who did this to you? PROBE: How about a relative? How about someone at school or work? How about a friend or neighbour? A stranger or anyone else?	NO ONE ....A	⇒ 1002		
			b) ASK ONLY FOR THOSE MARKED. How many times did this happen? Once or twice, a few times, or many times		
			Once or twice	A few times	Many times
		FATHER..B	1	2	3
		STEP FATHER....................................C	1	2	3
		OTHER MALE FAMILY MEMBER ....D	1	2	3
		FEMALE FAMILY MEMBER: _____ ......E	1	2	3
		TEACHER..F	1	2	3
		POLICE/ SOLDIER................................G	1	2	3
		MALE FRIEND OF FAMILY ....H	1	2	3
		FEMALE FRIEND OF FAMILY I	1	2	3
		BOYFRIEND...J	1	2	3
		STRANGER ....K	1	2	3
		SOMEONE AT WORK...................................L	1	2	3
		PRIEST/RELIGIOUS LEADER......................M	1	2	3
		OTHER _____ X	1	2	3
1002 a	Since the age of 15, has anyone (FOR WOMEN WITH CURRENT OR PAST PARTNER: other than your partner/husband) ever forced you to have sex or to perform a sexual act when you did not want to? IF YES: Who did this to you? PROBE: How about a relative? How about someone at school or work? How about a friend or neighbour? A stranger or anyone else?	NO ONE ....A	⇒ 1003		
			b) ASK ONLY FOR THOSE MARKED. How many times did this happen? Once or twice, a few times, or many times		
			Once or twice	A few times	Many times
		FATHER..B	1	2	3
		STEP FATHER....................................C	1	2	3
		OTHER MALE FAMILY MEMBER ....D	1	2	3
		FEMALE FAMILY MEMBER: _____ ......E	1	2	3
		TEACHER..F	1	2	3
		POLICE/ SOLDIER................................G	1	2	3
		MALE FRIEND OF FAMILY ....H	1	2	3
		FEMALE FRIEND OF FAMILY I	1	2	3
		BOYFRIEND...J	1	2	3
		STRANGER ....K	1	2	3
		SOMEONE AT WORK...................................L	1	2	3
		PRIEST/RELIGIOUS LEADER......................M	1	2	3
		OTHER _____ X	1	2	3

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1003 a	Before the age of 15, do you remember if any one in your family ever touched you sexually, or made you do something sexual that you didn't want to? IF YES: Who did this to you? IF YES OR NO CONTINUE: How about someone at school? How about a friend or neighbour? Has anyone else done this to you? IF YES: Who did this to you?	NO ONE ....A	⇒ **1004**			
			ASK ONLY FOR THOSE MARKED IN 1003a		
			b) How old were you when it happened with this person for the first time? (more or less)	c) How old was this person? PROBE: roughly (more or less).	d) How many times did this happen?

			b)	c)	Once/ twice	Few times	Many times
		FATHER .... B	[ ][ ]	[ ][ ]	1	2	3
		STEP FATHER C	[ ][ ]	[ ][ ]	1	2	3
		OTHER MALE FAMILY MEMBER .... D	[ ][ ]	[ ][ ]	1	2	3
		FEMALE FAMILY MEMBER: _____ ...... E	[ ][ ]	[ ][ ]	1	2	3
		TEACHER .... F	[ ][ ]	[ ][ ]	1	2	3
		POLICE/ SOLDIER .... G	[ ][ ]	[ ][ ]	1	2	3
		MALE FRIEND OF FAMILY .... H	[ ][ ]	[ ][ ]	1	2	3
		FEMALE FRIEND OF FAMILY I	[ ][ ]	[ ][ ]	1	2	3
		BOYFRIEND .... J	[ ][ ]	[ ][ ]	1	2	3
		STRANGER .... K	[ ][ ]	[ ][ ]	1	2	3
		SOMEONE AT WORK L	[ ][ ]	[ ][ ]	1	2	3
		PRIEST/RELIGIOUS LEADER .... M	[ ][ ]	[ ][ ]	1	2	3
		OTHER _____ X	[ ][ ]	[ ][ ] DK = 98	1	2	3

1004	How old were you when you first had sex?	AGE YEARS (MORE OR LESS) .... [ ][ ] NOT HAD SEX 95	⇒1006
1005	How would you describe the first time that you had sex? Would you say that you wanted to have sex, you did not want to have sex but it happened anyway, or were you forced to have sex?	WANTED TO HAVE SEX .... 1 NOT WANT BUT HAD SEX .... 2 FORCED TO HAVE SEX 3	
1005a TZA	The number of sexual partners women have had differs a lot from person to person. Some women report having had one sex partner, some 2 or more, and still others report 50 or more. In your life how many different men have you had sex with?	[ ][ ][ ] IF 1 ONLY	⇒1006
1005b TZA	IF MORE THAN ONE, ASK With how many of these men did you have sex in the past 12 months?	[ ][ ]	
1006	When you were a child, was your mother hit by your father (or her husband or boyfriend)?	YES .... 1 NO .... 2 PARENTS DID NOT LIVE TOGETHER .... 3 DON'T KNOW 8	⇒1008* ⇒1008* ⇒1008*
1007	As a child, did you see or hear this violence?	YES .... 1 NO .... 2 DON'T KNOW 8	

* CHECK
(Ref.Sheet
box A)
	EVER MARRIED / LIVING WITH A MAN /
	CURRENTLY *WITH SEXUAL PARTNER*
	(APART)
	    (Options 1, 2) [ ]
	    (Option 5) ⇓
		NEVER MARRIED / LIVED WITH A MAN /
		
		        (Option 4) [ ] ⇒
			⇒1011

1008	As far as you know, was your (most recent) partner's mother beaten by her husband?	YES .... 1 NO .... 2 PARENTS DID NOT LIVE TOGETHER .... 3 DON'T KNOW 8	⇒1010 ⇒1010 ⇒1010

1009	Did your (most recent) husband / partner see or hear this violence?	YES .... 1 NO .... 2 DON'T KNOW 8	
1010	As far as you know, was your (most recent) husband/partner himself beaten regularly by someone in his family?	YES .... 1 NO .... 2 DON'T KNOW 8	
1011	How many sisters do you have, born to the same mother, age 15 – 49?	SISTERS 15 – 49 YEARS OLD........................... [ ][ ] NO SISTERS 15 – 49 00	⇒S.11
1012	How many of these sisters have ever been married or lived with a partner?	SISTERS EVER WITH PARTNER................................... [ ][ ] NONE... 00	⇒S.11
1013	Have any of these sisters ever been beaten or physically mistreated by their husband or some other male partner? *IF YES; PROBE : How many sisters?*	SISTERS BEATEN .... [ ][ ] NONE .... 00 DON'T KNOW 98	

SECTION 11 FINANCIAL AUTONOMY

Now I would like to ask you some questions about things that you own and your earnings. We need this information to understand the financial position of women nowadays.

1101	Please tell me if you own any of the following, either by yourself or with someone else: a) Land b) Your house c) A company or business d) Large animals (cows, horses etc.) e) Small animals (chickens, pigs, goats etc.) f) Produce or crops from certain fields or trees g) Large household items (TV, bed, cooker, fridge) h) Jewellery, gold or other valuables j) Motor car x) Other property, specify FOR EACH PROBE: Do you own this on your own, or do you own it with others?	YES YES NO Own Own with Don't by self others own a) LAND 1 2 3 b) HOUSE 1 2 3 c) COMPANY 1 2 3 d) LARGE ANIMALS 1 2 3 e) SMALL ANIMALS 1 2 3 f) PRODUCE 1 2 3 g) HOUSEHOLD ITEMS 1 2 3 h) JEWELLRY 1 2 3 j) MOTOR CAR 1 2 3 x) OTHER PROPERTY: 1 2 3	

1102	a) Do you earn money? *IF YES, What exactly do you do to earn money?* ASK ALL. SPECIFY. b) Job c) Selling things, trading d) Doing seasonal work x) Any other activity, specify	NO..A b) JOB: _____ c) SELLING / TRADING: _____ d) SEASONAL WORK: _____ x) OTHER: _____	⇒ *CHECK YES NO 1 2 1 2 1 2 1 2

* CHECK (Ref. Sheet, box A)	CURRENTLY MARRIED / LIVING WITH A MAN (Options 1) [ ] ⇓	NOT CURRENTLY MARRIED / LIVING WITH A MAN / CURRENT SEXUAL PARTNER (Options 2, 4) [ ] ⇒ *(Option 5)*	⇒S.12
CHECK 1102	1. OPTIONS b) c) d) or x) MARKED [ ] ⇓	2. OPTION a) MARKED [ ] ⇒	⇒1105
1103	Are you able to spend the money you earn how you want yourself, or do you have to give all or part of the money to your husband / partner?	SELF / OWN CHOICE.........................1 GIVE PART TO HUSBAND / PARTNER.............2 GIVE ALL TO HUSBAND / PARTNER.............3	
1104	Would you say that the money that you bring into the family is more than what your husband / partner contributes, less than what he contributes, or about the same as he contributes?	MORE THAN HUSBAND / PARTNER.............1 LESS THAN HUSBAND / PARTNER.............2 ABOUT THE SAME.........................3 DO NOT KNOW...........................8	
1105	Have you ever given up/refused a job for money because your husband / partner did not want you to work?	YES...................................1 NO....................................2	
1106	Has your husband / partner ever taken your earnings or savings from you against your will? IF YES: Has he done this once or twice, several times or many times?	NEVER.................................1 ONCE OR TWICE.........................2 SEVERAL TIMES.........................3 MANY TIMES / ALL OF THE TIME..........4 N/A (DOES NOT HAVE SAVINGS/EARNINGS)....7	
1107	Does your husband /partner ever refuse to give you money for household expenses, even when he has money for other things? IF YES: Has he done this once or twice, several times or many times?	NEVER.................................1 ONCE OR TWICE.........................2 SEVERAL TIMES.........................3 MANY TIMES / ALL OF THE TIME..........4 N/A (PARTNER DOES NOT EARN MONEY)......7	
1108	In case of emergency, do you think that you alone could raise enough money to house and feed your family for four weeks? – this could be for example by selling things that you own, or by borrowing money from people you know, or from a bank or moneylender?	YES...................................1 NO....................................2	

