

WOMEN'S EMPOWERMENT AND WOMEN'S IDEAL FAMILY SIZE IN NEPAL

A quantitative research on the effect of women's empowerment on ideal family size and on the ability of women to achieve their ideal family size in Nepal

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Abstract

Background: Although the link between women's empowerment and fertility has been strongly suggested in literature, the evidence for Nepal is lacking. Only one study was found that has researched the relation between women's empowerment and ideal family size and the effect of women's empowerment on the ability of women to achieve their ideal family size.

Objective: The objective of this study is to examine the effect of women's empowerment on ideal family size and the ability of women to achieve their ideal family size in Nepal. Furthermore, the objective is to describe the effect of the different indicators of women empowerment on fertility, with use of the key indicators household decision-making and gender role attitude.

Method: A multiple linear regression was performed, as well as a multinomial logistic regression. Data was analysed using IBM SPSS Statistics 23.

Results: It was found that more empowered women are estimated to have a larger ideal number of children than less empowered women. Furthermore, the probability to have smaller family than their ideal family size was higher for more empowered women than for less empowered women. There was no significant relation found between the attitude towards wife beating and ideal family size and the ability of women to achieve their ideal family size. Overall, no clear evidence is found that women's empowerment lowers a women's ideal family size, nor that it provides women the ability to achieve their ideal family size in Nepal. The descriptive statistics, however, shows that 61% of the women age 35-49 have more children than their ideal number of children.

Conclusion: It is recommended that more research is to be done on the reason why more empowered women have less children than their ideal than less empowered women. Moreover, policies should focus on providing resources to women to achieve their reproductive preferences.

Keywords: fertility, women's empowerment, ideal family size, reproductive preferences, household decision-making, attitude towards wife beating, Nepal, multiple linear regression, multinomial logistic regression.

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1. Introduction

Renewed attention has been brought to the issues of family planning during the 2012 London Summit on Family Planning (Family Planning 2020, 2016). In Nepal fertility rates have been declining in the past 45 years, however family planning is still high on the agenda of the Nepalese government. Family planning has been highlighted in the 13th three-year plan of 2013-2016, as well as in the Nepal Health Sector Program, Implementation plan for 2010-2015 (Ministry of Health and Population Nepal, 2012; National Planning Commission Nepal, 2013). The aim of the Ministry of Health and Population is to gradually reduce population growth by promoting small family size, specifically in the rural areas where the TFR (Total Fertility Rate) is twice the TFR of the urban areas (Ministry of Health and Population Nepal, 2012).

Besides family planning, women empowerment and gender equality are high on the agenda of the Nepalese government (Ministry of Health and Population Nepal, 2012). In 2015 Nepal was ranked 108 out of 155 countries on the Gender Inequality Index with a value of 0.489 (with 0 being completely equal) (United Nations Development Programme, 2015). Gender equality is an ongoing process and thus even though gender equality did improve since 2010 (value of 0.658) it still leaves room for improvement. In particular parts of Nepal, such as the terai areas (figure 1 provides a map of the geographical regions), more attention should be given to women's empowerment and gender equality (United Nations Development Programme, 2015b).

A clear gap between men and women is visible in many spheres of society. For instance, 40% of Nepali women have not attained any formal education, in contrast to 14% for men. The gap between the sexes becomes larger when looking at the higher levels of education from secondary education and up. Only 18% of the women completed their School Leaving Certificate compared to 32% for men. Another example is the variation in type of occupation by gender. Women are less likely to attain higher education than men and are therefore less well presented in the professional, technical and managerial work fields. The agricultural sector is the largest economic sector in the country, with also the largest percentage (75%) of female employers, as men only account for 25%. However, 76% of the women working in the agricultural sector are unpaid. Furthermore, women are overall less likely to be paid for their work than men, with 61% compared to 17%. All these former mentioned draw an objective map of the position of women in the household, but moreover in society as general (Ministry of Health and Population Nepal, 2012).

Gender equality and the promotion of women's empowerment are key components of sustainable development (Sen, 1990). Giving women the same access to opportunities in life as men will allow them to flourish in social and economic activities. As a result, gender equality in access to resources, such as education, may lead to increased use of contraceptives, lower number of wanted children with as result declining fertility. Moreover, investments in women's status will lead to lower child mortality, lower fertility rates and improved overall wellbeing of their children and the rest of the household (The World Bank, 2015; Drovandi & Salvini, 2004; Sen, 1990; Sen, 2001). In recent years the promotion of gender equality and women's empowerment has been and still is high on the priority list of development organisations and the Nepalese government as both are part of the Millennium Development Goals set by the United Nations (United Nations, 2015).

In previous research women's empowerment has been linked to contraceptive use (Schuler et al., 1997), birth intervals (Upadhyay and Hindin, 2005) and fertility (Morgan and Niraula, 1995; Kishor and Subaiya, 2008). Although the link between women's empowerment and fertility has been strongly suggested in literature the evidence for Nepal is lacking (Safilios-Rothschild, 1982; Mason, 1997; Eswaran, 2002; Drovandi & Salvini, 2004; Dixon-Mueller, 1998). Among the literature reviewed, only one study has researched the relation between women's empowerment and ideal family size and the effect of women's empowerment on the ability for women to achieve their ideal family size, which was in sub-Saharan Africa. Ideal family size is the number of children a woman would like to have in her whole life. In the Nepal DHS of 2011 the measure Ideal family size is measured retrospective as well as prospective. Several demographic studies have denoted the importance of studying ideal family size as it is an important concept that is a presage for fertility decline (Coale 1973; Cochrane 1979; Easterlin 1975; Knodel and van de Walle 1986). Thus ideal family size could be a good indicator for estimating actual fertility. There has not been conducted much research on ideal family size as outcome variable, as not all scholars agree on the usefulness of the measurement. Trent (1980) argues that ideal family size reflects social norms and is therefore not applicable for individual measurement. On the other hand others have found that ideal family size is a good predictor of actual fertility (Freedman et al, 1955; Upadhyay & Karasek, 2012; Woldemicael, 2009).

The link between women's empowerment and ideal family size could help policy makers to understand not only the relation between ideal family size and women's empowerment, but also the development of fertility rates when women's empowerment is nurtured and supported. This is very

important for development countries such as Nepal that aim to lower their fertility rate, but moreover aim to develop all aspects of society.

Thus, this study aims to examine the effect of women's empowerment on ideal family size and achievement of ideal family size in Nepal. Furthermore, the aim is to describe the effect of the different indicators of women empowerment on fertility, with special focus on household decision-making and gender role attitudes, such as attitude towards wife beating. The choice for these variables is largely based on the use of the measurements in previous conducted research (Balk, 1994; Morgan & Niraula, 1995; Kishor, 2005; Upadhyay & Karasek, 2012). These studies found that these indicators are related to fertility. Moreover, as data from the DHS Program is used, an important factor is the availability of the data as women's empowerment is measured in the DHS survey's with the previous mentioned indicators.

This research is based on the following research questions:

What is the effect of women's empowerment on women's ideal family size and does women's empowerment effect the ability of women to achieve their ideal family size in Nepal?

- Which indicators of women's empowerment are related to women's ideal family size?
- What is the effect of the different women's empowerment indicators on women's ideal family size in Nepal?
- What is the effect of the different women's empowerment indicators on women's ability to achieve their ideal family size in Nepal?

The research questions will be answered using two different analyses. The first analysis includes a linear regression with the dependent variable ideal number of children. The analysis will include different sociodemographic control variables such as age and education as well as spousal age difference. This analysis focusses on the effect of women's empowerment indicators on ideal family size in the context of relevant sociodemographic factors. For the second analysis a multinomial logistic regression will be used. The dependent variable will be the achievement of ideal family size, the same control variables are used. Chapter 4: Data and Methodology provides more detailed information on the methodology used in this study.

This introduction will be followed by chapter 2 which presents background information on Nepal's geography, demography and family planning and women's empowerment programmes. Chapter 3 presents the theoretical framework, in which fertility, the concept of women's empowerment, and how to measure women's empowerment will be discussed. The fourth chapter will provide an overview of the data and methods used. This chapter will be followed by chapter 5: Results. In the 6th

chapter, Discussion, the results will be discussed. The last chapter consists out of the conclusion in which recommendations for future research will be given.

2. Background

Nepal is a landlocked development country in South-Asia located between, the two countries with the highest population in the world, India and China. The landscape is characterised by lowland (terai) with elevation from 90 meters and up as well as by mountainous areas with elevation up to 8,848 meters. Nepal is since the 20th of September divided into seven provinces by combining the existing districts. However the DHS data used in this study still uses the earlier model, in which the country is divided into 14 administrative zones, grouped in five development regions with a total of 75 districts. Figure 1 shows a map of the three distinct geographical zones which are based on the elevation of the land, terai, hill and mountain. The mountain area is characterised by elevations ranging from 4.8 kilometres to 8,8 kilometres. 35% of the land surface belongs to this area, due to the high elevation only 7% of the total population lives in this area. The fertility levels have stayed high in the mountain area, with a TFR of respectively 3.4. The hill area accounts for 44% of the land surface and for 44% of the total population. The terai areas accounts for about 45% of the land surface and inhabits 48% of the total population. The terai area experiences the lowest TFR with 2.5 births per woman.

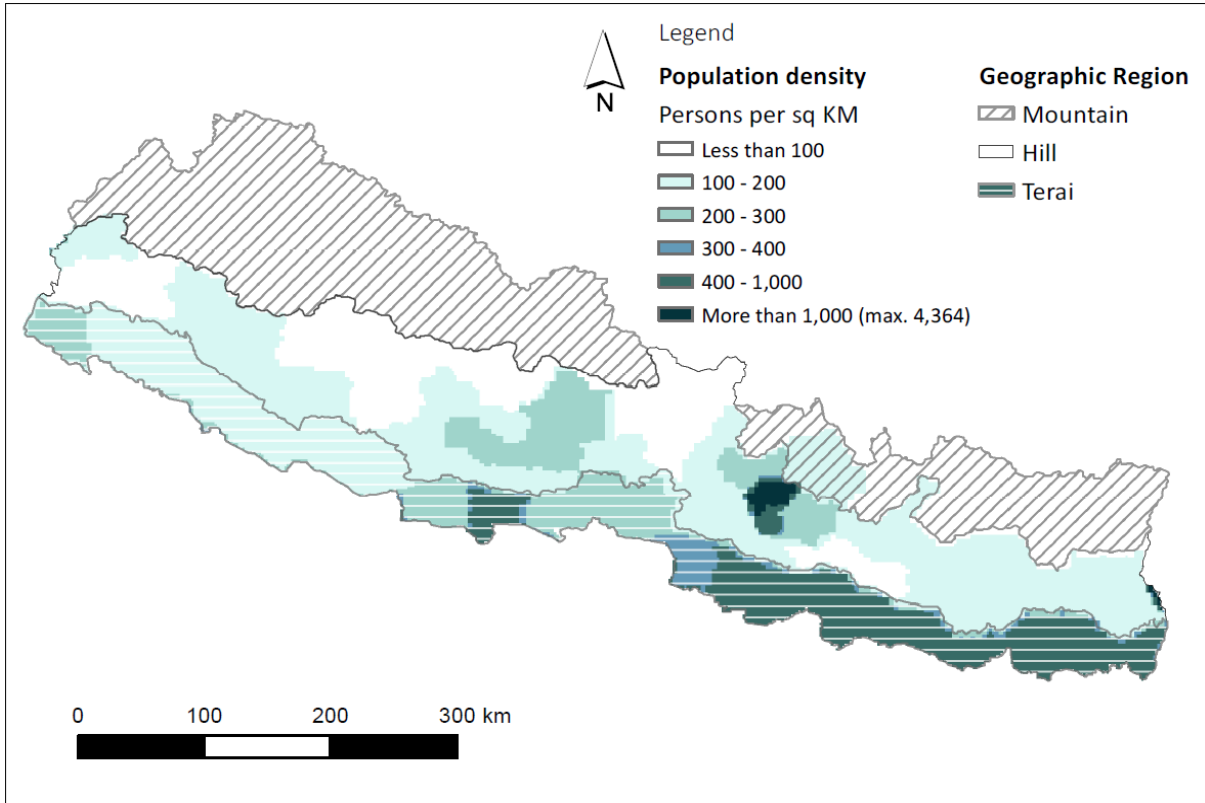


Figure 1: Geographical Regions and Population Density in Nepal. Own work (based on: Global Administrative Areas, 2016; DIVA-GIS, 2016)

The country knows not only physio geographical diversity as well as population diversity. Since 1911 the Nepalese government has been carrying out Population censuses every 10 years. However, until the census of 1952/1954 the censuses were characterised by merely a headcount and were not documented. According to the World Bank Nepal had a midyear population of 28,174,724 in 2014. In the last 40 years the population of Nepal has doubled, and in more recent years population growth has slowed down to 1.4% in 2011. It is estimated that the population density is 181 persons per km². Overall the majority of the population lives in rural areas as only 17% lives in urban areas. The Kathmandu district has the highest population density with 4,408 persons per km² and has known the highest population growth (61%) in the past 10 years. The population can be divided into more than 103 castes speaking 92 different languages (The World Bank Development Indicators, 2015; Ministry of Health and Population Nepal, 2012). Even though the caste system has been abolished in 1962 there is still a very active caste system to this day. A majority of the population, with 84 percent, is Hindu. 9% Of the population is Buddhist and 3% is Muslim. The remainder of 4% is either Christian or Kirat. The two dominant ethnic groups are the Janajatis with 25% and the Chhetris with 19% (Ministry of Health and Population, 2012).

