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Spousal-Differences in Perception of Female Autonomy in Household Decision-Making in Nepal

Sharmistha Self

ABSTRACT

The primary objective of this paper is to see how spouses differ in terms of their perception of female autonomy in household decision-making in Nepal and the factors that influence these perceptions. Understanding the perception of female autonomy is important in general but particularly so for developing countries with traditional male-dominated and well-defined patriarchal roles in society. In general, the results seem to converge between men and women when it comes to perception of female autonomy in non-economic decision making but not when it relates to decision-making in economic matters. The results have important policy implications.

Keywords: Female Autonomy, Patriarchal Society, Economic Decisions, Non-economic Decisions.

I. INTRODUCTION

The primary objectives of this paper are first, to see how the perception of female autonomy in household decision-making differs between spouses and second, to examine the factors that explain the similarities and/or differences in such perceptions between husbands and wives. Perceptions are important because we assume they are a motivation and reflection of the reality. In addition, perceptions have a high probability of varying by gender in a patriarchal society, especially with reference to the status and position of women. The perception of autonomy can be viewed as a sign of social status and respectability of the wife and mother in the household. If this is true for most households, then such perception is likely to hold for the society as well. More men and women in a society believing that females have the freedom to make decisions is probably a sign that this is indeed true for the society as a whole. In other words, unless both men and women perceive that women have the freedom to make choices, then perhaps such freedom is not a reality for the overall society. It is, therefore, important to know what factors influence perception of female autonomy of both males and females in society.

The empirical analysis for this paper utilizes household survey data from the Nepal Living Standard Survey III for 2010-2011. Nepal, like other countries in South Asia, appears to share traits commonly associated with the patriarchal social system in South Asia. Gender differences and inequalities are found to exist in several different socio-economic areas within the Nepalese community. Given that the literature on understanding and analyzing gender and/or spousal differences in the perception of female autonomy, especially for developing countries is extremely limited; this paper hopes to add meaningful insights in this area of research.

Understanding the perception of female autonomy is important in general but particularly so for developing countries with traditional male-dominated and well-defined patriarchal roles in society. For these countries it is also very important to know whether men's perceptions are similar

to those of women. One could assume that in the event of a conflict or divergence of perception, it is the man's perception that holds and is the evidence of reality. Further, following some recent literature on female autonomy (Anderson and Eswaran (2009)), one can assume that the degree of female autonomy in a marriage may be seen as influencing her ability to threaten the union and, thereby, increasing her utility from the marriage, sometimes at the cost of her husband's. Thus, men's and women's utility from female autonomy may potentially be at odds with each other depending upon the degree of co-operation that defines the relationship. Under these circumstances it is important to understand and analyze factors that influence men's and women's perceptions, particularly if they are dissimilar, with the objective of improving female autonomy overall and bringing about greater convergence in perception of female autonomy across gender.

The implicit assumption being made here is that the family is not a monolithic structure but one based on some degree of bargaining by individual spouses to determine how resources are allocated. Using this assumption as the backdrop, the two broad categories of decision-making that will be considered here are non-economic decisions and economic decisions. This distinction is important given the traditional gender roles in most South Asian societies. If we assume that the man is the primary bread-winner in the family and the woman takes care of the household duties, and that the spouse with greater autonomy makes the final decision regarding the allocation of resources, then one would assume that men (and possibly women as well) would expect and perceive females as having relatively less autonomy in economic decisions as compared to non-economic ones.

Nepal's gender inequality is apparent from Nepal's Gender Inequality Index¹ rating of 0.558 (113 out of 146 countries) as per the United Nation's Human Development Report for 2011. According to the Nepalese Committee on Discrimination against Women (CEDAW, 2003) report, Nepalese women have only limited access to education and as a result, they have very few opportunities to engage in activities that would provide a greater degree of economic freedom. Further, the 2006 Nepal Demographic Health Survey (NDHS) found that Nepalese women are generally less educated than men. Besides, violence against women and early marriage remain pervasive and Nepalese women, particularly Dalit women, are underrepresented in politics and other positions of leadership. The lower social status of women has acted as a stumbling block towards Nepal's national health and population policy progress (Tuladhar, 1997). Acharya et al. (2010) conducted a follow up study following the Nepal Demographic Health Survey of 2006 looking specifically at the rural and Tarai regions of Nepal. They found that women's autonomy in decision-making is positively associated with their age, employment and number of living children. Contrary to one's expectation, women from middle and upper class had the least decision-making power.

The Nepal Living Standard Survey Round III, which is the source of data for this study, individually asked spouses questions relating to whether decisions had to be made in certain areas, the extent of involvement of the respondent in the decision-making, and who finally made the decision. In this paper we are specifically focusing on responses to the question on who made the final decision. As mentioned earlier, here we categorize the decision-making questions into two broad areas of decision-making, economic and non-economic decision-making. The research questions that will be asked include: How do spouses differ in terms of their individual perception of female autonomy in the two areas specified above? What factors influence these perceptions? Does the impact vary by the type of factor and by gender? To what extent are the perceptions influenced by socio-economic conditions versus cultural norms and traditions? Are there any suggestive policy implications based on these results?