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	SECTION 12 COMPLETION OF INTERVIEW	
1201	I would now like to give you a card. On this card are two pictures. No other information is written on the card. The first picture is of a sad face, the second is of a happy face. No matter what you have already told me, I would like you to put a mark next to the sad picture if, someone has ever touched you sexually, or made you do something sexual that you didn't want to, <u>before you were 15 years old</u>. Please put a mark next to the happy face if this has never happened to you. Once you have marked the card, please fold it over and put it in this envelope and seal it. This will ensure that I do not know your answer. GIVE RESPONDENT CARD AND PEN. DO NOT LOOK AT RESPONSE - ONCE CARD FOLDED, ASK RESPONDENT TO PUT IT INTO A BAG THAT ALSO CONTAINS OTHER COMPLETED CARDS IN FRONT OF RESPONDENT. DO NOT RECORD DETAILS OF QUESTIONNAIRE IDENTIFICATION ON CARD.	CARD COMPLETED.......... 1 CARD NOT COMPLETED 2
1202	We have now finished the interview. Do you have any comments, or is there anything else you like to add? _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____	
1203	I have asked you about many difficult things. How has talking about these things made you feel?	GOOD/BETTER.................1 BAD/WORSE.....................2 SAME/ NO DIFFERENCE 3
1204	Finally, do you agree if we contact you again (within the next month) if we need to ask a few more questions for clarification?	YES...................................1 NO 2

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FINISH ONE – IF RESPONDENT HAS DISCLOSED PROBLEMS / VIOLENCE

I would like to thank you very much for helping us. I appreciate the time that you have taken. I realise that these questions may have been difficult for you to answer, but it is only by hearing from women themselves that we can really understand about their health and experiences of violence.

From what you have told us, I can tell that you have had some very difficult times in your life. No-one has the right to treat someone else in that way. However, from what you have told me I can see that you are strong, and have survived through some difficult circumstances.

Here is a list of organisations that provide support, legal advice and counselling services to women in STUDY LOCATION. Please do contact them if you would like to talk over your situation with anyone. Their services are free, and they will keep anything that you say private. You can go whenever you feel ready to, either soon or later on.

FINISH TWO - IF RESPONDENT HAS NOT DISCLOSED PROBLEMS / VIOLENCE

I would like to thank you very much for helping us. I appreciate the time that you have taken. I realise that these questions may have been difficult for you to answer, but it is only by hearing from women themselves that we can really understand about women's health and experiences in life.

In case you ever hear of another woman who needs help, here is a list of organisations that provide support, legal advice and counselling services to women in STUDY LOCATION. Please do contact them if you or any of your friends or relatives need help. Their services are free, and they will keep anything that anyone says to them private.

1205.	Record time of end of interview:	Hour [ ][ ] (24 h) Minutes [ ][ ]

TZA1206.	How long did you think the interview lasted ?	ASK THE RESPONDENT Hours [ ] Minutes [ ][ ]

INTERVIEWER COMMENTS TO BE COMPLETED AFTER INTERVIEW

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

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REFERENCE SHEET

Box A. MARITAL STATUS

Mark only ONE of the following for marital status of respondent:

1. [ ] Currently married and/or living with man (Question 119: any one of the options 1 or 3)

2. [ ] Previously married/lived with man *(no current sexual relationship)* (Question 120, option 1)

4. [ ] Never married/ never lived with man *(no current sexual relationship)* (Question 120, option 2)

5. [ ] Currently with regular sexual partner, living apart (dating relationship) (Question 119: option 4)

6. Number of times married/lived together with man (Question 123):   [ ][ ]

Box B. REPRODUCTIVE HISTORY

Check and complete ALL that applies for reproductive history of respondent:

1. Respondent has been pregnant at least one time (Question 308, 1 or more) [ ] Yes   [ ] No

2. Respondent had at least one live birth (Question 301, 1 or more birth)   [ ] Yes   [ ] No

3. Respondent has children who are alive (Question 303, 1 or more children) [ ] Yes   [ ] No

4. Respondent is currently pregnant (Question 310, option 1)   [ ] Yes   [ ] No

5. Number of pregnancies reported (Question 308):   [ ][ ]

Box C. VIOLENCE AND INJURIES

Check and complete ALL that applies for respondent:

1. Respondent has been victim of physical violence (Question 707)   [ ] Yes   [ ] No

2. Respondent has been victim of sexual violence (Question 708)   [ ] Yes   [ ] No

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Appendix 3: Socioeconomic status analysis

Table A3.1: Sample size in DSM and Mbeya (entire sample)

	DSM	Mbeya
Entire sample (total number of households in data set)	2200	2197
Complete sample (sample size of households with complete socio-economic data derived after missing value analysis)	1984	1991
Percentage of households with missing values for some or all socio-economic variables	9.8%	9.4%

Table A3.2: Distribution of household asset variables in DSM and Mbeya (entire sample)

	DSM N=2200	Sample size N = 2200	Mbeya	Sample size N = 2197
Source of water		2041		2012
tap in residence	18.9		10.2	
outside tap	27.9		13.6	
public tap	24.9		26.5	
well water in residence	1.5		0.2	
outside well	6.8		11.9	
spring water	0.3		9.5	
river / lake	0.1		20.8	
rain water	0.0		0.3	
water vendor	13.3		1.8	
other	6.3		5.2	
Sanitation facility		2040		2008
own flush toilet	25.6		5.3	
shared flush toilet	1.6		0.4	
ventilated pit latrine	5.3		2.1	
pit latrine	66.5		90.7	
river / canal	0.1		0.2	
no facility	0.5		0.9	
other	0.3		0.3	
Roofing material		2027		2006
natural materials	1.9		29.5	
rudimentary roof	0.0		0.0	
tiled or concrete	9.2		0.8	
corrugated iron	88.9		68.7	
wood	0.0		0.0	
other	0.0		1.0	
Electricity in household	56.6	2041	12.8	2012
Ownership of durables				
radio	81.5	2041	56.0	2012
television	41.2	2040	5.6	2011
telephone	31.3	2040	4.6	2012
refrigerator	39.4	2040	3.5	2012
bicycle	16.2	2037	22.2	2012
motorcycle	2.2	2037	0.5	2012
car	17.1	2037	2.1	2011
Land owner	66.3	2026	91.1	2004

Table A3.3: Results from PCA analysis in DSM and Mbeya (complete socio-economic status data sample)

Variable Description	DSM N=1984			Mbeya N=1991		
	Factor Score	Mean	Std. dev	Factor Score	Mean	Std. dev
Tap in residence	0.128	0.187	0.390	0.138	0.101	0.301
Outside tap	-0.023	0.277	0.447	0.028	0.137	0.344
Public tap	-0.052	0.250	0.433	-0.026	0.264	0.441
Well water in residence	0.001	0.015	0.122	-0.005	0.002	0.045
Outside well	-0.025	0.069	0.254	-0.030	0.121	0.326
Spring water	-0.006	0.004	0.059	-0.028	0.096	0.295
River / lake	-0.006	0.001	0.032	-0.052	0.208	0.406
Rainwater				-0.005	0.003	0.055
Water vendor	-0.017	0.135	0.341	0.003	0.018	0.133
Other source of water	-0.019	0.063	0.243	-0.003	0.051	0.220
Own flush toilet	0.147	0.250	0.433	0.146	0.052	0.223
Shared flush toilet	0.007	0.015	0.122	0.031	0.005	0.067
Ventilated pit latrine	0.011	0.053	0.225	0.048	0.021	0.144
Pit latrine	-0.141	0.674	0.469	-0.143	0.907	0.290
River / canal	-0.001	0.001	0.032	0.005	0.002	0.448
No sanitation facility	-0.009	0.005	0.067	-0.002	0.010	0.097
Other sanitation facility	-0.007	0.003	0.050	-0.001	0.004	0.059
Natural materials	-0.014	0.018	0.134	-0.078	0.295	0.456
Tiled or concrete roof	0.106	0.089	0.284	0.049	0.008	0.086
Corrugated iron roof	-0.091	0.893	0.310	0.070	0.688	0.464
Other type of roof	0.00	0.001	0.022	-0.012	0.010	0.100
Electricity in household	0.124	0.560	0.496	0.150	0.130	0.333
Radio in household	0.061	0.810	0.390	0.074	0.560	0.496
Television in household	0.143	0.410	0.492	0.156	0.060	0.229
Telephone in household	0.136	0.310	0.462	0.161	0.050	0.210
Refrigerator in household	0.147	0.390	0.487	0.152	0.040	0.184
HH member owns a bicycle	0.007	0.160	0.369	0.025	0.220	0.415
HH member owns a motorcycle	0.032	0.020	0.147	0.012	0.010	0.074
HH member owns a car	0.122	0.170	0.374	0.113	0.020	0.142
Land owner in household	0.028	0.670	0.470	-0.037	0.910	0.284
% variation explained by first principal component		19.3			16.7	

Table A3.4: Proportion of households in low, medium and high socio-economic status group in DSM and Mbeya (complete socio-economic data sample)

Percentage within each SES group	DSM (N=1984)	Mbeya (N=1991)
Low	58.2	87.4
Medium	24.3	8.4
High	17.4	4.1

Figure 3.1a Distribution of household socio-economic score in DSM (N=1984)