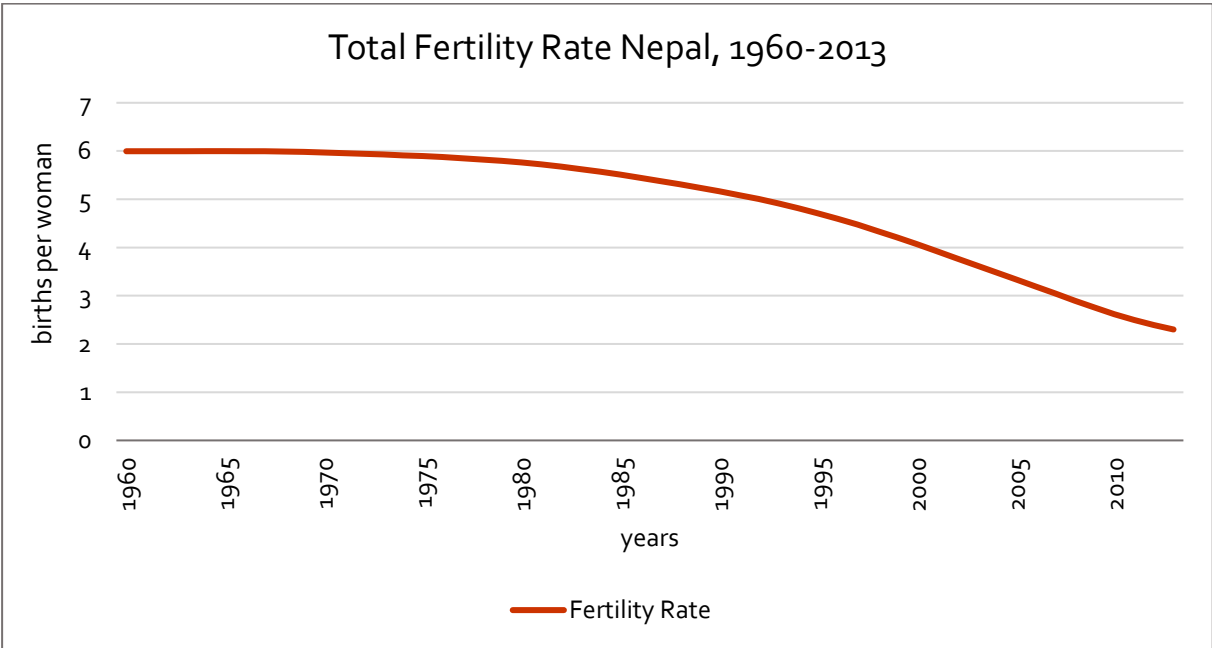


Figure 2: Total Fertility Rate Nepal, 1960-2013. Source: World Bank, 2015b

Since 1959 family planning was addressed by at first the non-governmental organisation Family Planning Association of Nepal (FPAN). Since the third development plan (1965-1970), family planning has been a major part of development activities launched by the Ministry of Health (National Planning Council, 1965). The fourth development plan had the aim of providing family planning services to 15%

of the married population (National Planning Commission, 1970). This approach was extended in the fifth plan through deployment of fieldworkers and direct and indirect means of reducing fertility rates (National Planning Commission, 1975). Until the eight development plan (1990-1995) population related issues, such as reproductive health, education and women's development were addressed through different policies and programs. The ninth development plan (1995-2000) was specifically aimed at reducing population growth by creating social awareness, improving educational attainment and expanding family planning programs. The eventual goal was to reduce fertility rates to replacement level (2.1 children per woman) in the next 20 years (National Planning Commission, 1997). In addition the Second Long Term Health Plan, 1997-2017, addressed family planning issues as well as gender inequality issues. This program targets the vulnerable groups which includes among others women and children, to provide equal access to health care for all. The three-year interim development plan, 2008-2011, has mainly focused on reducing the TFR and the Maternal Mortality Rate (MMR). In more recent years, attention has been shifted to gender equality issues. The first Nepal Health Sector Program (NHSP) was mainly focused on health interventions, however the second program (2010-2015) shifted the focus to gender and social exclusion. It focusses on specific targets set for – among others – TFR and contraceptive prevalence rates (Ministry of Health and Population, 2010). The Population Perspective Plan 2010-2031 (PPP) has similar goals as the second NHSP with a focus on three topics: gender mainstreaming, social exclusion and poverty reduction. In addition the PPP provides a basis for implementation of institutional arrangements regarding population programs.

Thus Nepal has a long history of family planning programs and policies and promoting small family size. Since family planning was put on the national agenda, family planning programs have expanded their goals and resources, increasing the availability of contraceptives and information through channels such as television and radio. In more recent years the interconnectedness of fertility and women's empowerment has been recognised resulting in the promotion of women's employment and education. In 2010 many contraceptive methods have been made free of charge in public health facilities in urban and rural areas. According to the Ministry of Health and Population the decline in fertility was accompanied by a rise in contraceptive methods, however the contraceptive prevalence rate has remained on the same level between 2006 and 2011 (Ministry of Health and Population, 2012).

3. Theory

3.1 Fertility and Ideal Family Size

In 1936 George Gallup was the first to introduce the concept of 'ideal family size' into a fertility survey. This concept was followed by two more concepts: intended family size and desired family size. The first has high validity as a woman will take into account the underlying factors that could influence the amount of children she has. The second is a reflection of a woman's own ideal fertility, in which other factors influencing childbearing are not taken into account (Trent, 1980). Thirdly, ideal family size is in early research used as an indirect indicator of actual fertility (Freedman et al, 1955; Upadhyay & Karasek, 2012; Woldemicael, 2009). However, Trent (1980) found that ideal family size reflects fertility norms on societal level, but not on personal level and is therefore not a good indicator for actual fertility. Moreover, he argues that ideal family size differs between race, religion and education. However, McCallister et al. (2012) argues that ideal family size is still a good construct as the variability with actual fertility needs more explanation. They conclude that ideal family size decreases with social economic development, even though actual fertility decline will not follow directly.

Several studies have linked women's empowerment to a smaller ideal family size (Hindin, 2000; Woldemicael, 2009; Upadhyay & Karasek, 2012). Hindin (2000) found that household decision-making is an important indicator for women's empowerment beyond the traditional measures, such as employment and education in Zimbabwe. Research by Woldemicael (2009) in Eritrea reported that a woman's final say in household decisions in everyday household purchases is related to using modern contraceptives as well as having a small ideal number of children. Upadhyay and Karasek (2012) found that egalitarian gender attitudes in Guinea, Zambia and Mali are related to a small ideal family size. However, they also reported that in Namibia women's empowerment appeared to be related to high fertility. Thus, more empowered women desired a small ideal number of children, yet their reproductive preferences were not met.

There is a large scope of literature that reported women's ideal family size being influenced by men's ideal family size (Speizer, 1999; Ezeh, 1993; Bankole and Singh, 1998). In Africa men's ideal family size is often larger than women's. However, a study conducted in Ghana reported that declining fertility levels are largely caused by men's smaller ideal number of children (DeRose et al., 2002). Even though men's reproductive preferences are found to be related to women's ideal preferences this proxy is not included in this study, due to the scope of this study and limitations that would be caused in the sample size of the data.

Reproductive outcomes can be measured through several different indicators, such as TFR and children ever born to a woman. Actual fertility is in this study measured as children ever born to a woman, as it allows for individual case data, and not aggregate data such as TFR. According to Bongaarts (1982) fertility is influenced by a set of proximate determinants, also referred to as behavioural and biological mechanisms, through these mechanisms fertility is reduced. The majority of the variation in cross-cultural and cross-border fertility is influenced by four proximate determinants (Bongaarts, 1982). These are marriage, postpartum infecundability, abortion and contraception. As in many cultures childbearing outside marriage is not socially accepted, marriage then marks a point in a woman's lifecycle when childbearing is socially accepted. Therefore age at first marriage is an important factor influencing childbearing, since women who marry early have a longer period of being exposed to the risk of getting pregnant. This can result in a larger number of births during a woman's life, influencing the total fertility rate. The other three proximate determinants, postpartum infecundability, abortion and contraception are not included in this study. However, besides proximate determinants fertility is also affected by indirect factors. These factors are among others woman's education, wealth, exposure to media and women's empowerment. These indicators are included in this study.

3.2 Women's Empowerment

Gender describes the sex-specific roles given to a man or woman in society. These roles include rights and obligations. Often these rights and obligations, which come with gender roles, are not only different but also unequal. In many spheres of society the gender roles of women are inferior to those of men (Kishor & Subaiya, 2008). Women tend to have fewer legal rights and the obligations that women have tend to be more limiting than the ones for men. This stresses that men often have and can use more power than women. Men also tend to have not only culturally more power but also legally, which translates into better access to material and social resources. This greater power in many spheres of society is also visible at the household level (Kishor & Subaiya, 2008).

Women's empowerment addresses these unequal gender roles. It is a broad concept of which different interpretations are possible. Dixon-Mueller (1978) denotes women's empowerment as the overall position of women in society. They state that even though women (just like children) can be highly valued, they can be controlled and dominated as well. Safilios-Rothschild (1982) differentiates between two types of power that can be attributed to women. The first one is the power derived from men, namely power women have obtained through the position of their male relatives. The second one is power independent from men, which denotes the ability of women to make their own decisions. These include decisions made over income, freedom of movement and degree of having a say over

the decisions that affect a woman's life. In this research the focus lies on the second form of power as the key variables are household decision-making indicators and justification of wife beating. The first of these indicators measures the actual control of the woman in her environment, the latter measures a gender role attitude.

Many articles have studied women's status by analysing indirect factors, such as age, education, occupation, age at first marriage, spousal age difference, wealth index and media exposure (Dixon-Mueller, 1998; Woldemicael, 2007). Jejeebhoy and Sathar (2001) have among others observed that women's own control over seeking health care has strong demographic effects (Dharmalingam and Morgan, 1996). Research in India and Bangladesh have identified that women are empowered through the indirect factors mentioned above and that these factors contribute to lower fertility and child mortality (Kamal, 2008; Dyson and Moore, 1983). In addition, studies conducted in India have shown that empowered women are more likely to voice their opinions about desired family size, contraceptives and health care services (Dreze and Murthi, 2000; Basu, 1992). Another study done at household level in India reported that a higher age of first marriage has a negative effect on fertility (Nanda, 2005). Women who marry young tend to need to stop their education earlier, due to responsibilities that evolve around marriage and bearing children. This leads to a shorter time in which a woman can mature and develop herself. Also, a woman married very young often becomes the newest and youngest member of the family of the spouse. In this position she is less likely to be allocated with power or to be independent (Mason, 1986). Sen (1990) denotes that the relative age of the spouse can be a source for strength and power when it comes to negotiations within the family context. This aspect is important, as women's empowerment in the family context is likely to be dependent on being able to exert negotiating power within the marriage. In this regard, it is expected that women with a much older spouse are less likely to be empowerment within the household, and thus are disadvantaged in negotiations made in the family context.