The rest of this paper is organized as follows. The next section will present a brief literature review on the topic of female autonomy and in the process highlight how this current paper adds to the literature. The third section will discuss the index measuring the perception of female autonomy by men and women. The fourth section will discuss the data being utilized for the empirical model, while the fifth section will discuss the empirical model. The sixth section will discuss results. The seventh section will conclude the study by summarizing the findings and drawing some policy implications.

II. LITERATURE REVIEW

The development literature has focused mainly on the impact of female autonomy on various different things, but there is relatively limited literature on factors that determine female autonomy itself. Anderson and Eswaran (2009) develop a model of household behavior in order to draw conclusions about factors that increase female autonomy. Typically, this has resulted in the development of bargaining models in which the influence of the woman is a function of her threat options, measured by the level of well-being the woman could obtain if the marriage dissolves (outside threat option). An improvement in the outside threat option enhances the autonomy of the woman within the marriage. Using data from Bangladesh they find that external work opportunities are the key to enhancing a woman's autonomy, not work within the household. The measures of autonomy used include measures of the female's say in decisions concerning the purchases of various items. Different from this approach, the household in our study is not viewed as a monolithic unit with a single decision-maker. The paper posits that a better approach is to view decision-making within the household as being a process fraught with conflict.

Most studies on female autonomy implicitly make assumptions similar to Anderson and Eswaran (2009). The close link between female autonomy and her access to economic resources is supported in other studies on female autonomy as well. For example, Rahman and Rao (2004) find higher female wages enhance a woman's mobility and her influence in household decision-making. Likewise, the importance of ability to work outside the home and freedom of mobility is also echoed in Self and Grabowski (2012). In addition, Rahman and Rao (2004) find infrastructure at the village level to be strongly associated with improvements in female mobility and enhancement of female involvement in decision-making. One needs to remember, however, that access to resources alone may not be enough to increase female autonomy given the constraining role of existing social norms. Kantor (2003), for example, analyzed the extent to which home-based production in the garment sector in western India empowers females who participate in such activity. She found that having access to resources does not necessarily lead directly to an improvement of the women's position in the household. Furthermore, Rahman and Rao (2004) find that higher male wages reduce the wife's autonomy on household decision-making.

While the discussion above presents factors that influence female autonomy, the focus of this study on female autonomy is indirect way as the primary goal is to examine gender differences in perception of female autonomy. In other words, we seek to understand genderwise factors that explain perception of female autonomy. There is very little existing research relating to gender differences in the perception of female autonomy. Studies within the economics literature that have explored spousal agreement have focused primarily on reproductive attitudes and preferences (Mason and Taj, 1987; Bankole, 1995; Bankole and Singh, 1998; Mason and Smith, 2000). The general consensus from these studies is that reproductive health interventions aimed at both partners

in a couple may produce better results than the same interventions focusing on only one partner. Some studies conducted in India have explored men's perceptions of women's status. These studies are largely qualitative and conclude that men generally corroborate women's reports of their lack of status and that they justify existing power imbalances within their homes (Khan and Ram, 2009).

Other studies that examine male perceptions of female autonomy find that the unequal autonomy or power imbalance is biased against women in the household meaning that women are generally the ones with lesser autonomy and lesser power. A study conducted by Jejeebhoy (2002) assessed three different areas of women's autonomy through survey responses of women and their husbands in India. These three different areas were mobility, access to economic resources, and economic decision-making authority. The study found a clear regional divide in India with women in the south enjoying greater freedom than women who live in the northern regions. This regional difference in female autonomy in India can be found in several other studies as well (Dyson and Moore, 1982, Rahman and Rao, 2004). Additionally, Jejeebhoy's (2002) study shows that there is no more than "a loose agreement between women and their husbands concerning the dimensions of wives' autonomy within the home" (page 307). Moreover, even though the data did not allow an exploration of the factors underlying the findings, focus group discussions seem to suggest that men gave more "acceptable" responses on the survey than how they really felt, meaning that the "loose agreement" found in the study was potentially looser or perhaps even non-existent. However, the study also suggests that women, particularly from Uttar Pradesh in Northern India, may have downplayed their autonomy so as to conform to the social norms. In general, the study concluded that cultural norms (measured by region in Jejeebhoy's paper) greatly influenced husbands' and wives' perceptions of women's autonomy relating to reproductive outcomes. Khan and Ram (2009) also provide similar conclusions. Their research reveals that husbands tend to perceive greater decision-making role for wives than wives perceive for themselves. They concluded that in order to achieve greater autonomy for women, it may be a good idea to involve husbands and encourage joint decision-making.