Tanzania Capital
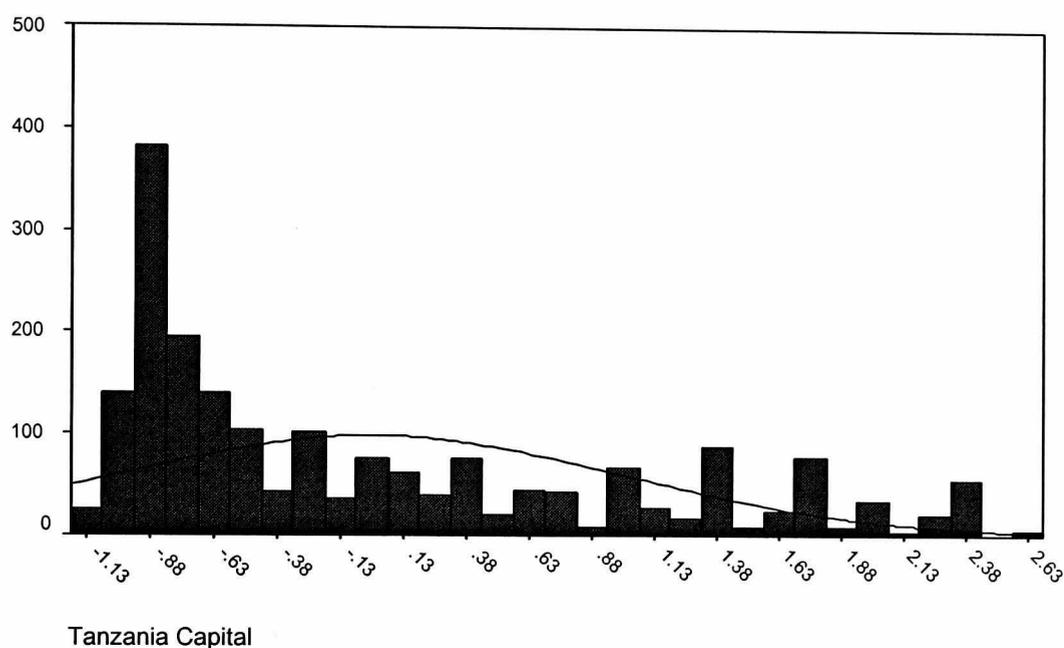
Figure 3.1a Distribution of household socio-economic score in Mbeya (N=1991)

Tanzania Province

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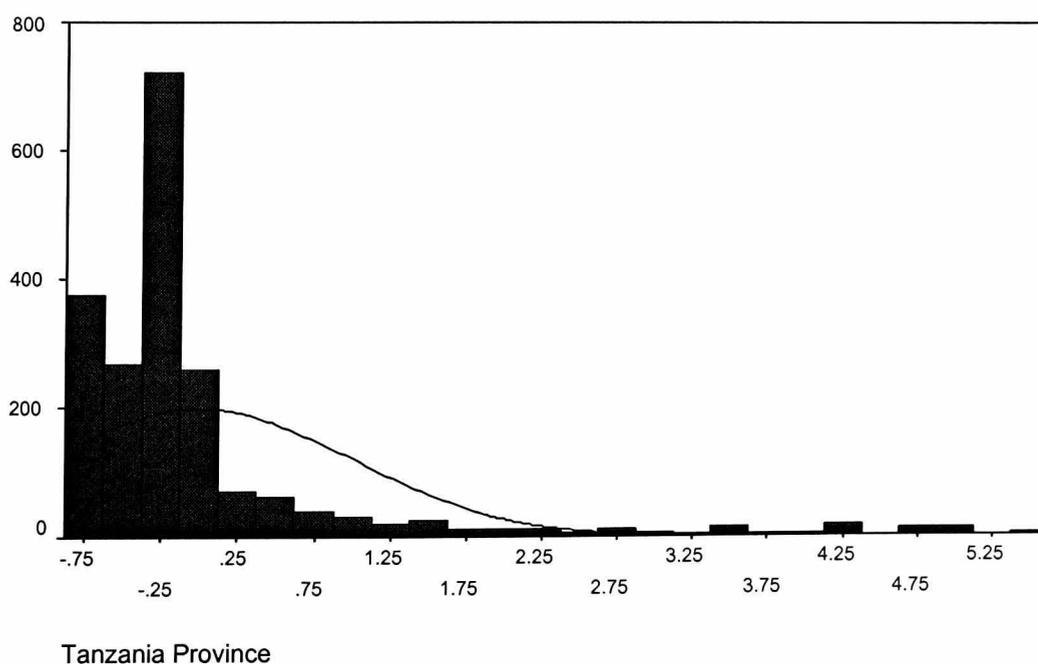
Appendix 4: Qualitative study tool

WOMEN'S EMPOWERMENT ! STUDY

CONSENT FORM

Hello. My name is [_____] and I am from Muhimbili University for Health and Allied Sciences (MUHAS). A team led by Dr. Jessie Mbwambo at MUHAS University wants to learn more about the lives of women who work, and how their work affects their relationship with their partner.

Here is an information sheet that contains more details about the study and contact details of the main researchers.

HAND WOMAN INFORMATION SHEET

If you don't mind, after checking whether you are eligible to take part in the study, I would like to interview you in private about your work inside and outside of your home, how decisions regarding how the family money is spent, and whether disagreements or conflict, have ever arisen between you and your partner. The information you give will be used to learn more about gender relations in Tanzania and how to better address the needs of working women. The interview should take about 60minutes to complete.

Your name and personal information will not be given to anyone, or written on any notes taken during the interview. It is your choice whether you want to do the interview. You can stop the interview at any time without having to give a reason, or to not answer some questions.

After the interview, the answers that you give will be put together with answers given by other people. The information that we collect will be kept private, and destroyed after we have entered the information in an electronic format.

We will reimburse you for your time and any travel expenses you incur.

If you agree to the interview, and it raises issues that you would like to discuss further, we would be happy to help give you names of people you can contact. We will also give you information about organizations working in your community that may be of use to you or to others that you know.

Do you have any questions for me now?	NO. [ ] YES. [ ] ANSWER QUESTIONS.
Do you agree to take part in the study?	NO. [ ] END. YES. [ ] If no, thank and finish the interview.
Is now a good time to talk?	NO. [ ] RESCHEDULE. YES. [ ]
It's very important that we talk in private where other people are not around. Is this a good place to hold the interview?	NO. [ ] YES. [ ] CONTINUE

If No, probe: Is there somewhere else that you would like to go or would you like to have the interview at Muhimibil Hospital / Mbeya referral Hospital	CHOOSE ANOTHER PRIVATE LOCATION [ ]
	MUHIMBILI HOSPITAL, DAR ES SALAAM [ ]
	   (ARRANGE APPOINTMENT)
	MBEYA REFERRAL HOSPITAL, MBEYA [ ]
	   (ARRRANGE APPOINTMENT)

Is it okay if I tape record the interview?	NO. [ ] YES. [ ] DO NOT TAPE RECORD.
Is it okay if we use quotes or information that you provide if we make sure not to use your name or any information that might identify you?	NO. [ ] YES. [ ]

TO BE COMPLETED BY INTERVIEWER

Date: _____

Name of Interviewer (Print): _____

Signature of Interviewer: _____

Name of Respondent (Print): _____

TO BE COMPLETED BY RESPONDENT

I certify that I have read the above consent procedure / that it was read to me.

Date: _____

Signature: _____ OR

Thumbprint: _____

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First I would like to ask you a few questions, to see whether you are eligible to take part in this study. Could you please tell me:

NO.	QUESTIONS AND FILTERS	CATEGORIES
1.1	What is your date of birth? (day, month and year that you were born)?	DAY [ ][ ] DK [ ] MONTH [ ][ ] DK [ ] YEAR [ ][ ][ ][ ] DK [ ]
	How old were you on your last birthday?	AGE (YEARS) [ ][ ]

2.1	Are you currently married or do you have a male partner?
	
	IF RESPONDENT **IS** CURRENTLY MARRIED OR HAS A MALE PARTNER <u>ASK</u>
	    How long have you been with your partner?
	
	IF RESPONDENT HAS A MALE PARTNER <u>ASK</u>
	    Do you and your partner live together?
		CURRENTLY MARRIED [ ]
		HAS MALE PARTNER NOT MARRIED [ ]
		
		LIVING WITH PARTNER [ ]
		NOT LIVING WITH PARTNER [ ]

	IF RESPONDENT **NOT** CURRENTLY MARRIED OR WITH A MALE PARTNER <u>ASK</u>
	    Have you ever been married or lived with a male partner?
	
	IF YES, <u>ASK</u>
	    Did the last partnership end in divorce or separation or were you widowed?
		NO. [ ] YES. [ ]
		
		DIVORCED / SEPARATION [ ]
		WIDOWED [ ]

3.1	Do you earn money? IF RESPONDENTS EARN MONEY ASK What exactly do you to earn money?	NO. [ ] YES. [ ]
3.2	Have you ever been part of a loan or a savings group?	NO. [ ] YES. [ ]

4.1	Do you have children?
	
	IF RESPONDENT HAS CHILDREN <u>ASK</u>
	A) How many children do you have under 5
	    How many children do you have between 5-12
	    How many children do you have over 12
		NO. [ ] YES. [ ]
		
		NUMBER OF CHILDREN
		    [ ][ ]
		    [ ][ ]
		    [ ][ ]

4.2	Including all children, please can you tell me in total how many people live in your home?	TOTAL NUMBER PEOPLE IN HOUSEHOLD [ ][ ]
5.1	What type of toilet facility does your household have?	OWN FLUSH TOILET [ ] SHARED FLUSH TOILET [ ] VENTILATED IMPROVED PIT LATRINE [ ] TRADITIONAL PIT LATRINE [ ] RIVER/ CANAL [ ] NO FACILITY / BUSH FIELD [ ]

ELIGABILTY CRITERIA: ANY WOMAN FULLFILLING ALL FOUR CRITERIA BELOW		
INTERVIEWER ELIGABILITY CHECK	**ELIGABILITY CRITERIA** (PUT CIRCLE AROUND RESPONSE)	
	YES.	NO.
AGED BETWEEN 18-49	1	2
CURRENTLY PARTNERED (MARRIED / LIVING WITH PARTNER)	1	2
ACCESS TO MONEY (EARNING MONEY / CREDIT OR LOAN)	1	2
POOR (TOILET FACILITY IS LATRINE, RIVER / CANAL, NO FACILITY, BUSH / FIELD)	1	2
IF WOMAN IS ELIGIBLE FOR STUDY ASK IF YOU CAN TALK WITH HER AND GO TO INFORMED CONSENT.		
IF WOMAN IS NOT ELIGIBLE FOR STUDY, THANK HER FOR HER TIME		

WOMEN'S EMPOWERMENT ! STUDY
INFORMATION SHEET WOMEN PARTICIPANTS
IN-DEPTH INTERVIEWS

What is the purpose of the study?
This study aims to better understand the lives of women who work, and how this work affects her relationship with her partner. The information that you provide will be used to learn more about gender relations in Tanzania and how to better address the needs of working women.

