Title: The Geography of Women's Empowerment and Gender Equality in Burkina Faso.

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Abstract:

With the expansion of women's educational and employment opportunities, gender dynamics are undergoing important change in Burkina Faso. The purpose of this study is to investigate the role of cultural geography in women's empowerment and gender equality in Burkina Faso. This is done first through an operationalization of women's empowerment and gender equality that establishes clear definitions of concepts. We then posit a strategy for measuring these concepts with appropriate indicators using widely available Demographic and Health Survey data. Finally we investigate the relationship between women's empowerment, gender equality, and geographic region using generalized linear models that account for a range of specific demographic and socioeconomic characteristics. Our results indicate that cultural region is a statistically significant factor in the likelihood than a woman will participate in household decision-making or be in an unequal relationship with her husband or partner even when other determinants of local culture are accounted for.

Introduction:

Women's empowerment and gender inequality in Burkina Faso is a topic that should inevitably arise from any discussion of development in this state. Like many areas in the developing world, the women in Burkina Faso live life in subordination to men. What is different about the women in this specific region is that their subordinate status is intensified by national underdevelopment, poverty, food instability, a long history of local patriarchal cultures, a shorter history of French colonization with its own patriarchal culture, post-independence political instability, high fertility rates, urbanization and westernization. A study of the cultural attitudes toward women and of women's behavior in Burkina Faso is challenging not only because of the state's ethnic and religious diversity but also because of the regions complex cultural geography. Historically, ethnic groups have resided in specific regions but these do not correspond with today's administrative boundaries. Women's subordinate status is a product of local culture which, inarguably, varies geographically. Currently, the most useful data that can provide insight into the nature of women's empowerment and gender inequality in this region is provided on the regional level.

Therefore, in this paper we aim to understand the state of women's empowerment and gender equality and its relationship with local culture specifically through an analysis of the variation of the data for certain indicators of status and empowerment by ethnic identification and place. We hypothesize that women in different geographic regions in Burkina Faso will be have different experiences with inequality and exhibit different levels of empowerment even when other determinants of local culture like religion and ethnicity are taken into consideration. We hypothesize that women's resources will significantly affect her empowerment and experience with intrarelationship equality as well.

The paper is organized as follows. The background section presents a description of the history of gendered culture in Burkina Faso, the current state of gender inequality in Burkina Faso, the uniqueness of Burkina Faso compared with other African states, the role of ethnicity in local culture, and the international interest in the development of Burkina Faso and the advancement of women's empowerment and gender equality there. The section titled Empowerment Theory reviews the literature on definitions and measurements of women's empowerment, women's status, women's resources, agency, and gender inequality. In the Data and Methods section the data and variables used are described as well as the regression analysis. The Results section includes descriptive statistics of all the data by region and the results of several generalized linear models. The discussion section provides a description of the scale and dimension of the present analysis as well as limitations of this research.

Background:

Women's status in Burkina Faso's precolonial history was mostly defined through their role as wives. The Mossi used marriage and assimilation to expand and take over the region for centuries before European colonization. In this region there was a tradition of *pogsyure* where women were traded by male leaders between different lineages and napogsyure which was a specific form where a naba (king) would trade women to men in exchange for a certain number of years of service and the men would have to promise their first born child. If it was a boy he would become a servant to the naba and if it was a girl she would join the pool of women to be traded (Englebert 1996). It is theorized that in a place of low population density with abundant land that women, with their power of reproduction, were traded like a scarce resource. Pogsyure contributed to the integration of lineages and lead to the creation of ethnic identities. Today, although there are over 60 ethnic groups in Burkina Faso and about half of the population is Mossi. A combination of the creation of the state, religion, and modernization eventually erased the pogsyure system (Englebert 1996). Presently, there are two kinds of marriages in Burkina Faso: customary marriages which can be polygamous or monogamous and "modern" formal marriages which are only monogamous. Polygamous marriages are more common in rural areas. Excision

has been practiced on most women of most ethnic groups in this region and is done by older women on younger girls (Englebert 1996).

Over the last century the lives of Burkinabe women have changed as the region experienced post-colonial independence and the continuing processes of development, westernization and urbanization. Women in both urban and rural Burkina Faso have many responsibilities and work long hours (Kaboré 1992). In the rural areas women are responsible for 60-80% of all the agricultural work. Women walk 3 to 6 miles a day to fetch wood and water. In the morning they prepare the meals for the day, spend the day working in collective fields. Later they work their personal plots then make flour, cook and look after the needs of their husbands and children (Englebert 1996). In the urban areas women work can work in factories but it is difficult for women to find jobs and are underrepresented in the formal sector (Kaboré 1992, Englebert 1996). In the cities women can garner some financial independence in the free market selling fruits and vegetables, eggs, spices, fish, *dolo* (sorghum beer), beignets, pottery and spun cotton (Englebert 1996).

Bohmer's (1980) study of *le tribunal coutumier* in Bobodioulasso, shows how the customary court, which mediates divorces, serves as an indicator of women's social status because it acts as a forum for the reinforcement of traditional social values and of sexual inequality. These traditional patriarchal values include the role of men as heads of the household and women as obedient and dependent. Bobodioulasso is the second largest city in Burkina Faso, it is very diverse due to migration from rural areas (Bohmer 1980). In this context we can see an effect of modernization and urbanization. People migrate to the cities because of perceived economic opportunities but the women who migrate are actually worse off (Bohmer 1980). Although in the rural areas having a wife is an asset to a man, in the cities wives are a cost because of food, transportation and rent. The social meaning of divorce in the city is affected by women's financial dependence on their husbands: Urban women rely more on money as opposed to rural women who can live off their land. It is hard for women to find jobs in Bobodioulasso which has fewer women employed and fewer girls enrolled in school than other African cities. It is extremely difficult for a woman to divorce her husband even if she wanted to. Men often use the threat of divorce to coerce their wives into obedience. Due to the social change away from arranged marriages expectations were raised within both self-selected and arranged marriages for love to be a basis of marriage; the issue of love is frequently brought up in the court. In Cote D'Ivoire where polygamy is outlawed it effectively denies de facto wives any legal rights. Although women in Burkina Faso have legal rights, they are not enforced within the customary court (Bohmer 1980). In this study it is apparent that in the cities of Burkina Faso the social status of women is subordinate to men in many ways and that this status is reinforced through legal institutions and economic situations.

Burkina Faso's modern culture differs from those of other African countries in that individual identification at levels below the national level is not censured, because historically ethnic, regional, or religious culture is not a threat to the integrity of the state, yet similar to other African countries, the state and mainstream culture are European (Englebert 1996). From this it can be assumed that the single Berkinabe culture is one that is a product of a French colonial legacy and one that is unlikely to be widely embraced by all Burkinabe women, especially those who are poor or live in the rural areas away from the exposure to electronic media.

Gender attitudes are a product of local culture which varies geographically. Ethnic identification does not completely determine culture and women from the same ethnic group who reside in different geographic areas will be different because of the different social and cultural context in another place. An example of this can be demonstrated by the differing local cultures of the Yoruba in Nigeria and the Yoruba commercial migrants living in Ghana as traders. Among the Yoruba female traders outnumber male and most women are self-employed. Yoruba women, in their homeland, traded independently of their husbands, but the Yoruba migrants living in Ghana organized business jointly with their spouses. This was because the social and economic context in Ghana was different; these couples were sharing a living space and were cut off from their friends and families which led them to confide in each other (Sudarkasa 1977). Migration both affects and is affected by social change (Sudarkasa 1977).

In the past half century there has been international interest in the development of West Africa, often with the putative goals of women's empowerment and gender equality. The international women's conference in Mexico City in 1975 declared it the International Year of Women and the beginning of the International Decade for Women. From the third UN Women's Conference in Nairobi in 1985, which focused on placing gender at the center of development, came The *Nairobi Forward-Looking Strategies for the Advancement of Women* which proposed a handful of specific goals for development (Kandeh and Kannon 2005). Batterbury in his 2005 chapter, describes the nature of development projects in the Bam province of Burkina Faso located in the centre-nord region with a focus on the Mossi farmers that dominate the region. He emphasizes that interventions need to recognize that local farmers are very capable of planning their own farms and that these decisions are made deliberately with specific goals in mind that include both food production and social status.

In the past top-down projects have imposed rigid blueprints and designs without consideration of the expertise and local knowledge of the farmers (Batterbury 2005). The reason the top-down style intervention could not be an effective empowerment intervention is because it limits farmer's agency as opposed to expanding on it. The fact that these farmers are already capable of planning their own farms indicates limitations to their empowerment is due to lack of resources not the capacity for agency. Farmers take new knowledge into

consideration and their decision making process and strategically take advantage of the financial and social capital that they can gain from externally funded projects to help them execute their own plans (Batterbury 2005).

Although women do most of the work on these farms there is no evidence that women actually have any power over their design. Some married women have separate fields but lack security of use of rights over them (Batterbury 2005). Therefore it is doubtful that any agricultural intervention project will do much to empower women since even the progressive kinds of interventions that Batterbury proposes will only empower men.