While all these studies were regionally focused in South Asia, Allendorf (2007) examines spousal differences in female autonomy with reference to contraceptive usage in Nepal. Using matched couple data from Nepal Demographic and Health Survey, the study shows that when the spouses agree that the wife is autonomous, the association between her autonomy and reproductive behavior is found to be substantially stronger than when spouses disagree about her autonomy. The findings from this research suggest that the association between women's autonomy and reproductive behavior may be underestimated when only women's reports are considered. This study also brings out the importance of spousal agreement or disagreement or spousal involvement on female autonomy itself. This sort of conclusion is also reflected in a study on female autonomy and contraceptive use in Ethiopia (Haile and Enqueselassie, 2006), where a couple's choice and use of contraception was found to be strongly influenced by fertility and husband's involvement in decision-making. These two variables were more important than female autonomy.

In a somewhat related study Jennings (2012) studied spousal perception of marital discord and divorce also within the context of Nepal. Given the traditional culture of Nepal, marriage is not only highly valued in and of itself, but it is also seen to have wide-ranging significance for extended families as well. According to the author, marital dissolutions due to separation or divorce are relatively new in Nepal. This is more so because women in Nepal have few economic opportunities, which along with the social stigma, acts as a major disincentive to dissolve a marriage. In her paper Jennings compares the factors affecting dissolution of marriage in the Nepal with factors affecting similar situation in the West. She utilizes self-reported data on the discord in the marriage as

reported by each partner. She finds, among other things, that many of the factors that influence marital dissolution in the Western contexts play a similar role in the Nepalese context as well. Unlike Jejeebhoy (2002), this paper finds that the influence of wives' reports of discord to be independent of their husbands' reports of the same.

Perception of Female Autonomy Index

The data for this paper separately asks all women who are the spouses of a household head (or female head of household) and all male household heads (or senior male household member in case the head is a female) a series of questions relating to household decisions made in the past twelve months. Couples are individually and separately asked fifteen questions relating to decision-making in the household. We make use of six of those questions. We classify the six questions into economic and non-economic decision making. Among all other questions these questions are broad in their scope and application, and have the highest participation rate. Most importantly, these questions relate to the research questions being addressed in this paper.

The couples are first asked whether a decision had been made on a certain question in the past year. If either spouse either declined to answer or answered no, then that observation was dropped. The sample was restricted to those couples that made a decision on both economic and non-economic issues and chose to answer the questions being asked on decision-making. Using this criterion, we have 847 couples that made decisions in both economic and non-economic areas and answered the questions relating to female autonomy in household decision-making.

For each individual question, respondents could answer in four possible ways and these were coded in a particular way. The same questions are asked of both women and men in a household. In the instance that the questions are being asked of women, if the answer to how a decision was made was 'me' it receives a score of 3. If the answer is 'both' meaning the respondent and her spouse jointly made the decision, then it receives a score of 2. If the answer is 'my spouse' meaning the husband made the decision or if the answer is 'other' meaning someone else in the family made the decision then it receives a score of 1. The reason for combining the decision made only by the husband or anyone else into one score is because it indicates the woman had no final say in the decision-making.

Since the objective is to measure the degree of female autonomy, the coding system needs to be slightly modified when the husband responded to the same questions. Thus, when the same questions are asked of the husband then an answer of 'my spouse' meaning that the wife alone made the decision earns a score of 3, an answer of 'both' indicating it was a decision made jointly by the husband and wife earns a score of 2, and answer of 'me' meaning that the husband made the decision or an answer of 'other' meaning that someone else made the decision earns a score of 1.

As mentioned earlier, we categorize the decisions as economic or non-economic in nature. All questions in the non-economic category relate to children. The questions that we categorize as non-economic include (1) who decides up to what grade the children should study, (2) who decides which school the children should go to, and (3) who decides about obtaining healthcare for children. Questions economic in nature include (1) who decides on how much to spend on food, (2) who decides about spending on major household items, and (3) who decides about taking loans. Using the above criteria, an index (based on adding up the scores on each individual question) is created for both types of decisions. Given that each index includes three questions, ranging from a score of 1 to 3 (depending upon the extent of female autonomy), and given that the individual scores are added to get the final value of the female autonomy index, the value of the index ranges from 3 to 9. If all three questions receive a value of 1, then the index equals 3 and if all three receive a value

of 3, the index will equal 9. However, not all three questions need to have the same response, thus the value of the index can range from 3 to 9 depending upon the range of responses. Thus, closer the value of the index is to 9 the greater the perception of female autonomy in decision-making within the household. Table 1 presents frequency distributions related to male and female perception of female autonomy using the decision-making index discussed above.