What am I being asked to do?
I would like to ask you some questions about your work inside and outside of your home, how decisions regarding how the family money is spent, and whether disagreements or conflict, have ever arisen between you and your partner, and if so, how you managed the situation. This interview will be in private, and should take about 60minutes to complete.

Who will know that I took part in the interview?
Your name and personal details will not be given to anyone, or written on any notes taken during the interview. After the interview, the information that you give will be put together with information given by other people, and these will be entered in an electronic format. Then the notes and any tapes that have been made will be destroyed. We will be careful to ensure that no-one will be able to identify you. No quotes or other results arising from my participation in this study will be included in any reports, even anonymously, without your agreement.

Where will the interview be held?
The interviews will be held in a private place where you feel comfortable and safe. If you wish, we can have the interview at your home or another private location of your choice. Alternatively, we can have the interview at:
    Muhimbili Hospital, Muhimbili Health Information Centres, Dar es Salam
    Mbeya Referral Hospital, Mbeya

We will reimburse you for your time and any travel expenses you incur.

Risks and Benefits: What will happen if I agree to the interview?
During the interview you will be asked some questions about yourself and your relationship with your partner. We do not expect any emotional or physical risks to you. Because everything you say is confidential, we are being very careful to ensure that the information is kept private.

If the interview raises issues that you would like to discuss further with someone, we would be happy to help give you names of people you can contact. We will also give you

information about organizations working in your community that may be of use to you or to others that you know.

It is your choice whether you want to do the interview. You can stop the interview at any time without having to give a reason, or to not answer some questions.

If you have questions about the interview or the project, you can contact:
Dr. Samuel Likindikoki
+255 *********

If you have questions about your rights as someone taking part in a study, you can contact:

Dr. Jessie Mbwambo
Department of psychiatry and mental health (MUHAS / MNH)
P.O. Box: 65466
DSM
+ 255 *********

Chairman of the university publications and research committee
Of Muhimbili University of Health and Allied Sciences (MUHAS)
+255 *********
P.O. Box: 65001
DSM

WOMEN'S EMPOWERMENT ! STUDY
IN-DEPTH INTERVIEW GUIDE

Woman's entry into work/ earning activities

➤ Can you tell me about when you first started working/ earning activities?
   Probe:
   ➤ How long ago was this?
   ➤ What type of work did you do?

➤ Why did you start working/ earning activities?

➤ Did you have a primary partner when you started working/ earning activities?
   If no, skip the proceeding probes. If yes probe:
   ➤ What do you think your partner thought about you starting work/ earning activities?
   ➤ What did he do to show he was in agreement with you starting work/ earning activities?
   ➤ What did he do to show he was not in agreement with you starting work/ earning activities?

➤ Are you with this same partner?
   If yes probe:
   ➤ How do you think your partner feels nowadays about you working/ engaging in earning activities?

➤ Can you tell me about your current work/ earning activities, what do you do now?
   If different probe:
   ➤ Why did you change?

➤ What type of work/ earning activities does your partner do?

Good and bad things about working

➤ How has your working/ earning activities changed you?
If woman responds with what she is able to buy probe till list is exhausted, then explore psycho-social / interpersonal changes. Probe:
   ➤ In what other ways has your working/ earning activity changed you as a person?

➤ How do you think you working/ your engagement in earning activities has affected your relationship with your partner?
   ➤ What have been the good things?
   ➤ What have been the bad things?

➤ Has your working/ engagement in earning activities affected the way that your partner views or treats you?
If yes probe:
   ➤ In what ways?

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➢ Has your working/ engagement in earning activity been a source of problems in your relationship?

If yes probe:
>   ➢ In what ways?

➢ Would you say that the money you bring into the family is more than what your partner brings?

If yes probe:
>   ➢ How has this affected your relationship with your partner?

Financial management and decision making
➢ How important is the money that you earn for the family?

➢ What does the money that you earn typically get spent on?
If woman responds she has already answered probe:
>   ➢ For example, do you own your own home?
>   *If no probe:*
>   ➢ Do you pay the rent?
>   *If no probe:*
>   ➢ What would happen if you did pay rent?

➢ What does the money that your partner earns typically get spent on?

➢ How is it decided how to spend the money you earn/ your partner earns?

➢ What happens to the money that comes into the household? Do you and your partner share the money you earn or do you keep it separate?

➢ Do you ever give the money you earn to your partner?
If no, skip the following probe, If yes probe:
>   ➢ Why do you give money to your partner?
>   ➢ Do you still give money to your partner?
If no probe:
>   ➢ Why have you stopped?
>   ➢ What would happen if you didn't give any money you earn to your partner?

➢ Because you bring money into the household, do you think that you are able to have a greater say in the household?
If yes probe:
>   ➢ On what issues/ matters are you able to have more say?

➢ I hope you don't mind, but I'd like to ask you a more personal question, who decides about sex?
If general societal response probe:
>   ➢ What about in your relationship, is it you, your partner or both?

➢ Are you able to tell your partner if you do not want to have sex when he does?
Probe:
>   ➢ What would happen if you denied your partner sex when he wants to?

Violence

Many women experience physical or sexual violence from their partner, or another man. For example, a husband may slap, punch or kick his wife; or force or pressurise her to have sexual intercourse when she does not want to.

➢ Has this ever happened to you? YES / NO
➢ When did this happen?
➢ Has this happened in the last year? YES / NO
➢ Were you already working / engaged in earning activities?

➢ Because you are earning, do you think that you have more options to deal with violence or if you were to experience violence with your partner?
  Probe:
  ➢ In what ways?

Ask if hasn't been answered before
➢ Do you feel more secure because you are earning your own money?

Advice to other women

➢ Do you know any women who want to start working / engage in earning activities?

➢ Thinking back on your experiences as a working woman, what would you tell these women?

➢ What specific advice would you give them about how to handle their relationship with their partner?

➢ Who do you think should help women who are experience violence from their partner?
  Probe:
  ➢ What should they do?
  If organisations involved in financial empowerment not mentioned probe:
  ➢ What about micro-credit organisations, what should they do?

Appendix 5: Ethical clearance

**LONDON SCHOOL OF HYGIENE
& TROPICAL MEDICINE**

ETHICS COMMITTEE

**APPROVAL FORM
Application number:**   5359

Name of Principal Investigator   **Professor Charlotte Watts & Ms Seema Vyas**

Department   **Public Health and Policy**

Head of Department   **Professor Anne Mills**

Title: **Contested development? Intimate partner violence and women's
unemployment in urban and rural Tanzania**

This application is approved by the Committee.

Chair of the Ethics Committee .... *T. W. Meade* ....

Date ....1 September 2008..................................

Approval is dependent on local ethical approval having been received.

Any subsequent changes to the application must be submitted to the Committee
via an E2 amendment form.

Ref.No.MU/RP/AEC/Vol.XII/85

11ᵗ November 2008

Dr.J. Mbwambo
Department of Psychiatry
School of Medicine
MUHAS.

RE: APPROVAL FOR ETHICAL CLEARANCE FOR THE STUDY TITLED "CONTESTED DEVELOPMENT: INTIMATE PATNER VIOLENCE AND WOMENS EMPLOYMENT IN DSM AND MBEYA, TANZANIA"

Reference is made to the above heading.

I am pleased to inform you that the Chairman has on behalf of the Senate, approved renewal of ethical clearance of the above mentioned study, on recommendation of the Expedited Review Sub- committee of the Senate Research and Publications Committee meeting held on 05ᵗʰ November. 2008

The validity of this ethical clearance is one year effective from 05ᵗ November 2008 04ᵗ November 2009.

You will therefore be required to apply for renewal of ethical clearance on a yearly basis if the study is not completed at the end of this clearance. You will also be expected to provide six monthly progress reports, and final project report upon completion of your study.
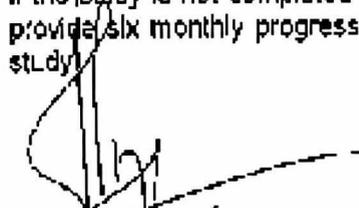
Prof. Lvanhuve
CHAIRPERSON, SENATE RESEARCH & PUBLICATIONS COMMITTEE

c.c. Vice Chancellor-Your letter Ref. No. MU/01/1022/078/18

c.c. Deputy Vice Chancellor, Academics, Research & Consultancy

c.c. Dean, School of Medicine

National Institute for Medical Research
P.O. Box 9653
Dar es Salaam
Tel: 255 22 2121400/3907
Fax: 255 22 2121380/2121360
E-mail: headquarters@nimr.or.tz
NIMR/HQ/R.8a/Vol. IX/775

Ministry of Health and Social Welfare
P.O. Box 9083
Dar es Salaam
Tel: 255 22 2120262-7
Fax: 255 22 2110986

17th December 2008

Dr. Jessie K.K. Mbwambo
Muhimbili University of Health and Allied Health Sciences
P. O. Box 65001
Dar es salaam

CLEARANCE CERTIFICATE FOR CONDUCTING
MEDICAL RESEARCH IN TANZANIA

This is to certify that the research entitled: Contested Development? Intimate Partner Violence and Women's Employment in Dar es Salaam and Mbeya (Mbwambo K K Jessie et al). has been granted ethics clearance to be conducted in Tanzania.