3.3 Key Women's Empowerment Indicators

Several studies have indicated that household decision-making and attitudes towards wife beating are important indicators of a woman's ideal family size (Balk, 1994; Morgan & Niraula, 1995; Kishor, 2005). These indicators are discussed within this paragraph.

Nepal has a patriarchal developing society. These societies are often characterised by men who exercise their control over the decisions made in their family. Often these decisions are made with no eye for who bears the cost for the decisions made, which is often the female (Eswaran, 2002). Economists have started developing theories around household decision-making to get a better

understanding of the effects that these decisions have on population size and composition. Herein concepts of microeconomics are used to explain the differences in fertility. Becker and Lewis (1973) have influenced this branch of research in which the behaviour of families is analysed through the economic model of utility-maximisation. Their greatest contribution to this branch of research is the trade-off model between the 'quantity versus quality' of children. This model describes a trade-off that families face between the number of children (quantity) they want and how much they can or want to invest in them (quality). The key component of this model is that an increase of quality is more costly when there is a larger number of children, because this increase in quality has to apply to more children. Equivalently, an increase in the number of children is more costly when the quality of the children increases. Thus often the trade-off has to be made between more children in e.g. less good health or less children in better health to keep the costs constant (Becker and Lewis, 1973).

In Nepal this unequal gender division translates into fertility, the number of children born in a family, as well. In line with the trade-off model, Eswaran (2002) states that men bear less costs of having children and contribute only a little when raising the children. It is one of the reasons why men often want more children than women. Moreover, fathers tend to allocate less resources for healthcare of the children than mothers would do due to the costs of higher fertility being largely carried by the mother in anticipation of high child mortality. Mothers on the other hand prefer to bear less children but in better health. This implies that an increase of the mother's household-decision making power results in a decline in fertility and lower child mortality. This process will be reinforced as child mortality rates decline even further when parents experience that it is no longer necessary to 'hoard' children for old-age security (Eswaran, 2002). According to Niraula and Lawoti (1998) control over material and social resources gives women bargaining-power and enables them to change situations to their advantage and would eventually lead to lower fertility. Dreze and Murthi (2001) found that access to public health services reduces fertility. It increases in addition the chance of child survival, which leads to lower child mortality. These results are also supported by the Nash Bargaining model, used by Eswaran (2002) to analyse the relation between fertility and women's empowerment. He found that an increase in women's empowerment resulted in lower fertility. This is due to the fact that women pay higher costs for bearing and raising children than men do. Thus when women are more empowered, less children are born in the family and the investment per child goes up. This latter is in line with the trade-off model described by Becker and Lewis (1973). However, Upadhyay and Karasek (2012) found that empowered women in Namibia were more likely to have more children than their ideal number of children, compared to less empowered women. According to them this reflects the desire of empowered women to have fewer children even though their fertility is still high. This high

fertility is in line with the prevailing social norms, however personally empowered women would choose to have smaller family sizes.

These patriarchal societies, mentioned in the previous paragraph, in which a man exercises control over the decisions made in the household extends often to the right of the husband to control the behaviour of his wife. When it is necessary, this includes the use of violence against his wife. When this behaviour of the man is accepted, it reflects the power of a man over a woman, the acceptance of uneven gender roles. It also reflects the lack of power over a woman's own body and actions as well. Thus women who believe that husband are justified to exert control over their wives could be seen as less empowered women than women who believe that husbands do not have that power (Correa & Petchesky, 1994; Sen & Batliwala, 2000; United Nations, 1996). Household violence directed to women has been and still is a problem on a global level. However, more studies have started to highlight the long- and short-term effects on mental, sexual and reproductive health of female victims (Heise et al., 1994; Moore, 1999). Especially violence against women in reproductive ages causes a high risk. Campbell et al. (1995) has linked violence against reproductive women in the household to unintended pregnancy. Wife beating is a problem which especially arises in patriarchal societies. Patriarchal norms often include norms that a woman deserves to be beaten by her husband in certain situations (Ellsberg et al., 2001; Koenig et al., 2003; Koenig et. al, 2006). Jejeebhoy and Cook (1997) found in their study conducted in Uttar Pradesh that women most often agreed with wife beating in situations when a woman failed to meet the expectations of her husband or when she does not obey to the orders of her husband. Wilson-Williams et al. (2008) discuss that in these situations a woman's bargaining power can be severely compromised when it comes to refusal of sex and use of contraceptives. Kishor and Johnson (2004) found that women who are victim of domestic violence have on average a larger number of children, are more often unwanted pregnant and are less able to use contraceptive on a consistent basis than women who do not experience domestic violence. Emenike et al. (2008) found that the proportion of women (with at least three live births are more often exposed to domestic violence, compared to women with fewer children. However, studies conducted on a multi-country level found that these findings are not the same for all countries and cultures. For example, in Haiti domestic violence was not linked to unwanted pregnancies and in India domestic violence was not linked to the use of contraceptives. However, in Zambia, Colombia, Cambodia, Peru and Egypt these variables were linked to domestic violence (Kishor and Johnson, 2004). It is therefore important to assess the effect of domestic violence on fertility in each separate and unique culture (Emenike et al., 2008).

3.4 Sociodemographic factors

There are many factors that are indirectly related to women's empowerment. These are all shown in figure 3. In this paragraph the importance of these factors will be discussed one by one.

Nepal is a diverse country when it comes to physiography as well as to population. The population of Nepal is composed of different ethnic and tribal groups which were formed during different migratory processes coming from both sides of the border. Muslims and Hindu groups have come to Nepal from the southern Indian plains. Whereas Buddhists have come from the north of Tibet. These groups have often lived in peace with the indigenous tribes and have over the years assimilated into the Nepali culture (Niraula & Lawoti, 1998). According to Niraula and Laowti (1998) these different ethnic and tribal groups with all different heritages account for variations in the status of women throughout Nepal. A study done by Acharya and Bennet (1981) reported that women statuses differ between ethnic groups. Some women have a relatively higher status in society than others. The study reported that in general the hill tribal populations gave more autonomy to women than the Hindu caste groups.

Differences in women status are not only dependent on the ethnic groups, often they are related to the place of residence as well. Rural or urban residence is another aspect of settings for empowerment. Morgan and Niraula (1995) reported that there is a large gap when it comes to the autonomy of women in the rural areas, especially between hill villages and the terai villages. This study found, in accordance with Acharya and Bennet (1981), that the household decision-making power of women is higher in the hill villages than in the terai villages. Morgan and Niraula also found that the lower autonomy of women in terai areas resulted in a demand for more children and use of less contraceptives. In addition, variations in the proportion of women employed are seen between rural and urban areas. For instance, women living in rural areas are more likely to be employed than women living in urban areas. However, women residing in urban areas are more likely to be exposed to new ideas, which influences women's empowerment positively and increases the household decision making power. More recent data depicts the following picture in the rural and urban areas. The total fertility rate (TFR) differs between the rural and urban areas. In the last Demographic and Health Survey (DHS) in 2012 a TFR of 2.8 in rural areas and a TFR of 1.6 in urban was measured (Ministry of Health and Population Nepal, 2012). A smaller proportion of children under five has been found in urban areas than in rural areas. This suggests that the overall decline in fertility in recent years is especially evident in urban areas. The difference in fertility is most visible in women's age category 35-39. In rural areas women have on average 39 births per 1,000 women whereas in urban areas women have on average 16 births per 1,000 women (Ministry of Health and Population Nepal, 2012).

Household wealth enables, like residence in urban areas, access to new ideas and in addition provides resources that enable women to achieve their goals. It can provide access to media sources such as television, radio and newspapers, which also provides access to new ideas. In such a way, wealth can be a source for empowerment. On the other hand, wealth is also associated with more traditional norms and values and higher levels of patriarchal controls over women, which would lead to lower levels of women's empowerment (Srinivasan, 1989).

Many studies have linked gender inequality in education to child mortality and fertility. It is shown by Summers (1994) that in Africa women with no education had on average two more children than women with more than seven years of education. A similar relation between female education and fertility has been found by Hill and Kind (1995). They found that higher gender equality in school enrolment results in lower fertility. This is supported by Murthi et al. (1996), whereas they found in addition linkages between gender equality in school enrolment and lower child mortality. These studies denote the importance of reducing gender bias in educational attainment to overcome two important development goals, reducing child mortality and lowering fertility (Sen, 1999; United Nations, 2015). Additional literature suggests that women who received education longer tend to marry later which results in lower fertility. In contrast, women who are married early tend to have earlier children and give on average birth to more children (Ministry of Health and Population Nepal, 2012). Women with more education have often greater costs when it comes to child bearing, breast-feeding and child-raising because they can earn more. This results in lower fertility. 'Assortive mating' can reinforce this effect of lower fertility when higher educated men marry higher educated women (Drovandi & Salvini, 2004).

Dixon-Mueller (1993) has found that especially employment in non-traditional occupations have the potential of empowering women as it provides non-kin networks, exposure to different power structures and financial independence (Dixon-Mueller, 1993). However, the 2011 DHS data of Nepal shows that the proportion women employed decreases when education increases. This could partly be explained by the financial needs of poorer households, which push women to find work.

Hornik and McAnany (2001) reviewed a large body of research conducted on mass media and fertility change. Articles reviewed suggested that exposure to mass media, such as radio, newspaper and television, increases the exposure to knowledge about reproductive behaviour. It is linked to increased sterilisation and a smaller ideal family size. Thus, exposure to mass media provides access to new information and ideas and influences among others childbearing behaviour. A study conducted in the Chitwan Valley in Nepal found that exposure to mass media is linked to a preference for smaller number of children and a higher acceptance of contraceptive use (Barber & Axinn, 2004).

Jensen and Oster (2009) found in their study conducted in India that access to cable television is linked to lower fertility, an increase in women’s autonomy and a lower acceptance of domestic violence. Hsin-Lang et al. (2014) support this finding as they found that exposure to television is correlated to more awareness of women’s autonomy, larger financial dependence of women, lower acceptance of wife beating and a smaller family size.

3.5 Conceptual Framework and Hypotheses

As women’s empowerment is a broad concept, there are multiple ways of measuring women’s empowerment. The most researched variables that influence women’s empowerment directly and indirectly are addressed above. The indicators chosen for this study are based on these previous literature and theories discussed at the beginning of this chapter. The conceptual model (figure 3) provides an overview of these variables. Together they define the success of the empowerment process and hurdles that may appear.

This study assumes that ideal family size is influenced by women’s empowerment, and that women’s empowerment influences the ability of women to achieve her ideal family size. The conceptual model (figure 3) displays these assumptions. The control variables, sociodemographic factors, are shown on the left side of the model. These factors influence the level of women’s empowerment as they form the context. In the middle of the model the women’s empowerment indicators are shown. They are

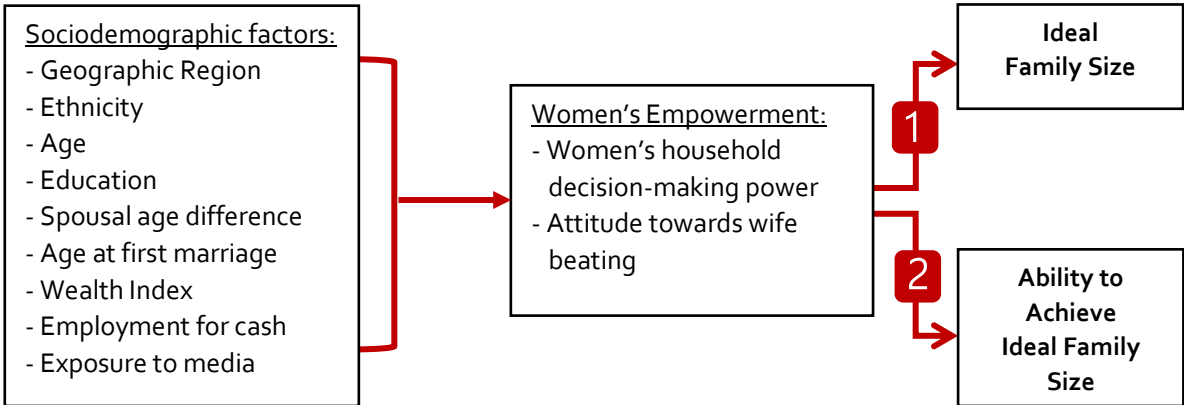


Figure 3: Conceptual Model

thus influenced by the sociodemographic factors. On the top right of the model the first pathway is displayed. This will be the first analysis and it will examine the effect of women’s empowerment on women’s ideal family size. This pathway implies that more empowered women are interested in a better quality of life for their children and for themselves, which can be achieved by limiting their total number of children. The second pathway, bottom right, examines the effect of women’s empowerment on the ability of women to achieve their ideal family size. The second pathway shown

in Figure 3 implies that more empowered women have access to more resources and experience more autonomy. This access and gained autonomy could help women to control their environment and eventually contribute to the achievement of her ideal family size.