Table 1: Frequency Distribution of Male and Female Perception of Female Autonomy Using The Decision-making Index

Value of Index	Economic Decisions		Non- economic Decisions	
	Female	Male	Female	Male
3	13.81	17.83	14.4	42.15
4	9.56	11.57	9.68	51.12
5	12.87	14.17	9.45	4.49
6	49.00	45.34	57.38	2.24
7	6.73	5.43	4.37	0.00
8	4.96	3.54	2.83	0.00
9	3.07	2.13	1.89	0.00
Total	100	100	100	100

Table 1 shows that with respect to female perception of female autonomy in economic decision-making, only 3% of women perceive themselves as making the decision for all three economic questions (in which case the value of the index is 9). This is similar to men’s perception with shows that only 2% of males perceive women as having the autonomy to make the decision for all three economic questions. When it comes to female autonomy in non-economic decisions, none of the men seem to believe that women have the autonomy to make all the decisions. This is not surprising since among women, only 2% of all women believe that they have the autonomy to make all the non-economic decisions. If we include female autonomy to include making decisions jointly with their husbands, we find that almost half of the women (49%) and a little less than half of men (45%) perceive that all economic decisions are made jointly by the couple. In terms of non-economic decisions, about 57% of women but only 2% of men believe that decisions are jointly made by the couple. One can see a significant difference between male and female perception of female autonomy in making non-economic decisions. While a relatively larger proportion of women perceive that they are making the final decision (with their spouse), relatively fewer men seem to have the same opinion. Thus, there is a suggestive evidence of women to over-estimate their autonomy in making decisions with the husband. One possible reason for this difference in perception of female autonomy may be that all three non-economic decisions being considered here involve the children. There is some evidence in the literature that points out that parents do not always have identical preferences when it comes to sons and daughters. Specifically, mothers are more likely to allocate resources towards welfare of daughters, while fathers would do the same for sons (Thomas, 1990; Quisumbing and Maluccio, 2000). If this were to be the case, then while the mothers are assuming that their husband are in agreement with them in decisions involving education or healthcare for the children, the fathers may not perceive the decisions being made in the same way.

It is quite obvious that a very small proportion of women have complete autonomy in decision-making in both categories. In addition, a much larger proportion of women believe they are making the final decision jointly with their spouse in both categories, but a relatively smaller proportion of spouses (husbands) feel the same way. The difference in perception of female autonomy between men and women can also be seen from the mean value of the index presented in Table 6.

Table 2: Definitions of Variables

Variable Name	Variable Definition
<i>Mountain</i>	Dummy variable taking value 1 for mountain region and 0 otherwise
<i>Kathmandu</i>	Dummy variable taking value 1 for Kathmandu region and 0 otherwise
<i>Urban_Hill</i>	Dummy variable taking value 1 for urban hilly region and 0 otherwise
<i>Urban_Tarai</i>	Dummy variable taking value 1 for urban tarai region and 0 otherwise
<i>Rural_Tarai</i>	Dummy variable taking value 1 for rural tarai region and 0 otherwise
<i>Femalehead</i>	Dummy variable taking value 1 if the household head is female and 0 otherwise
<i>Husband_Age</i>	Age of husband
<i>Head_Illit</i>	Dummy variable taking value 1 if husband is illiterate and 0 otherwise
<i>Wife_Wage_Work</i>	Dummy variable taking value 1 if wife works for wages and 0 otherwise
<i>Male_Wage_Work</i>	Dummy variable taking value 1 if husband works for wages and 0 otherwise
<i>Wife_Edu</i>	Education level of wife
<i>Wife_Health</i>	Dummy variable taking value 1 if wife is neither disabled and nor has she suffered from any chronic illness
<i>Mother_in_law</i>	Dummy variable taking value 1 if husband's mother lives with the family and 0 otherwise
<i>HH_Size</i>	Number of people living in the house
<i>Sons</i>	Number of sons
<i>High_Caste</i>	Dummy variable taking value 1 if family belongs to high caste of Brahman, Newar or Chetri and 0 otherwise
<i>Home_Size</i>	Size of home measured in square feet
<i>Land_Value</i>	Estimated market value of land owned by household

As mentioned above, the survey stratifies all information based on certain regional stratification process. The strata formed for the NLSS-III were as follows: mountains, urban areas of the Kathmandu valley, other urban areas in the hills, rural eastern hills, rural central hills, rural western hills, rural mid-western hills, rural far-western hills, urban Tarai (urban valley region),

rural eastern Tarai (rural valley region to the east), rural central Tarai (rural valley in the central part of the country), rural western Tarai (rural valley region to the west), rural mid-western Tarai (rural valley region in the mid-western part of the country), and rural far-western Tarai (rural valley region to the far western part of the country). For the sake of simplicity and in order to conform to most of the other studies, we simplify regions into urban and rural areas only.²

At PSU (village) level, we consider access to paved roads as a measure of infrastructure development and access to resources.³ All PSU's in our sample have access to some paved roads, therefore, we do not include a variable to identify access to paved road, but we do control for average distance to paved roads for each PSU. The summary statistics show that the average distance to paved roads in a PSU is about half a kilometer. As we would expect, these distances are in general higher in rural areas.

In terms of some of the individual and household characteristics, over 95% of all households are male headed and about 97% of all households are Hindus. About 34% of households are considered to belonging to high castes, while the rest belong to lower castes. The average age of men is around 45 years, more than 45% of men are illiterate, and the average number of years married is over 16 years. The average household has more than seven individuals living in it with the average household having one or more sons. About 19% of the people live in urban areas with a majority living in rural areas. Over 77% of women report being in good health and only about 3% of households has the mother-in-law living with them.