The Principal Investigator of the study must ensure that the following conditions are fulfilled:

1. Progress report is made available to the Ministry of Health and the National Institute for Medical Research, Regional and District Medical Officers after every six months.
2. Permission to publish the results is obtained from National Institute for Medical Research.
3. Copies of final publications are made available to the Ministry of Health and the National Institute for Medical Research.
4. Any researcher, who contravenes or fails to comply with these conditions, shall be guilty of an offence and shall be liable on conviction to a fine.
5. Approval is for one year: 17th December 2008 to 17th December 2009.

Name: Dr Andrew Y Kilua

Signature

**CHAIRMAN
MEDICAL RESEARCH
COORDINATING COMMITTEE**
CC: RMO
DMO

Name: Dr Deo M Mtasiwa

Signature

**CHIEF MEDICAL OFFICER
MINISTRY OF HEALTH, SOCIAL
WELFARE**

Appendix 6: Descriptive findings from the WHO study – additional analysis

Table A6.1 Additional socio-demographic characteristics

	DSM (%)	Mbeya (%)	Total (%)
Respondent educational attainment	**N=1442**	**N=1256**	**N=2698**
None	13.2	24.4	18.4
Incomplete primary	10.2	10.8	10.5
Complete primary	53.6	57.1	55.2
Incomplete secondary	17.8	6.8	12.6
Complete secondary	0.9	0.1	0.5
Higher / university / technical	4.2	1.0	2.7
Frequency of respondent alcohol use	**N=1439**	**N=1255**	**N=2694**
Never	67.6	61.9	65.0
Less than once a week	22.6	11.6	17.5
Frequent (at least once a week)	9.8	26.5	17.6
Problems associated with respondent alcohol use	**N=467**	**N=478**	**N=945**
No	90.4	89.1	89.7
Yes	9.6	10.9	10.3
Respondent age of first sex	**N=1434**	**N=1249**	**N=2683**
Before age 16	14.4	17.9	16.0
After age 16	85.6	82.2	84.0
Circumstance of first sex	**N=1436**	**N=1246**	**N=2682**
Wanted to have sex	62.7	70.9	66.5
Didn't want to have sex	24.5	13.0	19.2
Forced to have sex	12.8	16.1	14.4
Justified reason to hit	**N=1441**	**N=1255**	**N=2696**
Not done household work	24.9	28.8	26.7
Wife disobeys	45.9	49.9	47.6
Refuses sex	33.7	43.8	38.4
Asks about other women	14.3	20.2	17.0
Suspicious she is unfaithful	23.9	28.3	25.9
Wife is unfaithful	52.9	56.2	54.4
Woman justified to refuse sex	**N=1440**	**N=1255**	**N=2695**
Woman does not want to	60.9	73.6	66.8
If he is drunk	31.0	60.8	44.9
She is sick	9.6	20.1	14.5
If he mistreats her	18.1	50.0	32.9
Respondent asked whether wanted to marry (of those that did not choose husband)	**N=115** 87.0	**N=62** 64.5	**N=177** 79.1
Type of marriage payment (marriages involving payment)	**N=853**	**N=685**	**N=1538**
Dowry	8.0	0.9	4.8
Bride price	92.0	99.1	95.2
Impact of dowry / bride price (marriages involving payment)	**N=853**	**N=685**	**N=1538**
Positive impact	18.6	20.9	19.6

Negative impact	1.6	3.1	2.3
No impact	79.7	76.1	78.1
Age difference between respondent and partner – Years partner older (Std dev)	**N=1427** 7.80 (5.96)	**N=1242** 7.16 (6.02)	**N=2669** 7.50 (6.00)
Partner educational attainment	**N=1392**	**N=1235**	**N=2627**
None	5.5	8.3	6.8
Incomplete primary	7.0	13.4	10.1
Complete primary	47.0	61.1	53.6
Incomplete secondary	23.9	11.7	18.2
Complete secondary	5.4	1.9	3.8
Higher / university / technical	11.2	3.5	7.6
Respondent in monogamous relationship and partner has relationship with other women	**N=1271**	**N=1204**	**N=2475**
No	45.9	49.1	47.5
Yes	13.0	12.0	12.5
Don't know	28.8	14.0	17.5
Respondent in polygamous relationship and partner has relationship with other women			
No	4.0	7.1	5.5
Yes	6.8	11.0	8.8
Don't know	3.2	5.2	4.2
Respondent doesn't know if polygamous relationship and partner has relationship with other women			
Yes	1.2	0.2	0.7
No / Don't know	5.1	1.3	3.3
Partner alcohol use	**N=1433**	**N=1250**	**N=2683**
Never	57.2	48.4	53.1
Less than once a month	15.8	7.0	11.7
At least once a week	27.0	44.6	35.2
Frequency of partner fighting in past 12 month	**N=72**	**N=70**	**N=142**
Never	38.9	42.9	40.9
Once or twice	41.7	35.7	38.7
A few times	8.3	10.0	9.2
Many times	8.3	7.1	7.8
Don't know	2.8	4.3	3.5

Appendix 7: LCA-classes of partner violence – additional analysis

Table A7.1 Latent class prevalences and item response probabilities for unrestricted four-latent class model of partner violence in DSM and Mbeya

	Lifetime DSM				Past 12 month DSM			
	LC_1	LC_2	LC_3	LC_4	LC_1	LC_2	LC_3	LC_4
latent class prevalence	0.68	0.14	0.11	0.07	0.86	0.07	0.05	0.02
Item response probabilities								
Slapped	0.09	0.47	0.85	1.00	0.04	0.85	0.23	0.99
Pushed	0.01	0.20	0.61	0.89	0.01	0.58	0.08	0.84
Hit with fist	0.00	0.08	0.58	0.79	0.00	0.53	0.00	0.74
Kicked	0.00	0.01	0.38	0.79	0.00	0.32	0.06	0.65
Choked	0.00	0.00	0.08	0.34	0.00	0.03	0.00	0.44
Weapon	0.00	0.04	0.11	0.32	0.00	0.06	0.07	0.32
Forced sex	0.05	0.67	0.06	0.90	0.04	0.18	0.79	0.91
Afraid to say no	0.01	0.46	0.01	0.73	0.01	0.11	0.60	0.95

	Lifetime Mbeya				Past 12 month Mbeya			
	LC_1	LC_2	LC_3	LC_4	LC_1	LC_2	LC_3	LC_4
latent class prevalence	0.59	0.18	0.13	0.09	0.79	0.10	0.07	0.04
Item response probabilities								
Slapped	0.15	0.63	0.90	0.97	0.04	0.20	0.78	0.99
Pushed	0.02	0.24	0.73	0.92	0.01	0.09	0.74	0.75
Hit with fist	0.01	0.17	0.60	0.85	0.01	0.03	0.48	0.84
Kicked	0.00	0.07	0.41	0.81	0.00	0.04	0.34	0.67
Choked	0.00	0.01	0.06	0.47	0.00	0.00	0.11	0.37
Weapon	0.00	0.02	0.13	0.36	0.00	0.00	0.08	0.26
Forced sex	0.08	0.82	0.00	0.74	0.05	0.78	0.13	0.85
Afraid to say no	0.02	0.57	0.02	0.64	0.00	0.60	0.05	0.87

Table A7.2a Top 5 response patterns and classification probabilities of lifetime and past 12 month by LCA-class in DSM

Lifetime										Past 12									
Lifetime LCA-classes of partner violence in DSM (N=585)										Past 12 month LCA-classes of partner violence in DSM (N=305)									
Slapped	Pushed	Hit with fist	Kicked	Choked	Weapon	Forced Sex	Afraid	N	Class Prob	Slapped	Pushed	Hit with fist	Kicked	Choked	Weapon	Forced Sex	Afraid	N	C P
LC_2 (N=263)										LC_2 (N=137)									
Yes	no	no	No	no	No	no	no	104	0.95	yes	no	no	no	no	no	no	no	50	
Yes	yes	no	No	no	No	no	no	34	0.98	yes	yes	no	no	no	no	no	no	11	
Yes	no	yes	No	no	No	no	no	18	0.99	yes	no	yes	no	no	no	no	no	11	
Yes	yes	yes	No	no	No	no	no	15	0.92	no	yes	no	no	no	no	no	no	9	
No	yes	no	No	no	No	no	no	13	0.86	yes	yes	yes	yes	no	no	no	no	7	
LC_3 (N=186)										LC_3 (N=125)									
no	no	no	no	no	No	yes	no	70	0.97	no	no	no	no	no	no	yes	no	59	0.99
no	no	no	no	no	No	yes	yes	33	1.00	no	no	no	no	no	no	yes	yes	21	1.00
yes	no	no	no	no	No	yes	no	31	0.67	no	no	no	no	no	no	no	yes	17	0.91
no	no	no	no	no	No	no	yes	18	0.87	yes	no	no	no	no	no	yes	no	9	0.74
yes	no	no	no	no	No	yes	yes	11	0.94	yes	no	no	no	no	no	yes	yes	6	0.92
LC_4 (N=136)										LC_4 (N=43)									
yes	yes	yes	yes	no	No	no	no	20	0.66	yes	yes	yes	yes	yes	yes	yes	yes	7	1.00
yes	yes	yes	yes	yes	Yes	yes	yes	14	1.00	yes	yes	yes	no	no	no	yes	yes	6	0.98
yes	yes	yes	yes	no	No	yes	yes	13	1.00	yes	yes	yes	yes	no	no	yes	no	4	0.93
yes	yes	yes	yes	no	No	yes	no	10	0.97	yes	yes	yes	yes	no	no	yes	yes	3	1.00
yes	yes	yes	no	no	No	yes	yes	8	0.96	yes	yes	no	yes	no	no	yes	yes	3	0.97