Post-colonial West African women are subject to not only the patriarchal values of their indigenous cultures but also to the Western patriarchal values that are imposed on them through international development. Kandeh and Kannan (2005) describe connection between gender and development in the West African context. In the literature there has been a false dichotomy between "internal" and "external" causes of development problems where the former refers to state failure and corruption and the latter to the colonial legacy and subordination of African economies on the Western Markets. The emphasis on gender mainstreaming since the 1970's has compounded the development problems; it raises awareness of gender in development but does not challenge the liberal-modernization ideologies in development planning which fail to recognize West African realities. Kandeh and Kannan (2005) argue that the greatest development challenge is trying to transform African economies into free-market economies and then donors blame the failure of these programs on governments and traditions that discriminate against women.

There has been much speculation on the causes of and problems with underdevelopment in places like Burkina Faso and although most of it either implicitly or explicitly revolves around the ideas of women's status and empowerment, no one has developed a thorough operationalization or empirical description of women's empowerment and gender inequality in this region that incorporates the cultural variation due to both *ethnicity* and *geography*. Thus in this paper we attempt to measure women's status and empowerment with specific regard to the complex interaction of ethnicity and geography. This kind of measure would be useful in the planning or analysis of any development projects that have the intention of improving the lives of Burkinabe women.

Empowerment Theory:

Women's empowerment, women's status, and gender inequality are three terms that are widely used in the contexts of development and demography. They are used as criteria for ranking countries, as objectives of international aid and development projects, and are studied with relation to other demographic phenomenon. It

would therefore be useful to be able to measure and quantify these concepts. Since none of these terms are directly measurable this involves developing operationalizations of each latent variable through some meaningful manifest variables. This requires clear definitions in order to ensure face validity.

Although authors define women's empowerment differently, there is a general concensus in the literature that any definitions include process and agency. Kabeer (2005) offers the most thorough conceptualization of empowerment as "the process by which those who have been denied the ability to make choice acquire such an ability". Shuler et al. (2010) defined empowerment as "women's acquisition of resources and capacities and the ability to exercise agency in a context of gender inequality". This definition explicitly includes agency, resources, and the process by which a woman gains both of these. Kishor (2000) operationalizes empowerment as a process by separating the settings and sources of empowerment from evidence of empowerment, explaining that the settings and sources of empowerment do not represent empowerment directly but rather, represent the tools necessary for one to become empowered. In a review of many demographic studies measuring empowerment as a variable in international development Malhoutra and Schuler (2005) found that women's empowerment differed from other terms like "women's status" because of the two defining features of process and agency. Thus, for the purposes of this research we will define women's empowerment as *the process by which women gain agency, where agency is the power to make choices* (Kabeer 1999, 2005).

Although some authors have included indicators like paid labor and education as measures of empowerment, based on the definition aformentioned, these are not actually direct measures of empowerment but rather would fall into the category of potential *resources* for empowerment. Resources are enabling factors for empowerment (Malhoutra and Schuler 2005) and are the medium through which agency is exercised (Kabeer 2005). A woman could have plenty of resources but not necessarily utilize them in order to undergo the process by which she would gain agency but this process is something that is prohibitively difficult to do without resources. Therefore, my previous definition of empowerment implicates resources as a necessary but not sufficient precondition of empowerment (Kabeer 1999). Resources include anything that a woman could utilize to exercise agency. This includes education, political and legal awareness, economic security, paid labor, and self-efficacy (Schuler). Access to resources reflect the institutions which give certain actors the power to distribute resources (Kabeer 1999).

Women's status is completely different from women's empowerment. In demography the term has been used to refer to many different things like prestige, power, access to or control over resources, female autonomy, patriarchy, women's rights and men's situational advantage. When the term is used to describe the status of women in comparison to men this could be better described as *gender inequality*; otherwise this usage does a

disservice to women by implying that they are defined in opposition to men. Instead, the term "women's status" should be used to describe the difference among women in terms of power, prestige, or socioeconomic status. The failure to make the distinction between measurements of gender inequality and women's status has led to the confounding of class and gender (Mason). By using the same term to refer to a woman's socioeconomic position compared to men or compared to other woman it is unclear whether any effect of her "status" is due to her class or gender when it is likely both. For example Pambè et al. (2013) analyzed the relationship between women's socioeconomic *class* and measures of empowerment. In contrast, Weitzman (2014) compares the status of women and men using educational level, participation in paid labor, and individual income as the basis for comparing the status of women to their husbands where, because comparisons were made between the statuses of spouses, these are actually measures of *gender inequality.*

Women's status and women's empowerment are not necessarily linked, and an increase in women's status does not necessarily lead to women's empowerment. Although a women's status can be related to her resources, the difference is that status is not necessarily an enabling factor or a mechanism that can potentially lead to empowerment. For example, in urban Burkina Faso a women's status; her prestige, esteem and respect in her community; is connected to her fertility in that women gain more prestige and respect by becoming mothers and having many children (Van de Walle). Because women in this context have solely this avenue as mothers to gain status, and choice implies the possibility of alternatives, the status they achieve in this way does not translate into resources for empowerment (Kabeer 1999).

It is important to note that women's status, gender equality and women's empowerment are multidimensional and these dimensions do not necessarily correlate. A woman could have a high status or be empowered in one dimension but this does not necessarily correspond to other dimensions. Empowerment and status also varies over a woman's life cycle (Mason 1986, Malhoutra and Schuler 2005).

Data Methods:

The data in this analysis comes from the 2010 Demographic Health Survey in Burkina Faso. We restricted the sample to women who were currently married or in a union at the time of the survey and who completed the domestic violence module. This survey included a series of questions in the domestic violence module that we use to indicate the level of inequality within a woman's marital relationship. These variables are listed in Table 1 as "relationship with partner". To each of these questions a woman could respond yes or no. If a woman responded "yes" to any of these seven questions about her relationship this is indicates that the husband/partner exerted control over the respondent and is evidence of gender inequality within the

relationship. In the data the “number of control issues” refers to the number of these seven questions that the woman responded “yes” to. Pambè et al. (2013) used the term “psychological pressure” to refer to this set of questions, so a woman who responded “yes” to any of the seven question is said to have experienced psychological pressure. Also included in the survey are questions regarding who in the household usually has the final say on three different decision; these questions are also listed in Table 1. If the respondent reportedly either made the decision alone or together with her husband/partner than she was considered to be empowered, any other answer and she is considered to be disempowered to make that decision.

The methods we use build off of Pambè et al. (2013) but with the added component of geographic region and with additional control variables that were shown in an analysis by Weitzman (2014) to be related to domestic violence. These variables are whether the respondent’s husband/partner drinks, whether she has a family history of violence (ie. The respondents father abused the respondent’s mother), and the relative educational level between the spouses/partners.

We hypothesize that with all other variables accounted for, including other determinants of culture like religion and ethnicity, that women in different geographic regions will still exhibit statistically significantly varying levels of agency and relationship inequality as indicated by their ability to make decisions and the degree to which they are subject to their husband/partners control. Secondly, we hypothesize that women with greater resources are more likely to be involved in decision making and more likely to be free from pressure from their husbands/partners because they will be more likely to have the means to become empowered.

Results:

Table 2 lists descriptive statistics of all of the variables used in this analysis as percentages of the women sampled in each of the 13 regions of Burkina Faso. Most women in Burkina Faso live in rural areas, have no education, and are poor. Centre is unique because it contains the nation’s capital and largest city Ouagadougou. The second largest city is Bobo Dioulasso in the region of Hauts Bassins. Most of the women sampled in Centre live in an urban area (82.2%). Centre features the greatest proportion of women with a secondary or higher education, 27.0%, followed by Hauts Bassins with 8.5%. Centre also has the greatest proportion of women in the highest wealth quintile at 70.7% followed by Hauts Bassins at 36.0%. Although most women surveyed in Burkina Faso are Mossi, the ethnic makeup of each region varies greatly. Over 90% of the women in Centre-Nord, Nord, and Plateau Central are Mossi but there is a significant Gourmatche population in Est (70.9%) and a sizable Senoufo population in Cascades (58.4%). The proportion of women of each major religion also varies significantly by region. Although Islam is the most commonly reported religion, the percentage of Muslim

women varies by region from 13.4% in Sud-Ouest where 58% of women have traditional/animist practices to 99.3% in Sahel. The percentage of women who report participating in decisions regarding their own health care, visits to their relatives, and major purchases vary greatly by region. In most regions more women participate in decisions about visiting their relatives than the other two. A large percentage of women in all regions report experiencing what we are calling “psychological pressure” (that is, they answered “yes” to one of the seven questions about their relationship with her partner). The rates of reported physical, emotional, or sexual violence are low, with sexual violence being reported very rarely. An exception is in Sud-Ouest where 33.9% of women report emotional violence, 27.5% report physical violence, and 3.8% report sexual violence.