Table 3: Summary Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Female perception of female autonomy in economic decision making	847	5.524	1.439	3	9
Male perception of female autonomy in economic decision making	847	5.198	1.616	3	9
Female perception of female autonomy in non-economic decision making	847	5.437	1.338	3	9
Male perception of female autonomy in non-economic decision making	847	3.339	1.129	3	6
Female_Head	847	0.046	0.209	0	1
Husband_Age	847	45.301	11.531	21	85
Years_Married	847	16.311	8.869	1	39
Wife_Wage_Work	847	0.542	0.498	0	1
HH_Size	847	7.411	2.863	2	24
Sons	847	1.695	1.467	0	11
High_Caste	847	0.340	0.474	0	1
Wife_Health	847	0.775	0.417	0	1
Mother_in_law	847	0.036	0.188	0	1
Urban	847	0.198	0.399	0	1
Husband_Illit	847	0.406	0.491	0	1

III. MODEL

Similar to Anderson and Easwaran (2009), we assume that a household is not a monolithic structure. The difference between our approach and Anderson and Easwaran (2009) lie in the value of the index of perception of female autonomy. We interpret it as a signal as to whether the equilibrium within the household is co-operative or non-cooperative in nature. Allocation of household goods is determined by bargaining between individual spouses where the extent of autonomy influences the extent of bargaining power. The degree of autonomy determines how much of the household goods each spouse can consume or allocate depending upon the extent of co-operation between the spouses. Any additional consumption of a good by the wife would reduce husband's consumption of the same, especially in a non-cooperative equilibrium. Thus, the greater the wife's autonomy the greater the likelihood of her consuming more household goods or having more say about the allocation of such goods. For the purposes of the empirical analysis when the husband and wife claim to be making a decision jointly we assume a co-operative equilibrium situation whereas when the wife is making the decision solely, then the equilibrium is a non-cooperative one.

The first step in the empirical analysis is to classify the factors that explain the perception of female autonomy in the two sub-areas of household decision-making. Given how the indexes are created, we utilize an ordered logit estimation procedure. Under the ordered logit model, the actual values taken by the dependent variable are irrelevant, except that larger values are assumed to correspond to "higher" outcomes. With reference to our analysis, the higher outcome refers to the higher degree of female autonomy. The ordered logit model is a direct generalization of the ordinary two-outcome logit model.

The empirical model to be estimated will take the following form

$$PFA_{femaleij} = a_0 + a_1Indiv_{ij} + a_2HH_{ij} + a_3Village_{ij} + e_{ij} \quad (1)$$

$$PFA_{maleij} = b_0 + b_1Indiv_{ij} + b_2HH_{ij} + a_3Village_{ij} + e_{ij} \quad (2)$$

where PFA stands for the index of perceived female autonomy and the subscript signifies whether this perception was made by a female or a male respondent of a single household. $Indiv_{ij}$, HH_{ij} , and $Village_{ij}$ are individual-, household- and village-specific characteristics of the female/male and her/his spouse in household i and village j that are related to the perception of female autonomy by females and males. Two versions of each model will be analyzed. One version pertains to perceived female autonomy (by females and males) in non-economic category of decision-making and the other in economic decision-making category.⁴

The selection of explanatory variables is guided by theory, existing empirical literature, and the hypotheses under examination. It is hypothesized that a woman's autonomy and its perception is influenced by social, economic, and political factors. These characteristics have been grouped under individual, household and village characteristics. Individual characteristics can be both economic and/or social in nature, as are household characteristics. Village characteristics measure infrastructural support and extent of economic development.

The individual level explanatory variables relate to a woman, her husband, and sometimes to both. In terms of individual variables relating to a woman, first we control for whether or not the household is headed by the woman (*Femalehead*). It is assumed that a woman who heads the household would enjoy more freedom to make the decisions in the household. This is a binary variable, which takes value of 1 if the family is headed by a woman and 0 otherwise. As a second explanatory variable we include whether or not she works for wages (*Wife_WageWork*). This is

also a binary variable, which takes value of 1 if the woman works for wages and 0 otherwise. The assumption is that if a woman works for wages, then she has the potential to contribute towards the family's finances. This is expected to increase her bargaining power within the family, while at the same time increasing her access to resources. This type of impact is supported by the empirical literature on female autonomy as well.

Additionally, we include the number of sons a woman has (*Sons*) as an explanatory variable. This variable relates to both spouses. The literature on female autonomy has identified having sons as one of the many ways in which a woman's autonomy within the household in a patriarchal society is enhanced (Jejeebhoy and Sathar, 2001). In addition, women are seen to enjoy a closer relationship with the husband (and his family), having fulfilled particular social obligations, such as bearing children (Mason and Smith, 2000). With this in mind we include the number of years a woman has been married (*Years_Married*) as an explanatory variable. We assume that both the number of years married and number of sons would foster a close relationship, which would increase the likelihood of the woman participating in household decision-making.