Table A7.2b Top 5 response patterns and classification probabilities of lifetime and past 12 month by LCA-class in Mbeya

Lifetime LCA-classes of partner violence in Mbeya (N=696)										Past 12 month LCA-classes of partner violence in Mbeya (N=362)									
Slapped	Pushed	Hit with fist	Kicked	Choked	Weapon	Forced Sex	Afraid	N	Class Prob	Slapped	Pushed	Hit with fist	Kicked	Choked	Weapon	Forced Sex	Afraid	N	C P
LC₂ (N=271)										*LC₂ (N=161)*									
no	no	no	no	no	no	yes	no	66	1.00	no	no	no	no	no	no	yes	no	74	
yes	no	no	no	no	no	yes	no	42	1.00	no	no	no	no	no	no	yes	yes	45	
no	no	no	no	no	no	yes	yes	37	1.00	yes	no	no	no	no	no	yes	no	12	
yes	no	no	no	no	no	yes	yes	24	1.00	no	no	no	no	no	no	no	yes	10	
yes	yes	no	no	no	no	yes	yes	15	0.93	no	yes	no	no	no	no	yes	yes	6	
LC₃ (N=251)										*LC₃ (N=145)*									
yes	no	no	no	no	no	no	no	112	0.87	yes	no	no	no	no	no	no	no	44	0.98
yes	yes	no	no	no	no	no	no	32	0.95	yes	yes	no	no	no	no	no	no	15	0.99
yes	yes	yes	no	no	no	no	no	26	0.87	no	yes	no	no	no	no	no	no	12	0.96
yes	no	yes	no	no	no	no	no	15	0.95	yes	yes	yes	yes	no	no	no	no	9	0.54
no	yes	no	no	no	no	no	no	13	0.76	yes	yes	yes	no	no	no	no	no	8	0.93
LC₄ (N=174)										*LC₄ (N=56)*									
yes	yes	yes	yes	no	no	no	no	24	0.70	yes	yes	yes	yes	yes	no	yes	yes	8	1.00
yes	yes	yes	yes	yes	no	yes	yes	12	1.00	yes	yes	yes	yes	no	no	yes	yes	4	1.00
yes	yes	yes	yes	yes	no	no	no	11	1.00	yes	yes	yes	no	no	no	yes	yes	4	0.97
yes	yes	yes	yes	yes	yes	yes	yes	10	1.00	yes	yes	yes	yes	yes	no	no	no	3	0.97
yes	yes	yes	Yes	no	no	yes	yes	10	1.00	yes	yes	yes	yes	no	yes	yes	yes	3	1.00

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Table A7.3 Percentage experiencing low and high frequency acts of partner violence in lifetime by LCA-class in DSM and Mbeya

	Moderate physical Frequency			Sexual dominant Frequency			Severe abuse Frequency			
	N	Low %	High %	N	Low %	High %	N	Low %	High %	χ2 p-value
DSM										
Slapped	223	88.3	11.7	47	91.7	8.3	135	56.3	43.7	<0.001
Pushed	94	84.0	16.0	16	87.5	12.5	115	51.3	48.7	<0.001
Used fist	62	80.6	19.4	1	0.0	100.0	116	56.9	43.1	0.003
Kicked	28	92.9	7.1	2	100.0	0.0	108	56.5	43.5	0.001
Choked	5	80.0	20.0	0	0.0	0.0	40	47.5	52.5	0.170
Weapon	12	91.7	8.3	5	100.0	0.0	38	52.6	47.4	0.011
Forced sex	16	68.7	31.3	159	76.7	23.3	95	51.6	48.4	<0.001
Afraid	18	88.9	11.1	75	86.7	12.8	74	54.1	46.9	<0.001
Mbeya										
Slapped	216	86.6	13.4	135	92.6	7.4	166	48.8	51.2	<0.001
Pushed	94	79.8	20.2	40	87.5	12.5	158	52.5	47.5	<0.001
Used fist	63	85.7	14.3	28	89.3	10.7	150	53.3	46.7	<0.001
Kicked	35	91.4	8.6	7	85.7	14.3	137	53.3	46.7	<0.001
Choked				2	100.0	0.0	65	55.4	44.6	0.210
Weapon	10	80.0	20.0	3	100.0	0.0	57	57.9	42.1	0.163
Forced sex				240	77.1	22.9	97	57.7	42.3	<0.001
Afraid				128	73.4	26.6	88	63.6	36.4	0.124

Table A7.4 Adjusted odds ratios from multivariate regression for violence contextual factors in DSM and Mbeya (Lifetime partner violence)

DSM Lifetime	No violence	Moderate physical			Sexual dominant			Severe abuse			Wald test p-value		
	%	%	AOR	95% CI	%	AOR	95% CI	%	AOR	95% CI	a vs. b	a vs. c	b vs. c
Emotional abuse													
Any emotional abuse	24.0	73.4	8.46	(6.23, 11.49)	64.0	5.59	(4.00, 7.80)	92.0	33.14	(17.28, 63.58)	0.042	<0.001	<0.001
Insulted or said things to make her feel bad	18.5	65.4	8.31	(6.10, 11.32)	50.5	4.48	(3.22, 6.24)	86.0	28.41	(16.67, 48.42)	0.001	<0.001	<0.001
Belittled or humiliated her in front of others	4.0	24.3	7.86	(5.07, 12.17)	23.2	6.71	(4.13, 10.87)	60.3	37.52	(23.12, 60.89)	0.500	<0.001	<0.001
Scared or intimated her	9.6	31.6	4.29	(3.05, 6.05)	31.9	4.29	(2.93, 6.28)	66.9	18.58	(12.00, 28.78)	0.996	<0.001	<0.001
Threatened to hurt her	2.6	19.8	8.91	(5.32, 14.92)	11.9	4.54	(2.45, 8.41)	58.1	53.09	(31.18, 90.43)	0.017	<0.001	<0.001
High emotional abuse (v low /none)	4.4	29.3	8.06	(5.94, 10.94)	22.2	5.08	(3.65, 7.07)	70.6	26.80	(14.82, 4847)	0.021	<0.001	<0.001
Control													
Keeps her from seeing friends	16.6	23.4	1.80	(1.29, 2.51)	29.6	2.01	(1.39, 2.91)	44.9	4.07	(2.75, 6.01)	0.602	<0.001	0.003
Restricts contact with her family	5.3	11.8	2.33	(1.43, 3.80)	20.4	4.37	(2.72, 7.02)	25.7	6.17	(3.75, 10.16)	0.020	0.001	0.206
Wants to know where she is at all times	64.6	76.4	1.77	(1.28, 2.45)	82.2	2.48	(1.65, 3.71)	80.9	2.40	(1.52, 3.78)	0.170	0.253	0.912
Ignores or treats her indifferently	5.8	9.5	1.67	(1.00, 2.81)	16.7	3.15	(1.91, 5.19)	31.6	7.15	(4.43, 11.53)	0.034	<0.001	0.003
Gets angry if she speaks with others	50.4	69.6	2.23	(1.64, 3.02)	65.1	1.79	(1.27, 2.50)	73.5	2.75	(1.82, 4.16)	0.287	0.385	0.087
Is suspicious she is unfaithful	9.9	23.6	2.90	(1.99, 4.21)	27.6	3.49	(2.33, 5.21)	42.7	6.86	(4.52, 10.42)	0.411	<0.001	0.006
Expects her to ask permission to seek health care	65.2	69.2	1.11	(0.82, 1.51)	72.0	1.43	(1.00, 2.05)	73.5	1.56	(1.02, 2.37)	0.247	0.163	0.741
High control (v low control)	18.5	31.6	1.92	(1.40, 2.64)	38.7	2.60	(1.82, 3.71)	55	5.25	(3.52, 7.84)	0.130	<0.001	0.003

Mbeya Lifetime	No violence	Moderate physical			Sexual dominant			Severe abuse			Wald test p-value		
	%	%	AOR	95% CI	%	AOR	95% CI	%	AOR	95% CI	a vs. b	a vs. c	b vs. c
Emotional abuse													
Any emotional abuse	31.8	75.3	6.21	(4.51, 8.56)	73.4	6.61	(4.56, 9.55)	97.1	70.84	(28.96, 173.28)	0.756	<0.001	<0.001
Insulted or said things to make her feel bad	28.3	68.1	5.52	(4.08, 7.47)	67.9	5.24	(3.81, 7.21)	95.4	49.48	(23.80, 104.09)	0.775	<0.001	<0.001
Belittled or humiliated her in front of others	3.3	17.9	7.99	(4.17, 15.31)	21.4	6.00	(3.41, 10.57)	56.9	34.40	(17.94, 65.96)	0.193	<0.001	<0.001
Scared or intimated her	6.9	32.7	6.69	(4.11, 10.90)	27.3	5.16	(3.21, 8.29)	69.0	28.69	(18.10, 45.48)	0.269	<0.001	<0.001
Threatened to hurt her	2.4	10.4	4.82	(2.39, 9.73)	13.7	6.57	(3.61, 11.93)	52.3	41.65	(20.60, 84.24)	0.300	<0.001	<0.001
High emotional abuse (v low /none)	6.3	28.9	6.38	(4.44, 9.17)	25.5	5.97	(4.34, 8.22)	77.6	70.59	(28.84, 172.77)	0.739	<0.001	<0.001
Control													
Keeps her from seeing friends	6.5	14.7	2.80	(1.70, 4.61)	20.3	3.89	(2.46, 6.13)	31.6	7.11	(4.38, 11.53)	0.168	<0.001	0.009
Restricts contact with her family	2.5	3.6	1.54	(0.65, 3.65)	11.1	4.95	(2.56, 9.59)	19.0	9.92	(5.03, 19.54)	0.003	<0.001	0.016
Wants to know where she is at all times	50.5	58.6	1.51	(1.11, 2.06)	69.7	2.38	(1.74, 3.25)	70.7	2.56	(1.76, 3.72)	0.016	0.014	0.737
Ignores or treats her indifferently	6.0	10.4	1.75	(1.01, 3.04)	17.3	3.47	(2.14, 5.63)	37	8.14	(5.00, 13.25)	0.012	<0.001	<0.001
Gets angry if she speaks with others	36.8	52.6	2.05	(1.50, 2.80)	56.5	2.33	(1.73, 3.15)	72	4.70	(3.20, 6.88)	0.472	<0.001	0.001