Based on the conceptual model and the theories discussed at the beginning of this chapter, two hypotheses are made. The first hypothesis is:

1. More empowered women have a smaller ideal family size than less empowered women.

This hypothesis is based on studies done by Woldemicael (2009), Hindin (2000) and Upadhyay and Karasek (2012). They found that women's empowerment is linked to women's smaller ideal family size in Eritrea, Zimbabwe, and sub-Saharan Africa. Upadhyay and Karasek found that egalitarian gender role attitudes are related to a small ideal family size in Guinea, Zambia and Mali. Thus uneven gender role attitudes, when it concerns wife beating, reflect the power of a man over a woman, and there for the acceptance of uneven gender roles by the woman. Furthermore it reflects the lack of power over a woman's own body and actions. Thus a woman who believes that her husband is justified to exert control over her could be seen as less empowered than a woman who believes that her husband does not have that power (Correa & Petchesky, 1994; Sen & Batliwala, 2000; United Nations, 1996). In line with the Trade-off model and the Nash Bargaining Model it is expected that women who are more empowered have a desire for a smaller family size as mothers prefer to bear less children in better health, and with fewer children to spread over the resources the investment per child goes up (Eswaran, 2002; Becker & Lewis, 1973). Thus overall, more empowered women desire smaller families as smaller family sizes provides them and their family more life opportunities (Niraula & Lawoti, 1998).

The second hypothesis is:

2. More empowered women are more likely to have the ability to limit their actual fertility to their ideal family size than less empowered women.

This second hypothesis is based on studies conducted by Niraula and Lawoti (1998) and Eswaran (2002). According to Niraula and Lawoti (1998) control over material and social resources gives women bargaining-power and enables them to change situations to their advantage and would eventually lead to lower fertility. Eswaran (2002) found that an increase in women's empowerment resulted in lower fertility. This is due to the fact that women pay higher costs for bearing and raising children than men do. Thus when women are more empowered, less children are born in the family and the investment per child goes up. As mentioned in de previous paragraph: a woman who believes that her husband is justified to exert control over her could be seen as less empowered than a woman who believes that her husband does not have that power (Correa & Petchesky, 1994; Sen & Batliwala,

2000; United Nations, 1996). Wilson-Williams et al. (2008) discuss that in these situations a woman's bargaining power can be severely compromised when it comes to refusal of sex and use of contraceptives, which has influence on a woman's actual fertility. Moreover, Kishor and Johnson (2004) found that women who are victim of domestic violence have on average a larger number of children, are more often unwanted pregnant and are less able to use contraceptive on a consistent basis than women who do not experience domestic violence. Thus women are empowered when they have influence in the household decision-making and when they believe wife beating is not justified in any situation. Due to being empowered, women have the agency and the access to necessary resources to achieve their ideal family size.

If a link is found between women's empowerment and ideal fertility and women's empowerment and the ability of women to achieve their ideal family size, family planning and women's empowerment policies could direct their attention towards the improvement of women's status. This could eventually lead to a lower TFR if women have the ability to limit their fertility to their ideal family size.

4. Data and Methodology

4.1 Data

This study uses national representative data of 2011 collected by the Nepal Demographic and Health Survey. The DHS 2011 was carried out by New ERA, a local research firm, under the flag of the Ministry of Health and Population, with technical assistance of ICF International and financial support by USAID. For the 2011 Nepal Demographic and Health survey 12,918 women aged 15-49 were selected for the individual interview, of which 12,674 women joined the survey, resulting in a response rate of 98%. The aim of this survey was to provide reliable and up-to-date data on various topics related to population and health, including data on social and demographic indicators, women's status and fertility (Ministry of Health and Population Nepal, 2012). Due to the incorporation of these topics, this dataset provided the data necessary to address the research questions in this study. By using these indicators, it is possible to make an evaluation of the cross-sectional data at the end of the process of women's empowerment till 2011 on desired and on achieved fertility levels.

Data from the Demographic and Health Survey Programme are known for their high quality and are widely used for different study areas. In addition they are designed to provide data on demographic and health topics at national, local, urban and rural scale level. As mentioned in the previous paragraph, the data is nationally representative, yet it should be noted that the study districts surveyed were not chosen completely at random (Ministry of Health and Population Nepal, 2012). Normally findings should therefore not be generalised to the wider population. However, as this

dataset from the Nepal DHS 2011 contains a large dataset (12,674 women), as it is highly valued in quality and as it is the best and only data available in Nepal with the information needed for this research, the findings are generalised to the wider Nepali population. Another limitation of the DHS data which cannot be ignored, is the retrospective nature of this data. This retrospective nature can result in recall errors in the dependent variable ideal family size.

Lastly an important factor to point out considering ethical issues is that permission has been given to use this data for this research by The DHS Program, ICF International. Furthermore, The DHS Program has set rules and regulations in place to protect the privacy of the survey respondents (The DHS Program, 2016).

4.2 Operationalisation of Variables

This study focusses on two questions. The first question that will be researched is about how women empowerment indicators effect ideal family size of women. The second question researches the effect of women's empowerment on the achieved ideal family size. To address the research questions properly the analysis is divided into two different analyses with each a different dependent variable. Table 1, Chapter 5, shows the characteristics of all the variables used in the analyses.

The first analysis includes a sample of 9,223 current married women ages 15-49. As this study is looking into ideal family size, only women in the reproductive ages are included. In this step the dependent variable, the variable of interest, is women's ideal number of children. This data is gathered by asking the question: "If you could go back in the time you did not have any children and could choose exactly the number of children to have in your whole life, how many would that be?". The question was rephrased for women with no children: "If you could choose exactly the number of children to have in your whole life, how many would that be?". The dependent variable, ideal number of children, is treated as a continuous variable.

For the second analysis the variable of interest is achievement of ideal family size. This variable is computed by subtracting the ideal number of children from the number of children alive. If the outcome is zero than the woman is coded as having the same number of children as her ideal number of children. Numbers larger than zero are coded as having more than the ideal number of children and less than 0 as less than the ideal number of children (Upadhayay and Karasek, 2012).

This comparison, between actual fertility and ideal fertility, provides a proxy for unwanted fertility. Upadhayay and Karasek (2012) used this method for the first time, as they believe that it might be a better measure for unintended pregnancies, than asking women if a child was wanted or not. This

analysis includes a sample of 3,461 currently married women aged 35 years and older. It is not likely for women to complete childbearing before the age of 35, therefore it is chosen to use this age as threshold as most women have completed or almost completed childbearing at this age (Upadhayay and Karasek, 2012).

The key explanatory variables in this study which are included in both analyses are two women's empowerment indicators. The first is women's household decision-making power. An indicator often used to measure women's autonomy. It is a measure that assesses women's actual control within their environment. Questions regarding four types of household decisions are included in the DHS, these decisions are on: Respondent's health care, major household purchases, visits to family and friends and spending of husband's earnings. The answers are coded into six categories: respondent alone, respondent together with husband, respondent's husband alone, respondent together with others and others alone. In the analysis these separate variables are combined into one women empowerment indicator: household decision making-power of the respondent. The categories included in this variable are: respondent has no say at all, respondent has say in at least one of the decisions and respondent has a say in all four decisions. The last category indicates a higher level of women's empowerment and the first a lower level of empowerment.

The second women's empowerment indicator is women's attitudes towards unequal gender roles. This indicator studies the acceptance of these unequal roles. Questions about attitudes on five types of spousal violence were incorporated in the DHS questionnaires. The question asked was: "Sometimes a husband is annoyed or angered by things that his wife does. In your opinion, is a husband justified in hitting or beating his wife in the following situations?". These situations are: If she goes out without telling him, if she burns the food, if she neglects the children, if she argues with him and if she refuses to have sex with him. In the analysis these separate variables are combined into one women empowerment indicator: beating justified. The categories included in this variable are: beating is justified for at least one of the reasons and beating is justified for none of the reasons. The last category indicates an higher level of women's empowerment and the first a lower level of empowerment.

In both the analyses the independent variables are used and for all these variables there are no missing values. However, a small proportion of 2.2% of the cases were missing of the variable household decision-making among the sample of women age 15-49 years. In the second sample, women age 35-49, 1.8% of the cases were missing. As these missing values form a small proportion of the total cases, it is assumed that these values are missing completely at random. These missing cases are therefore case wise deleted from the analysis.

4.3 Methodology

The methodology of data analysis used in this study is based on Upadhyay and Karasek (2012). They study the effect of women's empowerment on ideal family size in Sub-Saharan Africa. In this article the data will be analysed in two main pathways, similar to the article of Upadhyay and Karasek (2012). All analyses were performed using IBM SPSS Statistics 23.

The methodology of the first pathway involves a multiple linear regression. To prepare the data for the linear regression, the first step was to run a Pearson correlation to test for high correlations. In appendix A you will find the results of this correlation. All the correlations were lower than 0.7, therefore multi-collinearity was not encountered. The multiple linear regression is then used to estimate how ideal family size is influenced by women's empowerment indicators controlling for many socio-demographic factors (all displayed in Figure 3). With this pathway, the second research question is answered. The dependent variable, ideal number of children, is included as a continuous variable. This step was used to analyse step 1 from the conceptual model. During the analysis it was found that the assumption of homoscedasticity was violated. To solve for this violation, the standard errors of the variables were adjusted to White's standard errors (White, 1980). The final multiple linear regression model shown in Table 2 includes all the control variables and the robust standard errors.

In the second pathway a multinomial logistic regression is used to model the probability of the ability of women to achieve their ideal family size. The choice for performing a multinomial regression is that it allows for assessment of the effect of women's empowerment indicators on the ability of women to achieve their ideal family size in Nepal. This analysis is a comparison, between actual fertility and ideal fertility and provides therefor a proxy for unwanted fertility. Thus, the analysis models the probability of women achieving their ideal family size. This addresses the third research question and the second pathway shown in the conceptual model, Figure 3. The dependent variable, achievement of ideal family size, is a categorical variable consisting out of three categories: less children than ideal number of children, more children than ideal number of children and equal to ideal number of children. By coding the dependent variable in this way it allows for the assessment whether ideal family size is achieved or not by the women, and the assessment of the influence of women's empowerment indicators on women's ability to achieve their ideal family size. The reason for three categories, instead of two categories – as done by Upadhyay & Karasek (2012) who use equal to ideal family size and more than ideal family size – was that otherwise the data would be manipulated as women who have fewer than their ideal family size would have been coded as having their desired family size. On the other hand, cases being coded as having a smaller family than ideal family size could have been left out of the analysis. These cases were however included in the analysis to use the

data to its fullest extent. Another reason to code the variable into three categories was that it provides another outcome which has not been encountered in reviewed literature. The cases were selected for women aged 35 years or older because below this age women often have not yet finished childbearing (Upadhyay & Karasek, 2012). It could be that the threshold of 35 years is too low as it is possible that not all women have finished child bearing at this age, which could be a measurement error. However, research has shown that after the age of 35 women's chance of conceiving declines significantly (Menken et al., 1986). The same control variables used in the multiple linear regression are used for this analysis. Results of the multinomial logistics regression are shown in table 3.

The models presented above cannot be compared to each other, as both models address different research questions, use different methodologies and samples.

5. Results

5.1 Descriptive Statistics

The descriptive statistics of all the independent and dependent variables included in the analyses in this study are presented in Table 1.

The first analysis included 9,223 married women aged 15-49 years. Table 1 shows that the median of the dependent variable ideal number of children is 2 and that the mean is 2.195 children. The second analysis includes 3,461 married women aged 35-49.