The results from two types of regressions of the same response variable are summarized in Table 3a. The first is a logistic regression, a type of generalized linear model (GLM), where the response variable is a binary variable that is equal to one if a woman answered “yes” to any of the seven questions about her relationship with her partner and is equal to zero otherwise. This variable can be interpreted as the respondent experiencing intrarelationship inequality. This model assumes the response follows a binomial distribution. The second regression is another GLM where the response variable is the number of questions that the respondent answered “yes” to out of the seven questions. This can be interpreted as the degree to which she experiences intrarelationship inequality. This model assumes the response variable follows a Poisson distribution. Both models include all demographic characteristics and indicators of women’s resources. Theoretically both models should lead us to the same conclusion about factors that affect the amount of control respondent’s partners reported have over them. Interestingly, women who have a secondary or higher educational level are significantly more likely to experience psychological pressure from their husbands/partners with everything else held constant compared with women with no education with an odds ratio of 1.65. Women with a secondary or higher education, on average, answer “yes” to 1.2 more questions about their relationship than women with no education. Women who work and are paid in cash are significantly less likely to experience psychological pressure compared with women who are not paid for their work with an odds ratio of 0.79. Women whose husband/partner drinks alcohol are significantly more likely to experience psychological pressure than women whose husbands do not drink with an odds ratio of 1.32. Generally, with all else held constant the higher a woman’s household income the more likely she is to experience psychological pressure from her husband/partner when compared with the poorest women with all else held constant. Also, older women are less likely to report psychological pressure than younger women. Catholic and Traditional/Animist women are significantly less likely than Muslim women to experience psychological pressure with odds ratios of 0.75 and 0.67 respectively. For most ethnic groups, ethnicity is not a significant determinant of interrelationship inequality. Compared with Mossi women, women who are Bissa, Lobi/Dagara, Senoufo, and “other” ethnicity

are more likely to psychological pressure. No other ethnic group experiences significantly less psychological pressure than Mossi women. Women of just about every geographic region experience less psychological pressure than the women in Centre. However this is where our two models yield different results. When "experiences psychological pressure" is a binary variable the women of Centre-Sud fair just as well as the women in Centre and the women in Sahel are actually 1.41 times as likely to experience psychological pressure, however when the response variable is the number of reported control issues, the women of Centre-Sud and Sahel report significantly fewer control issues. The relative age or educational level between spouses/partners is not significant.

Table 4a displays the results of logistic regressions on three binary response variables that correspond to women's participation in making decisions regarding her own health care, visits to relatives, and major purchases respectively. Women who have secondary or higher education are significantly much more likely to participate in all three types of decision making than women with no education. They are 2.1 times as likely to make decisions about their own health care, 1.5 times as likely to make decisions about visiting relatives and 2.4 times as likely to make decisions regarding major purchases than women with no education. Women with a primary school education are 1.2 times as likely to make decisions about their own health care and 1.3 times as likely to make decisions regarding major purchases than women with no education but are equally as likely to make decisions regarding visits to relatives. Women who get paid cash for their work are significantly more likely to make all three decisions compared with women who do not receive cash for their work with odds ratios of 2.4, 1.3, and 2.1 respectively. All of these estimates take into account all other variables including geographic region and ethnicity. Women over 40 years of age are more likely to make decisions regarding their own health care compared with women ages 25 to 30 but are not more likely to make decisions regarding visits to their relatives. Only women ages 45-50 are more likely to make decisions regarding major purchases compared with the reference age group (women ages 25 to 30) and women younger than 25 are less likely to. Women 15 to 20 years of age are significantly less likely to participate in any of the three types of decision making compared with women 25 to 30. Age discrepancy between spouses/partners is only significant for women who are over 15 years younger than their husband/partners in regards to decisions on major purchases, but this is likely due to their youthful age. Women who reported a history of family violence (that is, their father hit their mother) were actually significantly more likely to participate in all three types of decisions than women who reportedly did not have a family history of violence. Women in the highest wealth quintile ("richest") were more likely to make decisions regarding their own health care and visits to relatives but not major purchases while women in the second highest wealth quintile ("richer") were more likely to make decisions about visits to relatives and less likely to make decisions about major purchases, compared with women in the lowest quintile ("poorest").

Religion was not a significant factor in women's decision-making participation. Ethnicity was only significant for some ethnic groups. Fulfulde/Peul women were significantly less likely to participate in all three decisions compared with Mossi. Gourmatche women are less likely to participate in decisions regarding major purchases but Gourounsi and Lobi/Dagara women are more likely to compared with Mossi women. Gourounsi and Lobi/Dagara women are also more likely to participate in decisions regarding their own health care compared with Mossi women. Bissa women are more likely to participate in decisions regarding their own health care and visits to their relatives than Mossi women.

Geographic region is a significant factor for most regions for all three decision variables. Women in Boucle du Mouhoun are more likely to participate in all three decisions than women in Centre whereas women in Centre-Sud, Nord, and Sahel are less likely to participate in each of the three decisions then women in Centre. With the exception of Boucle du Mouhoun, in all regions women are either equally likely or less likely to make decisions regarding their own health care than women in Centre. Only women in Boucle du Mouhoun and Hauts Bassins are more likely to make decisions regarding visits to relatives and only women in Boucle du Mouhoun and Est are more likely to make decisions on major purchases than women in Centre. Women in Cascades, Centre-Est, Centre-Sud, Hauts Bassins, Nord, and Sahel are less likely to make decisions regarding their own health care than women in Centre. Women in Centre-Est, Centre-Ouest, Centre-Sud, Nord, Plateau Central, and Sahel are less likely to make decisions regarding visits to relatives than women in Centre. Women in Centre-Sud, Hauts Bassins, Nord, Plateau Central, Sahel, and Sud-Ouest are less likely to make decisions regarding major purchases than the women in Centre. Type of place of residence, whether the respondent was living in an urban or rural area, was not a significant factor.

Since these estimates are calculated with all other variables held constant it can be concluded that the variation in participation in decision-making is significantly determine by place, regardless of other socioeconomic or demographic characteristics. This lends evidence to support the hypothesis that culture varies geographically and that geographic place is a significant factor in cultural behavior even when other determinants of culture like ethnicity and religion are taken into account. The women in Centre, for example, are more likely to participate in decision-making and are more likely to experience psychological pressure from their husband/partners than women in most other regions. Since the fact that Centre is mostly urban, Mossi, Muslim, and wealthy is taken into account in these models we can infer that there is something else about the local culture of the Centre region that makes women behave and get treated differently.

Discussion:

Women's level of education, employment status, and income are indicators of her resources. Women's age and the age difference between spouses are additional demographic characteristics to be controlled for. Religion and ethnicity are variables that are assumed to be factors that would affect local culture and therefore affect women's behavior and men's behavior towards women. By controlling for these we can infer what the relationship is between geographic region and local culture with respect to women's empowerment and gender equality.

This study investigates the relationship between geography and women's empowerment and gender inequality on the scale of the individual or household level. Therefore the results of this study are limited to an analysis of the gender inequality that exists on a micro scale between couples that may differ from higher-level structural inequalities or the empowerment that may exist on a community or higher level. It is also important to note that this study only measures women's empowerment on three narrow dimensions as it is measured by her participation in decisions made regarding her own health care, large purchases, and visits to family or relatives. Empowerment is multidimensional which means that she may be more or less empowered in other aspects of her life. Determining whether empowerment in making these kinds of decisions correlates with empowerment in other dimensions of a woman's life in Burkina Faso is an area of potential research.

Gender inequality is also multidimensional and complex. In this survey we only have information on the control exerted over and violence inflicted on women by their male partners, with no information as to whether these women exert control over or violence upon others in the household. There is also no information as to whether the power inequality as displayed by psychological pressure and violence carry over to other aspects of women's lives in Burkina Faso. Pambè et al. (2013) found that women who have higher levels of education are more likely to experience psychological pressure, a finding that was also shown in this analysis. This therefore indicates that the power or control that a man exerts over his wife does not necessarily subordinate women in other aspects of her life. Weitzman (2014) showed, using the same domestic violence survey, that in India women with more education than their partners were actually more likely to experience domestic violence. Although that same phenomenon was not witnessed in this dataset in Burkina Faso it lends support to the idea that intrarelationship, gender inequality is multidimensional so therefore just because a woman is subjected to the control or violence of their husbands does not mean that she will have a subordinate status in other aspect of her life.

Conclusion:

These results support the hypothesis that gendered culture varies geographically even when other determinants of culture and demographic characteristics are accounted for in terms of women's participation in household decision-making and their experience with psychological pressure. Overall women who are educated, have higher household income, are Muslim, have husbands/partners who drink or are younger in age are more likely to experience intrarelationship gender inequality as measured by our variable "psychological pressure". Women who are more educated, have higher income, get paid in cash for their work and are older in age are more likely to exercise agency as measured by participation in household decision-making regarding their own health care, large purchases, and visits to family or relatives. The fact that women who are wealthier and more educated both experience intrarelationship gender inequality and demonstrate evidence of exercising agency indicates two things. Primarily, since education and income are resources, women's resources are somehow linked to both gender equality and empowerment. Secondly, this shows that either there is no relationship between gender equality and empowerment or that there could exist a possible inverse relationship where women who are empowered actually could experience more inequality within their marital/cohabiting relationship. Controlling for all these factors, women who live in Centre experience as much or more psychological pressure than women of any other region. Region was a significant determinant of participation in decision making for women in most regions. To reach these conclusions, it was necessary to create clear conceptual definitions of women's empowerment, resources, and gender equality and determine which measures correctly correspond to which terms.