The final individual level variable relates to a woman's health status. We want to see whether being disabled or being chronically ill reduces the perception of freedom by either spouse. The variable measuring health (*Wife_Health*) is a binary variable which takes value of 1 if the woman is neither disabled nor been chronically ill and 0 otherwise. A healthier woman is expected to enjoy greater freedom of movement, be more agile and capable of working hard. Thus, we expect a healthier woman to enjoy greater autonomy in decision-making.

Individual variables relating only to the husband include his age (*Husband_Age*) and education (*Head_illit*). It is believed that the older the husband the lower is the level of a woman's autonomy. The literature on female empowerment finds support for this hypothesis (Cain, 1993; Presser 1975). We, therefore, assume that the older the husband the less likely he will be to accept and admit that the female enjoys greater decision-making autonomy. Husband's education is measured as a binary variable which takes value 1 if the husband is illiterate and 0 otherwise. It is being assumed that a more educated husband will consider his wife to have equal or greater autonomy to participate in household decision-making.

Next, we turn our attention to some household characteristics that we consider a priori should be related to female autonomy. Most studies on female autonomy find religion as playing a major role. Religion has been found to have profound influence on social institutions, which in turn have a direct impact on women's role in a household and society. For example, Morgan et al. (2002) find differences between Muslim and non-Muslim women that live in the same geographical area. However, since close to 100% of all respondents are Hindu we do not control for religion. However, we do control for caste as a measure of social status. The *Caste* variable is a binary variable taking the value 1 if the respondent belongs to the high caste and 0 otherwise. Given that Nepal has a caste system; it plays an important role in determining social status. Jejeebhoy and Sathar (2001) find that female autonomy is influenced by social status, along with education and economic activity. Thus, caste is expected to play a role in determining female autonomy. We measure the impact of caste using two different variables. For brevity, results pertaining to only one variable are presented here. We construct a binary variable which we call *High_caste* which takes value of 1 if the household belong to the highest caste and 0 otherwise.⁵

Other household level social characteristics include size of the household (*HH_Size*) and whether or not the husband's mother (*Mother_in_law*) lives with the family. The *Mother_in_law* variable is binary. It is quite common for extended families to live together in South Asian

countries. It is hypothesized here that presence of mother-in-law or other senior family member is likely to reduce a woman's autonomy over household decision-making.

In addition, we use land ownership as a measure of household wealth. Anecdotal evidence suggests that land ownership provides economic status in Nepal and could affect one's decision-making power. This is supported by the fact that over 75% of couples own some land. Thus, we include the estimated market value of land (*Land_Value*)⁶ owned by the family as measure of household wealth.⁷

Over and above the individual, household, and village characteristics, we also control for regional influences by controlling for urban region (*Urban*) and rural regions (*Rural*). It is expected that women who live in urban areas would enjoy greater autonomy.

IV. RESULTS

As mentioned earlier we utilize Ordered Logit model to carry out our estimations. The dependent variable is an index ranging from 3 to 9, with 9 being the case where the woman alone made the final decision on all three questions that comprise the index and a value of 3 implies that the woman had no say in the final decision on all three questions. The higher the value of the index the greater is the likelihood of the woman having a greater role in making the final decision on the survey questions.

An important issue that needs to be addressed before discussing and analyzing regression results is the issue of endogeneity. Endogeneity in this case refers to the fact that an independent variable included in the model is potentially a choice variable and thus correlated with unobservables relegated to the error term. For example, in our sample, a case for endogeneity can be made concerning female headed households and a woman's employment and/or her level of education and her autonomy to make decisions. These may be simultaneously influenced by a third factor such as the family's economic status or the general social environment in the village. Or, perhaps women who wish to enjoy greater freedom may choose to settle in urban areas where there are greater opportunities for employment. We realize that failure to control for this will likely under-estimate the effect of the explanatory variables on female or male perception of female autonomy.

Needless to say, an endogenous relation is potential for almost all of the explanatory variables in this analysis. If the variables mentioned above are indeed endogenous, an ordered logit estimation would possibly generate biased and inconsistent estimates of the impact of the explanatory variable/s on the outcome. A common strategy for dealing with this endogeneity is to use instrumental variables (IV) estimation, where "instruments" are variables assumed to have no direct association with the outcome. However, the available data limits the ability to find or construct appropriate instruments for all the explanatory variables. Thus, the results should be interpreted as suggestive association between the female autonomy and other variables of interest.

In order to mitigate other possible concerns, we include one explanatory variable at a time to check for sensitivity of the results to the inclusions of different variables and to examine the robustness of the results. The results remain consistent over various specifications. We control for issues with multicollinearity by not including highly correlated variables simultaneously in any estimation. For example, the regional dummy variables are highly correlated with the variable

measuring the distance to paved roadways. Thus, we do not include both of these variables simultaneously. The regional dummy variable is also highly correlated with whether or not a home has electricity connected to it. We do not include the home electrification variable with the regional dummy. The age of the male household head is highly correlated with whether or not a house is headed by a female (perhaps this is because most female headed households are widows). Thus, we do not include husband's age and whether or not a household is female-headed in the same estimation. However, one needs to interpret the results presented here with caution and understand that given these possible limitations, the explanatory variables are possibly going to under-estimate the true impact of these variables on the dependent variable.