The descriptive statistics shows – that of the women aged 15-49 – 34.5% of the women achieved their ideal family size, 28.9% of the women gave birth to less than their ideal number of children, and 36.5% had a larger actual number of children than their ideal number. From the women aged 35-49 however 29.6% of the women achieved their ideal family size, 9.4% of the women gave birth to less than their ideal number of children, and 61% had a larger number of children than their ideal number. These statistics show that women of older ages, who likely have finished childbearing (however not always), in more than half of the cases have not had the ability to achieve their ideal family size. This percentage is lower for women age 15-49. Furthermore, Table 1 shows that among all married women the difference in percentages between the two samples is small when it comes to having a say in at least one household decision. Of the women age 15-49 18.2% of the respondents have a say in all the decision made in the household. Thus, among women age 35 years and older less women (40.9%) have a say in all four categories compared to women age 15-49. In addition, a larger proportion (46.8%) of the women aged 35-49 has no say at all in household decision-making, which is 38,8% for women aged 15-49.

Table 1: Descriptive Statistics

	Characteristics of married women age 15-49 Observed N=9223	Characteristics of married women age 35-49 Observed N=3461
Ideal vs total number of children		
Equal to ideal nr. of children	34,5%	29,6%
Less than ideal nr. of children	28,9%	9,4%
More than ideal nr. of children	36,5%	61,0%
Say in household decision-making		
Say in all 4 categories	18,2%	10,5%
Say in at least 1 category	40,7%	40,9%
No say	38,8%	46,8%
Beating justified		
no	99,4%	99,4%
yes	0,6%	0,6%
Region		
Mountain	16,5%	17,4%
Hill	38,9%	40,1%
Terai	44,7%	42,5%
Ethnicity		
Brahmin	15,0%	18,2%
Chhetri	25,6%	26,0%
Newar	3,9%	4,8%
Dalit	14,3%	12,0%
Muslim	2,7%	1,8%
Other	6,6%	5,5%
Janjati	31,9%	31,6%
Wealth Quantile		
Poorest	20,30%	19,8%
Poorer	18,60%	18,5%
Middle	18,70%	18,4%
Richer	19,70%	19,3%
Richest	22,80%	24,1%
Frequency of reading newspaper		
Less than once a week	19,80%	11,8%
At least once a week	9,90%	7,5%
Not at all	70,30%	80,8%
Frequency of listening to the radio		
Less than once a week	37,50%	39,1%
At least once a week	43,50%	41,1%
Not at all	19,00%	19,8%
Frequency watching TV		
Less than once a week	27,80%	28,7%
At least once a week	44,90%	41,9%
Not at all	27,30%	29,4%

Table 1 Continued: Characteristics

	Characteristics of married women age 15-49 Observed N=9223	Characteristics of married women age 35-49 Observed N=3461
Employment for cash		
Not paid	44,60%	50,0%
Cash only	18,10%	17,7%
Cash and in-kind	3,70%	4,7%
In-kind only	4,60%	5,8%
Not employed	29,00%	21,7%
Spousal age difference		
Husband Younger	7,90%	10,2%
Husband older	85,10%	82,8%
No difference	7,00%	7,0%

	Characteristics married women age 15-49 N=9223			Characteristics married Women age 15-49 N=3461		
	Mean	SE	Median	Mean	SE	Median
Ideal number of children	2.195	.008	2	2.442	0.014	2
Respondent's current age	31.351	.089	31	40.934	.071	41
Education in single years	3.650	.042	2	1.992	.059	0
Age at first marriage	17.413	.033	17	17.413	.062	17

Notes: SE=standard error. ¹ women reporting that they have a say in: respondent's own health care. major household purchases. visits to family and friends and spending of husband's earnings. ² Women reporting that husband is justified in beating his wife if: she goes out without telling him, she burns the food, she neglects the children, she argues with him and if she refuses to have sex with him.

Almost all women agree that beating is not justified in all these situations. Only 0.6% of the women believe that in at least one situation beating is justified.

Lastly, the descriptive statistics shows that the median of the dependent variable achievement of ideal family size is the same for both samples. However the mean ideal number of children is higher for women aged 35-49 compared to women aged 15-49. The difference between the two means is 0.247 child. This shows that on average the older population (35+) has a larger number of what they believe to be their ideal number of children.

5.2 Multiple Linear Regression

The first coefficient to be interpreted is of the key variable household decision-making. It shows that women who have a say in only one household decision are estimated to have a higher ideal number of children than women who have no say at all ($p < 0.05$). Although the difference is only small, it is expected that women who have a say in at least one category have 0.032 larger ideal family size than

Table 2: Multiple Linear Regression, Women age 15-49

	Ideal number of children (n=9223)	
	Adjusted B	SE
R-Squared	0.235	
F-Change	87.966 ***	
Constant	1,994 ***	0.063
Household decision making: No say ¹	(ref)	
Say in at least 1 category	0.032 *	0.015
Say in all 4 categories	0.102 ***	0.021
Beating justified: Justified in at least one situation ²	(ref)	
Beating never justified	-0.051	0.094
Region: Terai	(ref)	
Mountain	-0.042	0.023
Hill	-0.046 **	0.017
Ethnicity: Janjati	(ref)	
Brahmin	-0.043 *	0.018
Newar	0.092	0.064
Chhetri	0.341 ***	0.031
Dalit	0.004	0.022
Muslim	0.487 ***	0.050
Other	-0.134 ***	0.033
Respondent's current age	0.024 ***	0.001
Education in single years	-0.016 ***	0.002
Age at first cohabitation	-0.023 ***	0.003
Spousal age difference: No difference	(ref)	
Husband Younger	0.012	0.035
Husband Older	0.023	0.025
Wealth quintile: Middle	(ref)	
Poorest	0.185 ***	0.027
Poorer	0.022	0.024
Richer	-0.091 ***	0.022
Richest	-0.104 ***	0.024
Paid for employment: Not employed	(ref)	
Employed not paid	0.003	0.019
Employed paid in cash	-0.065 **	0.020
Employed paid cash and in-kind	0.037	0.043
Employed paid in-kind	-0.033	0.035
Frequency reading newspaper: Not at all	(ref)	
Reads newspaper less than once a week	-0.038 *	0.017
Reads newspaper at least once a week	-0.038	0.025
Frequency listening to the radio: Not at all	(ref)	
Listens to the radio less than once a week	-0.052 *	0.022
Listens to the radio at least once a week	-0.065 **	0.021
Frequency watching television: Not at all	(ref)	
Watches television less than once a week	-0.082 ***	0.022
Watches television at least once a week	-0.128 ***	0.024

Notes: Robust standard errors are used. SE=standard error. *p<0.05. **p<0.01. *** p<0.001. ¹ Women reporting that they have a say ins: respondent's own health care. major household purchases. visits to family and friends and spending of husband's earnings.

² Women reporting that husband is justified in beating his wife if: she goes out without telling him, she burns the food, she neglects the children, she argues with him and if she refuses to have sex with him.

women who do not have a say in the household. Thus more empowered women would ideally like to have 0.032 child more than less empowered women. Even though this is a significant outcome, the relative effect is only small. However, there is something to say for this significant outcome as the model includes many control variables. The second coefficient for the key variable household decision making shows that women who have a say in all four household decisions are estimated to have a larger ideal family than women who have no say at all ($p < 0.001$). Women who have a say in all four household decisions are estimated to have 0.102 larger family size compared to women who have no say in the household. Thus more empowered women would like to have 0.102 child more than less empowered women. These outcomes for the key variable household decision-making are not in line with the first hypothesis stated in Chapter 3. Which was: more empowered women have a smaller ideal family size than less empowered women. Moreover, it is the opposite of what was found in previous research conducted by among others, Hindin (2002) and Woldemicael (2009). Hindin (2000) found that household decision-making leads to a smaller ideal family size. Similarly, Woldemicael (2009) found that women who have the last say in household decisions have a smaller ideal family size.

The outcome for the key variable beating justified shows that it does not have a significant effect on a woman's ideal number of children in this sample. Thus no significant relation was found between the variable beating justified and the dependent variable, ideal number of children. Based on the hypothesis it was expected that a significant relation would be found between these two variables.

Overall hypothesis number 1 is not supported by the results of the multiple linear regression. These findings will be discussed in more detail in the next chapter, Chapter 6: Discussion.

5.2 Multinomial Logistic Regression

Table 3 shows the results from the multinomial logistic regression, also the second pathway from the conceptual model (Figure 3). The model shows that the analysis only found a significant relation between women who have a say in at least one household decision compared to women who have no say in any of the household decision and the ability of women to achieve their ideal family size ($p < 0.01$). The model predicts that the odds of having less than ideal number of children is 1.532 times higher for women who have a say in at least one household decision, compared to women who have no say at all if all other variables are held constant. Thus more empowered women are more like to have fewer than their ideal number of children compared to not empowered women. There is no significant relation found between women who have a say in all four categories and the ability of women to achieve their ideal family size.

Table 3: Multinomial Logistic Regression, Women Age 35-49

	Ideal vs actual number of children ^a (N=3461)			
	< than ideal nr. of children		> than ideal nr. of children	
	OR	SE	OR	SE
Say in household decisions (Ref "No say") ¹				
Say in at least 1 category	1.532 **	0.142	1.051	0.087
Say in all 4 categories	0.996	0.242	0.899	0.142
Beating justified (Ref "Justified at least one situation") ²				
Beating never justified	1.855	1.106	0.598	0.547
Region (Ref Terai)				
Mountain	0.656	0.227	0.980	0.137
Hill	0.702 *	0.164	1.037	.0101
Ethnicity (Ref "Janjati")				
Brahmin	0.579 *	0.218	0.898	0.125
Chhetri	1.144	0.179	1.062	0.114
Newar	0.769	0.332	1.397	0.202
Dalit	0.951	0.244	1.001	0.146
Muslim	1.885	0.514	1.758	0.357
Other	0.702	0.317	0.727	0.187
Age of respondent	1.046 **	0.016	1.058 ***	0.010
Education in single years	0.970	0.029	0.985	0.018
Age at first marriage	1.077 ***	0.017	0.911 ***	0.013
Spousal Age Difference (Ref "No difference")				
Husband Younger	1.262	0.311	1.034	0.197
Husband Older	1.190	0.257	1.049	0.157
Wealth quantile (Ref "Poorest")				
Poorer	0.630 *	0.236	0.652 **	0.148
Middle	0.494 **	0.253	0.492 ***	0.156
Richer	0.446 **	0.279	0.475 ***	0.171
Richest	0.481 *	0.313	0.336 ***	0.196
Employment for cash (Ref "Not employed")				
Employed but not paid	0.812	0.199	0.893	0.122
Employed paid in cash	0.706	0.205	0.645 **	0.130
Employed paid in cash and in-kind	1.520	0.323	0.894	0.225
Employed paid in-kind	1.023	0.305	0.869	0.196
Frequency reading newspaper (Ref "Not at all")				
Less than once a week	0.949	0.246	0.847	0.146
At least once a week	1.191	0.307	0.652 *	0.202
Frequency listening to the radio (Ref "Not at all")				
Less than once a week	0.817	0.187	0.903	0.118
At least once a week	0.997	0.189	1.059	0.120
Frequency watching TV (Ref "Not at all")				
Less than once a week	0.971	0.201	0.856	0.121
At least once a week	1.176	0.233	0.914	0.138
Intercept	-4,248 **	1,387	1,476	0.764

Notes: a. The reference category is "Equal to ideal nr. Of children"; OR=odds ratio; SE=Standard error. *p<0.05. **p<0.01. ***

p<0.001. ¹ Women reporting that they have a say in: respondent's own health care. major household purchases. visits to family and friends and spending of husband's earnings. ² Women reporting that husband is justified in beating his wife if: she goes out without telling him, she burns the food, she neglects the children, she argues with him and if she refuses to have sex with him.

The outcome of the model shows that the variable justification of wife beating is not significantly related to women's ability of achieving their ideal family size.

In this model, there is no evidence found that women's empowerment contributes to the ability of women to achieve their ideal family size in Nepal. Hypothesis number 2 is therefore not supported.