There are numerous avenues for possible future research. This operationalization of empowerment and gender equality can be helpful for any demographic research that aims to test the relationship between either women's empowerment, agency, resources, or gender equality and other demographic phenomenon such as women's fertility or maternal or infant health. This is especially useful because we utilized the data from the Demographic Health Survey which is a dataset used by many researchers who can now use the same measures to investigate relationships with other data in the DHS. Because of the now established importance of geography in local gendered culture, there is a lot to be investigated in the interaction between geography and other determinants of culture like ethnicity. One possible avenue would be in the study of migration and the effect of being in a new place on women's empowerment and gender equality. This research has implications for policy and interventions in Burkina Faso that have the putative goal of empowering women or addressing gender equality. The operationalizations provided in this paper can assist programmers and policy makers in developing and implementing effective intervention or policy with clear definitions of women's empowerment, agency, resources, gender equality, and ways of measuring these accurately. The relationship between female circumcision/female genital mutilation and women's empowerment or gender inequality is one that warrants

further investigation. In the future there should be more field research that generates qualitative data to further explore the role of geographic space and place in women's empowerment and gender equality in Burkina Faso. This would be the best way in the academic realm to give voice to the lived experiences of Burkinabe women.

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Table 1: Defintions of response variables

Relationship with Partner

1 Husband jealous if talking with other men
2 Husband accuses her of unfaithfulness.
3 Does not permit her to meet her girl-friends.
4 Husband tries to limit her contact with family.
5 Husband insists on knowing where she is.
6 Husband doesn't trust her with money.
7 Husband prevents her from working.

Emotional Violence

1 Spouse ever humiliated her.
2 Spouse ever threatened her with harm.
3 Spouse ever insulted her or made her feel bad.

Physical Violence

1 Spouse ever pushed, shook or threw something.
2 Spouse ever slapped.
3 Spouse ever punched with fist or something harmful.
4 Spouse ever kicked or dragged.
5 Spouse ever tried to strangle or burn.
6 Spouse ever threatened with knife/gun or other weapon.
7 Spouse ever attacked with knife/gun or other weapon.
8 Spouse ever twisted her arm or pulled her hair.

Sexual Violence

1 Spouse ever physically forced sex when not wanted.
2 Spouse ever forced other sexual acts when not wanted.

Decision-Making Variables

Final say in the family on the following decisions:

1 Respondent's health care
2 Making large household purchases
3 Visits to family or relatives

Table 2: Respondent characteristics by region as percentage of respondents in that region

	Burkina Faso	Boucle du Mouhoun	Cascades	Centre	Centre-Est	Centre-Nord	Centre-Ouest	Centre-Sud	Est	Hauts Basins	Nord	Plateau Central	Sahel	Sud-Ouest
Education														
None	82.0	83.8	80.5	48.9	85.5	91.3	81.8	82.5	91.8	76.5	87.1	87	95.2	87.6
Primary	11.6	13	14.3	24.1	9.3	6.1	13.2	12.1	6.5	14.9	10.1	9.4	3.8	8.6
Secondary or higher	6.4	3.3	5.1	27	5.1	2.6	5	5.5	1.7	8.5	2.8	3.6	1.1	3.8
Spouse Education Difference														
man more educated	13.0	13.5	15.2	27.6	7.5	7.3	14.6	13.2	5.3	21.2	11.7	9.3	4.5	10.2
same education	78.6	77	75	55.7	83.1	88.1	76.2	76.5	90.6	68.3	81.1	82.8	92.6	85.5
woman more educated	8.4	9.4	9.9	16.6	9.3	4.6	9.2	10.3	4.1	10.5	7.2	7.9	2.9	4.3
Work for Pay														
Not work	19.0	18.9	10.3	31.4	16.8	8	8.8	6.7	8.7	17.8	22.7	1.4	57.7	6
Not paid	42.7	37	48.6	13.3	59.6	69.5	50.1	59.1	49.7	47.3	55	63.7	4.5	25
Cash paid	38.3	44.1	41.1	55.3	23.6	22.5	41	34.2	41.5	34.9	22.3	34.9	37.8	69
Wealth Quintiles														
Poorest	19.8	12.3	6.8	2.3	14.1	20.3	20.4	17	42.1	11.1	14.1	13	46.5	40
Poorer	21.1	28.7	14.2	2.4	15	23.8	26.3	21.1	25.3	16	23.8	22.1	32.1	27.1
Middle	20.5	24.2	24.7	6	32	27.5	21.8	32.8	18.5	14.4	27.4	24.8	13.7	12.8
Richer	20.2	25.1	34.2	18.5	27	21.7	21	22.1	9.9	22.4	23.7	30	5.4	10.5
Richest	18.4	9.6	20.1	70.7	11.9	6.8	10.5	6.9	4.2	36	10.9	10.1	2.3	9.5
Age														
[15,20)	8.7	8.7	8	4.5	7.9	9.2	6.7	9	12.4	6.4	8.1	4.3	16.1	8.4
[20,25)	21.4	22.2	21.2	22.1	21.6	21	21.5	20.8	22.3	23	21.2	20.2	19.1	19.4
[25,30)	21.5	18.3	23.7	26	19.5	23	21.4	22.1	22.6	23.3	22.4	21.7	17.3	19.2
[30,35)	17.9	15.3	14.9	17.8	20.4	16.2	19.4	16.5	19.8	18.8	18.3	19.4	18.1	18.6
[35,40)	13.0	16.1	13.5	14.4	14.5	11.8	13.3	13.9	10.3	11.3	12.2	13.6	11.2	13
[40,45)	10.1	12.5	10.3	9.6	8.7	10.7	9	11.6	8.1	9.2	9.6	11.6	11.3	11
[45,50]	7.3	6.8	8.4	5.5	7.4	8	8.6	6.1	4.6	7.9	8.4	9.1	6.9	10.5
Spouse Age Difference														
[0,5)	22.4	32.9	18	26.7	23.3	17.7	19.7	21.9	20.1	24.6	16.8	21.1	15.6	26.6
[5,10)	35.8	36	39.7	39.1	31	32.1	35.4	35.5	36.6	34.1	35.8	32.6	40.8	36
[10,15)	20.5	15	19.7	18.9	22.3	18.6	20.5	18.3	21.5	25.2	20.9	20.7	23.9	18.8
[15,100]	21.3	16.1	22.6	15.3	23.5	31.7	24.5	24.2	21.9	16.1	26.6	25.5	19.7	18.7
Religion														

Catholic	21.7	23	6.9	37.6	20.7	21.7	38.1	30.3	25.7	14.9	9	32.1	0.3	24.9
Muslim	63.6	63.1	79.9	54.6	77.6	72.3	42.6	52.5	30	72.1	85	61.9	99.3	13.4
None	0.9	1.4	0.4	0	0.2	0.3	3.8	1	2.1	1.2	0	0.2	0.1	1.2
Protestant	6.2	7.3	1.9	7.8	0.7	3.3	7.2	9.1	24.1	4.2	2.5	4.5	0.3	2.4
Traditional/animist	7.5	5.1	10.9	0	0.7	2.3	8.2	7.1	18.1	7.6	3.5	1.3	0	58.2
Ethnicity														
Bissa	3.8	0	0.5	2.5	33.6	0.5	0.2	15.8	0.1	0.9	0.3	0.3	0.3	0.3
Bobo/Dioula	5.9	20.2	7	1.5	0	0.4	0.6	0.3	0	25.6	0.1	0.2	0.1	1.3
Fulfulde/Peul	10.4	10	6.1	3.4	9.1	5.4	7.2	8.7	11	4.8	8.2	1.7	46.4	1.9
Gourmatche	7.4	0	0.1	1.2	5.3	1.6	0.3	0.1	70.9	0	0	0	3.1	0.1
Gourounsi	4.3	5.4	0.6	3.4	0.1	0	34.2	12.3	0.4	2.1	0.6	0.5	0.1	0.1
Lobi/Dagara	4.5	0	1	0.4	0.2	0.3	0.4	0.2	0	0.7	0.3	0.5	0	42
Mossi	49.6	32.3	13.1	80.6	51	90.7	52.6	62.2	15.8	34	90	96.3	22.5	8.6
others	7.0	31.9	13.1	5.7	0.7	0.9	4.3	0.6	1.8	15.6	0.6	0.3	1	44.9
Senoufo	4.5	0.2	58.4	1.3	0	0.3	0.1	0	0	16.4	0	0.4	0.1	0.7
Touareg/Bella	2.5	0	0.1	0	0	0	0	0	0	0	0	0	26.5	0
Type of Place														
Rural	79.3	92.4	76.2	17.8	82.7	92.8	86.9	89.7	94	64.3	88.8	92.2	95.2	88.2
Urban	20.7	7.6	23.8	82.2	17.3	7.2	13.1	10.3	6	35.7	11.2	7.8	4.8	11.8
Indicators of Agency														
health decisions	23.8	36.6	16.9	39.5	19.7	20	27.1	20.4	23.7	12.9	13.6	26.6	5.6	52.8
purchase decisions	21.3	40.5	17.6	33.6	16.1	18.2	32.7	14.1	24.3	11.3	11.5	12.5	9	20
visit decisions	51.8	69.9	57.7	61.8	34.1	48.5	25.6	18.3	79	68.4	32.7	44.9	33	67.2
Indicators of intrerelationship Inequality														
psych pressure	61.8	78.3	50.5	73	47.2	43.1	49.8	73.9	46.6	63.5	63.4	58.6	77.7	61.4
emotional violence	8.5	7.2	12.4	12.7	4.7	3.8	4.4	5.4	7.1	10	4.6	11.2	4.2	33.9
physical violence	10.2	16.7	17.5	12	2.5	1.6	8.4	10.5	6.8	14.8	5	8.5	6.1	27.5
sexual violence	1.2	1.4	2	2.4	0.5	0.3	1.4	0.3	1	1.7	0.2	0.9	0.2	3.8
Female Genital Mutilation														
Type I	80.1	70.8	86.2	72.5	91.4	90.2	60.8	72.5	71.6	88.9	92.9	92	77.4	81
Type II	78.0	21.6	70.2	48.2	82.2	83.9	59.7	71.4	70	70.9	71.2	85.3	43.4	77.2
Type III	1.2	2.9	1.2	1.5	0.4	0.7	0.3	0.2	0.4	1.2	0.4	0.9	0.3	0.4
Type IV	78.7	33	12.9	12.9	4.6	5.9	0.9	0.1	0.3	17.9	21.6	6.2	33.9	3.8
Weighted Total	**9515.8**	1088.2	377.1	1009.3	726.7	797.0	656.6	441.0	842.7	1098.2	672.8	437.7	893.6	416.2

Table 3a: Regressions where response is indicator of *intrarelationship inequality.* Includes all main effects.