Table 4 presents two different variations of equation (1) related to female perception of autonomy in economic decision-making and two variations of equation (2) pertaining to male perception of female autonomy in economic decision-making. Table 4 results show that being a female household head, working for wages, having more sons, and living in urban areas increases a woman's perception of her autonomy to make decisions in economic matters. The only characteristic of the husband that is found to have a consistent statistically significant impact on women's perception of autonomy in economic matters is husband's age. The results show that the older the husband the less likely a woman is to perceive herself as having the freedom to make economic decisions. In terms of household characteristics, we find from Table 4 that the larger household (measured as the number of people living with the family) and the presence of the mother-in-law reduces the likelihood of a woman seeing herself as being able to exercise her autonomy in making decisions in economic matters. The variables having a positive impact on female perception of autonomy relate to the number of sons a woman has, being a female head of household, and living in urban areas. These results and their implications are not very encouraging. For example, the simple fact that a woman gains autonomy by having more sons, implies a preference or bias for sons (males) and a reduced preference for daughters (females). The other factors found to be linked with greater female autonomy is living in urban areas and being a female household head. These results are also not very encouraging given that a majority of the families in the sample live in rural areas and only about 5 % of families are female headed.

The last two columns of Table 4 pertain to the husband's perception of his wife's autonomy in decision-making in economic matters. Some of the similarities that we find between wives' perceptions and husbands' perception of female autonomy relate to husband's age, woman working for wage, whether or not the household is headed by the woman, household size, and the presence of the mother-in-law in the household. The results show that the older the husband the less likely he is to see his wife as having autonomy in decision-making. Furthermore, the greater the size of the household and the presence of his mother in the home, the less likely the husband is to see his wife as having autonomy to make decisions in economic matters. However, if the household is headed by a woman or if the woman earns an income, then the husband is more likely to perceive his woman as being more autonomous in household decision-making in economic matters. The results relating to the positive impact of female working for wages on female perception and the negative impact of having the mother-in-law in the household is echoed in Anderson and Eswaran (2009).

Some of the differences between factors that influence female perceptions versus male perceptions of female autonomy in economic household decisions relate to the number of sons, wife's health, and living in urban areas. While women seem to believe that the presence of sons and living in urban areas increased their autonomy to make decisions in economic matters, men's perceptions do not appear to be influenced by those factors.

Table 4: Ordered Logit Results on Perception of Female Autonomy in Economic Decision-Making

Variable	Female Perception		Male Perception	
	(1)	(2)	(1)	(2)
Husband_Age	-0.0148** (0.006)		-0.0153** (0.006)	
Years_Married	-0.001 (0.007)	0.0005 (0.007)	-0.007 (0.007)	-0.006 (0.007)
Husband_Illit	-0.045 (0.140)		0.101 (0.137)	
Wife_Wage_Work	0.189 (0.137)	0.303** (0.132)	0.177 (0.134)	0.306** (0.129)
HH_Size	-0.119*** (0.026)	-0.129*** (0.026)	-0.0533** (0.025)	-0.0618** (0.024)
Sons	0.110** (0.046)	0.113** (0.046)	0.053 (0.047)	0.058 (0.047)
High_Caste	0.072 (0.140)	0.066 (0.138)	0.039 (0.138)	0.009 (0.137)
Wife_Health	-0.334 (0.158)	-0.279 (0.157)	-0.111 (0.154)	-0.0712 (0.154)
Mother_in_law	-1.556*** (0.355)	-1.383*** (0.349)	-0.896*** (0.338)	-0.731** (0.332)
Land_Value	-2.495 (1.66)	-2.501 (1.69)	-1.184 (0.77)	-1.152 (0.77)
Female_Head		0.536* (0.319)		0.593* (0.310)
Urban	0.332* (0.171)	0.380** (0.170)	0.125 (0.172)	0.148 (0.170)
Observations	847	847	847	847

Next, we turn our attention to factors that influence women's and men's perceptions of female autonomy in non-economic matters of household decision-making. These results are presented in Table 5. The results relating to female perception echo Table 4 results in terms of the positive impact of women working for wages and living in urban areas and the negative impact of husband's age and family size on female autonomy. Here we see less evidence of number of sons and the presence of the mother-in-law, and no evidence of having a female household head on female perception of autonomy in economic decisions. The last two columns of Table 5 pertain to factors that influence male perception of female autonomy in making decisions in non-economic matters. Here we find husband's age, wife working for wages, household size and being a female headed household to be statistically significant influences on men's perception of female autonomy in making decisions in non-economic matters. Of these, husband's age and household size have a negative impact on male perception of female autonomy, but having a wife who works for wages and/or living in a female-headed household have a positive impact on male perception of female autonomy. All the variables listed above with the exception of a woman working for wages do not lend themselves for any type of policy-related implication.