6. Discussion

Table 1, provided in chapter 5, shows that 36.5% of the women age 15-35 have more children than their ideal number of children. Of the women age 35-49 a larger proportion of 61% has more children than her ideal number of children. Thus the descriptive statistics show that a large proportion of women in Nepal do not yet have the ability to reach their reproductive preferences. The analyses in chapter 5 have shown that women's empowerment indicators used in this study do not have a significant effect on the discrepancy between ideal family size and actual fertility. Many of the control variables do not have a significant effect either. It seems that especially the age of the respondent, age at first marriage and wealth are related to the ability of achieving women's ideal family size. There are however many other factors influencing fertility which are not included in this study as the focus was on women's empowerment. Factors such as the ability of women to conceive, access to contraceptives and use of contraceptives are not included in the analyses. These are however important factors to study in future studies and might explain the results of this study in a different way. As was mentioned in chapter 2, contraceptives have been spread widely across Nepal and many modern contraceptive methods were made free of charge in 2010. Based on the DHS dataset of 2011, it is still early to assess the consequences of these policies. For now it shows that there is still a large area to win when it comes to making sure that women and men receive these methods. Moreover, even though the availability of these contraceptives, there has not yet been a widespread acceptance of the use of these methods. Thus widespread acceptance of contraceptive use could contribute to the ability of women to achieve their ideal family size.

The descriptive statistics in Table 1 has shown as well that on average women of 35 years and older have a larger ideal number of children than women age 15-49. This larger mean could be the result of response bias. When this is the case, women who have finished childbearing report their ideal number of children closer to their actual number of children. Thus, if their ideal number of children is lower than their actual number of children, the response could be biased upwards.

6.1 Multiple Linear Regression

In the previous chapter it was shown that the first hypothesis is not supported. The outcomes showed that more empowered women have a larger ideal family size than less empowered women. Furthermore, no significant relation was found between attitude towards wife beating and women's ideal family size. Based on the literature review provided in chapter 3, it was hypothesised that greater women's empowerment would lead to a smaller ideal family size. E.g. Hindin (2000) found that household decision-making leads to a smaller ideal family size. Similarly, Woldemicael (2009) found that women who have the last say in household decisions have a smaller ideal family size. The discrepancy between the expected outcomes stated in the hypotheses and the actual results of this study could be due to the different contexts. Trent (1980) emphasised that ideal family size differs between different races, religions and the amount of education received. Emenike et al. (2008) denoted the importance of assessing the effect of domestic violence on fertility in every unique and different culture. The outcomes found in this study, suggest that these two studies are correct in the assumption that this relation between women's empowerment and ideal fertility cannot be generalised over different countries and cultures. Thus, it could be that therefore the results of this study differ from the results found in similar studies however conducted in different countries.

Furthermore, conventional demographic research, such as the Trade-off-model and the Nash Bargaining model discussed in Chapter 3, consider that changes made in the life of women would lead to fertility decline. In short, the lives of the women change first with as result a decline in fertility. The results from this study suggest that women who have no say at all in the household decisions could be women who are not empowered yet. This would mean that they have a smaller ideal number of children in the hope that it will change their life in a way that they have a say and gain more autonomy, thus become more empowered. This is the opposite of what conventional demographic research considers. Levinson argued in 1980 that a woman could make changes in her life to e.g. give birth to less children without the changes already have taken place. Furthermore, he argued that the decision of having a child is influenced by the circumstances prior to the event but also following from the event. Thus, women choose to have a child or choose not to have a child with the aim of shaping their own futures. This decision is thus not just based on characteristics adopted prior to the event. This approach applied to societies with high fertility would lead to women choosing to have fewer children with the hope or expectation that it will improve their futures (McDonald, 2000). Thus Levinson's theory could explain the result found in this study that less empowered women have a smaller ideal family size than more empowered women in Nepal.

6.2 Multinomial Logistic Regression

In the previous chapter it was shown that hypothesis number 2 is not supported. The outcome of the model showed that more empowered women are more likely to have fewer children than their ideal number, compared to less empowered women. Furthermore, no significant relation was found between attitude towards wife beating and the ability of women to achieve their ideal family size. It is likely that no significant relation was found due to the very low proportion (0.6%) of women who have reported that wife beating is justified. Overall, no evidence was found that women's empowerment contributes to the ability of women to achieve their ideal family size in Nepal.

There are several possible explanations for this outcome. The first relation found between having a say in the household and the ability to achieve their ideal family size could have several reasons. The first is that due to the sample chosen for this analysis it could be that women have not finished child bearing yet. In this case, the threshold of women of 35 years and older could be too low, and that therefore a significant effect is found that women who have a say in at least one category are less likely to reach their ideal number of children than women who have no say at all. To assess if this is the case a sensitivity analysis was performed. A multinomial logistic regression with a higher threshold of 40 years and older, instead of 35 years and older, was used. The results from the sensitivity analysis (found in Appendix B: Sensitivity Analysis) shows that the results from the original analysis are robust. More empowered women are still more likely to have fewer children than their ideal number of children compared to less empowered women.

Another aspect that should be considered is the influence of the husband. Previous research has found that the ideal family size of a woman is influenced by the ideal family size of her husband (Speizer, 1999; Ezech, 1993; Bankole and Singh, 1998). DeRose et al. (2002) found that in Africa husbands often have a larger ideal family size than their wives. If this is also the case in Nepalese context, then it could be that women's ideal family size is biased upwards and that therefore women have significantly a smaller chance of having fewer children than their ideal number of children.

Lastly, it is found that childlessness has become a problem in developing countries. Studies show that in these countries, where children are often valued for old-age security and social status, childlessness composes a problem for the female and the male, as well as for the extended family (Van Balen & Gerrits, 2001; Okonofua, 2000; Liamputtong-Rice, 2000). This could explain why more empowered women are more likely to have less children than their ideal. Thus, it could be that due to infertility women do not reach their ideal number of children.

As all these points discussed are all speculations and not researched in this study they should be addressed and researched in more detail to draw any conclusions.

7. Conclusion

The objective of this study was to examine the effect of women's empowerment on ideal family size and the ability of women to achieve their ideal family size in Nepal. Furthermore, the objective was to describe the effect of the different indicators of women empowerment on fertility, with use of the key indicators household decision-making and gender role attitude.

It was found that women who have a say in household decisions are estimated to have a larger ideal number of children than women who do not have a say in the household. Thus more empowered women have a larger ideal number of children than less empowered women. There was no significant relation found between the attitude towards wife beating and ideal family size. The second analysis only found a significant effect that women who have a say in at least one household decision are more likely to have fewer children than their ideal number of children compared to women who have no say at all. Thus more empowered women are less likely to have the ability of achieving their ideal family size, as it is more likely for them that their actual number of children is lower than their ideal number of children. As in the first analysis, in the second analysis there was no significant relation found between attitude towards wife beating and the ability of women to achieve their ideal family size. Overall, no clear evidence is found that women's empowerment lowers a women's ideal family size, nor that it provides women the ability to achieve their ideal family size in Nepal. The descriptive statistics however show that 61% of the women age 35-49 have more children than their ideal number of children.

Several discussion points have been pointed out that could explain the outcomes of this study. The first result, that more empowered women have a larger ideal family size than less empowered women could be explained by a concept mentioned by Levinson (1980) and McDonald (2000). He argues that women, even though not yet empowered, will try to make changes in their life. Among which is the desire to have a smaller family, with the hope to shape their own futures. In addition, Trent (1980) emphasised the importance of evaluating ideal family size in different contexts, as it differs per race, religion and amount of education received. The outcome for the second analysis - more empowered women are more likely to have less children than their ideal number of children compared to less empowered women – could be explained by the criteria chosen for the women included in the sample. However it was shown in a sensitivity analysis that by moving the threshold to 40 years, instead of 35 years the results stayed robust. Another explanation could be that when controlled for the influence of the husbands ideal family size the outcome would be different. As men are found to have often a higher ideal family size than women and these variables seem to be correlated (Speizer, 1999; Ezeh,

1993; Bankole and Singh, 1998). The last discussion point is that empowered women might not have the ability to reach their ideal family size due to infertility or problems encountered with conceiving.

However, all these points mentioned have not been studied in this research and further research on these topics is desirable. There is no hard evidence that more empowered women are more likely to have fewer children than their ideal number of children compared to less empowered women as only one of the six variables was found to be significant. It is therefore suggested that more research is to be done on the reason of this relation. Furthermore, as 61% of the women have more children than their ideal, policies should focus on providing resources to these women to meet their reproductive preferences. Lastly, research needs to be done on the acceptance of the use of contraceptives, as many forms of contraceptives are already freely available in Nepal, however the contraceptive prevalence rate has stayed the same between 2006 and 2011. A recommendation than would be to develop policies to increase the acceptance of contraceptive use to reduce the discrepancy between women's ideal family size and actual fertility.

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Appendix A: Pearson Correlation Matrix

	Respondent's current age	Mountain vs. Terai	Hill vs. Terai	Brahmin vs. Chhetri	Newar vs. Chhetri	Janjati vs. Chhetri	Dalit vs. Chhetri	Muslim vs. Chhetri	Other vs. Chhetri	Education in single years	Poorest vs. middle	Poorer vs. middle	Richer vs. middle	Richest vs. middle	
Respondent's current age	Pearson Correlation Sig. (2-tailed) N	1 .012 9223	.012 .257 9223	.015 .139 9223	.078 .000 9223	.025 .016 9223	-.034 .001 9223	-.067 .000 9223	-.036 .000 9223	.054 .000 9223	-.345 .000 9458	-.019 .064 9223	-.019 .072 9223	-.011 .307 9223	.064 .000 9223
Mountain vs. Terai	Pearson Correlation Sig. (2-tailed) N	.012 .257 9223	1 -.354 9223	-.354 .000 9223	-.068 .000 9223	-.044 .000 9223	-.114 .000 9223	.068 .000 9223	-.075 .000 9223	-.027 .008 9223	-.125 .000 9458	.148 .000 9223	.145 .000 9223	-.107 .000 9223	-.228 .000 9223
Hill vs. Terai	Pearson Correlation Sig. (2-tailed) N	.015 .139 9223	-.354 .000 9223	1 .000 9223	.021 .045 9223	-.068 .000 9223	-.177 .000 9223	.057 .000 9223	-.124 .000 9223	.091 .000 9223	.034 .001 9458	.187 .000 9223	.006 .559 9223	-.083 .000 9223	-.032 .002 9223
Brahmin vs. Chhetri	Pearson Correlation Sig. (2-tailed) N	.078 .000 9223	-.068 .000 9223	.021 .045 9223	1 .000 9223	-.044 .000 9223	-.104 .000 9223	-.145 .000 9223	-.068 .000 9223	-.080 .000 9223	.258 .000 9458	-.157 .000 9223	-.079 .000 9223	.048 .000 9223	.209 .000 9223
Newar vs. Chhetri	Pearson Correlation Sig. (2-tailed) N	.025 .016 9223	-.044 .000 9223	-.068 .000 9223	-.044 .000 9223	1 .005 9223	-.029 .000 9223	-.040 .000 9223	-.019 .071 9223	-.022 .032 9223	.058 .000 9458	-.041 .000 9223	-.042 .000 9223	.029 .005 9223	.075 .000 9223
Janjati vs. Chhetri	Pearson Correlation Sig. (2-tailed) N	-.034 .001 9223	-.114 .000 9223	-.177 .000 9223	-.104 .000 9223	-.029 .005 9223	1 .000 9223	-.094 .000 9223	-.044 .000 9223	-.052 .000 9223	-.061 .000 9458	-.077 .000 9223	-.027 .009 9223	.034 .001 9223	.036 .000 9223
Dalit vs. Chhetri	Pearson Correlation Sig. (2-tailed) N	-.067 .000 9223	.068 .000 9223	.057 .000 9223	-.145 .000 9223	-.040 .000 9223	-.094 .000 9223	1 .000 9223	-.061 .000 9223	-.073 .000 9223	-.118 .000 9458	.177 .000 9223	.026 .011 9223	-.050 .000 9223	-.135 .000 9223
Muslim vs. Chhetri	Pearson Correlation Sig. (2-tailed) N	-.036 .000 9223	-.075 .000 9223	-.124 .000 9223	-.068 .000 9223	-.019 .071 9223	-.044 .000 9223	-.061 .000 9223	1 .001 9223	-.034 .000 9223	-.125 .000 9458	-.008 .415 9223	.069 .000 9223	-.009 .380 9223	-.078 .000 9223
Other vs. Chhetri	Pearson Correlation Sig. (2-tailed) N	.054 .000 9223	-.027 .008 9223	.091 .000 9223	-.080 .000 9223	-.022 .032 9223	-.052 .000 9223	-.073 .000 9223	-.034 .001 9223	1 .000 9223	.113 .000 9458	-.091 .000 9223	-.049 .000 9223	.008 .441 9223	.172 .000 9223
Education in single years	Pearson Correlation Sig. (2-tailed) N	-.345 .000 9458	-.125 .000 9458	.034 .001 9458	.258 .000 9458	.058 .000 9458	-.061 .000 9458	-.118 .000 9458	-.125 .000 9458	.113 .000 9458	1 .000 9458	-.304 .000 9458	-.174 .000 9458	.094 .000 9458	.430 0.000 9458
Poorest vs. middle	Pearson Correlation Sig. (2-tailed)	-.019 .064	.148 .000	.187 .000	-.157 .000	-.041 .000	-.077 .000	.177 .000	-.008 .415	-.091 .000	-.304 .000	1 .000	-.241 .000	-.250 .000	-.274 .000