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Is suspicious she is unfaithful	6.2	15.1	2.79	(1.69, 4.58)	14.5	2.62	(1.61, 4.28)	35	7.90	(4.90, 12.75)	0.807	<0.001	<0.001
Expects her to ask permission to seek health care	41.4	44.6	1.09	(0.80, 1.48)	58.0	1.93	(1.43, 2.60)	64	2.49	(1.73, 3.58)	0.002	<0.001	0.215
High control (v low control)	9.2	21.5	2.94	(1.87, 4.64)	25.8	3.64	(2.38, 5.57)	48	9.5	(6.03, 14.95)	0.267	<0.001	<0.001

Adjusted for respondent age; partnership status; respondent years in education; whether respondent earns money or not; number of living children; and household SES

Table A7.5 Adjusted odds ratios from multivariate regression for women's responses in DSM and Mbeya (Lifetime partner violence)

DSM Lifetime	Moderate physical (n=263)	Severe abuse (n=136)		
reference category	%	%	AOR	95% CI
Ever fought back *(Never fought back)*	30.0	50.7	2.48	(1.59, 3.88)
Ever left *(Never left)*	23.1	71.5	8.49	(5.06, 14.25)
Help seeking				
Any help seeking	29.8	66.9	4.90	(3.09, 7.77)
Police	8.1	34.1	6.28	(3.53, 11.16)
Hospital	13.4	38.8	4.11	(2.53, 6.66)
Local leader	13.0	28.4	2.77	(1.59, 4.82)
No of strategies used (ever fought back, ever left, help seeking)				
No strategy	44.9	8.1***		
At least one	34.6	26.5		
Two strategies	15.2	36.8		
All three	5.3	26.7		
N (Of those that left)	*57*	*93*		
Mean number of times left *Std. dev*	1.60 *(1.43)*	1.86 *(1.38)***		
Permanently left	22.4	38.3*		

Mbeya Lifetime	Moderate physical (n=251)	Severe abuse (n=174)		
reference category	%	%	AOR	95% CI
Mutuality				
Ever fought back *(Never fought back)*	17.4	26.7	5.26	(3.01, 9.18)
Ever left *(Never left)*	20.3	52.9	3.55	(2.39, 5.26)
Help seeking				
Any help seeking	28.4	67.6	4.37	(3.03, 6.30)
Police	0.7	15.7	3.93	(2.00, 7.73)
Hospital	6.5	28.9	4.45	(2.59, 7.66)
Local leader	19.4	54.9	4.19	(2.70, 6.40)
No of strategies used (ever fought back, ever left, help seeking)				
No strategy	55.4	18.4***		
At least one	29.9	32.8		
Two strategies	13.2	33.9		
All three	1.6	14.9		
N (Of those that left)	*55*	*90*		
Mean number of times left *Std. dev*	1.53 *(1.07)*	1.66 *(3.81)*		
Permanently left	20.0	39.6**		

* p<0.05 ** p<0.01 *** P<0.001

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Table A7.6 Adjusted odds ratios from multivariate regression for selected health outcomes in DSM and Mbeya (Lifetime partner violence)

DSM Lifetime	No violence %	Moderate physical %	AOR	95% CI	Sexual dominant %	AOR	95% CI	Severe abuse %	AOR	95% CI	a vs. b	a vs. c	b vs. c
Overall health													
Self rated health fair to very poor	30.6	38.0	1.36	(1.00, 1.86)	43.6	1.82	(1.28, 2.57)	50.0	2.28	(1.60, 3.25)	0.163	0.015	0.305
Mental health													
Thought about suicide	5.9	7.6	1.39	(0.79, 2.43)	7.0	0.98	(0.49, 1.95)	21.3	3.53	(2.05, 6.07)	0.377	0.004	0.001
Mean no. of distress symptoms	2.53 (3.11)	4.29 (4.31)	0.53	(0.37, 0.68)	4.53 (4.27)	0.75	(0.60, 0.91)	5.71 (5.04)	0.90	(0.65, 1.16)	0.565	0.011	0.073
Physical health													
Difficulty walking	12.3	18.4	1.66	(1.12, 2.46)	21.0	2.12	(1.37, 3.31)	28.7	3.17	(2.03, 4.94)	0.335	0.013	0.156
Difficulty with usual activities	9.7	11.4	1.21	(0.78, 1.87)	16.8	1.96	(1.21, 3.17)	22.8	2.83	(1.76, 4.56)	0.098	0.003	0.199
Pain or discomfort	19.2	25.9	1.47	(1.06, 2.02)	26.5	1.50	(1.03, 2.19)	39.7	2.69	(1.79, 4.05)	0.922	0.005	0.013
Difficulty with memory	14.4	23.2	1.80	(1.25, 2.60)	24.7	1.94	(1.31, 2.86)	30.2	2.38	(1.55, 3.65)	0.738	0.248	0.427
Use of pain relief	23.2	30.0	1.41	(1.04, 1.92)	27.4	1.24	(0.85, 1.81)	33.8	1.65	(1.10, 2.50)	0.548	0.474	0.253
Reproductive health													
Modern contraceptive use	23.7	24.7	1.04	(0.75, 1.45)	26.9	1.23	(0.83, 1.82)	25.7	1.19	(0.77, 1.86)	0.470	0.590	0.906
Unwanted pregnancy[§‡]	29.5	35.3	1.29	(0.83, 2.01)	35.5	1.14	(0.71, 1.84)	39.3	1.37	(0.73, 2.58)	0.662	0.863	0.623
Terminated pregnancy[+]	28.7	38.9	1.52	(1.11, 2.09)	33.3	1.25	(0.84, 1.85)	38.9	1.35	(0.88, 2.06)	0.366	0.606	0.765
Antenatal care[§‡]	98.2	97.0	0.59	(0.18, 1.98)	95.7	0.56	(0.15, 2.06)	98.2	1.13	(0.12, 10.92)	0.934	0.607	0.577

Mbeya Lifetime	No violence %	Moderate physical %	AOR	95% CI	Sexual dominant %	AOR	95% CI	Severe abuse %	AOR	95% CI	a vs. b	a vs. c	b vs. c
Overall health													
Self rated health fair to very poor	36.5	41.8	1.14	(0.82, 1.59)	46.1	1.47	(1.08, 1.99)	40.2	1.09	(0.81, 1.47)	0.1891	0.809	0.0761
Mental health													
Thought about suicide	4.5	5.6	1.26	(0.60, 2.64)	11.4	2.53	(1.45, 4.40)	22.4	5.31	(3.09, 9.13)	0.045	<0.001	0.007
Mean no. of distress symptoms	2.50 (3.33)	3.16 (3.96)	0.42	(0.24, 0.59)	4.01 (4.22)	0.63	(0.45, 0.80)	5.28 (4.51)	0.86	(0.48, 1.24)	0.0132	<0.001	0.017
Physical health													
Difficulty walking	13.4	14.4	0.93	(0.58, 1.50)	14.0	1.01	(0.68, 1.50)	15.5	0.95	(0.57, 1.58)	0.735	0.944	0.816
Difficulty with usual activities	12.7	16.7	1.17	(0.73, 1.88)	14.8	1.13	(0.74, 1.72)	14.9	0.94	(0.53, 1.66)	0.884	0.466	0.525
Pain or discomfort	21.5	24.0	0.99	(0.68, 1.44)	29.3	1.47	(0.99, 2.19)	31.6	1.43	(0.94, 2.18)	0.042	0.091	0.900
Difficulty with memory	11.6	10.0	0.80	(0.47, 1.37)	15.5	1.38	(0.91, 2.09)	20.2	1.78	(1.09, 2.90)	0.030	0.005	0.343
Use of pain relief	15.0	13.9	0.91	(0.58, 1.42)	16.6	1.10	(0.70, 1.70)	22.4	1.42	(0.91, 2.23)	0.485	0.100	0.302
Reproductive health													
Modern contraceptive use	21.7	22.7	1.20	(0.85, 1.71)	24.0	1.12	(0.76, 1.63)	24.3	1.43	(0.86, 2.39)	0.720	0.502	0.320
Unwanted pregnancy[§‡]	26.0	33.8	1.48	(1.01, 2.16)	40.2	1.86	(1.19, 2.89)	44.7	2.24	(1.45, 3.46)	0.368	0.097	0.467
Terminated pregnancy[+]	20.9	29.9	1.56	(1.08, 2.25)	24.6	1.21	(0.84, 1.77)	31.8	1.73	(1.12, 2.68)	0.298	0.646	0.106

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Antenatal care[§‡]	95.1	94.4	1.09	(0.50, 2.37)	92.7	0.77	(0.39, 1.52)	86.0	0.40	(0.19, 0.87)	0.481	0.023	0.129

Adjusted for respondent age; partnership status; respondent years in education; whether respondent is employed or not; number of living children; household SES; childhood sex abuse; adult non partner sex abuse. Reproductive health outcomes additionally adjusted for number of children who have died.