Table 5: Ordered Logit Results on Perception of Female Autonomy in Non-Economic Decision-Making

Variable	Female Perception		Male Perception	
	(1)	(2)	(1)	(2)
Husband_Age	-0.0308*** (0.006)		-0.0355*** (0.006)	
Years_Married	0.009 (0.007)	0.0132* (0.007)	0.004 (0.007)	0.007 (0.007)
Husband_Illit	-0.0236 (0.148)		-0.227 (0.143)	
Wife_Wage_Work	0.263* (0.144)	0.476*** (0.138)	0.185 (0.140)	0.443*** (0.133)
HH_Size	-0.084*** (0.026)	-0.104*** (0.026)	-0.051** (0.025)	-0.076*** (0.024)
Sons	0.0731 (0.049)	0.0817* (0.049)	0.0354 (0.048)	0.0465 (0.047)
High_Caste	0.177 (0.147)	0.180 (0.145)	0.104 (0.14)	0.101 (0.141)
Wife_Health	-0.224 (0.165)	-0.143 (0.163)	-0.242 (0.162)	-0.119 (0.160)
Mother_in_law	-0.828** (0.368)	-0.450 (0.362)	0.0441 (0.373)	0.478 (0.368)
Land_Value	-2.32 (1.59)	-2.44 (1.74)	-1.09 (8.05)	-1.19 (8.03)
Female_Head		0.523 (0.348)		1.066*** (0.343)
Urban	0.383** (0.180)	0.473*** (0.178)	0.123 (0.173)	0.260 (0.170)
Observations	847	847	847	847

The results presented in Table 4 and 5 have some policy implications in that both men and women are found to perceive women as being more autonomous in decision-making if the woman works for wages. As shown earlier, the literature on female autonomy shows strong evidence of a woman's ability to work outside the home as having an impact on her autonomy. Here we find that this also influences women's and men's perception of female autonomy as well. Thus, increasing opportunities for work outside the home for women could potentially increase female autonomy and its perception in this area of household decision-making in Nepalese society. Moreover, urbanization is also seen to increase female autonomy in Nepal so this would be another direction that policy makers should turn their attention to if they wish for see an improvement in the perception of female autonomy.

V. CONCLUSION

This study analyzes gender/spousal differences in perception of female autonomy in Nepalese households. The data reveal that a very small proportion of women and none of the men believe woman have sole autonomy in decision-making in the non-economic category. While a relatively larger proportion of women perceive that they are making the final decision (with their spouse), relatively fewer men seem to have the same opinion. In terms of economic decisions, very few men and women believe that women alone make the final decision on questions in this category. If we include making decisions jointly with the spouse as female autonomy, then we find that close to half of all women and fewer than half of all men believe that the couple jointly made decisions relating to all questions in this category.

Overall, we find quite a bit of overlap in terms of factors that influence male and female perception of female autonomy in non-economic and economic decision-making. There seems to be a relatively greater convergence between men and women in terms of the factors that influence their perception of female autonomy in non-economic decisions compared to economic decisions. In general, the results point to the importance of females working for wages and urbanization in improving the perception of female autonomy. Even though these results are not causal in nature, they have policy implications such that better work opportunities for women and better economic infrastructure and modernization could potentially improve perception of female autonomy in decision-making.

The results also find that the age of the husband, the presence of the mother-in-law (in economic decisions), and number of household members living together have a negative influence on the perception of female autonomy, while having more sons (in economic decisions) or being a female headed household have a positive impact on the perception of female autonomy.

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Notes:

¹ The Gender Inequality Index is an index for measurement of gender disparity that was introduced in the 2010 Human Development Report by the United Nations Development Program. This index is a composite measure which captures the loss of achievement within a country due to gender inequality. It uses three dimensions to do so: reproductive health, empowerment, and labor market participation.

² Estimations were also conducted using three ecological zones (instead of urban and rural) such as Mountains, urban, and Terai. The results remained consistent to the different regional specifications. These results are not being presented here.

³ Estimations including distance to paved roads are not included in this paper. However, these estimations were carried out but this variable was statistically insignificant in all specifications of the model. These results are available upon request.

⁴ Various other specifications of the model were also carried out but the essential results remained unchanged. Here we are only presenting the most preferred specifications.

⁵ Alternatively we construct another binary variable which takes value 1 if the household is a dalit household and 0 otherwise. Neither one of the caste variables is found to have a statistically significant impact.

⁶ This variable has been scaled so that the coefficients are more manageable and comparable. The data for this variable show extremely small numbers which is why the coefficients are extremely small and difficult to interpret. The *Land_Value* variable is scaled by multiplying each value by 1000000.

⁷ We considered another binary variable (*Home_Electric*) which takes value 1 if the home is electrified and 0 otherwise. However, when we include the *Home-Electric* variable we run into multicollinearity issues with the regional dummies for urban areas as urban areas are where one finds a majority of the homes having electricity. Here we only present and discuss results where we include only the regional dummies. Another alternative measure of economic status would be household income, but we do not include this due to its high collinearity with the variables measuring whether or not the wife work for wages discussed earlier.

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