	N	9223	9223	9223	9223	9223	9223	9223	9223	9223	9458	9223	9223	9223	9223
Poorer vs. middle	Pearson Correlation	-.019	.145	.006	-.079	-.042	-.027	.026	.069	-.049	-.174	-.241	1	-.236	-.259
	Sig. (2-tailed)	.072	.000	.559	.000	.000	.009	.011	.000	.000	.000	.000	.000	.000	.000
	N	9223	9223	9223	9223	9223	9223	9223	9223	9223	9458	9223	9223	9223	9223
Richer vs. middle	Pearson Correlation	-.011	-.107	-.083	.048	.029	.034	-.050	-.009	.008	.094	-.250	-.236	1	-.269
	Sig. (2-tailed)	.307	.000	.000	.000	.005	.001	.000	.380	.441	.000	.000	.000	.000	.000
	N	9223	9223	9223	9223	9223	9223	9223	9223	9223	9458	9223	9223	9223	9223
Richest vs. middle	Pearson Correlation	.064	-.228	-.032	.209	.075	.036	-.135	-.078	.172	.430	-.274	-.259	-.269	1
	Sig. (2-tailed)	.000	.000	.002	.000	.000	.000	.000	.000	.000	0.000	.000	.000	.000	.000
	N	9223	9223	9223	9223	9223	9223	9223	9223	9223	9458	9223	9223	9223	9223
Reads newspaper less than once a week vs. not at all	Pearson Correlation	-.174	-.043	-.030	.106	.011	-.056	-.043	-.074	.046	.417	-.179	-.087	.096	.159
	Sig. (2-tailed)	.000	.000	.003	.000	.276	.000	.000	.000	.000	0.000	.000	.000	.000	.000
	N	9223	9223	9223	9223	9223	9223	9223	9223	9223	9458	9223	9223	9223	9223
Reads newspaper at least once a week vs. not at all	Pearson Correlation	-.046	-.100	.040	.202	.032	-.055	-.072	-.051	.097	.455	-.163	-.141	-.015	.420
	Sig. (2-tailed)	.000	.000	.000	.000	.002	.000	.000	.000	.000	0.000	.000	.000	.153	0.000
	N	9223	9223	9223	9223	9223	9223	9223	9223	9223	9458	9223	9223	9223	9223
Listens to the radio less than once a week vs. not at all	Pearson Correlation	.030	-.048	-.045	-.060	.025	.019	.023	.029	-.018	-.105	.038	-.004	.009	-.019
	Sig. (2-tailed)	.004	.000	.000	.000	.014	.070	.022	.005	.086	.000	.000	.683	.400	.068
	N	9223	9223	9223	9223	9223	9223	9223	9223	9223	9458	9223	9223	9223	9223
Listens to the radio at least once a week vs. not at all	Pearson Correlation	-.050	.092	.068	.126	-.020	-.094	-.032	-.087	.027	.212	-.094	.013	.019	.014
	Sig. (2-tailed)	.000	.000	.000	.000	.052	.000	.002	.000	.009	.000	.000	.191	.065	.180
	N	9223	9223	9223	9223	9223	9223	9223	9223	9223	9458	9223	9223	9223	9223
Watches television less than once a week vs. not at all	Pearson Correlation	.009	.068	-.062	-.073	-.005	-.014	.041	.016	-.074	-.149	.042	.137	-.030	-.218
	Sig. (2-tailed)	.403	.000	.000	.000	.615	.184	.000	.116	.000	.000	.000	.000	.003	.000
	N	9223	9223	9223	9223	9223	9223	9223	9223	9223	9458	9223	9223	9223	9223
Watches television at least once a week vs. not at all	Pearson Correlation	-.026	-.167	-.059	.181	.042	.008	-.109	-.080	.136	.425	-.414	-.280	.220	.477
	Sig. (2-tailed)	.010	.000	.000	.000	.000	.413	.000	.000	.000	0.000	0.000	.000	.000	0.000
	N	9223	9223	9223	9223	9223	9223	9223	9223	9223	9458	9223	9223	9223	9223
Employed not paid vs. Not employed	Pearson Correlation	.078	.266	.179	-.029	-.085	-.137	.035	-.125	-.072	-.229	.270	.163	-.135	-.322
	Sig. (2-tailed)	.000	.000	.000	.005	.000	.000	.001	.000	.000	.000	.000	.000	.000	.000
	N	9223	9223	9223	9223	9223	9223	9223	9223	9223	9458	9223	9223	9223	9223
Employed paid in cash vs. Not employed	Pearson Correlation	.013	-.069	-.004	.055	-.001	-.054	-.003	-.026	.108	.198	-.153	-.098	.085	.200
	Sig. (2-tailed)	.200	.000	.727	.000	.916	.000	.805	.012	.000	.000	.000	.000	.000	.000
	N	9223	9223	9223	9223	9223	9223	9223	9223	9223	9458	9223	9223	9223	9223
Employed paid cash and in-kind vs. Not employed	Pearson Correlation	.055	-.030	-.042	-.035	-.016	.007	-.034	.192	-.007	-.094	.023	.055	-.013	-.068
	Sig. (2-tailed)	.000	.004	.000	.001	.111	.520	.001	.000	.467	.000	.022	.000	.223	.000
	N	9223	9223	9223	9223	9223	9223	9223	9223	9223	9458	9223	9223	9223	9223
Employed paid in-kind vs. Not employed	Pearson Correlation	.050	-.037	-.069	-.041	-.020	.019	.005	.138	-.023	-.105	-.002	.053	-.001	-.079

	Sig. (2-tailed)	.000	.000	.000	.000	.057	.059	.601	.000	.023	.000	.827	.000	.900	.000
	N	9223	9223	9223	9223	9223	9223	9223	9223	9223	9458	9223	9223	9223	9223
Age at first cohabitation	Pearson Correlation	.038	-.012	.053	.106	.013	-.101	-.130	-.101	.109	.333	-.093	-.062	.005	.196
	Sig. (2-tailed)	.000	.260	.000	.000	.198	.000	.000	.000	.000	.000	.000	.000	.599	.000
	N	9223	9223	9223	9223	9223	9223	9223	9223	9223	9458	9223	9223	9223	9223
Husband Younger vs. No difference	Pearson Correlation	.090	.063	.024	-.069	-.028	-.044	-.020	-.037	.006	-.092	.059	.044	-.038	-.074
	Sig. (2-tailed)	.000	.000	.021	.000	.006	.000	.056	.000	.530	.000	.000	.000	.000	.000
	N	9223	9223	9223	9223	9223	9223	9223	9223	9223	9458	9223	9223	9223	9223
Husband Older vs. No difference	Pearson Correlation	-.074	-.067	-.042	.069	.030	.063	-.010	.051	-.016	.067	-.046	-.054	.040	.073
	Sig. (2-tailed)	.000	.000	.000	.000	.004	.000	.321	.000	.121	.000	.000	.000	.000	.000
	N	9223	9223	9223	9223	9223	9223	9223	9223	9223	9458	9223	9223	9223	9223
Say in all 4 categories vs. no say	Pearson Correlation	-.234	.011	-.050	-.064	.002	.100	.018	.062	-.046	-.053	.068	.024	-.007	-.109
	Sig. (2-tailed)	.000	.303	.000	.000	.871	.000	.084	.000	.000	.000	.000	.024	.505	.000
	N	9249	9249	9249	9249	9249	9249	9249	9249	9249	9248	9249	9249	9249	9249
Say in at least 1 category vs. no say	Pearson Correlation	.003	.023	.011	.003	-.009	-.053	.005	-.057	.003	.015	.016	.014	.008	-.029
	Sig. (2-tailed)	.746	.028	.279	.746	.394	.000	.661	.000	.737	.151	.121	.189	.468	.006
	N	9249	9249	9249	9249	9249	9249	9249	9249	9249	9248	9249	9249	9249	9249
Beating justified	Pearson Correlation	-.003	-.008	-.033	-.027	.004	.059	-.011	.037	.006	-.015	-.015	-.005	.017	-.006
	Sig. (2-tailed)	.772	.422	.001	.009	.683	.000	.298	.000	.566	.158	.145	.630	.093	.578
	N	9223	9223	9223	9223	9223	9223	9223	9223	9223	9458	9223	9223	9223	9223

		Reads newspaper less than once a week vs. not at all	Reads newspaper at least once a week vs. not at all	Listens to the radio less than once a week vs. not at all	Listens to the radio at least once a week vs. not at all	Watches television less than once a week vs. not at all	Watches television at least once a week vs. not at all	Employed not paid vs. Not employed	Employed paid in cash vs. Not employed	Employed paid cash and in-kind vs. Not employed	Employed paid in-kind vs. Not employed	Age at first cohabitation	Husband Younger vs. No difference	Husband Older vs. No difference	Say in all 4 categories vs. no say	Say in at least 1 category vs. no say	Beating justified
Respondent's current age	Pearson Correlation	-.174	-.046	.030	-.050	.009	-.026	.078	.013	.055	.050	.038	.090	-.074	-.234	.003	-.003
	Sig. (2-tailed)	.000	.000	.004	.000	.403	.010	.000	.200	.000	.000	.000	.000	.000	.000	.746	.772
	N	9223	9223	9223	9223	9223	9223	9223	9223	9223	9223	9223	9223	9223	9249	9249	9223
Mountain vs. Terai	Pearson Correlation	-.043	-.100	-.048	.092	.068	-.167	.266	-.069	-.030	-.037	-.012	.063	-.067	.011	.023	-.008
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.004	.000	.260	.000	.000	.303	.028	.422
	N	9223	9223	9223	9223	9223	9223	9223	9223	9223	9223	9223	9223	9223	9249	9249	9223
Hill vs. Terai	Pearson Correlation	-.030	.040	-.045	.068	-.062	-.059	.179	-.004	-.042	-.069	.053	.024	-.042	-.050	.011	-.033