	Binomial: experiences "psychological pressure"						Poisson:number of "control issues"					
	ln(odds)	Std. Err	odds ratio	z value	Pr(>|z|)		log(beta)	Std. Err	beta	z value	Pr(>|z|)	
(Intercept)	0.85	0.16	2.33	5.31	0.000	***	0.38	0.07	1.46	5.67	0.000	***
edu.diffsame education	0.00	0.07	1.00	-0.07	0.948		-0.01	0.03	0.99	-0.24	0.814	
edu.diffwoman more educated	-0.11	0.12	0.89	-0.92	0.357		-0.04	0.05	0.96	-0.83	0.405	
educ.fPrimary	0.07	0.10	1.08	0.76	0.449		0.03	0.04	1.03	0.82	0.414	
educ.fSecondary or higher	0.50	0.12	1.65	4.07	0.000	***	0.20	0.05	1.22	4.15	0.000	***
workpNot work	0.08	0.08	1.09	1.10	0.270		0.03	0.03	1.03	0.95	0.343	
workpCash paid	-0.24	0.05	0.79	-4.37	0.000	***	-0.09	0.03	0.91	-3.65	0.000	***
urbanRural	0.11	0.07	1.12	1.67	0.096	.	-0.02	0.03	0.98	-0.63	0.530	
age[15,20)	0.03	0.09	1.03	0.37	0.713		0.10	0.04	1.10	2.47	0.014	*
age[20,25)	0.33	0.07	1.40	4.77	0.000	***	0.14	0.03	1.15	4.80	0.000	***
age[30,35)	-0.14	0.07	0.87	-1.93	0.053	.	-0.03	0.03	0.97	-1.03	0.303	
age[35,40)	-0.20	0.08	0.82	-2.58	0.010	**	-0.09	0.04	0.92	-2.42	0.015	*
age[40,45)	-0.43	0.08	0.65	-5.08	0.000	***	-0.15	0.04	0.86	-3.87	0.000	***
age[45,50]	-0.81	0.09	0.44	-8.69	< 2e-16	***	-0.40	0.05	0.67	-8.02	0.000	***
age.diff[5,10)	-0.04	0.06	0.96	-0.68	0.495		-0.04	0.03	0.96	-1.40	0.163	
age.diff[10,15)	-0.01	0.07	0.99	-0.18	0.854		-0.01	0.03	0.99	-0.30	0.768	
age.diff[15,100]	0.07	0.07	1.07	0.97	0.330		0.00	0.03	1.00	-0.11	0.912	
drinksYes	0.27	0.07	1.32	3.91	0.000	***	0.16	0.03	1.17	5.25	0.000	***
fam.histdont know	0.21	0.21	1.23	1.02	0.308		0.04	0.09	1.04	0.46	0.643	
fam.histYes	-0.05	0.08	0.95	-0.68	0.498		0.09	0.03	1.09	2.70	0.007	**
incomeMiddle	0.15	0.07	1.16	2.07	0.047	*	0.07	0.03	1.07	1.96	0.051	.
incomePoorer	0.15	0.07	1.16	1.99	0.039	*	0.04	0.04	1.04	1.24	0.213	
incomeRicher	0.25	0.08	1.29	3.26	0.001	**	0.09	0.04	1.09	2.48	0.013	*
incomeRichest	0.28	0.10	1.32	2.74	0.006	**	0.13	0.05	1.14	2.93	0.003	**
regionBoucle de Mouhoun	0.29	0.14	1.33	2.09	0.037	*	-0.15	0.05	0.86	-2.97	0.003	**
regionCascades	-1.18	0.15	0.31	-7.92	0.000	***	-0.59	0.06	0.55	-9.16	< 2e-16	***
regionCentre-Est	-1.41	0.13	0.24	-10.82	< 2e-16	***	-0.88	0.06	0.41	-14.39	< 2e-16	***
regionCentre-Nord	-1.25	0.12	0.29	-10.26	< 2e-16	***	-0.85	0.06	0.43	-14.76	< 2e-16	***
regionCentre-Ouest	-1.10	0.13	0.33	-8.68	< 2e-16	***	-0.50	0.05	0.61	-9.18	< 2e-16	***
regionCentre-Sud	-0.01	0.13	0.99	-0.10	0.920		-0.23	0.05	0.79	-4.52	0.000	***
regionEst	-0.71	0.16	0.49	-4.56	0.000	***	-0.26	0.07	0.77	-3.89	0.000	***

regionHauts Basins	-0.60	0.13	0.55	-4.75	0.000	***	-0.36	0.05	0.70	-7.28	0.000	***
regionNord	-0.44	0.12	0.64	-3.58	0.000	***	-0.34	0.05	0.71	-6.74	0.000	***
regionPlateau Central	-0.55	0.12	0.58	-4.39	0.000	***	-0.49	0.05	0.61	-9.03	< 2e-16	***
regionSahel	0.34	0.15	1.41	2.24	0.025	*	-0.20	0.06	0.82	-3.46	0.001	***
regionSud-Ouest	-0.63	0.17	0.53	-3.63	0.000	***	-0.24	0.07	0.79	-3.46	0.001	***
religionCatholic	-0.29	0.07	0.75	-3.93	0.000	***	-0.16	0.03	0.85	-4.89	0.000	***
religionNone	-0.02	0.26	0.98	-0.09	0.933		-0.13	0.12	0.88	-1.11	0.269	
religionProtestant	-0.18	0.11	0.84	-1.68	0.093	.	-0.03	0.05	0.97	-0.67	0.504	
religionTraditional/animist	-0.41	0.11	0.67	-3.79	0.000	***	-0.20	0.05	0.82	-3.99	0.000	***
ethnicityBissa	0.58	0.14	1.78	4.28	0.000	***	0.25	0.06	1.29	4.15	0.000	***
ethnicityBobo/Dioula	0.32	0.13	1.37	2.43	0.015	*	0.11	0.05	1.11	2.01	0.045	*
ethnicityFulfulde/Peul	0.08	0.10	1.08	0.79	0.428		0.05	0.04	1.05	1.20	0.232	
ethnicityGourmatche	-0.21	0.15	0.81	-1.46	0.143		-0.14	0.07	0.87	-2.09	0.037	*
ethnicityGourounsi	0.14	0.12	1.15	1.12	0.263		0.03	0.05	1.03	0.51	0.611	
ethnicityLobi/Dagara	0.46	0.16	1.58	2.89	0.004	**	0.22	0.07	1.24	3.26	0.001	**
ethnicityothers	0.23	0.11	1.26	2.03	0.042	*	0.13	0.05	1.14	2.98	0.003	**
ethnicitySenoufo	0.30	0.14	1.35	2.20	0.028	*	0.17	0.06	1.19	2.85	0.004	**
ethnicityTouareg/Bella	0.21	0.22	1.23	0.93	0.354		0.11	0.08	1.12	1.41	0.160	

Table 3b: Regressions where response is indicator of *intrarelationship inequality*. Includes interaction between region and type of place.