† Figures reported are mean number of distress symptoms and *(Std dev)* and adjusted rate ratio (ARR) ‡ excludes currently pregnant women; + ever pregnant women § women who had given birth in last five years

Table A7.7 Latent class prevalences and item response probabilities for unrestricted four-latent class model of partner violence in DSM and Mbeya combined

	Lifetime Combined				Past 12 month Combined			
	LC_1	LC_2	LC_3	LC_4	LC_1	LC_2	LC_3	LC_4
latent class prevalence	0.52	0.19	0.1761	0.11	0.75	0.11	0.10	0.04
Item response probabilities								
Slapped	0.00	0.45	0.87	0.97	0.00	0.77	0.12	0.99
Pushed	0.00	0.15	0.39	0.89	0.00	0.40	0.06	0.82
Hit with fist	0.00	0.08	0.28	0.84	0.00	0.27	0.00	0.83
Kicked	0.00	0.02	0.16	0.78	0.00	0.18	0.03	0.67
Choked	0.00	0.01	0.02	0.34	0.00	0.02	0.01	0.36
Weapon	0.00	0.02	0.05	0.31	0.00	0.04	0.01	0.26
Forced sex	0.00	0.83	0.01	0.64	0.00	0.09	0.89	0.76
Afraid to say no	0.00	0.42	0.04	0.53	0.00	0.10	0.42	0.70

Annex 8: Women's economic status and partner violence – additional analysis

Table A8.1 Distribution of household assets in DSM and Mbeya (currently partnered sample)

	DSM		Mbeya	
	%	(N=1054)	%	(N=1028)
Electricity		53.3		12.1
Radio		82.4		65.2
Television		35.3		5.4
Telephone		25.6		3.8
Refrigerator		31.4		3.0
Bicycle		17.1		28.9
Motorcycle		2.4		0.9
Car		11.6		2.3
Land		61.1		88.8
Tap in residence		14.3		10.0
Outside tap		30.2		13.4
Public tap		26.9		24.2
Well water in residence		1.6		0.3
Outside well		6.9		13.3
Spring water		0.1		10.2
River / lake		0.1		21.8
Rainwater		0.0		0.3
Water vendor		13.1		1.8
Other source of water		0.7		4.8
Flush toilet		19.4		4.6
Shared flush toilet		0.7		0.4
Ventilated pit latrine		5.4		2.1
Pit latrine		74.1		91.8
River / canal		0.0		0.3
No sanitation facility		0.2		0.6
Other sanitation facility		0.3		0.3
Natural materials		1.5		30.7
Tiled or concrete roof		5.7		0.7
corrugated iron roof		92.7		67.2
Other type of roof		0.0		1.5

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Table A8.2

	DSM (N=1058)	Mbeya (N=1026)
Household crowding by SES		
Low	2.78 *(1.18)****	2.75 *(1.05)****
Medium/high	2.34 *(0.96)*	2.34 *(0.83)*
Partner education		
No education	5.9	8.5
Incomplete primary	7.9	14.3
Complete primary	49.3	63.2
Incomplete secondary	21.8	9.0
Complete secondary	4.1	1.7
Higher/university/technical	11.0	3.4
Partner years of education by SES		
Low	7.13 *(3.15)****	6.21 *(2.76)****
Medium/high	10.57 *(3.97)*	9.34 *(3.36)*
Partner employment status		
Working	87.2	95.9
Unemployed	5.9	1.9
Retired	6.2	2.1
Student	0.7	0.1

Table A8.3 Women's economic status – additional analyses

	DSM % (N=1054)	p-value	Mbeya % (N=1028)	p-value
Quarreling				
Often quarrels (earning money)	10.6	0.356	11.6	0.165
Often quarrels - doesnt earn	12.4		14.6	
Quarreling by contribution to household income				
Neither working *(n)*	12.2 *(74)*		20 *(15)*	
All/more than partner *(n)*	17.5 *(97)*		26.7 *(101)*	
None/less than partner *(n)*	10.3 *(813)*		10.7 *(760)*	
About the same *(n)*	9.8 *(70)*		12.0 *(142)*	
Respondent education				
None	14.1		24.7	
Incomplete primary	10.3		11.2	
Complete primary	55.0		57.0	
Incomplete secondary	15.7		6.1	
Complete secondary	0.7		0.1	
Higher/university/technical	4.3		0.9	
Respondent years education by age group				
<30 years	6.70 *(3.26)*	0.413	5.69 *(3.00)*	<0.001
>=30 years	6.52 *(4.00)*		4.48 *(3.62)*	
Capital assets				
Land owns exclusively	11.3		18.4	
owns with others	33.3		60.4	
House owns exclusively	7.5		5.5	
owns with others	33.9		71.4	
Company owns exclusively	11.0		7.9	
owns with others	6.9		9.1	
Agricultural assets			2.0	
Large animals owns exclusively	2.0		19.3	
owns with others	3.7			
Small animals owns exclusively	12.4		12.9	
owns with others	8.6		41.8	
Produce owns exclusively	7.1		18.5	
owns with others	14.2		59.7	
Household assets			14.0	
Durable items owns exclusively	28.3		60.5	
owns with others	53.8		3.9	
Jewellery owns exclusively	39.1		0.4	
owns with others	1.1		0.0	
Car owns exclusively	1.6		1.6	
owns with others	6.9		2.2	
Other items owns exclusively	4.0		4.6	
owns with others	2.3			

Ownership any asset

low SES	90.5	<0.001	97.8	0.508
medium/high SES	98.4		96.8	

Exclusive ownership capital asset

low SES	18.2	0.001	26.4	0.505
medium/high SES	27.4		19.8	

Exclusive ownership agriculture asset

low SES	16.0	0.298	26.3	<0.001
medium/high SES	18.6		11.9	

Exclusive ownership household asset

low SES	44.3	<0.001	17.7	<0.001
medium/high SES	74.5		34.1	

Table A8.4

Reference category	Physical or sexual		Physical or sexual	
	Exp(B)	p-value	Exp(B)	p-value
Rural *(urban)*	1.52	0.001	1.49	0.003
Cohabiting *(Married)*	1.44	0.002	1.49	0.001
Education (Years)	0.98	0.190	1.00	0.972
Earns income	1.08	0.479	1.09	0.464
Owns capital assets *(Doesn't own)*				
Owns by self	1.42	0.033	1.37	0.057
Owns with others	1.16	0.314	1.15	0.342
Owns household assets *(Doesn't own)*				
Owns by self	1.24	0.126	1.32	0.049
Owns with others	0.02	0.902	1.05	0.745
Raise cash in emergency	0.99	0.944	0.99	0.950
Children *(No children)*				
Child less than 5	1.16	0.427	1.09	0.656
Children over 5 only	1.18	0.457	1.09	0.687
Partner education			0.95	0.014
Psuedo R^2	0.038		0.041	

Table A8.5

Reference category	Physical or sexual Exp(B)	p-value
Rural *(urban)*	1.22	0.257
Cohabiting *(Married)*	1.23	0.127
Education (Years)	1.00	0.826
Earns income	1.04	0.763
Owns capital assets *(Doesn't own)*		
Owns by self	1.42	0.049
Owns with others	1.27	0.134
Owns household assets *(Doesn't own)*		
Owns by self	1.31	0.102
Owns with others	1.11	0.553
Raise cash in emergency	0.98	0.888
Children *(No children)*		
Child less than 5	0.87	0.483
Children over 5 only	0.76	0.250
Partner education (Years)	0.97	0.197
Occupation *(Professional/military/student)*		
Medium scale trader	1.12	0.639
Skilled/taxi driver	1.02	0.921
Agriculture	0.71	0.138
Unskilled /street vendor/unemployed	0.78	0.282
Partner refused to give money *(Never)*	2.60	<0.001
Household crowding	1.08	0.140
Frequent alcohol use *(Rarely / never)*	1.97	<0.001
Age of first sex	0.97	0.193
Mother beaten by father *(No)*		
Yes	1.76	<0.001
Don't know	1.09	0.650
At least once good reason to hit	1.29	0.058
Can't refuse sex	1.04	0.830
Partner age	0.99	0.201
Relationship type *(Monogamous)*		
Polygamous	1.06	0.730
Don't know	1.30	0.423
Partner has other women *(No)*		
Yes	2.46	<0.001
May have / don't know	1.36	0.046
Partner problematic alcohol use	2.53	<0.001
Partner fights with other men *(No)*		
Yes	1.16	0.529
Don't know	0.63	0.203
Partner beaten as a child *(No)*		
Yes	2.09	<0.001
Don't know	1.17	0.215
Partner mother beaten by father *(No)*		
Yes	1.13	0.484
Don't know	0.89	0.359
Psuedo R^2	0.158	

Table A8.6

Reference category	Physical or sexual	
	Exp(B)	p-value
Rural *(urban)*	1.52	0.004
Cohabiting *(Married)*	1.45	0.003
Owns capital assets *(Doesn't own)*		
Owns by self	1.38	0.052
Owns with others	1.17	0.291
Owns household assets *(Doesn't own)*		
Owns by self	1.24	0.153
Owns with others	1.07	0.655
Raise cash in emergency	1.03	0.811
Children *(No children)*		
Child less than 5	0.97	0.893
Children over 5 only	0.96	0.859
Partner refused to give money *(Never)*	4.27	<0.001
Household SES *(Low)*		
Medium	1.22	0.152
Household crowding	1.12	0.025
Relative education *(Both the same)*		
Partner has more	1.15	0.255
Respondent has more	1.41	0.073
Both have none	1.81	0.038
Contribution to income *(Neither work)*		
All / most woman's income	1.49	0.278
All / most man's income	1.36	0.334
Same	1.54	0.222
Psuedo R^2	0.086	