	Sig. (2-tailed)	.003	.000	.000	.000	.000	.000	.000	.727	.000	.000	.000	.021	.000	.000	.279	.001
	N	9223	9223	9223	9223	9223	9223	9223	9223	9223	9223	9223	9223	9223	9249	9249	9223
Brahmin vs. Chhetri	Pearson Correlation	.106	.202	-.060	.126	-.073	.181	-.029	.055	-.035	-.041	.106	-.069	.069	-.064	.003	-.027
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.005	.000	.001	.000	.000	.000	.000	.000	.746	.009
	N	9223	9223	9223	9223	9223	9223	9223	9223	9223	9223	9223	9223	9223	9249	9249	9223
Newar vs. Chhetri	Pearson Correlation	.011	.032	.025	-.020	-.005	.042	-.085	-.001	-.016	-.020	.013	-.028	.030	.002	-.009	.004
	Sig. (2-tailed)	.276	.002	.014	.052	.615	.000	.000	.916	.111	.057	.198	.006	.004	.871	.394	.683
	N	9223	9223	9223	9223	9223	9223	9223	9223	9223	9223	9223	9223	9223	9249	9249	9223
Janjati vs. Chhetri	Pearson Correlation	-.056	-.055	.019	-.094	-.014	.008	-.137	-.054	.007	.019	-.101	-.044	.063	.100	-.053	.059
	Sig. (2-tailed)	.000	.000	.070	.000	.184	.413	.000	.000	.520	.059	.000	.000	.000	.000	.000	.000
	N	9223	9223	9223	9223	9223	9223	9223	9223	9223	9223	9223	9223	9223	9249	9249	9223
Dalit vs. Chhetri	Pearson Correlation	-.043	-.072	.023	-.032	.041	-.109	.035	-.003	.034	.005	-.130	-.020	.010	.018	.005	-.011
	Sig. (2-tailed)	.000	.000	.022	.002	.000	.000	.001	.805	.001	.601	.000	.056	.321	.084	.661	.298
	N	9223	9223	9223	9223	9223	9223	9223	9223	9223	9223	9223	9223	9223	9249	9249	9223
Muslim vs. Chhetri	Pearson Correlation	-.074	-.051	.029	-.087	.016	-.080	-.125	-.026	.192	.138	-.101	-.037	.051	.062	-.057	.037
	Sig. (2-tailed)	.000	.000	.005	.000	.116	.000	.000	.012	.000	.000	.000	.000	.000	.000	.000	.000
	N	9223	9223	9223	9223	9223	9223	9223	9223	9223	9223	9223	9223	9223	9249	9249	9223
Other vs. Chhetri	Pearson Correlation	.046	.097	-.018	.027	-.074	.136	-.072	.108	-.007	-.023	.109	.006	-.016	-.046	.003	.006
	Sig. (2-tailed)	.000	.000	.086	.009	.000	.000	.000	.000	.467	.023	.000	.530	.121	.000	.737	.566
	N	9223	9223	9223	9223	9223	9223	9223	9223	9223	9223	9223	9223	9223	9249	9249	9223
Education in single years	Pearson Correlation	.417	.455	-.105	.212	-.149	.425	-.229	.198	-.094	-.105	.333	-.092	.067	-.053	.015	-.015
	Sig. (2-tailed)	0.000	0.000	.000	.000	.000	0.000	.000	.000	.000	.000	.000	.000	.000	.000	.151	.158
	N	9458	9458	9458	9458	9458	9458	9458	9458	9458	9458	9458	9458	9458	9248	9248	9458
Poorest vs. middle	Pearson Correlation	-.179	-.163	.038	-.094	.042	-.414	.270	-.153	.023	-.002	-.093	.059	-.046	.068	.016	-.015
	Sig. (2-tailed)	.000	.000	.000	.000	.000	0.000	.000	.000	.022	.827	.000	.000	.000	.000	.121	.145
	N	9223	9223	9223	9223	9223	9223	9223	9223	9223	9223	9223	9223	9223	9249	9249	9223
Poorer vs. middle	Pearson Correlation	-.087	-.141	-.004	.013	.137	-.280	.163	-.098	.055	.053	-.062	.044	-.054	.024	.014	-.005
	Sig. (2-tailed)	.000	.000	.683	.191	.000	.000	.000	.000	.000	.000	.000	.000	.000	.024	.189	.630
	N	9223	9223	9223	9223	9223	9223	9223	9223	9223	9223	9223	9223	9223	9249	9249	9223
Richer vs. middle	Pearson Correlation	.096	-.015	.009	.019	-.030	.220	-.135	.085	-.013	-.001	.005	-.038	.040	-.007	.008	.017

	Sig. (2-tailed) N	.000 9223	.153 9223	.400 9223	.065 9223	.003 9223	.000 9223	.000 9223	.000 9223	.223 9223	.900 9223	.599 9223	.000 9223	.000 9223	.505 9249	.468 9249	.093 9223
Richest vs. middle	Pearson Correlation Sig. (2-tailed) N	.159 9223	.420 9223	-.019 9223	.014 9223	-.218 9223	.477 9223	-.322 9223	.200 9223	-.068 9223	-.079 9223	.196 9223	-.074 9223	.073 9223	-.109 9249	-.029 9249	-.006 9223
Reads newspaper less than once a week vs. not at all	Pearson Correlation Sig. (2-tailed) N	1 9223	-.164 9223	.002 9223	.110 9223	-.001 9223	.211 9223	-.102 9223	.052 9223	-.060 9223	-.035 9223	.100 9223	-.039 9223	.026 9223	-.037 9249	.019 9249	-.025 9223
Reads newspaper at least once a week vs. not at all	Pearson Correlation Sig. (2-tailed) N	-.164 9223	1 9223	-.088 9223	.129 9223	-.149 9223	.309 9223	-.204 9223	.238 9223	-.038 9223	-.058 9223	.224 9223	-.049 9223	.037 9223	-.097 9249	-.008 9249	.002 9223
Listens to the radio less than once a week vs. not at all	Pearson Correlation Sig. (2-tailed) N	.002 9223	-.088 9223	1 9223	-.680 9223	.158 9223	-.086 9223	-.009 9223	-.032 9223	.003 9223	.060 9223	-.024 9223	.007 9223	-.006 9223	.013 9249	-.028 9249	-.003 9223
Listens to the radio at least once a week vs. not at all	Pearson Correlation Sig. (2-tailed) N	.110 9223	.129 9223	-.680 9223	1 9223	-.023 9223	.120 9223	.068 9223	.045 9223	-.049 9223	-.068 9223	.072 9223	-.008 9223	-.013 9223	-.031 9249	.021 9249	-.029 9223
Watches television less than once a week vs. not at all	Pearson Correlation Sig. (2-tailed) N	-.001 9223	-.149 9223	.158 9223	-.023 9223	1 9223	-.560 9223	.096 9223	-.059 9223	.005 9223	.060 9223	-.044 9223	.036 9223	-.028 9223	-.006 9249	.035 9249	-.002 9223
Watches television at least once a week vs. not at all	Pearson Correlation Sig. (2-tailed) N	.211 9223	.309 9223	-.086 9223	.120 9223	-.560 9223	1 9223	-.276 9223	.192 9223	-.063 9223	-.064 9223	.142 9223	-.083 9223	.067 9223	-.081 9249	-.006 9249	-.006 9223
Employed not paid vs. Not employed	Pearson Correlation Sig. (2-tailed) N	-.102 9223	-.204 9223	-.009 9223	.068 9223	.096 9223	-.276 9223	1 9223	-.421 9223	-.176 9223	-.197 9223	-.087 9223	.062 9223	-.073 9223	.062 9249	.058 9249	-.025 9223
Employed paid in cash vs. Not employed	Pearson Correlation Sig. (2-tailed) N	.052 9223	.238 9223	-.032 9223	.045 9223	-.059 9223	.192 9223	-.421 9223	1 9223	-.092 9223	-.103 9223	.106 9223	.001 9223	.001 9223	-.156 9249	-.002 9249	-.015 9223
Employed paid cash	Pearson Correlation	-.060	-.038	.003	-.049	.005	-.063	-.176	-.092	1	-.043	-.049	-.001	.008	-.036	-.004	.029

and in-kind vs. Not employed	Sig. (2-tailed) N	.000 9223	.000 9223	.757 9223	.000 9223	.644 9223	.000 9223	.000 9223	.000 9223	.000 9223	.000 9223	.000 9223	.921 9223	.435 9223	.001 9249	.730 9249	.005 9223
Employed paid in-kind vs. Not employed	Pearson Correlation Sig. (2-tailed) N	-.035 .001 9223	-.058 .000 9223	.060 .000 9223	-.068 .000 9223	.060 .000 9223	-.064 .000 9223	-.197 .000 9223	-.103 .000 9223	-.043 .000 9223	1 .000 9223	-.038 .000 9223	.007 .504 9223	.004 .675 9223	-.036 .001 9249	-.007 .521 9249	.016 .123 9223
Age at first cohabitation	Pearson Correlation Sig. (2-tailed) N	.100 .000 9223	.224 .000 9223	-.024 .019 9223	.072 .000 9223	-.044 .000 9223	.142 .000 9223	-.087 .000 9223	.106 .000 9223	-.049 .000 9223	-.038 .000 9223	1 .000 9223	.162 .000 9223	-.189 .000 9223	-.027 .009 9249	-.002 .861 9249	-.024 .019 9223
Husband Younger vs. No difference	Pearson Correlation Sig. (2-tailed) N	-.039 .000 9223	-.049 .000 9223	.007 .508 9223	-.008 .466 9223	.036 .001 9223	-.083 .000 9223	.062 .000 9223	.001 .946 9223	-.001 .921 9223	.007 .504 9223	.162 .000 9223	1 0.000 9223	-.698 .000 9223	-.007 .520 9249	.041 .000 9249	-.007 .486 9223
Husband Older vs. No difference	Pearson Correlation Sig. (2-tailed) N	.026 .011 9223	.037 .000 9223	-.006 .591 9223	-.013 .199 9223	-.028 .006 9223	.067 .000 9223	-.073 .000 9223	.001 .908 9223	.008 .435 9223	.004 .675 9223	-.189 0.000 9223	-.698 0.000 9223	1 .352 9223	.010 .000 9249	-.038 .000 9249	.013 .209 9223
Say in all 4 categories vs. no say	Pearson Correlation Sig. (2-tailed) N	-.037 .000 9249	-.097 .000 9249	.013 .207 9249	-.031 .003 9249	-.006 .574 9249	-.081 .000 9249	.062 .000 9249	-.156 .000 9249	-.036 .001 9249	-.036 .001 9249	-.027 .009 9249	-.007 .520 9249	.010 .352 9249	1 0.000 9249	-.404 .000 9249	.013 .222 9249
Say in at least 1 category vs. no say	Pearson Correlation Sig. (2-tailed) N	.019 .062 9249	-.008 .452 9249	-.028 .007 9249	.021 .046 9249	.035 .001 9249	-.006 .550 9249	.058 .000 9249	-.002 .858 9249	-.004 .730 9249	-.007 .521 9249	-.002 .861 9249	.041 .000 9249	-.038 .000 9249	-.404 0.000 9249	1 .000 9249	-.007 .531 9249
Beating justified	Pearson Correlation Sig. (2-tailed) N	-.025 .017 9223	.002 .828 9223	-.003 .782 9223	-.029 .005 9223	-.002 .869 9223	-.006 .566 9223	-.025 .016 9223	-.015 .151 9223	.029 .005 9223	.016 .123 9223	-.024 .019 9223	-.007 .486 9223	.013 .209 9223	.013 .222 9249	-.007 .531 9249	1 9223

Appendix B: Sensitivity Analysis

Multinomial Logistic Regression. Sensitivity Analysis: Women age 40-49

	Ideal vs actual number of children ^a			
	(N=1953)			
	< than ideal nr. of children		> than ideal nr. of children	
	OR	SE	OR	SE
Say in household decisions (Ref "No say") ¹				
Say in at least 1 category	1.646	**	0.192	0.120
Say in all 4 categories	1.211		0.302	0.189
Beating justified (Ref "Justified at least one situation") ²				
Beating never justified	0.841		1.263	0.835
Region (Ref Terai)				
Mountain	0.449	**	0.310	0.185
Hill	0.659		0.221	0.140
Ethnicity (Ref "Janjati")				
Brahmin	0.498	*	0.299	0.167
Chhetri	1.502		0.242	0.160
Newar	0.884		0.440	0.274
Dalit	0.938		0.319	0.922
Muslim	2.124		0.621	1.574
Other	0.849		0.407	0.822
Age of respondent	1.025		0.032	0.020
Education in single years	0.967		0.042	0.042
Age at first marriage	1.063	**	0.022	0.017
Spousal Age Difference (Ref "No difference")				
Husband Younger	0.948		0.416	0.271
Husband Older	1.032		0.338	0.220
Wealth quantile (Ref "Poorest")				
Poorer	0.687		0.316	0.207
Middle	0.414	**	0.335	0.213
Richer	0.459	*	0.368	0.238
Richest	0.385	*	0.410	0.267
Employment for cash (Ref "Not employed")				
Employed but not paid	0.758		0.257	0.894
Employed paid in cash	0.652		0.284	0.565
Employed paid in cash and in-kind	1.104		0.410	0.664
Employed paid in-kind	0.977		0.389	0.802
Frequency reading newspaper (Ref "Not at all")				
Less than once a week	0.992		0.361	0.220
At least once a week	0.921		0.474	0.300
Frequency listening to the radio (Ref "Not at all")				
Less than once a week	0.680		0.241	0.161
At least once a week	0.784		0.246	0.164
Frequency watching TV (Ref "Not at all")				
Less than once a week	1.242		0.265	0.164
At least once a week	1.483		0.298	0.183

Notes: a. The reference category is "Equal to ideal nr. Of children"; OR=odds ratio; SE=Standard Error.*p<0.05. **p<0.01. *** p<0.001.¹
 Women reporting that they have a say in: respondent's own health care. major household purchases. visits to family and friends and spending of husband's earnings.² Women reporting that husband is justified in beating his wife if: she goes out without telling him, she burns the food, she neglects the children, she argues with him and if she refuses to have sex with him.