	Binomial: experiences "psychological pressure"						Poisson: Number of "control issues"					
	ln(odds)	Std. Err	odds ratio	z value	Pr(>|z|)		log(est.)	Std. Err	estimate	z value	Pr(>|z|)	
(Intercept)	0.791	0.151	2.206	5.230	0.000	***	0.399	0.060	1.490	6.669	0.000	
educ.fPrimary	-0.009	0.074	0.991	-0.128	0.898		0.012	0.031	1.012	0.372	0.710	***
educ.fSecondary or higher	0.394	0.108	1.484	3.664	0.000	***	0.157	0.041	1.170	3.848	0.000	
workpNot work	0.093	0.075	1.097	1.235	0.217		0.036	0.032	1.036	1.123	0.261	***
workpCash paid	-0.215	0.054	0.806	-3.969	0.000	***	-0.086	0.025	0.918	-3.405	0.001	
urbanRural	0.201	0.194	1.222	1.032	0.302		-0.149	0.072	0.862	-2.059	0.040	***
age[15,20)	0.033	0.093	1.034	0.356	0.722		0.095	0.039	1.100	2.411	0.016	*
age[20,25)	0.324	0.069	1.382	4.662	0.000	***	0.134	0.029	1.143	4.621	0.000	*
age[30,35)	-0.131	0.070	0.877	-1.879	0.060	.	-0.033	0.032	0.967	-1.054	0.292	***
age[35,40)	-0.195	0.077	0.823	-2.528	0.011	*	-0.090	0.036	0.914	-2.525	0.012	
age[40,45)	-0.418	0.083	0.659	-5.015	0.000	***	-0.157	0.040	0.855	-3.956	0.000	*
age[45,50]	-0.808	0.093	0.446	-8.695	< 2e-16	***	-0.388	0.049	0.678	-7.897	0.000	***
drinksYes	0.242	0.070	1.274	3.466	0.001	***	0.142	0.030	1.153	4.687	0.000	***
fam.histdont know	0.162	0.203	1.176	0.800	0.424		0.009	0.085	1.009	0.110	0.912	***
fam.histYes	-0.051	0.079	0.950	-0.645	0.519		0.082	0.033	1.086	2.476	0.013	
incomePoorer	0.129	0.073	1.138	1.784	0.074	.	0.058	0.034	1.060	1.735	0.083	*
incomeMiddle	0.128	0.074	1.136	1.721	0.085	.	0.041	0.035	1.042	1.159	0.247	.
incomeRicher	0.231	0.077	1.260	2.981	0.003	**	0.090	0.036	1.094	2.504	0.012	
incomeRichest	0.334	0.101	1.397	3.324	0.001	***	0.143	0.045	1.154	3.206	0.001	*
regionBoucle de Mouhoun	0.600	0.258	1.821	2.325	0.020	*	-0.123	0.081	0.884	-1.520	0.129	**
regionCascades	-1.055	0.197	0.348	-5.342	0.000	***	-0.595	0.086	0.551	-6.908	0.000	
regionCentre-Est	-1.357	0.181	0.258	-7.507	0.000	***	-0.927	0.091	0.396	-10.174	< 2e-16	***
regionCentre-Nord	-1.557	0.207	0.211	-7.522	0.000	***	-1.076	0.117	0.341	-9.212	< 2e-16	***
regionCentre-Ouest	-1.147	0.200	0.317	-5.731	0.000	***	-0.527	0.090	0.590	-5.837	0.000	***
regionCentre-Sud	-0.221	0.214	0.801	-1.032	0.302		-0.388	0.088	0.678	-4.408	0.000	***
regionEst	0.232	0.251	1.261	0.925	0.355		-0.086	0.090	0.918	-0.952	0.341	***
regionHauts Basins	-0.775	0.161	0.460	-4.817	0.000	***	-0.469	0.064	0.625	-7.377	0.000	
regionNord	-0.486	0.201	0.615	-2.410	0.016	*	-0.383	0.083	0.682	-4.615	0.000	***
regionPlateau Central	-0.430	0.225	0.650	-1.911	0.056	.	-0.723	0.113	0.485	-6.398	0.000	***
regionSahel	0.557	0.269	1.745	2.072	0.038	*	-0.319	0.094	0.727	-3.406	0.001	***

regionSud-Ouest	-0.607	0.225	0.545	-2.695	0.007	**	-0.248	0.084	0.781	-2.960	0.003	***
religionCatholic	-0.269	0.074	0.764	-3.640	0.000	***	-0.145	0.033	0.865	-4.404	0.000	**
religionNone	-0.028	0.261	0.972	-0.108	0.914		-0.135	0.119	0.874	-1.130	0.258	***
religionProtestant	-0.127	0.105	0.880	-1.208	0.227		-0.012	0.045	0.988	-0.270	0.787	
religionTraditional/animist	-0.380	0.108	0.684	-3.521	0.000	***	-0.181	0.050	0.835	-3.617	0.000	
ethnicityBissa	0.574	0.135	1.775	4.242	0.000	***	0.243	0.061	1.276	4.012	0.000	***
ethnicityBobo/Dioula	0.308	0.128	1.360	2.395	0.017	*	0.119	0.052	1.127	2.293	0.022	***
ethnicityFulfulde/Peul	0.069	0.095	1.072	0.729	0.466		0.049	0.042	1.050	1.170	0.242	*
ethnicityGourmatche	-0.188	0.147	0.829	-1.280	0.201		-0.128	0.068	0.880	-1.864	0.062	
ethnicityGourounsi	0.167	0.121	1.182	1.377	0.168		0.044	0.054	1.045	0.826	0.409	.
ethnicityLobi/Dagara	0.465	0.159	1.592	2.921	0.003	**	0.228	0.066	1.256	3.449	0.001	
ethnicityothers	0.247	0.114	1.280	2.174	0.030	*	0.138	0.045	1.148	3.075	0.002	***
ethnicitySenoufo	0.297	0.137	1.346	2.178	0.029	*	0.167	0.061	1.181	2.737	0.006	**
ethnicityTouareg/Bella	0.232	0.226	1.261	1.029	0.303		0.093	0.081	1.097	1.153	0.249	**
urbanRural:regionBoucle de Mouhoun	-0.416	0.310	0.660	-1.341	0.180		0.041	0.104	1.041	0.392	0.695	
urbanRural:regionCascades	-0.188	0.259	0.829	-0.726	0.468		0.090	0.112	1.094	0.805	0.421	
urbanRural:regionCentre-Est	-0.067	0.253	0.936	-0.263	0.793		0.136	0.121	1.146	1.127	0.260	
urbanRural:regionCentre-Nord	0.344	0.270	1.411	1.274	0.203		0.343	0.140	1.409	2.448	0.014	
urbanRural:regionCentre-Ouest	0.015	0.266	1.015	0.057	0.954		0.098	0.117	1.103	0.841	0.400	*
urbanRural:regionCentre-Sud	0.246	0.283	1.279	0.870	0.384		0.274	0.113	1.315	2.414	0.016	
urbanRural:regionEst	-1.173	0.294	0.309	-3.990	0.000	***	-0.164	0.111	0.849	-1.479	0.139	*
urbanRural:regionHauts Basins	0.260	0.241	1.297	1.080	0.280		0.236	0.096	1.266	2.453	0.014	
urbanRural:regionNord	0.032	0.267	1.033	0.120	0.905		0.129	0.110	1.137	1.175	0.240	*
urbanRural:regionPlateau Central	-0.157	0.286	0.854	-0.551	0.582		0.367	0.135	1.443	2.724	0.006	
urbanRural:regionSahel	-0.294	0.320	0.746	-0.917	0.359		0.221	0.114	1.247	1.928	0.054	**
urbanRural:regionSud-Ouest	-0.062	0.277	0.940	-0.225	0.822		0.077	0.105	1.081	0.735	0.463	.

Table 4a: Logistic regressions where response is women's participation in making decisions

	Health						Visit						Major Purchases					
	ln(odds)	Std. Err	odds ratio	z value	Pr(>|z|)		ln(odds)	Std. Err	odds ratio	z value	Pr(>|z|)		ln(odds)	Std. Err	odds ratio	z value	Pr(>|z|)	
(Intercept)	-1.30	0.17	0.27	-7.49	0.00	***	-0.23	0.16	0.79	-1.50	0.13		-1.24	0.18	0.29	-6.90	0.00	***
edu.diffsame education	-0.26	0.08	0.77	-3.27	0.00	**	0.02	0.07	1.03	0.35	0.73		-0.33	0.08	0.72	-4.14	0.00	***
edu.diffwoman more educated	-0.31	0.13	0.73	-2.39	0.02	*	0.04	0.12	1.04	0.32	0.75		-0.34	0.13	0.71	-2.55	0.01	*
educ.fPrimary	0.26	0.10	1.29	2.54	0.01	*	0.01	0.10	1.01	0.12	0.91		0.26	0.10	1.30	2.53	0.01	*
educ.fSecondary or higher	0.75	0.12	2.11	6.14	0.00	***	0.41	0.12	1.51	3.47	0.00	***	0.87	0.12	2.39	7.02	0.00	***
workpNot work	-0.15	0.09	0.86	-1.58	0.11		0.17	0.07	1.19	2.36	0.02	*	0.00	0.09	1.00	-0.03	0.98	
workpCash paid	0.88	0.06	2.42	14.45	< 2e-16	***	0.27	0.06	1.31	4.88	0.00	***	0.77	0.07	2.15	11.74	< 2e-16	***
urbanRural	0.05	0.08	1.06	0.70	0.48		0.07	0.07	1.07	1.00	0.32		-0.02	0.08	0.98	-0.28	0.78	
age[15,20)	-0.36	0.12	0.70	-3.06	0.00	**	-0.29	0.09	0.75	-3.07	0.00	**	-0.29	0.12	0.75	-2.43	0.01	*
age[20,25)	-0.15	0.08	0.86	-1.84	0.07	.	-0.09	0.07	0.91	-1.36	0.17		-0.16	0.08	0.85	-1.97	0.05	*
age[30,35)	0.02	0.08	1.02	0.21	0.83		-0.03	0.07	0.97	-0.36	0.72		-0.04	0.09	0.96	-0.51	0.61	
age[35,40)	0.02	0.09	1.03	0.28	0.78		-0.04	0.08	0.96	-0.52	0.60		-0.02	0.09	0.98	-0.26	0.79	
age[40,45)	0.31	0.10	1.36	3.22	0.00	**	-0.02	0.09	0.98	-0.29	0.78		0.06	0.10	1.06	0.55	0.58	
age[45,50]	0.40	0.11	1.49	3.76	0.00	***	0.14	0.10	1.15	1.43	0.15		0.27	0.11	1.31	2.44	0.01	*
age.diff[5,10)	-0.07	0.07	0.93	-1.03	0.30		0.07	0.06	1.08	1.22	0.22		-0.07	0.07	0.93	-1.06	0.29	
age.diff[10,15)	0.01	0.08	1.01	0.07	0.94		0.10	0.07	1.10	1.36	0.17		-0.02	0.08	0.98	-0.22	0.83	
age.diff[15,100]	-0.03	0.08	0.97	-0.42	0.67		0.06	0.07	1.06	0.82	0.41		-0.28	0.09	0.75	-3.31	0.00	***
drinksYes	0.02	0.08	1.02	0.21	0.83		-0.06	0.07	0.94	-0.91	0.36		0.06	0.08	1.06	0.71	0.48	
fam.histdont know	-0.23	0.24	0.80	-0.96	0.34		-0.51	0.20	0.60	-2.51	0.01	*	-0.26	0.24	0.77	-1.06	0.29	
fam.histYes	0.27	0.08	1.31	3.20	0.00	**	0.17	0.08	1.19	2.15	0.03	*	0.40	0.09	1.49	4.55	0.00	***
incomePoorer	-0.18	0.09	0.83	-2.03	0.04	*	0.00	0.07	1.00	-0.01	0.99		-0.19	0.09	0.83	-2.05	0.04	*
incomeMiddle	0.02	0.09	1.02	0.27	0.79		0.06	0.08	1.06	0.80	0.42		-0.15	0.09	0.86	-1.59	0.11	
incomeRicher	-0.04	0.09	0.96	-0.40	0.69		0.22	0.08	1.24	2.73	0.01	**	-0.20	0.10	0.82	-2.09	0.04	*
incomeRichest	0.24	0.12	1.27	2.09	0.04	*	0.37	0.10	1.45	3.60	0.00	***	0.09	0.12	1.09	0.71	0.48	
regionBoucle de Mouhoun	0.53	0.13	1.69	3.97	0.00	***	0.89	0.13	2.44	7.06	0.00	***	0.95	0.14	2.58	7.01	0.00	***
regionCascades	-0.47	0.17	0.63	-2.72	0.01	**	0.20	0.14	1.22	1.36	0.17		-0.24	0.18	0.79	-1.37	0.17	
regionCentre-Est	-0.34	0.14	0.71	-2.42	0.02	*	-0.94	0.13	0.39	-7.40	0.00	***	-0.14	0.15	0.87	-0.94	0.35	
regionCentre-Nord	-0.17	0.13	0.84	-1.30	0.19		-0.08	0.11	0.93	-0.66	0.51		0.03	0.14	1.03	0.23	0.82	
regionCentre-Ouest	-0.15	0.13	0.86	-1.11	0.27		-1.01	0.12	0.36	-8.13	0.00	***	0.21	0.14	1.24	1.57	0.12	
regionCentre-Sud	-0.40	0.14	0.67	-2.89	0.00	**	-1.57	0.13	0.21	-11.66	< 2e-16	***	-0.51	0.15	0.60	-3.36	0.00	***
regionEst	0.12	0.17	1.12	0.68	0.50		1.17	0.16	3.22	7.22	0.00	***	0.81	0.17	2.24	4.77	0.00	***
regionHauts Basins	-0.89	0.15	0.41	-6.13	0.00	***	0.67	0.12	1.95	5.43	0.00	***	-0.85	0.15	0.43	-5.60	0.00	***
regionNord	-0.47	0.14	0.63	-3.33	0.00	***	-0.94	0.12	0.39	-7.81	0.00	***	-0.33	0.15	0.72	-2.29	0.02	*

regionPlateau Central	0.01	0.13	1.01	0.07	0.94		-0.35	0.12	0.70	-2.97	0.00	**	-0.61	0.15	0.54	-3.96	0.00	***
regionSahel	-1.36	0.21	0.26	-6.53	0.00	***	-0.59	0.14	0.56	-4.20	0.00	***	-0.80	0.19	0.45	-4.12	0.00	***
regionSud-Ouest	0.49	0.18	1.63	2.79	0.01	**	0.25	0.17	1.29	1.51	0.13		-0.82	0.20	0.44	-4.03	0.00	***
religionCatholic	0.09	0.08	1.09	1.11	0.27		0.13	0.08	1.14	1.74	0.08	.	0.04	0.09	1.04	0.43	0.67	
religionNone	0.05	0.28	1.05	0.17	0.86		-0.04	0.28	0.96	-0.16	0.87		0.16	0.28	1.18	0.58	0.56	
religionProtestant	0.17	0.11	1.19	1.50	0.13		0.05	0.11	1.05	0.41	0.68		0.20	0.12	1.22	1.70	0.09	.
religionTraditional/animist	-0.15	0.13	0.86	-1.16	0.25		0.08	0.11	1.08	0.67	0.50		0.04	0.13	1.04	0.30	0.76	
ethnicityBissa	0.30	0.15	1.35	1.97	0.05	*	0.54	0.13	1.72	4.04	0.00	***	-0.33	0.18	0.72	-1.86	0.06	.
ethnicityBobo/Dioula	-0.01	0.14	0.99	-0.08	0.94		-0.21	0.13	0.81	-1.64	0.10		0.10	0.14	1.11	0.72	0.47	
ethnicityFulfulde/Peul	-0.35	0.12	0.70	-2.88	0.00	**	-0.57	0.10	0.57	-5.90	0.00	***	-0.33	0.12	0.72	-2.69	0.01	**
ethnicityGourmatche	-0.17	0.17	0.84	-0.99	0.32		0.25	0.16	1.29	1.60	0.11		-0.69	0.17	0.50	-4.06	0.00	***
ethnicityGourounsi	0.27	0.13	1.31	2.06	0.04	*	-0.20	0.13	0.82	-1.51	0.13		0.65	0.13	1.92	5.10	0.00	***
ethnicityLobi/Dagara	0.49	0.16	1.64	3.01	0.00	**	0.26	0.16	1.30	1.64	0.10		0.44	0.19	1.55	2.34	0.02	*
ethnicityothers	-0.23	0.12	0.80	-1.88	0.06	.	-0.34	0.11	0.71	-3.10	0.00	**	-0.24	0.12	0.79	-1.89	0.06	.
ethnicitySenoufo	-0.09	0.18	0.91	-0.52	0.61		0.10	0.14	1.10	0.72	0.47		0.09	0.18	1.09	0.49	0.62	
ethnicityTouareg/Bella	-0.39	0.39	0.67	-1.01	0.31		0.19	0.19	1.21	1.02	0.31		0.22	0.29	1.25	0.78	0.44	

Table 4b: Logistic regressions where response is women's participation in making decisions. Includes interaction between region and type of place

	Health						Visit						Purchases					
	ln(odds)	Std. Err	odds ratio	z value	Pr(>|z|)		ln(odds)	Std. Err	odds ratio	z value	Pr(>|z|)		ln(odds)	Std. Err	odds ratio	z value	Pr(>|z|)	
(Intercept)	-1.09	0.18	0.34	-6.03	0.00	***	-0.15	0.16	0.86	-0.90	0.37		-1.17	0.19	0.31	-6.25	0.00	***
edu.diffsame education	-0.25	0.08	0.78	-3.20	0.00	**	0.02	0.07	1.02	0.23	0.82		-0.33	0.08	0.72	-4.07	0.00	***
edu.diffwoman more educated	-0.34	0.13	0.71	-2.56	0.01	*	0.03	0.12	1.03	0.27	0.79		-0.35	0.13	0.70	-2.62	0.01	**
educ.fPrimary	0.28	0.10	1.32	2.75	0.01	**	0.02	0.10	1.02	0.23	0.82		0.27	0.10	1.32	2.63	0.01	**
educ.fSecondary or higher	0.73	0.12	2.08	5.97	0.00	***	0.42	0.12	1.52	3.48	0.00	***	0.87	0.13	2.38	6.88	0.00	***
workpNot work	-0.15	0.09	0.86	-1.63	0.10		0.17	0.07	1.19	2.28	0.02	*	-0.01	0.09	0.99	-0.06	0.95	
workpCash paid	0.88	0.06	2.41	14.24	< 2e-16	***	0.27	0.06	1.31	4.82	0.00	***	0.78	0.07	2.17	11.75	< 2e-16	***
urbanRural	-0.72	0.22	0.49	-3.26	0.00	**	-0.16	0.18	0.85	-0.91	0.37		-0.29	0.22	0.75	-1.31	0.19	
age[15,20)	-0.37	0.12	0.69	-3.09	0.00	**	-0.29	0.09	0.74	-3.12	0.00	**	-0.31	0.12	0.73	-2.55	0.01	*
age[20,25)	-0.15	0.08	0.86	-1.92	0.06	.	-0.10	0.07	0.91	-1.40	0.16		-0.17	0.08	0.84	-2.05	0.04	*
age[30,35)	0.00	0.08	1.00	0.00	1.00		-0.02	0.07	0.98	-0.29	0.77		-0.06	0.09	0.94	-0.72	0.47	
age[35,40)	0.02	0.09	1.02	0.18	0.86		-0.05	0.08	0.96	-0.57	0.57		-0.03	0.09	0.97	-0.35	0.73	
age[40,45)	0.30	0.10	1.35	3.11	0.00	**	-0.02	0.09	0.98	-0.24	0.81		0.03	0.10	1.03	0.31	0.76	
age[45,50]	0.38	0.11	1.47	3.61	0.00	***	0.14	0.10	1.14	1.41	0.16		0.26	0.11	1.30	2.32	0.02	*
age.diff[5,10)	-0.07	0.07	0.93	-0.99	0.32		0.07	0.06	1.08	1.22	0.22		-0.07	0.07	0.93	-0.98	0.33	
age.diff[10,15)	0.00	0.08	1.00	-0.04	0.97		0.10	0.07	1.11	1.42	0.16		-0.03	0.08	0.97	-0.40	0.69	
age.diff[15,100]	-0.03	0.08	0.97	-0.41	0.68		0.06	0.07	1.06	0.86	0.39		-0.29	0.09	0.75	-3.33	0.00	***
drinksYes	-0.02	0.08	0.99	-0.20	0.85		-0.06	0.07	0.95	-0.79	0.43		0.02	0.08	1.02	0.31	0.76	
fam.histdont know	-0.25	0.24	0.78	-1.05	0.29		-0.50	0.20	0.60	-2.47	0.01	*	-0.24	0.24	0.79	-0.97	0.33	
fam.histYes	0.26	0.08	1.30	3.09	0.00	**	0.18	0.08	1.20	2.21	0.03	*	0.40	0.09	1.49	4.47	0.00	***
incomePoorer	-0.19	0.09	0.83	-2.13	0.03	*	-0.01	0.07	0.99	-0.07	0.95		-0.20	0.09	0.82	-2.13	0.03	*
incomeMiddle	0.03	0.09	1.03	0.36	0.72		0.06	0.08	1.06	0.78	0.44		-0.16	0.09	0.86	-1.65	0.10	
incomeRicher	-0.03	0.09	0.97	-0.32	0.75		0.21	0.08	1.23	2.62	0.01	**	-0.21	0.10	0.81	-2.14	0.03	*
incomeRichest	0.22	0.12	1.24	1.84	0.07	.	0.37	0.10	1.44	3.54	0.00	***	0.07	0.12	1.07	0.57	0.57	
regionBoucle de Mouhoun	0.21	0.22	1.24	0.99	0.32		0.48	0.22	1.62	2.21	0.03	*	1.05	0.22	2.86	4.80	0.00	***
regionCascades	-0.52	0.22	0.60	-2.37	0.02	*	-0.16	0.20	0.86	-0.80	0.43		-0.24	0.22	0.79	-1.06	0.29	
regionCentre-Est	-0.70	0.20	0.50	-3.48	0.00	***	-0.87	0.18	0.42	-4.85	0.00	***	-0.90	0.24	0.41	-3.80	0.00	***
regionCentre-Nord	-0.41	0.22	0.66	-1.87	0.06	.	0.27	0.21	1.31	1.31	0.19		0.02	0.22	1.02	0.07	0.95	
regionCentre-Ouest	-1.20	0.24	0.30	-5.06	0.00	***	-0.92	0.20	0.40	-4.59	0.00	***	-0.85	0.24	0.43	-3.62	0.00	***
regionCentre-Sud	-0.74	0.23	0.48	-3.25	0.00	**	-1.52	0.23	0.22	-6.72	0.00	***	-0.45	0.23	0.64	-1.96	0.05	.
regionEst	0.23	0.24	1.26	0.93	0.35		0.93	0.27	2.54	3.51	0.00	***	1.05	0.24	2.85	4.30	0.00	***
regionHauts Basins	-0.90	0.18	0.41	-5.01	0.00	***	0.65	0.17	1.91	3.91	0.00	***	-0.77	0.19	0.46	-4.16	0.00	***
regionNord	-0.07	0.21	0.93	-0.36	0.72		-1.69	0.22	0.18	-7.58	0.00	***	0.39	0.21	1.48	1.91	0.06	.
regionPlateau Central	-0.27	0.24	0.76	-1.13	0.26		-0.33	0.22	0.72	-1.52	0.13		-0.76	0.29	0.47	-2.64	0.01	**
regionSahel	-1.52	0.38	0.22	-4.02	0.00	***	-0.43	0.23	0.65	-1.90	0.06	.	-0.99	0.35	0.37	-2.82	0.00	**

regionSud-Ouest	-0.01	0.22	0.99	-0.06	0.95		-0.02	0.22	0.98	-0.09	0.93		-0.82	0.25	0.44	-3.23	0.00	**
religionCatholic	0.14	0.08	1.15	1.68	0.09	.	0.12	0.08	1.13	1.59	0.11		0.10	0.09	1.10	1.10	0.27	
religionNone	0.02	0.28	1.02	0.08	0.94		-0.04	0.28	0.96	-0.13	0.90		0.14	0.28	1.15	0.50	0.61	
religionProtestant	0.23	0.12	1.25	1.97	0.05	*	0.02	0.11	1.02	0.22	0.83		0.29	0.12	1.33	2.41	0.02	*
religionTraditional/animist	-0.16	0.13	0.85	-1.25	0.21		0.03	0.11	1.03	0.24	0.81		0.10	0.13	1.10	0.75	0.45	
ethnicityBissa	0.23	0.15	1.26	1.52	0.13		0.57	0.14	1.77	4.22	0.00	***	-0.43	0.18	0.65	-2.35	0.02	*
ethnicityBobo/Dioula	-0.02	0.14	0.98	-0.12	0.90		-0.18	0.13	0.83	-1.43	0.15		0.06	0.14	1.06	0.41	0.68	
ethnicityFulfulde/Peul	-0.37	0.12	0.69	-3.01	0.00	**	-0.58	0.10	0.56	-5.99	0.00	***	-0.35	0.12	0.71	-2.81	0.00	**
ethnicityGourmatche	-0.17	0.17	0.84	-1.00	0.32		0.27	0.16	1.30	1.66	0.10	.	-0.73	0.17	0.48	-4.25	0.00	***
ethnicityGourounsi	0.21	0.13	1.24	1.62	0.10		-0.21	0.13	0.81	-1.58	0.11		0.59	0.13	1.81	4.60	0.00	***
ethnicityLobi/Dagara	0.37	0.17	1.45	2.26	0.02	*	0.24	0.16	1.28	1.53	0.13		0.36	0.19	1.43	1.89	0.06	.
ethnicityothers	-0.27	0.12	0.77	-2.18	0.03	*	-0.35	0.11	0.71	-3.17	0.00	**	-0.26	0.13	0.77	-2.09	0.04	*
ethnicitySenoufo	-0.08	0.18	0.93	-0.44	0.66		0.09	0.14	1.09	0.65	0.52		0.07	0.18	1.07	0.40	0.69	
ethnicityTouareg/Bella	-0.40	0.40	0.67	-1.00	0.32		0.23	0.19	1.26	1.23	0.22		0.18	0.30	1.20	0.61	0.55	
urbanRural:regionBoucle de Mouhoun	0.93	0.29	2.53	3.17	0.00	**	0.64	0.27	1.90	2.39	0.02	*	0.08	0.29	1.08	0.28	0.78	
urbanRural:regionCascades	0.55	0.31	1.74	1.80	0.07	.	0.63	0.25	1.89	2.53	0.01	*	0.19	0.31	1.21	0.61	0.54	
urbanRural:regionCentre-Est	1.04	0.30	2.83	3.49	0.00	***	0.01	0.25	1.01	0.03	0.97		1.31	0.32	3.69	4.04	0.00	***
urbanRural:regionCentre-Nord	0.82	0.31	2.28	2.66	0.01	**	-0.28	0.26	0.76	-1.06	0.29		0.20	0.31	1.22	0.65	0.51	
urbanRural:regionCentre-Ouest	1.88	0.32	6.52	5.90	0.00	***	0.02	0.26	1.02	0.08	0.94		1.54	0.31	4.66	4.92	0.00	***
urbanRural:regionCentre-Sud	0.97	0.32	2.65	3.07	0.00	**	0.06	0.29	1.06	0.20	0.84		0.10	0.32	1.11	0.32	0.75	
urbanRural:regionEst	0.38	0.31	1.46	1.21	0.23		0.43	0.31	1.54	1.41	0.16		-0.12	0.31	0.89	-0.39	0.69	
urbanRural:regionHauts Basins	0.42	0.30	1.52	1.39	0.16		0.14	0.24	1.15	0.61	0.54		0.02	0.30	1.02	0.08	0.94	
urbanRural:regionNord	-0.09	0.31	0.92	-0.28	0.78		1.09	0.28	2.97	3.91	0.00	***	-0.96	0.32	0.38	-3.03	0.00	**
urbanRural:regionPlateau Central	0.86	0.32	2.37	2.70	0.01	**	0.12	0.27	1.13	0.44	0.66		0.37	0.37	1.45	1.01	0.31	
urbanRural:regionSahel	0.74	0.46	2.10	1.63	0.10		-0.05	0.28	0.95	-0.19	0.85		0.44	0.42	1.56	1.05	0.29	
urbanRural:regionSud-Ouest	1.31	0.30	3.72	4.44	0.00	***	0.53	0.27	1.70	1.98	0.05	*	0.23	0.32	1.26	0.74	0.46	